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Hurst Review does not condone the discussion of the NCLEX-RN exam post-test. Thank you.

NOTICE TO FACULTY

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NOTICE TO STUDENTS

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Please understand that this book is written to accompany the live or video lectures presented in the class itself or my Internet Tutorials.

This book is only an outline of what is needed to pass NCLEX.

I hope you will join me in a live or video class or on the Internet to reap the full benefits of my materials.

General Class Information

- Please turn off ALL cell phones and pagers.

-This class MAY NOT be recorded in any manner. (This included tape recording or videoing.)

-Class Time: 8AM-4PM

* Please note that each class is presented in a particular sequence if your instructor completes the material for that day, you may get out prior to 4 PM.
FLUID VOLUME EXCESS: HYPERVOLUME

Define: too much volume in the __________________ _________________

1. Causes:

   a. CHF: heart is__________, CO__________, decreased__________ perfusion, UO__________
      *the volume stays in the __________________ _______________

   b. RF: Kidneys aren't____________________

   c. Alkaseltzer
      Fleets enemas   All 3 have a lot of_______________
      IVF with Na

   d. Aldosterone (steroid, mineralocorticoid)

Where does aldosterone live?

- Normal action: when blood volume gets low (vomiting, blood loss, etc.) → aldosterone secretion increases → retain Na/water → blood volume ______

   ** Diseases with too much aldosterone:
   - also seen with liver disease and heart disease
     1. ____________________
     2. ____________________

   **Disease with too little aldosterone:
     1. ____________________
e. **ADH (anti-diuretic hormone)**

Normally makes you retain or diurese?

Retain? _________________________

2 ADH problems

<table>
<thead>
<tr>
<th>Too Much</th>
<th>Not enough</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain</td>
<td>Lose (diurese)</td>
</tr>
</tbody>
</table>

| Fluid Volume _______ | Fluid Volume ________ |

<table>
<thead>
<tr>
<th>SIADH</th>
<th>DI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syndrome of Inappropriate ADH Secretion</td>
<td>Diabetes Insipidus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urine</th>
<th>Urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood</td>
<td>Blood</td>
</tr>
</tbody>
</table>

*Concentrated makes #'s go up* specific gravity, Na  
*Dilute makes #'s go down*  

ADH lives in pituitary; key words to make you think potential ADH problem: craniotomy, head injury, sinus surgery, transphenoidal hypophysectomy

*Another name for anti-diuretic hormone (ADH) is Vasopressin. The drug Vasopressin (Pitressin or DDAVP (Desmopressin acetate) may be utilized as an ADH replacement in Diabetes Insipidus.*
f. S/Sx of FVE:

Distended neck veins/peripheral veins: vessels are ______________

Peripheral edema, third spacing: vessels can't hold anymore so they start to ______________

CVP: measured where? ____________________; number goes ______________
More ____________________; ....More ____________________

Lung sounds:

Polyuria: kidneys trying to help you ______________________________

Pulse: ___________________; your heart only wants fluid to go __________________
If the fluid doesn't go forward it's going to go __________________ into the ______________

BP: _______________ move volume.....more __________________

Weight: _______________ any acute gain or loss isn't fat—it’s fluid

g. Treatment:

Low Na diet

Diuretics

Loop *Bumex® may be given when Lasix® doesn’t work.

Thiazide (HCTZ) * Watch lab work with all diuretics
*Dehydration and electrolyte problems

K-sparing

Bed rest induces ____________________
  *when you are supine you perfuse your kidneys more

h. Interventions:

Physical Assessment

Give IVF’s slowly to elderly
FLUID VOLUME DEFICIT: HYPOVOLEMIA
Big Time Deficit=Shock

1. Causes: Loss of fluids from anywhere

   Thoracentesis, paracentesis, vomiting, diarrhea, hemorrhage

   Third spacing (when fluid is in a place that does you no good)
   *burns
   *ascites

   Diseases with polyuria

   polyuria-
   oliburic-
   anuric-

2. Weight

   Decreased Skin Turgor

   Dry mucous membranes

   Decreased Urine Output
   kidneys either aren't being____________ or they are trying to ______________

   BP? __________ (less _______________, less ________________)

   Pulse? __________, heart is trying to pump what little is left around

   CVP? __________, less volume, less __________

   Peripheral Veins/Neck veins

   Cool Extremities (peripheral __________ in an effort to shunt blood to ______________
   ______________)

   Urine Specific Gravity _______________, if putting out any urine at all it will be ____________

3. Tx and Nursing Interventions:
   - Mild Deficit:
   - Severe Deficit:
Quickie IV Fluid Lecture

Isotonic: Go in the vascular space and stays there!

Examples of Isotonic Solutions: _____________________, _____________________, _____________________

Hypotonic: Go in the vascular space, hang out a little while and rehydrate, but they do not stay in the vascular space.....If they stayed in the vascular space they wouldn't be hypotonic.....they would be ___________________. These solutions go in and hang out and rehydrate, then they move into the cell and the cell burns the remainder up in cellular metabolism. They are hydrating solutions, but they won't drive your pressure up because they do not stay in the vascular space.

Hypertonic Solution:
- Volume expander and solution that draws fluids into the vascular space.
- Examples: D10W, 3% NaCl, 5% NaCl, D5 LR, D5 ½ NaCl, D5 NaCl, TPN

Hypotonic Solution:
- Causes a fluid shift from the vascular space into the cells.
- Examples: D2.5 W, ½ NaCl, 0.33% NaCl
MAGNESIUM AND CALCIUM

Fact: Magnesium is excreted by **kidneys** and it can be lost other ways, too (GI tract)

<table>
<thead>
<tr>
<th>Hypermagnesemia</th>
<th>Hypercalcemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes: Renal Failure</td>
<td>Causes: Hyperparathyroidism: too much</td>
</tr>
<tr>
<td></td>
<td>Thiazides (retain __________)</td>
</tr>
<tr>
<td></td>
<td>Immobilization (you have to bear weight to keep Ca in ________________)</td>
</tr>
<tr>
<td></td>
<td>bones</td>
</tr>
<tr>
<td></td>
<td>kidney stones</td>
</tr>
<tr>
<td></td>
<td>*majority made of calcium</td>
</tr>
<tr>
<td>Antacids</td>
<td>Tx: Move!</td>
</tr>
<tr>
<td></td>
<td>Fluids!</td>
</tr>
<tr>
<td></td>
<td>Phospho Soda &amp; Fleets enema</td>
</tr>
<tr>
<td></td>
<td>-both have phosphorous</td>
</tr>
<tr>
<td></td>
<td>*Ca has inverse relationship with _________________.</td>
</tr>
<tr>
<td></td>
<td>*When you drive Phos up, Ca goes _________________.</td>
</tr>
<tr>
<td>DTR's</td>
<td>Steroids</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Add what to diet?</td>
</tr>
<tr>
<td>Flushing</td>
<td>Safety Precautions?</td>
</tr>
<tr>
<td>Warmth</td>
<td>*Must have Vitamin _____ to use Ca.</td>
</tr>
<tr>
<td>Mg makes you __________</td>
<td>*Calcitonin __________ serum Ca</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When your serum calcium gets low parathormone (PTH) kicks in and pulls Ca from the ______________ and puts in the blood....therefore, the serum __________ goes up.

**HINT**: If you want to get Mg & Ca questions right, think muscles 1st.
**HYPOMAGNESEMIA**

Causes: Diarrhea - lots of Mg in intestines  
Alcoholism  
*alcohol suppresses ADH & it’s hypertonic  
-not eating  
-drinking

**HYPOCALCEMIA**

Causes: Hypoparathyroidism  
Radical Neck  
Thyroidectomy

**HINT: If you want to get Mg & Ca questions right, think muscles 1st.**

S/Sx:  
Muscle Tone  
-Could my patient have a seizure? __________

Stridor/laryngospasm - airway is a ______________

+Chvostek’s - tap cheek  
+Trousseau’s - pump up BP cuff  
Arrhythmias - heart is a ____________

DTR’s  
Mind Changes  
Swallowing Probs - esophagus is a ______________

Tx: Give some MG  
Check ________ function  
(before and during IV Mg)

Tx: Vit D  
Amphogel®  
Phosphorous binding drug

NCLEX scenario answers:  
A. call the doctor  
B. decrease the infusion  
C. Stop the infusion  
D. Reassess in 15 min.

Always make sure pt.is on a ________ ________

Seizure Precautions

What do you do if your patient begins to c/o flushing and sweating when you start IV Mg?
**SODIUM**

Your Na level in your blood is totally dependent on how much **water** you have in your body.

**Hypernatremia=Dehydration**

Too much Na; not enough water

Causes:
- hyperventilation
- heat stroke
- DI

S/Sx:
- Dry mouth
- Thirsty - already dehydrated by the time you're thirsty
- Swollen tongue

Neuro changes
- Brain doesn't like it when Na's messed up

Tx:
- Restrict ________________.
- Dilute pt with IV Fluids
- Diluting makes serum Na go __________
- Daily weights
- I & O
- Lab work
- Feeding tube pts - tend to get ________________

**Hyponatremia=Dilution**

Too much water; not enough Na

Causes:
- vomiting, sweating then drinking H2O
  *this only replaces the water
- psychogenic polydypsia
  *loves to drink ________________
- D5W (sugar & water)
- SIADH

Tx:
- Pt needs __________
- Pt doesn't need ________.

If having neuro probs:
- Needs hypertonic saline
  -means "packed with particles"

I & O
- If you've got a Na problem you've got a ____________ problem.

Daily weights
- If you've got a Na problem you've got a ____________ problem.

3-5% NS

If you've got a Na problem you've got a ____________ problem.
# POTASSIUM

Excreted by **kidneys**

Kidneys not working well, the serum potassium will go ________________

## Hyperkalemia

<table>
<thead>
<tr>
<th>Causes:</th>
<th>Hypokalemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>kidney troubles</td>
<td>Causes:</td>
</tr>
<tr>
<td>Aldactone - makes you retain _______</td>
<td>-vomiting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/Sx:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begins with muscle twitching</td>
</tr>
<tr>
<td>Then proceeds to weakness,</td>
</tr>
<tr>
<td>Then flaccid paralysis</td>
</tr>
</tbody>
</table>

Tx:
- Dialysis - Kidneys aren't working
- Calcium gluconate - decreases ____________
- Glucose and insulin - Insulin carries ____________ & ____________ into the cell
- Kaexalate® - given for hyperkalemia
- Any time you give IV insulin worry about ____________ & ____________

## Hypokalemia

<table>
<thead>
<tr>
<th>Causes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-vomiting</td>
</tr>
<tr>
<td>-NG suction</td>
</tr>
<tr>
<td>-diuretics</td>
</tr>
<tr>
<td>-not eating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/Sx:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle Cramps</td>
</tr>
<tr>
<td>Life-Threatening</td>
</tr>
<tr>
<td>Arrhythmias</td>
</tr>
</tbody>
</table>

Sodium and Potassium have an ____________ relationship
**Extras!**

Major problem with PO K?

Assess UO before/during IV K.

Always put IV K on a _______.

Mix well!

Never give IV K ________!

Burns during infusion?

Is it okay to add to a bag that's already up and running?
ACID-BASE BALANCE

Major chemicals you have to remember = Bicarb, Hydrogen, CO₂

- Lung chemical → CO₂
- Kidney chemicals → B and H

There's only one way to get rid of CO₂. What is it?

These chemicals can either make you sick or compensate. It depends on which imbalance you have.

In respiratory acidosis/alkalosis, which organs are sick?

Who's going to fix everything (compensate)?

What are the chemicals the kidneys use to compensate with?

In metabolic acidosis/alkalosis which organs are sick?

If they are sick, who's going to fix things (compensate)?

What is the only chemical the lungs have to compensate with?

Do the lungs compensate slowly or quickly?

Do the kidneys compensate slowly or quickly?
**Compensation**

<table>
<thead>
<tr>
<th>acidosis</th>
<th>metabolic</th>
<th>respiratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>lungs compensate</td>
<td>kidneys compensate</td>
<td></td>
</tr>
<tr>
<td>RR _____ to blow off CO₂</td>
<td>retain/secrete B</td>
<td></td>
</tr>
<tr>
<td>PCO₂ _____</td>
<td>excrete H</td>
<td></td>
</tr>
</tbody>
</table>

**Alkalosis**

<table>
<thead>
<tr>
<th>metabolic</th>
<th>respiratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>lungs compensate</td>
<td>kidneys compensate</td>
</tr>
<tr>
<td>RR _____ to save CO₂</td>
<td>excrete B</td>
</tr>
<tr>
<td>PCO₂ _____</td>
<td>retain H</td>
</tr>
</tbody>
</table>

**Respiratory Acidosis** (hypoventilating)

Is this a lung problem or a kidney problem?

What's the problem chemical?

Do we have too much or too little of this chemical in the body?

How did this happen?

Who's going to compensate?

Increased CO₂→Decreased LOC

Increased CO₂→Decreased O₂  early hypoxia  late hypoxia

Treatment→Fix the problem!!!!

Drug to help correct acidosis?

Be aware of drugs that decrease RR.

Restless pt?

Hypoxia may be one of the first signs of Respiratory Acidosis

Restlessness think Hypoxia FIRST
**Respiratory Alkalosis** (hyperventilating)

Think about the name.
Who’s sick? ________________ Who’s going to compensate? ________________

Situation: Hysterical patient.

Well, are we going to wait until the kidneys kick in?

Breathe into a ________________ ________________.

Maybe sedate.

TX: Treat the problem.

**Metabolic Acidosis**

Think about the name.
Who’s sick? ________________ Who’s going to compensate? ________________

Scenario: DKA, Starvation
When you're starving you break down __________, produce __________, ketones are ________.

TX: Treat the problem

**Metabolic Alkalosis**

Think about the name.
Who’s sick? ________________ Who’s going to compensate? ________________

Scenario: Vomiting
TX: Treat the problem.

What would these cause?

<table>
<thead>
<tr>
<th>Condition</th>
<th>R. acid</th>
<th>R. alk</th>
<th>M. acid</th>
<th>M. alk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumothorax</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumonia</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
<tr>
<td>Alka Seltzer/Antacids</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
<tr>
<td>NG to suction</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
<tr>
<td>Contusion to lung parenchyma</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
<tr>
<td>Broken ribs</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
<tr>
<td>Patient getting lots of IVP bicarb</td>
<td>R. acid</td>
<td>R. alk</td>
<td>M. acid</td>
<td>M. alk</td>
</tr>
</tbody>
</table>

Factoid: acidosis=hyperkalemia (acidosis makes K leak out of cell)
alkalosis=hypokalemia (alkalosis pushes K back into the cell)
BURNS

-The risk of death increases in the very ____________ and the very ________________.

-Where do most burns occur?

-After a burn many different pathophysiological changes occur. WHY?

a. Why does plasma seep out into the tissue?
   Increased ___________________ permeability

b. When does the majority of this occur?

c. Why does the pulse increase?
   Anytime you're in a FVD, Pulse _______________

d. Why does the cardiac output decrease? Less ___________ to pump out.

e. Why does the urine output decrease?
   Kidneys are either trying to hold on or they aren't being __________

f. Why is epinephrine secreted?
   Makes you __________________, shunts blood to vital organs

g. Why are ADH and aldosterone secreted?
   Retain __________ & ___________ with aldosterone and
   Retain ___________ with ADH

   Therefore your blood volume will go ________________

-What is the most common airway injury? __________________ ________________poisoning

-Normally oxygen should bind with hemoglobin. Carbon monoxide can run much faster
than oxygen . . . . Therefore, it gets to the hemoglobin first and binds . . . . Can oxygen bind
now . . . . yes/no

- Carbon monoxide poisoning cannot be determined with O2 saturations; the sat monitor
picks up anything that is bound to hemoglobin so if carbon monoxide is bound to the Hb
then the sat may appear normal

- Carboxyhemoglobin: blood test to determine carbon monoxide poisoning

Now the patient is ________________.

Tx: ________________________
From this information do you think it would be important to determine if the burn occurred in an open or closed space?

-When you see a patient with burns to the neck/face/chest you had better think what?

-A patient is burned over 40% of their body. How do you think this is determined?

*Estimate of Total Body Surface Area

    Head=___________ Each arm=___________ Each leg=___________
    Anterior trunk=_________ Posterior trunk=_________
    Genitalia=_____________

-One of the most important aspects of burn management is ________________ ________________

-It is not uncommon for albumin to be given after a major burn. (Not given during the first 24 hours). You know that albumin holds onto _____________ in the vascular space.

-This will increase/decrease the vascular volume.

-What will it do to kidney perfusion?

-What will it do to BP?

-What will it do to cardiac output?

-Will this help correct a fluid volume deficit?

-When you start giving a patient albumin you know that the vascular volume will increase. What will happen to the work load of the heart?

-If you stress the heart too much you know that the patient could be thrown into fluid volume ________________.

-If this occurs what will happen to CO?

-What will the lung sounds be like?

-On any patient who is receiving fluids rapidly, what is a measurement (hint: heart) you can take hourly to make sure you’re not overloading them?

-Is it important to know that the burn occurred at 11:00 p.m.?

Why? Because you know that fluid therapy (for the first 24 hours) is based on the time the injury occurred, not when treatment was started.
Common rule: Calculate what is needed for the first 24 hours and give half of it during the first 8
hours. This is the Parkland Formula.

1st 8 hours = ½ of total volume
2nd 8 hours = ¼ of total volume
3rd 8 hours = ¼ of total volume

To calculate fluid replacement properly you also need to know the patient’s weight and TBSA affected.

If the patient is restless it may mean fluid replacement is inadequate, pain, or hypoxia.

*Priority: ___________________

If you had to pick, which of the following would you choose to determine if a patient’s fluid volume is adequate? Their weight or their urine output?

-A patient’s respirations are shallow. You know they are retaining what? Therefore, which acid-base imbalance will they have?

-A patient was given only 5 mg of Morphine when the order was for a maximum of 10mg. Why did the nurse do this?

-Why are IV pain meds preferred over IM with burns?

-Why is the patient given a tetanus toxoid plus the immune globulin?

(1) Tetanus Toxoid: (active immunity)
* takes 2-4 weeks to get the AB’s

(2) Immune globulin: think immediate protection (passive immunity)

-Do you think there is more death with upper or lower body burns?

-A patient has a circumferential burn on their arm. What does this mean and what should you be checking?

-If a patient’s vascular checks in this arm are bad the doctor may do what procedure to relieve pressure?

-A patient was wrapped in a blanket to stop the burning process. Since the flames are gone does that mean the burning process had stopped?

-What else could have been done to stop the burning process?

-How else did the blanket help? Held in ___________ ___________ and kept out ________________.

-Why is it important that jewelry be removed?
- What kinds of things do you look for to determine if any airway injury has occurred?

- A foley catheter was inserted so you could measure urine output.

- How often will this need to be monitored?

- Is it possible that when you insert the catheter that no urine will return? Why? Kidneys are either attempting to _________ the fluid or they might not be being perfused adequately.

- What would you do if the urine was brown/ red?

- If there is no urine output or if it is less than 20cc/hour, what would you start worrying about?

- What drugs might be ordered to increase kidney perfusion?

- After 48 hours, the patient will begin to diurese. Why? Because fluid is going back into the __________ space. Now we have to worry about fluid volume ___________. What will naturally happen to urine output during this time?

- The patient’s serum potassium level is 5.8. You know that potassium likes to live inside or outside of the cell?

  With a burn, what happens to cells?

  So, what happens to the number of potassiuims in the serum (vascular space)?

  Therefore, you better monitor your patient for which electrolyte imbalance? hypokalemia or hyperkalemia.

- Why do you think Mylanta®, Protonix®, Pepcid®, and Reglan® are ordered?

Antacids: aluminum hydroxide, Amphogel®, or magnesium hydroxide, Milk of Magnesia®

H2 Antagonist: Zantac®, Pepcid®, Axic®

Proton Pump Inhibitors: Protonix®, Nexium®

- Why do you think the doctor wants the patient to be NPO and have an NGT hooked to suction?

- If a patient doesn’t have bowel sounds, what will happen to the abdominal girth?

- Do you think the patient will need more or less calories than before?

- The NGT will be removed when you hear what?
- When you start GI feedings, what could you measure to ensure that the supplement was moving through the GI tract ok?

- What is some lab work you could check to ensure proper nutrition and a positive nitrogen balance?

- Since the patient has 2nd and 3rd degree burns, is it possible that they could have problems with contractures?

- Since they have burns on their hands, what are some specific measures that may be taken?

- Neck?

- If a patient has a perineal burn, what do you think the number one complication will be?

- What is eschar?

- Does it have to be removed?

- If it’s not removed can new tissue regenerate?

- What likes to grow in eschar?

- What type of isolation will you use with the patient?

- Travase® or Collagenase®: enzymatic drug→ eats dead tissue
  - Don’t use on face
  - Don’t use if pregnant
  - Don’t use over large nerves
  - Don’t use if area opened to a body cavity

- Hydrotherapy is also used to debride.
Common drugs used with burns:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Silvadene®- soothing, apply directly, if rubs off apply more, can lower the WBC, can cause a rash</td>
</tr>
<tr>
<td>b.</td>
<td>Sulfamylon - can cause acid base problems, stings, if it rubs off apply more</td>
</tr>
<tr>
<td>c.</td>
<td>Silver nitrate - keep these dressings wet; can cause electrolyte problems</td>
</tr>
<tr>
<td>d.</td>
<td>Betadine® - stings, stains, allergies, acid-base problems</td>
</tr>
</tbody>
</table>

- Why should these drugs be alternated?

- Broad spectrum antibiotics are avoided to prevent super-infections. However, they will be used until the wound cultures have returned.

- If grafting is done, a pressure dressing will be applied in surgery….Then when the bleeding has stopped the wound will be left open to air.

- If the skin graft should become blue or cool what would this mean?

- Sometimes the doctor will order for you to roll sterile Q-tips over the graft with steady, gentle pressure from the center of the graft out to the edges. Why?

- If a patient has a chemical burn what do you do?

- If the patient has an electrical burn there will usually be 2 wounds. What are they?

- If a patient comes in with an electrical injury what is the first thing you should do?

- What arrhythmia is this patient at high risk for?

- With electrical burns toxins can build up and cause _____________ damage.

- It is not uncommon for this patient to be placed on a spine board with a c-collar. Why? Electrical injuries tend to occur in _____________ places.

- Are amputations common? Why?

- Other complications of electrical wounds: cataracts, gait problems, and just about any type of neurological deficit.
General Information:

- Alcohol + tobacco = co-carcinogenic

- Tobacco is the #1 cause of preventable cancer.

-Suspected dietary causes of cancer:
  - Low fiber diet - Nitrites (processed sandwich meat)
  - Increased red meat - Alcohol
  - Increased animal fat - Preservative and additives

-Increased incidents of cancer in the immunosuppressed
  *that is why there is a higher incident of cancer > age 60

-The most important risk factor for cancer = aging

-Cruciferous veggies (broccoli, cauliflower, and cabbage), Vitamin A foods (Colored veggies), and Vitamin C could decrease risk

-African Americans have a greater incident than Caucasians.

-Primary Prevention: Ways to prevent actual occurrence (sunscreen and no smoking)

-Secondary Prevention: Using screenings to pick up on cancer early when there is a greater chance for cure or control

-Chronic ________________ brings about uncontrolled growth of abnormal cells.

-Female:
  a. Monthly self-breast exam

  b. Yearly clinical breast exam for women > 40 years old
     - Between ages 20-39 needed every 3 years

  c. Annual pelvic exam

  d. Pap smear every 3 years if there's been no problem

  e. Mammogram-baseline at 35-40, yearly after 40 (2 views of each breast)

  f. Colonoscopy at age 50 then every 10 years.
- Male:
  a. Monthly self-breast exam
  
b. Monthly testicular exam - testicular tumors grow fast
  
c. Yearly digital rectal exam and yearly PSA (prostate specific antigen) for men over age 50
  
d. Colonoscopy at age 50 then every 10 years

**CAUTION:** (Change in bowel/bladder habits; A sore that does not heal; Unusual bleeding/discharge; Thickening or lump in breast or elsewhere; Indigestion or difficulty swallowing; Obvious change in wart or mole; Nagging cough or hoarseness)

- Cancer can invade bone marrow → anemia and thrombocytopenia

- Cachexia - extreme wasting and malnutrition

- Radiation therapy:
  
a. Internal Radiation (brachytherapy)
    
    - With all brachytherapy, the radioactive source is inside the patient; radiation is being emitted
      
      1. Unsealed: patient and body fluid emit radiation
         - Isotope is given IV or PO
         - Usually out of system in 48 hours

      2. Sealed or solid: patient emits radiation; body fluids not radioactive
         - Implanted close or in the tumor

  - In general terms, do radiation implants emit radiation to the general environment?

    - Nursing assignments should be rotated daily, so that the nurse is not continuously exposed

    - The nurse should only care for one patient with a radioactive implant in a given shift

  - Precautions:
    - Private room
    - Restrict visitors
      - No visitors less than 16 years of age
    - No pregnant visitors/nurses
    - Mark the room
    - Wear a film badge at all times
    - Limit each visitor to 30 min per day
    - Visitors must stay at least 6 feet from source
- How can you help prevent dislodgment of the implant?
  - Keep the patient on ____________.
  - Decrease _______________ in the diet.
  - Prevent bladder ________________.

- What do you do if the implants become dislodged and you see it?
  * Don’t forget this patient is immunosuppressed.

b. External Radiation (teletherapy, beam radiation)

- Usual side effects: usually limited to the exposed tissues
  * erythema, * shedding of skin, * altered taste, * fatigue
  * pancytopenia (all blood components are decreased)

  ** many signs and symptoms are location and dose related.

- Is it okay to wash off the markings?

- Is it okay to use lotion on the markings?

- Protect site from sun for 1 year after completion of therapy

- Chemotherapy: works on the cell cycle

  - Usually scheduled every 3-4 weeks

  - Most Chemo drugs are given IV via port

  - Many absorb through the skin and mucous membranes; be careful handling them

  - Usual side effects: alopecia, N/V, mucositis, immunosuppression, anemia, thrombocytopenia

  - A patient's WBC count must be at least ___________ before they will receive their treatment.

  - A vesicant is a type of chemo drug that if it infiltrates (extravasates) will cause tissue ____________.

  - What are s/sx of extravasation?
- The number one thing to remember with extravasation is PREVENTION!

-What do you do if this happens?

**General ways to prevent infection:**

- Private room
- Wash hands
- Have own supplies in room
- Limit people (visitors and nurses) in room
- Change dressings daily and IV tubing
- Cough and deep breath
- No fresh flowers or potted plants
- Avoid crowds
- Do not share toiletries
- Bath warm moist areas daily
- Wash hands after touching pet
- Avoid raw fruits and veggies
- Drink only fresh water

-Slight increase in temp may mean sepsis

-Absolute neutrophil count most important
Specific Types of Cancer:

Cervical Cancer

-Risk Factors: sex/pregnancy at young age, repeated STD's

- Often asymptomatic in pre-invasive cancer

- Invasive cancer classic symptom: painless vaginal bleeding

- Other general S/Sx: watery, blood-tinged vaginal discharge, leg pain along sciatic nerve, and back/flank pain

-100% cure if detected early

-What is the test that helps diagnose this?
  Abnormal ? Repeat test

Tx:
- electrosurgical excision, laser, cryosurgery

- radiation and chemo for late stages

- conization- remove part of cervix

- hysterectomy


**Uterine Cancer**

-Risk Factors: greater than 50 years of age, + family hx, late menopause, no pregnancy

Major Symptom: post menopausal bleeding

Other s/sx: watery/ bloody vaginal discharge, low back/abd pain, pelvic pain

Dx: CA-125 (blood test) to R/O ovarian involvement

Test to evaluate for metastasis:
- CXR
- CT
- IVP
- liver and bone scan
- BE

The most definitive diagnostic test is D&C (dilatation & curettage) and endometrial biopsy

Treatment:
1. Surgery:
   - Hysterectomy
     *TAH (total abd hysterectomy) = uterus and cervix only!

   Tubes & ovaries removed?
     - bilateral oophorectomy (ovaries)
     - bilateral salpingectomy (tubes)

   Radical Hysterectomy
     - may remove all of the pelvic organs
     - pt may have colostomy, ileal conduit

   *The greatest time for hemorrhage following this surgery is during the first 24 hours.
   Why? Pelvic congestion of_________.
   *Major complication with abd hysterectomy?______________
   *Major complication with vaginal hysterectomy?______________

   *Will probably have a foley; if she doesn't you better make sure she does what in the next 8 hours?

   *Why is it so important to prevent abdominal distension after this surgery?
     *We do not want tension on the__________________________.
     *Dehiscence and Evisceration

   *Why do we avoid high-fowler's position in this patient?

   *May have an abdominal and perineal dressing to check.
*As this patient is at risk for pneumonia, thrombophlebitis, and constipation what is one thing you can do to prevent these complications?

*Avoid sex and driving. 😊 Also avoid girdles and douches.

*Any exercise, including lifting heavy objects that increases pelvic congestion should be avoided.

*Is it possible that the patient could hemorrhage 10-14 days after this surgery?

*Is a whitish vaginal d/c okay?

*Showers or baths?

2. Radiation: intra-cavitary radiation to prevent vaginal recurrence

3. Chemotherapy: Doxorubicin®, Cisplatin®

4. Estrogen inhibitors: Depro-Provera®, Tomoxifen®, Novadex®
Breast Cancer

- One has a 3 fold risk increase of developing breast cancer if a first degree relative (mother, sister, daughter) had pre-menopausal breast cancer

- Known risk factors:
  - High dose radiation to thorax prior to age 20
  - Period onset prior to age 12
  - Menopause after age 50
  - No pregnancies (null parity)
  - First birth greater than 30

- S/Sx: Change in the appearance of the breast (orange peel appearance, dimpling, retraction, discharge from breast), or lump
  - Tail of Spence:

- Tx:
  1. Surgery

    - Post-op care

    - Bleeding? → dressings, back, hemovac, Jackson-Pratt drain

    - Elevate arm on ___________ side

    - Associated nursing care: Stay away from arm on affected side for lifetime of patient:
      No constriction, no BP's or injections, wear gloves when gardening, watch small cuts, no nail biting, and no sunburn, no IV

    - Brush hair, squeeze tennis balls, wall climbing, flex and extend elbow.
      Why? Promotes __________ circulation

    - Look at incision

    - Reach to Recovery (Support Group)

    - Lymphedema
      * Two functions of the lymphatic system: fights infection and promotes drainage

  2. Chemotherapy drugs: Taxol®, Adriamycin®

  3. Estrogen receptor blocking agents: Tomxifen® (Nolvadex®, Tamofen®)

  4. Estrogen synthesis inhibitors: Lupron®, Zoladex®

  5. Radiation
Lung Cancer

- Leading cause of cancer death worldwide
- 5 Year survival rate is 14%

Major risk factor: Smoking
*when you have stopped smoking for 15 years, the incidence of lung cancer is almost like that of a non-smoker

S/Sx: hemoptysis, dyspnea (may be confused with Tb, but Tb has night sweats), hoarseness, cough, change in endurance, chest pain, pleuritic pain on inspiration, displaced trach
*may metastasize to bone

Dx:  
 a. Bronchoscopy
   - NPO pre and NPO until ________ ________ returns
   - Watch for respiratory depression, hoarseness, dysphagia, SQ emphysema

 b. Sputum specimen
   - Best time to obtain?
   - Is this sterile?
   - What should the pt do first?
   *Trying to decrease bacterial count in the mouth.

 c. CT

d. MRI

Tx:
Surgery: The main tx for stage I and II
a. Lobectomy:
   - chest tubes and surgical side up

 b. Pneumonectomy
   - Position on ____________ side
   - No chest tubes. Why?

Avoid severe lateral positioning → mediastinal shift ☹
Laryngeal Cancer

Risk factors: Smoking (any form of tobacco use), alcohol, voice abuse, chronic laryngitis, industrial chemicals

S/Sx: Hoarseness, difficulty swallowing, burning, sore throat, swelling in neck, loss of speech, no early signs, mouth sores, lump in neck, color changes in mouth/tongue, dentures do not fit anymore, unilateral ear pain

Dx: Laryngeal exam, MRI

Tx:
1. Surgery: Total laryngectomy (removal of vocal cords, epiglottis, thyroid cartilage)
   -Since the whole larynx (remember this includes the epiglottis) is removed this patient will have a permanent _______________________________.
   -Position post-op?
   -NG feedings to protect the suture line (peristalsis could disrupt suture line)
   -Monitor drains
   -Watch for carotid artery rupture
   -Rupture of innominate artery-medical emergency
   -Frequent mouth care
     - decrease bacterial count in the mouth
     - NPO patients tend to get pneumonia
   -Bib (acts like a filter)
   -Humidified environment

*Remember, with a total laryngectomy ALL breathing is done through the stoma.

2. Radiation

3. Chemotherapy

Obturater

Suctioning
-Sterile or Non-sterile technique?
-Hyperoxygenate when?
-When do you stop advancing the catheter?
-Apply suction when?
-Intermittent or continuous? *Don’t be mean.😊
-Suction no longer then ________ seconds.
-Watch for arrhythmias.
-Which nerve can be stimulated?
-When vagus nerve is stimulated, heart rate __________
-Is this patient hypoxic?
Colorectal Cancer (CRC)

- May start as a polyp

- 2/3 colorectal cancer occurs in the rectosigmoidal region

- Most frequent site of metastasis: liver
  - take bleeding precautions

- Other problems to watch for: Bowel obstruction, perforation, fistula to bladder/vagina

- Risk Factors: inflammatory bowel diseases, genetic, chronic constipation (retaining carcinogens), dietary factors (refined carbs, low fiber, high fat, red meat, fried and broiled foods), if you have a first degree relative with CRC your risk just increased 3X the norm

- 95% of those who get CRC are > 50 years old

- Screening:
  - Fecal occult blood testing should begin at 50
  - Flexible sigmoidoscopy every 5 years after age 50 or colonoscopy every 10 years after age 50
  - The definitive test for CRC = colonoscopy

S/Sx:
- Most common signs are: rectal bleeding, anemia, and changes bowel habits/ stool

- Other S/Sx: blood in the stool, vague abdominal pain, fatigue, abd fullness, unexplained weight loss

- May become obstructed (visible peristaltic waves with high pitched tingling bowel sounds)

Tx:
- Surgery, radiation and chemo (DOC= 5-FU®)

- May have a colostomy post-op
  - a. colectomy-part of colon removed
    - may not need colostomy
  - b. abdomino-perineal resection-removal of colon, anus, rectum
    *Can you take a rectal temp on this client?

Don’t take rectal temp if thrombocytopenic, abdominal-perineal resection, immunosuppressed.
Bladder Cancer

-Greatest risk factor: smoking

-Major Symptom: Painless intermittent gross/microscopic hematuria

Dx: Cystoscopy

Tx: Surgery (all/part of bladder) → Urinary diversion (urostomy)
  -Ileal conduit (a piece of the ileum is turned into a bladder; ureters are placed in one end; the other end is brought to the abd. surface as a stoma)
  -May be impotent

-Hourly _____________________

-Increase fluids: (_____________ - ______________ cc of fluid per day)
  -flush out conduit

-Mucus normal?
  - Intestines always make mucus

-Change appliance in a.m. (This is when output will be at its lowest).

*It is OK to place a little piece of 4 X 4 inside stoma during skin care to absorb urine….just don’t forget to remove it.
Prostate Cancer

-This pt. comes to the doctor with s/sx of benign prostatic hyperplasia (BPH): hesitancy, frequency, frequent infections, nocturia, urgency, dribbling.

- Most common sign is gross painless hematuria

-Digital rectal exam done and prostate is hard/ nodular; this usually means prostate cancer.

Dx:

1. Lab work:
   - PSA increased
     - Prostatic Specific Antigen (PSA)
     - this is a protein that is only produced by the prostate
     - normal= <4 ng/ml
     - if you have a two or more 1st degree relative with prostate CA, start PSA by at least age 45

     - alkaline phosphatase (if ↑ means bone metastasis)
       *prostate Ca likes to go to spine, sacrum, and pelvis

     - Increased acid phosphatase

2. Biopsy
   - when prostate CA is suspected, a biopsy must be done for confirmation prior to surgery.

-Tx:

1. Watchful Waiting: in early stages (for asymptomatic, older adults with other illnesses)

2. Surgery:
   a. Radical Prostatectomy (done with localized prostate CA)
      - take out the prostate and the patient is cancer free
      - may have ED due to pudendol nerve damage
      - may have incontinence (Kegel)
      - patient is sterile
      - if there is no lymph node involvement, no ↑ in acid phosphatase, and no metastasis the surgeon will try to preserve the pudendol nerve
b. Prostatectomy (TURP – transurethral resection of the prostate)

- Usually reserved for BPH to help urine flow, not a cure for prostate CA
- No incision
- Most common complication?
- With other procedures you have to explain risk of impotency/infertility
- Is it normal to see bleeding after this surgery?

- Continuous bladder irrigation – maintains patency, flush out clots
  * 3-way catheter
  * no kinks
  * subtract irrigant from output
    - keep up with amount of irrigant instilled

- Rule: Never hand or manually irrigate catheter with fresh surgery without a surgeon’s order.

- What drug do you give for bladder spasms? B & O suppository®, Ditropan®
  * always assess prior to selecting an implementation answer
  * always assess the patient first

- When catheter is removed what do you watch for?

- Temporary incontinence expected (perineal exercises)

- Avoid sitting, driving, strenuous exercise; do not lift more than 20 lbs....Why?

- Colace® (avoid straining)

- Increase fluids

3. Radiation

4. Chemotherapy

5. Hormone therapy
   - may decrease testosterone through bilateral orchiectomy
   - Estrogens
     - Lupron®
Stomach Cancer

Risk factors:
- H-pylori
- Pernicious anemia
- Achlorhydria

If you have either of these, your risk for stomach cancer just went UP

Related to:
- Pickled foods, salted meats/fish, nitrates, increased salt
- Billroth II (partial gastrectomy with an anastomosis)
  *causes atrophic gastritis
- Tobacco and Alcohol

S/Sx:
Most common: Heart burn and abd discomfort

Other S/Sx: loss of appetite, weight loss, bloody stools, coffee-ground vomitus, jaundice, epigastric and back pain, feeling of fullness, anemia, stool + for occult blood, achlorhydria (no HCL in the stomach), obstruction (→abdominal distension, NPO, n/v, pain, NG tube to suction for abd decompression)

Dx: Upper GI, CT, EGD

Tx:
1. Surgery (preferred): Gastrectomy
   - Fowler's position (decrease stress on __________  __________)
   - Will have NG tube (for decompression)
     * Is it ok to reposition?

- 2 major complications:
  A. Dumping syndrome
  B. B-12 deficient anemia – Pernicious anemia
     - Schilling’s test
       (measures the urinary excretion of Vitamin B-12 for diagnosis of pernicious anemia)

→ no stomach → no intrinsic factor → can’t absorb oral B-12 → can’t make good RBC’s → pt is anemic

2. Chemotherapy: 5-FU®, Doxorubicin®, Mitomycin-C®, Cisplatin®

3. Radiation
ENDOCRINE

1. Thyroid Problems
- Produces 3 hormones (T3, T4, Calcitonin)

- You need __________________ to make these hormones. (This is dietary iodine)

- Thyroid hormones give us __________________!

   **Hyperthyroid** TOO MUCH ENERGY!! (Graves Disease)
   - nervous - appetite
   - weight - irritable
   - sweaty/hot - GI
   - exophthalmus - BP
   - attention span - thyroid

   *If you drew a serum T4 level on this patient would it be increased or decreased?

Diagnosis: thyroid scan

TX:
A. Antithyroids: Propaci®®, PTU®, Tapazole®
   - Stops the thyroid from making TH's
   - We want this pt to become euthyroid (eu=normal)
   - Tapered and discontinued

B. Iodine Compounds (Potassium iodide®, Lugol's solution®, SSKI®)
   - Decreases vascularity

   - Give in milk, juice, and use straw

C. Beta Blockers: Inderal®
   - decreases myocardial contractility
   - could decrease cardiac output

   - Decreases HR, BP

   - Rule: Do not give beta blockers to asthmatics or diabetics.
D. Radioactive Iodine (one dose)

- **Destroys** thyroid cells → hypothyroid

- Follow radioactive precautions
  1) Stay away from ________________ for _______ hours
  2) Don’t ________________ anyone for ____________ hours

- Watch for thyroid storm
  * Thyroid storm, thyrotoxicosis, and thyrotoxic crisis are the same.
  * It is hyperthyroidism multiplied by 100

E. Surgery: thyroidectomy (partial/complete)
   - Post-op:
     * Teach how to support neck
     * Positioning
     * Check for bleeding
     * Nutrition (pre & post-op)

     * Assess for recurrent laryngeal nerve damage
       * could lead to vocal cord paralysis, if there is paralysis of both cords
         airway obstruction will occur requiring immediate trach

     * Trach set at bedside
       * Hypocalcemia
       * Swelling
       * Recurrent laryngeal nerve damage

     * Teach to report any c/o pressure

     * Assess for parathyroid removal
**Hypothyroid (no energy) (Myxedema)**

- When this is present at birth it's called cretinism (very dangerous, can lead to slowed mental and physical development if undetected)

-S/S: -fatigue

- GI

- weight

- hot/cold

- speech

- no expression

You may be taking care of a totally immobile patient

-Tx: -Synthroid®, Proloid®, Cytomel®

- Do they take these meds forever?

- What will happen to their energy level when they start taking these meds?

- People with hypothyroidism tend to have ___________ ___________ ___________
2. Parathyroid Problems

*The parathyroids secrete __________________ which makes you pull calcium from the ______________ and place it in the blood. Therefore, the serum calcium level goes ______.

*If you have too much parathormone in your body the serum calcium level will be __________.

*If you do not have any parathormone in your body the serum calcium level will be __________.

Hyperparathyroidism = Hypercalcemia = Hypophosphatemia
-Too much ____________________.
-Serum calcium is ________, Serum phos is ________.

-Tx: Partial parathyroidectomy - when you take out 2 of your parathyroids PTH secretion decreases

Hypoparathyroidism = Hypocalcemia = Hyperphosphatemia
-Not enough ____________________.
-Serum calcium is ________, Serum phos is ________.

-Tx:
3. **Adrenal Problems:** got to have adrenals to handle stress

2 parts: a. **Adrenal medulla** (epinephrine, norepinephrine)

1. Adrenal Medulla Problems: Pheochromocytoma
   - benign tumors that secrete epi and norepi
   - BP
   - Pulse
   - Flushing/diaphoretic

   - VMA (vanillylmandelic acid test): a 24 hour urine specimen is done and you are looking for increased levels of epi/norepi (also called catecholamines)

   *With a 24° urine you should ___________________ _________________ the first voiding and ____________________the last voiding.

   - Tx: surgery

b. **adrenal cortex**

   1. **Glucocorticoids**
      * Change your mood
      * Alter defense mechanisms
      * Breakdown protein/fat
      * Inhibits insulin

   2. **Mineralocorticoids** *Aldosterone*
      * Make you retain _________ & __________
      * Make you lose ________________.

   **Too Much**
   a. Vascular Space
   b. Serum Potassium

   **Not Enough**
   a. Vascular Space
   b. Serum Potassium

3. **Sex hormones**
*Adrenocorticotropic hormones (ACTH) and cortisol mean the same thing. They refer to the hormones of the adrenal cortex. When you hear the word “steroid” this is referring to the same things.

Too many steroids = Hypercortisolism (just another word)
A. Adrenal Cortex Problems

1. Addison’s disease (adrenocortical insufficiency)

- If this patient is insufficient do they have enough glucoc., mineralos., or sex hormones?

- Focus on aldosterone
  * Normally, aldosterone makes us retain Na/Water and lose K......Now we don't have enough (insufficient) so we will lose _____ and ______ and retain ____________.

  - The serum K will be ________.

  - The majority of the s/sx are a result of the Hyperkalemia initially.
    * Beginning with muscle twitching, then proceeds to weakness, then flaccid paralysis

S/Sx: *Some s/sx have an unknown etiology.

- anorexia/nausea

- hyperpigmentation

- decreased bowel sounds

- GI upset

- hypoglycemia

- white patchy area of depigmented skin (vitiligo)

- Hypotension (due to ↑ capillary permeability and ↓ability for vessels to constrict)

*If you checked this patient's blood/urine for adrenocorticotropic hormones... would they be present or absent? ___________________________
-Tx:
  - combat shock (losing __________ and ______________)
  - processed fruit juice/broth (has lots of ________________)
  - I & O

-If this patient is losing Na their BP will probably be ______. - losing Na & water

-They will probably be gaining/losing weight?

-Nursing DX: Fluid Volume ______________

-Will be placed on a mineralocorticoid (drug aldosterone) . . . Florinef®

-WEIGHT is very important in adjusting their meds.

  Pt has an overnight gain of 7 lbs. → what do we do with their AM dose?
  (Test taking strategy: Fluid retention…… think heart problems first)

  Overnight loss of 7 lbs. → what do we do with their AM dose?
  *Pt has edema or their BP is up→
  *Pt's BP is steadily going down→

-Addisonian Crisis- severe hypotension and vascular collapse
2. **Cushing's Syndrome** (Exogenous administration: someone who is taking steroids for the treatment of asthma, autoimmune disorders, organ transplantation, cancer chemotherapy, allergic responses,)

Cushing’s disease (Endogenous: bilaterally adrenal hyperplasia, pituitary adenoma increases secretion of ACTH, malignancies, adrenal adenoma or carcinoma)

-These pts have too many glucocorticoids, mineralocorticoids, and sex hormones.

  -growth arrest
  -thin extremities/skin (cortisol can promote lipolysis)
  -increased risk for infection
  -hyperglycemia
  -psychoses to depression

  -central obesity (fat redistribution; lipogenesis)
  -buffalo hump (fat redistribution)
  -heavy trunk (fat redistribution)
  -oily skin/acne
  -women with male traits
  -poor sex drive (libido)

  * High levels of adrenal steroids interfere with the ability of the pituitary gland to secrete LH and FSH and for the testes to make testosterone.

  -high BP
  -CHF
  -weight gain
  -moon faced (can be due to fat redistribution or fluid retention)

  *Since this pt has too much mineralocorticoids (aldosterone), the serum K will ______________.

  *If you did a 24 hour urine on this patient the cortisol levels would be ______________.

Tx: -adrenalectomy (unilateral or bilateral)

  -if both are removed→ lifetime replacement

  -quiet environment

  -What does this patient need in their diet pre-treatment?
    K - ______, Na - ______, Protein - ______ Ca - ______

  -Avoid infection

  -What might appear in their urine?

  -High levels of adrenal steroids interfere with the ability of the pituitary gland to secrete LH and FSH and for the testes to make testosterone.

  -Steroids decrease serum Ca by making you excrete it through GI tract.
4. Diabetes

Type 1: (IDDM)
- Take insulin
- usually starts in childhood
- First sign may be ____________.

Patho: You have to have insulin to carry glucose out of the vascular space over to the cell......since there is no insulin the glucose just builds up in the vascular space (blood/serum).....the cells are starving so they start breaking down protein and fat for energy......when you break down fat you get ___________ (acids) .....Now this pt is acidotic (respiratory or metabolic?)

Now lots of s/sx come about:
- **polyuria** (with accompanying weight loss)

  **Hyperglycemia = 3 p’s**

- **polydypsia** (thirst)

- **polyphagia**

Will oral hypoglycemia agents such as glucotrol, micronase or diabeta work in this patient?

**Somogyi Phenomenon**: rebound phenomenon that occurs in Type I diabetic, client has normal or ↑ BG levels at bedtime, and BG drops in early morning hours (~2-3AM). Client’s body attempts to compensate by producing counter-regulatory hormones to increase BG resulting in hyperglycemia. TX: ↑ bedtime snack and ↓ intermediate acting insulin (NPH® insulin, Lente® insulin)

**Dawn Phenomenon**: Resulting from a decrease in the tissue sensitivity to insulin that occurs between 5-8 AM (pre-breakfast hyperglycemia) caused by a release of nocturnal growth hormones. TX: give intermediate-acting insulin (NPH® insulin, Lente® insulin) at 10PM
Type II: (NIDDM)

- These people don't have enough insulin or the insulin they have is no good.

- These patients are usually overweight. They can't make enough insulin to keep up with the glucose load the pt is taking in.

- This type of diabetes is not as abrupt as Type I.

- It's usually found by accident; or the patient keeps coming back to the doctor for things like a wound that won't heal, repeated vaginal infections, etc.

- Tx:
  - Start with diet and exercise, then add oral agents, then add __________________.

General Treatment of Diabetes:
- Majority of calories should come from: *complex carbs 55-60% *fats 20-30% *protein l2-20%
  *Diabetics tend to have ___________ disease.

- Why are diabetics prone to CAD? Sugar deposits and destroys vessels just like ______.

- High fiber diet (keeps BS steady; may have to decrease insulin)
  *High fiber slows down glucose absorption in the intestines, therefore eliminating the sharp rise/fall of the blood sugar

- Wait until BS normalizes to begin exercise

- What should the pt do pre-exercise to prevent hypoglycemia?

- Exercise when BS is at it's highest or lowest?

- Exercise same time and amount daily

- How do oral hypoglycemic agents work? ______________ pancreas to make insulin;
  *note: not all oral hypoglycemic agents stimulate the pancreas to make insulin

<table>
<thead>
<tr>
<th>Medication</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>chlorpropamide (Diabinese)®</td>
<td>Stimulates release of insulin from pancreas</td>
</tr>
<tr>
<td>glipizide (Glucotrol, Glucotrol XL)®</td>
<td>Stimulates release of insulin from pancreas</td>
</tr>
<tr>
<td>glyburide (Diabeta, Glynase)®</td>
<td>Stimulates release of insulin from pancreas</td>
</tr>
<tr>
<td>metformin (Glucophage, Glucophage XR)®</td>
<td>Dec rate of hepatic glucose production and changes the glucose uptake by tissues</td>
</tr>
<tr>
<td>acarbose (Precose)®</td>
<td>Delay absorption of glucose from GI tract</td>
</tr>
<tr>
<td>pioglitazone (Actos)®</td>
<td>Inc glucose uptake in muscles, dec endogenous glucose production</td>
</tr>
<tr>
<td>rosiglitazone (Avandia)®</td>
<td>Inc glucose uptake in muscles, dec endogenous glucose production</td>
</tr>
</tbody>
</table>
- How is the insulin dose determined?
  *the dose is increased until the __________ __________ is normal and until there is no more
  ______________ & ____________ in the urine

- Reg (clear) ... NPH (cloudy).... which one do you draw up first?

- What is the only type of insulin you can give IV?

- Hemoglobin A1C: blood test; gives an average of what your blood sugar has been over the past 3
  months.

- Patient should eat when insulin is at its ______. "Peak": Think hypoglycemia

- What happens to your BS when you are sick/ stressed?
  *normal pancreas can handle these fluctuations; an increase in the BS when sick/stressed is
  a normal reaction to help us fight the illness/stressor

- Rotation of sites (Rotate ______________ an area first)

- Aspirate?

- What are the s/sx of hypoglycemia?

- What should the pt do?

- After the BS is up, what should they do?

- You enter a diabetic patient's room and they are unconscious...do you treat this pt like he is
  hypo or hyperglycemic?

  - D50W (hard to push; and if you have a choice you need a large bore IV/angiocath)

  - Injectable Glucagon® (used when there is no IV access)

- Prevention: Eat and Take insulin regularly; Snacks
Complications:

1. **Diabetic Ketoacidosis**
   - anything that increases BS can throw a patient into this (infection, illness, skipping insulin)
   - may be the first sign of diabetes
   - have all the usual s/s of Type I diabetes
   
   Not enough insulin → BS goes sky high → Polyuria, Polydypsia, Polyphagia → fat breakdown (acidosis) → Kussmaul's respirations (trying to blow off C02 to compensate for the acidosis) also, as the patient becomes more acidotic the LOC goes down

   - Tx:
     - Find the cause
     - Hourly BS and K
     - IV insulin - Insulin decreases blood sugar & potassium by driving them out of the vascular space into the cell.
     - EKG
     - Hourly outputs
     - ABG's
     - IVF's → Start with NS...then when the BS gets down to about 300 switch to D5W to prevent throwing the patient into hypoglycemia

     Anticipate that the M.D. will want us to add ____________ to the IV solution at some point.

2. **HHNK (hypertonic hyperosmolar non-ketotic coma)**
   - looks like DKA, but no acidosis
   - Making just enough insulin so they are not breaking down body fat . . .
     - no fat breakdown . . . no ketones
     - no ketones . . . no acidosis

   - Will this patient have Kussmaul’s respirations?

   In the NCLEX world:  
   
   **Type I → DKA**  **Type II → HHNK**
3. Vascular Problems:
   a. Vascular Problems

   -Will develop poor circulation everywhere due to vessel damage (sugar irritates the vessel lining; accumulation of sugar will decrease the size of vessel lumen therefore decreasing blood flow)

   1. Diabetic retinopathy

   2. Nephropathy

b. Neuropathy

   1. Sexual problems-impotence/decreased sensation

   2. foot/leg problems-pain/paresthesia/numbness
      *Review of Diabetic Foot Care

   3. Neurogenic bladder

   4. Gastroparesis (stomach emptying is delayed so there is an increased risk for aspiration)

c. Increased Risk for Infection
Deoxygenated blood enters the right atrium… then to the right ventricle… Then the pulmonary artery (this is the only artery in the body that carries deoxygenated blood)… then the blood enters the lungs where it gets some oxygen… then the oxygenated blood leaves the lungs via the pulmonary veins (these are the only veins in the body that carry oxygenated blood)… then the blood enters the left side of the heart (the BIG bad pump)... it first goes through the left atrium and then to the left ventricle...The aorta is the beginning of the arterial system. The oxygenated blood is delivered throughout the body. Once all the of oxygen has been used up out of the arterial blood then the arterial system ties back into the venous system and the blood is carried back to the heart and the entire process begins again.

In right sided heart failure the blood is not moving forward into the lungs… IF it does not move forward, then it will go backwards into the venous system.

In left sided heart failure the blood is not moving forward into the aorta and out to my body… IF it does not move forward, then it will go backwards into the lungs.
How To Assess Cardiac Output:

CO=HR X SV (preload, afterload, and contractility)

CO must remain fairly constant to perfuse my body. In this equation, as you can see, stroke volume and HR are inversely related. If my HR decreases, for whatever reason, say I had a really, really slow or a really fast arrhythmia, my SV will have to increase to maintain the same CO. And, visa versa, if my SV changes for whatever reason...say I lose a lot of volume/blood (maybe I had surgery, or maybe I was badly burned) and all my volume is leaving my vascular space. Well my heart rate will increase to try and compensate for the decrease in the volume I have left to pump around. At some point my HR cannot increase enough to compensate so that my CO drops. When my CO drops, I am not perfusing as well as I used to. So you can see why CO is so important.

What happens in this equation when I have too much volume? At first my SV will go up...but after a while if I go into fluid volume excess my heart muscle is stretched out really, really far so now the heart starts to fail. My heart is failing...the HR increases in an effort to compensate and maintain the same CO to provide perfusion to the body. After while, though, even though the body is saying "Oh my gosh! I've got so much more fluid to pump around, I am going to have to pump harder and faster to make blood go forward." At some point the heart cannot compensate enough and CO drops so perfusion drops.

If your heart is weak what will happen to cardiac output?

If your cardiac output is decreased will you perfuse properly?

   a. Will you perfuse your brain very well?
   b. Heart
   c. Skin
   d. Lungs
   e. Peripheral pulses
   f. Kidneys

What will happen to blood pressure?

   Initially - ___________   Long term - ___________

Arrhythmias are no big deal until they affect your cardiac output.
I. Chronic Stable Angina

- Decreased blood flow to myocardium → ischemia or necrosis → temporary pain/pressure in chest
  *usually caused by CAD

- What brings this pain on?

- What relieves the pain?

- Tx:  a. Nitroglycerin
  - Causes venous and arterial ____________.
  - This result will cause decreased preload and afterload.

  Preload is the amount of blood returning to the right side of the heart from the body. (hypervolemia)

  Afterload is the pressure in the aorta and peripheral arteries that the left ventricle has to pump against to the blood out. The pressure is referred to as resistance… in other words… how much resistance the ventricle has to overcome to get the blood out of the ventricle and to the body.

- Also causes dilation of _______________ arteries which will increase blood flow to the actual heart muscle (myocardium).

- Take 1 every ______ min X ______ doses
  - Teach client to remove the cotton from the container as it absorbs the drug

- Okay to swallow?

- Keep in dark, glass bottle; dry, cool

- May or may not burn or fizz

- The patient will get a ____________.

- Renew how often?

- After NTG, what do you expect the BP to do?
  - Never leave an unstable patient
b. Beta Blockers (Inderal® (propranolol), Lopressor® (which is Toprol XL® or metoprolol), Tenormin® (atenolol), Coreg® (carvedilol))

-What do BB's do to BP, P, and myocardial contractility?

-What does this do to the workload of the heart?

Beta blockers block the beta cells.. these are the receptor sights for the catecholamines—the epi and norepi. So we just decreased the contractility…. So what happened to my CO? _______________. So we _______________ the workload on my heart. This is a good thing to a certain point because we decreased the workload on the heart, but could we decrease patient’s cardiac output (HR and BP) too much with these drugs? _______________.

c. Calcium Channel Blockers (Procardia XL® (nifedipine), Calan® (verapamil), Norvasc® (amlodipine))

-What do these do to the BP?

-They also dilate coronary arteries.

d. Aspirin

- dose is determined by the physician (81 mg- 325 mg)

-Pt Ed.

-avoid isometric exercise (exercises that make your muscles squeeze/tense up)

-avoid overeating

-rest frequently

-avoid excess caffeine or any drugs that increase HR

-wait 2 hours after eating to exercise

-dress warmly in cold weather (any temperature extreme can precipitate an attack)

-take NTG prophylactically

-smoking cessation

-stop smoking/lose weight

DO EVERYTHING YOU CAN TO DECREASE WORKLOAD
2. Acute Coronary Syndromes: MI, Unstable Angina

- Decreased blood flow to myocardium leads to ischemia/necrosis or both?

- Does the patient have to be doing anything to bring this pain on?

- Will rest or NTG relieve this pain?

- **S/Sx:**
  - pain
  - EKG changes
  - cold/clammy/BP drops
  - vomiting
  - ↓ cardiac output
  - ↑ WBC’s and ↑ temp

  * due to inflammation

- What are the cardiac enzymes that are drawn?

  CPK (CK-MM, CK-BB, CK-MB)
  
  LDH (1, 2, 3, etc.)

- Which **isoenzyme** is the most sensitive indicator of an MI?

  **Troponin (cardiac biomarker/cardiac marker)**
  - High specificity for myocardial cell injury
  - Always normal in non-cardiac muscle diseases
  - Elevates sooner & stays elevated longer
  - Can be detected 3-6 hrs after onset of chest pain
  - Can last 6-8 days after heart damage

- Which enzymes/markers are most helpful when the pt delays seeking care? ___________ and ___________

  - Serial enzymes and markers will be drawn on the patient (the frequency depends on the doctor’s order)
Tx:

- When a client presents to the ED with any form of chest pain give them an Aspirin®.
- What is the DOC for pain?
- Who greets every patient with chest pain?
- What untreated arrhythmias will put the patient at risk for sudden death?
- What drugs are given to treat this?
- What is a sign of toxicity with Lidocaine®?
- What is an important side effect of Amiodarone®?
- What are you worried about with other arrhythmias?
- Head up position. Why?
  - Decreases _____________ on heart and increases ________________ ________________.

- **PCI** (percutaneous coronary intervention: includes all interventions such as PTCA (angioplasty) and stents)
  - Used with single and double vessel disease
  - Major complication of the angioplasty:
    * Don’t forget the patient may bleed from heart cath site
  - If any problem occurs → go to surgery

*** Chest pain after procedure: call MD at once → re-occluding!

- **Coronary Artery Bypass Graft (CABG)**
  - With multiple blockages
    - Left main occlusion which supplies the entire LV
Rehab:
* Smoking Cessation

* Stepped-Care plan (increase activity gradually)

* Diet changes - No fat, No salt, Low cholesterol

* No isometrics exercises - Increases workload of heart

* No valsalva - no straining; no suppository; colace

* When can sex be resumed?

* What is the safest time of day for sex?

* Best exercise for MI pt?

- Teach s/sx of heart failure:
  - Weight ________________________
  - Ankle ________________________
  - Shortness of __________________
  - Confusion
3. **Fibrinolytics**

- **Goal:** Dissolve the clot that is blocking blood flow to the heart muscle→ decreases the size of the infarction

- Streptokinase®  - TPA®  - TNKase® (one time push)  - Retavase®

- How soon after the onset of pain should these drugs be administered?
* The sooner the better.

- **Stroke:**

- **Major complication:**

- Have to get a good history. Want a good bleeding history.

- **Absolute Contraindications:** Intracranial neoplasm, Intracranial bleed, Suspected aortic dissection, internal bleeding

- During and after administration:
Take bleeding precautions, watch rhythm (reperfusion arrhythmias) draw blood when starting IV’s, decrease punctures

  **Bleeding Precautions:**

  - Watch for bleeding gums
  - Watch for hematuria
  - Watch for black stools
  - Use an electric razor
  - Use a soft toothbrush
  - No IM’s

Antiplatelets are another important component of fibrinolytic therapy.

- **Aspirin**

- **Plavix®**

- **Reopro IV®**

- Integrilin® (continuous infusion to inhibit platelet aggregation)
4. Cardiac Catheterization

-Pre-procedure:  -Ask if they are allergic to __________?

-Also we want to check their kidney function
  -because the patient will excrete the dye through their kidneys.

-Hot shot

-Palpitations normal

Post-procedure:
-Watch puncture site

-Assess extremity distal to puncture site (5- Ps)

<table>
<thead>
<tr>
<th>The 5- Ps</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Pulselessness</td>
</tr>
<tr>
<td>-Pallor</td>
</tr>
<tr>
<td>-Pain</td>
</tr>
<tr>
<td>-Paresthesia</td>
</tr>
<tr>
<td>-Paralysis</td>
</tr>
</tbody>
</table>

-Bed rest, flat, leg straight X 6-8 hours; can ambulate after this

-Report pain ASAP

-Major Complication:
5. Pacemakers

- Used to increase the heart rate with symptomatic bradycardia

- They depolarize the heart muscle...hopefully a resultant contraction will occur.

  * Depolarization - when electricity is going thru the muscle

  * Repolarization - resting, ventricles are filling up with blood

- 3 Types:
  1. Temporary
  2. Permanent
  3. Transcutaneous

- Demand: kicks in only when pt needs it to

- Fixed rate: fires at a fixed rate constantly

- It’s ok for the rate to increase but never decrease

  **Always worry if the rate drops below the set rate.**

- Monitor the incision

- Most common complication in early hours? electrode _____________________

- Immobilize arm

- PROM to prevent frozen shoulder

- S/Sx of malfunction: Any sign of decreased CO or decreased rate

- Pt ed:
  * Check ___________ daily

  * ID card

  * Avoid microwaves/ MRIs

  * Avoid contact sports
6. CHF

CHF is a complication that can result from problems such as cardiomyopathy, valvular heart disease, endocarditis, Acute MI

<table>
<thead>
<tr>
<th>Left-sided failure</th>
<th>Right-sided failure (cor pulmonale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-pulmonary congestion</td>
<td>-enlarged organs</td>
</tr>
<tr>
<td>-dyspnea</td>
<td>-edema</td>
</tr>
<tr>
<td>-cough</td>
<td>-weight gain</td>
</tr>
<tr>
<td>-blood-tinged, frothy sputum</td>
<td>-distended neck veins</td>
</tr>
<tr>
<td>-restlessness</td>
<td>-ascites</td>
</tr>
<tr>
<td>-tachycardia</td>
<td></td>
</tr>
<tr>
<td>-S-3</td>
<td></td>
</tr>
<tr>
<td>-orthopnea</td>
<td></td>
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<tr>
<td>-nocturnal dyspnea</td>
<td></td>
</tr>
</tbody>
</table>

New Terminology: Systolic: heart can’t contract and eject
Diastolic: ventricles can’t relax and fill

Dx:

a. Swan Ganz catheter (is a type of central line that measures pressures inside the heart)
   -Helps to determine the cause of decreased cardiac output
   -Killer complications: air embolus, pulmonary infarction

b. A-line
   *Measures BP continuously on a monitor

   *NEVER use an A-line as an IV site, you may draw blood from an A-Line, but do not administer medication via the A-Line

   * You do have to be careful with an A-line because if you do not have the connections on your pressure tubing secured properly then the blood will move up in the tubing or if you do not have the stopcocks in the proper position your patient could bleed out.

*Allen’s test – a check for alternative circulation
  **Apply pressure to clients ulnar and radial arteries at the same time, ask client to open and close hand, hand should blanch, release the pressure from the ulnar artery while continuing to compress the radial artery and assess the color in the extremity distal to the pressure point—pinkness should return within 6 seconds (indicating the ulnar artery is sufficient to provide hand with adequate circulation if radial artery is occluded with a-line)

*Check distal circulation while in place
  -The 5- Ps: -Pulselessness, -Pallor, -Pain, -Paresthesia, -Paralysis
c. BNP: B-type natriuretic peptide
   *secreted by ventricular tissues in the heart when ventricular volumes and pressures in the heart are increased; sensitive indicator; can be positive for CHF when the CXR does not indicate a problem

   * If your patient is on Natrecor®, you will need to turn it off for 2 hours prior to drawing your BNP because it will give you a false high

d. CXR (enlarged __________, pulmonary ______________)

e. Echocardiogram

f. New York Heart Association Functional Classification of persons with CHF:
   Classes 1-4
   - Class 4 being the worst

Tx: a. Digitalis® (Lanoxin®, Digoxin)
   - used with atrial fibrillation; may increase workload
   
   contraction
   
   heart rate
   **when the heart rate is slowed this gives the ventricles more time to fill with blood
   
   cardiac output
   
   kidney perfusion

   Would diuresis be a good thing or bad thing?

   - We always want to diurese heart failure pts.....they can't handle volume

   -digitalizing dose   - loading dose

   -normal dig level=

   *How do you know the Digoxin is working?

   *S/Sx of toxicity? early: A, N, V late: arrhythmias vision changes

   *Before administering do what?

   *Monitor electrolytes
   - all electrolyte levels must remain normal, but K+ is the one that causes the most trouble

   ___________________________________________ + ____________________________ = __________________________
b. Diuretics (Lasix®, HCTZ®, Bumex®, Diazide®)

- Decreases preload
- Aldactone may be given to decrease aldosterone levels
- When do you give diuretics?

c. ACE inhibitor and/or a Beta Blocker

- Examples of ACE inhibitor include:
  (Vasotec® (enalapril), Monopril® (fosinopril), Capoten® (captopril))

- Examples of Beta Blockers include:
  (Inderal® (propranolol), Lopressor® (which is Toprol XL® or metoprolol), Tenormin® (atenolol), Coreg® (carvedilol))

* if the drug ends in –pril it is most likely a ACE inhibitor
* if the drug ends in -lol it is most likely a Beta Blocker

d. Low Na Diet

- decreases preload
- watch salt substitutes
  - salt substitutes can contain a lot of excessive ________________,
- canned/processed foods & OTC’s can contain a lot of sodium

e. Miscellaneous

- elevate head of bed
  - 10” blocks under the head of the bed
- weigh daily (report gain of _____ to ____ lbs)
- report s/sx of recurring failure
7. **Pulmonary Edema**

- Left ventricle has failed and blood is backing up to the lungs
- Severe hypoxia
- When does this usually occur?

- **S/Sx:**
  - Sudden onset
  - Restless/anxious
  - Breathless
  - Productive cough

- **Tx:**
  - **Lasix®** (furosemide)
    - Decreases preload and afterload through diuresis and vasodilation
    - 40 mg IV push given over 1-2 minutes
    - Hypotension and ototoxicity
  - **Bumex®** (bumetanide)
    - Can be given IV push or as continuous IV to provide rapid fluid removal
    - 1-2 mg IV push given over 1-2 minutes
  - **Nitroglycerin IV**
    - Vasodilation; decreases afterload
    - Decreased afterload = increased CO because the heart is pumping against less pressure and more blood can be moved forward.
  - **Digoxin**
    - Some still use this to get the blood moving forward
  - **Morphine sulfate®** (morphine)
    - 2 mg IV push for vasodilation to decrease preload and afterload
  - **Natrecor®** (nesiritide)
    - Infusion; short term therapy; not to be given more then 48 hours
    - Vasodilates veins and arteries and has a diuretic effect
  - **Primacor®** (milrinone)
    - Infusion; short term therapy
    - Vasodilates veins and arteries
  - **Dobutamine®**
    - Increases cardiac output
Severe CHF, cardiogenic shock: Balloon Pump (IABP)
-This decreases the workload on the heart and allows the weak heart muscle to rest

-Upright position, legs down
  Improves __________________________ __________________________
  Promotes __________________________ of blood in lower extremities

-Prevention when possible:
  *check ______________ _____________
  *avoid fluid volume ______________
8. **Cardiac Tamponade** (blood has leaked into pericardial sac)

- S/Sx: - Cardiac Output
  - CVP
  - BP
  - heart sounds
  - neck veins
  - pressures in all 4 chambers are the same
  - shock
  - paradoxical pulse (Pulsus paradoxus)
    - This is when the BP is greater than 10 mm Hg higher on expiration than on inspiration
  - narrowed pulse pressure
    - this is the difference between the systolic and the diastolic

- Tx: - pericardiocentesis and surgery
8. Arterial Disorders

-If you have atherosclerosis in one place you have it everywhere.

-It is a medical emergency if you have an acute arterial occlusion (numb, cold, pain, no pulse)

-More symptomatic in lower extremities.

-Intermittent claudication

-Arterial blood isn't getting to the tissue → coldness, numbness, decreased peripheral pulses, atrophy, bruit, skin/nail changes, and ulcerations

-Rest pain means severe obstruction

-Since arterial blood is having difficulty getting to the tissue, if you elevated the affected extremity the pain would increase or decrease?

-Arterial disorders of the lower extremities are usually treated with either angioplasty or endarterectomy.

Buerger's Disease

-inflammation of veins/arteries

-men

-heavy smoking, cold, emotions

 *causes vasoconstriction of vessels

-lower extremities/sometimes fingers

-TX:

 *stop smoking
 *avoid cold
 *hydration
 *gangrene→amputation

 *wear shoes that fit well
 *avoid any trauma to feet
 *by-pass surgery

Raynaud's Disease

-This is the female patient that gets upset/cold/smokes and her fingers (on both hands) turn blue, then white, then red

-Is painful and can ulcerate

-Avoid the cause
9. **DVT**

-Causes: blood stasis, vessel injury, blood coagulation probs.

-The blood can get to the tissue, it just can't get away.

-S/Sx: *edema  *tenderness  *positive Homan's (very controversial)  *warmth

<table>
<thead>
<tr>
<th>Medication</th>
<th>Lab</th>
<th>Antidote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin</td>
<td>aPTT</td>
<td>Protamine Sulfate</td>
</tr>
<tr>
<td>Fibrinolytics</td>
<td>PT, fibrinogen level aPTT, HCT</td>
<td>Aminochproic acid (amicar)</td>
</tr>
<tr>
<td>Coumadin</td>
<td>PT, INR</td>
<td>Vitamin K</td>
</tr>
<tr>
<td>Plavix</td>
<td>Does not require labs</td>
<td>n/a</td>
</tr>
<tr>
<td>Aspirin</td>
<td>Does not require labs</td>
<td>n/a</td>
</tr>
<tr>
<td>Lovenox</td>
<td>Does not require labs</td>
<td>n/a</td>
</tr>
<tr>
<td>Persantine</td>
<td>Does not require labs</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*these drugs either prevent platelet aggregation or prevent the clot from getting bigger

- Normal aPTT (same as PTT) is 20-36 seconds, a therapeutic level for a patient that is on a medication that requires aPTT to be monitored should be 1.5-2x the normal

- Normal PT is 9.6-11.8 seconds, normal INR is 1.3-2.0

- For most patients a therapeutic INR is 2.0-3.0, although an INR of 3.0-4.5 may be considered therapeutic depending on the patient

Tx:
- Surgery
- Bed rest
- Elevate - to increase venous return; decrease pooling
- TED hose - to increase venous return; decrease pooling
  - Used with SCD’s many times
  - With a known clot TED’s or SCD’s may not be used
- Warm, moist heat - decreases inflammation

- **Prevention** is the key! Ambulation, hydration, isometrics, SCD’s (also called PCD’s)
## Chronic Arterial Insufficiency

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain</strong></td>
<td>Intermittent claudication (progresses to rest pain)</td>
</tr>
<tr>
<td><strong>Pulses</strong></td>
<td>Decreased or maybe absent</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Pale when elevated, red with lowering of leg</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>Cool</td>
</tr>
<tr>
<td><strong>Edema</strong></td>
<td>Absent or mild</td>
</tr>
<tr>
<td><strong>Skin Changes</strong></td>
<td>Thin, shiny, loss of hair over foot/toes, nail thickening</td>
</tr>
<tr>
<td><strong>Ulceration</strong></td>
<td>If present will involve toes or areas of trauma on feet (painful)</td>
</tr>
<tr>
<td><strong>Gangrene</strong></td>
<td>May develop</td>
</tr>
<tr>
<td><strong>Compression</strong></td>
<td>Not Used</td>
</tr>
</tbody>
</table>

## Chronic Venous Insufficiency

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain</strong></td>
<td>None to aching pain depending on dependency of area</td>
</tr>
<tr>
<td><strong>Pulses</strong></td>
<td>Normal (may be difficult to palpate due to edema)</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Normal (may see petechiae or brown pigmentation with chronic condition)</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>Normal</td>
</tr>
<tr>
<td><strong>Edema</strong></td>
<td>Present</td>
</tr>
<tr>
<td><strong>Skin Changes</strong></td>
<td>Brown pigmentation around ankles, possible thickening of skin, scarring may develop</td>
</tr>
<tr>
<td><strong>Ulceration</strong></td>
<td>If present will be on sides of ankles</td>
</tr>
<tr>
<td><strong>Gangrene</strong></td>
<td>Does not develop</td>
</tr>
<tr>
<td><strong>Compression</strong></td>
<td>Used</td>
</tr>
</tbody>
</table>
**PSYCHIATRIC NURSING REVIEW**

**Depression**
- loss of interest in life's activities
- negative view of world
- Anhedonia, loss of pleasure in usually pleasurable things
- Usually related to loss
- What does this patient look like?
- Weight gain in mild depression.
- Weight loss in severe depression.
- Crying spells with mild to moderate depression.
- No more tears with severe depression.
- Patients may be irritable (due to decreased serotonin)
- Do they have energy?
- Do they need help with self-care?
- Help experience accomplishment.
- Careful with compliments, these may make the patient feel worse.
- Prevent isolation
- Interacting with others actually makes the patient feel better, even if they don’t want to do it.
- If severely depressed, sitting with patient and making no demands may be the best thing that you can do.
- Can these people make simple decisions?
- Assess suicide risk
- As depression lifts, what happens to suicide risk?
- A sudden change in mood toward the better may indicate that the patient has made the decision to kill himself.
- Elderly are particularly at risk for suicide; elderly men tend to be very successful by using very lethal methods.
- Can they have delusions/hallucinations?
- Are their thoughts slowed?
- Can't concentrate
- Sleep disturbances common.

- In mild depression, hypersomnia.

- In moderate to severe depression, insomnia.

- Generally, depressed patients have difficulty falling asleep, staying asleep, or have early morning awakening.
**Mania**

- Continuous High
- Emotions Labile
- Flight of ideas

- Delusions - false idea
  * Delusions of grandeur
  * Delusions of persecution
  * Do you argue about the belief?
  * Do you talk a lot about the delusion?
  * Let the pt know you accept that he/she needs the belief, but you do not believe it.

- Look for the underlying need in the delusion, for example, delusions of persecution, the need is to feel safe, delusions of grandeur, the need is to feel good about self or self-esteem needs,

- Constant motor activity → exhaustion

- Inappropriate dress

- Can't stop to eat

- Altered sleep patterns

- Spending sprees

- Poor judgment

- No inhibitions

- Hypersexual, and may exploit other patients.

- Manipulates → fails →
  * Manipulation makes them feel secure, powerful
  * Set limits; staff must be consistent

- Decreased attention span

- Hallucinations
-Tx: -Decrease stimuli
  -Limit group activities
  -Feels most secure in one-on-one relationships
  -Remove hazards
  -Stay with pt as anxiety increases
  -Structured schedule
  -Provide activity to replace purposeless activity
  -Writing activities provide energy outlet without too much stimulation
  -Brief, frequent contact with the staff. Too much intense conversation stimulates patient
  - Finger foods
  - Keep snacks available
  -Weigh daily
  - Walk with pt during meals
  - Don't argue or try to reason
  -Will try to "charm" you
  -Blame everybody
  -Make sure dignity is maintained.
  -Patient may do things or say things that they wouldn’t normally do.

-Drugs: Haldol®, Thorazine®, Zyprexa®, Risperdal® (decrease agitation and hyperactivity)
  -Lithium® (anti-manic)
  -Anticonvulsants (used to stabilize mood)
**Schizophrenia**

- Focus is inward; they create their own world

- Inappropriate affect, flat affect, or blunted affect

- Disorganized thoughts (loose associations: interrupted connections in thought, confused thinking)

- Rapid thoughts

- Jump from idea to idea

- Echolalia

- Neologism
  
  * Seek clarification ("I don't understand")

  * Do these words mean anything?

- Concrete thinking

- Word salad

- Delusions

  - Hallucinations, auditory most common; visual next most common

- Child-like mannerisms

- Religiosity

- Tx:

  - Decrease stimuli

  - Observe frequently without looking suspicious

  - Orient frequently (important to remember that patient may know person, place, and time and still have delusions and hallucinations)

  - Keep conversations reality based.

  - Make sure personal needs are met.

  - Medications.
**Suicide**

- Do they have a plan?
- What is the plan?
- How lethal is the plan? Guns, car crashes, hanging, and carbon monoxide are very lethal plans.
- Do they have access to the plan?
- Have they attempted?
- Watch for:
  * isolating self
  * writing a will
  * collecting harmful objects
  * giving away belongings
- Elderly men are particularly at risk, and are successful in attempts.
- Provide safe environment (#1)
- Safe-proof room
- Contract to postpone
- Direct, closed ended statements appropriate
- Re-channel anger → exercise
- Stay calm → anxiety contagious
- Restraints-
  * Check every 15 minutes; remember hydration, nutrition, & elimination
  -(Not used much anymore on psychiatric units)
- Observation at 15, 30 minute intervals or one-to-one if the client cannot contract for safety.
**Paranoia**

- Always suspicious, but have no reason to be
- Why? Because they are responding in a way that is consistent with their paranoid beliefs
- Remember, you can’t explain away delusions or false beliefs
- Guarded in relationships
- Pathologic jealousy
- Hypersensitive
- Can't relax
- No humor
- Unemotional
- Craves recognition
- Life is unfair
- Everybody else has the problem
- Reacts with rage

**Tx:**

- Be reliable
- If you say you will do something, you must do it!
- Brief visits
- Be careful with touch
- Respect personal space
- Avoid whispering
- Don't mix meds
- Can't handle overfriendly
- Be matter-of-fact
- Always ID meds
- Eating-sealed foods
- Need consistent nurses
- No competitive activities

- Be honest
**Anxiety**

-a universal emotion

-We have all felt anxious

-It becomes a disorder when it interferes with normal functioning.

-General comments about anxiety: increases performance at mild levels, decreases performance at high levels.

-Patients may not need the nurse’s presence in mild anxiety; however, nurse should stay with highly anxious patient.

-The patient who is highly anxious needs step-by-step instructions

**Generalized anxiety disorder**

-Chronic anxiety

-Person lives with it daily

-Fatigued due to constant anxiety and muscle tension.

-Uncomfortable

-Seek help

Tx :

-Short-term use of anxiolytics

-Relaxation techniques: deep-breathing, imagery, deep muscle relaxation

-Journaling over time to gain insight into anxiety, peaks and valleys, triggers
Post-traumatic stress disorder
- results from exposure to life-threatening event; severe trauma, natural disasters, war.
- relive the experience, nightmares, and flashbacks
- emotional numbing
- difficulty with relationships
- isolates self
Tx:
  - Support groups.
  - Talk about the experience, but don’t push
  - Medications may be helpful.

Obsessive-Compulsive Disorder
- Obsession → recurrent thought
- Compulsion → recurrent act
- Can't stop
- Come from an unconscious conflict/anxiety
- Need structured schedule
- Allow time for rituals
- Can't perform ritual → Anxiety level goes up if he can’t perform the ritual.
You should never take away the ritual without replacing it with another coping mechanism, such as anxiety reduction techniques.
- Do not verbalize disapproval
Tx:
  - Time delay techniques, relaxation techniques
  - Medications, such as SSRIs (Selective Serotonin Reuptake Inhibitors) or TCAs (Tricyclics antidepressants)
**Dissociative disorders**

The patient uses dissociation as a coping mechanism to protect self from severe physical and or psychological trauma.

May see with clients who have history of physical or sexual abuse

Not commonly occurring or seen.

Client nor others may be aware of the problem except that client may have periods of time or events that he cannot remember.

Dissociative Identity Disorder (multiple personalities) is extreme example of dissociative disorder

Tx:

- Patient must process the trauma over time.

- Medications may be used to treat co-existing depression, anxiety.
**Alcoholism**

- Depressant

- Withdrawal:

  * I - Mild tremors, nervous, nausea

  * II - Increased tremors, hyper, nightmares, disorientation, hallucinations, increased pulse, increased BP

  * III - Most dangerous, severe hallucinations (visual and kinesthetic are most common), grand mal seizures

- Stage II and III are DT's (alcohol withdrawal delirium)....Keep light on

- I and II → ambulate

Anxiolytics: don’t be afraid to give. Remember that the patient has a tolerance to alcohol, and a cross-tolerance to other CNS depressants. He can handle medications every two hours. DTs should be prevented. The patient is very frightened during the episode.

Detox protocol usually includes thiamine injections, multivitamins, and perhaps magnesium.

- Chronic problems: (caused by thiamin/niacin deficiencies)
  a. Korsakoff’s syndrome (disoriented to time; confabulate)
  b. Wernickes syndrome (emotions labile, moody, tire easily)

- Other S/Sx:
  * peripheral neuritis
  * liver and pancreas problems
  * impotence
  * gastritis

- Mg and K lost

- Major defense mechanisms? Denial and rationalization
- Antabuse: deterrent to drinking

- Patient has to sign consent form, must stay away from any form of alcohol, including cough syrups, aftershaves, colognes, etc.

- 12 step programs very effective treatment

- Client must have a relapse prevention plan in place. Must have support once detox is over

- Family issues emerge once the alcoholic is sober. All of the dynamics change, and this causes stress.

**Other substance abuse/addiction**

- The issues are the same: intense craving, difficulty quitting, many attempts to quit, fatal if left untreated, use denial and rationalization. The patient’s life is controlled by the drug.
Anorexia

- Distorted body image
- Sees a fat person when looking in the mirror, even when weight is 75 pounds.
- Preoccupied with food, but won't eat. Plans meals for others
- Periods stop
- Decreased sexual development
- Exercise
- Loses weight

Uses intellectualization as defense mechanism

High achiever, perfectionistic

Tx:

- Increase weight gradually.
- Monitor exercise routine.
- Teach healthy eating and exercise.
- Allow patient input into choosing healthy food items for meals.
- Limit activity and decisions if weight is low enough to be life threatening.
**Bulimia**

- Overeat → vomit
- Teeth
- Laxatives, diuretics
- Strict dieter; fasts; exercises
- Binges are alone and secret

*Out of control when binging (may consume thousands of calories at one sitting, may steal food from grocery or garbage can).

Patient spends more and more time obtaining food.

* Pleasurable → intense self-criticism

- Normal weight
- With both - feel like they are in control

Tx:

- Sit with pt at meals and observe 1 hour after
- Allow 30 minutes for meals
- Don't talk about food
- Angry you've taken this control away
- Family problems usually the cause
- Families tend to deny conflict and problems.
- Self-esteem building is important.
**Personality disorders**

Most commonly encountered: borderline personality disorder

Patients are intensely emotional.

Manipulative

Suicidal gestures

Self-mutilation

May also be depressed or bulimic.

May abuse substances.

Fear of abandonment, many negative relationships.

To this person, any relationship is better than no relationship.

May be sexually promiscuous.

Tx:

Improve self-esteem.

Treat co-diagnoses.

Relaxation techniques.

Enforce rules and limits.

Don’t reinforce negative behaviors.

Treat self-mutilation and suicidal gestures in matter-of-fact way.
**Phobia**

- With a phobia, does the object the person is scared of present danger?
- Must have a trusting relationship
- Desensitization, must occur over time
- Don't talk about phobia a lot
- Follow-up is the key to successful treatment

**Panic Disorder**

- Stay 6 feet away
- Simple words
- Have to learn how to stop the anxiety
- Teach that symptoms should peak within ten minutes.
- Teach journaling to manage anxiety.
  - Helps the patient gain insight into the peaks and valleys of anxiety and triggers.
- Relaxation techniques

**Hallucinations**

- Warn before touching
- Don't say "they"
- Let the pt know you do not share the perception
- Connected with times of anxiety
- Involve in an activity
- Elevate head of bed
- Turn off TV

Offer reassurance, the client is frightened.
ECT (Electro-Convulsive Therapy)

- Can induce a grand mal seizure
- For severe depression, and manic episodes
- NPO, void, atropine
- Signed permit is necessary.
- Series of treatments, depends on patient response
- Very effective treatment, and very humane with current meds.
- Anectine
- Post procedure:
  - position on side
  - stay with patient
  - temporary memory loss
  - reorient
- Involve in day’s activities as soon as possible.
**Psychotropic Medications**

*Antidepressants:*

TCA: older drugs (amitriptyline, nortripyline, imipramine)

Risk of overdose, only one week’s worth of meds if patient has suicidal thoughts

Used still for OCD and some depressed patients. Not first choice anymore.

Anticholinergic side effects: dry mouth, blurred vision, urinary retention, decreased tears, dizziness, sedation

Because they cause sedation, may be given at night. They aid in sleep then.

SSRI: first line of drugs now.

Less incidence of side effects.

Common side effects: headache, increased sweating, blurred vision, sexual side-effects, weight loss.

Not great risk for overdose.

Two to six weeks before complete therapeutic effect: true with all antidepressants. Patient may feel calmer right away, and worry less.

MAOI: problem with food and drug restrictions

-tranlycypromine (Parnate®), phenelzine sulfate (Nardil®), fluvoxamine maleate (Luvox®)

Cause hypertensive crises if foods or drugs containing tyramine or epinephrine-like substances are ingested.

Monoamine oxidase is needed to break down tyramine and epinephrine. If it is inhibited, then tyramine remains high and increased blood pressure occurs.

Foods to avoid: aged cheese, avocados, raisins, beer, red wines. No over-the-counter cough or cold medications containing ephedrine or ephedrine -like substances. Warnings are on labels.

Patients must be willing to abide by restrictions.

These drugs are not first choice drugs anymore.

Serotonin Syndrome: potentially fatal condition.

Serotonin levels are too high.

Symptoms: tachycardia, hypertension, fever, sweating, shivering, confusion, anxiety,

Restlessness, disorientation, tremors, muscle spasms, muscle rigidity.

Increased risk when taking more than one antidepressant, use of St.John’s Wort with meds.
Anxiolytics: used for short-term treatment, patient may abuse and become addicted.

Benzodiazepines: diazepam, lorazepam, alpazolam, chlordiazepoxide, flurazepam

Non-benzos: buspirone (not addictive).

Benzos: sedate, dizziness, constipation, raise seizure threshold, relax the patient.
Antipsychotics: Typical, Atypical

Typical are older drugs (chlorpromazine (Thorazine®), thioridazine (Mellaril®), fluphenazine (Prolixin®), haloperidol (Haldol®). Work well on psychotic symptoms.

Many side-effects including EPS (dystonia, akathisia, pseudoparkinsonism)

What is dystonia? Tonic contractions of muscles of mouth and torso, may affect breathing if not treated. Needs immediate treatment with Benadryl or Cogentin.

What is akathisia? Restlessness

What is pseudoparkinsonism? Symptoms mimic parkinson’s disease; pill-rolling tremors, mask-like face, muscle rigidity, drooling.

Potential irreversible effects: tardive dyskinesia

TD is manifested by uncontrollable movements of tongue, face.

Atypicals: are newer drugs

Clozapine (Clozaril®), risperidone (Risperdal®), olanzapine (Zyprexa®), ziprazidone (Geodon®), aripiprazole (Abilify®)

Less incidence of EPS.

Neuroleptic malignant syndrome: potentially fatal adverse effect for any antipsychotic:

Severe muscle rigidity, hyperpyrexia, stupor, dyspagia, labile pulse and blood pressure.

Stop meds, treated symptomatically, and usually in ICU.

Clozapine carries risk of agranulocytosis; therefore, WBC levels are monitored frequently.
**Anticonvulsants: used to stabilize mood.**

Commonly used are: carbamazepine (Tegretol®), valproex sodium (Depakote®), gabapentin (Neurontin®), lamotrigine (Lamictal®), oxcarbazepine (Trileptal®)

Work well in manic states.

Side effects include drowsiness, vertigo, blurred vision, unsteady gait.

Anticonvulsants are toxic to liver; therefore, liver function should be monitored.

**Lithium: used to stabilize mood**

Narrow therapeutic window.

Levels must be monitored.

0.6 to 1.2 mEq/L is maintenance level.

Up to 1.5 mEq/L is used for acute manic states.

Signs/symptoms of lithium toxicity: hand tremors, N & V, slurred speech, unsteady gait. Levels of 2.0 to 2.5 mEq/L are considered life-threatening.

Patient must be taught to keep food, fluid, and exercise levels constant. If changed, lithium levels change.
GASTROINTESTINAL

1. Diagnostic Tests
   a. Upper GI
      - Looks at the esophagus and stomach with dye
      - NPO past midnight
      - No smoking
         - smoking increases motility which will affect the test
   
   b. Barium Enema
      - Clear liquids
      - Laxative or enemas until clear; may have to drink gallon of Go-Lytely®. Yummy!!
      - Make sure patient has a ______________ ______________ post - procedure

   c. Gastroscopy (EGD, endoscopy)
      - NPO pre
      - Sedated
      - NPO until what returns?
      - Watch for perforation

   d. Liver biopsy
      - Clotting studies pre
      - Vital signs pre
      - How do you position this patient?
      - Exhale and hold (gets the diaphragm out of the way)
      - Post: Lie on ___________ side
         Vital signs

   e. Paracentesis
      - Removal of fluid from the peritoneal cavity (ascites)
      - Have patient void
      - Position
      - Vital signs

Two main functions of the liver
1) __________________ Body
2) Helps to _____________ Blood

Vital signs
2. **Pancreatitis**
   - The pancreas has two separate functions:
     a. endocrine - insulin
     b. exocrine - digestive enzymes
   - Two types of pancreatitis:
     a. acute: #1 cause=alcohol, #2 cause=gallbladder disease
     b. chronic: #1 cause=alcohol

   - S/S: *Pain-Does the pain increase or decrease with eating?*
     *Abdominal distension/ascites (circulating pancreatic enzymes damages capillaries→ ascites)*
     *Abdominal mass - swollen_______________*
     *Rigid board-like abdomen (guarding or bleeding)*
     *Bruising (around umbilical area (Cullen’s sign) or flank area (Gray Turner’s)*
     *Fever (inflammation)*
     *N/V*
     *Jaundice*
     *Hypotension*
     *Serum lipase and amylase*
     *WBC's*
     *Blood sugar - pancreas is sick*
     *SGOT, SGPT - liver enzymes*
     *PT, PTT*
     *Serum bilirubin*
     *H/H (Hemoglobin & Hematocrit)*
-Tx: *Control pain
  
a. Decrease gastric secretions (NPO, NGT to suction, bed rest)
  - want the stomach empty and dry

b. Drugs:
*Pain management begins with an opioid PCA
  *Demerol® is the traditional DOC

  *Past research says morphine/codeine causes more spasm of the sphinctor of Oddi (muscle surrounding the exit of the bile duct and pancreatic duct into the duodenum)—new research finds this to be untrue.

Due to increased concerns with adverse drug reactions with Demerol®, the physician may utilize fentanyl patches; PCA narcotics; Dilaudid® and Toradol® may be used for pain relief.

*Steroids

*Anticholinergics

*Protonix® (proton pump inhibitor)

*Zantac®, Pepcid®

*Antacids

*Maintain F & E balance

*Maintain Nutritional Status→ ease into a diet

*Insulin
3. Cirrhosis
-Liver cells are destroyed and are replaced with connective/scar tissue → alters the circulation within the liver → the BP in the liver goes up → __________ __________.

-S/S: *Firm, nodular liver

*Abdominal pain - liver capsule has stretched
*Chronic dyspepsia
*Change in bowel habits
*Ascites
*Splenomegaly - immune system has kicked in
*Decreased serum albumin
*Increased SGOT & SGPT
*Anemia

-Can progress to hepatic encephalopathy/coma

-Tx: *Antacids, vitamins, diuretics

*No more alcohol (don't need more damage)
*I & O; daily weights (Any time you have ascites you have a fluid volume problem)
*Rest
*Prevent bleeding (bleeding precautions)
*Measure abdominal girth
*Monitor jaundice - good skin care
*Avoid narcotics - liver can't metabolize drugs well when it's sick

*Diet:  a. Decrease protein

    b. Low Na diet
4. Hepatic Coma
- When you eat protein, it transforms into _____________, and the liver converts it to urea. Urea can be excreted through the kidneys without difficulty. When the liver becomes impaired then it can't make this conversion, so what chemical builds up in the blood?

What does this chemical do to the LOC?

-S/S: *Minor mental changes/motor problems

*Difficult to awake

*Asterixis

*Handwriting changes

*Reflexes

*EEG

*Fetor

-Anything that increases the ammonia level will aggravate the problem.
  - Liver people tend to be GI bleeders

-Tx: *Neomycin Sulfate (decreases ammonia-producing bacteria in the gut)

*Lactulose (decreases serum ammonia)

*Cleansing enemas

*Decrease _____________ in the diet

*Monitor serum ammonia
5. **Bleeding Esophageal Varices**

- High BP in the liver (portal HTN) forces collateral circulation to form.
  *This circulation forms in 3 different places→ stomach, esophagus, rectum*

- When you see an alcoholic patient that is GI bleeding this is usually what it is.
  *Usually no problem until rupture.*

- Tx:
  - Replace blood
  - VS, CVP
  - Oxygen (any time someone is anemic, Oxygen is needed)
  - Sandostatin (lowers the BP in the liver)
  - Sengstaken Blakemore Tube
  - Mg Sulfate (enema; flushes any blood out)
  - Neomycin (decreases ammonia producing bacteria)
  - Saline lavage
6. Ulcerative Colitis and Crohn's Disease

-Ulcerative Colitis→ ulcerative inflammatory bowel disease
  *just in the large intestine

-Crohn's Disease→ also called Regional Enteritis; inflammation and erosion of the ileum
  *can be found anywhere

-S/Sx:  
  -diarrhea                         -dehydration
  -rectal bleeding                 -blood in stools
  -weight loss                     -anemic
  -vomiting                        -rebound tenderness
  -cramping                        -fever

-Tx:
  -high fiber or low fiber?
    - trying to limit motility to help save fluid

  -avoid cold foods and smoking

  - hot foods can increase motility

  -antidiarrheals
    *only given with mildly symptomatic ulcerative colitis clients; does not work well in severe cases

  -antibiotics- sulfonamides (Gantrisin®)

  -steroids

  -surgery:

A. Ulcerative Colitis:
  1. Total Colectomy (ileostomy formed)

  2. Kock's Pouch/J Pouch (no external bag; have valve)

  3. Remove colon/rectum and attach ileum to anal area→ temporary colostomy
    - Anytime someone has a GI tract surgery & they return with a temporary colostomy, the purpose of the colostomy is to allow the intestines time to rest & heal.

B. Crohn's: (try not to do surgery)
  1. May remove only the affected area
-**Ileostomy Care:** (continuous liquid drainage)
  -avoid foods hard to digest; rough foods
  -Gatorade in summer
  -at risk for kidney stones (always a little ________________)

-**Colostomy Care:**
  -regulation is through bowel training and irrigation

  -The further down the colon the stoma is, the more formed the stool will be because ____________ is being drawn out.

<table>
<thead>
<tr>
<th>Location of Stoma</th>
<th>Description of Stool</th>
<th>Irrigation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ascending</td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td>transverse</td>
<td>semi-soft</td>
<td></td>
</tr>
<tr>
<td>descending</td>
<td>formed</td>
<td></td>
</tr>
</tbody>
</table>

-When is the best time to irrigate?
  -same __________ everyday
  -after a __________

  -The further down the colon, the less you have to irrigate.

**7. Appendicitis**
-Related to a low fiber diet
-S/Sx:
  -Generalized pain initially
    * Eventually localizes in the right lower quadrant (McBurney's point)
  -WBC's
  -N/V
  -Rebound tenderness

-Enema?

-Most done via laparoscope unless perforated.

-After any major abdominal surgery, what is the position of choice?
8. Peptic Ulcers

- Common cause of GI bleeding
- Can be in the esophagus, stomach, duodenum
- Mainly in males or females?
- Erosion is present

S/Sx: Burning pain usually in the midepigastric area/back

-Tx:
  Antacids:  *Liquid or tablets?
  *Take when stomach is empty and at bedtime - when stomach is empty acid can get on ulcer...take antacid to protect ulcer

  Prilosec®, Prevacid®, Protonix®, Nexium®
  *proton pump inhibitor; decreases acid secretions
  -Zantac®, Pepcid®, Axid® (H2 anticonist)
  -GI Cocktail (donnatel, viscous lidocaine, Mylanta II®)

  Antibiotics for H. Pylori: Biaxin®, Amoxil®, Tetracycline®, Flagyl®

  Carafate: forms a barrier over wound so acid can't get on the ulcer

  Decrease stress

  Stop smoking

  Eat what you can tolerate; avoid temperature extremes and extra spicy foods; avoid caffeine (irritant)

  Need to be followed for one year

Gastric ulcers: laboring person; malnourished, pain is usually half hour to 1 hour after meals; food doesn't help, but vomiting does; vomit blood

Duodenal ulcers: executives; well-nourished; nighttime pain common and 2-3 hours after meals; food helps; blood in stools
9. **Dumping Syndrome**
- This is when the stomach empties too quickly and the patient experiences many uncomfortable to severe side effects

- **S/Sx:**
  - fullness
  - weakness
  - palpitations
  - cramping
  - faintness
  - diarrhea

- **Tx:**
  - semi-recumbent with meals
  - no fluids with meals (drink in-between meals)
  - lie down after meals
  - decrease carbos (carbs empty fast)

10. **Hiatal Hernia**
- This is when the hole in the diaphragm is too large and the stomach moves up into the thoracic cavity.
  
  * Other causes of hiatal hernia: congenital abnormalities, trauma, and surgery

- **S/Sx:**
  - heartburn
  - regurgitation
  - fullness after eating
  - dysphagia

- **Tx:**
  - Small frequent meals
  - Sit up 1 hour after eating
  - Elevate HOB Keep the stomach down
  - Surgery
11. Hyperalimentation (total parenteral nutrition) (TPN)

- PPN (peripheral parenteral nutrition)
- Keep refrigerated; warm for administration; let sit out for a few minutes prior to hanging
- Central line needed; filter needed
- Nothing else should go through this line (dedicated line)
- Discontinued gradually to avoid ______________________.
- Daily weights
- May have to start taking ____________.
- Check urine
- Accu-checks q6 hours
- Do not mix ahead - mixture changes everyday according to electrolytes
- Can only be hung for 24 hours; Change tubing with each new bag
- IV bag may be covered with dark bag to prevent chemical breakdown
- Needs to be on a pump
- Home TPN-emphasize hand washing
- Most frequent complication→
Assisting the MD insert a central line:
- Have saline available for flush; do not start fluids until positive confirmation of placement (CXR)

- Position

- If air gets in the line what position do you put the patient in?

- When you are changing the tubing, how can you avoid getting air in the line?
  - Clamp it off
  - Valsalva
  - Take a deep breath and HUMMMMMM

- Why is an x-ray done post-insertion?
  - Check for ______________________

- Make sure your patient does not have a ______________________

*Push/Pause: When administering meds via central line this is the technique that should be used with flush

* The smallest syringe you should use with a central line is 10cc; anything less than this would exert too much pressure…… could lead to catheter damage.
1. **Assessment**

- **LOC**

- Pupillary changes (normal pupil size is 2-6 mm); corneal assessment

- Hand grips/lifts legs/pushing strength of feet (strength, equality)

- Vital signs (late); pulse pressure will widen with increased ICP

- How does the patient react to pain? (noxious stimuli)

- Does the patient c/o headache?

- Can the patient speak? This shows a high level of brain fx.

- Movement (absence of movement is the lowest level of response)
  *purposeful verses non-purposeful

  - **Oculocephalic reflex (doll's eye reflex):** assesses brain stem function; eyelids open...quickly turn head to the right...eyes should move to the left; If eyes remain stationary...reflex absent

  - **Ice water Calorics (oculovestibular reflex):** assesses brain stem function; irrigate ear with 50cc's of cool water...normally eyes will move to irrigated ear and rapidly back to mid-position

  - **Babinski or plantar reflex:** When the lateral aspect of the foot is stroked the toes should flex (curl up)
    - <1 year old= +Babinski is OK; - is bad
    - >1 year old = - Babinski is OK; + is bad

  - Reflexes: 0=absent, 1+=present, diminished, 2+=normal, 3+=increased but not necessarily pathologic, 4+=hyperactive
2. **Diagnostic Tests**

   a. **CT**
      - with/without contrast (dye)
      - take pictures in slices
      - keep head still/no talking

   b. **MRI**
      - Which is better CT/MRI?
      - Is dye used?
      - Is radiation used?
      - A magnet is used
      - Will be placed in a tube where pt will have to lie flat.
      - Remove jewelry/No credit cards/No pacemakers
      - Do fillings in teeth matter?
      - Will hear a thumping sound
      - What type of patient can't tolerate this procedure?
      - Can talk and hear others while in tube

   c. **Cerebral Angiography**
      - X-ray of cerebral circulation
      - Go in thru femoral artery
      - Pre: Well hydrated/Void/Peripheral pulses/Groin prepped
         - Explain they will have a warmth in face and a metallic taste; allergies? Iodine, shellfish
      - Post: Bed rest for 12-24 hours
         - Remember care of heart cath. Pt
         - An embolus can go lots of different places:
           * Arm, Heart, Lung, Kidney
         - Change in ____________, one-sided______________, and ________________,
           Motor/sensory deficits
d. Myelogram
-X-ray of spinal sub-arachnoid space

-Dye is injected and table tilts to move dye around

Nursing care with either: (1) oil (2) water-soluble

-NPO -Light sedative -Increase fluids

-Watch for sx of meningitis (chills, fever, + Kernig, + Brudinski, vomiting, nuchal rigidity, photophobia)

- Kernig (patient is lying with thigh flexed on abdomen ...opposite leg cannot completely extend)

-Brudinski (when neck is flexed, knees and hips flexion too)

e. EEG
-Records electrical activity

-Helps diagnose _______________ ______________

-Screening procedure for coma

-Indicator of brain death (3 Flat EEG’s = Brain Death)

-Prep: -Hold sedatives

-No caffeine

-Not NPO (Drops blood sugar)

-During procedure: Will get a baseline first with pt lying quietly; may be asked to hyperventilate; may flash lights in patient's face
f. Lumbar Puncture

-Puncture site: lumbar subarachnoid space (3rd-4th)

-Purpose:
- To obtain spinal fluid
- To check for blood
- To measure pressures
- To administer drugs intrathecally (brain, spinal cord)

-How is the patient positioned and why?

-CSF should be clear and colorless (looks like water)

-Post-procedure: lie flat X 8 hrs; increase fluids

-What is the most common complication?

-The pain of this headache _______________ when the patient sits up and_______________ when they lie down.

-How is this headache treated? Bed rest, fluids, pain med, and blood patch

-Herniation: when brain tissue is pulled down through foramen magnum as a result of a sudden drop in ICP.
3. Injuries

   - A small hematoma that develops rapidly may be fatal, while a massive hematoma that develops slowly may allow the patient to adapt.

a. Epidural Hematoma

   - This is rupture of the middle meningeal artery (fast bleeder)

   - Injury → Loss of consciousness → Recovery period → Can't compensate any longer → Neuro changes

   - Emergency!

   - Tx: Burr Holes and remove the clot; control ICP

   - Ask Questions to ID the type of injury and the treatment needed:
     * Did they pass out and stay out?
     * Did they pass out and wake up and pass out again?
     * Did they just see stars?

b. Subdural Hematoma

   - Usually venous

   - Can be acute, subacute, or chronic

   - Tx: acute: immediate craniotomy and remove clot; control ICP

         Chronic: imitates other condition; remove clot: control ICP

         * Bleeding & Compensating = neuro changes = max’d out

   - Neuro changes = max’d out

b. Scalp Injury

   - Scalp very vascular

   - Watch for infection
d. Skull Injury
- May/May not damage brain; this is what determines your s/sx
- Open fracture → dura torn
- Closed fracture → dura not torn
- With basal skull fractures you see bleeding where?
  - Battle's sign: bruising over ____________.
  - Raccoon eyes (periorbital bruising)
  - Cerebrospinal rhinorrhea - leaking spinal fluid from your ________________
  - Bloody spinal fluid
- Non-depressed skull fractures usually do not require surgery; depressed do require surgery

e. Concussion
- Temporary loss of neurologic function with complete recovery
- Will have a short (maybe seconds) period of unconsciousness or may just get dizzy/ see spots
- Teach caregiver to bring pt. back to ER if the following occurs:
  - Difficulty awakening/speaking
  - Confusion, Severe headache, vomiting
  - Pulse changes, Unequal pupils, One-sided weakness

f. Contusion
- Brain is bruised with possible surface hemorrhage
- Unconscious for longer and may have residual damage

All of these are signs that the ICP is going ____________!
4. **General Care for Any Patient with a Possible Head Injury or Increased Intracranial Pressure**

- Assume a c-spine injury is present until proven otherwise
- Keep body in perfect alignment
- Keep slight traction on head
- How do you tell CSF from other drainage?
  + For __________; halo test
- Ensure adequate nutrition:
  * need increased calories
  + steroids increase breakdown of __________ & ________
    + steroids decrease cerebral edema
  + cannot have NG feedings if have CSF rhinorrhea
  + When a patient emerges from a coma → lethargic → agitated
  + Need a quiet environment - stimuli: could promote seizures
  + Pad side rails
  + No narcotics
  + Normal ICP = ≤ 15
  + ICP varies according to position

*The brain can compensate only to a certain point as the skull is a rigid cavity.*
-S/Sx of ↑ ICP:
  *Earliest sign?

  *Speech?

  *Respirations? - Pattern may change  ex: Cheyne Stokes, Ataxic

  *Increasing drowsiness

  *Subtle changes in mood

  *Quiet to restless

  *Flaccid extremities

  *Reflexes absent

  *Profound coma-pupils fixed & dilated

  *Projectile vomiting (vomiting center in brain is being stimulated)

  *Decerebrate posturing (arched spine, plantar flexion); worst

  *Decorticate posturing (arms flexed inwardly; legs extended with plantar flexion)

  *Hemiparesis – weakness

  *Hemiplegia – paralysis

  *Facial Paralysis
-Treatment of ↑ ICP:

*Osmotic Diuretics (Mannitol®, Glycerol®) → pull fluid from the brain cells→ puts it in the general circulation→ this increases circulating blood volume; Since these drugs increase blood volume, what does this do to the workload of the heart?

Due to the increase in circulating blood volume, does this put the patient at risk for FVD or FVE?

*Lasix® is frequently given with these drugs to enhance diuresis.

*Steroids (Decadron®- dexamethasone) - decrease cerebral edema

*Hyperventilation→ alkalosis →brain vasoconstriction→ decreased ICP
  *PCO2 is kept on the low side (35), if lower PCO2 too much it will cause too much vasoconstriction resulting in decreased cerebral perfusion and brain ischemia

*Keep temp below 100.4 (an increased temp will increase cerebral metabolism which increases ICP)

*Avoid restraints/bowel/bladder distension/ hip flexion/ valsalva isometrics/ no sneezing/ no nose blowing

*Decrease suctioning/coughing spinal cord injury

  -autonomic dysreflexia

*Space nursing interventions - anytime you do something to your pt., ICP increases

*Watch ICP monitor with turning, etc

*Barbiturate induced coma-decreases cerebral metabolism (phenobarbital-luminal)

*Elevate the head of bed

*Keep head in midline so jugular veins can drain

*Monitor the Glasgow coma scale (looks at eye opening, motor responses, verbal performance) Max score = 15

*Restrict fluids to 1200 to 1500 cc per day (too much fluid increases ICP)
- **Ways to Ensure Cerebral Tissue Perfusion:**
  * Watch for bradycardia (not pumping out much volume)

  * Watch for increased BP (heart pumping against more pressure, so not as much blood can get out of heart)

- **ICP Monitoring Devices:**
  * Ventricular catheter monitor or Subarachnoid Screw

  * Greatest risk?

  * No loose connections

  * Keep dressings dry (bacteria can travel through something that is wet much easier than something that is dry.)
MATERNITY NURSING  PART I

First Trimester (Week 1 through Week 13)

1. Presumptive Signs of Pregnancy
   Amenorrhea - what is the name of the hormone that causes this?
   N/V
   Frequency - can be one of the first sign
   Breast Tenderness - excess hormones

2. Probable Signs of Pregnancy
   A positive pregnancy test- since it is based on the presence of hCG levels (there are other conditions that can ↑ hCG levels)
   Goodell's sign (softening of __________; second month)
   Chadwick's sign (bluish color of vaginal mucosa and cervix; week ____)
   Hegar's sign (softening of the lower uterine segment; 2nd/3rd month)
   Uterine enlargement
   Braxton Hicks Contractions (throughout pregnancy; move blood through the placenta)
   Pigmentation of skin
     --linea nigra
     --facial chloasma (mask of pregnancy)
   Abdominal striae

3. Positive Signs of Pregnancy
   Fetal heartbeat: Doppler→ Fetoscope→
   Fetal movement
   Ultrasound

4. Gravidity: # of times someone has been pregnant
   Parity: # that reached viability
   TPAL: acronym that gives you further information on parity
     T=  term
     P=  preterm
     A= abortion- this includes spontaneous and elective abortions
     L=  living children

5. Nagele's Rule: Find the first day of the LMP
   Add ___ days
   Subtract ___ months
   Add ___ year (2005, 2006)
6. Patient Teaching:
   
a. Nutrition:  
   
   Increase calories by ______ per day after the first trimester
   
   Increase protein to ______ grams per day
   
   Expect to gain ____ lbs first trimester
   
   Vitamin supplements

b. Exercise:  No high impact; walking and swimming are best; Do not start a heavy program unless already doing so

   Exercise Rule: Don't let your heart rate get above 140

c. Danger Signs:  Sudden gush of vaginal fluid
   
   Bleeding
   
   Persistent vomiting
   
   Severe headache
   
   Abdominal pain
   
   Increased temp
   
   Edema
   
   No fetal movement

d. Common Discomforts:

   N/V                        Breast Tenderness
   
   Frequency                 Tender gums
   
   Fatigue                    Heartburn
   
   Increased vaginal secretions Nasal stuffiness
   
   Varicose veins             Ankle edema
   
   Hemorrhoids                Constipation
   
   Backache                   Leg cramps

    e. Medications:

     f. Smoking:

7. How often should a pregnant patient visit the MD?

   *First 28 weeks
   
   *28-36 weeks
   
   *36- delivery

8. Before an ultrasound what will you ask the patient to do?

   -What about an ultrasound prior to a procedure?
SECOND TRIMESTER (Week 14 through Week 26)

9. Expected weight gain per week:

10. Should the patient still be experiencing?

<table>
<thead>
<tr>
<th>N/V</th>
<th>Breast tenderness</th>
<th>Frequency</th>
</tr>
</thead>
</table>

11. Quickening:

12. What should the fetal heartbeat be during the second trimester?

*120 to 160: normal
*110 to 120: worried and watching
*Less than 110 panic

13. Kegal exercises: exercises to strengthen the pubococcygeal muscles; these muscle help stop urine flow, help prevent uterine prolapse.
THIRD TRIMESTER (Week 27 through Week 40)

14. Weight gain:

15. FHR:

16. How is fetal position/presentation determined?

What should you have the patient do first?

If the patient is having contractions, should these maneuvers be done during or between contractions?

17. Patient Teaching:
   a. Signs of labor:
      Lightening:
         - usually occurs 2 weeks before term
         - when the presenting part of the fetus (usually the head) descends into the pelvis
         - Breathe easier, but urinary frequency is a problem (again)

      Engagement:
         - The largest presenting part of the fetus is in the pelvic inlet
         - Again we hope is the head that is presenting first
         - So the presenting part is at the 0 Station.
         - Fetal stations: measured in cm, measures the relationship of the presenting part of the fetus to the ischial spines of the mother.

A pregnancy is considered at term if it advances to 38 to 40 weeks.
Braxton Hicks Contractions: More frequent and stronger

Softening of the ____________

Bloody show

Rupture of ________________

Sudden burst of ____________, called ____________.

Diarrhea

b. When should the patient go to the hospital?
   - When the contractions are ________ min. apart or when the ______________ rupture.
**8. Non-Stress Test:**

- Want to see two or more accelerations of ______ beats/minute (or more) with fetal movement.
- Acceleration is when the fetal heart rate has an abrupt increase from the baseline. This is visualized on the fetal heart monitor. The increase is ≥15 beats/min above the baseline and lasts at least 15 seconds but the heart rate should come back to baseline within 2 min.
- Each increase should last for ______ seconds and recorded for ______ min.
- Do you want this test to be reactive or non-reactive?

<table>
<thead>
<tr>
<th>Reactive:</th>
<th>Non-Reactive:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two or more accelerations of fetal heart rate of 15 beats/min lasting ≥15 sec, associated with each fetal movement in 20 min</td>
<td>NO fetal heart rate accelerations or accelerations &lt; 15 beats/min or lasting &lt; 15 sec throughout any fetal movement during the testing period; if the test does not meet reactive criteria listed above after 40 min the test is considered non-reactive</td>
</tr>
</tbody>
</table>
19. Contraction Stress Test: Oxytocin Challenge Test

- Performed on high risk pregnancies: preeclampsia, maternal diabetes, and any condition in which placental insufficiency is suspected.

- This determines if baby can handle the stress of an ______________ ______________.
  
  - Uterine contractions decrease blood flow to the uterus and to the placenta.

  - If this decrease of blood flow is great enough to cause hypoxia in the fetus the fetal heart rate will decrease from the baseline HR (deceleration)

  - Do not want to see ______________ ______________.
    
    *This means uteroplacental insufficiency.

  - Do you want a positive or negative test?

<table>
<thead>
<tr>
<th>Negative:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No late decelerations, a minimum of 3 contractions lasting 40-60 sec in a 10 min time frame</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistent and consistent late decelerations occurring with more than half of the contractions</td>
</tr>
</tbody>
</table>

- This test is rarely performed before how many weeks?

**Results are good for one week**
20. True labor
   - Regular or irregular contractions?
   - Contractions increase or decrease in frequency and duration?
   - Discomfort in back and radiates to abdomen.
   - What happens to the pain level with a change in activity?

21. False labor
   - Contractions?
   - Where is the discomfort?
   - What happens to the pain with a change in activity?

22. Epidural Anesthesia:
   Position: Lie on left side, legs flexed, back not as arched as with lumbar puncture.
   * Given in stage 1 at 3-4 cm dilation.
   * Usually no headache
   * Major complication?
     * Monitor BP
     * IVF’s Bolus with 1000cc of NS or LR to fight hypotension
   * Positioning: Put in semi-fowlers on side to prevent vena cava compression
     ** If the vena cava is compression it will decrease venous return, reduce cardiac output and blood pressure, and decrease placental perfusion
     ** Change position from side to side hourly
23. **The Patient Receiving Oxytocin (Pitocin®)**
   - Need one-on-one care
   - Be alert for: Hypertonic labor
     Fetal distress
     Uterine rupture

   - Complete Uterine Rupture: through the uterine wall into the peritoneal cavity
     - S/Sx: sudden, sharp, shooting pain ("something gave way"), if in labor the contractions may stop and the pain will be relieved, signs of hypovolemic shock due to hemorrhage, if the placenta separates, the fetal heart tones will be absent

   - Incomplete Uterine Rupture: through the uterine wall but stops in the peritoneum but not into the peritoneal cavity
     - S/Sx: internal bleeding, pain may not be present, fetus may or may not have late decels, pt may vomit, faint, have hypotonic uterine contractions and lack of progress, fetal heart tones may be lost

---

**VBAC (Vaginal Birth After C-Section) Mom’s are at highest risk of having uterine rupture because the scar from the c-section could rupture**

- Want a contraction rate of 1 every 2-3 minutes with each lasting 60 seconds

- Discontinue: a. the contractions are too often
  b. the contractions last longer than 90 seconds
  c. fetal distress

  *Oxytocin is piggy backed into a main IV fluid, so when you discontinue the Oxytocin make sure you do not turn off your main IV fluid

- What position should the patient receiving oxytocin be placed?
  - Supine is contraindicated in all pregnant women

- Now, if the patient has any unreassuing fetal heart tones (like fetal bradycardia) then we will put the patient on their left side to enhance uterine perfusion.

- What should be done with the infusion if late decelerations occur?
24. **Emergency Delivery**
- Elevate HOB
- Wash hands
- Something clean under buttocks
- Decrease touching of vaginal area
- As head crowns tear amniotic sac
- Tell patient to pant/blow to decrease urge to push
- Place hand on fetal head and apply gentle pressure
- When head out feel for cord around neck
- Ease each shoulder out- do not pull on the baby
- The rest will deliver fast
- Keep baby's head down
- Dry baby**
- Keep baby at level of uterus
- Place on mother's abdomen
- Cover baby
- Wait for placenta to separate
- Can push to deliver placenta
- Inspect placenta for intactness
- Check firmness of uterus

**IF you do feel the cord around the baby’s neck, try to slip the cord over the baby’s neck with your fore finger.**
DO NOT CUT THE CORD!
25. Normal Post-Partal Period
   a. Vital signs: T → may increase to ____ during 1st 4 hrs
      BP → stable
      HR → 50-70 common for ________ days

   b. Breasts: Soft for ___ to ____ days then engorgement.

   c. Abdomen: soft/loose; diastasis recti

   d. GI: Is hunger common?

   e. Uterus:
      - Immediately after birth the fundus is in midline 2 to 3 finger breadths below umbilicus
      - A few hours after birth it rises to level of umbilicus or one FB above
      - Want fundus to be firm
      - What is the first thing you do if the fundus is boggy?
        - __________ it until it is firm and then check for __________ ____________.
      - Fundal height will descend one FB/day
      - What is the proper term for when the fundus descends and the uterus returns to its pre-
        pregnancy size?

   f. Lochia:
      - Rubra: 3-4 days
      - Serosa: 4-10 days
      - Alba: 10-28 days (can be as long as 6 weeks)
      - Clots are okay as long as they are no larger than a __________.
g. Urine output:
- Why should the legs be inspected closely?

h. Perineal Care:
- ice packs intermittently for first 6-12 hours - decrease edema
- warm water rinses
- sitz baths 2-4 times per day
- anesthetic sprays
- change pads frequently
- teach to report foul smell
- report lochia changes

These are indicated if the patient has had an episiotomy, laceration, or hemorrhoids

i. Breast Care:
- cleanse with warm water after each feeding; let air dry
- support bra
- ointments for soreness or express some colostrum and let it dry
- breast pads - absorb moisture
- initiate breast feeding ASAP after birth
- if breast feeding interrupted:
- increase caloric intake by 500 calories
- fluid/milk intake:
- Non-breast feeding mothers:
  - ice packs, breast binders, chilled cabbage leaves
  - Chilled cabbage leaves decrease inflammation and decrease engorgement
- No stimulation of the breast

Peri Pad Rule:
We do not want the pt. to saturate more than

________________________ peripad/hr.
j. Postpartum infection:
- Infection within 10 days after birth; E. Coli/Beta hemolytic strep
  - Teach proper hygiene (front to back cleansing) and handwashing
  - Usually get cultures and antibiotics.

k. Postpartum hemorrhage:
*early-when more than 500 cc blood lost in first 24 hrs

*late-after 24 hrs, up to 6 weeks postpartum

*causes: uterine atony, lacerations, retained fragments, forceps delivery

m. Mastitis:
- Staphylococcus
  - Usually occurs around 2-4 weeks
  - Bed rest
  - Support bra
  - Binding (can cause more stagnation)
  - Chilled cabbage leaves
  - PCN (ok with breast-feeding)
  - Pain med
  - Heat
  - Feed baby frequently
    - always offer the affected breast first

Patient Teaching Tip
A breast feeding mother, who does not have mastitis, should offer the opposite breast when initiating breast feeding.
- Example: at 8AM the mother may start breast feeding on the right breast, at the 10 AM feeding the mother should offer the left breast first.
26. Immediate Newborn Care:
- Suction
- Clamp and cut the cord
- Maintain body temp
- Apgar: Done at _____ and _____ minutes
  Looks at HR, R, muscle tone, reflex irritability, color
  Want at least __________.
- Erythromycin (gtts or ointment) for eye prophylactics for Neisseria gonococcus
- Erythromycin will kill the most rapidly growing STD, which is?
- Aquamephyton (promotes formation of clotting factors)

27. Cord Care:
  Dries, and falls off in 10 to 14 days.
  Cleanse with each diaper change using alcohol.
  Fold diaper below cord
  No immersion till off; watch for infection.

28. Why do babies sometime experience hypoglycemia after birth?
  *Babies at greatest risk for hypoglycemia include those that are large for gestational age, small for gestational age, preterm, and babies of diabetic Moms.

29. When does pathologic jaundice occur?
  - Usually means Rh/ABO incompatibility

30. When does physiologic jaundice occur?
  - Due to normal hemolysis of excess RBC's releasing bilirubin
Rh Sensitization or Rh factor

Occurs when you have an Rh- mother with an Rh+ fetus

Rh+ blood from baby comes in contact with mother's Rh- blood

Mom’s blood is most likely to come in contact with the baby’s blood when the placenta separates at birth.

It can also happen during a miscarriage, amniocentesis, or when there is trauma to Mom’s abdomen.

Mother looks Rh+ blood as a foreign body, an antigen.

Mother produces antibodies to the baby’s Rh+ blood

The first offspring is not affected by the AB's

An Rh- sensitized mom gets pregnant again: She's got these AB's waiting for the RH+ blood to come around so she can attack it

The chances of an Rh- Mom having antibodies to Rh+ blood increases with each pregnancy and each exposure to Rh+ blood because once you have these antibodies they never go away.

Mother's blood enters baby thru placenta→ Hemolysis

\[
\begin{align*}
\text{Hyperbilirubinemia, anemia} & \\
\text{Hydrops fetalis} & \\
\text{CHF} & \\
\text{Neurologic damage} & \\
\end{align*}
\]

\[
\text{erythroblastosis fetalis}
\]

Indirect Coomb's: -done on mother; measures # of AB's in blood

Direct's Coomb's: -done on baby; tells you if there are any AB's stuck to the RBC's

What do you do if you have a Rh+ fetus and a sensitized mother?

When is rhogam given?
-destroys fetal cells that got in mother's blood; has to do this before AB's can be formed;

Rhogam is given with any bleeding episode
COMPLICATIONS OF PREGNANCY

1. Miscarriage

- Also called spontaneous abortion

- Spotting common during pregnancy but the combination of bleeding and cramping is more indicative of a miscarriage

- S/Sx: bleeding, cramping, backache

- Measure hCG levels - we worry when levels drop

- Tx: Bed rest, Abstinence from sex, Sedation

  If miscarriage imminent → IV, Blood, D & C (dilatation & curettage)

2. Hydatidiform mole (molar pregnancy)

- Benign neoplasm, can turn malignant

- Grape-like clusters of vesicles

- May/may not have a fetus involved

- How does this start?

- S/Sx: uterus enlarges too fast

  - absence of FHT's

  - bleeding (sometimes will have vesicles)

- Confirmed with _________________

- Small mole → D & C (have to empty the uterus)

- Do not get pregnant; follow-up very important

- If it becomes malignant it is called choriocarcinoma.

- Will do CXR to determine metastasis

- Will measure hCG's _____________ until normal; rechecked q 2-4 weeks; then every 1-2 months for 6 months to a year.
3. **Ectopic Pregnancy**

- This is a gestation outside the ___________.

- Where does it usually occur?

- Confirmed with an__________________.

- First sign?

- S/Sx:
  
  Patient will exhibit the usual s/sx of pregnancy.... Then pain
  - spotting or may be bleeding into the peritoneum

- If a patient has had l ectopic pregnancy she is at risk for another.

- Tx:

  Methotrexate® is given to Mom to stop the growth of the embryo to save the tube.

  If the Methotrexate® does not work, a laparoscopy may be done, a small incision will be made into the tube and the embryo will be removed.
  - The entire tube may have to be removed.

  A laparotomy is done if the tube has ruptured or in an advanced etopic pregancy
  - if the tube does rupture your patient could hemorrhage and may need a blood transfusion
4. **Placenta Previa**

- Most common cause of bleeding in the later months (usually the 7th)

- The placenta has implanted wrong

- An ultrasound will be done to confirm placental location

- The placenta begins to prematurely separate when the cervix begins to dilate and efface→ baby doesn't get oxygen

- Normally, the placenta should be attached where in the uterus?

- S/Sx:
  - **painless** bleeding in 2nd half of pregnancy (maybe spotting or may be profuse)

- Tx:
  - Complete previa usually requires hospitalization (from as early as 32 weeks until birth) to prevent blood loss and fetal hypoxia if she goes into labor

  - If there's not much bleeding→ bed rest and watch

  - Rule out other sources of bleeding

  - Pad counts, monitor fetus

  - Monitor for contractions→ call MD (not going to be a normal delivery)

  - Delivery method of choice?

  - Do not perform pelvic exam
5. **Abruptio Placenta**

- Is the placenta implanted normally?

- Maybe partial or complete

- It separates prematurely → Bleeding (external or concealed) - maybe bleeding into uterus

- Seen in last half of pregnancy

- Ultrasound to confirm the diagnosis

- Causes:
  
  MVA

  Domestic violence

  Rapid decompression of the uterus (membranes rupture)

  Associated with __________ & __________

- S/Sx:
  
  - Pain

    - Difficult to palpate fetus (uterus is full of blood)

    - Board-like abdomen

- Method of delivery?

RULE: Do not do vaginal exams in the presence of unexplained vaginal bleeding
6. **Incompetent Cervix**

- This is when the cervix dilates prematurely.
- Occurs in the ______________ month.
- This pt. will have a history of repeated, painless, 2nd trimester miscarriages.

-Tx:
  - Purse-String suture (cerclage) at 14-18 weeks - reinforces the cervix
  - May have a c-section to preserve the suture - some doctors clip the suture so the patient can deliver vaginally
  - 80-90% chance of carrying the baby to term
7. **Hyperemesis Gravidarum**

- Starts like regular morning sickness

- Excessive vomiting → dehydration → starvation → death

- R/T high levels of ______________ & ______________

- What happens to the:
  - BP ___  -H/H ___  -UO___  -K ___  -Weight___

- Why is there acetone (ketones) in the urine?

- Tx:
  - NPO X 48 hours

  - I/F's-3000 cc's for lst 24 hours

  - Phenergan® continuous IV - some doctors just give Reglan® IVPB

  - Thiamine SQ (vitamin B-1 deficit)

- Environment?

- Oral hygiene

- Is it okay to talk about food?

- Why should the emesis basin be kept out of sight?

- 6-8 small, dry feedings followed with clear liquids

- Foods/liquids should be ice cold or steaming hot

- Well-ventilated room
8. Preeclampsia

- Increased BP, proteinuria, edema after 20th week

- if Mom’s pre-pregnant baseline BP is not known then 140/90 is considered to be mild preeclampsia

-S/Sx:
  - sudden weight gain
  - face and hands swollen
  - headache, blurred vision
  - hyper-reflexia (increased DTR)
  - clonus

- When you see a patient that gains 2 or more pounds in a week watch closely.

- Mild: bed rest as much as possible, increase protein

- Severe:
  - Sedation to delay ______________________
    - Valium® is not the drug of choice here
    - Mg Sulfate is the DOC

  - Mg Sulfate: sedates, anticonvulsant, vasodilates
    - When MgSO4 is used, checks for magnesium toxicity should be done q 1-2 hours.

    - These include: BP, respirations, DTRs, & LOC. Urine output is monitored hourly & serum magnesium is checked periodically.

    - If MgSO4 is used labor will stop unless augmented with Pit.

    - If diastolic > 100 → Hydralazine ® (apresoline)

- Only cure?:

- After delivery, how long is the patient at risk for seizures?

- Single room

- Very quiet environment

- Dim the lights
9. Eclampsia

- What is the turning point from preeclampsia to eclampsia?

- Monitor the FHT’s

- Watch labor

- Watch for heart failure

10. Premature Labor

- Labor that occurs between 20-37 weeks

- Tx:
  - Stop the labor: Tocolytics:
    - Mg Sulfate
    - Brethine® (terbutaline)

- Betamethasone (Celestone®) a corticosteroid is given to Mom IM in order to get it to baby.
  - The purpose is to stimulate maturation of the baby’s lungs in case preterm birth occurs.

- Preterm labor can sometimes be stopped by hydrating Mom and by treating vaginal and urinary tract infections.
II. **Prolapsed Cord**
- When the umbilical cord falls down thru cervix

- Most likely to happen when presenting part is not engaged and membranes rupture.
  - So always, always, always check FHTs when membranes rupture either spontaneously or artificially.

- If this occurs before complete dilation → immediate c-section

- If cord is being compressed you would see variable decelerations in FHT.

- If cord ceases to pulsate → fetal death; we want the cord to pulsate because this tells us baby is getting some oxygen

- Fetal bradycardia is an indicator of prolapse

- **Tx:**
  - Lift head off cord until MD arrives if possible
    - Keep manually pushing the head up to relieve pressure on the cord.
    - Let someone else do all the preparations for an emergency C Section

  - Trendelenburg or knee chest position
    - Do this if you have fetal bradycardial but can't relieve pressure on cord manually

  - Oxygen - want to make sure what little blood is getting to baby is hyperoxygenated

  - Monitor fetal heart tones

  - Saline dressings around cord if protruding from vagina

  - Push it back in?
Group B Streptococcus (GBS)

Leading cause of neonatal morbidity

Routinely assess for GBS risk factors during pregnancy and on admission to L&D

Transmitted to infant from birth canal of the infected mother during delivery

All pregnant women should be cultured between 35-37 weeks of gestation

Risk factors for neonatal GBS:
- preterm birth less than 37 weeks,
- + prenatal cultures in current pregnancy,
- premature rupture of membranes (longer than 18hr),
- positive history for early-onset neonatal GBS,
- intrapartum maternal fever higher than 100.4°F,
- previous infant with GBS

Test or culture Positive?
Antibiotic prophylaxis offered (IV)

If they do not have a culture when the mother goes into labor or if the mother has a risk factor then an antibiotic prophylaxis offered (IV)

Treatment:
Drug of Choice? PCN
RESPIRATORY

Thoracentesis

-Pre-procedure: CXR and VS

-Positioning: Sitting up over the bedside table
  Can’t sit up? Lie on unaffected side with HOB at 45º

- Patient must be very still, no coughing or deep breaths

-The fluid is being removed from the ____________ ____________.

-As the fluid is removed the lung should ____________.

-Since you are removing fluid, the pt could go into a fluid volume ____________.

Therefore, you should be checking the _______ ________.

-Post-procedure: another CXR
Chest Tubes

-What has happened that the pt. needs a chest tube?

-Patient will have an occlusive sterile dressing at insertion site

-What is the purpose of the water-seal?
  To promote __________ __________ flow out of pleural space

-Do you want to see fluctuation in the water seal tube?
  Want to see fluctuation with respiration

-What are we watching the daily CXR's for?

-Fluctuation will stop when the lung has re-expanded, kink/clot in tubing, or if suction is not working properly.

-Why is it important to keep the bottles/Pleur-Evac® below the chest?

-What do you do if the tubing becomes disconnected?

-What do you do if the bottles break and the water seal is lost?
  *You do whatever you have to do to re-establish the water seal.

-If the chest tube is connected to suction, gentle continuous bubbling is expected.

-Continuous, Vigorous/ excessive bubbling= air leak in the system

-Pnuemonthorax…expect intermittent bubbling

-Call MD if the drainage is >100ml/hr or if drainage becomes BRIGHT red

-Do not “milk” or “strip” a chest tube without an MD order

-NEVER clamp a chest tube without an order

-When the doctor removes the chest tube the patient will need to take a deep breath and hold or valsalva and a petroleum dressing with 4X4 will be placed over the site
**Pulmonary Embolism**

- This can occur if a patient becomes dehydrated, has venous stasis, or has been taking birth control pills. A thrombus forms, dislodges (embolus), and goes to the lungs.

-S/Sx:  
- Hypoxemia #l  
- short of breath, cough, ↑ RR

  - D Dimer + (increased with pulmonary embolus; blood test)  
  - looks at coagulation activity

  - VQ scan (a ventilation/perfusion scan that can detect an embolus; done in radiology)  
  *looks at blood flow to the lungs, dye is used, remove jewelry from chest area so that it will not give false results*

- hemoptysis  
- BP in lungs  
  *Pulmonary HTN

- pulse  
- P02

- chest pain (Sharp, stabbing)  
- fever/ WBC’s (inflammation)

- CXR

-TX: Prevent!

- oxygen  
- watch RV  
- Heparin®, Coumadin®, Lovenox®

- ventilator  
- ABG’s  
- decrease pain

**Hypoxia → ↑ lung BP → ↑ workload on right side of heart**

**Hypoxia is the number one cause of pulmonary hypertension**

Little- Asymptomatic  
Medium-Symptomatic  
Large- Death
Chest Trauma

General treatment= chest tubes, O2, CXR, ventilation and elevate HOB

1. Hemothorax/Pneumothorax

   - Blood or air has accumulated in the __________ _________.

   - What has happened to the lung?
     - Hemothorax- s/sx depend on size, ↓ breath sounds, respiratory distress
     - Pneumothorax- Sub Q air, pleuritic pain, ↑ RR

   - Never pull out a penetrating object

   - Thoracentesis, chest tubes, daily CXR

2. Tension Pneumothorax; (Trauma, PEEP)

   - Pressure has built up in the chest/pleural space and has collapsed the lung → pressure pushes everything to the opposite side (mediastinal shift)

   - S/Sx: Sub Q air, absence of breath sounds on one side, asymmetry of thorax, respiratory distress,

   - Can be fatal as accumulating pressure compresses vessels → decreases venous return, → decreases cardiac output

   - Tx: large bore needle is placed into the 2nd ICS to allow excess air to escape, find the cause, chest tubes

3. Open pneumothorax (sucking wound); opening through chest allows air into pleural space

   - Tx:
     * Have the patient inhale and exhale forcefully or valsalva (take a deep breath and hold or hummmmm)

     * Both of these will increase the intra-thoracic pressure so no more outside air can get in the body

     * Then place a piece of petroleum gauze over the area – Tape down how many sides?

     * Have pt sit up if possible to expand lungs. Trauma patients stay flat.
4. **Fracture of sternum/ribs** (most common)
   
   - S/Sx:  
     - tenderness  
     - crepitus (bones grating together)  
     - shallow resp  

   **Tx:**
   
   - non-narcotic analgesic
   
   - support injured area with hands; turn on side (trying to limit movement)
   
   - these pts will usually be put on the ventilator with PEEP (Positive End Expiratory Pressure)
     
     - on ventilator
     - on rate
   
     * On end expiration the vent exerts a pressure down into the lungs to keep alveoli open
   
     * improves gas exchange, decreases work of breathing.
   
     * In this patient PEEP expands the thorax, realigns ribs
   
   * BIPAP: used a lot with
     
     Pulmonary edema; may do
   
     Prior to intubation
   
   * CPAP (Continuous Positive Airway Pressure)
     
     - breathing on their own

   **Anytime you see PEEP, CPAP, or pressure support on a ventilator your priority nursing assessment is to check bilateral ___________ ___________**

5. **Flail Chest** (Multiple Rib Fracture)

   - S/Sx: - pain

     - paradoxical chest wall movement (seesaw chest); chest sucks inwardly on inspiration and puffs out on expiration
     
     - To assess chest symmetry always stand at foot of bed to observe how the chest is rising and falling
     
     - dyspnea, cyanosis
   
     - increased pulse

   - Tx:
     
     - stabilize the area, intubate, ventilate
   
     - positive pressure ventilation stabilizes the area
ORTHOPEDICS

I. Fractures
-S/S: -continuous pain -muscle spasm (shortening of extremity)

-unnatural movement -crepitus
-deformity -swelling
-shortening of extremity -discoloration

-Tx:
-Immobilize the bone ends plus the adjacent joints
-Support fracture above and below site
-Move extremity as little as possible
-Splints help prevent _____ emboli and ________ spasm.

-What do you do with open fractures?
-Neurovascular checks: pulses, color, movement, sensation, capillary refill, temp

Makes me worry about compartment syndrome
-Complications:
  a. Shock

  b. Fat embolism: With what type of fractures do you see this?
  
  *Symptoms depend on what?
  -Petechiae or rash over chest
  -conjunctival hemorrhages
  -snow storm on CXR
  *young males
  *first 36 hours

  c. Compartment syndrome: This is when a fracture has not been elevated and has not had ice packs. Fluid accumulates in the tissue and impairs tissue perfusion. The muscle becomes swollen and hard and the patient complains of severe pain that is not relieved with pain meds.
  
  *Unpredictable
  *Pain is disproportionate to the injury
  *If undetected may result in nerve damage and possible amputation.

  Common areas?

  Tx: -loosen the cast; bi-valve the cast
  -fasciotomy
  -be careful of the answer “Remove cast.”
  -orthopedic nurses have cast cutters readily available
  *instruct the client the cast saw does not touch the skin, but it does vibrate

  d. Delayed union: healing doesn't occur at a normal rate

  Non-union: failure of bone ends to unite; may require bone grafting

  *S/Sx (both): persistent discomfort and movement

-Cast Care:

  *Ice packs on sides

  *No indentations

  *Use palms for 1st 24 hours - casting material is wet

  *Keep uncovered and dry

  *Do not rest cast on hard surface or sharp edge

  *Cover cast close to groin with plastic

  *Elevate

  *Neurovascular checks

  *What do you do if your patient complains of pain?
2. **Traction**
*Decreases muscle spasm, reduces, immobilizes

*Should it be intermittent or continuous?

*Weights should hang _______.

*Keep pt pulled up in bed and centered with good alignment.

*Exercise non-immobilized joints

*Ropes should move freely and knots should be secure

*Egg crate

*Foot board

*Types: 1. **Skin traction** - This is when tape or some type of material is stuck to the skin and the weights pull against it.

   - Is the skin penetrated?

   - Types: Buck's & Russell's

   - Must do good skin assessments

2. **Skeletal traction** - This traction is applied directly to the bone with pins/wires.

   - Used when prolonged traction is needed.

   - Types: Steinman pin, Crutchfield, or Gardner-Wells tongs, Halo vest

   - Must monitor the pin sites and do pin care.
      * Sterile tech?
      * Remove crusts?
      * Is serous drainage okay?
3. **Total Hip Replacement**

- Buck's traction is used frequently pre-op

- **Post-Op:**
  - Neurovascular checks
  - Monitor drains (Don't want fluid to accumulate in tissue)
  - Firm mattress (joints need support)
  - Over-bed trapeze

- Positioning:
  - *neutral rotation - toes to the ceiling*
  - *limit flexion; want extension of hip*
  - *abduction or adduction*

- What exercise can the pt do while still confined to bed?

- What is the purpose of the trochanter roll?

- No weight-bearing until ordered by MD

- Avoid crossing legs, bending over

- Is it okay to sleep on operated side?

- Is hydration important with this patient?

- Stresses to new hip joint should be minimal in the first 3-6 months.

- Is it okay to give pain meds in the operative hip?

- **Complications:**

  1. **Dislocation** → circulatory/nerve damage
     - S/Sx: shortening of leg, abnormal rotation
     - can’t move extremity - pain

  2. **Infection**
     - prophylactic antibiotics (just like with heart valve replacement)
     - remove foley and suction ASAP

  3. **Avascular Necrosis** (death of tissue due to poor circulation)

  4. **Immobility problems**
-Pt. Ed.:  
*Best exercise?*

*Avoid flexion*→ low chairs, traveling long distances, sitting more than 30 minutes, lifting heavy objects, excessive bending or twisting, stair climbing

*CPM: (Continuous Passive Motion) used mainly for knee replacements* 
*very important to check the angle of flexion….could ruin the surgery if too much flexion occurs*
4. Amputations
-Performed at the most distal point that will heal. The doctor tries to preserve the knee and elbow.

-Post-Op: *Keep what at the bedside?*
  
  *Elevate on pillow for first 24 hours. Then how do you elevate?*
  
  *Prevent hip/knee contractures. How?*
  
  *Phantom pain*
  -What is the first intervention to decrease phantom pain? Diversional Activity
  -Seen more with AKA’s -Usually subsides in 3 months.

*NCLEX Tip:*
  Pain: use other things first prior to pill; the definition of pain is what the patient says it is; Always assess the client’s pain by having them rate their pain on a pain scale (i.e. 1-10).

*Why is limb shaping important?*

*What is worn under the prosthesis?*

*Why is it important to strengthen the upper body?*

*Is it okay to bear weight on a new stump/prosthesis?*

*Is it okay to massage the stump? Promotes _________ and decreases _________

*How do you teach a pt to toughen the stump?*
  Press into a _________ pillow.
  Then a _________ pillow.
  Then the _________.
  Then a _________.
RENAL

1. Glomerulonephritis (acute can lead to chronic)

- Inflammatory reaction in the ________________.

- Antibodies lodge in the glomerulus; get scarring & decreased filtering

- Main cause:

- S/Sx:
  - sore throat
  - malaise
  - headache
  - BUN & Creatinine
  - sediment/protein in urine

- Tx:
  - get rid of the strep
  - dialysis

- If the BUN is increased what should be done with the protein in the diet?
  - Na?
  - Carbos? *Keeps us from breaking down protein for energy.

- Bed rest

- I & O and daily weights

- How is fluid replacement determined?
  *to account for insensible fluid loss

- Diuresis begins in 1-2 weeks after onset.

- Blood and protein may stay in the urine for months.

- Teach s/sx of renal failure:
  * Malaise, headache, anorexia, nausea, vomiting, decreased output, weight gain
2. Nephrotic Syndrome

- Inflammatory response in the glomerulus → big holes form so protein starts leaking out in the urine → now the pt is hypoalbuminemic (no albumin in the blood) → without albumin you can't hold on to fluid in the vascular space → so where does all the fluid in the vascular space go? 

- now the patient is edematous → since all the fluid is going out into the tissue what has happened to the circulating blood volume? 

- the kidneys sense this decreased volume and they want to help replace it → Renin-Angiotensin system kicks in → aldosterone produced → retention of ________ and ________ → but is there any protein (albumin) in the vascular space to hold it? → so where does this fluid go? 

Total Body Edema = ________

-Tx:
  - bed rest
  - diuretics
  - prednisone
    * shrink holes so protein can’t get out
    * immunosuppressed
  - Na?
  - protein?
  - dialysis

Common Rule:
Limit protein with kidney problems except with Nephrotic Syndrome.
3. Renal Failure

- Requires bilateral failure

- Types: a. Pre (blood can't get to the kidney)
  * hypotension, decrease heart rate, decreased cardiac output

  b. Intra (damage has occurred inside the kidney)
  * glomerulonephritis, nephrotic syndrome, malignant hypertension, DM
  * malignant hypertension (uncontrolled HTN) and DM cause severe vascular damage

  c. Post (urine can't get out of the kidney)
  * enlarged prostate, kidney stone, tumors, ureter obstruction, edematous stoma

  NCLEX Sample Question Answers:
  a. Call MD
  b. Turn from side to side
  c. Irrigate
  d. Reassess in 15 min

-S/Sx: - Creatinine and BUN

- Specific gravity * Fixed specific gravity
  * May lose ability to concentrate and dilute urine.
  * Fluid challenge, 250 cc bolus (done in acute renal failure, not in chronic)

- Anemia
  * Not enough erythropoetin

- HTN
  retaining volume

- CHF

- Anorexia, nausea, vomiting

- Itching frost - uremic frost

- Acid-base/fluid and electrolyte imbalances
  * Retain phosphorous → serum calcium _______ → calcium pulled from _______
-Two phases of Acute Renal Failure:

a. Oliguric phase
   *What has happened to UO? FVE
   *This patient is in a fluid volume ______? Hyperkalemia
   *What do you think will happen to the K+?

b. Diuretic phase
   *What is happening to the UO? FVD
   *This patient is in a fluid volume ___________. (Shock) FVD
   *What do you think will happen to the K+? Hypokalemia
4. **Hemodialysis** (the machine is the glomerulus)

- If the patient is allergic to __________ they can't be hemodialyzed

  (This is a generally accepted standard in many areas; if the pt is allergic to heparin, hemodialysis can be used if another solution with an anti-clot property is used i.e. cathflo)

- Is done 3-4 times per week; so the patient has to watch what in between treatments?
  - depression
  - suicide

- Electrolytes and BP are watched constantly.

- Can all patients tolerate hemodialysis?
  - unstable cardiovascular system

- Must have a circulatory access:
  a. A-V shunt
  b. Fistula
  c. Graft
  d. Temporary catheters (Asch catheter)

  *utilized for short term access while the permanent access "matures". Typically used for 90 days or less.

  *Do not use any of the above for IV access (drawing blood, administering meds. etc.)

- When a patient has an alternate circulatory access what is the associated nursing care?

  * Thrill – cat purring sensation
  * Bruit
  * Feel a thrill…Hear the bruit!
5. **Peritoneal Dialysis**

- This is when dialysate is warmed and infused into the peritoneal cavity by gravity through a catheter.

The fluid (2000-2500 ml) stays in for an ordered amount of time (dwell time).

Then the bag is lowered and the fluid along with the toxins, etc., are drained.

- Why do we warm the fluid?
  * Cold promotes vasoconstriction → limits blood flow
  * Want vasodilatation

- What should the effluent/drainage/fluid look like?
  ____________, straw-colored  cloudy = _______________
  * should be able to read a newspaper through the drainage/effluent

- What type of patient gets peritoneal dialysis?

- What if all the fluid doesn’t come out?

- 2 Types of Peritoneal Dialysis:
  a. CAPD (Continuous Ambulatory Peritoneal Dialysis)
  c. CCPD (Continuous Cycle Peritoneal Dialysis)
    - connects their peritoneal dialysis catheter to a cycler at night and performs the exchange while sleeping; Disconnects in the AM.; has more freedom
6. CAPD (Continuous Ambulatory Peritoneal Dialysis)

-a type of peritoneal dialysis

-Must have a semi-strong patient that has the energy and the desire to be active in their treatment and that also has the ability to learn and follow instructions.

-Done 4 times per day; 7 days a week.

-Is an exchange done at night?

-Could a patient with disc disease or arthritis do this?
   -Fluid causes pressure on back

-Could a patient with a colostomy do this?
   -high risk for ________

-Complications:
  *peritonitis #1 (abd. pain, peritonitis, cloudy effluent lst sign)
  *constant sweet taste *anorexia
  *hernia *low back pain
  *altered body image/sexuality

-Increase what in the diet?
  a. Fiber → have decreased peristalsis due to abdominal fluid
  b. Protein → Big holes in peritoneum
6. **Continuous Renal Replacement Therapy (CRRT)**
   - Prisma is the name brand of the kidney (filter) utilized in many facilities.
     - typically done in an ICU setting on patients whose cardiovascular status would have
difficulty with hemodialysis due to the drastic fluid shifts
   - hemodialysis is more aggressive; at any given time during hemodialysis there is
approximately 300 ml of blood in the machine (kidney); However, with CRRT there is
only approximately 80 ml of blood in the machine.

7. **Ultrafiltration**
   - only pulling off water
     - maybe utilized with peritoneal dialysis or hemodialysis
     - same principles applied as with hemodialysis

8. **Kidney Stones (urolithiasis, renal calculi)**
   - S/Sx: - pain (n/v/vasovagal response)
     - WBC’s in urine - hematuria
   - Anytime you suspect a kidney stone get a urine specimen ASAP and have it checked for RBC’s.
   - If RBC’s are present, then it’s probably a kidney stone and the patient will get pain medicine
immediately.
   - Tx:
     - Toradol® → Dilaudid®
     - increase fluids
     - maybe surgery
     - strain urine
     - Extracorporeal shock wave lithotripsy (ESWL)
* worry about arrhythmias
Fluid & Electrolyte and Acid- Base

1. Evaluation of successful resolution of a fluid volume deficit may be demonstrated by which of the following?
   1. The patient demonstrates an absence of postural hypotension and tachycardia
   2. The patient adheres to prescribed dietary sodium restrictions
   3. The patient maintains weight loss
   4. The patient maintains a serum Na above 145 mEq

2. Ms. Stone is admitted with a serum magnesium deficit. Assessment reveals a positive Trousseau’s and Chvostek’s signs. Which of the following nursing diagnosis would be most appropriate?
   1. High risk for injury R/T increased neuromuscular irritability
   2. High risk for injury R/T fractures secondary to loss of calcium
   3. Fluid volume deficit R/T dehydration
   4. Activity intolerance R/T skeletal muscle weakness

3. Ms. Fair is a 77 year old female. Her husband reports that she has had a poor appetite over the past two weeks, with occasional nausea and vomiting. When placed on a cardiac monitor various abnormal heart beats are noted. Based on this data, the nurse would suspect that Ms. Fair is experiencing.
   1. Hyponatremia
   2. Hypermagnesemia
   3. Hypercalcemia
   4. Hypokalemia

4. The nurse is caring for a thoracotomy client, one day post operative on 40% humidified oxygen. ABG results are: PO2=90, PCO2=49, pH=7.30, HCO3=26. Based on this information, which of the following nursing actions would be best?
   1. Position in high fowlers and encourage coughing, deep breathing, evaluate airway patency
   2. Place in prone position and request respiratory therapy to perform postural drainage and percussion therapy
   3. Call the doctor and advise him of the ABGs; anticipate increase in oxygen percentage
   4. Administer anti-anxiety agent and assist the client with a rebreathing device to increase oxygen levels
5. It is 0600 and a client is scheduled for a cardiac catheterization at 0800. Laboratory work completed five days ago showed: K 3.0 mEq/L, Na 148 mEq/L, glucose 178 mg/dL. He complains of muscle weakness and cramps. Which nursing action should be implemented at this time?

1. Hold 0700 dose of spironolactone (Aldactone®)
2. Encourage eating bananas for breakfast
3. Call the physician to suggest a stat K level
4. Call for a twelve lead ECG
Burns

6. A client is admitted to the ER with second and third degree burns to her anterior chest, both arms, and right leg. Priority information to determine at the time of admission would include which of the following?

1. Percentage of burned surface area
2. Amount of IV fluid necessary for fluid resuscitation
3. Any evidence of heat inhalation or airway problems
4. Circumstances surrounding the burn and contamination of the area

7. A family member of a client who has sustained an electrical burn states, “I don’t understand why he has been here a week, the burn doesn’t look that bad.” The nurse’s response would be based on which of the following?

1. Electrical burns are more prone to infections
2. Electrical burns are always much worse than they look on the outside
3. Cardiac monitoring is important since burns always affect cardiac function
4. Electrical burns can be deceptive as underlying tissue is damaged

8. A client has severe second and third degree burns over 75 percent of his body. Which assessment finding indicates an early problem with shock?

1. Epigastric pain and seizures
2. Widening pulse pressure and bradycardia
3. Cool and clammy skin and tachypnea
4. Kussmaul respirations and lethargy

9. During a first aid class, the nurse is instructing clients on the emergency care of second degree burns. Which of the following interventions for second degree burns of the chest and arms will best prevent infection?

1. Wash the burn with an antiseptic soap and water
2. Remove soiled clothing and wrap victim in a clean sheet
3. Leave blisters intact and apply an ointment
4. Do nothing until the victim arrives in a burn unit.
Oncology

10. To promote safety in the care of a client receiving internal radiation therapy the nurse would:

1. Restrict visitors who may have an upper respiratory infection
2. Assign only male care givers to the client
3. Plan nursing activities to decrease nurse exposure
4. Wear a lead lined apron whenever delivering client care

11. Which of the following measures should the nurse take while a client has a radium implant for the treatment of uterine cancer?

1. Evaluate the position of the applicator every two hours
2. Place on a low residue diet to decrease bowel movements
3. Encourage the use of the bedside commode every 1-2 hours
4. Decrease fluid intake to decrease radiation in bladder

12. A client with lung cancer and bone metastasis is grimacing and states, “I am a little uncomfortable, may I have something for pain?” Which of the following should the nurse do first before administering pain medication?

1. Check the chart to determine last medication
2. Encourage client to refocus on something pleasant
3. Notify doctor that medication is not working
4. Assess the severity and location of pain

13. A client on chemotherapy has a WBC count of 1200 mm. Based on this data, which of the following nursing actions should the nurse take first?

1. Check temperature q4h
2. Monitor urine output
3. Assess for bleeding gums
4. Obtain an order for blood cultures

14. A client is admitted to the outpatient unit in the Cancer Center for his chemotherapy. He is lethargic, weak, and pale. His WBC count is 3000. Which of the following nursing interventions would be most important for the nurse to implement?

1. Establish emotional support
2. Position for physical comfort
3. Maintain respiratory isolation
4. Hand washing prior to care
15. Which of the following properly stated nursing diagnoses would be a priority for a 65-year-old client immediately after her modified radical mastectomy and axillary dissection?

1. Anxiety related to the mastectomy
2. Skin integrity, impairment of, related to mastectomy
3. Alteration in comfort related to incisional pain
4. Self-care deficit related to dressing changes

16. A client had a radical mastectomy for cancer in her right breast. After she returns to your unit, which of the following would be the most appropriate for her?

1. Left side with right arm protected in a sling
2. Right side with right arm elevated
3. Semi-fowlers position with right arm elevated
4. Prone position with right arm elevated

17. A client with prostatic cancer is admitted to the hospital with neutropenia. Which signs and symptoms are most important for the nurse to report to the next shift?

1. Arthralgia and stiffness
2. Vertigo and headache
3. General malaise and anxiety
4. Temperature elevation and lethargy

18. A 32-year-old male with acute lymphocytic leukemia (ALL) is admitted with shortness of breath, anemia, and tachycardia. Based on this nursing assessment, the most appropriately stated nursing diagnosis would be:

1. Altered protection, immunosuppression: Leukemia
2. Impaired gas exchange related to decreased RBCs
3. Potential for infection related to altered immune system
4. Potential injury to decreased platelets
Endocrine

19. A patient is admitted with diabetic ketoacidosis. You note his respiratory rate to be 38. Considering his condition you are aware that this increased rate is a result of:

1. An effort by the body to compensate for respiratory acidosis
2. An effort by the body to remove excess acid from the body
3. An effort by the body to supply more oxygen to the depleted tissues
4. An effort by the body to conserve CO2

20. The client is admitted with acute hypoparathyroidism. To maintain client safety, which item is most important to have available?

1. Tracheostomy set
2. Cardiac monitor
3. IV monitor
4. Heating pad

21. To evaluate for the desired response of calcium gluconate in treating acute hypoparathyroidism the nurse would monitor the client most closely for:

1. Intake and output
2. Confusion
3. Tetany
4. Bone deformities

22. Which symptom is most important for the nurse to report to the next shift about the client with hyperparathyroidism?

1. Abdominal discomfort
2. Hematuria
3. Muscle weakness
4. Diaphoresis

23. The nurse would caution the client with hypothyroidism about avoiding:

1. Warm environmental temperatures
2. Narcotic sedatives
3. Increased physical exercise
4. Numbness and tingling of fingers

24. In planning care for the client with hyperthyroidism, the nurse would anticipate the client to require:

1. Extra blankets for warmth
2. Ophthalmic drops on a regular basis
3. Increased sensory stimulation
4. Frequent low calorie snacks
25. The elderly client with hyperparathyroidism should be cautioned about:

1. Pathological fractures
2. Decreasing fluid intake
3. Tetany and tingling of fingers
4. Increasing physical activity

26. The nurse is aware that which of the following statements made by the client indicates a correct understanding of steroid therapy for Addison’s Disease?

1. “I’ll take the medicine in the morning because if I take it at night it might keep me aware.”
2. “I’ll take the same amount from now on.”
3. “I’ll increase my potassium by eating more bananas.”
4. “I’ll be eating foods low in carbohydrates and salt.”

27. Which nursing action has the highest priority in caring for the client with hypoparathyroidism?

1. Develop a teaching plan
2. Plan measures to deal with cardiac arrhythmias
3. Take measures to prevent a respiratory infection
4. Assess laboratory results

28. A client is going to have a parathyroidectomy. Which of the following foods would the nurse discourage the client from eating?

1. Milk products
2. Green vegetables
3. Seafood
4. Poultry products

29. Which of the following types of foods would the nurse encourage the client with hypoparathyroidism to eat?

1. High phosphorus
2. High calcium
3. Low sodium
4. Low potassium

30. A client is admitted for a series of tests to verify the diagnosis of Cushing’s syndrome. Which of the following assessment findings would support this diagnosis?

1. Buffalo hump, hyperglycemia, and hypernatremia
2. Nervousness, tachycardia, and intolerance to heat
3. Lethargy, weight gain, and intolerance to cold
4. Irritability, moon face, and dry skin
31. One hour after receiving 7 units of regular insulin, the client presents with diaphoresis, pallor, and tachycardia. The priority nursing action would be:

1. Notify the doctor
2. Call the lab for a blood glucose level
3. Offer the client milk and crackers
4. Administer Glucagon

32. A client was admitted for regulation of her insulin. She takes 15 units of Humulin insulin at 8:00 a.m. every day. At 4:00 p.m., which of the following nursing observations would indicate a complication from the insulin?

1. Acetone odor to the breath, polyuria, and flushed skin
2. Irritable, tachycardia, and diaphoresis
3. Headache, nervousness, and polydipsia
4. Tenseness, tachycardia, and anorexia

33. A client received regular insulin, 6 units, 3 hours ago. Which of the following assessments would be most important to report to the next shift?

1. Kussmaul’s respirations and diaphoresis
2. Anorexia and lethargy
3. Diaphoresis and trembling
4. Headache and polyuria
Cardiovascular

34. A client with sudden onset of deep vein thrombosis is started on a Heparin® IV drip. Which of the following additional orders should the nurse question?

1. Cold wet packs to the affected leg
2. Elevate foot of bed six inches
3. Commode privileges without weight-bearing
4. Elastic Stockings on unaffected leg

35. The nurse is caring for a client with deep vein thrombosis (thrombophlebitis) of the left leg. Which of the following would be an appropriate nursing goal for this client?

1. To decrease inflammatory response in the affected extremity and prevent emboli formation
2. To increase peripheral circulation and oxygenation of affected extremity
3. To prepare client and family for anticipated vascular surgery on affected extremity
4. To prevent hypoxia associated with the development of pulmonary emboli

36. Which of the following signs indicate effective CPR?

1. Adequate capillary refill
2. Normal skin color
3. Symmetrically dilated pupils
4. Palpable carotid pulse

37. A permanent demand pacemaker set at a rate of 72 is implanted in a client for persistent third degree block. Which of the following nursing interventions would indicate a pacemaker dysfunction?

1. Pulse rate of 88 and irregular
2. Apical pulse rate regular at 68
3. Blood pressure of 110/80, pulse of 78
4. Tenderness at site of pacemaker implant

38. A client with an irregular pulse rate of 181 and a K level of 3.0 mEq/L has Lanoxin® ordered. The nurse should:

1. Give the digoxin since the pulse is within normal limits
2. Holds the digoxin since the pulse is irregular
3. Call the doctor to report the potassium
4. Hold the digoxin since toxicity occurs with high potassium levels
39. The nurse has administered sublingual nitroglycerin (Nitrostat®) to a client complaining of chest pain. Which of the following observations is most important for the nurse to report to the next shift?

1. The client indicates the need to use the bathroom
2. Blood pressure has decreased from 140/80 to 90/60
3. Respiratory rate has increased from 16 to 24
4. The client indicates the chest pain has subsided

40. A 72-year-old client has an order for digoxin (Lanoxin®) 0.25 mg PO in the morning. The nurse reviews the following information:

- Apical pulse: 68
- Respiration: 16
- Plasma digoxin level: 2.2 ng/ml

Based on this assessment, which nursing action is appropriate?

1. Give the medication on time
2. Withhold the medication, notify the physician
3. Administer epinephrine 1:1000 stat
4. Check the client’s blood pressure

41. A client develops severe crushing chest pain radiating to left shoulder and arm. Which PRN medication should the nurse administer?

1. Diazepam (Valium®) PO
2. Meperidine (Demerol®) IM
3. Morphine sulfate IV
4. Nitroglycerine (Nitrostat®) SL
Respiratory

42. When obtaining a specimen from a client for sputum culture and sensitivity which of the following instructions would be best?

1. After pursed lip breathing cough into container
2. Upon awakening cough deeply and expectorate into container
3. Save all sputum for 3 days in covered container
4. After respiratory treatment expectorate into container

43. Which of the following is the most effective method for the nurse to evaluate the effectiveness of tracheal suctioning?

1. Note subjective data such as, “My breathing is much improved now.”
2. Note objective findings such as decreased respiratory rate and pulse
3. Consult with respiratory therapy to determine effectiveness
4. Auscultate the chest for change or clearing in adventitious breath sounds

44. After a bronchoscopy is completed with a client, which of the following nursing observations would indicate a complication?

1. Depressed gag reflex
2. Sputum streaked with blood
3. Tachypnea
4. Widening pulse pressure

45. The nurse is caring for a client with pneumonia. Which of the following nursing observations would indicate a therapeutic response to the treatment for the infection?

1. Oral temperature of 101 F., increased chest pain with non-productive cough
2. Cough productive of thick green sputum, client state he feels tired
3. Respirations at 20, with no complaints of dyspnea, moderate amount of thick white sputum
4. White cell count of 10,000 mm, urine output at 40 cc/hr, decreasing amount of sputum

46. During the shift report, a client’s ventilator alarm is activated. Which action would the nurse implement first?

1. Notify the respiratory therapist
2. Check the ventilator tubing for excess fluid
3. Deactivate the alarm and check the spirometer
4. Assess the client for adequate oxygenation
47. The nurse is caring for a client who has a 5 year history of chronic lung disease. The nursing assessment reveals a severely dyspneic client, pulse at 140, respirations labored, and slightly cyanotic. An appropriate nursing action to relieve the client’s dyspnea would include:

1. Administer oxygen at 40% heated mist  
2. Assist the client to cough and deep cough  
3. Elevate the head of the bed, low flow oxygen  
4. Position the client prone and assess breath sounds

48. A nurse is the first on the scene of a motor vehicle accident. The victim has sucking sounds with respirations at a chest wound site and tracheal deviation toward the uninjured side. Until emergency personnel arrive, the priority nursing action for the nurse is to:

1. Loosely cover the wound, preferably with a sterile dressing  
2. Place sand bag over the wound  
3. Sit the client up  
4. Place a firm airtight, sterile dressing over the wound

49. The nurse is caring for a client who has been immobilized for three days following a perineal prostatectomy. The client begins to experience sudden shortness of breath, chest pain, and coughing with blood-tinged sputum. Immediate nursing actions would include:

1. Elevate the head of the bed, begin oxygen, assess respiratory status  
2. Assist the client to cough, if unsuccessful then perform masotracheal suctioning  
3. Position in supine position with legs elevated; monitor CVP closely  
4. Administer morphine for chest pain; obtain a 12 lead ECG to evaluate cardiac status

50. Your client becomes extubated while being turned. He is cyanotic and has bradycardia and arrhythmias. Which action would be the highest priority while waiting for a physician to arrive?

1. Immediately begin CPR  
2. Increase the IV fluids  
3. Provide oxygen by ambuing and maintaining the airway  
4. Prepare the medication for resuscitation
51. A client had a below-the-knee amputation due to problems with gangrene. During the first 2 hours after surgery which nursing action would be most important?

1. Notify the doctor of a small amount of serosanguineous drainage
2. Elevate the stump on a pillow to decrease edema
3. Maintain the stump flat on the bed by placing the client in the prone position
4. Do passive range of motion TID to the unaffected leg

52. A client is admitted with a fractured right hip. The doctor writes an order for Buck’s traction. In planning care for a client in Buck’s traction, the nurse would:

1. Turn the client every two hours to the unaffected side
2. Maintain client in a supine position
3. Encourage client to use a bedside commode
4. Prevent foot drop by placing a foot board to the bed

53. A client has a long cast on his right leg. His right foot is pale and cool to touch. An analgesic has offered no relief to the severe leg pain after 45 minutes. Based on these observations, the first action of the nurse should be:

1. Apply a heating pad to the right toes
2. Repeat the dose of the analgesic stat
3. Remove the cast immediately
4. Notify the doctor immediately

54. Following hip replacement surgery, an elderly client is ordered to begin ambulation with a walker. In planning nursing care, which statement by the nurse will best help this client?

1. Sit a low chair for ease in getting up in the walker
2. Make sure rubber caps are present on all 4 legs of the walker
3. Begin weight-bearing on the affected hip as soon as possible
4. Practice tying your shoes before using the walker

55. To prevent neurological complications for a pre-school client with a full-leg cast, the nurse would schedule regular checks of:

1. Femoral pulses
2. Levels of consciousness
3. Blood pressure readings
4. Sensory testing of affected foot
56. A teenager has had a repair of an open compound fracture of the tibia and fibula. An external fixation device has been applied to stabilize the fracture. Before administering pin site care, the nurse should check which of the following?

1. Correct alignment
2. Appearance of pin sites
3. Tightness of screws
4. Vital signs

57. Which nursing assessment suggests a complication of a plaster of paris cast application the arm?

1. The client states that the wet cast feels “warm”
2. The client is able to move his fingers and thumb freely
3. The client states that his little finger feels “asleep”
4. The wet cast appears gray and smells slightly musty
Renal

58. In planning the diet teaching for a child in the early stage of nephrotic syndrome, the nurse would discuss with the parents the following dietary changes:

1. Adequate protein intake, low sodium
2. Low protein, low potassium
3. Low potassium, low calorie
4. Limited protein, high carbohydrate

59. Which of the following clients is a likely candidate for developing acute renal failure?

1. A female with recent ileostomy due to ulcerative colitis
2. Middle age male with elevated temperature and chronic pancreatitis
3. Teenager in hypovolemic shock following a crushing injury to the chest
4. Child with compound fracture of right femur and massive laceration to left arm

60. A client is experiencing severe pain from renal calculi. Which of the following is a priority in the nursing care plan?

1. Administer pain medication as often as needed according to doctor’s orders
2. Encourage fluid intake to help flush the stone through
3. Assist the client to ambulate to promote draining the bladder
4. Irrigate the bladder to maintain urinary patency

61. In order to maintain asepsis, the client on home peritoneal dialysis should be taught to:

1. Drink only distilled water
2. Cap the Tenckhoff catheter when not in use
3. Boil the dialysate one hour prior to a pass
4. Clean the arteriovenous fistula with hydrogen peroxide daily

62. A client has a history of oliguria, hypertension, and peripheral edema. Current lab values include BUN 25, K 5.0. Which nutrients should be restricted in this client’s diet?

1. Protein
2. Fats
3. Carbohydrates
4. Magnesium
Gastrointestinal

63. A client had surgery for cancer of the colon and a colostomy was performed. Prior to discharge, the client states that he will no longer be able to swim. The nurse’s response would be based on which of the following?

1. Swimming is not recommended, the client should begin looking for other areas of interest
2. Swimming is not restricted if the client wears a water tight dressing over the stoma
3. The client cannot go into water only up to that area stoma area, he can go in water only up to that area
4. There are no restrictions on the activity of a client with a colostomy, all previous activities may be resumed

64. A client who is fourth day post-op appendectomy complains of severe abdominal pain. During the initial assessment he states, “I have had two almost black stools today.” Which nursing action is most important?

1. Start an IV with D5W at 125 cc/hr
2. Insert a nasogastric tube
3. Notify the doctor
4. Obtain a specimen

65. The nurse is caring for a client with a perforated bowel secondary to a bowel obstruction. At the time the diagnosis is made, which of the following would be a priority in the nursing care plan?

1. Maintain the client in a supine position
2. Notify the client’s next of kin
3. Prepare the client for emergency surgery
4. Remove the nasogastric tube

66. A nursing assessment of a client with a hiatal hernia is most likely to reveal?

1. A bulge in the lower right quadrant
2. Pain at the umbilicus radiating down into the groin
3. Burning sensation in mid-epigastric area each day before lunch
4. Awakening at night with heartburn

67. The nurse is caring for a client postoperative ileostomy. Which of the following nursing observations would relate to a postoperative complication?

1. The ileostomy does not require daily irrigations to maintain function
2. The stoma appears tight and there is a decreased amount of stool
3. An impaction appears to be forming in the distal anal area
4. A weight gain of 5 pounds related to increased fluid retention
Neurological

68. The client has been lethargic, but responding to verbal commands. The nurse now assesses that the client is responding by withdrawing to noxious stimuli. The most appropriate nursing action would be:

1. Plan on reassessing the client in one hour
2. Notify the doctor that the client is deteriorating
3. Place the client in Trendelenburg position
4. Call the family and tell them the client is improving

69. The nurse enters the room and discovers the client has right sided paralysis, and unequal pupils. The most appropriate next step for the nurse is to:

1. Call the doctor
2. Assess the respiratory status
3. Determine the level of consciousness
4. Perform a complete neurological evaluation

70. A client is one week post cerebrovascular accident. The nurse notes the client does not respond readily to movement or objects in peripheral fields. Based on this nursing assessment, an appropriate nursing diagnosis is:

1. Impaired adjustment
2. Ineffective individual coping
3. Sensor-perceptual alteration
4. Self-care deficit

71. The client is transferred to the Neuro Unit after developing right sided paralysis and aphasia. Which of the following should be included in the nursing care plan in order to promote communication with the client?

1. Encourage client to shake head in response to questions
2. Speak in a loud voice during interactions
3. Speak using phrases and short sentences
4. Encourage the use of radio to stimulate the client.

72. What would be the most appropriate next action for the nurse to take after noting the sudden appearance of a fixed and dilated pupil in the neuro client?

1. Re-assess in 5 minutes
2. Check client’s visual acuity
3. Lower the head of the client’s bed
4. Call the doctor
73. Which instruction would be included in planning care for a client with signs of increased intracranial pressure?

1. Encourage coughing and deep-breathing to prevent pneumonia
2. Suction airway every 2 hours to remove secretions
3. Position the client in the prone position to promote venous return
4. Determine cough reflex and ability to swallow prior to administering PO fluids.

74. A client with a closed head injury begins to vomit. Which assessment is the most important for the nurse to report when calling the physician?

1. Increasing lethargy
2. Heart rate 80
3. Sodium level of 145
4. Presence of facial symmetry

75. The nurse is observing a client for complications following a craniotomy. The client begins complaining of thirst and fatigue. Which nursing observation is most important to report to the physician?

1. Specific gravity of urine is increased, urine is foul smelling
2. Fluid intake over past 24 hours has been 3000 cc
3. Urine output in excess of 4000 cc in 24 hours
4. Presence of diarrhea and excoriation of anal area
76. A client with glaucoma has experienced severe restriction of peripheral vision. He asks the nurse if his vision will get better. The nurse’s best response would be based on which of the following?

1. If he maintains his medications and reduces the pressure, his vision will improve
2. The current damage to vision is permanent, maintaining his eye drops will prevent further damage
3. After the acute episode, surgery will be scheduled to remove his lens which will increase vision
4. After the pressure is stabilized, the doctor will reevaluate his vision and prescribe glasses to correct his vision

77. An adult male client complains of loss of hearing while irrigating his ear to remove cerumen for better observation of the tympanic membrane the client comments that he is getting dizzy. The nurse would stop the procedure and:

1. Notify the doctor immediately
2. Monitor for changes in intracranial pressure
3. Warm the irrigant and resume the procedure
4. Explore the canal with a cotton applicator

78. The nurse is caring for a client who has just returned to his room after having a scleral buckling procedure done to repair his detached retina. Which of the following is an important nursing action on the operative day?

1. Remove reading material to decrease eye strain
2. Closely assess for presence of nausea and prevent vomiting
3. Assess color of drainage from affected eye
4. Maintain sterility for q3h saline eye irrigations

79. A client has a cataract removed from his left eye. Which of the following is an important nursing intervention in the immediate postoperative period?

1. Position on right side with head slightly elevated
2. Place client on his left side to protect eye
3. Perform sensory neuro checks every 2 hours
4. Maintain complete bed rest for the first 48 hours
80. The nurse is caring for a client with Meniere’s syndrome. The nurse stands directly in front of the client when speaking. Which of the following best describes the rationale for the nurse’s position?

1. This enables the client to read the nurse’s lips
2. The client does not have to turn her head to see the nurse
3. The nurse will have the client’s undivided attention
4. There is a decrease in the client’s peripheral visual field

Blood

81. A client is 2 days postoperative aortic aneurysm resection. A complete blood count reveals a decreased red blood cell count. The nursing assessment is most likely to reveal which of the following?

1. Fatigue, pallor, and exertional dyspnea
2. Nausea, vomiting, and diarrhea
3. Vertigo, dizziness and shortness of breath
4. Malaise, flushing, and tachycardia

82. A client who is receiving a blood transfusion is experiencing a hemolytic reaction. The nurse would anticipate which of the following assessment findings to validate this reaction?

1. Hypotension, backache, low back pain, fever
2. Wet breath sounds, severe shortness of breath
3. Chills and fever occurring about an hour after infusion started
4. Urticaria, itching, respiratory distress

*Review Questions provided by Marlene’s friend and mentor Sylvia Rayfield. If you would like to purchase the book from which these questions were taken, please see your faculty member.
Final Thoughts

You are NOT SUPPOSED to know everything right now.

You have everything you need to pass if you study the information properly.

You do not have to go back and study all of your notes from school or read your Med-Surg book.

No body can KNOW that much information.

YOU do not have to know that volume of material because the NCLEX people know you are a BRAND NEW NURSE

But you better know this material and I mean ALL OF IT!

Ways to study:

1. Repetition, Repetition, Repetition

2. Once you think you know a topic (like FVE) write out a skimpy set of notes with just que words on it and see if you can lecture.

   - When you are looking at your que words is anything coming to mind

   - What did we say in class that’s supposed to be coming into my mind now.

   - Nothing coming into your mind…..need to study more

Example:
Fluid Volume Excess
   - other word for it?
   - what is it?
   - CHF?
   - Renal Failure?
   - aldosterone?

   - If you cannot look at these words one at a time and hold your head up and lecture on it OUT LOUD, then you need to study more.
3. Record yourself lecturing on one topic at a time.
   - Listen to self ___________; Listen for your ________________
   - Check yourself against your notes to see what you are leaving out
   - We listen to ourselves better than anyone else
   - If you can _____ it you can ________ it!
   - I have said things a CERTAIN way on PURPOSE….you need to say it too!

4. The “Why?” question
   - Do you know the Why’s behind s/sx, causes, interventions?

5. Study at least the Med-Surg with a friend

6. Study practice
   - RULE: There is no way to know this information the way I am telling you to know it and study it and FAIL.

   - Let’s practice
     a. Tell your friend, “How CHF causes FVE”

     b. Tell your friend how aldosterone can cause shock?

     c. Explain Diabetes Insipidus to your friend

7. You must master your notes in this way ONE SENTENCE AT A TIME!

8. Know your CD
   - this is the icing on the cake

   - there is a LOT of information on the CD… You do not have to print out every document on the CD—unless you want to… but you do need to be sure to print out the Mock NCLEX so when you watch the DVD of the rationales you can take notes on each questions and the Management and delegation notes you can use while watching the Management and Delegation lecture on your DVD

9. Know your DVD

10. Remember this about the mock NCLEX……I promise I will be happy if I get more right than wrong!
11. Are you going to get questions on topics you’ve never heard of? 
   -can I still pass? 
   
   -If I haven’t heard of it…..nobody else has either!
12. If I purchase every NCLEX question book in the world, will I have all of the questions? 
13. When I select an answer will I feel confident I got it right? 
14. You must not get upset if you are not feeling confident 
15. If you study properly the higher the level of question you will get, the worse you will feel, and the better you’ll do on the test! 
   -If all the answers look right you either haven’t studied or you are in the higher level questions 
16. Studying properly will keep you out of the low level questions 
   -low level does not mean easy 
   
   -these are the hardest ones because they are memorized facts 
17. The test is testing for MINIMUM competency? 
   -In other words, the absolute minimum you must be before they will turn you loose on the general public 
   
   -You do not want to be just minimum!! 
18. You will never be more motivated than you are now to pass? 
   -have a new job 
   
   -have a new car note 
   
   -your family is excited for you 
19. Major life events 
   -If you are getting married, divorced, if there is a death or sicknesses then these are distractors. (Many unpreventable) 
20. You will have a wide range of emotions when you come out of the test 
   Mad, depressed, sick 
21. Could I come out of the test and think of 38 questions I missed? Can I still pass? 
22. What if I get 2 questions that seem almost identical? 
23. Is it true the computer is looking for your weakness? 
   -Rule: you always feel like you get more of what you are weak in
24. Alternate format items; Innovative items

- If you get ______ questions on your test you MIGHT get ____ innovative item questions that count

- However, ______ questions on your test will be pilot questions—this is for the RN (these do not count for you or against you and you will not know which ones are pilot).

- The LPN will have 25 pilot questions.

- All of these may be innovative items which would make you think you had 17 of these types of questions.

- Remember just because a question has a chart or graph that does not mean it is an alternate format item.

- Charts and graphs have been on the test forever.

- Now, you may not get an innovative question at ALL… that does not mean you did not do well on the test… that just means you were lucky and did not get one of those types of questions.

- You can view examples of these questions at www.ncsbn.org

- Your priority question is __________ _____________.

25. Is it true that every so many people that come through the doors of the testing center will get the whole test?

- The ___________ of questions you get depends on how you are answering the questions

- YOU determine the number of questions you get by the way you studied.

26. Will my friend be encouraging to me after they take their test?

27. I’m on 180 and I only have 5 minutes left….what do I do?

   a. start clicking C like I did on the ACT
   b. slow down

Obviously you must have been doing ok or the computer would have ALREADY cut off.

For the computer to still be ticking along you were still in the ballgame and CLOSE to passing. You just needed to get a few more right at that point.
28. What if I’m on 176 and the computer cuts off…I wasn’t finished, but I’ve run out of time? Can I still pass?
   - When you run out of time the computer will only grade you on the last ___ questions you took.
   - That’s the way it is.
   - So you better hope you got more right than wrong in the last 60.

29. What if my computer goes past the minimum number (doesn’t cut off at 75)….what should you tell yourself?
   - For every additional question you get past 75 you are still in it even if it goes all the way to 265.
   - Remember the minimum number an LPN can get is 85 and the max is 205.

30. What if I take the whole test…..can I still pass?

31. If I get the last question right does that mean I passed?
   - Not necessarily (may have been a pilot question)

32. My teachers said pharmacology has really increased on the test….what do I do?
   - Pharmacology is more than just drugs….also includes care of the central line, IV therapy, calculating drugs/IV’s, blood administration, total parenteral nutrition….

33. What’s the number 1 reason people fail boards?
Miscellaneous Information

- Studying at work doesn’t work

- You must set aside dedicated time just for NCLEX study

- It took us 4 days to go through the notes; how long will it take you to go through the material and verbalize as instructed?

- How do I get my results? See the State Requirements document on your CD.

- I made really good grades on the diagnostic readiness tests I took at school. Doesn’t matter….you’ve never had a test like nclex before!

- I’m a LPN, I’m a Paramedic….you better forget what you have seen because NCLEX thinks of you as a brand new nurse, fresh out of school

- How come some people that didn’t make good grades passed boards?
  - Because when you are dumb you know it ahead of time….so the dumb person overcompensates in their studying

- Take extra ID

- They will take your picture (you WILL have exopthalmus in the picture)

- They will get your fingerprint

- You can’t carry anything into the testing area

- Keep some snacks in the car

- There are 2 pre-programmed optional breaks, but you can take as many breaks as you need to take during the test.
  - The first optional break is after 2 hours of testing.
  - The second optional break is after 3½ hours of testing.
  - BUT the Hurst Review way is to take a break HOURLY!

- I’m gonna sit here till I finish this test? Bad mistake….you better take your breaks

- You have 6 hours to take the test…..your time is ticking when you are on breaks.

- LPNs have 5 hours to take the test

- Tell your friend to pick you up in an hour and a half? Big mistake…You need to plan on going in and taking the entire 6 hours to take the test.
-Take a jacket

-If you are going through a hospital orientation prior to taking NCLEX….listen closely. May hear some test content (restraints, advanced directives, infection control)

-There is not “magical equation” for the amount of time you should study the packet before you schedule your test. You are ready to take the test when you can VERBALIZE the entire package and you can teach it.

-You can’t take a calculator in the testing room with you. They will provide you with a dry erase board for any calculation problems you may have on the test

-Unsuccessful? Call us! We want to help. We will not dessert you. Complete our remediation program and PASS!

-If you are unsuccessful you’ve only been delayed 45-90 days. Don’t go into depression and think bad of yourself….Just pass it in 45-90 days!
  -Some states make you wait 45 days… Other states make you wait 90 days.
  -See the State Requirements document on your CD.

-If you are unsuccessful and you take the NCLEX again. You will not get the same questions. Those questions are “blocked.” You may get a question on the same topic, but never will you get the EXACT same question.

-Once you have selected an answer, you CANNOT go back to change an answer or view the question.
COURSE EVALUATION

1. What did you like most about this class?

2. What did you like least about this class?

3. Did you like the lecture style?

4. Did this class meet your expectations?

5. Would you recommend this class to others?

6. Can you identify any changes that would improve learning in this class?
# INSTRUCTOR EVALUATION

My instructor was: _____________________________________________

1. My instructor was: (Please circle your response)

<table>
<thead>
<tr>
<th>Trait</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheerful</td>
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</tr>
<tr>
<td>Upbeat</td>
<td>Agree</td>
<td>Disagree</td>
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<td>Sincere</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Professional Dress</td>
<td>Agree</td>
<td>Disagree</td>
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<tr>
<td>Professional Presentation</td>
<td>Agree</td>
<td>Disagree</td>
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<tr>
<td>Resourceful</td>
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*Email/Phone Number

2. Did you feel your instructor was approachable?

3. Additional Comments:
5th Day CD Table to Contents

- Fast Facts for Central Lines
- State Requirements
- ER Triage
- ER Triage Answers and Rationales
- Signs and Symptoms of Abuse
  - Sexual Abuse
  - Neglect
  - Physical Abuse
  - Domestic Abuse
  - Elderly Abuse
- Reference Websites
- Stages of Labor
- Maslow’s Hierarchy of Needs
- Normal Vital Signs for Children
- Medication Calculation Reference
  - Calculating Safe Drug Dosage for Children
- Cranial Nerves
- Developmental Milestones for Children Ages 3-6
- Age Characteristics of Play
- Types of Shock
- Stages of Development
- Testing Strategies
- Immunization
- Nursing Delegation
- Herbal Medication
  - Possible Side Effect
  - Other medications that may be affected by Herbal medication
- Normal lab values
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- Oncology Pain Medication
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- Management and Delegation Notes
- Mock NCLEX
- Insulin Chart
- Blood Transfusion
- Infectious Control Measures
- Assignment, priority, care management Questions
- Assignment, priority, care management Answers and Rationales
- Maternity/Priority Questions
- Maternity/Priority Answers and Rationales
- Day 4 Questions and Rationales
- Fire Safety
1. Nutrition Assessment

- General growth within ________________ for height, weight and head circumference is desired.

- Laboratory test for assessing nutritional status is:

- Physical assessment for nutritional status includes:

- How many cups of milk should a 14 month old consume daily?

- A school age child requires how many calories per day?
2. Pain Assessment

What pain assessment tool is commonly used for infants 2 months to 7 months of age?

FLACC:

The Wong Baker Pain Rating Scale is used on children at what age?

- Scale is 0 (no pain) to 5 (most pain)

The Numerical Scale for children is used at what age?

- Scale is 0 (no pain) to 10 (worst pain)
Respiratory System

What are observable signs for respiratory dysfunction in children?
- Accessory ______________ use
- Flaring __________
- Circumoral ______________
- Sternal ______________
- Pallor
- Capillary Refill > _____ seconds

What is Respiratory Syncytical Virus (RSV)?
- Acute ______________ infection which affects the ________________.
- Affects children 2 months – 2 years.

How is RSV manifested?
- Begins with a simple ________________; nasal ________________; mild fever; dyspnea; nonproductive paroxysmal ____________; tachypnea with flaring nares; retractions; possible ________________

How is asthma different from RSV?

Asthma is inflammation of the ________________ resulting in obstruction.
- is reversible
Asthma

Signs and Symptoms:
- Cough, Shortness of _______________, audible ____________________, prolonged ______________________ wheezing, restlessness, cyanosis

What is the most important lesson in proactive care for asthma patients?

Asthma education, specifically identifying ____________________ that precipitate episodes (pets, foods, environmental conditions, emotional situations)

What would be an appropriate pet for a child with asthma?

PLEASE REFER TO THE FOLLOWING HANDOUT FOR MORE DETAILED INFORMATION
ON ASTHMA
**Asthma**

-Chronic **inflammatory** disorder of the airway

-What is happening in the person’s airway? Edema, inflammation, tenacious secretions, and smooth muscle spasms (wheezing and bronchospasm), decreased expiratory airflow

-Most common chronic childhood disease
  -mainly in male children, but equalizes in adolescents

- African Americans at greatest risk

- The major cause of absentees from school

- One of the major diagnoses for children being admitted to hospitals and ER visits

-Causes/Triggers: major cause: aero allergens
  Other causes or triggers:
  -environmental allergens (dust mites and roaches)
  
  -smoke (any form)
  
  -dust
  
  -pets
  
  -exercise
  
  -change in weather
  
  - cold air, strong emotions
  
  -change in environment (moving to new home or new school)
  
  -food
  
  -medication

- Seen frequently in children with mothers under the age of 20- unknown etiology
-S/Sx:
  - Recurrent episodes of wheezing (on end expiration)
    - as the obstruction becomes worse the wheezing becomes more high pitched
  - can’t catch their breath
  - hacking non-productive cough
    - in the absents of a respiratory infection especially at night
    - therefore the child is tired at school
  - chest tightness
  - dyspnea
  - retraction in infants
  - hyperressonance of chest with percussion
  - loud breath sounds
  - wet lungs

-Symptoms usually seen at night and early morning

-Symptoms of acute asthma attack: Child may start to c/o itching in front of the neck or the upper back Child will start out feeling restless and c/o of a HA. Child will also be tired, irritable, hacking non-productive cough, chest is starting to get tight, as secretions increase the cough becomes rattling and productive (clear frothy sputum).

- Attack becoming more sever: Try to breath more deeply, expiratory phase is prolonged, audible wheezing, appears pale, red ears, dark red lips and may become cyanotic, restless, anxious expression, sweating, younger children assume the tripod sitting position, whereas the old child will sit up with shoulders hunched over with hands on legs or bed to facilitate use of accessory muscles,

- The more sweating and the more the patient refuses to lie down… the worse the episode. If they are lying down it is not a bad episode

- Absence of lung sounds as swelling and secretions increase as attack progresses

- Repeated episodes= barrel chest
Dx:

-Hard to diagnose asthma in infants b/c many conditions can cause wheezing and retractions and it is also hard to see if an infant has a prolonged expiratory phase.

-Chronic cough with no signs of infection or wheezing on expiration is enough to diagnosis asthma.

-Pulmonary function test: helps to determine the presence and degree of lung disease and response the respiratory therapy

  -Spironmetry function test reliable for children older than 5 yrs

  -Peak expiratory flow rate (PEFR): max airflow that can be forcefully that can be exhaled in one second.
    -Each child’s PEFR based on age, race, height and gender.

    Graded based on color coded categories (green, yellow, and red)
    -Green: 80-100% of personal best-asthma under control
    -Yellow: 50-79% of personal best-signals asthma not under control, pt may have an acute exacerbation
    -Red: 50% of personal best-severe airway narrowing

---

**Peak Expiratory Flow Meter (PEFM)**

- Meter should be at zero before beginning test
- Nothing in mouth
- Stand up straight
- Keep tongue back
- Lips tight around mouth piece
  - Fast hard puff (Blowing out forcefully)
  - Repeated 3 X (30 seconds between each puff)
- Record highest reading
- Same time daily
- Before medication and 15 min after medication is administered
-Tx:

-Acute Asthma Attack:
-Humidified 02

- Epinephrine SQ or SQ Tebutaline in ER setting given

-Give quick relief rescue medication:

-IV corticosteroids: Pednisone®, Solu-Medrol®

-Beta 2 agonist:
- Albuterol® (inhaled or PO)
- Metaproterenol® (inhaled or PO),
- Terbutaline® (inhaled or PO)

-induced asthma attack if taken 10-15 before exercise

-Bronchodilator:
- Long acting: Salmeterol® (servent)

-Methlyzanthes: aminophaline and theophylline
- Therapeutic range for theophylline: 5-15 mcg/ml

-Anything over 20 mcg/ml and patient is toxic
-(s/sx: nausea and vomiting… and then the heart is affected)

-Anticholiengerics:
(atropine) for broncospasms
-these drugs have severe side effects

- Long Term Control (preventer meds)
-steroid, NSAIDS (cromolyn sodium), bronchodilators, nebulizers, meter dose inhaler (MDI), beta 2 agonist, corticosteroids (inhaled by MDI or nebulizer, PO)

-Leukotriene modifiers
-decrease inflammation and broncosparsms
-Not for acute episodes
-Singular®, Zyflo®
General treatment of Asthma:

- Chest Physiotherapy
  - Percussion, vibration, squeezing the chest and breathing exercises
  - Do not administer this therapy during an acute episode

- Allergy shots
  - Only administer allergy shots if emergency equipment is available in case of anaphylactic shock

- When in cold air, breath through nose, wear mask or cup hands over nose mouth (creates warm air),

- Allergy proof the house

- Blow a pin wheel to extend expiratory time

- Encourage activity that requires a short burst of energy: baseball sprints, swimming (because you are breathing in humidified air and since you are exhaling under water you are extending your expiratory time)

- Discourage any exercise that requires endurance: soccer or distance running

- Monitor O2 sat

- Encourage fluids to liquefy secretions, but no cold fluid because that could induce a broospasm

- Small frequent meal- to prevent abd distention which will prevent the diaphragm from expanding
**Cystic Fibrosis**

Besides the respiratory complications of cystic fibrosis, what other system is affected?

What type of enzymes can be given to help improve digestion?

What type of diet should a child with cystic fibrosis be on?
- High calorie, High protein, and well balanced
- A low fat diet is suggested to ensure the patient has a well balanced diet.
- When eating high fat foods, encourage to add more enzymes
- Water soluble vitamins A, D, E and K supplemented
  - Vitamins A, D, E, and K are usually in a fat soluble form, but since the patient can not absorb the fat, the vitamins must be given in a water soluble form.

Describe the stools of a patient with cystic fibrosis.

What is the diagnostic test for cystic fibrosis?

How is cystic fibrosis usually discovered?

Therefore, the child is at risk for what electrolyte imbalance?

In the newborn, what is the earliest sign? They never pass the ______________.  
-- meconium ileus

What are the mucous secretions like with cystic fibrosis?

Is cystic fibrosis inherited?

**Downs Syndrome**

What types of infections are Downs Syndrome children prone to developing?

What is the most common type of defect associated with Downs Syndrome?

The primary aim in genetic counseling is to inform the parents of their ______________.
Gastrointestinal System

What is the difference between GER (Gastroesophageal Reflux) and GERD (Gastroesophageal Reflux Disease)?

GER is the passage of gastric contents into the ________________.

GERD is the chronic form GER… tissue damage to respiratory structure → Pneumonia and bronchospam.

The nurse places the infant with GER in what position?
  - Positioning is very controversial.
    - upright position feedings and at night
    - prone decreases reflux, improves the stomach emptying, decreases the chance of aspiration
    - best position after feeding: prone with head elevated
    - avoid putting child in car seat because it increases intraabdominal pressure
    - Elevated prone position

**Hirschsprungs Disease**

What is Hirschsprungs Disease?
  - Hirschsprungs Disease is a congenital anomaly (also known as aganglionic ____________________) that results in a mechanical ________________ along the bowel.

What part of the bowel does Hirschsprungs Disease usually affect?

What are the presenting symptoms of Hirschsprungs Disease?
  - Constipation
    - Abdominal ________________
    - Ribbon like ________________ (foul smelling)
**Pyloric Stenosis**

How is pyloric stenosis different from GER?

Pyloric stenosis results in projectile _________________________ usually after feeding.

GER results in ______________________ formula with gastric juice.

Abdominal assessment of Pyloric Stenosis reveals:

_________________________ shaped mass in the epigastrium region (near umbilicus)

What would be some important nursing interventions for an infant with Pyloric Stenosis?

- Hydration

- Intake and ______________

- Daily ______________

- Urine ________________ gravity
Cleft palate/Cleft lip

What would be a top nursing diagnosis for a client with cleft palate/cleft lip?
-Alternation in ______________________
  -Feed with elongated nipple or rubber tipped syringe down the side of the mouth

When a baby is born with a cleft lip and palate which problem do they correct first?

Why should an infant with a cleft lip and palate be bubbled (burped) frequently?
-they swallow lots of __________________

The nurse should position a child in the __________________ position following cleft lip repair
-Goal is to protect suture line
  -DO NOT PLACE IN _______________ POSITION.

What will the suture line be cleaned with post-op?

When is the best time for cleft palate repair to be done?
-before ________________ develops

With cleft palate repair, why do we avoid putting things in the child’s mouth (hard things in particular)? --We don’t want to disrupt the ________________ line.

Are speech defects common after a cleft palate repair?

What restraint would the nurse select following cleft lip repair?
-follow hospital policy concerning restraint use
**Intussusception**

What are the clinical manifestations of intussusception?

- Sudden ________________

- Cramping

- Abdominal ________________

- Inconsolability

- Drawing up of ________________

What is an intussuscepted bowel?

- This is when a piece of the bowel goes ________________ inside of itself forming an obstruction.

A classic symptom of intussusception is? Currant ________________ stool

What should you be monitoring closely in a child with intussusception?

**Celiac Disease**

Celiac Sprue is a genetic ________________ disorder in where there is permanent intestinal ________________ to gluten.

Important teaching with Celiac Disease:

- Life long disorder

- No food with ________________ (vegetable protein)

- Cannot have BROW. What do these letters stand for?

- Can have RC’s. What do these letters stand for?
Esophageal Atresia and Tracheoesophageal Fistula

In esophageal atresia, why can’t the saliva make it to the stomach?
- the esophagus ends in a blind _______________

Why do babies with esophageal atresia not have meconium?
- They never swallowed any _______________ ______________.

How are babies with tracheoesophageal fistula or esophageal atresia usually feed?

When studying tracheoesophageal fistula, what are the 3 C’s?

With tracheoesophageal fistula, the type where there is a connection between the esophagus and trachea, what would the top nursing diagnosis be?

Before corrective surgery of a tracheoesophageal fistula the infant is placed on his back with his head and shoulders elevated. Why?
- we want the secretions to pool in the _______________ ______________.

Why is it not uncommon for a mother to have hydramnios with infants with GI tract problems?
- The baby never swallowed any _______________ ______________

With imperforate anus there is no rectal opening. Therefore, the baby will not pass the _________________.

Hematology

Sickle Cell Disease is a hereditary disorder in which the __________________________ is partly or completely replaced by a sickle shaped hemoglobin. There is a reduced ________________ carrying capability now.

Clinical Manifestations of SCD are:
__________________ in the area of involvement.

- Anorexia
- Exercise __________________________.

Nursing care for a child with Sickle Cell Crisis would include:
- Bed _____________
- Hydration
- Analgesics
- Antibiotics
- Possibly ________________ transfusions
Childhood Cancer

________________________ is the most common form of childhood cancer.

The definition of leukemia is:
- cancer of the ________________ forming tissue
  - proliferation of ________________ WBC’S

Two types of leukemia:
1. ALL (acute ________________ leukemia)
2. AML (acute ________________ leukemia)

Clinical manifestations leukemia are:
- Fever
- Pallor
- Anorexia
- Petechiae
- Vague ________________ pain
- Easily acquired ________________

Wilms tumor or nephroblastoma are found where?
- in the ________________ or as an abdominal mass

The most common presenting sign is: ________________ or non-tender mass on one side of the abdomen.

Some very important things to remember with Wilms Tumor are:
- Don’t palpate the ________________
- Gentle care with ________________ or moving patient
Neurology

Hydrocephalus is a disturbance of ventricular circulation of the cerebral spinal fluid in the ____________________.

Clinical manifestations of hydrocephalus are:
- Palpation of the ____________________ fontanel
  - Dilated _________________ veins.
  - Depressed ____________________
  - Irritability
  - Changes in ________________

Surgical treatment for hydrocephalus consists of the insertion of a VP ________________ (ventriculoperitoneal shunt).

Post-op care of a VP shunt includes:
- FOC measurement
  - Fontanel and cranial _________________ line assessment
    - Are they bulging or sunken?
      - Bulging = Increased ICP
  - Monitor ________________
    - ________________ position

Hydrocephalus is frequently associated with myelomeningocele
Musculoskeletal System

Scoliosis is ______________ curvature and ______________ of the spine.
-Can be genetic

Management of scoliosis consists of the three O’s. What are the 3 O’s?

1. 
2. (supports or braces)
3. (spinal fusion with rod)
Cardiovascular System

Rheumatic fever is an inflammatory disease that occurs after an infection with __________________________. The major cardiac clinical manifestation of rheumatic fever is ________________.

Therapeutic management for rheumatic fever includes:

Penicillin G or __________________________

Kawasaki Disease

Kawasaki Disease is characterized by widespread ________________ of the small and medium sized blood ________________ with coronary arteries being most susceptible.

Treatment for Kawasaki Disease consists of:
- High dose IV __________________________
- Salicylate __________________________
- Bed __________________________

What would be the nursing assessment of a child with cardiac dysfunction?
- Assess nutritional status (failure to __________, poor __________ gain, fatigue with __________, poor feeding habits.
- Color, __________ deformities, unusual pulsations, respiratory effort, clubbing of __________, behavior (knee-chest position or squatting seen in some types of heart diseases)
- Excessive __________ during feeding is also associated with heart disease.
Heart Disease

What is congenital heart disease?
- A structural or functional defect of the ____________ or great vessels present at ________________.

In children, types of cardiac defects are classified by ________________ ______________ patterns.
  (Examples: increased pulmonary blood flow, decreased pulmonary blood flow, obstruction to blood flow out of the heart, mixed blood flow within the heart or great arteries)

General Overview of Heart Problems in Children

CHF usually due to congenital heart defects

Early S/Sx:
  - Increased Pulse at rest and with slight exertion
    - Increased RR
    - Scalp sweating (infants mainly)
    - Fatigue
    - Sudden weight gain

  - 1 pound or more in one day is FLUID

Tx:
  - Listen to lungs
  - Control room temp
  - Sit up
  - Rest
  - Decrease stimuli
  - Cool, humidified oxygen
  - Uninterrupted sleep
Nutrition:
Should be well rested prior to eating (feed when wakes up and when showing signs of hunger…sucking fists…..trying to decrease crying)

Small, frequent feedings (not as tiring); increased calories…..have increased metabolic rate

Feed q3 hours…..every 2 hours doesn’t give baby enough rest….every 4 hours requires increased volume…..can’t handle

Takes about l/2 hour for an infant to take complete a feeding….prolonging the feeding leads to exhaustion and decreased rest periods

Use soft nipple with little larger opening so baby won’t have to work so hard

May need gavage especially if in respiratory distress

Breastfed babies may need additional supplements for calories

Usually do not have to restrict Na…to many adverse effects

Rarely need fluid restrictions as it is so hard to get them to take fluids anyway

**Digoxin:**
- Main signs of toxicity….bradycardia, vomiting (earliest sign)
  - Infants….hold if P<110
  - Children…hold if P< 70
- Use judgement: always compare to previous readings
- Normal dig level…..8-2 ug/L
- Infants rarely get more than 1 cc (50 mcg, 0.05mg)
- Give 1 hour before or 2 hours after feedings
- Do not mix with food/fluid
- 4 hours past due on dose? Hold dose and give next dose on time
- Vomits? Do not give more
- Missed 2 doses in a row? Call MD
- Do not increase or double dose
- Always check dose with another nurse
**ACE inhibitors:** Capoten®, Vasotec®
- Watch for decreased BP, kidney probs, cough

- They block aldosterone...so not retaining as much Na and not excreting as much potassium....therefore aldactone and potassium supplements may not be needed and could cause hyperkalemia

**Lasix®**

Infant formulas have more sodium than breast milk

Hypercyanotic Spells: Treatment
- Infant.....knee-chest

- 100% oxygen

- Morphine for sedation

Monitor Cardiac Output

Loose clothes

Loose diapers

Quiet play

No stress

Respond to crying quickly

Infection? Treat promptly….can’t handle fever…increases workload
Miscellaneous Cardiac Info:

Effects of chronic hypoxia:

1. Polycythemia
   - increased RBC’s (body thinks it should make more due to hypoxia)
   - thickens blood; may lead to stroke
   - keep hydrated
   - no room for platelets

2. Clubbing
   - thickening and flattening of finger tips and toes

3. Poor growth may also be seen in chronically hypoxic children

4. Squatting: not seen as much due to early I.D. and surgery in first year

5. Hypercyanotic spells (blue spells, tet spells)
   - mainly seen in tetralogy of fallot

50% of brain growth occurs in first year of life
SPECIFIC HEART DEFECTS

Acyanotic Defects

1. Ventricular Septal Defect

Which side of the heart is stronger? L or R

This is when there is an opening between the right and left ventricle (in the septum)

When the left ventricle squeezes down it shoots blood forward into the aorta like it’s supposed to, but NOW since there is a hole between these 2 chambers blood can now shoot over to the right side of the heart (right ventricle).

Since the left ventricle is the strongest part of the heart…..when it squeezes down on blood it does so with great force therefore it really SHOOTS blood over to the right side.

This increases the volume on the right side of the heart. The right side is having to pump harder so this can lead to right sided heart failure.

Many close spontaneously during the first year of life.

Ventricular Septal Defect

<table>
<thead>
<tr>
<th>RA</th>
<th>LA</th>
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<tbody>
<tr>
<td>RV</td>
<td>LV</td>
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</tbody>
</table>

\( \times \) = location of hole

\( \leftarrow \) = direction of blood flow

How do we know someone has it?
- Signs of heart failure
- Murmur
2. Atrial Septal Defect:

Which is stronger the LA or the LV?

But is the LA STILL stronger than the RA?

There is an opening between the right and left atria (in the septum).

When the left atrium squeezes down some blood goes forward into the left ventricle just like it’s supposed to..... BUT since there is a hole in the septum blood can not only be pushed forward it can now go to the right as well.

When the left atrium squeezes down it is not as forceful and strong as the left ventricle.....but it is still stronger than the right atrium so the LA overpowers the right and blood moves to the right.

This is not as big a deal as VSD because the blood is not being shot over to the right with great force.

**Atrial Septal Defect**

![Diagram of heart chambers with arrows indicating blood flow and location of hole]

How do we know someone has it?
- Child may be asymptomatic
- May have signs of heart failure
- Murmur
- Atrial arrhythmias

Most common treatment is surgery prior to school age.
3. Patent Ductus Arteriosus:

Normal fetal circulation: Blood goes RA….RV….PA…doesn’t go to lungs….instead when blood leaves PA it goes straight over to the aorta via the ductus arteriosus. Why does the blood do this? Because inutero the baby’s lungs are collapsed and the baby gets oxygen through the placenta.

This ductus arteriosus is supposed to close when the baby is born and takes their first breath. When it closes then blood flows from the PA to the lungs etc….just like in the adult.

Now think about the left side of the heart in this condition.

Here comes the blood LA, LV, and then the blood moves into the aorta.

When the blood gets into the aorta it’s confused as to which way to go……The blood says “should I go straight to the body or should I hang a right here through this opening that was supposed to close”.

There is a traffic jam of blood in the aorta because the blood doesn’t know which way to go.

This leads to increased workload on the left side of the heart and therefore left sided heart failure.

Some blood is going straight like it’s supposed to, but some if going right because the left side is still stronger than the right.

How do we know someone has it?
- May be symptomatic
- May be in heart failure
- They have machinery like murmur

Treatment:
- Indomethacin (prostaglandin inhibitor) will close PDA
- Maybe surgery
4. Coarctation of Aorta

The aorta has a narrowing (pretend there is a tourniquet tied around the aorta). This makes it harder for the LV to pump so the patient may wind up with left sided heart failure.

How do we know someone has it?
- There is a BIG difference in the pulses and BP of the upper and lower extremities.
- There is always a slight difference in the pulses and BP of the upper and lower extremities…..that’s why I said BIG difference.
- The upper pressures are much greater than the lower pressures.

Treatment:
- Surgery
- Can do angioplasty in some
5. Pulmonic Stenosis

First you have to know where the pulmonic valve is located.

The opening in the valve is very, very small. The right ventricles has to work harder to pump the same amount of blood through a smaller opening….the patient may develop right sided heart failure.

![Pulmonic Stenosis Diagram]

How do we know someone has it?
- May be asymptomatic
- May have heart failure
- Murmur
- Enlarged heart

Treatment:
- Surgery
- Maybe angioplasty

With all heart defects the child is at risk for bacterial endocarditis….this may be how the defect is first discovered

Early sign of a heart defect: Feeding problems
6. **Aortic Stenosis:**

Same as with pulmonic stenosis, but now we are talking about the aortic valve.

So when the LV squeezes down to shoot the blood into the aorta it has to do so with greater force to get the blood through a smaller opening…..this just increased workload on LV……now patient is at risk for left sided heart failure.

![Aortic Stenosis Diagram]

How do we know someone has it?
- Decreased CO
- Murmur
- Heart failure
Cyanotic Defects

Tetrology of Fallot

Consists of 4 defects:
   a. VSD
   b. PS
   c. Overriding aorta
   d. Right ventricular hypertrophy

How do we know someone has it?
- Infants may be cyanotic at birth
- Others may have mild cyanosis that progressively worsens during first year
- Murmur
- Acute cyanotic or hypoxic spells (blue spells/tet spells)
  * usually seen during crying, after feeding, during bm’s;
  * at risk for sudden death, seizures
- Older children: Squatting, clubbing, poor growth, exercise intolerance

Treatment: Surgery
Transposition of the Great Vessels

Notice the PA comes out of right ventricle and goes to the lungs and then the blood goes to the left side of the heart to get pumped out to the rest of the body.....The PA’s favorite place to go is to the LEFT club.

Noticed the aorta comes out of the left ventricle and then goes throughout the body and eventually winds up back at the right side...The aorta’s favorite place is the right club.
Notice the PA and aorta have swapped places.

They are still going to their favorite clubs.

So you wind up with 2 separate sets of circulation going in and out of the heart. Yes some blood is getting out to the systemic circulation or the patient would be dead at birth.

Instead the baby is cyanotic at birth, but alive.

What’s keeping the baby alive?
   - There is some other defect that is allowing that baby to get just enough oxygen to stay alive.

How do we know someone has it?
   - Usually cyanotic at birth
   - If not picked up on until older……decreased growth, poor feeding

Treatment: Surgery
**Miscellaneous Information**

Why are new foods introduced to children one at a time?

What is the most common reason for failed toilet training?

In children, up to one year of age, what are the major causes of accidents?

**Head Lice**

What is a common symptom of head lice?

Can lice go to other body parts besides the head?

How are lice spread?

**Pin Worms**

How are pinworms spread?

How do you collect a specimen to diagnose pinworms (enterobiasis)

**Chicken Pox**

Chicken pox is rare due to the varicella vaccine; however, if a child does contract chicken pox the primary focus is to prevent ____________ in the lesions.

What home remedy can alleviate the itching associated with chicken pox?

Are chickenpox contagious?

What happens to the growth rate between 6 and 12 years of age?

How much earlier do girls experience the onset of adolescence?

**Mononucleosis**

What is the name of the virus that causes infectious mononucleosis?

How is this virus spread?

**Tonsillectomy**

How should a child be positioned after a tonsillectomy?

After a tonsillectomy, why are brown colored or red fluids not given?

-We don’t want anything to get confused with ____________

After a tonsillectomy, what would indicate that hemorrhage is occurring?

-Frequent __________

How many days after a tonsillectomy is a child at risk for hemorrhage?

Common complaints after a tonsillectomy?
**Otitis Media**

What part of the ear is affected with otitis media?

What is blocked with otitis media? Eustachian ______________

Otitis media usually follows a what?

What will the tympanic membrane look like with otitis media?

Can hearing loss occur with otitis media?

Do heating pads help the pain?

Treatment for otitis media:
- Avoid chewing
- Lie on affected side

Prevention:
- Sit up for feedings
- Gentle nose blowing

- Upper respiratory Infection?
- play “blowing” games to keep middle ear clear
- No smoke

- May not can hear you

- Ear plugs when patient has tubes
- Not an emergency if grommet (tube) falls out

What are PE tubes?

How long to tympanotomy tubes stay in place?

Why are peanuts so dangerous when aspirated?

Often the mentally challenged child will deliberately do things to displease the parents? Why?

When giving IM injections, why is the dorsogluteal muscle contraindicated in children who have not been walking for at least a year?

When an infant has had a perineal surgery, what position would you place them in post-op? Prone is contraindicated.

An infant has just had an inguinal hernia repair. What is the major problem post-op and how can it be prevented?
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## Age Characteristics of Play

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<th>Stage</th>
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| **Exploratory Stage**  | **Age:** Approximately 3 to 12 months | **Activities:** Grasping, holding, and examining articles  
Exploration via creeping or crawling |
| **Toy Stage**          | **Age:** 1 to 7 or 8 years | **Activities:** Imitating adult behavior with replicas of adult tools |
| **Play Stage**         | **Age:** 8 to 12 years | **Activities:** Interest in toys diminishes  
Interest in games, sports, and hobbies increases |
| **Daydreaming Stage**  | **Age:** Characteristic of older children and pubescents | **Activities:** Playing the martyr misunderstood and mistreated mistreated by everyone or the hero or beauty admired by everyone |
The purpose of this disc is to provide you information on management and delegation question. I wanted you to have an idea of what was meant by management and delegation. It’s not just “making assignments”. On your test you may get several types of questions. After the completion of my class you probably HOPE you get a question on an electrolyte or on acid-base balance. Odds are if you know my content REAL WELL you probably won’t get many questions at all on clinical content. Please read that statement again! If you know my core content real well the level of difficulty on your test is going to go through the roof. Guess what? That’s what we want. I know….I know….you want to study my content and ALL of your questions come straight from that pink packet. NOT GONNA HAPPEN! The test will always go HIGHER than what you know. The computer will sense you know the core content and then move higher.

With Computer Adaptive Testing, your NCLEX, the computer is going to sense you know my content(core NCLEX content) if you have truly studied the way I have told you to study. Remember, just because you have studied 98 hours for this test does not mean you have studied the right way. You better recall the WAY I said to cover the content (know why….know every page of my packet…. be able to talk out the information….can You lecture on CHF?). Now, back to what I was saying. The computer is going to sense if you know the core content. If you do then the computer is going to go into a different kind of content. You’ll start getting things that make you say….I’ve never even heard of this, I’ve never thought about being a case manager, how can I be the house supervisor?, triaging in a natural disaster….No not me….I  want a Potassium question, a diabetes question….anything but this!!!!!

Let me re-emphasize….if you have studied properly this is EXACTLY what is going to happen to you. You must know this in advance so you can keep your cool when you get into wild content that you’ve never thought of before. You must tell yourself….I’m doing something right or I wouldn’t be here right now. Please don’t be one of those people who come out of the test and say “Nothing we learned in school was on that test”….Then get a license in the mail and not understand how you got it.

So I will say it one final time….You are going to study my core content just like I told you to (I hope and pray)….You are going to go into the test hoping for a question out of the packet…..You may get a few, but then the test is going to change….Then you’re going to say….What is this? This wasn’t in my packet….This wasn’t even in nursing school….At this point you can lose your train of thought and become Mr. and Mrs. Negative Sorry Test Taker….or you can say okay, this is exactly what Marlene said was going to happen (I just didn’t know it was going to be this bad)….I’m going to buckle down, concentrate, and KNOW I am in high level content. I’m going to stay cool and confident….even if this test goes all the way to 265!! I know I can pass this test because I
have studied properly! I’m supposed to feel horrible when I’m taking THIS test!
Everybody in the country feels horrible when they are taking this test! I can miss a lot of
these questions and still pass because this test is not graded like my tests in nursing
school were! Now that I’m in this high level content, even if I miss one, the computer
will give me something I CAN handle, but it’s going to go right back up again! I’LL
NOT BE INTIMIDATED BY THE TEST!!!!

Now then. I feel as if I have just preached a sermon! Now I want to talk to you about test-
taking strategies. First things first….You do not need a strategy if you truly know your
content. You only need to use a test-taking strategy if you have no idea about the
question or if you have narrowed it down to two answers and can’t figure out which one
to select.

Remember, there probably won’t be one question you answer and say, “I KNOW I GOT
THAT ONE RIGHT!!” That’s okay. This test is different.

★★ Remember the issue the question is really asking about may not be the patient’s
diagnosis. Is this a hypoglycemia question?….Is this a shock question?

★★ With every question that you can, try to figure out what you are supposed to be
“worried” about.

Imagine yourself in the clinical situation. This is why when I’m answering questions I
always say, “I’m taking care of a patient” etc.,etc., This forces me to be in the picture.

Remember, you are a brand new nurse….Don’t try to perform surgery or put in chest
tubes.

Be careful with “Call the Doctor”. Sometimes, this is the ONLY thing you can do, but if
there is something there you can do that will help your patient and possibly save his life
or limb or vision…..DO IT!

When you narrow the answers down to two….pick the answer that is more life
threatening (i.e. Review lab work or Plan measures to deal with arrhythmias) Go for the
arrhythmias, but only if arrhythmias are applicable to the situation at hand. If your
answering a gout question, forget arrhythmias, because it just doesn’t fir!

When trying to figure out which patient to see first, always go for the more acute,
unstable or complex. Now let’s get real….all 4 patients are going to seem acute, unstable
and complex! This is when you need to settle down and concentrate. Remember, a patient
can have a serious disease like COPD and be stable.

When I say “complex” I mean a patient that has lot going on. This can be tricky because
a complex patient does not have to be unstable. They can be complex and stable. For
example, a 36 year old female, single mother, who has been discharged home after a right
mastectomy. This patient has lots of physiological problems and psychosocial problems
too, but they are stable….but they are also complex. If you have to pick between an unstable patient and a complex patient…go see the unstable patient first.

Pain never killed anybody. I know that sounds mean, but here’s what I mean. First of all, pain CAN be an indicator that something else is going on. But be careful. The people who write the test think you are going to jump to the patient in pain FIRST every time. We do take pain seriously, but beware, there could be something there that is an indicator of something more acute, more complex, more life threatening. Most of the time, Pain, on this test is psychosocial, not physiological. Your teacher told you to deal with physiological needs first.

Remember Maslowe.

Airway isn’t always right. If I’m having a kidney stone, my airway is fine (unless you’ve given me a lot of pain med).

For an answer to be an “airway” question, it doesn’t have to say the word “airway”. They could say laryngospasm, inhalation injury, etc. Be flexible.

Be flexible with what you know. If you have learned in school “halos around lights” beware. They know everyone has memorized “halos” for digoxin. So be ready to be flexible. Maybe the answer you get is “blurred vision”. Maybe you have learned “suppressed immune system”…..they may say “altered white count”.

If you IMMEDIATELY jump on an answer….watch out….If it’s that obvious be careful. There could be something MORE IMPORTANT. Now don’t go and change your answer every time you think you know it….I just said to be careful!

Don’t forget on this test to pretend you are in an ideal situation every time. Do not let yourself start thinking back to the hospital where you did your clinical. For example, if there is an answer that says “stay with the patient until the family arrives” and you think this is the perfect answer….stick to it. Do not let yourself say things like, “well, that’s unrealistic….I can’t just stay with one patient”. Remember we are pretending we can do any of the answers listed before you.

Stay away for meds <especially invasive meds-> (suppositories, injections), wheelchairs and restraints as long as you can. When you look at an answer don’t say things like….I’ve never seen anybody do that before…..I’ve never even read that in a book anywhere. If there is an answer that is safe for the patient (and just might work even though it’s probably a long shot) no matter how gooby it sounds, pick it! Now if it’s just not applicable at all…. forget it. Example: Have a Parkinson’s patient practice pretending like he is lifting his feet up over imaginary lines….you may not have ever read this is a book, but it actually makes sense as it will force the patient to pick up his feel and therefore decrease his chance of falls. Now if it said have Parkinson’s patient balance on a Reebok Core Board 30 seconds with increasing increments daily to improve balance.
Nadda! I don’t think so. Yes, this might increase coordination and balance, but it sounds pretty risky to me.

When given choices that are pharmacologically based or non-pharmacologically based, choose the non-pharmacological intervention first. It is more often then not, the correct answer. Now if I’m having chest pain don’t try a back massage first.

Choose the different answer. If 3 of the 4 answers basically say the same thing, go for the one that is different.

Every question has everything you need (right there in front of you) to answer the question.

Assume every department in the hospital is open even if it is 3:00am!

Remain calm if a question focuses on an unfamiliar topic. Try to recall clients with problems similar to those in the question. Determine the nursing principles involved in your client’s care and how they may apply to the test question. This may help you eliminate some options and increase your chances of choosing the right answer.

Do not rush through the test. Only you can control how well you read a question. If you are nervous you may tend to read fast and miss key words. You have a total of 5 hours to take the test. I think this will be plenty of time!

Take the breaks when they give you one. You may think “I’m on a roll, I don’t want to stop!” You need to take a break. Go outside and do some jumping jacks. You’ll be amazed how a short burst of physical exertion/exercise will affect you thinking!

When two options are very similar, neither can be the correct answer. (A. Increased peripheral resistance B. Hypertension)

May, sometimes, often, at least….called imprecise expressions….can make an answer correct.

Assessment always take priority over implementation. What I mean is this…..Before you select an “implementation” (nursing action) answer you need to make sure an assessment has been done. If you had a question that said the nurse discovers a patient has a fracture to the right femur, it would be appropriate to select an implementation answer such as “immobilize the extremity”. Why? Because for the nurse to know there was a fracture present, he/she had to have already completed an assessment.

Other pointers:

Schedule your test at a time that is good for YOU. If you are not a morning person, do not make your appointment for 8:00am. I would not encourage you to schedule the test for late afternoon. What if you go for 5 hours. 9:30-10:00 is the perfect time in my
opinion. Don’t forget to put some snacks in your car (cokes, peanut butter crackers). Plan on staying the full 5 hours.

Don’t forget your “Authorization to Test” and 2 forms of identification, including one photo i.d.

Know your normals….do you know your normal vital signs (baby, adult). Do you know normal lab work….do you know normal physical assessment….do you know normal growth and development. These are quickie things you can put on flash cards. Just the act of writing the flash cards with a bright pen commits that information to your long term memory. I know a student who wrote all the normals she could think of on 3x5 cards and taped them up all over the house and even in her car. She still remembers that info to this day. It took her one whole day to write all of this up, but it was well worth it! Do it!

Don’t think you can OVER STUDY!!! I love it when students say this. “I just studied too much”. I’m afraid not. When you are studying you need to take breaks….active breaks. You should have already planned out your study time. If you don’t stick to your plan you are not doing everything you can to be successful.

Don’t get a false reassurance! I went to nursing school and did pretty good. I think I have a pretty good foundation. Our tests at school were real hard. I’m just gonna wing it! I’m a great test-taker. Hey, I’m just good all the way around!….GET READY TO GET HUMBLED if this is your thought process.
Cancer Pain Medication

**meperidine hydrochloride**

**Trade Name(s):**
Demerol, Mepergan Fortis

**Type of Drug:**
Meperidine hydrochloride is a synthetic opioid analgesic, similar to morphine.

**How Drug Works:**
Meperidine hydrochloride relieves moderate to severe acute pain. It binds to opioid receptors in the brain and central nervous system (CNS), altering the perception of pain as well as the emotional response to pain.

**How Drug Is Given:**
Meperidine hydrochloride can be given by an injection in a vein, in the muscle, or under the skin. It can also be given as a pill by mouth. The dose depends on the reason the medicine is being given and how well your pain goes away with the dose.

**How Should I Take This Drug?**
Take this drug exactly as directed by your doctor. If you do not understand the instructions, ask your doctor or nurse to explain them to you.

*Read the following information. If you do not understand it or if any of it causes you special concern, check with your doctor.*

*Before taking this drug, tell your doctor if you are taking any other prescription or over-the-counter drugs, including vitamins and herbals.*

**Should I avoid any other medications, foods, alcohol, and/or activities?**
Your prescription and nonprescription medications may interact with other drugs, causing a harmful effect. Certain foods or alcohol can also interact with drug products. Never begin taking a new medication, prescription or nonprescription, without asking your doctor or nurse if it will interact with alcohol, foods or other medications. Some drug products can cause drowsiness and may affect activities such as driving.

**Precautions:**
Take the smallest effective dose to prevent development of tolerance (larger doses needed to give the same effect) as well as physical
dependence (body goes into withdrawal if drug is suddenly stopped). This is different from addiction, which is psychological dependence (take drug for psychological effect, not for relief of pain). Tell your doctor or nurse if you still are in pain even though you are taking the medicine as directed.

Since meperidine hydrochloride affects the central nervous system (CNS), it is important not to take other drugs or substances that are known CNS depressants such as alcohol, sedatives, and hypnotics.

Acetaminophen or aspirin may be combined with meperidine hydrochloride to increase pain relief.

You should be on a bowel regimen to prevent constipation while you are taking opioid pain relievers. Talk to your nurse or doctor about this.

Meperidine hydrochloride is used to relieve acute pain, such as postoperative pain. It should not be used to manage chronic pain related to cancer. The pain relief is short acting, and frequent use can cause dangerous side effects.

Tell all the doctors, dentists, and pharmacists you visit that you are taking this drug.

- Most of the following side effects probably will not occur.
- Your doctor or nurse will want to discuss specific care instructions with you.
- They can help you understand these side effects and help you deal with them.

Side Effects:

More Common Side Effects:

- Constipation
- Drowsiness
- Sedation
- Nausea
- Vomiting
- Dizziness
- Dry mouth

Less Common Side Effects:

- Changes in mood
- Euphoria
- Mental clouding
- Decreased breathing rate
- Decreased blood pressure when changing position
- Delayed digestion
- Decreased heart rate

**Rare Side Effects:**

- Difficulty urinating
- Seizures
- Decreased sexual interest
- Impotence

**Side Effects/Symptoms of the Drug:**

Drink fluids (8 oz every hour in sips) to prevent constipation. Also, try to eat foods high in fiber such as bran, fruits, and vegetables. You may need to take a stool softener, bulk-forming agent, and/or laxative to help keep your bowel movements regular.

Call your doctor or nurse right away if you have not moved your bowels in 2 days.

 Abruptly stopping the drug can cause anxiety, dizziness, nausea and vomiting, and tiredness. The drug should be gradually stopped.

Other side effects not listed above can also occur in some patients. **Tell your doctor or nurse if you develop any problems.**

**FDA Approval:**

Yes
fentanyl transdermal system

**Trade Name(s):**
Duragesic

**Type of Drug:**
Fentanyl transdermal system is an opioid analgesic.

**How Drug Works:**
Fentanyl transdermal system relieves moderate to severe pain. Fentanyl binds to opioid receptors in the brain and central nervous system, altering the perception of pain as well as the emotional response to pain. Fentanyl transdermal system is a patch. The patch is placed on the skin, and the drug is absorbed through the skin.

**How Drug Is Given:**
Fentanyl transdermal system is a patch that has the medicine inside it. When you first start the patch, you will not feel its effect for 17 to 20 hours, so you need to take other pain medicine until the patch starts working. The patch is put firmly on the skin. First, find a good place on your body to put the patch; it should be clean, flat, and without any skin injury, bumps, etc. The best sites to apply the patch are on the chest below the collar bones, on your back, or on the tops of your arms. Choose sites that will not bend or wrinkle a lot. Avoid skin that is irritated or has been radiated. You can clip any of the hair at the site but do not shave it. Then, press the patch firmly to the skin, and keep the palm of your hand pressed on the patch for at least 30 to 60 seconds. Make sure that all the edges stick to your skin. Some people like to tape the patch to the skin with paper tape or put a film dressing over it. If it is very hot and you sweat a lot, you may need to use a sticky solution like Skin Prep or benzoin. Ask your nurse or doctor about this. Write the date and time on the white sticker that comes with the patch. When you shower, you can cover the patch with plastic wrap lightly taped over it, or you may not have to use anything. The patch should be left on for 3 days. Try to change the patch at about the same time of the day. Sometimes, especially if you have high fevers, you may need to change the patch every 2 days. When you remove the old patch, gently pull it off the skin and then fold it in half back on itself. Flush it down the toilet in case there is some drug left in it. Keep the box of unopened patches in a safe place and out of the reach of children or pets. The dose depends on how much opioid medicine you needed before to control your pain. If you did not get good control with the other medicine, the patch dose should be higher than the pill dose; the right dose is the dose that controls your pain.
How Should I Take This Drug?
Take this drug exactly as directed by your doctor. If you do not understand these instructions, ask your doctor or nurse to explain them to you.

Read the following information. If you do not understand it or if any of it causes you special concern, check with your doctor.

Before taking this drug, tell your doctor if you are taking any other prescription or over-the-counter drugs, including vitamins and herbals.

Should I avoid any other medications, foods, alcohol, and/or activities?
Your prescription and nonprescription medications may interact with other drugs, causing a harmful effect. Certain foods or alcohol can also interact with drug products. Never begin taking a new medication, prescription or nonprescription, without asking your doctor or nurse if it will interact with alcohol, foods or other medications. Some drug products can cause drowsiness and may affect activities such as driving.

Precautions:
If you have never taken opioid pain relievers before, your doctor will start you at the lowest dose. Keep a record of the pain relievers you are taking so that you can show it to your doctor or nurse. This will help in determining the best dosage for you.

Since fentanyl transdermal system affects the central nervous system (CNS), it is important not to take other drugs or substances that are known CNS depressants such as alcohol, sedatives, and hypnotics.

You should be on a bowel regimen to prevent constipation while you are taking opioid pain relievers. Talk to your nurse or doctor about this.

Acetaminophen or aspirin may be combined with fentanyl transdermal system to increase the pain relief action.

Take the smallest effective dose to prevent development of tolerance and physical dependence. Tolerance can develop (larger doses are needed to give the same effect) as well as physical dependence (body goes into withdrawal if drug is suddenly stopped). This is different from addiction, which is psychological dependence (taking drug for psychological effect, not for relief of pain). Tell your doctor or nurse if you still have pain even though you are taking the medicine as
Tell all the doctors, dentists, and pharmacists you visit that you are taking this drug.

- Most of the following side effects probably will not occur.
- Your doctor or nurse will want to discuss specific care instructions with you.
- They can help you understand these side effects and help you deal with them.

Side Effects:

**More Common Side Effects:**
- Sleepiness
- Constipation
- Dizziness
- Nausea

**Less Common Side Effects:**
- Difficulty breathing
- Confusion
- Tremors
- Euphoria
- Vomiting
- Decreased blood pressure when changing positions
- Difficulty urinating
- Decreased breathing rate
- Depression
- Lack of coordination
- Difficulty speaking
- Chest pain
- Sweating
- Rash
- Itching
Rare Side Effects:

- Blood–tinged sputum
- Hiccups
- Hallucinations
- Sore throat
- Asthma
- Headache

Side Effects/Symptoms of the Drug:
Tell your doctor or nurse right away if you have any difficulty breathing, in passing your urine, or walking. Report any other problems.

Tell your doctor or nurse if you have skin problems where you apply the patch. They will tell you ways to prevent this.

Other side effects not listed above can also occur in some patients. Tell your doctor or nurse if you develop any problems.
FDA Approval:
Yes

Hydromorphone

Trade Name(s):
Dilaudid

Type of Drug:
Hydromorphone is an opioid analgesic.

How Drug Works:
Hydromorphone relieves moderate to severe pain and is similar to morphine. It binds to opioid receptors in the brain and central nervous system (CNS), altering the perception of pain as well as the emotional response to pain.

How Drug Is Given:
Hydromorphone is given in a number of ways. It can be given by mouth as a pill or a liquid. As an injection, it is given under the skin or in a vein as a short infusion or a continuous infusion with extra medicine that you can take when needed (patient controlled analgesia or PCA). It can also be given as a rectal suppository. Take the pill or liquid with a full glass of water, with or without food. Make sure to shake the liquid before pouring the dose. When taking a suppository, open the package and dip the tip in water. If you are right-handed, lie down on your left side, bring your knees up near your chest, and insert the suppository in your rectum about an inch. Stay in this position for about 15 minutes, then get up and wash your hands well. The dose depends on how well the medicine controls your pain. The medicine will cause constipation, so make sure you take a laxative regularly to prevent this. Keep the medicine in a tightly closed container away from heat and moisture and out of the reach of children and pets.

How Should I Take This Drug?
Take this drug exactly as directed by your doctor. If you do not understand the instructions, ask your doctor or nurse to explain them to you.

Read the following information. If you do not understand it or if any of it causes you special concern, check with your doctor.

Before taking this drug, tell your doctor if you are taking any other prescription or over-the-counter drugs, including vitamins and herbals.

Should I avoid any other medications, foods, alcohol, and/or
activities?
Your prescription and nonprescription medications may interact with other drugs, causing a harmful effect. Certain foods or alcohol can also interact with drug products. Never begin taking a new medication, prescription or nonprescription, without asking your doctor or nurse if it will interact with alcohol, foods or other medications. Some drug products can cause drowsiness and may affect activities such as driving.

Precautions:
Take the smallest effective dose to prevent development of tolerance and physical dependence. Tolerance (larger doses needed to give the same effect) can develop as well as physical dependence (body goes into withdrawal if drug is suddenly stopped). This is different from addiction, which is psychological dependence (take drug for psychological effect, not for relief of pain). Tell your doctor or nurse if you still have pain even though you are taking the medicine as directed.

Since hydromorphone affects the central nervous system, it is important not to take other drugs or substances that are known CNS depressants such as alcohol, sedatives, and hypnotics.

Acetaminophen or aspirin may be combined with hydromorphone to increase the pain relief action.

You should be on a bowel regimen to prevent constipation while you are taking opioid pain relievers. Talk to your nurse or doctor about this.

Tell all the doctors, dentists, and pharmacists you visit that you are taking this drug.

- Most of the following side effects probably will not occur.
- Your doctor or nurse will want to discuss specific care instructions with you.
- They can help you understand these side effects and help you deal with them.

Side Effects:

More Common Side Effects:

- Constipation
- Drowsiness
- Sedation
- Dizziness
- Nausea
- Dry mouth
**Less Common Side Effects:**

- Mood changes
- Euphoria
- Mental clouding
- Decreased breathing rate
- Vomiting
- Delayed digestion
- Decreased blood pressure when changing position
- Decreased heart rate

**Rare Side Effects:**

- Small pupils in the eyes
- Seizures
- Difficulty urinating
- Decreased sexual interest
- Impotence
- Bowel rupture due to constipation

**Side Effects/Symptoms of the Drug:**

Drink fluids (8 oz every hour in sips) to prevent constipation. Also, try to eat foods high in fiber such as bran. You may need to take a stool softener, bulk-forming agent, and/or laxative to help keep your bowel movements regular.

Call your doctor or nurse right away if you have not moved your bowels in 2 days.

Abruptly stopping the drug can cause anxiety, dizziness, nausea and vomiting, and tiredness. The drug should be gradually discontinued.
oxycodone

Trade Name(s):
Endodan, Oxycontin, Percocet, Percodan, Roxiprin

Type of Drug:
Oxycodone is a synthetic opioid analgesic, similar to morphine.

How Drug Works:
Oxycodone relieves moderate to moderately severe pain. It binds to opioid receptors in the brain and central nervous system (CNS), altering the perception of pain as well as the emotional response to it. It also suppresses the cough reflex.

How Drug Is Given:
Oxycodone comes in a number of preparations to take by mouth. Oxycodone by itself is an immediate-release pill that lasts 3 to 4 hours. Sustained-release pills (like Oxycontin) are taken every 12 hours. Try to drink an 8 oz glass of water or fluid every hour to help prevent constipation. You should take a laxative so that you move your bowels at least every other day. The dose depends on how much is needed to control your pain. Keep the medicine in a tightly closed container away from heat and moisture and out of the reach of children and pets.

How Should I Take This Drug?
Take this drug exactly as directed by your doctor. If you do not understand the instructions, ask your doctor or nurse to explain them to you.

Read the following information. If you do not understand it or if any of it causes you special concern, check with your doctor.

Before taking this drug, tell your doctor if you are taking any other prescription or over-the-counter drugs, including vitamins and herbals.

Should I avoid any other medications, foods, alcohol, and/or activities?
Your prescription and nonprescription medications may interact with other drugs, causing a harmful effect. Certain foods or alcohol can also interact with drug products. Never begin taking a new medication, prescription or nonprescription, without asking your doctor or nurse if it will interact with alcohol, foods or other medications. Some drug products can cause drowsiness and may affect activities such as driving.

Precautions:
Take the smallest effective dose to prevent development of tolerance and physical dependence. Tolerance (larger doses needed to give the same effect) can develop as well as physical dependence (body goes into withdrawal if drug is suddenly stopped). This is different from addiction, which is psychological dependence (take drug for psychological effect, not for relief of pain). Tell your doctor or nurse if you still have pain even though you are taking the medicine as directed.

Since oxycodone affects the central nervous system (CNS), it is important not to take other drugs or substances that are known CNS depressants such as alcohol, sedatives, and hypnotics.

Acetaminophen or aspirin may be combined with oxycodone to increase the pain relief action.
You should be on a bowel regimen to prevent constipation while you are taking opioid pain relievers. Talk to your nurse or doctor about this.

Tell all the doctors, dentists, and pharmacists you visit that you are taking this drug.

- Most of the following side effects probably will not occur.
- Your doctor or nurse will want to discuss specific care instructions with you.
- They can help you understand these side effects and help you deal with them.

Side Effects:

More Common Side Effects:

- Constipation
- Drowsiness
- Sedation
- Nausea
- Dizziness
- Dry mouth

Less Common Side Effects:

- Vomiting
- Changes in mood
- Euphoria
- Depression
- Confusion
- Decreased breathing rate
- Decreased blood pressure when changing position
- Delayed digestion
- Decreased heart rate

Rare Side Effects:

- Difficulty urinating
- Decreased sexual interest
- Impotence
**Side Effects/Symptoms of the Drug:**
Drink fluids (8 oz every hour in sips) to prevent constipation. Also, try to eat foods high in fiber such as bran, fruits, and vegetables. You may need to take a stool softener, bulk-forming agent, and/or laxative to help keep your bowel movements regular.

Call your doctor or nurse right away if you have not moved your bowels in 2 days.

Abruptly stopping the drug can cause anxiety, dizziness, nausea and vomiting, and tiredness. The drug should be gradually discontinued.

Other side effects not listed above can also occur in some patients. **Tell your doctor or nurse if you develop any problems.**

**FDA Approval:**
Yes
Common Side Effects for Herbal Medication

**Asian Ginseng**

When taken by mouth, ginseng is usually well tolerated. Some sources suggest that its use be limited to 3 months because of concerns about the development of side effects.

The most common side effects are headaches and sleep and gastrointestinal problems.

Ginseng can cause allergic reactions.

There have been reports of breast tenderness, menstrual irregularities, and high blood pressure associated with ginseng products, but these products' components were not analyzed, so effects may have been due to another herb or drug in the product.

Ginseng may lower levels of blood sugar; this effect may be seen more in people with diabetes. Therefore, people with diabetes should use extra caution with Asian ginseng, especially if they are using medicines to lower blood sugar or taking other herbs, such as bitter melon and fenugreek, that are also thought to lower blood sugar.

It is important to inform your health care providers about any herb or dietary supplement you are using, including Asian ginseng. This helps to ensure safe and coordinated care.
Black Cohosh

Black cohosh can cause headaches and stomach discomfort. In clinical trials comparing the effects of the herb and those of estrogens, a low number of side effects were reported, such as headaches, gastric complaints, heaviness in the legs, and weight problems.

No interactions have been reported between black cohosh and prescription medicines.

Black cohosh has recently been linked to a few cases of hepatitis (inflammation of the liver), but it is not clear whether black cohosh caused the problem.

It is not clear if black cohosh is safe for women who have had breast cancer or for pregnant women.

Black cohosh should not be confused with blue cohosh (*Caulophyllum thalictroides*), which has different properties, treatment uses, and side effects than black cohosh. Black cohosh is sometimes used with blue cohosh to stimulate labor, but this therapy has caused adverse effects in newborns, which appear to be due to blue cohosh.

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Echinacea

When taken by mouth, echinacea usually does not cause side effects. However, some people experience allergic reactions, including rashes, increased asthma, and anaphylaxis (a life-threatening allergic reaction). In clinical trials, gastrointestinal side effects were most common.

People are more likely to experience allergic reactions to echinacea if they are allergic to related plants in the daisy family, which includes ragweed, chrysanthemums, marigolds, and daisies. Also, people with asthma or atopy (a genetic tendency toward allergic reactions) may be more likely to have an allergic reaction when taking echinacea.

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St. John's wort

St. John's wort may cause increased sensitivity to sunlight. Other side effects can include anxiety, dry mouth, dizziness, gastrointestinal symptoms, fatigue, headache, or sexual dysfunction.

Research shows that St. John's wort interacts with some drugs. The herb affects the way the body processes or breaks down many drugs; in some cases, it may speed or slow a drug's breakdown. Drugs that can be affected include:

- Indinavir and possibly other drugs used to control HIV infection
- Irinotecan and possibly other drugs used to treat cancer
- Cyclosporine, which prevents the body from rejecting transplanted organs
- Digoxin, which strengthens heart muscle contractions
- Warfarin and related anticoagulants
- Birth control pills
- Antidepressants

When combined with certain antidepressants, St. John's wort may increase side effects such as nausea, anxiety, headache, and confusion.

St. John's wort is not a proven therapy for depression. If depression is not adequately treated, it can become severe. Anyone who may have depression should see a health care provider. There are effective proven therapies available. It is important to inform your health care providers about any herb or dietary supplement you are using, including St. John's wort. This helps to ensure safe and coordinated care.
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A GREAT WAY TO REMEMBER THE

12 CRANIAL NERVES

“On Old Olympus Towering Tops A French And German Viewed Some Hops!!”

- Olfactory nerves (Cranial Nerve I)
- Optic nerve (Cranial Nerve II)
- Oculomotor nerve (Cranial Nerve III)
- Trochlear nerve (Cranial Nerve IV)
- Trigeminal nerve (Cranial Nerve V)
- Abducens nerve (Cranial Nerve VI)
- Facial nerve (Cranial Nerve VII)
- Vestibulocochlear nerve (Cranial Nerve VIII)
- Glossopharyngeal nerve (Cranial Nerve IX)
- Vagus nerve (Cranial Nerve X)
- Accessory nerve (Cranial Nerve XI)
- Hypoglossal nerve (Cranial Nerve XII)
Fluid & Electrolyte and Acid/ Base Questions

1. Evaluation of successful resolution of a fluid volume deficit may be demonstrated by which of the following?

1. The patient demonstrates an absence of postural hypotension and tachycardia
2. The patient adheres to prescribed dietary sodium restrictions
3. The patient maintains weight loss
4. The patient maintains a serum Na above 145 mEq

Rationale:
*1. When you are in a fluid volume deficit your blood pressure goes down and pulse goes up.
2. Who needs to adhere to dietary sodium restrictions? People who are in fluid volume excess.
3. When I have lost a lot of volume, my weight goes down, so if I am better, my weight should go up.
4. If your serum sodium is above 145, hypernatremia is the same thing as dehydration, so this means that you are still sick.

2. Ms. Stone is admitted with a serum magnesium deficit. Assessment reveals a positive Trousseau’s and Chvostek’s signs. Which of the following nursing diagnosis would be most appropriate?

1. High risk for injury R/T increased neuromuscular irritability
2. High risk for injury R/T fractures secondary to loss of calcium
3. Fluid volume deficit R/T dehydration
4. Activity intolerance R/T skeletal muscle weakness

Rationale:
*1. When you are in a magnesium deficit your muscles are rigid and tight and you might just go ahead and have a seizure.
2. What does calcium have to do with it? Nothing.
3. What does fluid volume deficit have to do with it? Nothing.
4. Muscle weakness goes with hypermagnesaemia; this is talking about hypormagnesaemia.
Ms. Fair is a 77 year old female. Her husband reports that she has had a poor appetite over the past two weeks, with occasional nausea and vomiting. When placed on a cardiac monitor various abnormal heart beats are noted. Based on this data, the nurse would suspect that Ms. Fair is experiencing.

1. Hyponatremia
2. Hypermagnesemia
3. Hypercalcemia
4. Hypokalemia

**Rationale:**

1.
2.
3. *4. The clues are poor appetite, vomiting, heart all of those things only point to one electrolyte and what’s the electrolyte? Potassium.*

The nurse is caring for a thoracotomy client, one day post operative on 40% humidified oxygen. ABG results are: PO2=90, PCO2=49, pH=7.30, HCO3=26. Based on this information, which of the following nursing actions would be best?

1. Position in high fowlers and encourage coughing, deep breathing, evaluate airway patency
2. Place in prone position and request respiratory therapy to perform postural drainage and percussion therapy
3. Call the doctor and advise him of the ABGs; anticipate increase in oxygen percentage
4. Administer anti-anxiety agent and assist the client with a rebreathing device to increase oxygen levels

**Rationale:**

*1. If you had just had a thoracotomy would you be taking nice big deep breaths? No. So what would you be retaining? CO2 which makes your PCO2 go up which makes your pH go down. I’m acidotic aren’t I? These are not emergency ABGs.
2. What are they going to think about you if select #2. Freak.
3. There’s nothing wrong with calling the doctor and letting him know about the ABG’s but the last part is just wrong. How is oxygen going to help this patient? It’s not until they get rid of the what? CO2. And the only way to rid of the CO2 is, coughing and deep breathing.
4. What are they going to say about you if you select #4? You’re a killer. Don’t give her a license, because if you give them an anti-anxiety agent what’s going to happen to the respiratory rate, decrease, and they are going to retain even more CO2 and you’ve just made it worse.*
5. It is 0600 and a client is scheduled for a cardiac catheterization at 0800. Laboratory work completed five days ago showed: K 3.0 mEq/L, Na 148 mEq/L, glucose 178 mg/dL. He complains of muscle weakness and cramps. Which nursing action should be implemented at this time?

1. Hold 0700 dose of spironolactone (Aldactone)
2. Encourage eating bananas for breakfast
3. Call the physician to suggest a stat K level
4. Call for a twelve lead ECG

**Rationale:**
1. They need that because it is going to help them retain potassium.
2. You are telling them you are going to feed them. They are NPO for heart cath. Dumb Answer.
*3. Since it is a heart cath what electrolyte am I most concerned about, potassium. This lab work was done five days ago and today my patient is having muscle weakness and cramps well if it was 3.0 five days ago and they’re having those kind of symptoms today, I’ll bet it’s even lower. If you send a patient like that to a heart cath could it kill them? Yes, so you don’t send them.*
4. A twelve lead EKG does not fix the problem. If the problems hypokalemia… pick an answer that fixes the problem. Even if you have the EKG—you are looking at it… it does not matter… since no one can read it! This will not help my patient.
Burns

6. A client is admitted to the ER with second and third degree burns to her anterior chest, both arms, and right leg. Priority information to determine at the time of admission would include which of the following?

1. Percentage of burned surface area
2. Amount of IV fluid necessary for fluid resuscitation
3. Any evidence of heat inhalation or airway problems
4. Circumstances surrounding the burn and contamination of the area

Rationale:
1.
2.
*3. All are important but priority with this scenario has to be airway. All are important, but the priority in the situation go back to ABCs.
4.

7. A family member of a client who has sustained an electrical burn states, “I don’t understand why he has been her a week, the burn doesn’t look that bad.” The nurse’s response would be based on which of the following?

1. Electrical burns are more prone to infections
2. Electrical burns are always much worse than they look on the outside
3. Cardiac monitoring is important since burns always affect cardiac function
4. Electrical burns can be deceptive as underlying tissue is damaged

Rationale:
1.
2.
3. Cardiac monitoring is no longer applicable because patient has been in hospital for a week and if you have an electrical injury how long are you at risk for arrhythmias, only the first 24 hours.
*4.

Don’t pick an answer that is TOO definite--- “always” and “never” are too definite

Words like “sometimes”, “maybe” and “kinda” are better words

Pick an answer that will give you some wiggle room
8. A client has severe second and third degree burns over 75 percent of his body. Which assessment finding indicates an early problem with shock?

1. Epigastric pain and seizures
2. Widening pulse pressure and bradycardia
3. Cool and clammy skin and tachypnea
4. Kussmaul respirations and lethargy

**Rationale:**
1. Is PIH.
2. Signs of late shock
3. These are signs and symptoms of early shock. This is not a burn questions. You have to look at the question and figure out what the subject. Remember when see words like “assessment” and “evaluation” think signs and symptoms
4. DKA.

9. During a first aid class, the nurse is instructing clients on the emergency care of second degree burns. Which of the following interventions for second degree burns of the chest and arms will best prevent infection?

1. Wash the burn with an antiseptic soap and water
2. Remove soiled clothing and wrap victim in a clean sheet
3. Leave blisters intact and apply an ointment
4. Do nothing until the victim arrives in a burn unit.

**Rationale:**
1. If you are out in the field are you going to get out some Dial soap and water? No.

2. If dirty clothes are around the wound you remove them and wrap in a clean sheet. I wish had said it was “sterile”, but there are no sterile in the field where you doing first aid stuff. Remove clothes if dirty since you are trying to prevent infection. But do not remove clothes that are burned into the skin—— if the patient is wearing his polyester suit that day and it melts into his wound.
3. The first part of this answer is right, you are going to leave blisters intact, but if you’re out in the field you aren’t going to get you some Neosporin out.
4. Do nothing is always wrong.
Oncology

10. To promote safety in the care of a client receiving internal radiation therapy the nurse would:

1. Restrict visitors who may have an upper respiratory infection
2. Assign only male care givers to the client
3. Plan nursing activities to decrease nurse exposure
4. Wear a lead lined apron whenever delivering client care

Rationale:
1. Happy you knew that patient was immunosuppressed. You are not going to sit outside the room and ask all visitors what infections they have… if you have a cold you can’t go in and if they have pneumonia you can go in to visit the patient. This is too limiting, you don’t just restrict upper respiratory infections, you restrict all infections.
2. This answer is just plain mean.
*3. You get your act together before you ever go into the room and hurry up and get out. You are trying to promote safety in general… which means safety for you and the patient.
4. You only have to wear lead lined apron when you know you are going to be in the room for a long period of time. “whenever” is the same as “always” in the answer.

11. Which of the following measures should the nurse take while a client has a radium implant for the treatment of uterine cancer?

1. Evaluate the position of the applicator every two hours
2. Place on a low residue diet to decrease bowel movements
3. Encourage the use of the bedside commode every 1-2 hours
4. Decrease fluid intake to decrease radiation in bladder

Rationale:
1. If person has uterine cancer the radium implant would be located in the uterus. You would not do a pelvic exam every two hours.
*2. You want them on a low fiber diet because if they eat too much fiber their bowel will distend and push out the implant. Because the implant is in your uterus and the bowel distension will push it out.
3. If patient gets up to the bedside commode implant could fall out. This is Satanic… Get up and let’s watch your implant fall out… NO we don’t want to do that here.
4. You don’t want to decrease fluids; you want to increase them.
12. A client with lung cancer and bone metastasis is grimacing and states, “I am a little uncomfortable, may I have something for pain?” Which of the following should the nurse do first before administering pain medication?

1. Check the chart to determine last medication
2. Encourage client to refocus on something pleasant
3. Notify doctor that medication is not working
4. Assess the severity and location of pain

**Rationale:**

1. If you have bone metastasis you do not feel like focusing on the deer in the woods by the brook. You want the morphine and you want it now.

3.* Bone metastasis is one of the worst kinds of pain, you would not hold off on the pain medicine. But in this question they are trying to make you feel the patient is not in a lot of pain. Also…. Always assess before doing an implementation. I know we have said to stay away from pain meds as long as you can… but would that be appropriate to stay away from pain meds here… NO. Pain is the focus of this question.

13. A client on chemotherapy has a WBC count of 1200 mm. Based on this data, which of the following nursing actions should the nurse take first?

1. Check temperature q4h
2. Monitor urine output
3. Assess for bleeding gums
4. Obtain an order for blood cultures

**Rationale:**

*1. Watch the temperature. First thing first…If temperature goes up then you order the blood cultures.

2. What does urine output have to do with infection? Nothing.
3. What do bleeding gums have to do with infection? Nothing.
4. Blood cultures should not be ordered unless temperature is elevated.

IF they wanted you to think they had an infection they would have put “new cough” or “green sputum”. This person is only immunosuppressed. We are worried about the low WBC count and infection. But just because this person has a low WBC does not mean they have an infection.
14. A client is admitted to the outpatient unit in the Cancer Center for his chemotherapy. He is lethargic, weak, pale. His WBC count is 3000. Which of the following nursing interventions would be most important for the nurse to implement?

1. Establish emotional support
2. Position for physical comfort
3. Maintain respiratory isolation
4. Hand washing prior to care

**Rationale:**
1.
2.
3. *4. You should be most worried about infection because white count is too low. Hand washing is the number one way to break the chain of infection. Only one answer has anything with infection.*

15. Which of the following properly stated nursing diagnoses would be a priority for a 65-year-old client immediately after her modified radical mastectomy and axillary dissection?

1. Anxiety related to the mastectomy
2. Skin integrity, impairment of, related to mastectomy
3. Alteration in comfort related to incisional pain
4. Self-care deficit related to dressing changes

**Rationale:**
1. You cannot use a medical diagnosis in a nursing diagnosis. (mastectomy is a medical dx)
2. You cannot use a medical diagnosis in a nursing diagnosis. (mastectomy is a medical dx)
*3. Patient is immediate post-op and will not feel well enough for self-care.*
4. You would help with dressing change for a while because patient will not feel well enough to do it.
16. A client had a radical mastectomy for cancer in her right breast. After she returns to your unit, which of the following would be the most appropriate for her?

1. Left side with right arm protected in a sling
2. Right side with right arm elevated
3. Semi-fowlers position with right arm elevated
4. Prone position with right arm elevated

**Rationale:**
1. 
2. 
*3. Right arm will be elevated because you are worried about edema.*
4. You are telling the patient to roll over on their abd so you can “jack up” their arm

17. A client with prostatic cancer is admitted to the hospital with neutropenia. Which signs and symptoms are most important for the nurse to report to the next shift?

1. Arthralgia and stiffness
2. Vertigo and headache
3. General malaise and anxiety
4. Temperature elevation and lethargy

**Rationale:**
1. 
2. 
3. 
*4. When patient has neutropenia you should be worried about infection.*

18. A 32-year-old male with acute lymphocytic leukemia (ALL) is admitted with shortness of breath, anemia, and tachycardia. Based on this nursing assessment, the most appropriately stated nursing diagnosis would be:

1. Altered protection, immunosuppression: Leukemia
2. Impaired gas exchange related to decreased RBCs
3. Potential for infection related to altered immune system
4. Potential injury to decreased platelets

**Rationale:**
1. 
*2. This is the only answer that deals with RBCs. Although with leukemia.. think immunosuppression and decreased WBC, RBC, and platelets. But in the stem of the questions it focuses on RBC b/c it says “anemia”*
3. 
4. This nursing assessment is focusing on platelets.
**Endocrine**

19. A patient is admitted with diabetic ketoacidosis. You note his respiratory rate to be 38. Considering his condition you are aware that this increased rate is a result of:

1. An effort by the body to compensate for respiratory acidosis
2. An effort by the body to remove excess acid from the body
3. An effort by the body to supply more oxygen to the depleted tissues
4. An effort by the body to conserve CO2

**Rationale:**
1. It is not a respiratory problem; it is metabolic.
2. The purpose is not to get more oxygen in, it is to get more CO2 out.
3. This will make patient more acidotic.—because you are conserving more CO2

20. The client is admitted with acute hypoparathyroidism. To maintain client safety, which item is most important to have available?

1. Tracheostomy set
2. Cardiac monitor
3. IV monitor
4. Heating pad

**Rationale:**
1. If applicable, airway always comes first. B/c remember hypoparathyroidism= hypocalcemia. Muscles are rigid and tight… could have and MI or a laryngospams.. yes, your patient could have both, but you have to go by your priority. ABC.. so airway comes first. So that is the Trach set. b/c that goes with airway
2. 
3. 
4.
21. To evaluate for the desired response of calcium gluconate in treating acute hypoparathyroidism the nurse would monitor the client most closely for:

1. Intake and output
2. Confusion
3. Tetany
4. Bone deformities

**Rationale:**
1.
2.
*3. This is the only muscle related answer. B/c remember hypoparathyroidism = hypocalcemia. So my patient is needs calcium. You have to look at my muscles to see if I am doing ok. But you are looking for the presents or the absents of the symptoms. We know that tetany is not the desired response… but it is the only muscles answer and again.. we are looking for the absents of the symptom.*
4.

22. Which symptom is most important for the nurse to report to the next shift about the client with hyperparathyroidism?

1. Abdominal discomfort
2. Hematuria
3. Muscle weakness
4. Diaphoresis

**Rationale:**
1.
*2. This is a new, different, and possible symptom that may accompany hyperparathyroidism. It goes with the disease. The patient could get kidney stones and hematuria. Remember hyperparathyroidism = Hypercalcemia.*
3. Muscle weakness is common with hyperparathyroidism. This will not help anything.
4.
23. The nurse would caution the client with hypothyroidism about avoiding:

   1. Warm environmental temperatures
   2. Narcotic sedatives
   3. Increased physical exercise
   4. Numbness and tingling of fingers

   **Rationale:**
   1. The patient needs warmth.
   2. Narcotics could kill someone with hypothyroidism. Because they are so tired and it will kill them. The patient needs #1 and #3. Narcotics will decrease the respiratory rate
   3. The patient needs more exercise.
   4. You can not warn someone not to let their fingers tingle.

24. In planning care for the client with hyperthyroidism, the nurse would anticipate the client to require:

   1. Extra blankets for warmth
   2. Ophthalmic drops on a regular basis
   3. Increased sensory stimulation
   4. Frequent low calorie snacks

   **Rationale:**
   1. Person with hyperthyroidism will not need extra blankets
   2. Patient will have exophthalmus and need eye drops.
   3. You can not warn someone not to let their fingers tingle.
   4. People who have hyperthyroidism need high calorie snacks, not low calorie.
25. The elderly client with hyperparathyroidism should be cautioned about:

1. Pathological fractures
2. Decreasing fluid intake
3. Tetany and tingling of fingers
4. Increasing physical activity

**Rationale:**
*1. If I have hyperparathyroidism my serum calcium is high and where did the calcium come from? Bones. When I’m old what kind of bones do I have? Brittle.*
*2. You do want them to increase fluids so they won’t get a kidney stone but a fracture is more life threatening to an elderly person.*

26. The nurse is aware that which of the following statements made by the client indicates a correct understanding of steroid therapy for Addison’s Disease?

1. “I’ll take the medicine in the morning because if I take it at night it might keep me awake.”
2. “I’ll take the same amount from now on.”
3. “I’ll increase my potassium by eating more bananas.”
4. I’ll be eating foods low in carbohydrates and salt.”

**Rationale:**
*1. Steroids, in some people, cause insomnia. This is the only answer it could be.*
*2. With steroids the dose is always changing.*
*3. When you have Addison’s Disease you retain potassium so you don’t need to be eating bananas. Patient is losing Na and H2O and retaining K+ since we do not have enough steroids. So this is the reason #3 is eliminated.*
*4. Addison’s Disease makes you lose sodium so you need to eat a diet high in salt. So this is the reason #4 is eliminated.*
27. Which nursing action has the highest priority in caring for the client with hypoparathyroidism?

1. Develop a teaching plan
2. Plan measures to deal with cardiac arrhythmias
3. Take measures to prevent a respiratory infection
4. Assess laboratory results

**Rationale:**

1. 
2. **Arrhythmias are the most life threatening.**
3. 
4. While you are checking lab work patient is having an arrhythmia. Although, you know what the Ca level is on your patient, but that did not fix the problem

28. A client is going to have a parathyroidectomy. Which of the following foods would the nurse discourage the client from eating?

1. Milk products
2. Green vegetables
3. Seafood
4. Poultry products

**Rationale:**

1. **If patient is going to have a parathyroidectomy this means they have hyperparathyroidism and serum calcium levels are high. So you do not need Ca**
2. Green vegetables have nothing to do with it.
3. they put seafood in there so you would think iodine
4. it is not applicable here….so don’t pick it

29. Which of the following types of foods would the nurse encourage the client with hypoparathyroidism to eat?

1. High phosphorus
2. High calcium
3. Low sodium
4. Low potassium

**Rationale:**

1. 
2. **Patient with hyperparathyroidism needs calcium.**
3. 
4. 
30. A client is admitted for a series of tests to verify the diagnosis of Cushing’s syndrome. Which of the following assessment findings would support this diagnosis?

1. Buffalo hump, hyperglycemia, and hyponatremia
2. Nervousness, tachycardia, and intolerance to heat
3. Lethargy, weight gain, and intolerance to cold
4. Irritability, moon face, and dry skin

**Rationale:**

*1.* This answer pertains to hyperthyroidism.
2. This answer pertains to hypothyroidism.
3. This answer pertains to Cushing’s syndrome.
4. If you have Cushing’s you have too many sex hormones so you have oily skin. NOT dry skin as listed in the answer.

31. One hour after receiving 7 units of regular insulin, the client presents with diaphoresis, pallor, and tachycardia. The priority nursing action would be:

1. Notify the doctor
2. Call the lab for a blood glucose level
3. Offer the client milk and crackers
4. Administer glucagon

**Rationale:**

1. This action would delay treatment.
2. This action would delay treatment. This one says you are not convinced they have a low blood sugar and so you are going to get some lab work…
*3. This would be less invasive than the glucagon; therefore you would do this first. Hypoglycemia is the only complication from insulin. You offer the milk first and then make him drink it... but don’t let him aspirate. Least invasive first.
4. Start with least invasive first.
32. A client was admitted for regulation of her insulin. She takes 15 units of Humulin insulin at 8:00 a.m. every day. At 4:00 p.m., which of the following nursing observations would indicate a complication from the insulin?

1. Acetone odor to the breath, polyuria, and flushed skin  
2. Irritable, tachycardia, and diaphoresis  
3. Headache, nervousness, and polydipsia  
4. Tenseness, tachycardia, and anorexia

**Rationale:**
1. This is referring to hyperglycemia.  
*2. Hypoglycemia is complication of insulin—these are signs and symptoms of low blood sugar*  
3. Polydipsia goes along with hyperglycemia.  
4. Not specific enough.

33. A client received regular insulin, 6 units, 3 hours ago. Which of the following assessments would be most important to report to the next shift?

1. Kussmaul’s respirations and diaphoresis  
2. Anorexia and lethargy  
3. Diaphoresis and trembling  
4. Headache and polyuria

**Rationale:**
1. They Kussmaul before you give them insulin. NOT after you give insulin  
2.  
*3. If you give regular insulin the blood sugar is going to go down. Therefore, the number one thing to worry about is hypoglycemia. This is the only answer associated with hypoglycemia.*  
4. 
Cardiovascular

34. A client with sudden onset of deep vein thrombosis is started on a Heparin IV drip. Which of the following additional orders should the nurse question?

1. Cold wet packs to the affected leg
2. Elevate foot of bed six inches
3. Commode privileges without weight-bearing
4. Elastic Stockings on unaffected leg

**Rationale:**
*1. You do not put cold on veins. You use warm, moist heat to decrease inflammation. We don’t put heat on it b/c it will dislodge the clot.
2. You do elevate veins because it increases venous return. And we dangle arteries.
3. They can get up to the commode as long as they do not bear weight on the affected extremity.
4. Stockings may be placed on the unaffected leg to prevent the occurrence of clots in it.

35. The nurse is caring for a client with deep vein thrombosis (thrombophlebitis) of the left leg. Which of the following would be an appropriate nursing goal for this client?

1. To decrease inflammatory response in the affected extremity and prevent emboli formation
2. To increase peripheral circulation and oxygenation of affected extremity
3. To prepare client and family for anticipated vascular surgery on affected extremity
4. To prevent hypoxia associated with the development of pulmonary emboli

**Rationale:**
*1. When blood sets in one area it inflames the area and a clot can form.
2. You do not need oxygen when you have a vascular problem. The only time you need oxygen is when you have an arterial problem.
36. Which of the following signs indicate effective CPR?

1. Adequate capillary refill
2. Normal skin color
3. Symmetrically dilated pupils
4. Palpable carotid pulse

**Rationale:**
1.
2.
3.
4.*

37. A permanent demand pacemaker set at a rate of 72 is implanted in a client for persistent third degree block. Which of the following nursing interventions would indicate a pacemaker dysfunction?

1. Pulse rate of 88 and irregular
2. Apical pulse rate regular at 68
3. Blood pressure of 110/80, pulse of 78
4. Tenderness at site of pacemaker implant

**Rationale:**
1. If rate is above set rate pacemaker would be off and you could not tell if it was dysfunctional.
2. You should always worry if rate to drop below set rate.
3. Pacemaker is not on with a HR of 78
4. it is not telling your anything about how the pacemaker functions.

38. A client with an irregular pulse rate of 181 and a K level of 3.0 mEq/L has Lanoxin ordered. The nurse should:

1. Give the digoxin since the pulse is within normal limits
2. Holds the digoxin since the pulse is irregular
3. Call the doctor to report the potassium
4. Hold the digoxin since toxicity occurs with high potassium levels

**Rationale:**
1. Pulse is not normal. Digoxin can decrease HR even though pulse is irregular
2. Digoxin is given for arrhythmias.
3. Digoxin + hypokalemia = toxicity. If the problem is hypokalemia then do something to fix the problem. This is the only answer that addresses the problem. Call the doctor
4. 3.0 is not a high level it is a low level.
39. The nurse has administered sublingual nitroglycerin (Nitrostat) to a client complaining of chest pain. Which of the following observations is most important for the nurse to report to the next shift?

1. The client indicates the need to use the bathroom
2. Blood pressure has decreased from 140/80 to 90/60
3. Respiratory rate has increased from 16 to 24
4. The client indicates the chest pain has subsided

Rationale:
1.
*2. Blood pressure decreased too much. Nurse should not leave patient until it comes up and next nurse should be made aware of the drop.*
3.
4.

40. A 72-year-old client has an order for digoxin (Lanoxin) 0.25 mg PO in the morning. The nurse reviews the following information:

- Apical pulse: 68
- Respiration: 16
- Plasma digoxin level: 2.2 ng/ml

Based on this assessment, which nursing action is appropriate?

1. Give the medication on time
2. Withhold the medication, notify the physician
3. Administer epinephrine 1:1000 stat
4. Check the client’s blood pressure

Rationale:
1. You are sending the message you will kill them in a timely manner.
*2. Your patient is already toxic since the normal value is 0.5-2.0*
3. This has nothing to do with it… you are saying you have no idea what to do… just do something… give some epi
4. This has nothing to do with it… you are saying you have no idea what to do… just do something take the BP
41. A client develops severe crushing chest pain radiating to left shoulder and arm. Which PRN medication should the nurse administer?

1. Diazepam (Valium) PO  
2. Meperidine (Demerol) IM  
3. Morphine sulfate IV  
4. Nitroglycerine (Nitrostat) SL

**Rationale:**

1. 
2. 
*3. This is the drug of choice for an MI. It saves the heart muscle the fastest. Remember MONA. Morphine is the DOC. Nitro will not do anything for the patient. Time is muscle. Morphine will vasodilate and decrease the anxiety. By vasodilating the vessels… you will decrease the workload on the heart.*  
4. This is not going to help and will delay treatment.
Respiratory

42. When obtaining a specimen from a client for sputum culture and sensitivity which of the following instructions would be best?

1. After pursed lip breathing cough into container
2. Upon awakening cough deeply and expectorate into container
3. Save all sputum for 3 days in covered container
4. After respiratory treatment expectorate into container

**Rationale:**
1. Whose supposed to pursed lip breathe? People with COPD.
   *2.
2. You want some GOOD growth!
3. You never get specimens after respiratory therapy treatments.

43. Which of the following is the most effective method for the nurse to evaluate the effectiveness of tracheal suctioning?

1. Note subjective data such as, “My breathing is much improved now.”
2. Note objective findings such as decreased respiratory rate and pulse
3. Consult with respiratory therapy to determine effectiveness
4. Auscultate the chest for change or clearing in adventitious breath sounds

**Rationale:**
1.
2.
3. You should be able to listen to someone’s lungs. Never pick an answer where you are putting your work off on someone else.
   *4. You should listen before and after you suction your patient.
44. After a bronchoscopy is completed with a client, which of the following nursing observations would indicate a complication?

1. Depressed gag reflex
2. Sputum streaked with blood
3. Tachypnea
4. Widening pulse pressure

**Rationale:**
1. It is o.k. to have a depressed gag reflex after a bronchoscopy.
2. You may have some blood in the sputum due to the bronchoscope. It did not say a large amount of blood.
3. Respiration rate should be normal not too fast or too slow. Also, it is an airway question…so pick an airway answer
4. This complication does not go with a bronchoscopy. It is a sign of ICP. So you are saying that when you went for your bronchoscopy they dropped you on your head since a widen pulse pressure is a sign of increase ICP. Just because it sounds bad don’t pick it if it does not go with the sitation.

45. The nurse is caring for a client with pneumonia. Which of the following nursing observations would indicate a therapeutic response to the treatment for the infection?

1. Oral temperature of 101 F., increased chest pain with non-productive cough
2. Cough productive of thick green sputum, client state he feels tired
3. Respirations at 20, with no complaints of dyspnea, moderate amount of thick white sputum
4. White cell count of 10,000 mm, urine output at 40 cc/hr, decreasing amount of sputum

**Rationale:**
1. Temperature is still too high and they are having chest pain.
2. Green sputum means infection is still there.
3. You will have sputum awhile after pneumonia, but if it is white there is no infection.
4. If pneumonia is the problem, you do not check kidneys.
46. During the shift report, a client’s ventilator alarm is activated. Which action would the nurse implement first?

1. Notify the respiratory therapist
2. Check the ventilator tubing for excess fluid
3. Deactivate the alarm and check the spirometer
4. Assess the client for adequate oxygenation

Rationale:
1.
2.
3.
*4. Always put the patient before the machine

47. The nurse is caring for a client who has a 5 year history of chronic lung disease. The nursing assessment reveals a severely dyspneic client, pulse at 140, respirations labored, and slightly cyanotic. An appropriate nursing action to relieve the client’s dyspnea would include:

1. Administer oxygen at 40% heated mist
2. Assist the client to cough and deep cough
3. Elevate the head of the bed, low flow oxygen
4. Position the client prone and assess breath sounds

Rationale:
1. You don’t give to much oxygen to COPD patients don’t memorize all the different percentages of oxygen.
2. If you are already severely dyspneic and purple you really don’t feel like coughing and deep breathing.
*3. When you’re purple you really don’t feel like moving now do you?
4. What do you think about saying to someone “Roll over I got to check your lungs.” IF you are PURPLE you do not feel like rolling over.
48. A nurse is the first on the scene of a motor vehicle accident. The victim has sucking sounds with respirations at a chest wound site and tracheal deviation toward the uninjured side. Until emergency personnel arrive, the priority nursing action for the nurse is to:

1. Loosely cover the wound, preferably with a sterile dressing
2. Place sand bag over the wound
3. Sit the client up
4. Place a firm airtight, sterile dressing over the wound

Rationale:
*1. Don’t ask your self questions like “I don’t think they are going to have a sterile dressing” If its in the answer you got.
2. “Sand bag it” I don’t think so. You’re not going to totally occlude the site anyway. That’s with fractured ribs that you have to immobilize ribs so they won’t keep rubbing against each other.
3. I don’t think with this patient we need to sit them up because they are a trauma patient
4. I don’t like the word airtight because that’s going to promote a mediastinal shift.

49. The nurse is caring for a client who has been immobilized for three days following a pineal prostatectomy. The client begins to experience sudden shortness of breath, chest pain, and coughing with blood-tinged sputum. Immediate nursing actions would include:

1. Elevate the head of the bed, begin oxygen, assess respiratory status
2. Assist the client to cough, if unsuccessful then perform masotracheal suctioning
3. Position in supine position with legs elevated; monitor CVP closely
4. Administer morphine for chest pain; obtain a 12 lead ECG to evaluate cardiac status

Rationale:
*1. Something simple. The question is painting you a picture of a pulmonary embolus.
2. If someone has a pulmonary embolus you are not going to try to suction them. That’s going to put them out of their misery.
3. It doesn’t even go. That’s what you do when someone is in shock. Putting the patient into modified Trendelenburg
4. If you do this what do you turn into? A doctor just like that…
50. Your client becomes extubated while being turned. He is cyanotic and has bradycardia and arrhythmias. Which action would be the highest priority while waiting for a physician to arrive?

1. Immediately begin CPR
2. Increase the IV fluids
3. Provide oxygen by ambuing and maintaining the airway
4. Prepare the medication for resuscitation

Rationale:
1. You are going to scare the patient if you come in there and start pumping on their chest.
2. If someone’s tube has come out is increasing fluids going to do them any good.
*3.
4.
Orthopedic

51. A client had a below-the-knee amputation due to problems with gangrene. During the first 2 hours after surgery which nursing action would be most important?

1. Notify the doctor of a small amount of serosanguineous drainage
2. Elevate the stump on a pillow to decrease edema
3. Maintain the stump flat on the bed by placing the client in the prone position
4. Do passive range of motion TID to the unaffected leg

Rationale:
1. Normal. It is expected
2. If you are two hours postop, don’t you think it’s a little early to be rolling people over. They are worried about contractures that would be the reason for putting the patient prone.
3. What is the patient going to do to you if you start doing number 4? Kick you with the only leg they have left.

52. A client is admitted with a fractured right hip. The doctor writes an order for Buck’s traction. In planning care for a client in Buck’s traction, the nurse would:

1. Turn the client every two hours to the unaffected side
2. Maintain client in a supine position
3. Encourage the use of a bedside commode
4. Prevent footdrop by placing a foot board to the bed

Rationale:
1. Do you have to relieve pressure points? Yes. So your not turning them up on there side greatly but you’re doing enough to relieve pressure points.
2. Is there any long-term consequence of keeping someone in the supine position? Yes their skin is going to break down. Testing strategy: If there are any long term consequences (that would be bad for your patient) to the answer you pick… you can’t pick it.
3. “Take off your traction and get up!” No. were not going to do that either.
4. Okay, but you can’t use a foot board with Buck’s traction. Because Buck’s traction fits on the foot of the bed
53. A client has a long cast on his right leg. His right foot is pale and cool to touch. An analgesic has offered no relief to the severe leg pain after 45 minutes. Based on these observations, the first action of the nurse should be:

1. Apply a heating pad to the right toes
2. Repeat the dose of the analgesic stat
3. Remove the cast immediately
4. Notify the doctor immediately

Rationale:
1.
2.
*3.
4.
With this question, even if the author of the question thought… “No, you never remove the cast”… and you selected #3… in other words, you got the questions wrong… since you did not kill anyone the difficulty of the question did not go down. They will just give you another medium level question. It is ok that you miss a question; we are not trying to make a 100…. Just get more questions right than wrong.

54. Following hip replacement surgery, an elderly client is ordered to begin ambulation with a walker. In planning nursing care, which statement by the nurse will best help this client?

1. Sit a low chair for ease in getting up in the walker
2. Make sure rubber caps are present on all 4 legs of the walker
3. Begin weight-bearing on the affected hip as soon as possible
4. Practice tying your shoes before using the walker

Rationale:
1. I feel like the devils in there. If the client sits in a low chair, their hip will pop out.
*2.
3. We do not begin weight bearing as soon as possible. As soon as the doctor says.
4. If you bend over to tie your shoes, what is your hip going to do. Pop out.
55. To prevent neurological complications for a pre-school client with a full-leg cast, the nurse would schedule regular checks of:

1. Femoral pulses
2. Levels of consciousness
3. Blood pressure readings
4. Sensory testing of affected foot

Rationale:
1. 
2. You don’t have an LOC in your leg.

56. A teenager has had a repair of an open compound fracture of the tibia and fibula. An external fixation device has been applied to stabilize the fracture. Before administering pin site care, the nurse should check which of the following?

1. Correct alignment
2. Appearance of pin sites
3. Tightness of screws
4. Vital signs

Rationale:
1. How do you look at a pin to see if it’s lined up or not?
*2. Look at it first. – we want to inspect before doing an implementation*
3. Somebody bring me a screwdriver, I got to tighten this one up.
4. I don’t know what to do, I don’t know anything about pin care, my word! Take a blood pressure. I can’t hurt anyone taking a blood pressure.

57. Which nursing assessment suggests a complication of a plaster of paris cast application the arm?

1. The client states that the wet cast feels “warm”
2. The client is able to move his fingers and thumb freely
3. The client states that his little finger feels “asleep”
4. The wet cast appears gray and smells slightly musty

Rationale:
1. Normal wet casts are always warm it generates heat.
2. I’m glad he can move his fingers and thumb.
*3. If it feels “asleep” something is wrong.*
4. A wet cast always smells yucky. That doesn’t mean he has an infection. It means it’s still wet.
Renal

58. In planning the diet teaching for a child in the early stage of nephrotic syndrome, the nurse would discuss with the parents the following dietary changes:

1. Adequate protein intake, low sodium
2. Low protein, low potassium
3. Low potassium, low calorie
4. Limited protein, high carbohydrate

Rationale:
*1. This is the one kidney disease where they can have more protein. Because remember... we limit protein in most kidney patients EXCEPT a patient with nephritic syndrome.

59. Which of the following clients is a likely candidate for developing acute renal failure?

1. A female with recent ileostomy due to ulcerative colitis
2. Middle age male with elevated temperature and chronic pancreatitis
3. Teenager in hypovolemic shock following a crushing injury to the chest
4. Child with compound fracture of right femur and massive laceration to left arm

Rationale:
1.
2.
*3. All I have to see is one word “shock”. Shock kills kidneys

60. A client is experiencing severe pain from renal calculi. Which of the following is a priority in the nursing care plan?

1. Administer pain medication as often as needed according to doctors orders
2. Encourage fluid intake to help flush the stone through
3. Assist the client to ambulate to promote draining the bladder
4. Irrigate the bladder to maintain urinary patency

Rationale:
*1. Identify what the problem is pain, so pick the answer that deals with pain.

2. You are going to go up to a patient in pain and say drink this water.
3. Let’s walk that stone out.
4. Let’s shove the kidney stone further up into the kidney and now you can have kidney stones and renal failure. That is not nice!
61. In order to maintain asepsis, the client on home peritoneal dialysis should be taught to:

1. Drink only distilled water
2. Cap the Tenckhoff catheter when not in use
3. Boil the dailysate one hour prior to a pass
4. Clean the arteriovenous fistula with hydrogen peroxide daily

Rationale:
1. What does drinking distilled water have to do with it? Nothing.

*2. They thought they would throw this one in there, maybe they could get you into boiling that dailysate, and burn out the peritoneum so we don’t have worry about this anymore we can go straight to hemo now.

3. Do you have an arteriovenous fistula. Not with peritoneal dialysis. That goes with hemodialysis.

62. A client has a history of oliguria, hypertension, and peripheral edema. Current lab values include BUN 25, K 5.0. Which nutrients should be restricted in this client’s diet?

1. Protein
2. Fats
3. Carbohydrates
4. Magnesium

Rationale:

*1. When someone is in renal failure what do nutrients do you have to worry about? Protein, Mg, and K+… but in the stem of the question it gives you the BUN which points you to answer #1… since you know that protein will increase the patient’s BUN…. Even thought you have not memorized the lab values yet…. You can still answer this question. You have to look for clues in the stem of the question

2. 

3. 

4. There is nothing about Magnesium in the sentence The BUN let me know
Gastrointestinal

63. A client had surgery for cancer of the colon and a colostomy was performed. Prior to discharge, the client states that he will no longer be able to swim. The nurse’s response would be based on which of the following?

1. Swimming is not recommended, the client should begin looking for other areas of interest
2. Swimming is not restricted if the client wears a water tight dressing over the stoma
3. The client cannot go into water only up to that area stoma area, he can go in water only up to that area
4. There are no restrictions on the activity of a client with a colostomy, all previous activities may be resumed

Rationale:
1.
2.
3. This sounds fun huh? Go into the water, but you can only go up to your knees… that is not nice.
*4. They’ve got the bag over the stoma. They can take a shower, bath, swimming. It is an air tight seal. There are NO restrictions.

64. A client who is fourth day postop appendectomy complains of severe abdominal pain. During the initial assessment he states, “I have had two almost black stools today.” Which nursing action is most important?

1. Start an IV with D5W at 125 cc/hr
2. Insert a nasogastric tube
3. Notify the doctor
4. Obtain a specimen

Rationale:
1. There’s nothing wrong with starting an IV but what are you telling them when your doing the IV which could take a while, that you are going to let the patient keep bleeding.
2. How does that help stop the bleeding? It doesn’t.
*3. What’s going on inside? They are hemorrhaging. Assume the worst. The doctor is the only one who can stop the bleeding.
4. You are going to get your stool specimen and Hemoccult it then you might believe there’s something.
65. The nurse is caring for a client with a perforated bowel secondary to a bowel obstruction. At the time the diagnosis is made, which of the following would be a priority in the nursing care plan?

1. Maintain the client in a supine position
2. Notify the client’s next of kin
3. Prepare the client for emergency surgery
4. Remove the nasogastric tube

Rationale:
1. Don’t lay them flat. Elevate the top of the bed to make all the stomach contents settle in place.
2. *3. If the problem is a perforated bowel what is the only fix? Surgery, forget all the other stuff.*
4. If your lucky enough to have an NG tube, is now the time to remove it? No, I’m going to turn that suction up and get that stomach emptied out, because we are about to put them to sleep.

66. A nursing assessment of a client with a hiatal hernia is most likely to reveal?

1. A bulge in the lower right quadrant
2. Pain at the umbilicus radiating down into the groin
3. Burning sensation in mid-epigastric area each day before lunch
4. Awakening at night with heartburn

Rationale:
1.
2.
3. *4. When they lie down what does there stomach do, it moves up and becomes symptomatic.*

67. The nurse is caring for a client postoperative ileostomy. Which of the following nursing observations would relate to a postoperative complication?

1. The ileostomy does not require daily irrigations to maintain function
2. The stoma appears tight and there is a decreased amount of stool
3. An impaction appears to be forming in the distal anal area
4. A weight gain of 5 pounds related to increased fluid retention

Rationale:
1. It’s not going to require daily irrigations because its draining liquid all the time
*2. That means poor circulation, its swelling, it’s tight, need to go back to surgery and relieve the pressure. See we are looking for a complication of the ileostomy.*
3. You don’t have a distal anal area anymore. Not with an ileostomy.
4. When you retain a lot of fluid that puts more work on your heart. That has nothing to do with the ileostomy. Remember the testing strategy that we said with fluid retention.. think heart problems first.

Hurst Review Services 32
Neurological

68. The client has been lethargic, but responding to verbal commands. The nurse now assesses that the client is responding by withdrawing to noxious stimuli. The most appropriate nursing action would be:

1. Plan on reassessing the client in one hour
2. Notify the doctor that the client is deteriorating
3. Place the client in Trendelenburg position
4. Call the family and tell them the client is improving

Rationale:
1. When neuro stuff starts happening it happens fast, so you don’t mess around with it.
2. The patient is only responding to “painful” stimuli. I wouldn’t be using it if the patient were conscience.
3. ICP is going to go up if you put your patient in Trendelenburg
4. Call the family and lie…. Your family member is doing better…

69. The nurse enters the room and discovers the client has right sided paralysis, and unequal pupils. The most appropriate next step for the nurse is to:

1. Call the doctor
2. Assess the respiratory status
3. Determine the level of consciousness
4. Perform a complete neurological evaluation

Rationale:
1.
2. When it’s an emergency you always go back to the ABCs
3. some like #3, b/c it is a neuro answer, but when you have an emergency… you have to go back to the ABCs.
4.

70. A client is one week post cerebrovascular accident. The nurse notes the client does not respond readily to movement or objects in peripheral fields. Based on this nursing assessment, an appropriate nursing diagnosis is:

1. Impaired adjustment
2. Ineffective individual coping
3. Sensor-perceptual alteration
4. Self-care deficit

Rationale:
1.
2.
3. The only answer that deals with vision.
4.
71. The client is transferred to the Neuro Unit after developing right sided paralysis and aphasia. Which of the following should be included in the nursing care plan in order to promote communication with the client?

1. Encourage client to shake head in response to questions
2. Speak in a loud voice during interactions
3. Speak using phrases and short sentences
4. Encourage the use of radio to stimulate the client.

**Rationale:**
1. Never pick an answer that doesn’t allow that patient to speak. If though the have aphasia they haven’t told us what kind of aphasia. They could have expressive aphasia—if they try to shake their head “no” it will come out “yes”
2. Don’t yell at the patient.
3. The most basic nursing concept you need to be thinking is…. The patient is having trouble communicate. So you have to get simple… Promote communication.
4. 

72. What would be the most appropriate next action for the nurse to take after noting the sudden appearance of a fixed and dilated pupil in the neuro client?

1. Re-assess in 5 minutes
2. Check client’s visual acuity
3. Lower the head of the client’s bed
4. Call the doctor

**Rationale:**
1. We don’t want to delay treatment.
2. Your going to get a Snellen Chart and your going to say cover one eye. Not the eye that is blown… the other eye
3. Let’s lower the head of the bed and have two fixed and dilated pupils.
4. 

73. Which instruction would be included in planning care for a client with signs of increased intracranial pressure?

1. Encourage coughing and deep-breathing to prevent pneumonia
2. Suction airway every 2 hours to remove secretions
3. Position the client in the prone position to promote venous return
4. Determine cough reflex and ability to swallow prior to administering PO fluids.

**Rationale:**
1. Makes ICP go up.
2. Make ICP go up. We limit suctioning with neuro patients.
3. Makes ICP go up. You know you do not put neuro patients prone.
4. If I have ICP my reflexes could be suppressed. If you know that answers #1-#3 are wrong… then you have to pick what is left… even if you are not sure of that answer.
74. A client with a closed head injury begins to vomit. Which assessment is the most important for the nurse to report when calling the physician?

1. Increasing lethargy
2. Heart rate 80
3. Sodium level of 145
4. Presence of facial symmetry

Rationale:
*1. LOC
2.
3.
4.

75. The nurse is observing a client for complications following a craniotomy. The client begins complaining of thirst and fatigue. Which nursing observation is most important to report to the physician?

1. Specific gravity of urine is increased, urine is foul smelling
2. Fluid intake over past 24 hours has been 3000 cc
3. Urine output in excess of 4000 cc in 24 hours
4. Presence of diarrhea and excoriation of anal area

Rationale:
1.
2.
*3. If they are thirsty and are retaining fluid or losing fluid? Losing. Craniotomy, what fluid do I think of? ADH. When you have a ADH problem you can either have SI or DI. If they are thirsty what have the developed? DI.
4.
76. A client with glaucoma has experienced severe restriction of peripheral vision. He asks the nurse if his vision will get better. The nurse’s best response would be based on which of the following?

1. If he maintains his medications and reduces the pressure, his vision will improve
2. The current damage to vision is permanent, maintaining his eye drops will prevent further damage
3. After the acute episode, surgery will be scheduled to remove his lens which will increase vision
4. After the pressure is stabilized, the doctor will reevaluate his vision and prescribe glasses to correct his vision

Rationale:
1. The damage is done.
2. With glaucoma the damage is done, you’re not going back.
3. Why remove the lens when that has nothing to do with glaucoma.
4. How are glasses going to help my glaucoma? They won’t drop my pressure.

77. An adult male client complains of loss of hearing while irrigating his ear to remove cerumen for better observation of the tympanic membrane the client comments that he is getting dizzy. The nurse would stop the procedure and:

1. Notify the doctor immediately
2. Monitor for changes in intracranial pressure
3. Warm the irrigant and resume the procedure
4. Explore the canal with a cotton applicator

Rationale:
1. Don’t make more out of the procedure then what’s there.
2. If you go from getting wax out of someone’s ears to monitoring for changes in intracranial pressure there’s a problem. That’s a bit drastic.
3. All you are doing is you got someone who can’t hear because his ear is full of stuff. The doctor ordered an irrigant and the patient starts to get dizzy. You want to stop and check the temperature of your fluid. Cold stuff makes people have dizzy spells.
4. Never put things down people’s ears. You are telling the NCLEX® lady you are going to put a Q-tip down your patient’s ear b/c you want to see what is down there.
78. The nurse is caring for a client who has just returned to his room after having a scleral buckling procedure done to repair his detached retina. Which of the following is an important nursing action on the operative day?

1. Remove reading material to decrease eye strain
2. Closely assess for presence of nausea and prevent vomiting
3. Assess color of drainage from affected eye
4. Maintain sterility for q3h saline eye irrigations

Rationale:
1.
2. With any eye surgery, you do not want the patient to vomit because their intraocular pressure is going to go up and it’s going to blow up their sutures.
3. You are not going to have drainage from your eye today. If you have surgery today and have drainage today, you went in there with an infection.
4.

79. A client has a cataract removed from his left eye. Which of the following is an important nursing intervention in the immediate postoperative period?

1. Position on right side with head slightly elevated
2. Place client on his left side to protect eye
3. Perform sensory neuro checks every 2 hours
4. Maintain complete bed rest for the first 48 hours

Rationale:
1. Always take the pressure off the surgical eye.
2. If you turn me on my left side that’s going to give me more pressure on my left eye.
3.
4.
80. The nurse is caring for a client with Meniere’s syndrome. The nurse stands directly in front of the client when speaking. Which of the following best describes the rationale for the nurse’s position?

1. This enables the client to read the nurse’s lips
2. The client does not have to turn her head to see the nurse
3. The nurse will have the client’s undivided attention
4. There is a decrease in the client’s peripheral visual field

Rationale:
1. This enables the client to read the nurse’s lips.
2. Anytime you have somebody with Meniere’s syndrome, you don’t want them moving their head a lot because that’s what causes an attack. It’s a safety issue, if they get too dizzy they could fall and hurt themselves. Keep the as still as possible.
3. It’s with glaucoma that you have a decrease in peripheral visual field.

81. A client is 2 days postoperative aortic aneurysm resection. A complete blood count reveals a decreased red blood cell count. The nursing assessment is most likely to reveal which of the following?

1. Fatigue, pallor, and exertional dyspnea
2. Nausea, vomiting, and diarrhea
3. Vertigo, dizziness and shortness of breath
4. Malaise, flushing, and tachycardia

Rationale:
*1. It’s a question about anemia.
2. You can’t have vertigo and dizziness at the same time. One is which the room rotates around you, the other is where you rotate around the room.

82. A client who is receiving a blood transfusion is experiencing a hemolytic reaction. The nurse would anticipate which of the following assessment findings to validate this reaction?
1. Hypotension, backache, low back pain, fever
2. Wet breath sounds, severe shortness of breath
3. Chills and fever occurring about an hour after infusion started
4. Urticaria, itching, respiratory distress

Rationale:
*1. Hemolytic: what is the major symptom “back pain” because what are those cells doing?
Breaking down and clogging up my kidneys.
2. Circulatory overload you treat it like pulmonary edema
3. They have been giving some blood that had be contaminated, or set out too long before the nurse got it to the patient.
4. You are allergic to it.
DEVELOPMENTAL ASSESSMENT

1. Infant (birth to 1 year); Erikson’s Trust verses Mistrust
   - Basic task: Establish trust
   - Must have consistent care to build trust
   - Respond to needs promptly
   - Rolls over……sitting up……creep/crawl
   - Rapid growth and changes
   - Develops attachments to family

2. Toddler (1-3 years); Erikson’s Autonomy verses Shame and Doubt
   - Begin to tolerate some separation from parent
   - Parallel play
   - Discovering their new abilities (helps achieve autonomy)
   - Learning skills like feeding, bathing, toileting, dressing self helps achieve autonomy
   - Will develop shame if assertiveness/independence is not accepted
   - Doubt occurs if they do not learn to trust
   - Temper tantrums due to frustration from being unable to express wants
   - Need rituals to develop autonomy
   - Use negativism to achieve autonomy
   - Major achievement: language development
   - Imitate household activities
   - Very egocentric
   - Major skill: walking, running, climbing
   - Major task: toilet training
   - Develop pincher grasp
   - Want to be independent
3. Preschooler (3-6 years); Erikson’s Initiative versus Guilt
   - Need security object
   - Learning sex differences
   - Begin to feel guilt when not behaving
   - Morality begins; conscience begins
   - Fear of mutilation and injury
   - Poorly defined body boundaries (need a bandaid)
   - Talk a lot and in complete sentences
   - Give life-like qualities to inanimate objects
   - Shift from totally egocentric to beginning to accept other points of view
   - Magical thinkers
   - Locomotion well established
   - Can use scissors by 4
   - Can tie shoes by 5
   - Can take better care of self
   - Wants to play with other children
   - Initiative is when someone independent begins an activity (not imitating)
   - Guilt occurs if overly reprimanded for behaviors showing initiative
     - may become passive, reluctant or even refuse to participate
     in activities

4. School Age (6-12 years); Erikson’s Industry versus Inferiority
   - Industry is the child try to master social, physical, and intellectual skills
   - Becomes less family focused and more peer focused
   - If ridiculed by peers or they feel they do not meet adult’s or own expectations,
     inferiority will develop
   - Needs to develop social skills; if they do not they will feel inferior
   - Continues to develop conscience
   - Peer groups are influential, but parents still primary influence
   - Can see things from other points of view; can reason
   - Wants to achieve
   - Present oriented; need concrete examples

5. Adolescent (12-18 years); Erikson’s Identify versus Role Confusion
   - Try to develop own identify
   - Early adolescents need peer approval
   - Peer pressure may lead to risk taking
   - Older adolescents need autonomy from family
   - Need personal identity
   - Emotional roller coaster
   - Body image obtained in adolescence continues throughout life
   - Can think beyond the present
   - Use logic and scientific reasoning; capable of abstract thinking
   - Formal operational thought begins
   - Feelings of invincibility
GROWTH AND DEVELOPMENT

1. Infant
   - gross and fine motor skills occur in a cephalocaudal and proximal-distal direction
   - gross motor abilities develop before fine motor abilities
   - weight doubles in first 6 months (average weight gain is 1.5 lbs/month)
   - 2nd six months weight gain is a little less than 1 pound/month
   - by 12 months weight has tripled
   - first six months: grows 1 inch per month; after this….1/2 inch per month
   - head circumference increases by 1/2 inch per month first 6 months
   - posterior fontanel closes by 2 months; anterior….12-18 months
   - major task: head control
   - by 4 months should have no head lag
   - 2-3 months rolls from stomach to back
   - 4-6 months rolls from back to stomach
   - 6-8 months…..sits alone
   - 9-12 months….prone to sitting to standing
   - crawling to creeping to cruising
   - attempts to walk alone

2. Toddler (12-36 months)
   - physical growth slows; need less calories, but more protein
   - average weight gain is 5 lbs per year; height=3 inches per year
   - decreased appetite (physiologic anorexia); erratic eating habits
   - 12-15 months…..walking occurs
   - by 18 months….can climb stairs
   - bowel and bladder control achieved
   - some achieve motor skills first; others master verbal skills first
   - by 30 months, deciduous teeth developed
   - decrease fat in the diet
   - as this is the time language develops caregiver should watch for failure
to respond to loud sounds, etc.
   - can recognize gender differences by 2 (domestic mimicry begins)
   - should have well child visits at 15, 18, 24, 36 months
   - juice should be limited to 4 ounces/day
   - avoid pieces of hot dogs, popcorn, nuts, hard candy….choking
   - cut food into small bits….offer dipping sauces
   - rarely like new foods the first time they try it
   - no peanut containing foods until 3
   - ready to begin toilet training at 18-24 months
   - consistent day and night dryness should be achieved by 5 years
   - first teeth erupt by 1 year
3. Preschooler (3-6 years)
- growth slows
- gains 2 lbs per year
- by 5 has reached half of adult height
- have all 20 of their deciduous teeth by 3
- by the end of preschool years, permanent teeth erupt
- curious about body
- wants to take on behaviors of same sex caregiver (mom’s putting on make-up…..daughter wants to do the same thing)
- sexual curiosity (play doctor/nurse)
  - only answer questions asked
  - use correct terms for body parts
- only understands things from their perspective
- Animism-belief that objects have human qualities
- a 3 year old’s learning occurs thru observation/imitation
  - active imagination (fears bodily harm)
- a 4 year old is less self centered
  - understands time
- a 5 year old is learning acceptable behavior
- do not serve too much of any one food
  - decreased appetite
  - continue to have erratic eating habits
- not uncommon for this group to scald themselves in tub

4. School age (6-12 years)
- weight gain is 5-6 lbs/year
- height…..2”/year
- growing pains may be noted
- begins to bike ride or roller blade
- may exhibit breast tissue development or body order as early as 9
- leading cause of death…..accidents
- most accidents related to motor vehicles….firearm accidents continue to increase

5. Adolescence
- many physiologic changes
- assumes adult appearance
- few females grow more than a 2” after their periods start
- most males do not grow in height after 18-20
- females tend to weigh more than males until age 14
Developmental Milestones for Children Ages 3-6

By Age 3:
- Able to jump in place
- Able to kick a ball
- Able to ride a tricycle
- Able to state name, age, and gender
- Able to copy a cross and circle
- Most speech is understandable by others

By Age 4:
- Able to sing simple songs
- Able to draw a person with 3 or more body parts
- Able to distinguish between reality and fantasy
- Able to state first and last name
- Able to build tower with at least 10 blocks
- Able to hop on one foot at least 3 times
- Able to throw ball over handed
- All speech is understandable

By Age 5: (Enters Kindergarten)
- Able to dress self without assistance
- Able to state entire name (first, middle, and last)
- Able to state home address and home phone number
- Able to follow 2-3 step directions
- Able to count to 10 on fingers
- Able to copy a triangle or square
- Able to draw a person with head, body, and all extremities
- Able to recognize most letters of the ABC’s and able to print a few
- Plays “make believe”

By Age 6:
- Able to walk heel/tow forward and backwards
- Able to hop on either foot
- Able to catch baseball size ball with 2 hands
- Able to feed self correctly using knife, fork, and spoon
- Able to cut out simple shapes with scissors
- Able to distinguish between right and left hand
- Able to play games involving matching skills
- Able to repeat simples nursery rhymes
- Able to choose peers for play
- Is protective of younger siblings
## Drugs that may be Affected by the Use of Herbal Supplements

<table>
<thead>
<tr>
<th>Herbal Supplement</th>
<th>Drugs that may be affected (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chondroitin Sulfate</td>
<td>Daily ASA, blood thinners (Coumadin®)</td>
</tr>
<tr>
<td>Echinacea</td>
<td>Steroids, other medications that will suppress the immune system</td>
</tr>
<tr>
<td>Ephedra</td>
<td>Decongestants, stimulants, caffeine, MAOIs, blood pressure medication, heart medications (Digoxin)</td>
</tr>
<tr>
<td>Garlic</td>
<td>ASA, NSAIDS, blood thinners, insulin and other PO diabetic medications</td>
</tr>
<tr>
<td>Ginkgo Biloba</td>
<td>ASA, NSAIDS, blood thinners, clot-busting medications (Ticlid® and Plavix®), diuretics</td>
</tr>
<tr>
<td>Ginseng</td>
<td>ASA, NSAIDS, blood thinners, MAOIs, heart medications (Digoxin), diabetic medications, diuretics,</td>
</tr>
<tr>
<td>Glucosamine</td>
<td>Diuretics, insulin</td>
</tr>
<tr>
<td>Kava</td>
<td>Sleeping pills, drugs used to treat Parkinson’s disease, drugs used to treat psychological disorders (Xanax®)</td>
</tr>
<tr>
<td>Melatonin</td>
<td>NSAIDS, steroids, anti-anxiety medications, blood pressure medication (especially beta blockers)</td>
</tr>
<tr>
<td>Phytoestrogens</td>
<td>Varies depending on the exact substance used</td>
</tr>
<tr>
<td>Saw Palmetto</td>
<td>Asthma medications (inhalers, and bronchodilators), hormonal medications</td>
</tr>
<tr>
<td>St. John’s Wort</td>
<td>Antidepressants, MAOIs, blood thinners, Digoxin®, birth control pills, anticonvulsants and antiviral drugs, migraine HA medications, any medication that will depress the immune system</td>
</tr>
</tbody>
</table>
EMERGENCY DEPARTMENT TRIAGE REVIEW

Scenario:

You work in a busy ER and are assigned as the triage RN for a 12-hour shift. Of the following 10 questions, after your initial triage assessment is complete, which patient would you take to a room immediately? Which patient would you send back to the waiting area and/or a room next? Remember, as a triage nurse it is your responsibility based on your assessment skills to classify patients into 1 of 3 categories: Emergent, Urgent, and Non-urgent. The following definitions for these 3 categories will better help you answer these questions and get more right than wrong.

**Emergent** – Life-threatening illness or injury at time of arrival.

**Urgent** – Stable on arrival, but needing medical intervention in timely manner.

**Non-urgent** – Stable on arrival, are not in immediate need of emergency treatment.

It is also imperative to realize your limitations and know when to ask for assistance from other RN’s if more than 1 emergent patient presents that requires immediate intervention.
Place a checkmark by the category that best classifies the following patients. Circle the patient requiring immediate intervention.

1. A. 17 y/o male with cough/congestion and productive sputum of yellow color x 1 week. Chest pain upon inspiration. SpO2 98% on room air with respiratory rate of 18.

   Emergent ____ 
   Urgent _____ 
   Non-urgent ____


   Emergent ____
   Urgent _____
   Non-urgent ____

C. 10 month-old infant with audible stridor, SpO2 88% on room air. P -193, R - 52. Mother states infant reached her purse and was found playing with coins.

   Emergent_____ 
   Urgent _____
   Non-urgent ____

D. 42 y/o father who bought his 12 y/o son a BB gun. While loading the BB gun for the first time, a malfunction occurred firing a BB pellet into the father’s left calf. No active bleeding noted. All motor/sensory intact. Cap refill < 2 sec. Father denies paresthesias. + Dorsalis pedal pulse. P-72, R-20, BP-138/79.

   Emergent____   Urgent____  Non-urgent____
2. A. Mother of 27 and 2 children ages 9 & 11 with chief c/o sore throat, runny nose, and cold x 10 days.

Emergent_____ Urgent_____ Non-urgent_____

B. 35 y/o female with history of bipolar disorder. C/O feeling angry and “wanting to hurt someone.” Prior to your initial triage assessment, pt. was hollering and screaming at other patients in the waiting room, claiming she was Jesus.

Emergent_____ Urgent_____ Non-urgent_____

C. 22 y/o female with c/o urinary frequency and dysuria x 1 week.

Emergent_____ Urgent_____ Non-urgent_____

D. A 44 y/o male with chronic back pain. Was involved in a MVC 10 years ago. Has had multiple back surgeries. Denies new injury. States ran out of pain medications.

Emergent_____ Urgent_____ Non-urgent_____
3. A. 63 y/o female with c/o SOB on exertion, gradually progressive x 3 days. Denies chest pain. Ran out of Lasix 4 days ago. P- 99, R- 26, BP- 154/92. SpO2 95% on room air.

Emergent____  Urgent_____  Non-urgent____


Emergent____  Urgent_____  Non-urgent____


Emergent____  Urgent_____  Non-urgent____

D. 39 y/o female with c/o SOB and chest heaviness x 30 min. prior to arrival. Denies n/v, or radiation. + diaphoresis. P-181, R-42, BP-87/42, Sp02-91% on room air.

Emergent____  Urgent_____  Non-urgent____
4. A. 57 y/o female with sudden onset slurred speech, H/A, and right-sided weakness 1 hour PTA. Attempts to speak, but words are garbled. BP-199/119, P-117, R-22, SP02-96% on room air.

Emergent_______  Urgent_______  Non-urgent______


Emergent_______  Urgent_______  Non-urgent______

C. 71 y/o male with c/o severe generalized abdominal pain. No BM x 1 week. Hx: lung CA. Last chemo treatment 4 days ago. Decreased appetite. T-100.0, P-102, R-18, BP 162/91, SPO2-95% on room air.

Emergent_______  Urgent_______  Non-urgent______

D. 53 y/o female 1-week post-op hysterectomy. Denies pain, but c/o yellow exudate @ incision site. States site has “come open.” T-103, P-91, R-16, BP-132/60.

Emergent_______  Urgent_______  Non-urgent______
5. A. Car pulls up outside of triage dumping a 16 y/o male on the sidewalk. Upon initial assessment you find a GSW to abdomen. Pt. unresponsive, profuse hemorrhaging noted.

Emergent______  Urgent______  Non-urgent______

B. 78 y/o male with severe left-sided chest pain, SOB, diaphoresis with heavy pressure radiating to left arm, neck, and shoulder. Pt. is clutching left side of chest.

Emergent______  Urgent______  Non-urgent______

C. 32 y/o male truck-driver who drives a fuel truck. Gasoline splashed into eyes. States “I can’t see.”

Emergent______  Urgent______  Non-urgent______

D. 42 y/o female with severe H/A. Hx chronic tension headaches. Has been under great deal of stress at home and work.

Emergent______  Urgent______  Non-urgent______

Emergent_______ Urgent_______ Non-urgent_______

B. 3 month old infant with inconsolable crying. Mother states infant has been pulling on right ear x 1 day. T-101.9 rectal, P-158, R-30, SPO2-98% on room air.

Emergent_______ Urgent_______ Non-urgent_______

C. 74 y/o male states glucose has been too high. Alert and oriented x 3. No diaphoresis. Ate lunch 1-hour PTA. States, “ran out of insulin.” Capillary glucose finger stick in triage resulted a glucose of 267 mg/dl. T-98, P-99, R-18, BP 152/71. SPO2 97% on room air.

Emergent_______ Urgent_______ Non-urgent_______


Emergent_______ Urgent_______ Non-urgent_______
7. A. A 20 y/o female with c/o suprapubic abd pain. LMP 2 months ago. Denies vaginal bleeding, or passage of clots. Admits to unprotected sexual intercourse approximately 1 month ago. Last BM today was normal. T-98, P-74, R-16, BP-110/82, SPO2-98% on room air.

Emergent____  Urgent____  Non-urgent____

B. A 79 y/o female presents with SOB and chest pain, 1 hr. post hemodialysis. States, “I get chest pain sometimes, but this time it seems different.” + diaphoresis. P-147, R-40, BP 92/71, SPO2-90% on room air.

Emergent____  Urgent____  Non-urgent____


Emergent____  Urgent____  Non-urgent____

D. An 85 y/o female with sudden onset of N/V 6 hrs. PTA. No hx of diabetes. Denies pain or hematemesis. Had lunch outside of home with family today where she ate baked chicken. T-99.7, P-121, R-22, BP-159/86, SPO2-98% on room air.

Emergent____  Urgent____  Non-urgent____
8. A. 74 y/o male, ambulatory to triage after being involved in a 1 car MVC. Car vs. light-pole. Refused ambulance care at the scene. Occurred approximately 2 hours PTA. Speed of impact 40 MPH. Unrestrained driver, struck head on windshield. C/o severe neck pain and “tingling to toes.” P-109, R-18, BP-172/104, SPO2-99% on room air.

Emergent_____ Urgent_____ Non-urgent_____

B. 81 y/o male 1-week s/p TURP. C/o urinary retention x 30 minutes. Passed clots earlier today. States is in moderate pain. Pain # 4 on 1-10 scale (1= lowest, 10= highest) P-104, R-20, BP-159/93. SPO2-96% on room air.

Emergent_____ Urgent_____ Non-urgent_____

C. 3 y/o female toddler with rash x 1 week. Afebrile with temp of 98.9 rectal. R-28, SPO2-100% on room air.

Emergent_____ Urgent_____ Non-urgent_____

D. 22 y/o female with vertigo and blurred vision x 3 days. Denies H/A or any other pain. Denies injury. Has had family problems at home. T-98.5, P-101, R-18, BP-145/94, SPO2-99% on room air.

Emergent_____ Urgent_____ Non-urgent_____
9. A. 57 y/o male with c/o left shoulder pain. Onset 1 day ago after moving heavy furniture. Constant in nature. T-98.4, P-77, R-20, BP-148/62, SPO2-100% on room air.

Emergent_____ Urgent_____ Non-urgent_____

B. 76 y/o female with rectal bleeding x 4 hours. Color pale. + SOB on exertion. Skin cool/clammy. States BM was dark and tarry. T-96, P-141, R-26, BP 97/49. SPO2-95% room air.

Emergent_____ Urgent_____ Non-urgent_____

C. 27 y/o male with c/o left knee pain. + Dorsalis pedal pulse. Full ROM. – paresthesias. Was wrapped with ace bandage prior to arrival. T-98.4, P-99, R-20, BP-131/87, SPO2-99%.

Emergent_____ Urgent_____ Non-urgent_____

D. 48 y/o female with c/o severe lower abd cramping. Reports irregular menses with heavy blood-flow x 4 months. T-97.4, P-96, R-22, BP-115/70. SPO2-100% on room air.

Emergent_____ Urgent_____ Non-urgent_____
10. A. 27 y/o male fell approximately 5 feet off ladder while painting at home. Landed on lawn with left ankle trapped under buttocks. + edema, no gross deformity. + DP pulse. Moderate pain. T-98.8, P-122, R-26, BP-141/89, SPO2-98% on room air.

Emergent_____ Urgent_____ Non-urgent_____

B. 57 y/o female, restrained driver struck 18-wheeler from behind. + airbag deployment. Approximate speed of impact 45 MPH. Head struck windshield of van. ? LOC. Fully spinal immobilized with c-collar in place. Alert to person only. T-99, P-133, R-28, BP-168/81, SPO2-93% on 40% O2 facemask.

Emergent_____ Urgent_____ Non-urgent_____

C. 88 y/o in per EMS after “bumping into neighbor’s house” with car. Approximate speed of impact 10 MPH. Denies LOC. Alert and oriented x 3. Denies headache, chest pain, or SOB. Restrained driver. T-97.8, P-72, R-22, BP 128/69, SPO2-99% on room air.

Emergent_____ Urgent_____ Non-urgent_____


Emergent_____ Urgent_____ Non-urgent_____
1. A. Non-urgent  
   B. Urgent  
   C. Emergent *  
   D. Urgent.

2. A. Non-urgent  
   B. Emergent *  
   C. Non-urgent  
   D. Non-urgent

3. A. Urgent  
   B. Urgent  
   C. Non-urgent  
   D. Emergent *

4. A. Emergent *  
   B. Urgent  
   C. Urgent  
   D. Urgent

5. A. Emergent *  
   B. Emergent *  
   C. Emergent *  
   D. Urgent  
   (All 3 answers for A-C are emergently classified and require immediate attention from all RN’s. This question was written to assist you in critical thinking skills so you may realize as the triage RN you must ask for help.)

6. A. Urgent  
   B. Urgent  
   C. Urgent  
   D. Emergent *

7. A. Non-urgent  
   B. Emergent *  
   C. Urgent  
   D. Urgent
8. A. Emergent *
   B. Urgent
   C. Non-urgent
   D. Urgent

9. A. Urgent
   B. Emergent *
   C. Urgent
   D. Urgent

10. A. Urgent
    B. Emergent *
    C. Urgent
    D. Urgent
Fast Facts for Central Lines

- It is **IMPERATIVE** for aseptic technique to be practiced at **ALL** times during care and use of all central lines (including PICC lines).

- Consent forms must be signed by patient or legal designees prior to insertion

- Insertion of central line:
  - When assisting physician with insertion of central line- have a 10 ml of NS for each lumen on the central line (i.e. if it is a triple lumen catheter have three 10 ml syringes of NS ready).
  - Physician will verify blood return from each lumen
  - Flush each lumen with the 10 ml NS syringe

- Drawing blood from a central line:
  - All infusions must be put briefly on hold
  - If the lumen you are drawing blood from is in use, you have to flush the line with 10 ml of NS prior to drawing blood
  - Then you must draw 10ml of blood and discard this blood as waste.
  - After you discard the 10ml of waste blood, draw the blood that will be used for the laboratory test.
  - Remember to flush the line again after drawing your blood with an additional 10ml.
  - Restart infusions (if lumen was being used prior to drawing blood)

*** NEVER expose lumen opening to open air. Remember the end of the line is in the heart. The lumen must be clamped before disconnecting any IV tubing or syringe in order to avoid complications (air embolus).
• Dressing Care
  
  o Wear mask and sterile gloves to avoid contamination

  o If transparent tegaderm dressing is used, dressing must be changed every 72 hours and prn

  o If a gauze dressing is used, dressing must be changed every 24 hours and prn

• Central line Flush:
  
  o Flush each lumen of central line every 12 hours to keep catheter to keep lumens from occluding if not being used for a continuous infusion and to keep the clean.

  o Flush lumen with 10 ml of NS before and after administration of any medication (IV fluid, blood, TPN, medication) or after drawing blood.

• Procedure to flush central line:
  
  o Supplies: alcohol prep, clean gloves, 10 ml syringe (exerts less pressure on catheter), three 10 ml syringes of NS

  o Wash hands, put on gloves, clean catheter port off with alcohol prep, connect syringe, inject NS into line, use positive pressure to prevent backflow and clotting.

  o Do NOT force NS into lumen if resistance is met, while attempting to flush the port, Discontinue flush

  o Documentation: Document date, time, solution utilized to flush line, how patient tolerated procedure
Critical Thinking Scenario:

When removing catheter cap to access line, what should you do with the cap?

A. Hold cap in hand
B. Place cap on bedside table with open end up
C. Discard
D. Place on sterile field

Answer: D

Remember if you are not sure if the cap is sterile or not, throw it away and obtain a new cap. However, if sterility is maintained by placing the cap on the sterile field, it is not necessary to replace cap.
<table>
<thead>
<tr>
<th>Herbal Supplement</th>
<th>Possible Side Effect (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chondroitin Sulfate</td>
<td>Diarrhea, constipation, stomach pain</td>
</tr>
<tr>
<td>Echinacea</td>
<td>Upset stomach, diarrhea, constipation, rash, dizziness</td>
</tr>
<tr>
<td>Ephedra</td>
<td>HA, anxious, insomnia, HTN, heart palpitations, seizures, heart attack, stroke</td>
</tr>
<tr>
<td>Garlic</td>
<td>Nausea, diarrhea, bleeding, allergic reaction</td>
</tr>
<tr>
<td>Ginkgo Biloba</td>
<td>Upset stomach, diarrhea, HA, bleeding, seizures, muscle cramping, dizziness</td>
</tr>
<tr>
<td>Ginseng</td>
<td>HA, anxious, insomnia, rash, vaginal bleeding, tender breast, high or low BP</td>
</tr>
<tr>
<td>Glucosamine</td>
<td>Upset stomach, heartburn, gas, bloating, and diarrhea</td>
</tr>
<tr>
<td>Kava</td>
<td>Fatigue, rash, liver problems, unnatural movements with mouth and tongue (vary per patient)</td>
</tr>
<tr>
<td>Melatonin</td>
<td>Fatigue, HA, upset stomach, depression</td>
</tr>
<tr>
<td>Phytoestrogens</td>
<td>High dose: hypothyroidism (this occurs mostly in women because these substances may begin to act like estrogen in the body and affect the tissue of the breast and the uterus)</td>
</tr>
<tr>
<td>Saw Palmetto</td>
<td>Upset stomach</td>
</tr>
<tr>
<td>St. John’s Wort</td>
<td>Upset stomach, dry mouth, fatigue, dizziness, confused/anxious, HA, sunburn easily, rash</td>
</tr>
</tbody>
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Assignment/Priority Rationales

1. Answer=d. Shingles results due to a reactivation of the varicella-zoster virus (which causes chickenpox). Those who have not developed antibodies to the varicella-zoster virus are susceptible to chickenpox. Therefore, a nurse who has no history of having chickenpox could contract chickenpox if providing nursing care for this patient. Therefore, it would be best to assign this patient to a nurse who has a history of chickenpox.

2. Answer=a. Who is stable enough to transfer if anyone? Of the selections given the 6-year-old who had a VP shunt revision could be transferred and more than likely discharged to home. The most critical period for the patient with the newly revised shunt would be the first 24 hours after revision. This gives enough time to make sure the shunt is functioning properly and the child is not experiencing increased ICP. Besides this child is 3 days post-p. The 12 year old with a posterior spinal fusion is only 3 days post-op and is too fresh (or new) a post of patient to be transferred. The patients can be on the ventilator for 48 hours after surgery, and lung function is critical for this patient, as well as assessing for spinal cord damage post surgery. These patients need close monitoring and special assistance with moving. The spinal muscle atrophy patient is too new a diagnosis to be transferred to a floor. These patients have poor lung expansion and may require assistance with ventilation/airways due to weakened respiratory muscles. The patient being admitted does not need intensive care at this time. The child is being admitted for observation and seems to be within normal limits at this time, but needs close observation and seems to be within normal limits at this time, but needs close observations if complications were to develop.

3. Answer=a. Who can transfer? Of the patient’s listed “a” is the most stable. The meningitis if unstable would be in PICU probably with increased ICP problems. This child has been on antibiotics for 5 days and this could continue on the general pediatric floor. The spinal cord injury is too fresh of an injury to be moved. This patient will need to be evaluated more before transferring to a general/rehabilitation floor. The VP shunt should be evaluated 24 hours to make sure the new shunt is functioning. If not, the nurse could expect to note s/sx of increased ICP. The SMA patient is too unstable to go to the floor. The disorder, SMA, will compound the problems with pneumonia since the disorder can result in weakened muscles of the respiratory system. Poor lung expansion can make the pneumonia worse.
4. Answer=a. This patient should be in a private room to prevent the spread by airborne contamination. In addition, standard precautions should be implemented. Remember you are trying to protect staff and others without the disease from contracting TB. Airborne transmission means that the particles are < 5 mm and can stay suspended in the air for a period of time.

5. Answer=a. Totaling I & O is a usual task for a nursing assistant and would be an appropriate assignment. New patients should be assessed by a RN, however it is acceptable for the RN to get assistance with some of the information, the RN must verify all information. The assessment should be initiated within 15 minutes of the patient arriving on the floor and completed within one hour. Since this nursing assistant is in orientation it would be best if the nurse did the initial set of VS. Also, since the patient is a new admit he/she is considered unstable and therefore you should get the baseline vitals. Doing trach care, or changing a surgical dressing is not within a nursing assistants job description.

6. Answer=d. The six-year-old being worked up for abdominal pain would be within the scope of an LPN. Administering IV aminophylline is outside the scope of an LPN’s practice. The child with a trach and URI needs close assessment for respiratory distress and would be best assigned to an RN. The child with urethral implants will need close assessment and more than likely be receiving pain management (possibly IV). This family may require a lot of teaching related to surgery and care.

7. Answer=c. Bolus feeding by way of a gastrostomy tube would be the best assignment for the LPN. Administering morphine IVP would be out of the scope of practice for the LPN. The LPN can assess a new patient, but the RN must verify the information and cosign the assessment. Inserting a NG tube is out of the realm of practice for an LPN, however feeding by this route is acceptable.

8. Answer=a. Suctioning the tracheostomy should take priority. Remember airway first on patients. The other tasks are important but do not have the possibility of a blocked airway resulting in a life-threatening situation.

9. Answer=c. The unattended child should be checked first to make sure he/she is safe and having no complications. A child this age is entirely dependent on someone else.

10. Answer=d. The most urgent task is the peak medication level that needs to be drawn. If the level is not drawn at the appropriate time the results may not give an accurate report of what is needed to determine if the medication is at the appropriate dosage or not, and if the dosage is safe.

11. Answer=a. The only procedure that is within the LPN’s practice range is changing the colostomy bag. The other tasks must be performed by an RN.
12. Answer=c. The most appropriate task for a non-licensed person would be changing the foley bag. Removing an NG tube is the responsibility of a licensed person and changing the colostomy bag will need someone with experience/skill of performing this task. Nursing assistants can take VS, but they musts be very cautious in order to note changes and the patient should be assessed for any s/sx of reaction, therefore, it would be best for the licensed personnel to carry out this task.

13. Answer=c. The child having respiratory difficulty should be seen first. The other situations are important, but are not interfering with an immediate vital function such as airway and breathing.

14. Answer=d. It would be best to pair this child with the child with a urinary tract infection. They are close to the same age and this child’s condition does not require a quiet environment that could be interrupted by a hyperactive child. Crohn’s Disease, seizures, and asthma can all have an emotional component where stress can aggravate the condition.

15. Answer=a. The best assignment for the LPN would be the 2-day post op and the child admitted for developmental delays. Even though the child with developmental delays has a trach, the trach is old and does not require as much attention. Also, this child is not being admitted for respiratory problems, but for developmental problems. The diabetic requires much teaching and supervision as well as the child with asthma. Also, there may be medications for the child with asthma that the LPN could not administer. The child with dehydration will require close IVF monitoring.

16. Answer=c. The best answer is to have the LPN initiate the assessment and let the RN complete the assessment once he/she has completed the present task. Assessment on the new patient should be completed by a RN within eight hours of arriving on the unit. It is acceptable to let the LPN initiate the process. It would be best if a licensed person did a brief initial assessment on the child instead of the NA. At least in Answer c. the RN was going to verify the data.

17. Answer=d. Assessment is ongoing, however for each shift a baseline assessment should be done so the nurse can verify or make judgement regarding other findings throughout the shift. It is best to get the baseline as soon as possible once the new nurse arrives or the shift begins and update or reevaluate during the shift.

18. Answer=b. It would be best to consult the dietician. This would be in the realm of the nurse to initiate the consult. Children that have been on liquids without supplements for more than 3 days are at nutritional risk. Any patient at nutritional risk should be evaluated by a registered dietician.
19. Answer=c. Most states have laws that mandate that children under 7 years who present with fractures are to receive a consult to rule out neglect or abuse. Usually the social service departments handle these types of referrals. There is nothing wrong with d., but you only have one change to tell the NCLEX people you know you must do c. This is a safety issue.

20. Answer=a. In this particular situation a private room is best due to the elevated temperature. This could mean the child has an infection and is contagious.

21. Answer=a. The best choice would be the child with a fracture who is also an adolescent. Usually adolescents with anorexia nervosa losing weight are put on a behavior modification program and visitors are limited. Therefore, it would probably be best if the patient did not have a roommate. Pneumonia could be contagious and should not have a roommate. The patient with hypogammaglobulinemia should not be exposed to others due to the immunocompromised state.

22. Answer=a. Private room only for this patient because one restriction during behavior modification is no visitors. This requirement eliminates having a roommate.

23. Answer=d. Since the restraints are still needed and 24 hours have not passed, it would be acceptable to wait till the MD makes rounds. Orders for physical restraints must be written within a 24-hour period. Usually restraints are not used past 24-hour period. The order for the restraint should include why the patient requires physical restraints and a time period for using the restraints. This time period should not extend 24 hours.

24. Answer=c. The nursing assessment for should be completed and verified by an RN within 8 hours of admission. The nurse carrying out the assessment should initiate a plan of care as well.

25. Answer=c. The appropriate answer is to room her with the 10-year-old being worked up for sickle cell disease. This is an acceptable age/sex to pair as roommates. The fact that they both have a chronic illness is good and allows them each to see other in situations of limitations and how they adjust. It is not necessary for this child to be in a private room. The fever at a particular time of the day is symptom of juvenile rheumatoid arthritis and does not mean an infection. It would be inappropriate to room her with a 12-year-old male due to opposite sex and age. A 14-month-old is too young and their routines are too different.
26. Answer =b. A semiprivate room near the nurse’s station would be the best choice for this patient. Choice of roommate is important, and the roommate should be quiet and not extremely active to irritate the child with seizures. In addition to considering diagnosis when choosing roommates, it is important to look at the same age group and sex especially if children are older than toddlers are. However, in this situation a private room is not necessary. Often times, institutions with a mixture of private and semiprivate rooms, save private rooms for medical necessary conditions such as infected/contagious individuals.

27. Answer=a. It is not necessary to wear sterile gloves, when doing care. Clean gloves are acceptable and not expensive. RSV is an airborne, therefore documenting this on the door is acceptable, as well as, wearing a gown when administering meds. A 4-month-old can sneeze or drain oral secretions when a nurse gets close enough to administer meds. The gown would protect the nurse’s clothing. Wearing a mask is part of airborne precautions. Airborne precautions are used when the contagious particle is smaller than 5mm meaning they can be suspended in air for a period of time.

28. Answer=a. The nurse taking care of the appendectomy, bowel surgery, and developmentally delayed child has the set of patients that is less busy and would have minimal patient care needs.

29. Answer=a. It would be best to assign patients 1,2, & 3 to the RN. These patients will require more frequent assessment due to diagnosis and have a potential for more rapid change in condition. Also, these patients require more frequent assessment due to diagnosis and have a potential for more rapid change in condition. Also, these patients require skills by the RN, that the LPN could not do. For example, some of the IV medications that asthma patients take, teaching the family about seizures, meds, and management, and administering TPN intravenously which is not within the LPN’s scope of practice.

30. Answer=d. The information does not let you know if any of the nurses have had chickenpox or not. If a nurse has not had chickenpox then they should not care for the patient with shingles. The varicella zoster virus is responsible for chickenpox and shingles. This virus is lying dormant in the nerve ganglia and under certain conditions erupts (for example: stress). With the information you have it would be best not to assign the new admit to the nurse who is pregnant. The other set of nurses and patients have no contraindications to taking care of the patient with shingles.

31. Answer=c. a. and b. are wrong as they involve the nursing assistant in the assessment process. d. is wrong because the new admit is considered to be unstable; so the RN needs to see them quickly.
32. Answer=d. The pulled nurse should be assigned patients that have diagnosis similar to adults or that she is used to caring for. This would promote a safe environment for the patients at the pulled nurse’s skill level. The patients in choice “d” all have adult diseases that this nurse would be aware of. Some of the diseases or ages in the other choices might be unfamiliar for this nurse. For example: cystic fibrosis is basically a childhood disease even though some are living into adulthood now. A 4-year-old with JDMS is unique. JDMS affects children somewhat differently than adults. A 6-month-old with RSV needs different care than an adult. A 2-year-old needing diabetic teaching would be different from teaching an adult about the onset/treatment of diabetes. Also the disorders of Hirschsprung’s and clubfoot are specific to children.

33. Answer=a. When drawing blood a precaution is to wear gloves, so blood will not get on the nurse’s hands. Clean gloves are appropriate here. Sterile gloves are not necessary and cost more than clean gloves. Always change gloves between patients. Sterile gloves are not necessary when emptying containers of excreta, clean gloves are recommended and cost effective. The gown would not be necessary unless handling the patient/linens/bodily secretions. An IV pump could be checked without putting a gown on.

34. Answer=c. The nurse should be given an assignment similar to the patients/skill level she/he is accustomed. It would be best not to assign patients needing chemotherapy or requiring certain meds that are specific to the cancer treatment. Therefore, the choices in ‘c’ would be best. Even though one of the patients has leukemia, the child is not being treated for the leukemia, but rather the stomatitis. In choice “a” one of the CA patients is dying. This would not be a good choice since a stranger or a nurse the family/patient is not used to would be taking care of the child. In choice “b” there are two CA patients. One just completing chemotherapy that should be observed for adverse effects that the pulled nurse might not be familiar with. Choice ‘d’ would not be best since the nurse must have special preparation and an understanding of the protocol with a bone marrow transplant patient.

35. Answer=b. Since flushed cheeks is a sign of a blood reaction, it would be best for the nurse to discontinue the blood, notify the doctor, and inform the nurse so proper notation and procedures can be followed. Assume the worst.

36. Answer=d. A six-year-old being admitted for a sleep study appears to have the lowest skill level of the other patients. An infant with bacteremia requires IV antibiotics, the DKA will require insulin or an insulin infusion that would need close assessment by an RN, and the Crohn’s patient is receiving TPN is a skill required by an RN.
37. Answer=a. Children that have been in the hospital over 7 days should receive a nutrition consult. The child receiving TPN has already had evaluation and is receiving supplementation for his/her needs. The 2 year old only taking liquids is acceptable until he/she is only taking liquids for more than 3 days then they would be at a nutritional risk. The nine-month-old is beginning to be put back on formula at $\frac{1}{2}$ strength. Once this is tolerated then the strength will be advanced. Therefore this patient is not at risk.

38. Answer=c. Most reactions would occur within the first 30 minutes of receiving the infusion, therefore it would be best for the nurse to check the patient the first 15 minutes after the infusion has started. The nurse’s assessment skills are higher level and knowledge base for administering blood is broader than the nursing assistant has. It is appropriate to hang normal saline to flush the tubing. A fever of 101 indicates a reaction and the physician should be notified. Blood transfusion protocol requires that two nurses check blood order/products prior to administration.

39. Answer=c. It would be best to explore why the RN thinks her assignment is too heavy. Also, this will allow the charge nurse to analyze the situation to make a better decision as to whether or why the assignments should be changed. Just volunteering to take a patient would add more work to the charge nurse when this might not be necessary. The situation should be explored before bringing the supervisor in on the situation. It is important to hear what the nurse is saying and not cut her off by refusing to reassign the patients. Something new could have come up with the patients and the assignment could be too heavy and the charge nurse might not have realized all the responsibilities of taking this team of patients.

40. Answer=a. The shunt revision and the 4-day post op spinal fusion will be the most stable and will require the least skill level when compared with the other 3 choices. On a general pediatric unit the nurse would be familiar with checking for increased ICP which would be necessary for caring for the shunt revision. Also, the adolescent with spinal fusion would require special turning and assessment of lungs to prevent and observe for congestion/pneumonia. This would be skills the nurse has and expected when working on a general floor. Patients in the other assignments are more acute and require higher skill level.

41. Answer=a. Blood should hang for no longer than 4 hours because it increases the changes of a reaction. In this situation the blood was hanging for 5 hours which would predispose this patient to increase chances of a reaction. The other three choices are accurate or proper things to do when administering blood. Filters are used when infusing blood. Two nurses should check blood for accuracy of order and type of blood. Vital signs are checked frequently during the blood transfusion. For example: A baseline set of vital signs are taken, then 5 minutes after the initiation of the transfusion, then 15 minutes after transfusion started and every 15 minutes for one hour, then every 30 minutes for one hour, then hourly till infusion complete.
42. Answer=d. The pulled nurse should have an assignment similar to the types of patients and disease processes she is accustomed to caring for. By making this type of assignment her skill level required would be similar to the skill level on the unit she/he normally works. Because the RN is accustomed to working on a neurology unit seizures is a disorder she/he would be familiar with. Also, ankylosing spondylitis and closed head injuries are disorders that affect adults and have a neurological base. The other patients are more child/family oriented disorders that this nurse may not be accustomed to caring for.

43. Answer=a. For children under 7 years, most states have laws that mandate certain situations/circumstances be reported to social services/child protection. Among these things are: ingestions of toxic substances, fractures, suspected neglect or abuse, burns. For children over 7 years the health care provider uses their judgment as to whether the situation indicated neglect or abuse by the parents or caregivers. The child in a burned house would be reported only if the story were inconsistent as to how the house caught on fire or if foul play was suspected by the family. A child fighting at school is not good, but this doesn’t mean there is family abuse/neglect at home. A 12 month old that is sick may not take liquids, but the fact that the mother brought the child in means she is attentive and concerned. This would allow time to try and rehydrate the child to prevent dehydration.

44. Answer=b. A child with spinal muscle atrophy does not require a private room unless they have a contagious disease. So, in this particular situation the semi-private room would be best. Due to the type of disease it would be best for the child to be near the nurse’s station, so the nurses could watch/observe child more frequently. Spinal muscle atrophy results in muscular weakness and the child eventually cannot walk and requires assistance to breathe when respiratory muscle becomes weak. C. & d. are both infectious.

45. Answer=b. The four patients in choice “b” have conditions that the LPN can care for with little assistance from the RN. However patient 3 will probably have medications ordered that the RN will need to administer and assessment of lung status would be important. Patient 5 is admitted with septicemia and will probably require IV antibiotics. Patient 7 & 8 will need close observation and the higher level skill of an RN.

46. Answer=d. The admit assessment should be done first. It is important to initiate the assessment and physical within one hour of being on a general acute unit. Completion of the assessment and establishing a plan of care should be completed by 8 hours of admission. The other patient needs are important, but seem to be scheduled and established in a routine. These routines can be continued once the new patient’s assessment had been completed.
47. Answer=a. Gastroenteritis is contagious and if at all possible place the child in a private room, so other children would be less likely to contract the gastro. The 9-month-old with gastroenteritis could have a different microorganism that caused the illness and if roomed together they could cross-contaminate each other.

48. Answer=d. It would be best to assign the patient to the 55-year-old nurse because the patients she is caring for, do not have anything contagious which will decrease the risk of the burn patient becoming infected.

49. Answer=c. The least appropriate patient to assign the pulled nurse would be the suspected sexual abuse. The burned patient and the patient with a fracture would be similar to conditions adults might acquire, and the nurse’s skill level could transfer to these patients. The 2-month-old with BPD is different, but the concept and care of reflux is the same as in adult patients. Patients who have COPD is similar in adults as BPD is in infants. Caring for an abused child takes skill that must be developed from understanding the dynamics of abuse/family as well as working with a certain developmental level.

50. Answer=d. the fracture would be most appropriate for a LPN and his/her scope of practice. This LPN would need minimal assistance from the RN. The children with DKA, sickle cell crisis, and dehydration all will need close observation and good assessment skills. Possibly all could have IVF needs and medications that would require skill from a RN.
Assignment/Priority/Care Management Questions

1) A 17-year-old is admitted with Irritable Bowel Syndrome and Shingles. The charge nurse is making assignments for the 3-11 shift. Which of the following RNs should not be assigned to this patient?
   a. A RN with a history of roseola
   b. A RN with no history of roseola
   c. A RN with a history of chicken pox
   d. A RN with no history of chicken pox

2) The six bed spinal/neurology unit is full when the charge nurse receives a call from the emergency department nurse stating that they need a bed for an 18 month old who was reported by parents as being unconscious for several minutes after falling down six steps. Presently, the child is alert and responds to his parents. Pupil checks and vital signs are within normal limits. The neurologist is admitting the child for observation for neurological complications. What is the best action for the charge nurse?
   a) Transfer a 6-year-old who is 3 days post op from a VP shunt revision to a surgical pediatric floor
   b) Transfer a 15-year-old who is 3 days post op from having posterior spinal fusion to the surgical pediatric floor
   c) Transfer a 10-year-old with spinal muscle atrophy admitted with pneumonia 24 hours ago to a general pediatric floor
   d) Request that the child be admitted to the pediatric intensive care unit

3) The six-bed spinal/neurology unit is full at 6 am when the nursing supervisor makes rounds. The supervisor informs the charge nurse that there is posterior spinal fusion case to be done in the OR this am. Of the following patients who would be the most appropriate for the charge nurse to suggest for transfer?
   a) A 5 year old that was admitted for meningitis five days ago
   b) A 6 year old who suffered a spinal cord injury five hours ago
   c) A 2 year old with a VP shunt revision that was admitted during the night
   d) A 4 year old with spinal muscle atrophy admitted with pneumonia 2 days ago

4) A 15-year-old male is admitted to the general pediatric floor with a diagnosis to rule out tuberculosis. What room assignment by the charge nurse would be best?
   a) Private room only
   b) Private room and place on protective isolation
   c) Room with a 15 year old male with a respiratory infection
   d) Room with a 17 year old male being worked up for developmental delays
5) A CNA (certified nursing assistant) is in orientation on the pediatric unit. The charge nurse is working with the CNA on this shift. Which of the following assignments would be appropriate for the CNA under the supervision of the charge nurse?
   a) Totaling I & O records on five patients at the end of the shift
   b) Assessing VS on a patient that was admitted 30 minutes ago
   c) Performing trach care on a patient that is 5 days post a tracheostomy procedure
   d) Changing an abdominal surgical dressing on a patient that is 3 days post op

6) The charge nurse is making assignments on a pediatric floor. In addition to the charge nurse there are 2 RNs and 1 LPN. Which patient is most appropriate for the charge nurse to assign to the LPN?
   a) A five year old with asthma that is receiving an aminophylline IV
   b) A three year old with a tracheostomy since birth admitted for an URI
   c) An eight year old that is two days post op from having urethral implants
   d) A six year old that was admitted three days ago for a work up for complaints of abdominal pain

7) The RN is busy assessing a post op patient that just returned to the floor. Which of the following task would be appropriate for the charge nurse to assign to a LPN?
   a) Assessing a patient that was just admitted to the floor
   b) Administering morphine IV push to a two day post op patient
   c) Bolus feeding a patient that has a gastrostomy tube
   d) Reinserting a NG tube that a patient accidentally pulled out

8) Which task by the RN should be performed first?
   a) Suctioning the tracheostomy
   b) Changing a colostomy bag that is leaking
   c) Performing an admission assessment on a patient that has been on the floor 45 minutes
   d) Administering pain medication for a patient that returned from a surgical procedure 8 hours ago

9) A RN just got out of shift report. Of the following patients who should be seen first?
   a) An eight year old that is in skeletal traction
   b) A six year old that had an appendectomy 6 hours ago
   c) A two year old admitted for a sleep study that is unattended
   d) A four year old cerebral palsy child with a tracheostomy admitted for UTI

10) While a nurse was in shift report, four of her patients called the nurse’s station. Which patient should the nurse see first?
    a) An 8 year old whose colostomy bag is leaking
    b) A two day post op patient requesting pain medication
    c) A 2 year old admitted with Failure To Thrive, whose mother requested formula
    d) A patient who needs a peak blood level drawn because the antibiotic just finished infusing
11) Which of the following would be appropriate for the nurse to assign to an LPN?
   a) Changing a colostomy bag
   b) Hanging a new bag of TPN
   c) Drawing a peak antibiotic blood level from a central line
   d) Administering IV pain medication to a two day post op patient

12) The nurse is busy with a new admission. What assignment would be appropriate for the CNA since the nurse is busy with another patient?
   a) Removing a NG tube
   b) Changing a colostomy bag
   c) Changing a foley catheter bag
   d) Taking vital signs on a patient receiving blood

13) Which patient should be seen by the Emergency Department nurse first?
   a) A six year old with a femur fracture
   b) A two year old with a fever of 102 degrees F
   c) A three year old with wheezes in right lower lobe
   d) A two year old whose gastrostomy tube came out

14) Which room assignment by the charge nurse would be appropriate for a nine-year-old child with ADHD?
   a) Rooming with a ten year old with Crohn’s disease
   b) Rooming with an eight year old with a history of seizures
   c) Rooming with a six year old admitted with clean asthma
   d) Rooming with a seven year old with a urinary tract infection

15) The following patients are on the pediatric floor. Which assignment by the charge nurse would be appropriate for a LPN?
   a) c, e
   b) a, d
   c) c, f
   d) e, f

   a. six year old with new onset diabetes
   b. two year old with asthma admitted yesterday
   c. fourteen year old two days post op appendectomy
   d. a six month old admitted with moderate dehydration
   e. four year old with a tracheostomy since birth admitted for developmental studies
   f. a ten year old scheduled for bowel surgery in the AM that is going through bowel preparation
16) An eight year old admitted with biliary atresia has just arrived on the pediatric unit. The unit is very busy and the other RNs are busy with other patients at this moment. What action by the charge nurse would be most appropriate?
a) Instruct the child care assistant to obtain vital signs and a weight on the patient until an RN can do a complete assessment
b) Assign an LPN to perform the initial nursing history and physical assessment on this patient
c) Have an LPN perform an initial assessment until an RN can verify the findings and complete the admission assessment
d) Inform one of the RNs that a new patient is on the floor and that a nursing history should be completed when he/she can get to it

17) The charge nurse is orienting a newly graduated RN to the pediatric unit. Which of the following would be appropriate for the charge nurse to explain to the new RN regarding assessment of patients?
a) One assessment should be done daily on each patient
b) An assessment should be done daily on each patient at the beginning of the shift
c) Assessments of patients should be updated as the nurse provides care to patients
d) Assessments on patients should be done as soon as possible on each shift and updated as nursing care is provided

18) A 10-year-old was admitted 5 days ago with acute gastroenteritis (AGE). Present assessment indicates the patient’s VS are stable, there is minimal diarrhea, no N/V, intake of clear liquids, but refuses solid food. What action by the nurse is most appropriate?
a) Notify the physician
b) Consult the dietician
c) Order a full liquid diet
d) Order a regular diet and request the child’s favorite foods

19) Parents brought their 5-year-old to the emergency room for pain and swelling in the left arm. An x-ray of the arm confirmed a fracture. What action by the nurse is most appropriate?
a) Prepare the child for casting
b) Ask the physician to order bone series film
c) Consult social services to rule out child abuse
d) Obtain a history as to how the accident happened

20) What room assignment by the charge nurse is most appropriate for a 15 year old patient with a history of biliary atresia that is being admitted with poor appetite, malaise, and temperature of 100.3?  
a) A private room
b) Rooming with a 5 year old with biliary atresia
c) Rooming with a 15 year old that is 3 days post op from appendectomy
d) Rooming with a 16 year old with that is in skeletal traction due to fracture
21) A 15-year-old is being admitted with pelvic inflammatory disease secondary to gonorrhea. What would be an appropriate room assignment for the charge nurse to make?
   a) Rooming with a 18 year old that sustained a compound fracture when involved in a MVA
   b) Rooming with a 15 year old diagnosed with anorexia nervosa that is losing weight
   c) Rooming with a 13 year old with a history of asthma admitted with pneumonia 2 days ago
   d) Rooming with a 14 year old with complications due to history of having hypogammaglobulemia

22) A teenager diagnosed with anorexia nervosa weighing 70 pounds is being admitted for behavior modification. What room assignment by the charge nurse is most appropriate?
   a) Private room only
   b) Rooming with a 15 year old diagnosed with Crohn’s Disease
   c) Rooming with a 16 year old admitted with pneumonia 5 days ago
   d) Rooming with a 14 year old diagnosed who had an appendectomy 2 days ago

23) During shift change the night charge nurse reported to the day charge nurse that the 17-year-old patient in room 302, admitted with an ingestion of unknown drugs, was physically restrained last night at 8:00 pm. The reasons for the restraints were that the patient was incoherent, combative, and attempting to leave the facility. No family members were present. The night charge nurse noted that there was no physician order for the restraints, and on her last assessment of the patient 30 minutes ago he was still combative. What is the best action by the day shift charge nurse?
   a) Assume the patient is still combative and proceed with restraints
   b) Remove restraints until the physician hand writes the order
   c) Assign a nursing assistant to check on patient periodically
   d) Obtain an order by the physician when he makes rounds this shift

24) The 3-11 shift charge nurse is making rounds on the pediatric unit. The charge nurse notes that a 12 year old admitted at 11 am was assigned to a LPN during the 7-3 shift. What would be the most appropriate action by the charge nurse?
   a) Assess the patient yourself, so problems can be noted on care plan
   b) Assign a RN to initiate and document a plan of care on this patient
   c) Check to see if a RN verified the assessment and signed the nursing assessment form
   d) Check to see if the family is satisfied with having a LPN assigned to care for them
25) A 12-year-old female, with a history of juvenile rheumatoid arthritis, is being admitted for re-evaluation. The child reported the following symptoms for the last week: temperature of 103 at 4:00 pm everyday, increase pain in joints, loss of appetite, and fatigue. What would be an appropriate room assignment by the charge nurse?
   a) Private room only
   b) Rooming with a 12 year old male in skeletal traction due to a fracture femur
   c) Rooming with a 10 year old female that had been admitted for sickle cell disease
   d) Rooming with a 14 month old female that has been admitted for orthopedic surgery

26) What would be the most appropriate room assignment for the charge nurse to make for a 6 year old child with seizures whose family cannot stay with the child at all times?
   a) A private room
   b) A semi-private room at the nurse’s station
   c) Rooming with a preschooler admitted with behavioral problems
   d) Rooming with a school age child admitted for developmental delays

27) The charge nurse is observing a student nurse that is caring for a 4-month-old infant in isolation diagnosed with RSV. Which of the following would indicate to the charge nurse that the student nurse needs further instruction on isolation standards?
   a) Donning sterile gloves each time she goes in the room
   b) Wearing a clean mask each time she goes in the room
   c) Labeling the door so staff will use Airborne Precautions
   d) Wearing a gown when she goes in the room to administer a medication

28) The charge nurse was notified that a 5-year-old is being admitted in sickle cell crisis. Each nurse has the following assignments. Which nurse would be most appropriate for the charge nurse to assign the new patient to?
   a) The nurse who is taking care of a 4 year old who had a routine appendectomy, a 3 year old who had bowel surgery, and a 10 year old with developmental delays.
   b) The nurse who is taking care of a 6 month old with RSV, a 3 year old with exacerbation of asthma, and a 6 year old with a urinary tract infection for 2 weeks
   c) The nurse taking care of a 9 year old newly diagnosed with diabetes, a 6 year old with end-stage renal disease, and a 2 year old with contact dermatitis
   d) The nurse taking care of a 8 year old with skeletal traction, a 5 year old with cerebral palsy, and a 12 year old with cystic fibrosis
29) The charge nurse is making assignments on a pediatric unit. There is one RN and one LPN assigned to work the unit today. Of the following patients which would be most appropriate for the charge nurse to assign to the RN?

1. A 2 year old with asthma
2. A 6 year old with new onset seizures
3. A 12 year old with colitis receiving TPN
4. A 2 month old with urinary tract infection
5. A 3 year old with developmental delays
6. A 10 year old paraplegic in for bowel training

a) Assign the RN to patients 1, 2, & 3
b) Assign the RN to patients 2, 4, & 5
c) Assign the RN to patients 3, 4, & 6
d) Assign the RN to patients 4, 5, & 6

30) The nursing supervisor notified the charge nurse on a pediatric unit that a 12-year-old with a history of developmental delays is being admitted with shingles. The nurses on the floor have the following assignments. It would be inappropriate for the charge nurse to assign this patient to which nurse?

a) A 58 year old nurse caring for patients with nephritis, irritable bowel syndrome, and appendectomy
b) A new nurse just out of orientation caring for patients diagnosed with RSV, asthma, and anorexia nervosa
c) A 30 year old nurse caring for patients diagnosed with spina bifida, Hirschsprung’s Disease, and irritable bowel syndrome
d) A pregnant nurse caring for patients with cystic fibrosis, myelomeningocele, and Turner’s syndrome

31) A nurse is caring for her patients when the charge nurse notifies the nurse that her new admit just arrived on the floor. What action by the nurse is most appropriate?

a) Ask the nursing assistant to complete emptying the catheter bag, and go assess the new admission
b) Ask the nursing assistant to take VS on the new admit and begin the history until she can get there
c) Ask the graduate nurse on the floor to initiate the assessment process until she can get there
d) Ask the unit secretary to make the patient and family comfortable until she can complete her present task
32) A nurse from the adult medical unit was reassigned to the general pediatric unit today. Which of the following set of patients would be most appropriate for the charge nurse to assign to the pulled nurse?
   a) A 6 year old with cystic fibrosis, an 8 year old with new onset seizures, a 4 year old with juvenile dermatomyositis
   b) A 12 year old with systemic lupus erythematosi, a 6 month old with RSV, and a 4 year old with external fixation device for leg lengthening
   c) A 10 year old with new diagnosis of diabetes, a 2 year old with Hirschsprung’s Disease scheduled for surgery, and a one year old for clubfoot repair
   d) A 17 year old with suspected new onset andylosing spondylitis, 15 year old with Crohn’s disease, and 10 year old with an exacerbation of asthma

33) Which of the following behaviors by a new nurse would alert the charge nurse that this nurse is following standard precautions?
   a) Wearing clean gloves when performing a heel stick on an infant
   b) Not changing gloves in between assessment of patients in the same room
   c) Wearing sterile gloves when changing the urine bag and nasogastric canister of an infected patient
   d) Donning a gown when responding to a request by the family to check the IV pump on a patient with rotovirus

34) A general pediatric nurse is being reassigned to the hematology/ oncology pediatric unit. Which of the following assignments by the charge nurse would be most appropriate for the pulled nurse?
   a) A 6 year old with sickle disease, a 10 year old dying with leukemia, and a 2 year old newly diagnosed ITP (idiopathic thrombocytopenia purpura)
   b) A 2 year old with an initial sickle cell crisis, a patient with stomatitis that just completed chemotherapy, and a leukemia patient admitted for a unit of PRBCs
   c) A 4 year old with ITP, and 8 year old with sickle cell in for pain management, and a 7 year diagnosed with leukemia admitted for stomatitis
   d) A 3 year old admitted with suspected Wilm’s tumor, a 12 year old in sickle cell crisis, and a 8 year old just admitted for bone marrow transplant

35) The charge nurse is supervising a new nurse on the floor that just passed her board exams four weeks ago. The new nurse has a 4-year-old that is receiving blood. The new nurse hung the blood approximately 1 ½ hours ago. When making patient rounds the charge nurse observes that this child has flushed cheeks. What is the most appropriate response by the charge nurse?
   a) Inform the physician
   b) Discontinue the blood infusion
   c) Notify the new nurse of the findings
   d) Ask the nursing assistant to take vital signs
36) It would be most appropriate for the charge nurse to assign a LPN to which of the following patients?
   a) A 6 month old with bacteremia
   b) An 8 year old admitted with DKA
   c) A 12 year old with Crohn’s receiving TPN
   d) A 6 year old admitted to have a sleep study

37) The charge nurse is making rounds on the patients. Which of the following findings would indicate to the charge nurse that the patient is at risk and should receive a nutrition consult?
   a) A 6 year old that had surgery 10 days ago
   b) A 12 year old admitted 5 days ago receiving TPN
   c) A 2 year old that is only taking liquids since admission two days ago
   d) A 9 month old admitted 3 days ago for diarrhea that is now on ½ strength formula

38) The charge nurse is supervising a RN that is in orientation. Which of the following would indicate to the charge nurse that the RN needs more instruction on administering blood?
   a) When the RN used a bag of normal saline to prime the tubing
   b) When the RN notified the physician that the child had a fever of 101
   c) When the RN got the nursing assistant to check VS after the first 15 minutes of the infusion
   d) When the RN got a second nurse to check the blood order/product prior to hanging the blood

39) A RN approaches the charge nurse after she makes initial assessment rounds on her patients this morning. The RN tells the charge nurse her load is too heavy and that she needs to reassign at least one of her patients to another nurse. What is the best response of the charge nurse?
   a) “I can take one of your patients”
   b) “Notify the nursing supervisor of the dispute”
   c) “Ask the RN why she thinks her assignment is too heavy”
   d) “Explain to the RN that this is not possible because all nurses have the same number of patients”

40) A RN on the general pediatric unit has been reassigned to the spinal/ neurology unit. What assignment by the charge nurse would be appropriate for the RN?
   a) A child with spina bifida that had a shunt revision, and an adolescent that is 4 days post op from a spinal fusion
   b) A child with a ventriculostomy that had surgery the day before, and a child with spinal muscle atrophy that is ventilator assisted
   c) A child with cerebral palsy that had a tracheostomy performed this am, and a child with closed head injury from an accident 3 days ago
   d) A child with an intercranial screw whose ICP is stable, and a child with myelomeningocele that had a skin graft due to a decubitus ulcer in the sacral area
41) What situation would alert the charge nurse that a RN transferred to the pediatric unit needs an inservice on blood administration?
   a) The blood infused for 5 hours
   b) A filter was used when administering the blood
   c) The nurse got a second nurse to check the blood compatibility and product
   d) The nurse got a set of vital signs 5 minutes after the blood infusion was started

42) The following patients are on the pediatric unit. Which assignment would be most appropriate for a RN that was pulled from an adult neurosurgical unit?
   (1) Six year old with new onset diabetes
   (2) Fourteen year old admitted for a work-up with new onset seizures
   (3) Five year old with spinal muscle atrophy that is ventilator assisted
   (4) Six month old admitted with moderate dehydration
   (5) Seventeen year old with ankylosing spondylitis
   (6) Ten year old with a closed head injury admitted for a rehabilitation evaluation

   a) Assign the nurse to patients 1, 3, & 6
   b) Assign the nurse to patients 1, 2, & 4
   c) Assign the nurse to patients 2, 3, & 5
   d) Assign the nurse to patients 2, 5, & 6

43) The emergency department charge nurse is reviewing the patients triaged in the last 30 minutes. Which of the following is the nurse required to obtain a social service consult?
   a) A 6 year old that drank some diluted bleach
   b) A 10 year old that suffered burns in a house fire
   c) A 12 year old that fractured his arm in a fight at school
   d) A 12 month old without any oral intake for the last 12 hours

44) What room assignment by the charge nurse would be best for a 4-year-old with spinal muscle atrophy?
   a) Private room
   b) Semi-private room near the nurse’s station
   c) Rooming with a 4 year old admitted 4 days ago with rotovirus
   d) Rooming with a child with cystic fibrosis receiving IV antibiotics
45) The charge nurse on a pediatric unit is making assignments on the following patients. Which assignment is appropriate for a LPN that routinely works the pediatric unit?

(1) A 16 year old with ankylosing spondylitis
(2) A 10 year old paraplegic in for bowel training
(3) A 2 year old with asthma admitted 3 days ago
(4) A 6 month old receiving oral rehydration therapy
(5) A 3 month old admitted with possible septicemia
(6) A 7 year old in Buck’s traction for a femur fracture
(7) A 10 year old transferred from ICU yesterday with a head injury
(8) A 6 year old scheduled for reconstructive urinary surgery in two days

a) Patient’s 1, 3, 5, & 7
b) Patient’s 1, 2, 4, & 6
c) Patient’s 2, 4, 6, & 8
d) Patient’s 3, 5, 7, & 8

46) What task by the RN should be performed first?

a) Changing a burn dressing that is scheduled every four hours?
b) Doing pinsite care on a patient in skeletal traction ordered TID
c) Teaching a new diagnosed diabetic and mother about diet and exercise
d) Performing an admit assessment on a patient that has been on the unit one hour

47) The supervisor notifies the charge nurse on the pediatric floor that a 6-month-old is being admitted with acute gastroenteritis. What room assignment is most appropriate?

a) Private room
b) Rooming with a 2 month old admitted with bacteremia
c) Rooming with a 9 month old admitted with gastroenteritis
d) Rooming with a 6 month old with urinary tract infection

48) The charge nurse was notified that a patient with 2nd degree burns is being admitted to the floor. It would be most appropriate for the charge nurse to assign this patient to:

a) A 28 year old nurse caring for a patients with spina bifida, Hirschsprung’s Disease, and acute gastroenteritis
b) A new nurse out of orientation for 2 months caring for patients diagnosed with RSV, asthma, and anorexia nervosa
c) A pregnant nurse caring for patients with cystic fibrosis, biliary atresia, and Turner’s Syndrome
d) A 55 year old nurse caring for patients with nephritis, irritable bowel syndrome, and post op appendectomy

49) A nurse from an adult unit was reassigned to the pediatric unit. Which of the following patients would be least appropriate to assign to this nurse?

a) A 10 year old with 2nd and 3rd degree burns
b) A 5 year old that was a MVA and has a femur fracture
c) A 6 year old admitted for evaluation of possible sexual abuse by a parent
d) A 2 month old with bronchopulmonary dysplasia being admitted for reflux
50) A pediatric nurse is taking care of the following patients. The nurse tells the charge nurse she must leave due to a family emergency. Which patient would the charge nurse reassign to a LPN?
   a) An eight year old in DKA
   b) A six year old in sickle cell crisis
   c) A two month old with dehydration
   d) A five year old in skeletal traction
Maternity Priority Questions

1. The six-bed LDR is full when the ED calls for a bed for a woman complaining of low back pain, pelvic pressure and increased vaginal discharge at 36 weeks gestation. Which would be the most appropriate action for the charge nurse?

   A. Transfer a G4P4 who delivered full-term twins one hour ago to the antepartum/postpartum floor
   B. Transfer a G3 P2 at 34 weeks gestation with contractions q 10 minutes to the antepartum/postpartum floor
   C. Transfer an 8 hour postpartum G1P1 on Magnesium Sulfate for eclampsia from the LDR unit to the ante/postpartum unit.
   D. Request that the new client be admitted to the antepartum/postpartum floor

2. A client at 32 weeks gestation is admitted to the obstetric unit with a BP of 142/90 and 1+ proteinurea. No private rooms are available. Which room assignment should the charge nurse make?

   A. A semi-private room with a postpartum woman who delivered at term
   B. A semi-private room with a woman in preterm labor at 35 weeks gestation
   C. A semi-private room with a woman with placenta previa at 37 weeks gestation
   D. A semi-private room with a woman with PIH at 34 weeks gestation

3. A client at 34 weeks gestation with PIH complains of "heartburn." Which of the following actions by the nurse has priority?

   A. Administer an antacid per standing orders
   B. Check her blood pressure
   C. Call the physician immediately
   D. Assure her this is a normal discomfort of pregnancy

4. The nurse on the antepartum/postpartum unit has the following clients. Which client should she see first?

   A. A G1P1 18 hours postpartum with an oral temp of 100.1
   B. A G2P2 3 hours postpartum complaining of uterine contractions
   C. A G1P1 48 hours postpartum complaining of profuse diaphoresis
   D. A G2P2 12 hours postpartum complaining of right calf pain
5. A client dilated to 6 cms is receiving an epidural. Which is the priority nursing action?
   
   A. Continuous monitoring of maternal blood pressure  
   B. Frequent auscultation of the fetal heart rate  
   C. Administer an IV fluid bolus of at least 500 cc  
   D. Frequent monitoring of the maternal temperature

6. A client who is one day postpartum has the following lab results. Which of the following lab values should be reported to the physician immediately?
   
   A. Hemoglobin of 11 gm/dl  
   B. White Blood Cell count of 22,000 mm3  
   C. Hematocrit of 18 percent  
   D. Serum glucose of 80 gm/dl

7. Which of the following postpartum clients must have a private room?
   
   A. A client who has antibodies for Hepatitis C  
   B. A client who is rubella non-immune  
   C. A client who is rubella immune  
   D. A client who has lupus antibodies

8. Which of the following tasks are inappropriate to be assigned to the LPN on an LDRP?
   
   A. Assessment on a primipara in for "rule out labor"  
   B. Vital signs on a client delivered 15 minutes ago  
   C. Assisting a 15 year old primipara with breastfeeding  
   D. Administering terbutaline to a client in preterm labor

9. A primipara at 36 weeks gestation is seen in the OB/GYN clinic. Which of the following signs/symptoms should the nurse immediately report to the physician?
   
   A. Puffy hands and face  
   B. Complaints of dyspnea  
   C. Pedal edema  
   D. Trace proteinurea
10. A primipara is admitted to the LDR at term in active labor and with frank rupture of membranes. Her last vaginal exam one hour ago revealed that she was dilated to 6 centimeters, 100% effaced, and at -1 station. The client calls out "My belly really hurts; I feel like I have to have a bowel movement!" Which of the following actions should the RN perform first?

A. Offer her a bedpan
B. Assist her to the toilet
C. Prepare for epidural administration
D. Perform a sterile vaginal exam

11. Which of the following tasks would be appropriate for the LDRP charge nurse to assign to a LPN?

A. Administering IV pain medication to a client three days postop cesarean section
B. Drawing a trough vancomycin level on a client one week postpartum with mastitis
C. Teaching a primipara who is four hours postpartum how to perform perineal care
D. Drawing routine admission labs on a client admitted to the observation room in early labor

12. The postpartum nurse is busy with a new admission. Which of the following assignments would be most appropriate for the CNA (certified nursing assistant)?

A. Discontinuing the INT on a client who is 24 hours postpartum
B. Inserting an in-and-out catheter on a client 5 hours after delivery
C. Taking vital signs on a client in the transition phase of labor
D. Removing a foley catheter on a client 24 hours after delivery

13. While the postpartum nurse was in report, four of her clients called the nurses' station for assistance. Which client should the nurse see first?

A. A client with three dime sized clots on her perineal pad
B. A breastfeeding client who is complaining of uterine cramping
C. A client complaining of blood running down her legs upon standing
D. A client who had an epidural and is now complaining of a headache
14. The newborn nursery is filled to capacity. Which of the following infants should the RN assess first?

A. A one hour old female who is sucking her fist  
B. A two day old female who is crying loudly  
C. A three day old male two hours after circumcision  
D. A three hour old male who is just waking up

15. A term male infant was just delivered vaginally. Which of the following actions by the nurse has priority?

A. Apply identification bands  
B. Apply eye ointment  
C. Dry the baby  
D. Obtain footprints

16. The postpartum night shift staff is composed of a charge nurse, two LPNs and one nursing assistant. Which of the following assignments is appropriate for the charge nurse to make to the nursing assistant?

A. Total the intake and output on a postpartum client receiving IV fluids  
B. Vital signs and physical assessment on a two hour postpartum client  
C. Administration of prenatal vitamins and iron to a two day postpartum client  
D. Monitoring a six hour postpartum client on IV Magnesium Sulfate

17. A client dilated to 10 and with the presenting part at -2 station spontaneously ruptures her membranes. The RN notes that the fluid is colored green. Which of the following nursing actions have priority?

A. Prepare the client for an emergency cesarean delivery  
B. Prepare the client for an immediate high forceps delivery  
C. Prepare equipment for immediate suctioning of the newborn  
D. Prepare to speed labor with administration of IV Pitocin (Oxytocin)

18. A client is admitted to the LDR from the emergency room at 34 weeks gestation with profuse, painless, bright red vaginal bleeding. The priority action by the RN is which of the following?

A. Prepare for a sterile vaginal exam  
B. Prepare for an ultrasound exam  
C. Prepare for an amniocentesis  
D. Prepare for a contraction stress test
19. The four room LDR is full. Which of the following clients should the charge nurse see first?

A. A primipara at 39 weeks gestation dilated to three centimeters and at minus two station who stated "I think my water just broke"
B. A multigravida at term who is dilated to six centimeters and at minus one station with moderate contractions every five to ten minutes
C. A primipara at 38 weeks gestation who is dilated to five centimeters and at zero station with strong contractions every four minutes
D. A multigravida at 36 weeks gestation with pregestational diabetes in for a biophysical profile for fetal well being

20. The RN assesses a multigravida who is four hours postpartum. She finds that the fundus is firm, 1 centimeter above the umbilicus, and deviated to the right side. The lochia is moderately heavy and bright red. Which of the following nursing interventions has priority?

A. Massage the fundus
B. Administer IV Pitocin
C. Document these normal findings
D. Assist the client up to void

21. Which of the following clients should the labor nurse see first?

A. A primigravida on IV Magnesium Sulfate with deep tendon reflexes of 2+
B. A multigravida on PO Terbutaline with a pulse rate of 110
C. A primigravida on IV Pitocin with contractions every 3-4 minutes
D. A multigravida on PO Aldomet with a blood pressure of 142/86

22. A client is admitted to the OB unit who had her last menstrual period 10 weeks ago. She is currently complaining of sharp lower right-sided abdominal pain. The priority nursing assessment should focus on which of the following?

A. Presence of fetal heart tones
B. Right sided shoulder pain
C. Bright red vaginal bleeding
D. Severe uterine cramping
23. A client is pregnant with her first child at 27 weeks gestation. Which of the following client learning needs has priority at this stage of her pregnancy?

A. Appropriate nutrition  
B. Signs of preterm labor  
C. Fetal teratogens  
D. Newborn care

24. A client at 36 weeks gestation is receiving Magnesium Sulfate for treatment of pre-eclampsia. Which of the following findings requires immediate action?

A. Respiratory rate of 12  
B. Deep tendon reflexes of 3+  
C. Urinary output of 100cc/4hours  
D. Fetal heart rate of 110

25. All of the beds in a 10 bed LDRP unit are full when one of the RNs assigned that day calls in sick. A RN from the Med/Surg unit is pulled to postpartum. The charge nurse should assign her which of the following clients?

A. A client at 32 weeks gestation on oral terbutaline with 4 contractions/hour  
B. A client one hour postpartum with a continuous trickle of vaginal bleeding  
C. A client 2 hours postpartum with complaints of intense perineal pain  
D. A client at 36 weeks gestation with a blood pressure of 145/88

26. Which task by the term nursery RN should be performed first?

A. Preparing the circumcision equipment for a two day old newborn male  
B. Using a bulb syringe to suction a newborn who is gagging on formula  
C. Performing the gestational age assessment on a 30 minute old newborn female  
D. Obtaining the blood sample on a 24 hour old newborn for metabolic testing

27. The following newborns are in the term nursery. Which would be appropriate to assign to the LPN?

A. A newborn at 12 hours of age with a direct bilirubin of 3 gm/dl  
B. A newborn at 24 hours of age with a positive direct Coombs test  
C. A newborn at 18 hours of age with "peach" colored skin  
D. A newborn at 36 hours of age with acrocyanosis
28. The emergency department called the LDR to give report on a 24-year-old primigravida at term and having contractions every 5-8 minutes. The unit is very busy and all the RNs are busy with other clients. What action by the charge nurse would be most appropriate?

A. Request that the emergency department hold the client until one of the RNs is available to do the initial assessment
B. Instruct the L.P.N. to obtain initial vital signs and hook the client to the fetal monitor and then report this data to the charge nurse
C. Assign an LPN to complete the nursing history and an initial obstetric assessment on this client
D. Inform one of the RNs that a new client is coming up from the ED and that a nursing history should be completed as soon as possible

29. Which of the following clients must be assigned to a private room?

A. A primiparous client who delivered twins at 28 weeks gestation two days ago
B. A postpartum client on IV Ampicillin and Gentamycin for chorioamninitis
C. A postpartum client who's 2 hour old infant is being worked up for sepsis
D. A 32 hour postpartum client with an oral temperature of 100.5

30. A client delivered a term male infant four hours ago. The infant was stillborn. Which of the following room assignments would be most appropriate for this client?

A. Request a private room on the GYN floor
B. Assign her to a private room on the postpartum unit
C. Discharge her home as soon as her condition is stable
D. Room her with another client with a pregnancy loss

31. Which of the following clients should be assigned to a room closest to the nurse's station?

A. A multigravida admitted with a new diagnosis of gestational diabetes
B. A primigravida admitted with a diagnosis of pre-eclampsia
C. A primigravida admitted with a diagnosis of complete abortion
D. A pregestational diabetic admitted for glycemic control
32. The charge nurse observes a new graduate nurse that is caring for a client with oral herpes simplex type II. Which of the following behaviors by the new graduate indicate that she needs further instruction on transmission of this disease?

A. She tells the new mother that she should not kiss the newborn  
B. She wears gloves during the perineal and lochia assessment  
C. She washes her hands before and after each client contact  
D. She states that the newborn may contract herpes from the birth canal

33. The charge nurse is making assignments on the LDRP unit. There is one RN and one LPN assigned to work the unit today. Of the following patients which would be the most appropriate for the charge nurse to assign to the LPN?

1. A primipara needing assistance with first time breastfeeding  
2. A multipara complaining of a headache and epigastric discomfort  
3. A primipara who is two days post-op cesarean section  
4. A multipara four hours after delivery of a 10 pound baby  
5. A primipara receiving IV Ampicillin for beta strep  
6. A multipara post-op cesarean section with a PCA pump

A. Assign the LPN to clients 1, 2, & 3  
B. Assign the LPN to clients 2, 4, & 5  
C. Assign the LPN to clients 1, 3, & 4  
D. Assign the LPN to clients 4, 5, & 6

34. A newborn is admitted to the nursery with a diagnosis of rule out cytomegalovirus. Which of the following RNs should not be assigned to this baby?

A. A nurse just back from maternity leave  
B. A nurse who is 10 weeks pregnant  
C. A nurse who is breastfeeding her 4 month old  
D. A nurse who is on hormone replacement therapy

35. Which of the following behaviors by a student nurse would alert the LDRP charge nurse that the student is following standard infection control precautions?

A. Wearing clean gloves to convert an IV to an INT  
B. Donning sterile gloves for a cesarean dressing change  
C. Wearing a mask while caring for a client positive for trichinosis  
D. Donning gloves to care for a client exposed to toxoplasmosis
36. After artificial rupture of membranes, the baseline fetal heart rate tracing begins to show sharp decreases with a rapid recovery with and between contractions. Which of the following actions by the RN has priority?

A. Position the client on her left side  
B. Increase the IV fluid rate  
C. Place the client in the knee-chest position  
D. Administer oxygen per tight face mask

37. The newborn nursery is full at the beginning of the 3-11 shift. Which of the following infants should the RN assess first?

A. A newborn with a positive Babinski's reflex  
B. A newborn with circomoro cyanosis  
C. A newborn with a negative Ortalini's sign  
D. A newborn with telangiectatic nevi

38. The labor and delivery RN has just given Stadol to her laboring client. Which of the resulting fetal heart patterns would require priority intervention?

A. Increases in the baseline rate that begin and end with contractions  
B. Decreases in the baseline rate that begin and end with contractions  
C. Decreases in the baseline rate that continue after the contraction ends  
D. Increases in the baseline rate that continue after the contraction ends

39. The charge nurse is supervising a student nurse that has just started her preceptorship clinicals. The student is monitoring a postpartum client that is receiving blood because of a Hematocrit of 14%. The client complains to the charge nurse that her back has suddenly started hurting. What is the most appropriate response by the charge nurse?

A. Discontinue the blood infusion  
B. Check the client's vital signs  
C. Notify the physician  
D. Administer the prn analgesic
40. An RN who has worked on the LDRP for six months approaches the charge nurse after she has been given her assignment for the day. The RN has received cross training to all areas of the unit. Today her assignment was to care for a client in active labor. The RN tells the charge nurse that she is uncomfortable caring for laboring clients and asks for an assignment change. What is the best response of the charge nurse?

A. "You have been cross trained and all of our nurses have to care for each type of OB client. Your assignment will not change"
B. "If you are uncomfortable with your assignment, I will switch you to the postpartum clients"
C. "I will team you up with another labor nurse so you can become more comfortable with labor clients"
D. "I will not change your assignment. You will have to discuss this further with the shift supervisor"

41. The labor nurse is assessing a client admitted in preterm labor. Which of the following findings would require a social service consult?

A. The client is very quiet and avoids eye contact
B. The client reports that she is not married
C. The client has injuries in various stages of healing
D. The client reports frequent arguments with her partner

42. What room assignment would be best for a primigravida with gestational diabetes who was admitted for glycemic control?

A. A private room near the nurses station
B. Rooming with a client with a placenta previa
C. Rooming with a client with preterm labor
D. Rooming with a client with pregestational diabetes

43. The RN on the LDRP is preparing to make her initial rounds. Which of the following clients should she see first?

A. A primipara at term with a board like abdomen and scant dark red bleeding
B. A multipara at 38 weeks gestation with blood streaked vaginal discharge
C. A primipara at 40 weeks gestation with complaints of urinary frequency
D. A multipara at 36 weeks gestation with pitting pedal edema
44. A client had an abnormal maternal serum alfa feto protein (MSAFP) at 18 weeks gestation. She is now 22 weeks gestation and an amniocentesis has just been completed for genetic analysis. Which of the following nursing actions has priority?

A. Monitor the needle entry site for signs of infection
B. Encourage the client to express her feelings
C. Assess the maternal blood pressure for hypertension
D. Monitor fetal heart tones and uterine activity

45. A pregnant client has been receiving daily heparin injections for a history of DVTs during pregnancy. Which of the following laboratory test results should be immediately reported to the physician?

A. A PT of 16
B. A PTT of 22
C. An INR of 2.5
D. A Hemoglobin of 11

46. The RN is conducting an assessment on a 2-hour-old male newborn. The physical finding of most concern is which of the following?

A. Bluish/black discolored areas over the buttocks
B. Small, white nodules over the chin and nose
C. Swollen breasts with expression of a thin fluid
D. Serum glucose of 38 gm/dl

47. Two RNs, two LPNs and two OB scrub technicians have been assigned to a 12 bed LDRP. Which of the following tasks are appropriate for the charge nurse to make to the scrub techs?

1. Set up the delivery tables as needed
2. Obtain vital signs
3. Place laboring clients on fetal heart monitors
4. Conduct non-stress testing
5. Obtain a nursing history
6. Administer oral medications

A. 1, 2, & 3
B. 2, 3, & 4
C. 3, 5, & 6
D. 4, 5, & 6
48. A client with HELLP (hemolysis, elevated liver function tests, low platelets) syndrome has completed the fourth stage of labor and been transferred to the postpartum floor. Which of the following nursing measures have priority in her nursing care?

A. Monitoring of blood glucose levels one hour before meals  
B. Assessment of the maternal-newborn attachment process  
C. Monitoring for headaches, visual changes, and/or epigastric discomfort  
D. Assessment of self postpartum and newborn care abilities

49. The lactation consultant is preparing to make rounds on the breastfeeding clients on the LDRP. Which client should the consultant see first?

A. The mother who is nursing her newborn every 2-3 hours for 15-20 minutes at a time  
B. The mother who stated that her newborn sucks in short bursts and has audible swallowing  
C. The mother who reported blisters on her nipples and pain whenever the newborn latches on  
D. The mother who stated that her baby was so good; she has to wake him for each feeding

50. The oncoming RN has just received report and is preparing to make her initial rounds. Which of the following postpartum clients should the RN see first?

A. A primipara 6 hours postpartum saturating one peripad every two hours  
B. A multigravida 1 hour postpartum and complaining of intense perineal pain  
C. A primigravida 12 hours postpartum with the uterine fundus at the umbilicus  
D. A multigravida 72 hours postpartum with a brownish-pink lochia discharge
1. The nurse is writing a standard of care for clients immediately following bone marrow transplant. Which of the following nursing diagnoses should receive priority?
   1. Social isolation.
   2. High risk for infection.
   3. Pain

2. The physician orders all of the following procedures for a client diagnosed with placenta previa. Which one should the nurse question?
   1. Take vital signs every thirty minutes.
   2. Auscultate fetal tones every fifteen minutes.
   3. Perform vaginal checks to determine cervical dilation.
   4. Assess frequency, intensity, and duration of contractions.

3. An important short-term goal for the nurse to plan with a suicidal client would be for the client to:
   1. Explore the motivating factors for suicide.
   2. Develop with more adaptive family relationships.
   3. Sign a contract that he will not act on his suicide plans.
   4. No longer verbalize thoughts or feelings as they relate to suicide.

4. The nurse reviews the clinical pathway for a child recovering from bacterial meningitis. Which of the following tests does the nurse anticipate must be done prior to discharge to evaluate the child for cranial nerve dysfunction?
   1. Audiometry.
   2. CT scan.
   3. Echocardiogram.
   4. Lumbar puncture.

5. A morbidly obese client is being prepared for a gastric reduction. Which of the following is most critical to include in the nurse’s care plan for this client?
   1. Teaching coughing and deep breathing exercises.
   2. Identifying postoperative diet modifications.
   3. Discussing pain control measures.
   4. Teaching the proper technique for ankle and leg exercises.

6. To help establish a diagnosis of preterm labor, the nurse should ask the client which of the following questions?
   1. “How many months pregnant are you?”
   2. “Are you having any contractions?”
   3. “Have you ever been pregnant?”
   4. “Are you taking medications for hypertension?”
7. A hypochondriacal client complains constantly about physical problems, and the other clients in the unit are beginning to avoid the client. The primary intervention the nurse will use to decrease social isolation would be to:
   1. Ask the client to stop talking about physical complaints.
   2. Ask other clients to be more sympathetic with the complaining client.
   3. Encourage the client to participate in group diversional activities.
   4. Encourage the client to rest at frequent intervals.

8. To reduce the risk of bleeding from a leg ulcer, the nurse caring for a child with hemophilia would:
   1. Administer aspirin for pain.
   2. Administer heat to the affected area.
   3. Allow child to ambulate in room daily.
   4. Provide a bed cradle.

9. A five-year-old child has been admitted to the hospital with a diagnosis of dehydration. The physician orders an intravenous fluid containing potassium chloride (KCl). Which of the following actions does the nurse take first?
   1. Obtain weight.
   2. Assess urinary output.
   3. Monitor skin turgor.
   4. Take vital signs.

10. A client is constantly pacing, talking rapidly to everyone, and always standing around the nurse’s station. The client makes unreasonable demands on the staff and eats and sleeps infrequently. Which of the following best describes the manic behavior exhibited by this client?
    1. Stereotypical response to anxiety.
    2. A retreat into a personal inner world.
    3. Blunted sensory perceptual reactions.
    4. An exaggerated reaction to stimuli.

11. A client is admitted with a diagnosis of preterm labor. The nurse assesses the fetal heart rate to be 155 beats per minute, the maternal blood pressure to be 120/70, the frequency of contractions to be every 3-5 minutes, and the duration of contractions to be 30-40 seconds. Considering these findings the nurse would need to continue monitoring the:
    1. External tocodynamometer.
    2. Internal fetal heart rate.
    3. Intrauterine pressure.
    4. External fetal movements.
12. A client diagnosed with systemic lupus erythematosus (SLE) is concerned about skin lesions that have appeared about the face and neck. The client asks the nurse, “What am I supposed to do about these spots?” Which of the following responses would be appropriate by the nurse?
1. “There is nothing you can do. The lesions will go away when your disease is in remission.”
2. “Use warm water to bathe the lesions and apply moisturizer.”
3. “Keep lesions covered with a light sterile dressing when going outdoors.”
4. “Apply antibiotic cream twice a day until scabs form on the lesions.”

13. The nurse will be admitting a mechanically ventilated client to the step down unit. To meet the goal of maintaining the client’s safety, which of the following measures does the nurse plan to do?
1. Set the ventilator alarm at the lowest volume.
2. Place a manual resuscitation bag at the head of bed.
3. Restrain the client’s wrists bilaterally.
4. Suction the client’s endotracheal tube hourly.

14. The nursing care plan should include which of the following measures for a client in active labor?
1. A cervical check prior to administering an analgesic.
2. Monitoring fetal heart rate every hour.
3. Inserting an indwelling catheter.
4. Keeping side rails up at all times.

15. A client was admitted to the hospital two days ago with a diagnosis of a manic episode of bipolar disorder. On entering the day room, the nurse finds the client dancing to the radio. The nurse’s most appropriate response would be:
1. “Please turn the radio off so we can hear each other talk.”
2. “You and I had planned to talk this morning. Let’s go to your room.”
3. “How are you ever going to get any rest if you keep that music on?”
4. “Do you think you could sit for a few minutes so we could talk?”

16. A six-year-old client has been receiving chemotherapy for two weeks. The laboratory results show a platelet count of 20,000. A priority nursing implementation is to:
1. Encourage quiet play.
2. Avoid persons with infections.
3. Administer p.r.n. oxygen.
4. Provide foods high in iron.
17. In preparing to start an IV in an 18-month-old client, which site would the nurse select first?
   1. Median basilic vein in the antecubital fossa.
   2. Temporal vein in the scalp.
   3. Saphenous vein above the ankle.
   4. Cephalic vein of the forearm.

18. One of the major assessment factors used by the nurse to determine the need to hospitalize a suicidal client is the client’s:
   1. Understanding of the meaning of the crisis.
   2. Inability to mobilize effective coping strategies.
   3. Expression of loud and opinionated behavior.
   4. Ability to express feelings about the crisis.

19. Which of the following statements by the nurse best describes magnesium sulfate’s course of action on a client with pregnancy induced hypertension (PIH)?
    Magnesium sulfate:
    1. Acts as a central nervous system depressant that results in overall systemic vasodilation.
    2. Stimulates increased production of renin and angiotensin, which decreases blood pressure.
    3. Acts as a tranquilizer, which decreases the risk of seizure.
    4. Enhances renal function by affecting tubular secretion and reabsorption.

20. A client is brought to the emergency department after falling on the ski slopes and striking a snow making machine. A ruptured bladder is suspected. Which of the following assessment data will the nurse find to be consistent with this diagnosis?
    1. Pyuria, fever.
    2. Anuria, fever.
    3. Pyuria, severe pelvic pain.
    4. Hematuria, pelvic pain, oliguria.

21. A client with rheumatoid arthritis is seen in the clinic for acute exacerbation of the condition. Lab studies reveal the erythrocyte sedimentation rate (E.S.R.) to be 65 mm/hr. Based upon this finding, the nurse anticipates the affected joints will most likely require:
    1. Active range of joint motion exercises.
    2. Assistive devices.
    4. Heat or cold therapy.

22. Which of the following conditions would warrant the nurse discontinuing the intravenous infusion of oxytocin (Pitocin)?
    1. Fetal heart rate baseline of 140-160 bpm.
    2. Contractions every 1-1/2 minutes lasting 70-80 seconds.
    4. Early decelerations in the fetal heart rate.
23. In planning a menu for a client suffering from an acute manic episode, which of the following would the nurse determine to be most appropriate?
   1. Spaghetti and meat balls, salad, banana.
   2. Beef and vegetable stew, bread, vanilla pudding.
   3. Fried chicken leg, ear of corn, apple.
   4. Fish fillets, stewed tomatoes, cake.

24. A child with a radial fracture complains of itching to the casted area. The appropriate nursing action to relieve itching is:
   1. Allow the child to use a Q-tip to scratch the area.
   2. Visualize the toes and area above the cast to identify areas of irritation.
   3. Apply an ice pack for 10-15 minutes.
   4. Explain to the child that itching is an indication the fracture is healing.

25. A child with bacterial endocarditis requires long term IV antibiotic therapy, and the decision is made to place a peripherally inserted central catheter (PICC) line so that treatment can continue at home. In explaining the PICC line to the parents, which of these instructions should the parents be given?
   1. “Your child will go to the operating room to have the line placed.”
   2. “The public health nurse will rotate the site every three days.”
   3. “You will need to make certain the arm board is on at all times.”
   4. “The PICC line will last several weeks with proper care.”

26. A depressed client attends activity therapy and is encouraged to pound designs into a leather belt. This intervention is based on which theory of depression?
   1. Aggression-turned-inward-model.
   2. Associative-looseness model.
   3. Object-loss model.
   4. Learned-helplessness model.

27. The nurse realizes the most serious side effect of the tocolytic terbutaline (Brethine) is:
   1. Respiratory depression.
   2. Hypertension.
   3. Pulmonary edema.
   4. Renal failure.
28. A client is hospitalized in a major medical center hundreds of miles from home for a bone marrow transplant. In preparation for the transplant, the client is in strict reverse (protective) isolation while undergoing total body irradiation and intense chemotherapy. The client’s sibling, who has driven a great distance, comes to visit and has obvious manifestations of an upper respiratory infection. Which nursing action would be most appropriate at this time?
   1. Do not allow the sibling to visit and do not upset the client by mentioning the sibling’s visit.
   2. Allow the sibling to wave at the client’s window or door, then offer the use of the unit phone so they can chat.
   3. Allow the sibling to visit after donning a sterile gown, mask, and gloves, but prohibit physical contact.
   4. Allow the sibling to visit after donning a sterile gown, mask, and gloves and have the client wear a mask.

29. A client has been admitted to the hospital with a diagnosis of possible preterm labor. Which of the following tests would the nurse anticipate the physician ordering?
   1. Oxytocin challenge test (OCT).
   2. Nonstress test (NST).
   3. Nipple Stimulation Test.

30. The nurse who is sensitive to clients from different cultural backgrounds would use which of the following principles in implementing nursing care?
   1. Clients behave according to unwritten ethnic customs and traditions.
   2. Clients whose cultural beliefs lead to non-compliance don’t really want to get better.
   3. The doctor and the nurse are the primary sources of the clients’ knowledge of his condition.
   4. It is prudent to treat all clients alike in order to avoid any transcultural conflict.

31. A client with schizophrenic disorder begins to talk about fantasy material. It would be most appropriate for the nurse to:
   1. Encourage the client to focus on reality-based issues.
   2. Allow the client to continue talking so as not to interrupt the delusion.
   3. Ask the client to explain the meaning behind what he is saying.
   4. Persuade the client that his thoughts are not true.

32. The nurse is assessing a six-month-old infant in the well-baby clinic. Which of the following observations would concern the nurse? The infant’s:
   1. Ability to sit unsupported for a few seconds.
   2. Posterior fontanel is closed.
   3. Legs stay crossed at the knees.
   4. Birth weight has doubled.
33. A child with cystic fibrosis (CF) is being discharged after initial diagnosis and treatment. The mother has been instructed about nutrition for the child and the need for pancreatic enzymes. The nurse is confident the mother understands about the home care of her child when stating, “I know it will be important for me to:  
1. Restrict the amount of salt in our foods.”  
2. Limit fluids to avoid swelling and increased fluid buildup.”  
3. Make sure the Pancreatic enzymes are taken with all snacks and meals."  
4. Prepare separate meals for my child.”

34. A young adult client is brought to the psychiatric hospital by the parents. The client is poorly groomed, and the parents report that the client appears to be hearing voices. During the first few hospital days, which of the following would be a priority nursing intervention:  
1. See that he bathes and changes his clothes daily.  
2. Complete the standardized admission assessment of the client.  
3. Observe the client carefully to see if he approaches the staff.  
4. Seek him out frequently to spend short periods of time with him.

35. The nurse is caring for a client in the active phase of labor. The nurse observes the fetal heart rate beginning to decline from its baseline of 156 beats per minute to 100 beats per minute after the acme of a contraction. The fetal heart rate returns to baseline after the contraction is over. The nurse charts this as:  
1. Fetal bradycardia.  
2. Early decelerations.  
3. Late decelerations.  
4. Variable decelerations.

36. Which of the following manifestations would most concern the nurse caring for a client diagnosed with pregnancy induced hypertension (PIH)?  
1. Trace of protein in the urine.  
2. Blood pressure 140/98.  
3. Minimal long-term variability with no accelerations.  
4. Fetal heart rate between 110 and 120 beats per minute.

37. The nurse is writing a care plan for a client admitted following chest tube placement for a spontaneous pneumothorax. Which of the following interventions would be appropriate for the nurse to include?  
1. Keep the water seal drainage system at the level of the right atrium.  
2. Tape all connections between the chest tube and drainage system.  
3. Notify the doctor if there is continuous bubbling in the suction control chamber.  
4. Empty the collection bottle and record the amount of drainage every shift.
38. A client is admitted to the hospital after a motor vehicle accident with a diagnosis of blunt chest trauma. Analyzing the client’s arterial blood gases (ABG), the nurse recognizes which value as being consistent with acute respiratory failure?
1. pH 7.36.
2. pCO2 72.
3. pO2 78.
4. O2 saturation 90%.

39. In which of the following situations would the nurse know the administration of magnesium sulfate (Epsom Salt) to be contraindicated? To:
1. Stop the onset of labor at 32 weeks gestation.
2. Reverse the effects of Pitocin hyperstimulation in a laboring client.
3. Prevent seizures in a client with pregnancy induced hypertension.
4. Treat uterine atony following vaginal delivery.

40. A client has a diagnosis of abruptio placentae. The nurse should assess the client’s laboratory results for:
1. Increased platelet count.
2. Prolonged partial thromboplastin time.
3. Increased fibrinogen level.
4. Decreased clotting time.

41. A client with a diagnosis of borderline personality disorder has become attached to one of the nurses. One day the favored nurse phones in sick. When given this news, the client goes into the hospital room, breaks a bottle of cologne, and scratches his arm with a jagged piece of glass. After providing first aid, what is the next most therapeutic nursing action in relation to the client’s behavior?
1. Institute suicide precautions.
2. Help the client connect thoughts and feelings to the acting-out behavior.
3. Telephone the client’s favorite nurse to talk with the client.
4. Permit the client to remain alone to regain composure.

42. The nurse is assigned to a room with two clients. Both clients are diagnosed with depression and spend most of their time in their room, but do not talk to each other while there. The nursing action that would be most effective in facilitating interaction between these two clients is to:
1. Suggest that they watch television together in their room.
2. Explore with each other their reluctance to engage in conversation.
3. Take them to a unit activity together.
4. Put a puzzle together with them in their room.

43. The nurse has completed discharge teaching for the parents of a one-month-old infant who has had a ventriculoperitoneal shunt inserted. The nurse evaluates that the teaching was effective when the parents state:
1. “A new shunt will probably be needed in a couple of years.”
2. “We will check the abdomen daily for signs of fluid accumulation.”
3. “The doctor will need to be notified if urine output decreases.”
4. “We will cleanse the catheter site daily using sterile technique.”
44. What would the nurse most expect to observe in a client with impulsive and acting out behavior?
   1. Good problem-solving skills.
   2. Commitment to long-term goals.
   3. Ability to delay gratification.
   4. Low tolerance for frustration.

45. A client returning from the operating room following a vaginal hysterectomy is awake and asking for something to drink. The postoperative diet order reads: “Clear liquids, advance diet as tolerated.” The nurse responds:
   1. “Would you prefer ginger-ale or apple juice?”
   2. “Lunch trays should be here any minute now.”
   3. “I need to listen to your abdomen.”
   4. “I would wait a bit, or you could get sick.”

46. A client known for making inappropriate sexual advances toward the staff is diagnosed with an antisocial personality disorder. The nurse knows that which of the following is inconsistent with this diagnosis?
   1. Grandiosity
   2. Poor frustration tolerance
   3. Intense guilt
   4. Fighting

47. A two-week-old infant begins to scream and draw both legs up to the abdomen immediately after consuming a bottle of formula. At this time, it is appropriate for the nurse to:
   1. Place the infant upright with the head on the nurse’s shoulder.
   2. Give the infant another two ounces of formula.
   3. Call the physician because the infant may be allergic to the formula.
   4. Gently place the infant on the abdomen in a crib.

48. A client calls a hotline and threatens to commit suicide. Which would be the most important question for the nurse to ask?
   1. “Have you attempted suicide before?”
   2. “What happened to make you so desperate?”
   3. “How will you carry out your plan?”
   4. “What will you accomplish by taking your life?”

49. Prior to administering Total Nutrient Admixture (TNA), the nurse notices a marked separation of oil droplets from the rest of the solution. The nurse’s appropriate action is to:
   1. Invert the solution and gently shake until the oil is evenly dispersed.
   2. Do nothing, since this is the normal appearance of TNA.
   3. Add a filter to the intravenous tubing line.
   4. Discard the solution.
50. The client has had a pituitary tumor removed. Since the pituitary cannot secrete ADH at this time, how will this affect her fluid and electrolyte status?
   1. Large volumes of water will be excreted.
   2. Large amounts of sodium will be conserved by the body.
   3. Large amounts of potassium will be retained.
   4. Large amounts of magnesium will be retained.

51. A nursing assistant on the pediatric unit may be pregnant. The charge nurse is unsure of the nursing assistant’s immune status. Which of the following hospitalized children could the charge nurse safely assign the nursing assistant to care for?
   1. Two-year-old with impetigo.
   2. Four-year-old with varicella.

52. A client returns to the nursing unit post-thoracotomy with two chest tubes in place connected to a drainage device. The client’s spouse asks the nurse about the reason for having two chest tubes. The nurse’s response is based on the knowledge that the lower chest tube is placed to:
   1. Remove air from the pleural space.
   2. Create access for irrigating the chest cavity.
   3. Evacuate secretions from the bronchioles and alveoli.
   4. Drain blood and fluid from the pleural space.

53. A woman who is 32 weeks pregnant is seen in the emergency room for a nail puncture to her left foot. The client has not had a tetanus shot since infancy. Which of the following actions would the nurse include in the client’s care plan?
   1. Administer tetanus immune globulin (TIG).
   2. Analyze the serum for tetanus antibodies.
   3. Induce labor to avoid tetanus in the fetus.
   4. Administer tetanus toxoid after delivery.

54. The nurse is aware that an aggressive hospitalized client is one who:
   1. Stomps away from the nurse’s station, grabs a pool cue, and steps toward a client standing nearby.
   2. Bursts into tears, leaves the community meeting, and sits on his bed pounding his pillow and sobbing.
   3. Says to the primary nurse, “When you told me that I couldn’t have a pass, I wished that you would fall down the stairs and crack your head open.”
   4. Tells the nurse, “I’m not going to take that, or any other medication, and you can’t make me.”
55. A client is receiving Total Nutrient Admixture (TNA) through a single-lumen central venous catheter. The physician orders one unit of packed red blood cells to be administered to the client. Which of the following nursing actions is appropriate?
   1. Piggyback the blood through a Y-site connector attached to the central venous catheter while the TNA is infusing.
   2. Stop the TNA infusion. Piggyback the blood through a Y-site connector, flushing the line with normal saline before and after administration of the blood. When the blood is infused, resume the TNA.
   3. Start an intermittent peripheral intravenous line of normal saline and administer the blood through this site.
   4. Ask the physician to change the single-lumen central venous catheter to a double-lumen type so the client can receive blood or intravenous medications at any time.

56. While admitting an 11-year-old child for elective surgery, the parent asks the nurse, “Is it true there is an IV medication kids can give themselves if they have pain after surgery?” In responding, the nurse is guided by which of the following principles regarding the use of patient-controlled analgesia (PCA) in children and adolescents?
   1. Children who have reached Piaget’s stage of concrete operations can be taught to use PCA.
   2. Adolescents on PCA have a tendency to overmedicate themselves in order to feel “high.”
   3. It may be necessary for the parent to assist the child by pushing the release button when needed.
   4. The use of IV narcotics should be avoided in children because of the increased risk of overdose.

57. During conversation with the nurse, a schizophrenic client uses the word “evorriation.” How will the nurse interacting with the client interpret and respond to the use of this word?
   1. Evidence of his illness and ignore it when interacting with the client.
   2. A mispronunciation and indicate to the client that the staff does not understand its meaning.
   3. Evidence of his illness and clarify the meaning with the client during the interaction.
   4. A mispronunciation and correct the client’s grammar when interacting with the client.

58. A client who had been hiking is brought to the emergency department, having sustained a snake bite to the lower left leg 20 minutes ago. At this time what will the nurse do first?
   1. Identify the type of snake causing the bite.
   2. Immobilize and elevate the involved limb.
   3. Drop the limb below heart level and call poison control.
   4. Apply ice to the skin over the snake bite wound.
59. Your client has been diagnosed as having a borderline personality disorder. The client has made no progress and blames you, the nurse, for the continued distress. Which of the following would be the best example of the nurse’s use of confrontation with this client?
1. “Your lack of progress is your responsibility. How can you blame me?”
2. “You say you want to feel better, yet you have not tried anything new.”
3. “Exactly what do you expect me to do for you?”
4. “I am frustrated with your lack of progress. What’s going on?”

60. Following an emergency splenectomy, a 17-year-old client is admitted to the nursing unit from the post-anesthesia recovery room (PACU). The client is complaining of severe abdominal pain, and the client’s parents are asking to see their child. The nurse’s first action should be to:
1. Complete a physical assessment and obtain postoperative vital signs.
2. Go to the waiting room and get the client’s parents.
3. Get a report from the PACU nurse and review the postoperative orders.
4. Find out what the physician ordered for pain and medicate the client.

61. The nurse will be admitting a client from the operating room following a left pneumonectomy for adenocarcinoma. Which type of chest drainage should the nurse anticipate the client will have?
1. Bilateral chest tubes.
2. One chest tube on the operative side.
3. Two chest tubes on the operative side.
4. No chest drainage will be necessary.

62. The nurse has just taken report at to begin a 3-ll shift, which of the following clients should be assessed initially?
1. A 42 year old who returned from an abdominal hysterectomy at 11:30am.
2. A 76 year old client who is disoriented and requires a waist restraint.
3. A 25 year old postoperative craniotomy client who has had a urine output of 388 cc in the last two hours.
4. A client with insulin dependent diabetes mellitus (IDDM) who is taking prednisone for her arthritis and has a blood sugar level of 225

63. Which of the following foods would be inappropriate for a client with AIDS?
1. Yogurt
2. Fresh greens
3. Baked pork loin
4. Eggs
64. A client returns to your unit after a sigmoid colonoscopy and asks for assistance with the bedpan. A small to moderate amount of blood is noted and the client complains of abdominal pain. Which action should take priority?
   1. Call the attending physician.
   2. Ask the client to stay in bed.
   3. Obtain vital signs.
   4. Administer a pain medication.

65. A client with Parkinson’s disease frequently stops suddenly while walking in the hall, which increases the risk for falls. Which of the following options should the nurse include in this client’s plan of care to decrease this problem?
   1. Stand straight and use a walker to ambulate
   2. Concentrate on keeping feet close together while ambulating and use a walker
   3. Pretend to walk over imaginary lines on the floor
   4. Use a wheelchair for majority of mobilizations

66. Which of the following postpartum patients requires the last private room in the Women’s Health Center?
   1. A client who had an abruption during her delivery 22 hours ago
   2. A client who had boggy fundus for five hours post-delivery and is 11 hours postpartum
   3. A client who was pre-eclamptic prior to delivery 30 hours ago but whose vital signs are now within normal limits
   4. A client who delivered by c-section whose WBC count is 24,000

67. The client has hypertonic dehydration. Which of the following solutions should the nurse anticipate will be ordered by the physician?
   1. Lactated Ringers
   2. 0.45% saline
   3. 10% Dextrose in water
   4. 5% Dextrose in normal saline

68. A 4 year old boy is being seen in the pediatric clinic shows the nurse a new cap gun he got for Christmas. The most appropriate nursing intervention at this time would be which following?
   1. Assess child for aggressive behavior.
   2. Explain that toys such as this are unsafe
   3. Use this opportunity to teach safety.
   4. Ask child to give the cap gun to his mother.
69. A 78-year-old client is admitted for evaluation of cardiac dysrhythmias. The most important information to obtain when assessing this client would be which of the following?
   1. Ability to perform isometric exercises as ordered.
   2. Changes in level of consciousness or behavior.
   3. Recent blood sugar changes.
   4. Compliance with dietary fat restrictions

70. The nurse notices a 49-year-old client with an admitting diagnosis of schizophrenia sitting alone and talking. What approach should the nurse take?
   1. Have the CNA take the client to his room.
   2. Record the event without disturbing the client.
   3. Ask the client if he is hearing voices.
   4. Administer a prn medication for hallucinations

71. A 10-year-old client returns from surgery following an open reduction for a fractured tib/fib. The client is in skeletal traction with 11 lbs. of weight. Two hours after returning to the unit, he complains of pain in the affected extremity, and the nurse observes the limb is light blue and blanched. Which is your priority nursing intervention?
   1. Notify the doctor of your findings.
   2. Administer the prn pain medication at once.
   3. Record the assessment and reassess the extremity q15 minutes.
   4. Release the traction at once.

72. The CNA reports to the nurse that a client with dementia has been walking into other clients’ rooms insisting he lives there and demanding the other patient leave the room. The best instructions the nurse can give to the CNA is to:
   1. Calmly sit with the client and have him repeat his room number at frequent intervals.
   2. Have the client remain in his room so he can become familiar with it.
   3. Place a sign on the client’s door that clearly has his name so he can identify it.
   4. Hang a familiar object on the door to enhance room recognition.

73. The house supervisor calls the unit to inform the nurses that a client with pneumonia is being admitted within the next hour. Which nurse would be ineligible to receive the new client?
   1. A nurse in her third trimester caring for a client with seizures, a female with pelvic inflammatory disease and an 78 year old with a fractured hip.
   2. A new nurse with six months experience who is caring for a client with insulin dependent diabetes mellitus, a client with an acute exacerbation of chronic obstructive pulmonary disease, and a client with a cerebrovascular accident.
   3. A 60 year old nurse caring for clients with renal failure and CAPD, multiple sclerosis, and terminal lung cancer.
   4. A 31 year old nurse caring for a newly postoperative client with abdominal hysterectomy, a client with tuberculosis and a client waiting for results of her endometrial biopsy.
74. After administration of epidural anesthesia, the nurse obtains the client’s blood pressure and notes it has fallen to 92/42. The priority nursing action would be to action would be to:
   1. Elevate her head off the bed.
   2. Begin oxygen by face mask at 40%.
   3. Change her position to side-lying.
   4. Begin dopamine as ordered.

75. A 14-year-old male visits the school infirmary complaining of sudden and severe scrotal pain. The priority nursing action is which of the following?
   1. Refer to physician immediately.
   2. Administer Tylenol with mother’s permission.
   3. Apply an ice bag and elevate the scrotum.
   4. Explain to the client that occasional pain is common for his age group.

76. Six hours postoperatively the nurse finds a 79-year-old client confused and attempting to climb over the side rails. The client was oriented x’3 prior to surgery. Which intervention should be given priority?
   1. Assess the client’s temperature.
   2. Apply a waist restraint.
   3. Administer a mild pain medication.
   4. Assess the client for pain.

77. A nursing case manager has four clients to see this morning. Which client should be seen first?
   1. Post coronary artery bypass graft client with infrequent PVC’s
   2. 100% hearing impaired client with a below the knee amputation
   3. Diabetic client needing fasting blood work
   4. Post intertrochanteric hip repair client complaining of pain

78. The client is to have an endoscopic retrograde cholangiopancreatography (ERCP) at 8 a.m. Which of the following nursing interventions would be appropriate for this patient?
   1. Administer enemas until clear the night before the procedure
   2. Keep client NPO until the gag reflex returns post-procedure
   3. Institute a clear liquid diet 24 hours pre-procedure
   4. Explain to the client a very large volume of fluid will be ingested prior to the procedure
79. You are a nurse in a very busy labor and delivery unit and have just received your assignment. Which of the following patients should you see first?
   1. Client #1: a 39 week G1PO with PROM; 0 station, 90% effaced, and 1-2 cm dilated who denies contractions
   2. Client #2: a 39 week G2P1 with contractions every 2-4 minutes and FHR of 140 to 150 bpm without periodic changes
   3. Client #3: a 38 week G3P2 complaining of dark red bleeding and a tender abdomen; EFM reveals a baseline of 126 to 130 with a mild drop in heart rate beginning with the acme of the contraction
   4. Client #4: a 40 week G2P1 with green-tinged amniotic fluid; FHR 132 to 140 and accelerations noted with fetal movement

80. The client delivered a 9-pound 12-ounce baby 1 hour ago. You note during her 15-minute assessment that she has saturated 2 pads and that she is lying in a small puddle of blood. Which nursing action should take priority?
   1. Call for assistance.
   2. Massage the fundus if boggy.
   3. Assess vital signs.
   4. Assess the perineum for tears.

81. The nurse suspects fluid overload in a client receiving IV fluids. Which of the following symptoms is indicative of water intoxication?
   1. Decreased urine output
   2. Weight gain
   3. Change in level of consciousness and seizures
   4. Muscle rigidity and arrhythmias

82. A client is hospitalized for open heart surgery for over a month. Recovery has been very difficult and emotionally draining. During a discussion with the nurse the client reveals it may be better for everyone if she doesn’t go home at this time. The priority action of the nurse would be to:
   1. Ask the patient if a nursing home or personal care home would be better at this time.
   2. Discuss with the family who will be caring for the patient
   3. Provide the client with brochures on alternative living facilities.
   4. Ask the client about possible suicidal thinking.

83. A client complains of severe perineal pain 8 hours post delivery. The nurse discovers a perineal hematoma. Based on this information, which nursing intervention should take priority?
   1. Administer a pain medication at once.
   2. Place the client in a warm sitz bath.
   3. Apply an ice pack to the hematoma.
   4. Apply anesthetic spray (Americaine) to the perineal area.
84. While working the night shift, the nurse notices a mouse running down the hallway of the clinical unit. The best initial action is which of the following?
   1. Place rat poison in the vicinity where the mouse was seen.
   2. Set some mouse traps to catch the mouse, and then dispose of it in a plastic bag labeled as contaminated.
   3. Notify the supervisor of the problem.
   4. Call the environmental health department of the hospital, and report the incident.

85. While caring for a client, the nurse notices that the call light cord is frayed. At this time, which of the following nursing actions would be most important?
   1. Tell the client not to use the call light until it is fixed.
   2. Remove the call light, and report the problem to the supervising nurse immediately.
   3. Tape up the cord until the maintenance people can fix it, so the client will have a call light.
   4. Tell the client to call out if he needs help, and to use the call light only in an emergency.

86. A psychotic client receiving chlorpromazine (Thorazine) tried to “cheek” the medication so he could later spit it out. The nurse correctly decides to request that the physician change the order from the tablet form to a form that will prevent this from happening. Which of the following choices would be best?
   1. Liquid concentrate.
   2. Capsule.
   3. Suppository.
   4. Intramuscular injection.

87. A 25-year-old man was admitted one week ago with a diagnosis of schizophrenia, paranoid type. Since his admission, he has had several verbal outbursts of anger but has not been violent. A staff member tells the nurse that the client is pacing up and down the hall very rapidly and muttering to himself in an angry manner. Which of the following is the best initial nursing action?
   1. Prepare an intramuscular injection of haloperidol (Haldol) to give him p.r.n.
   2. Observe the client’s behavior and approach him in a non-threatening manner.
   3. Gather several staff members and approach the client together.
   4. Contact the client’s psychiatrist and request an order to place him in seclusion.

88. The client’s psychiatrist orders fluphenazine (Prolixin) 10 mg b.i.d. Before the first dose, the client asks the nurse what the medicine is supposed to do. Which response by the nurse would be most therapeutic for a suspicious client?
   1. “It will help you feel less anxious.”
   2. “It is to help make your thinking clearer and decrease you fears.”
   3. “This will help you maintain self-control.”
   4. This medication will help you get better.”
89. As the nurse approaches a schizophrenic, paranoid type client, he looks at her and says, “Back off. Leave me alone.” He appears tense and is pacing rapidly. The best nursing response to his remark is which of the following statements?
   1. “I can’t leave you alone when you are this upset. Sit down and try to relax.”
   2. “Let’s go to your room and you can tell me what is bothering you.”
   3. “I will keep my distance as long as you can control yourself. You appear quite angry and I’d like to know more about what is causing you to feel this way.”
   4. “I will leave you alone for a few minutes while you try to compose yourself.”

90. A 15-year-old client was just diagnosed with testicular cancer. When the nurse asks the client a question, he angrily spits in the nurse’s face. Which of the following responses by the nurse would be best?
   1. “You are old enough to find a better way to express yourself. The nurses will not want to take care of you if you treat us this way.”
   2. “I’m afraid I will have to tell your parents about this. They call every day to talk to the nurses about how you are doing.”
   3. “That behavior makes me very angry and I will not tolerate it. I’ll be back after I wash my face and we can talk about what’s bothering you.”
   4. “If you don’t want us here right now, we will go. We will come back to change your linens when you are feeling better.”

91. The nurse observes a depressed client in the day room. She appears to be cold. Which of the following responses by the nurse would be most therapeutic?
   1. “Come with me to your room and we will get a sweater for you.”
   2. “Why do you sit here without a sweater when you are cold?”
   3. “What color sweater do you want me to get from your room for you?”
   4. “When you are in the day room, you should dress so that you are not cold.”

92. A client is admitted to the psychiatric unit with a diagnosis of acute depression. After being hospitalized for a few weeks, the client says to the nurse, “I’m a terrible person, and I should be dead.” Which of the following responses by the nurse would be appropriate initially?
   1. “That is why you are here. We are trying to help you with your bad feelings.”
   2. “Feeling that way must be awful. What makes you feel so terrible?”
   3. “Feeling like a terrible person is part of your illness. As you get better, those feelings will lessen.”
   4. “You are not terrible. You are not a bad person”
93. The doctor has ordered restraints for a very agitated client. When applying restraints to a client, the nurse should avoid which of the following steps?
1. Using the least restrictive type of restraint that will effectively protect the client from injury.
2. Fastening restraints to the bed frame.
3. Tying the restraint with a knot that cannot be undone easily, in order to prevent the client from untying it.
4. Explaining to the client and family the type of restraint and the reason for applying the restraint.

94. A client is admitted to the psychiatric unit for depression. The nurse observes an improvement in the client’s grooming when the client comes to breakfast freshly bathed wearing clean clothes and with her hair combed. Which of the following responses by the nurse would be the most therapeutic?
1. “You must be getting better—you look great.”
2. “Let’s go put some make-up on to make you look even better.”
3. “Why did you get all dressed up today? Is it a special occasion?”
4. “You look very nice in your clean dress after your bath and shampoo.”

95. The nurse enters the anorexic client’s room and finds her doing vigorous push-ups on the floor. What is the most therapeutic nursing action?
1. Remind her that if her weight decreases she will lose a privilege.
2. Leaving the room, permitting her to exercise in private.
3. Ask her to stop doing the push-ups and suggest she pursue a less strenuous activity.
4. Wait for her to finish exercising and ask her why she feels the need to exercise.

96. A disruptive 10-year-old child is having difficulty interacting with other children on the unit. Which of the following nursing actions would be best initially?
1. Have a unit conference with other staff members and discuss strategies to solve the problem.
2. Talk to the child about the behavior that is causing the problem and identify possible solutions.
3. Tell the other children to stop teasing the client and observe for changes in the client’s behavior.
4. Tell the client’s mother that she needs to talk to her son about his disruptive behavior.

97. Because of hyperactivity and difficulty sleeping, the most therapeutic room arrangement that the nurse can make for a manic client is which of the following?
1. A private bedroom.
2. A semi-private room with a roommate who has a similar problem.
3. Either a private or semi-private room.
4. Direct admission to the seclusion room until his activity level becomes more subdued.
98. The client has just returned from a decompressive laminectomy post-trauma. The nurse notes a moderate amount of clear fluid on the sterile gauze dressing. Based on this information which intervention should take priority?
   1. Call the doctor and report the finding at once.
   2. Observe for continued drainage over the next 15 minutes.
   3. Maintain asepsis while changing the wet dressing.
   4. Encourage fluids throughout the shift; bedrest.

99. The nurse is discussing discharge plans with a patient diagnosed with schizophrenia. Which statement by the patient requires immediate attention by the nurse?
   1. “Crickets will be great for increasing my fiber.”
   2. “I still hear voices on a regular basis.”
   3. “Prayer alone can cure my problem.”
   4. “I’m worried about being cold this winter.”

100. The Registered Nurse has made assignments for the 7-3 shift which includes a Licensed Practical Nurse. After reviewing her assignment the LPN states her assignment is very unfair and requests some of her patients be redistributed to the other staff. The RN’s next action should be to:
   1. Ask the LPN what are her concerns regarding her assignment.
   2. Remove one of the LPN’s patients and take the patient as part of her load.
   3. Encourage the LPN to use her team work skills in caring for her patients.
   4. Explain to the LPN that everyone has a heavy load and to change the assignments now would not be possible.

101. The nurse is a charge nurse for a very busy Medical Surgical Nursing Unit. He is in the process of making assignments for the next shift. Which of the following assignments is appropriate?
   1. Assign the LPN to conduct discharge teaching to a 30 year old male with neurogenic bladder dysfunction.
   2. Assign the RN to the 70-year-old female with an admitting diagnosis of Fever of Unknown Origin who is being discharged today with no medications.
   3. Assign the RN to the 33-year-old female newly diagnosed with breast cancer who is unemployed and a single mother of 3 small children.
   4. Assign the LPN to the 40-year-old male with Neisseria meningitis as a result of a post-surgical infection.

102. The nurse has been assigned 6 patients and the first new admission. The nurse is in the process of making initial assessments when she is notified of the new admission being brought from the ER. The nurse should:
   1. Complete morning assessments prior to visiting the new patient.
   2. Ask the unit clerk to assist the patient to their room and have the aide orient the client to the call light, etc. while you complete your rounds.
   3. Have a nursing assistant and LPN receive the patient while completing morning rounds.
   4. Go to the new patient and begin the admission assessment.
103. You are making an assignment for a Certified Nursing Assistant. Which assignment would be most appropriate?
1. Assist a 1 hour post-delivery up to the restroom for the first time.
2. Empty the catheter of a 33-year-old female and describe the characteristics of the urine.
3. Administer an enema to a 3-day post-op abdominal hysterectomy patient.
4. Take the vital signs on a patient receiving magnesium sulfate.

104. A patient from Vermont is in a motor vehicle accident in Arkansas. The patient has massive brain injuries and is on the ventilator at the present time unconscious. When the patient’s wife arrives the next day she tearfully presents the nurse the patient’s living will and states, “He would not want to live with tubes.” Which of the following statements would be correct?
1. Explain to the wife she does have authority to have the ventilator discontinued.
2. Explain to the wife the living will is not applicable in this situation.
3. Explain since the ventilator has been started it can never be stopped.
4. Explain the living will is not applicable as the patient was not the one who presented the document to the nurse.

105. A client is terminally ill and has developed Cheyne-Stokes respirations. The family calls the nurse and states, “She’s got the death rattle!” Which intervention should take priority?
1. Assist the patient to sit up and deep breathe.
2. Elevate head of bed 15-30 degrees and place patient on side.
3. Have the attendant assist you in getting the patient up to the chair.
4. Nasotracheal suction the patient with a small amount of saline to loosen secretions.

106. The nurse is selecting a room for a 30-year-old manic client in the acute stages of elation. When selecting the room which statement is most accurate?
1. Select a room that contains only soft types of furniture to prevent injury.
2. Select a room that is in a quiet location and is away from the nurses’ station.
3. Select a semi-private room with a patient with a similar disorder to encourage discussion.
4. Select a semi-private room with a patient who is withdrawn to increase stimuli for this patient.

107. A client is receiving verapamil hydrochloride (Calan) and propranolol (Inderal). The nurse should monitor the client closely for signs of:
1. Hypertension.
2. Increased peripheral resistance.
4. Diarrhea.
108. The physician has prescribed high dose erythromycin lactobionate (Erythrocin Lactobionate-IV) IV for a client with acute pelvic inflammatory disease (PID) caused by Neisseria gonorrhea. Because of the high dose therapy, the nurse should monitor the client for which of the following reactions?
   1. Seizures.
   2. Atrial fibrillation.

109. An 18-month-old girl is admitted for a surgical repair of the cleft palate. She returns from the operating room, supine, with an IV, and a mist tent on room air. What is the priority nursing action?
   1. Medicate for pain.
   2. Check the IV for signs of infiltration.
   3. Turn the child on her side.
   4. Review the postoperative orders.

110. Before she is discharged from the hospital, a client and her husband attend a client education class on the topic of depression. The nurse instructs them about behaviors that could indicate a recurrence of depression. Which symptom would not be included in the nurse’s instruction?
   1. Psychomotor retardation.
   2. Grandiosity.
   4. Insomnia.

111. A confused elderly client has wet herself and is standing in the hospital corridor in a puddle of urine. She has trouble getting to the bathroom in time. She looks ashamed. She says to the nurse, “I want to go outside for a walk now.” Which of the following statements would be the most therapeutic response by the nurse?
   1. “Before we go for a walk, perhaps we can make a list that will help you make your bathroom trips easier.”
   2. “Right now, let me wipe up the urine on the floor, and let’s get a change of clothing for you. I am sure that this problem is upsetting for you.”
   3. “This has been a problem for you. Let’s see if we can find a solution together.”
   4. “Wetting yourself is very upsetting. Yes, let’s take a walk.”

112. During postoperative recovery, a client develops a tachyarrhythmia. The physician prescribes propranolol (Inderal) 1 mg by slow IV push, not to exceed 1 mg/minute. The nurse should monitor the client for which of the following adverse reactions?
   1. Congestive heart failure (CHF).
   3. Intestinal obstruction.
   4. Seizures
113. A 60-year-old client is scheduled for surgery tomorrow. Upon entering the client’s room, the nurse notices that flames are coming out of the waste basket. The first action to take is which of the following:
   1. Place the folded blanket from the client’s bed over the entire opening of the waste basket.
   2. Find the nearest fire extinguisher to put the fire out.
   3. Tell the client that he is not supposed to be smoking.
   4. Pull the nearest fire alarm.

114. A four-month-old infant is admitted with a ventricular septal defect, and undergoes a cardiac catheterization. Post-catheterization, which sign would alert the nurse to a potential complication?
   1. Pedal pulses palpable bilaterally.
   2. Apical pulse 140 beats/minute.
   4. Groin dressing intact with small amount of blood noted.

115. Before giving preoperative medication to a client going to surgery, the nurse must make sure that:
   1. The client has an empty bladder.
   2. Vital signs are documented on the preoperative check list.
   3. Dentures are removed.
   4. The consent form has been signed.

116. A client has been incontinent of loose stool and is complaining of a painful perineum. The most appropriate nursing action initially is to:
   1. Notify the physician to obtain an order for the loose stools.
   2. Check the client’s perineum.
   3. Turn the client every two hours.
   4. Increase the client’s fluid intake to prevent dehydration.

117. A client diagnosed with schizophrenia says, “They lied about me and are trying to poison my food.” Which of the following statements is the nurse’s best response to the client?
   1. “You are mistaken. Nobody has told lies about you or tried to poison you.”
   2. “You’re having very frightening thoughts.”
   3. “Tell me more about your concerns about being poisoned.”
   4. “Tell me who would do such things to you?”

118. During administration of medications to a client, the priority nursing assessment is which of the following?
   1. Help the client swallow medications without aspirating by keeping the head in a neutral position.
   2. Identify the client by checking the client’s identification bracelet and asking for his name.
   4. Check the client for desired or undesired drug effects within an hour after administration of the medication.
119. The primary nurse learns that an obsessive-compulsive client has a full set of dentures because he eroded all his tooth enamel with his brushing rituals. He also brushes his tongue several times a day, and has developed several ulcerations on it. His nursing care plan should set the highest initial priority for which of the following?
1. Eliminating his brushing and mouth care rituals.
2. Verbalizing the underlying cause of his behavior.
3. Seeking out the nurse when he is feeling anxious.
4. Reestablishing healthy tissue in his mouth and tongue.

120. While making an initial home visit, the community health nurse notes several suspicious bruises and old burns on the 10-month-old child. Which is the nurse’s priority action?
1. Call the child protection hotline and report possible abuse.
2. Discuss the family with the physician and social worker at the next team meeting.
3. Tell the mother that child protection will be notified if injuries are noted on the next visit.
4. Carefully record the visit for follow-up.

121. The nurse asks a suicidal client to make a safety contract whereby he promises that if he has thoughts of harming himself he will not act on them, but will discuss them with either her or another staff member. The client tells the nurse that he cannot make this safety contract because he cannot promise that he will not harm himself. In the nurse’s plan of care, which initial action would best ensure this client’s safety?
1. Provide a relaxed and accepting environment to develop trust.
2. Sterilize the environment by removing belts, glass objects, or sharp instruments that could be used for self-harm.
3. Lock the doors to the unit and secure all windows so they cannot be opened.
4. Assign a staff member to stay with the client at all times.

122. A postoperative client is to ambulate for the first time after surgery. Which action to ensure safety is inappropriate for the nurse to use in preparing the client to ambulate?
1. Have the client get up and sit in the chair next to the bed.
2. Have the client sit on the edge of the bed with his feet down for a few minutes before he starts to ambulate.
3. Have the client stand at the side of the bed for a few minutes before taking his first steps.
4. Encourage the client to try to walk straight ahead while assisting him with his walking.
123. A confused elderly client is on strict bed rest, secondary to left-sided heart failure. Which of the following interventions would provide for this client’s safety?
1. Place the client in a room away from the noise and confusion of the nurses’ station.
2. Avoid the use of nightlights, since they tend to distort images and confuse clients.
3. Discuss with the client the need for restraints if she continues to get out of bed.
4. Provide opportunities for regular toileting, and include this information in the client’s care plan.

124. An elderly, confused client is on bed rest. A nursing action that will not help to prevent a fall for this client is:
1. Providing regular toileting.
2. Explaining to the client that she should use the call light if she needs to get up.
3. Placing the side rails in the up position and checking on the client often.
4. Proper use of restraints.

125. In caring for a client taking digoxin (Lanoxin), the nurse would give immediate attention to which of the following statements?
1. “I have a headache and backache.”
2. “I feel nauseated and have no appetite.”
3. “I've gained a half-pound in the last two days.”
4. “I’m having muscle cramps in my legs.”
Rationales for Priority Questions

1. Answer: B. Preterm labor is considered to be controlled if contractions are 6 or fewer per hour. (This pt. is having 6 contractions per hour.) A is incorrect because this client is at high risk for hemorrhage due to still being in the fourth stage of labor and over distention of her uterus with a term multiple gestation. This patient needs to stay in current location for close monitoring. C is incorrect because of the close monitoring and frequent vital signs required for the central nervous system and respiratory depression common to Magnesium Sulfate. D is incorrect because this client has subtle signs and symptoms of preterm labor and needs close monitoring. Ante and postpartum unit is for stable patients.

2. Answer: D. This client has symptoms of preeclampsia and should either be in a private room or in a quiet, darkened room to minimize stimuli that could trigger seizures. A roommate requiring a similar environment would be most appropriate when there are no private rooms available. The client in room A with the term newborn will likely have a great deal of activity in her room, B, and C are incorrect because they are likely to need bright lights and activity in their rooms if their conditions worsen.

3. Answer: B. Epigastric discomfort is commonly described as "heartburn" by pregnant clients and epigastric discomfort is a symptom of impending rupture of the liver capsule and seizures associated with worsening PIH and eclampsia. Prior to calling MD, we need to determine if it is heartburn or worsening PIH. (Done by checking BP.)

4. Answer: D. Postpartum clients are at high risk for DVTs because of the hypercoaguable state of pregnancy that still exists and the dehydration caused by labor. Right calf pain is a common symptom of a DVT. Answer A is incorrect because a temp of 100.1 within the first 24 hours postpartum is common because of the dehydrating effects of labor and delivery. Answers B and C are incorrect because these are normal findings postpartum.
5. Answer: A. Decreased blood pressure is dangerous to both the laboring mother and fetus because of the decrease in cardiac output and placental perfusion. The most common negative side effect of epidural anesthesia is a precipitous drop in blood pressure. Answer B is incorrect because the fetal heart rate should be continuously monitored. Answer C is incorrect because even though an IV fluid bolus may prevent hypotension, it should be administered before the epidural is placed. Answer D is incorrect because the maternal temperature is not affected by epidural placement unless the entry site becomes infected, which is not likely to cause symptoms for several hours after placement.

6. Answer: C. A hematocrit in postpartum women can drop as low as 20% and not require transfusion in the absence of symptoms of hypovolemia. A hematocrit of 18% and lower should be reported even in the absence of dizziness, lightheadedness, shortness of breath with exertion, and syncope. Answer A is incorrect because a hemoglobin of 11 gm/dl is considered to be normal for pregnancy and postpartum. Answer B is incorrect because it is not unusual for a postpartum woman to have a WBC up to 25,000 mm3 without infection because of the healing process of the reproductive system. Answer D is incorrect because serum glucose of 80 gm/dl is within the normal range of glycemic control.

7. Answer: A. This client should be in a private room for her protection and the protection of other postpartum women. The presence of antibodies for Hepatitis C indicates HCV infection and possibly impaired immune function due to liver damage. In addition, Hepatitis C is transmitted by contact with body fluids and it is likely that lochia will be found on toilet surfaces. It is also common for postpartum women to have some kind of wound (perineal laceration or episiotomy) and they will be at increased risk of HCV contaminated lochia coming into contact with their wound. Answer B is incorrect because rubella non-immunity carries risks only to an unborn fetus. Answer C is incorrect because the rubella immune woman has no risks. Answer D is incorrect because the woman with lupus antibodies is not at increased risk for infection to herself or to others.

8. Answer: A. It is outside the scope of an LPN to assess clients. B, C, and D are appropriate tasks for an LPN. B. Still a high risk time for patient. LPN can take vital signs. RN will need to evaluate. C. Breast feeding is considered to be routine teaching on this type of unit. D. LPN's can administer meds.

9. Answer: A. Facial and upper extremity edema can be a sign of preeclampsia which can endanger both the mother and fetus. Dypsnea, pedal edema and trace proteinurea are benign common complaints in the third trimester of pregnancy.

10. Answer: D. Labor can progress rapidly even in a primipara. As the fetal presenting part descends, pressure is placed on the rectum and many women report that it feels like they need to have a bowel movement. The symptoms described indicate that the client has fully dilated and is at a 1+ or better station and delivery may be imminent. Answers A, B and C are incorrect unless a vaginal exam is done first to determine labor progress.
11. Answer: C. Client teaching is an appropriate task for LPNs as long as basic, non-complex teaching. Answers A, B, and D are incorrect because administering IV medications and drawing lab work is outside of the scope of practice of an LPN.

12. Answer: C. Taking vital signs is within the scope of practice for nurses aides and scrub technicians. CNA can obtain v/s but postpartum nurse is responsible for evaluating the vital signs. Answers A, B, and D are incorrect because invasive procedures are not appropriate tasks for nurses' aides.

13. Answer: C. A new nurse should assess client C first to check her fundus. If the fundus is boggy, a fundal massage will need to be done. If the fundus is not boggy (contracted), the blood running down the legs is normal as blood pools in the vagina while the client is lying down. The peripad can not contain all of the blood upon standing. If the nurse finds the fundus firm and contracted, she should immediately see client D. A post epidural headache can be an indication of inadvertent puncture of the dural membrane. This client will need to be positioned prone, push fluids, given caffeine and may need a blood patch to seal the dural leak. Answer A is incorrect because clots smaller than a silver dollar are normal. (New nurses should worry about nickels.) B is incorrect because breastfeeding causes the release of endogenous oxytocin from the pituitary which causes the uterus to contract.

14. Answer: D. The second period of reactivity, which occurs after the period of deep sleep approximately 3-5 hours after delivery is the most unstable for the newborn. This is when they are most likely to bring up and gag on mucus and may aspirate. Answers A and B are incorrect because they are normal situations. Answer C is incorrect because the first hour after a circumcision is when the newborn is most likely to have excessive bleeding.

15. Answer: C. Cold stress is the biggest danger to a newborn. A newborn is wet and evaporation will rapidly cool the baby which can cause hypoglycemia and respiratory distress. Answers A and D are tasks that need to be accomplished before the baby leaves the delivery room, but are not immediate priorities. Answer B is incorrect because eye prophylaxis can safely be delayed up to two hours after delivery.

16. Answer: A. Totaling I&O is an appropriate task for a nursing assistant. It is out of the scope of practice of an aide to perform assessments, administer medications or monitor a high-risk client such as the one on Magnesium Sulfate. We would rather the RN obtain his/her own IV fluid intake but out of these answers, this is the safest answer.
17. Answer: C. Green stained fluid indicates fetal passage of meconium. The fetus must be suctioned by the health care provider when the head is still on the perineum and before the baby takes its first breath. This will remove any particulate matter from the meconium that may cause aspiration. Answer A is incorrect because delivery will probably occur soon and vaginal delivery is preferable to cesarean. Answer B is incorrect because high forceps are never indicated. and answer D is incorrect because the meconium passage is an indicator of fetal stress and increased uterine contractions may stress the fetus further.

18. Answer: B. Painless, bright red vaginal bleeding are signs of a placenta previa. Ultrasound can confirm this diagnosis with minimal risk to the mother and her fetus. Answer A is incorrect because if the placenta is over the cervix, a finger can go right through the placenta and cause hemorrhage and fetal death. Answer C is incorrect because amniocentesis is done for genetic analysis or to determine fetal lung maturity when delivery is likely. It is preferable to delay delivery until the fetus is term. Answer D is incorrect because contractions can cause further detachment of the placenta from the cervix which would also cause hemorrhage.

19. Answer: A. Minus two station is high with the presenting part not engaged. This client is at high risk for a prolapsed cord, which would require relieving pressure on the cord and emergency cesarean delivery. Answers B, C, and D are incorrect because these are non-emergent situations. The most life threatening situation is A due to the fact that there could be a prolapsed cord.

20. Answer: D. These findings are caused by a full bladder which prevents the uterus from contracting down and achieving homeostasis. Once the bladder is empty the fundus will contract adequately and return to its normal location at 4 FB (or cm) below the umbilicus and in the midline. A distended bladder will displace the uterus, usually to the right.

21. Answer: D. A systolic blood pressure of \( \geq 140 \) mmHg or a diastolic BP of \( \geq 90 \) mmHg indicates hypertension. This client is already on Aldomet, which is an antihypertensive medication. Her hypertension is worsening and may compromise fetal well being. Answer A is incorrect because 2+ DTRs are normal. Answer B is incorrect because maternal tachycardia (up to 120 bpm) is expected. Answer C is incorrect because the desired contraction pattern with Pitocin is 3 in 10 minutes.

22. Answer: B. Right sided shoulder pain is referred pain caused by pressure on the diaphragm due to blood spilling into the abdominal cavity from a ruptured ectopic pregnancy. This client is at high risk for hemorrhage. Answer A is incorrect because fetal heart tones cannot be auscultated until at least 12 weeks gestation. Answers C and D are incorrect because bright red vaginal bleeding is an indicator of threatened abortion. The client can hemorrhage from a threatened abortion but the potential for ruptured ectopic pregnancy is more life threatening.
23. Answer: B. This client is entering the third trimester when the risk of preterm labor and delivery is highest. Answers A and C are incorrect because these are learning needs of the first trimester. Answer D is incorrect because while this is an important topic for the last trimester, physiological needs have priority.

24. Answer: C. Magnesium Sulfate is a potent central nervous system depressant that is excreted through the kidneys. Adequate kidney function is vital to prevent Magnesium toxicity. The urinary output must average at least 30cc/hr. Answer A is incorrect because a respiratory rate of 12 or above is acceptable with this pt. B is incorrect because Magnesium Sulfate causes decreased DTRs. 3+ DTR's is not sedated. It is irritable. We would rather see that than sedated. D is incorrect because a fetal heart rate of 110 is within the normal range of 110-160 bpm. 110-120: we are "worried and watching", but the range is acceptable.

25. Answer: A. This client is at lowest risk for complications. She is having infrequent contractions and is not at high risk for preterm delivery. She is also receiving an oral tocolytic (terbutaline). Answer B is incorrect because continuous vaginal bleeding (even a trickle) indicates an unrepaired genital tract laceration and immediate intervention is needed. Answer C is incorrect because intense perineal pain is a symptom of a genital tract hematoma. A client can lose 500cc of blood into the perineal tissues in a very short period of time. Immediate intervention is also needed for this client. Answer D is incorrect because this client's systolic blood pressure is greater than 140 and indicates the complication of PIH.

26. Answer: B. Remember the ABCs of Airway, Breathing, and Circulation. This infant is at high risk for aspiration, which will occlude his airway. The other answers are incorrect because these tasks are not emergent and can be performed later.

27. Answer: D. Acrocyanosis is bluish discoloration of the hands and feet. This is a normal finding in a stable, healthy newborn infant. Answers A, B, and C are all abnormal findings that indicate pathologic jaundice and risk for brain damage.

28. Answer: B. Obtaining vital signs and placing clients on electronic fetal monitors are within the scope of practice of LPN's. Answer A is incorrect because the ED is not staffed to care for a client in labor. Answer C is incorrect because LPNs are not qualified to perform assessments. Answer D is incorrect because at least baseline data should be obtained on this client (vital signs, fetal heart and contraction patterns). No one has assumed care of the patient.

29. Answer: D. A temperature of 100.5 or greater in a client more than 24 hours postpartum is likely an indication of infection. This client should be kept separate from other mothers and babies. Answer A is incorrect because the preterm twins are in the NICU and not in their mother's room (a client with term twins would need a private room because of space considerations). Answer B is incorrect because chorioaminitis is not contagious. Answer C is incorrect because the infant is suspected of having an infection and will remain in the NICU. The mother is not infected.
30. Answer: A. This client needs a private room so she can feel free to grieve and other family members can stay with her for support. She should be transferred to a GYN unit so the sights and sounds of the maternity unit do not contribute to her pain. Answer B would be correct only if she had developed a relationship with the nurses and preferred to stay on the unit. Answer C is incorrect because she does not need to be rushed out of the hospital. She needs to have time with her stillborn and also still needs to be assessed for postpartum complications. Answer D is incorrect because these clients and families need privacy.

31. Answer: B. A client with a diagnosis of preeclampsia is at high risk for seizure activity and must be monitored closely. Answers A and C are incorrect because these clients primary needs are monitoring and education. Answer C is incorrect because all the products of conception are expelled with a complete abortion and she is at low risk for hemorrhage.

32. Answer: D. Oral Herpes Simples Type II is manifested by lesions on the lips or nose (cold sores/fever blisters). Answer A is incorrect because the newborn can contract the virus through direct skin contact with the lesions. Answers B and C are correct because these are universal precautions.

33. Answer: C. is the best answer. These are stable clients whose care is within the scope of practice of an LPN. The RN will still need to assess the fundus. Answers A, B and D are incorrect because client number 2 is high risk because she is exhibiting symptoms of postpartum onset preeclampsia. Client number 5 is receiving IV medications, and client number 6 has an IV narcotic infusing.

34. Answer: B. Cytomegalovirus is a viral infection that can be devastating to a fetus, especially in the first trimester. Answers A, C, and D are incorrect because most adults have already been exposed to the virus and are not at risk for adverse effects of the infection.

35. Answer: A. Sterile gloves are expensive and it is not necessary to wear them to convert an IV to an INT. Clean gloves should be worn, however, to protect the student nurse (universal precautions). Answer B is incorrect because a dressing change is a clean procedure. You would still utilize sterile technique with dressing supplies and your clean, sterile field. Answer C is incorrect because trichomonosis is sexually transmitted. Answer D is incorrect because toxoplasmosis is transmitted through the feces of infected cats or through ingestion of raw or rare meats.
36. Answer: C. The fetal heart pattern is that of repetitive deep variable decelerations. This pattern is likely due to a prolapsed umbilical cord after AROM. The priority intervention is to relieve the pressure on the cord from being trapped between the presenting part and the pelvis. This can be accomplished by manual pressure on the presenting part, placing the client in Trendelenberg position, or placing her in the knee-chest position. Answers A, B and D are incorrect because these interventions will improve placental perfusion, but will not relieve compression of a prolapsed cord. If the cord is compressed, it doesn't matter how well perfused the placenta is because the oxygen cannot reach the baby. Late decels and low bp would be indicator that we need to increase uterine perfusion by positioning on left side.

37. Answer: B. Circomoro cyanosis is bluish discoloration of and around the lips. It is an indicator of a cyanotic heart defect. Answer A is incorrect because absence of the Babinski's reflex is abnormal. Answer C is incorrect because a positive (not negative) Ortalini's sign indicates congenital hip dislocation. Answer D is incorrect because the common term for this type of nevi is "stork bits" which is a normal newborn finding.

38. Answer: C. This pattern describes late decelerations which are caused by uteroplacental insufficiency and can cause fetal distress. Answers and B are incorrect because these patterns describes fetal heart rate accelerations which are reassuring of fetal well-being. Answer B is incorrect because this pattern indicates early decelerations which are caused by head compression as the presenting part descends. This pattern is reassuring.

39. Answer: A. Sudden onset of back pain is a symptom of a blood transfusion reaction. The blood infusion must be discontinued at once, before any other intervention takes place (B, C, or D).

40. Answer: C. The nurse has been cross trained to L and D and the nursery, this implies that her job description requires her to care for all of these types of clients. She can request additional training and support, but cannot refuse her assignment unless client safety will be compromised. The best answer is C.

41. Answer: C. Injuries in various stages of healing indicate a pattern of abuse. Abuse not only harms the mother, but also increases the risk of fetal harm or death, and preterm delivery. Answer A is incorrect because while these signs may indicate abuse, cultural differences can also explain her demeanor. Answer B is incorrect because single parenthood is not an indicator for referral to social services. Answer D is incorrect because frequent arguments with her partner are not an indicator for referral to social services.

42. Answer: D. Placing clients with similar diagnoses together can result in information sharing and emotional support between the two women because of their similar needs and goals for a health pregnancy.
43. Answer: A. This client has symptoms of a placental abruption (abruptio placentae). There is an extremely high risk for fetal loss and maternal DIC. Answer B is incorrect because this describes loss of the mucous plug, which is a normal occurrence at term. Answer C is incorrect because urinary frequency without dysuria at term indicates descent of the fetus. Answer D is incorrect because edema confined to the feet and ankles is a normal discomfort of pregnancy at term.

44. Answer: D. There is a risk for pregnancy loss after amniocentesis. The priority nursing intervention is to monitor fetal heart tones and for uterine contractions. Answer A is incorrect because there would not be signs of infection so soon after the procedure. Answer B is incorrect because the physiological needs have priority over physiological needs. (Maslow’s hierarchy). Answer C is incorrect because hypotension is a more likely side-effect of the procedure.

45. Answer: B. The test that monitors the efficacy of Heparin is the PTT. The therapeutic range for a PTT is 27-31. Answers A and C are incorrect because PT and INR monitor the efficacy of Coumadin, which is contraindicated in pregnancy because it crosses the placenta. Answer D is incorrect because of hemoglobin of 11 is adequate in pregnancy.

46. Answer: A. A serum glucose below 40 gm/dl indicated hypoglycemia and requires immediate intervention to prevent respiratory distress, brain damage, and/or neonatal death. Answers A (Mongolian spots), B (milia), and C (effects of exposure to maternal estrogen during pregnancy) describe normal findings in the newborn.

47. Answer: A. Tasks 1, 2, and 3 are within the scope of practice for OB scrub techs. Only LPNs or RNs can perform tasks 4, 5, and 6.

48. Answer: C. Headache, visual changes, and epigastric indicate brain and liver edema. These are signs of impending seizures. Answer A is incorrect because this client is not diabetic and the blood glucose is tested 2 hours after meals in pregnant diabetics, not one hour before. B and D are incorrect because physiological needs have priority over psychosocial or teaching needs.

49. Answer: D. A baby who is so sleepy that he doesn't wake on his own for feeding is at high risk for dehydration and malnourishment, which can lead to brain damage or death. Answers A and B are desirable findings in breastfeeding. Answer C is of concern and the lactation consultant needs to check the latch on, but the sleepy baby situation has first priority.

50. Answer: B. Intense perineal pain is a symptom of a perineal hematoma, which is a medical emergency. Answers A, C, and D describe expected findings for the postpartum period described.
Immunizations

Hepatitis B: #1 @ 0-2 months (commonly given at birth)
    #2 @ 2-4 months
    #3 @ 6-8 months

DTP  #1 @ 2 months
     #2 @ 4 months
     #3 @ 6 months
     #4 @ 15-18 months
     #5 @ 5-6 years

Haemophilus influenzae type B (Hib)
    #1 @ 2 months
    #2 @ 4 months
    #3 @ 6 months
    #4 @ 12-18 months

Inactivated Poliovirus Vaccine (IPV)
    #1 @ 2 months
    #2 @ 4 months
    #3 @ 6-18 months
    #4 @ 4-6 years

Heptavalent conjugate pneumococcal vaccine (PCV)
    #1 @ 2 months
    #2 @ 4 months
    #3 @ 6 months
    #4 @ 12-15 months

Measles-Mumps-Rubella (MMR)
    #1 @ 15-18 months
    #2 @ 4-6 years

Varicella @ 15-18 months

Td (tetanus, diphtheria) @ 14-16 years………every 10 years thereafter
Infection Control

Standard Precautions
Excerpted from Guideline for Isolation Precautions in Hospitals

Background

Standard Precautions synthesize the major features of UP (Blood and Body Fluid Precautions) (27,28) (designed to reduce the risk of transmission of bloodborne pathogens) and BSI (29,30) (designed to reduce the risk of transmission of pathogens from moist body substances) and applies them to all patients receiving care in hospitals, regardless of their diagnosis or presumed infection status. Standard Precautions apply to 1) blood; 2) all body fluids, secretions, and excretions except sweat, regardless of whether or not they contain visible blood; 3) nonintact skin; and 4) mucous membranes. Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.

II. Standard Precautions

Use Standard Precautions, or the equivalent, for the care of all patients. Category IB

A. Handwashing

1. Wash hands after touching blood, body fluids, secretions, excretions, and contaminated items, whether or not gloves are worn. Wash hands immediately after gloves are removed, between patient contacts, and when otherwise indicated to avoid transfer of microorganisms to other patients or environments. It may be necessary to wash hands between tasks and procedures on the same patient to prevent cross-contamination of different body sites. Category IB

2. Use a plain (nonantimicrobial) soap for routine handwashing. Category IB

3. Use an antimicrobial agent or a waterless antiseptic agent for specific circumstances (e.g., control of outbreaks or hyperendemic infections), as defined by the infection control program. Category IB (See Contact Precautions for additional recommendations on using antimicrobial and antiseptic agents.)
B. Gloves

Wear gloves (clean, nonsterile gloves are adequate) when touching blood, body fluids, secretions, excretions, and contaminated items. Put on clean gloves just before touching mucous membranes and nonintact skin. Change gloves between tasks and procedures on the same patient after contact with material that may contain a high concentration of microorganisms. Remove gloves promptly after use, before touching noncontaminated items and environmental surfaces, and before going to another patient, and wash hands immediately to avoid transfer of microorganisms to other patients or environments.

Category IB

C. Mask, Eye Protection, Face Shield

Wear a mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.

Category IB

D. Gown

Wear a gown (a clean, nonsterile gown is adequate) to protect skin and to prevent soiling of clothing during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Select a gown that is appropriate for the activity and amount of fluid likely to be encountered. Remove a soiled gown as promptly as possible, and wash hands to avoid transfer of microorganisms to other patients or environments.

Category IB

E. Patient-Care Equipment

Handle used patient-care equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and environments. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

Category IB

F. Environmental Control

Ensure that the hospital has adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bedrails, bedside equipment, and other frequently touched surfaces, and ensure that these procedures are being followed.

Category IB
**G. Linen**

Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures and contamination of clothing, and that avoids transfer of microorganisms to other patients and environments.

Category IB

**H. Occupational Health and Bloodborne Pathogens**

1. Take care to prevent injuries when using needles, scalpels, and other sharp instruments or devices; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing of used needles. Never recap used needles, or otherwise manipulate them using both hands, or use any other technique that involves directing the point of a needle toward any part of the body; rather, use either a one-handed "scoop" technique or a mechanical device designed for holding the needle sheath. Do not remove used needles from disposable syringes by hand, and do not bend, break, or otherwise manipulate used needles by hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers, which are located as close as practical to the area in which the items were used, and place reusable syringes and needles in a puncture-resistant container for transport to the reprocessing area.

Category IB

2. Use mouthpieces, resuscitation bags, or other ventilation devices as an alternative to mouth-to-mouth resuscitation methods in areas where the need for resuscitation is predictable.

Category IB

**I. Patient Placement**

Place a patient who contaminates the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control in a private room. If a private room is not available, consult with infection control professionals regarding patient placement or other alternatives.

Category IB
Contact Precautions
Excerpted from Guideline for Isolation Precautions in Hospitals
Background

Contact Precautions are designed to reduce the risk of transmission of epidemiologically important microorganisms by direct or indirect contact. Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, such as occurs when personnel turn patients, bathe patients, or perform other patient-care activities that require physical contact. Direct-contact transmission also can occur between two patients (e.g., by hand contact), with one serving as the source of infectious microorganisms and the other as a susceptible host. Indirect-contact transmission involves contact of a susceptible host with a contaminated intermediate object, usually inanimate, in the patient's environment.

Contact Precautions apply to specified patients known or suspected to be infected or colonized (presence of microorganism in or on patient but without clinical signs and symptoms of infection) with epidemiologically important microorganisms than can be transmitted by direct or indirect contact.

In addition to Standard Precautions, use Contact Precautions, or the equivalent, for specified patients known or suspected to be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct contact with the patient (hand or skin-to-skin contact that occurs when performing patient-care activities that require touching the patient's dry skin) or indirect contact (touching) with environmental surfaces or patient-care items in the patient's environment.

Category IB

A. Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, consider the epidemiology of the microorganism and the patient population when determining patient placement. Consultation with infection control professionals is advised before patient placement.

Category IB

B. Gloves and Handwashing

In addition to wearing gloves as outlined under Standard Precautions, wear gloves (clean, nonsterile gloves are adequate) when entering the room. During the course of providing care for a patient, change gloves after having contact with infective material that may contain high concentrations of microorganisms (fecal material and wound drainage). Remove gloves before leaving the patient's room and wash hands immediately with an antimicrobial agent or a waterless antiseptic agent.(72,94) After glove removal and handwashing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of microorganisms to other patients or environments.

Category IB
C. Gown

In addition to wearing a gown as outlined under Standard Precautions, wear a gown (a clean, nonsterile gown is adequate) when entering the room if you anticipate that your clothing will have substantial contact with the patient, environmental surfaces, or items in the patient's room, or if the patient is incontinent or has diarrhea, an ileostomy, a colostomy, or wound drainage not contained by a dressing. Remove the gown before leaving the patient's environment. After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces to avoid transfer of microorganisms to other patients or environments.

Category IB

D. Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If the patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment.

Category IB

E. Patient-Care Equipment

When possible, dedicate the use of noncritical patient-care equipment to a single patient (or cohort of patients infected or colonized with the pathogen requiring precautions) to avoid sharing between patients. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient.

Category IB

F. Additional Precautions for Preventing the Spread of Vancomycin Resistance

Consult the HICPAC report on preventing the spread of vancomycin resistance for additional prevention strategies.(94)
Airborne Precautions
Excerpted from Guideline for Isolation Precautions in Hospitals

Background

Airborne Precautions are designed to reduce the risk of airborne transmission of infectious agents. Airborne transmission occurs by dissemination of either airborne droplet nuclei (small-particle residue [5 µm or smaller in size] of evaporated droplets that may remain suspended in the air for long periods of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be dispersed widely by air currents and may become inhaled by or deposited on a susceptible host within the same room or over a longer distance from the source patient, depending on environmental factors; therefore, special air handling and ventilation are required to prevent airborne transmission. Airborne Precautions apply to patients known or suspected to be infected with epidemiologically important pathogens that can be transmitted by the airborne route.

III. Airborne Precautions

In addition to Standard Precautions, use Airborne Precautions, or the equivalent, for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residue [5 µm or smaller in size] of evaporated droplets containing microorganisms that remain suspended in the air and that can be dispersed widely by air currents within a room or over a long distance). Category IB

A. Patient Placement

Place the patient in a private room that has 1) monitored negative air pressure in relation to the surrounding areas, 2) 6 to 12 air changes per hour, and 3) appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital.(23) Keep the room door closed and the patient in the room. When a private room is not available, place the patient in a room with a patient who has active infection with the same microorganism, unless otherwise recommended,(23) but with no other infection. When a private room is not available and cohorting is not desirable, consultation with infection control professionals is advised before patient placement. Category IB

B. Respiratory Protection

Wear respiratory protection (N95 respirator) when entering the room of a patient with known or suspected infectious pulmonary tuberculosis.(23,81) Susceptible persons should not enter the room of patients known or suspected to have measles (rubeola) or varicella (chickenpox) if other immune caregivers are available. If susceptible persons must enter the room of a patient known or suspected to have measles (rubeola) or varicella, they should wear respiratory protection (N95 respirator).(81) Persons immune to measles (rubeola) or varicella need not wear respiratory protection. Category IB
C. Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient, if possible.

Category IB

D. Additional Precautions for Preventing Transmission of Tuberculosis

Consult CDC "Guidelines for Preventing the Transmission of Tuberculosis in Health-Care Facilities"(23) for additional prevention strategies.
Droplet Precautions
Excerpted from Guideline for Isolation Precautions in Hospitals

Background

Droplet Precautions are designed to reduce the risk of droplet transmission of infectious agents. Droplet transmission involves contact of the conjunctivae or the mucous membranes of the nose or mouth of a susceptible person with large-particle droplets (larger than 5 µm in size) containing microorganisms generated from a person who has a clinical disease or who is a carrier of the microorganism. Droplets are generated from the source person primarily during coughing, sneezing, or talking and during the performance of certain procedures such as suctioning and bronchoscopy. Transmission via large-particle droplets requires close contact between source and recipient persons, because droplets do not remain suspended in the air and generally travel only short distances, usually 3 ft or less, through the air. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission. Droplet Precautions apply to any patient known or suspected to be infected with epidemiologically important pathogens that can be transmitted by infectious droplets.

IV. Droplet Precautions

In addition to Standard Precautions, use Droplet Precautions, or the equivalent, for a patient known or suspected to be infected with microorganisms transmitted by droplets (large-particle droplets [larger than 5 µm in size] that can be generated by the patient during coughing, sneezing, talking, or the performance of procedures).

Category IB

A. Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 ft between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open. Category IB

B. Mask

In addition to wearing a mask as outlined under Standard Precautions, wear a mask when working within 3 ft of the patient. (Logistically, some hospitals may want to implement the wearing of a mask to enter the room.) Category IB
C. Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient, if possible. Category IB
**Standard Precautions**

Use Standard Precautions for the care of all patients

**Airborne Precautions**

In addition to Standard Precautions, use Airborne Precautions for patients known or suspected to have serious illnesses transmitted by airborne droplet nuclei. Examples of such illnesses include:

- Measles
- Varicella (including disseminated zoster)†
- Tuberculosis‡

**Droplet Precautions**

In addition to Standard Precautions, use Droplet Precautions for patients known or suspected to have serious illnesses transmitted by large particle droplets. Examples of such illnesses include:

Invasive *Haemophilus influenzae* type b disease, including meningitis, pneumonia, epiglottitis, and sepsis

Invasive *Neisseria meningitidis* disease, including meningitis, pneumonia, and sepsis

Other serious bacterial respiratory infections spread by droplet transmission, including:

- Diphtheria (pharyngeal)
- Mycoplasma pneumonia
- Pertussis
- Pneumonic plague
- Streptococcal (group A) pharyngitis, pneumonia, or scarlet fever in infants and young children

Serious viral infections spread by droplet transmission, including:

- Adenovirus†
- Influenza
- Mumps
- Parvovirus B19
- Rubella
Contact Precautions

In addition to Standard Precautions, use Contact Precautions for patients known or suspected to have serious illnesses easily transmitted by direct patient contact or by contact with items in the patient's environment. Examples of such illnesses include:

Gastrointestinal, respiratory, skin, or wound infections or colonization with multidrug-resistant bacteria judged by the infection control program, based on current state, regional, or national recommendations, to be of special clinical and epidemiologic significance

Enteric infections with a low infectious dose or prolonged environmental survival, including:

- *Clostridium difficile*
  - For diapered or incontinent patients: enterohemorrhagic *Escherichia coli* O157:H7, *Shigella*, hepatitis A, or rotavirus

Respiratory syncytial virus, parainfluenza virus, or enteroviral infections in infants and young children

Skin infections that are highly contagious or that may occur on dry skin, including:

- Diphtheria (cutaneous)
- Herpes simplex virus (neonatal or mucocutaneous)
- Impetigo
- Major (noncontained) abscesses, cellulitis, or decubiti
- Pediculosis
- Scabies
- Staphylococcal furunculosis in infants and young children
- Zoster (disseminated or in the immunocompromised host)†

Viral/hemorrhagic conjunctivitis

Viral hemorrhagic infections (Ebola, Lassa, or Marburg)*
## Insulin Chart

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
<th>Onset (hr)</th>
<th>Peak (hr)</th>
<th>Duration (hr)</th>
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<tbody>
<tr>
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<td>Novolog</td>
<td>0.25</td>
<td>1-3</td>
<td>3-5</td>
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<td>Humalog</td>
<td>0.25</td>
<td>0.5-1.5</td>
<td>3-4</td>
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<td>0.5</td>
<td>2-4</td>
<td>6-8</td>
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<td>7-15</td>
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<td>0.25</td>
<td>1-4</td>
<td>24</td>
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<td>Humalog Mix 75/25</td>
<td>0.25</td>
<td>1-2</td>
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</tr>
<tr>
<td>70% Human insulin isophane suspension (NPH)/30% regular insulin</td>
<td>Humulin 70/30</td>
<td>0.5</td>
<td>2-12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Novolin 70/30</td>
<td>0.5</td>
<td>2-12</td>
<td>24</td>
</tr>
<tr>
<td>50% Human insulin isophane suspension (NPH)/50% regular insulin</td>
<td>Humulin 50/50</td>
<td>0.5</td>
<td>3-5</td>
<td>24</td>
</tr>
</tbody>
</table>
Pharmacologic Pain Management in Labor

**Analgesics** (medications that alter pain perception and response)

Note - All systemic analgesics given to the mother can cross the placental barrier by simple diffusion, some more readily than others. These agents can remain active in fetal circulation for a prolonged period of time.

Prior to and following administration of analgesics, the nurse must assess: labor progress and contraction pattern, evidence of fetal well-being, and stability of maternal vital signs.

<table>
<thead>
<tr>
<th>Analgesics Used in Labor and Their Effects on Mother and Baby</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effects on Mom:</strong></td>
</tr>
<tr>
<td>1. Decreased pain</td>
</tr>
<tr>
<td>2. Sedation</td>
</tr>
<tr>
<td>3. N &amp; V</td>
</tr>
<tr>
<td>4. Dizziness</td>
</tr>
<tr>
<td>5. Respiratory depression</td>
</tr>
<tr>
<td>6. Hypotension</td>
</tr>
<tr>
<td>7. Orthostatic hypotension</td>
</tr>
<tr>
<td>8. Blurred vision</td>
</tr>
<tr>
<td>9. Dry mouth</td>
</tr>
<tr>
<td>10. Diaphoresis</td>
</tr>
<tr>
<td>11. Itching</td>
</tr>
<tr>
<td>12. Urinary retention</td>
</tr>
<tr>
<td>13. Decreased contraction strength</td>
</tr>
<tr>
<td><strong>Effects on baby:</strong></td>
</tr>
<tr>
<td>1. Decreased FHT variability</td>
</tr>
<tr>
<td>2. Neonatal respiratory depression (use Narcan)</td>
</tr>
<tr>
<td>3. Hypotonia</td>
</tr>
<tr>
<td>4. Lethargy</td>
</tr>
<tr>
<td>5. Decreased motor activity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analgesics Used in Labor and Their Effects on Mother and Baby</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nalbuphine hydrochloride</strong> (Nubain) narcotic agonist/antagonist</td>
</tr>
<tr>
<td><strong>Butorphanol tartrate</strong> (Stadol) narcotic agonist/antagonist</td>
</tr>
<tr>
<td><strong>Meperidine hydrochloride</strong> (Demerol) narcotic agonist</td>
</tr>
</tbody>
</table>
Anesthesia (agents that block nerve conduction) Local and regional anesthetics can be used for labor and birth. General anesthetics can be used for cesarean births.

**Summary of Local, Regional, and General Anesthesia**

<table>
<thead>
<tr>
<th>Anesthesia Type</th>
<th>Description</th>
<th>Administration</th>
<th>Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumbar epidural</td>
<td>Affects the uterus, cervix, vagina, and perineum. Anesthetic or analgesic or a combination of both agents can be used depending on the desired effects.</td>
<td>Given in the 1st or 2nd stage of labor. Given as a continuous infusion or in intermittent bolus doses into the epidural space via a catheter. May be used for cesarean birth.</td>
<td>Maternal hypotension is the major adverse effect. Ability to move legs depends on whether an anesthetic, analgesic, or combination of both is used. Usually requires a catheter to prevent urinary retention.</td>
</tr>
<tr>
<td>Spinal</td>
<td>Affects the uterus, cervix, vagina, and perineum. Takes effect quickly.</td>
<td>Anesthetic agent is injected into the CSF in the subarachnoid space to provide anesthesia for cesarean birth. A smaller amount of anesthetic or a combination of anesthetic and analgesic agents can be used during labor and vaginal birth.</td>
<td>Depending on agent and dose, can cause an intense blockade of sympathetic fibers, increasing risk for maternal hypotension and fetal hypoxia. Requires a catheter to prevent urinary retention. Orders may include lying flat for 6-12 hrs after cesarean birth.</td>
</tr>
<tr>
<td>Combined spinal epidural</td>
<td>Affects uterus, cervix, vagina, and perineum. Meds injected into the CSF take effect quickly.</td>
<td>Can be used for labor analgesia and for cesarean birth. A small amount of anesthetic, analgesic, or both is injected into the CSF in the subarachnoid space and a catheter is inserted into the epidural space. The epidural catheter allows continuous or additional bolus doses of meds through the catheter.</td>
<td>Increased incidence of nausea and itching. Maternal hypotension is the greatest risk Ability to use legs is variable depending on the meds used Requires a catheter to prevent urinary retention.</td>
</tr>
<tr>
<td><strong>Pudendal</strong></td>
<td>Affects the perineum and lower vagina. Transvaginal injection of anesthetic below the pudendal nerve that is located bilaterally near the ischial spines.</td>
<td>Given in the 2nd stage of labor just prior to birth to provide anesthesia for episiotomy or for vacuum extraction or low forceps birth.</td>
<td>No risk to mother or baby unless inadvertent intravascular injection occurs. Does not relieve uterine contraction pain.</td>
</tr>
<tr>
<td><strong>Local infiltration</strong></td>
<td>Affects perineum only. Anesthetic agent is injected into the subcutaneous, intracutaneous, and intramuscular areas of the perineum</td>
<td>Administered just prior to birth to provide anesthesia for episiotomy or laceration repair.</td>
<td>No risk to mother or baby unless inadvertent intravascular injection occurs.</td>
</tr>
<tr>
<td><strong>General anesthetic</strong></td>
<td>Induced unconsciousness achieved by use of IV anesthetics, inhalation of anesthetic agents, or a combination of both.</td>
<td>Used for cesarean birth and with some obstetrical complications.</td>
<td>Primary danger is fetal depression due to exposure to anesthetic agents. Maternal vomiting and aspiration can result in respiratory complications (prophylactic antacids help to prevent this).</td>
</tr>
</tbody>
</table>
Everything You Ever Wanted to Know about Management and Delegation

What is Delegation? Designating __________ to others, but the __________ retains accountability.

You must always __________. Was the task done properly?..Was the task done in the proper time frame?…Is the patient alright?

Don’t assume someone is competent to do something just because of their job description. Examples: Nursing assistant with 20 years experience…..has been working in the well baby nursery for past 5 years….has just gotten pulled to the orthopedic floor….you have a post-op hip that needs to get up to the chair.

When someone is pulled to a new floor….pretend they are a new nurse all over again. Do not give this nurse any patients requiring specialized care.

Example: ER nurse with 15 years of experience gets pulled to the Labor and Delivery unit…which patient would you give this nurse.

- The patient with a severe DVT with bilateral involvement
- The patient in active labor
- The patient who is 8 hours post-partum
- The patient requiring fetal monitoring

UAP: unlicensed assistive personnel

You are accountable for what you specifically delegate….but be careful….they can always find a way to put the blame on you….that is why everybody needs their own malpractice policy to protect yourself and your assets.

When someone does something you did not delegate and something goes wrong your primary responsibility is to _____________.

When you set a patient goal….can a LPN evaluate the patient to determine if the goal has been met?

Never delegate ____________.
Who is supposed to do admission histories?

Always consider a new admit __________.

If someone else, such as the LPN, collects the admission data never sign off of the form until you have validated the data.

Can a LPN devise a teaching plan for a newly diagnosed diabetic?

Only ________________ teaching plans

It is your responsibility to figure out the staff’s strengths and weaknesses. When you identify a weakness you are supposed to teach, teach, teach. You’ve got to learn the people you are working with.

It is okay to get people to repeat steps back to you.

3 Rules of Delegation:
Adequate information, Time Frame, Prioritize

Delegation is not an ________________ to another RN.

3 Rules of LPN Delegation:
1. Only nursing care in ________________ situations
2. Orders not subject to ________________
3. Selected tasks in ________________ situations.

Nursing Assistants:
--Non-complex tasks: I & 0, Routine Vital Signs, Basic Communication, CPR, Post-Mortem Care, ID Risks

--Always teach nursing assistants to report back to you

--Trivial Tasks in test questions: feeding a patient

If there is ever a degree of harm the ________________ must retain the task for themselves no matter how trivial it is.

To delegate properly you have to plan at the beginning of the shift.

Never delegate something that requires nursing judgment.

Anytime a RN’s judgment, assessment, or problem-solving is needed (no matter how trivial) the task should not be delegated.

Always keep cost-effectiveness in mind.
Maslow’s Hierarchy of Needs

- **Self-actualisation**
  personal growth and fulfilment

- **Esteem needs**
  achievement, status, responsibility, reputation

- **Belongingness and Love needs**
  family, affection, relationships, work group, etc

- **Safety needs**
  protection, security, order, law, limits, stability, etc

- **Biological and Physiological needs**
  basic life needs - air, food, drink, shelter, warmth, sex, sleep, etc.

© alan chapman 2001-4, based on Maslow’s Hierarchy of Needs
Medication Calculation Reference

IV Drip Rate:
\[
gtts/min = \frac{\text{Volume to be infused (ml)} \times \text{drip factor of tubing}}{\text{Time (min) to be infused}}
\]

Drug Concentration:

\[
\begin{array}{l}
\text{Amount of drug in solution (g, mg, or mcg)} \\
\text{Amount of Solution (ml)}
\end{array}
\]

Information required to calculate IV infusion rates to deliver specific medication doses:
1. Dose to be infused (ex. mcg/kg/min, mg/min, mg/hr)
2. Concentration of solution (Ex. Dopamine is 400mg/250 ml D5W= 1.6 mg/ml)
3. Patient’s weight in kilograms

### Conversion Factors:

<table>
<thead>
<tr>
<th>Amount</th>
<th>Conversion</th>
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</thead>
<tbody>
<tr>
<td>1 mg</td>
<td>1000mcg</td>
</tr>
<tr>
<td>1 kg</td>
<td>2.2 lbs</td>
</tr>
<tr>
<td>1 gr</td>
<td>60 mg</td>
</tr>
<tr>
<td>1/100 gr</td>
<td>0.6 mg</td>
</tr>
<tr>
<td>1 inch</td>
<td>2.5 cm</td>
</tr>
<tr>
<td>10 cm</td>
<td>10 mm</td>
</tr>
<tr>
<td>1 m</td>
<td>100 cm</td>
</tr>
<tr>
<td>1/150 gr</td>
<td>0.4 mg</td>
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<td>1 tsp</td>
<td>5 ml</td>
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<tr>
<td>1 Tbsp</td>
<td>15 ml</td>
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<tr>
<td>1 oz</td>
<td>30 ml</td>
</tr>
<tr>
<td>1 mm Hg</td>
<td>1.36 cm H20</td>
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</table>

### Temperature Conversion Table

<table>
<thead>
<tr>
<th>Fahrenheit</th>
<th>Celsius</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.6</td>
<td>32</td>
</tr>
<tr>
<td>91.4</td>
<td>33</td>
</tr>
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<td>93.2</td>
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<td>102.2</td>
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</tr>
<tr>
<td>104.2</td>
<td>40</td>
</tr>
<tr>
<td>105.8</td>
<td>41</td>
</tr>
</tbody>
</table>

To convert Fahrenheit to Celsius: (F-32) \times 0.5555
To convert Celsius to Fahrenheit: (C \times 1.8) \div 32
Calculations of mcg/kg/min

Examples: dopamine, dobutamine, nitroprusside

### To calculate does with infusion already in progress:

\[
\text{Concentration}_{\text{mcg/ml}} \times \frac{\text{pump setting}_{\text{ml/h}}}{60 \text{ min/h}} \div \frac{\text{pt. weight}_{\text{kg}}}{\text{dosage}_{\text{mcg/kg/min}}}
\]

### To calculate pump setting in ml/h if a given does is ordered:

\[
\frac{\text{dosage}_{\text{mcg/kg/ml}} \times \text{pt. weight}_{\text{kg}} \times 60 \text{ min/h}}{\text{concentration}_{\text{mcg/ml}}} = \text{pump setting}_{\text{ml/h}}
\]

**Example:** Calculate the IV infusion rate in ml/h for a 70 kg patient requiring dobutamine, 5 mcg/kg/min, using dobutamine drip of 500 mg in 250 ml D5W.

Dose to be administered: 5 mcg/kg/min

Dobutamine Concentration: 500,000mcg/250 ml = 2000 mcg/ml

Patient weight: 70kg

Calculation: 5 mcg/kg/min X 70kg X 60 min/h ÷ 2000 mcg/ml = 10.5 ml/h

Answer: setting infusion pump at 10.5 ml/h will deliver 5 mcg/kg/min of dobutamine.
Calculation of mcg/min

Examples: Nitroglycerin, norepinephrine, isoproterenol, epinephrine

To calculate dose with infusion already in progress:

\[
\frac{\text{mcg/ml} \times \text{ml/h}}{60 \text{ min/h}} = \text{mcg/min}
\]

To calculate pump setting in ml/h if a given dose is ordered:

\[
\frac{\text{mcg/ml} \times 60 \text{ min/h}}{\text{mcg/ml}} = \text{ml/h}
\]

Example: Calculate the IV infusion rate in ml/h for a 70 kg patient requiring nitroglycerin, 5 mcg/min, using nitroglycerine drip of 50 mg in 250 ml D5W.

Dose to be administered: 50 mcg/min

Nitroglycerine Concentration: 50 mg/250 ml = 0.2 mg/ml = 200 mcg/ml

Calculation: 50 mg/min \times 60 \text{ min/h} ÷ 200 \text{ mcg/ml} = 15 \text{ ml/h}

Answer: setting infusion pump at 15 ml/h will deliver 50 mcg/min of nitroglycerin.
Calculation of mg/min

Examples: lidocaine, procainamide, bretylium

To calculate does with infusion already in progress:

\[
\frac{\text{mg/ml}}{\text{Concentration}} \times \frac{\text{ml/h}}{\text{pump setting}} \div 60 \frac{\text{min/h}}{\text{dosage}} = \text{mg/min}
\]

To calculate pump setting in ml/h if a specific does is ordered:

\[
\frac{\text{mg/ml} \times 60 \frac{\text{min/h}}{\text{mg/ml}}}{\text{dosage}} = \frac{\text{ml/h}}{\text{concentration}} \times \frac{\text{mg/ml}}{\text{pump setting}}
\]

Example: Calculate the IV infusion rate in ml/h for a 70 kg patient requiring procainamide, maintenance drip at 2 mg/min.

Dose to be administered: 2 mg/min

Procainamide Concentration: 2000 mg/500 ml = 4 mg/ml

Calculation: 2 mg/min \( \times \) 60 min/h \( \div \) 4 mg/ml = 30 ml/h
Calculation of mg/h

Examples: Theophylline, versed, diazepam, morphine, diltiazem

To calculate does with infusion already in progress:

\[
\text{mg/ml} \times \text{ml/h} = \text{mg/h}
\]

Concentration \hspace{1cm} \text{pump setting} \hspace{1cm} \text{dosage}

To calculate pump setting in ml/h if a specific does is ordered:

\[
\frac{\text{mg/h}}{\text{mg/ml}} = \text{ml/h}
\]

dosage \hspace{1cm} \text{concentration} \hspace{1cm} \text{pump setting}

Example: Calculate the IV infusion rate in ml/h for a 70 kg patient requiring diltiazem, 5 mg/h. Diltiazem is in a single use vial with a concentration of 125mg/5 ml. It should be added to 100ml D5W to make the final infusion solution.

Calculation: Diltiazem 125 mg = 5mg + 100 ml D5W = 100 ml

Final concentration: 125 mg/125ml = 1 mg/ml

Answer: setting the infusion pump at 5 ml/h will result in a final infusion rate of 5 mg/h
Safe Drug Calculation for Children

1) Determine the child’s weight in kg

2) Recommended safe dose is 200-400 mg/kg/24hr q 6 hours (the time frame may change depending on the information given in the question)

3) Example: Child’s Weight: 22 lbs

   -First convert the child’s weight to kg: 22 lbs/2.2 = 10 kg

   -Calculate the low and high end of what is considered to be a safe dose:
     200mg X 10 kg = 2,000mg/24 hours
     400mg 10 kg = 4,000mg/24 hours

   -Calculate the safe dose per dose given every 6 hours. You are dividing by 4 because you will be giving 4 total doses (24/6=4) in a 24 hour period because you will be administering the medication q 6 hours.
     2,000/4 = 500 mg/dose
     4,000/4 = 1,000 mg/dose

   The safe dose range is 500-1,000 mg/dose
### Answers to Mock NCLEX

<p>| | | | | |</p>
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<td>25.</td>
<td>4</td>
<td>50.</td>
<td>1</td>
<td>75.</td>
</tr>
</tbody>
</table>
Normal Lab Values

Normal 24 hours output is 1500 cc

Minimum urine output should be 600 cc in 24 hours
*It is OK for the intake to exceed the output by 500 cc

BUN 10-20 mg/100ml

CR men: 0.8-1.2 mg/dl women: 0.6-0.9 mg/dl

Urine Specific Gravity: 1.010-1.030

WBC: 5000-10,000

RBC: men: 4.5-6.2 million women: 4.2-5.4 million

HTC: men: 42-52 women: 36-48

HB: men: 14-18 women: 12-16

Platelets: 140,000-400,000

ESR: men: 0-10 mm/hr women: 0-20 mm/hr

Ca: 8.5-10.5 mg/dl serum

Na: 135-145 mEq/L

K: 3.5-5.0 mEq/L

MG: 1.5-2.5 mEq/L Critical<0.5 mEq/L or > 3.0 mEq/L

ADH: 2.3-3.1 pg/ml

Cholesterol: < 200

LDH: < 100 mg/dL

HDL: ≥ 60 mg/dL
Triglycerides: Normal: <150 mg/dL
Aspirin: 2-20 mg/dL (therapeutic level)
Acetaminophen: > 150 mcg/ml is toxic level
Cardiac output (CO): 4-8 L/min
CVP: 2-6 mmHg
Cardiac Index (CI): 2.5-4.0 L/min/m²
Glucose: 70-110 mg/dL
aPTT (same as PTT) is 20-36 seconds,
- Therapeutic level for a patient that is on a medication that requires aPTT to be monitored should be 1.5-2x the normal
PT is 9.6-11.8 seconds
INR is 1.3-2.0
- For most patients a therapeutic INR is 2.0-3.0, although an INR of 3.0-4.5 may be considered therapeutic depending on the patient
Lithium level: .6-1.2 meq/L anything over 1.5 is toxic
Theophylline: 5-20ng/ml
Digoxin: 0.5-2 ng/ml
Dilantin: 10-20 meq/ml
Ammonia: 15-45 mcg/dL
BNP: Levels below 100 pg/ml indicates no heart failure
Levels of 100-300 pg/ml suggest heart failure
 Levels above 900 pg/ml indicates severe heart failure
Hemoglobin A1C: 3%-6% of total hemoglobin
- this lab is reported as a percentage of the total hemoglobin level
T4: 5-13.5 mcg/dL
AST = SGPT: 8-50 U/L
ALT= SGOT: men: 8-46 U/L women: 7-34 U/L
Total CPK: men: 5-55 U/L   women: 5-25 U/L

CPK-BB: 0% of total CPK

CPK-MB: 0% - 7% of total CPK

CPK-MM: 5%-70% of total CPK

Triponin: Normal<0.6ng/ml
          Bad is > 1.4 ng/ml

Serum Amylase: 80-180 U/L

Serum Lipase: 0-160 U/L

Acid Phosphatase: 0-0.8 U/L

Alkaline Phosphatase: 44-147 IU/L

PSA: men<40 years old:  <2.0 ng/ml  men>40 years old:  <2.8 ng/ml

hCG: Not pregnant: <3 mIU/L
     8-10 days: 5-40 mIU/L
     4 months- term: 50,000 mIU/L

Albumin: 3.3-4.5 g/dl

Total Protein: 6.6-7.9 g/dl

Total Bilirubin:  0.3-1.2 mg/dL
               Indirect:  0.3-1.1 mg/dL
               Direct:   0.1-0.4 mg/dL

ABG:
    pH: 7.35-7.45
    PaO2: 80-100 mmHg
    PaCO2: 35-45 mmHg
    HCO3⁻: 22-26 mEq/L
    SaO2: 94-100%
**Normal Vital Signs for Children**

### Normal Heart Rates in Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Awake at rest (bpm)</th>
<th>Asleep (bpm)</th>
<th>Excersise/Fever (bpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>100-180</td>
<td>80-160</td>
<td>Up to 220</td>
</tr>
<tr>
<td>1 Week-3months</td>
<td>100-220</td>
<td>80-200</td>
<td>Up to 220</td>
</tr>
<tr>
<td>3months-2 years</td>
<td>80-150</td>
<td>70-120</td>
<td>Up to 200</td>
</tr>
<tr>
<td>2 years-10 years</td>
<td>70-110</td>
<td>60-90</td>
<td>Up to 200</td>
</tr>
<tr>
<td>10 years- adult</td>
<td>55-90</td>
<td>50-90</td>
<td>Up to 200</td>
</tr>
</tbody>
</table>

### Normal Temperatures for Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months</td>
<td>99.4</td>
</tr>
<tr>
<td>6 months</td>
<td>99.5</td>
</tr>
<tr>
<td>1 year</td>
<td>99.7</td>
</tr>
<tr>
<td>3 years</td>
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</tr>
<tr>
<td>5 years</td>
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<tr>
<td>7 years</td>
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<td>9 years</td>
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<td>11 years</td>
<td>98.0</td>
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<tr>
<td>13 years</td>
<td>97.8</td>
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### Normal Respiratory Rate for Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Rate (breaths/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>35</td>
</tr>
<tr>
<td>1-11 months</td>
<td>30</td>
</tr>
<tr>
<td>2 years</td>
<td>25</td>
</tr>
<tr>
<td>4 years</td>
<td>23</td>
</tr>
<tr>
<td>6 years</td>
<td>21</td>
</tr>
<tr>
<td>8 years</td>
<td>20</td>
</tr>
<tr>
<td>10-12 years</td>
<td>19</td>
</tr>
<tr>
<td>14 years</td>
<td>18</td>
</tr>
<tr>
<td>16 years</td>
<td>17</td>
</tr>
<tr>
<td>18 years</td>
<td>16-18</td>
</tr>
<tr>
<td>Age</td>
<td>Blood Pressure for Females</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>1 day</td>
<td>65/55</td>
</tr>
<tr>
<td>3 days</td>
<td>72/55</td>
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<tr>
<td>7 days</td>
<td>78/54</td>
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<tr>
<td>1 month</td>
<td>84/52</td>
</tr>
<tr>
<td>2 months</td>
<td>87/51</td>
</tr>
<tr>
<td>3 months</td>
<td>90/51</td>
</tr>
<tr>
<td>4 months</td>
<td>90/52</td>
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<tr>
<td>5 months</td>
<td>91/52</td>
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<tr>
<td>6 months</td>
<td>91/53</td>
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<tr>
<td>7 months</td>
<td>91/53</td>
</tr>
<tr>
<td>8 months</td>
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<tr>
<td>9 months</td>
<td>91/54</td>
</tr>
<tr>
<td>10 months</td>
<td>91/54</td>
</tr>
<tr>
<td>11 months</td>
<td>91/54</td>
</tr>
<tr>
<td>1 year</td>
<td>91/54</td>
</tr>
<tr>
<td>2 years</td>
<td>90/56</td>
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<td>4 years</td>
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<td>99/59</td>
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<td>100/61</td>
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<tr>
<td>10 years</td>
<td>102/62</td>
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<td>105/64</td>
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<tr>
<td>12 years</td>
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<td>13 years</td>
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<td>110/67</td>
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<td>111/67</td>
</tr>
<tr>
<td>16 years</td>
<td>112/67</td>
</tr>
<tr>
<td>17 years</td>
<td>112/66</td>
</tr>
<tr>
<td>18 years</td>
<td>112/66</td>
</tr>
</tbody>
</table>
Nursing Delegation: Auxiliary Nursing Staff

The Five Rights of Delegation (The National Council of State Boards of Nursing):

1. Right task
   - The task must conform to the guidelines for the personnel from the Nurse Practice Act or facility guidelines.
   - Assess each patient before delegating. Consider the patient’s condition, the personnel’s capabilities, the complexity of the task, and how much supervision will be required.

2. Right circumstances
   - Nursing care requires the assessment, analysis, planning, implementation, and evaluation. Only delegate implementation to unlicensed personnel or LPNs. The patient’s needs, the personnel’s capabilities, equipment, and setting should be taken into account.

3. Right person
   - Know your facility’s competence standards!
   - Has the personnel been trained on the task?

4. Right direction
   - Communicate clearly about the delegated task.
   - Be specific about how and when she should report back to you.
   - Make sure the personnel understands what is expected, and do not be afraid to ask them if they know how to perform the task.

5. Right supervision and evaluation
   - You cannot just merely assign the task. You must guide, supervise, and evaluate the carrying out of the delegated task.
   - You must ensure the work meets your expectations. If it does not, you must step in.
   - You should give the personnel feedback and ask for theirs.
   - You must evaluate the patient’s outcome and the results of the task.

*REMEMBER: You may delegate a task, but the responsibility remains with you, the RN!!
Definitions

• CNA-certified nurses assistant. This person has taken a class that is accredited to teach nurses assistants. The course teaches basic nursing skills like hygiene, I & O, and vital signs. The course is usually six weeks long at a medical facility or college, and they take a test to be certified. After employment, the CNA may take extra classes to become certified to do other tasks according to facility guidelines such as venipuncture, blood glucose monitoring, and Foley catheterization.

• LPN-licensed practical nurse. This person has attended a one year long course at a community college. Along with basic nursing skills, the LPN learns basic pathophysiology, pharmacology, and nutrition. The LPN must pass the State Board of Nursing exam for practical nurses prior to practicing.

• RN-registered nurse. This person has completed a nursing program with either an associate degree or a baccalaureate degree. These personnel must pass the State Board Exam for registered nurses prior to beginning their practice. There are no practice differences between the two degrees, but one must have a baccalaureate degree to hold some certifications.

* Make an attempt to delegate the task to the lowest trained staff, while maintaining proper patient care.
## Scope of Practice:

<table>
<thead>
<tr>
<th>Task</th>
<th>CNA</th>
<th>LPN</th>
<th>RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine Vital Signs</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Bathing, oral hygiene, linen change</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Turning</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Administer Enemas</td>
<td>*</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Administer PO medication</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Drug calculations</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Administer IM/SQ medication</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Suppository insertion</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Insertion of INT</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Administer IVPB medications</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Administer IV push medications/ PCA</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Titration of vasopressors</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Administer medication via feeding tubes</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Enteral or tube feedings</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>NG tube insertion</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Blood glucose monitoring</td>
<td>*</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Venipuncture</td>
<td>*</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Access of an infusaport</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Tracheotomy care/ suctioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral suctioning</td>
<td>*</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Nasopharyngeal suctioning</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Digital fecal removal</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Feeding patients without any oral or swallowing problems</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Dressing changes</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Insertion of Foley catheter</td>
<td>*</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Ostomy care</td>
<td>*</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Obtain a MD’s order</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Administer respiratory treatment</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Perform admission assessment</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

Y = can perform task
* = can perform task ONLY if trained and per facility protocol

Note: NCLEX will not ask questions pertaining to content that differs facility to facility (the information with a * may differ facility to facility, and is provided for your information)
**Practice I**

*Directions:* Please circle the letter in the column of the personnel you could best delegate the task.

<table>
<thead>
<tr>
<th>Task</th>
<th>CNA</th>
<th>LPN</th>
<th>RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathing, oral hygiene, linen change</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer PO medication</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer Enemas</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Routine Vital Signs</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Drug calculations</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer IV Pepcid</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer IM/SQ medication</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Suppository insertion</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Blood glucose monitoring</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer IVPB antibiotics</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Turning</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer IV fluids (NS, D5NS, LR)</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer IV push medications/ PCA</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Titration of vasopressors</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Administer medication via feeding tubes</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Tracheotomy care</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Insert INT</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>NG tube insertion</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
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<td>a</td>
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</tr>
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<td>Enternal or tube feedings</td>
<td>a</td>
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<td>Oral suctioning</td>
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<td>b</td>
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<td>a</td>
<td>b</td>
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</tr>
<tr>
<td>Obtain a MD’s order</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Perform admission assessment</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
</tbody>
</table>
Answers: Practice I

1. A. The CNA would be appropriate for these tasks unless contraindicated by the patient’s condition (presence of a ventilator, etc.)

2. B. The LPN is the lowest trained personnel that could administer the PO meds.

3. B. The LPN is the lowest trained personnel that could administer an enema, although the CNA may be trained in some facilities to administer an enema.

4. A. The CNA would be appropriate for these tasks unless contraindicated by the patient’s condition (acute distress, chest pain, etc.)

5. C. You want to do your own calculations, but the LPN can do their calculations.

6. C. The RN must administer IVPB Pepcid.

7. B. The LPN is the lowest trained personnel that could administer the IMs or SQs.

8. B. The LPN is the lowest trained personnel that could administer the suppository. The CNA would not be appropriate because it is a medication.

9. B. The LPN is the lowest trained personnel that could perform an accucheck, although the CNA may be trained in some facilities.

10. C. The RN must administer the IVPB antibiotics.

11. A. The CNA would be appropriate for this task unless contraindicated by the patient’s condition (presence of a ventilator, etc.)

12. C. The RN must administer the IVPB fluids.

13. C. The RN must administer IV push drugs.

14. C. The RN must titrate vasopressors.

15. B. The LPN is the lowest trained personnel that could administer meds per feeding tubes.

16. C. The RN should perform tracheotomy care, especially for new trachs, but the LPN can be trained to perform it in some facilities.

17. C. The RN must insert an IV. An LPN may insert an IV only with a special certification.
18. B. The LPN is the lowest trained personnel that could insert an NG.

19. B. The LPN is the lowest trained personnel that could perform NT suctioning.

20. B. The LPN is the lowest trained personnel that could perform venipuncture, although the CNA may be trained in some facilities.

21. C. The RN must access infusaports.

22. B. The LPN is the lowest trained personnel that could perform tube feedings.

23. B. The LPN is the lowest trained personnel that could perform oral suctioning.

24. B. The LPN is the lowest trained personnel that could perform a respiratory treatment.

25. B. The LPN is the lowest trained personnel that could perform a dressing change.

26. B. The LPN is the lowest trained personnel that could perform a digital removal of feces.

27. A. The CNA would be appropriate for this task unless contraindicated by the patient’s condition (presence of a ventilator, tracheotomy, dysphasia, etc.)

28. B. The LPN is the lowest trained personnel that could perform ostomy care, although the CNA may be trained in some facilities if it is not a new ostomy.

29. B. The LPN is the lowest trained personnel that could insert a Foley. Although, the CAN may insert a foley if he or she has special training.

30. B. The LPN is the lowest trained personnel that could obtain a physician’s order.

31. C. The RN must perform the admission assessment.
Practice II

Directions: Please circle the letter of the personnel that you could best delegate the task.

1. You are shift supervisor for a telemetry floor. Your staff consists of 3 CNAs, 2 LPNs, and 1 other RN. Which personnel would you delegate the task of feeding the patient admitted with A. fib and a history of Alzheimer Disease?
   a. a CNA
   b. a LPN
   c. the other RN

2. You are in a code, and you realize that you have a patient that needs an antibiotic IVPB hung. Which would be the most appropriate staff to delegate this task?
   a. a CNA
   b. a LPN
   c. a RN

3. You have 3 accuchecks that are all due, 2 patients that need their PCAs changed, and a patient calling for his PRN IV Morphine. Which task could you delegate to a nurse that is a LPN:
   a. the accuchecks
   b. changing the PCAs
   c. the IV morphine
   d. you must do all the task, no of these can be delegated

4. You are making rounds with the orthopedic surgeon, he removes a dressing on a patient with a hip replacement. The dressing needs to be reapplied, but you must continue making rounds with the surgeon. Which personnel could you best delegate the dressing?
   a. the CNA that is in the room with the patient
   b. the LPN that is standing at the desk
   c. the RN that is down the hall administering noon meds

5. You are doing your morning assessments on your patients. As you are making rounds, you notice that a patient has removed his IV catheter. You have 5 more assessments to do. Which personnel could you best delegate this task?
   a. the LPN passing out trays
   b. the RN at the nurse’s station
   c. the RN doing morning assessments on her patients
6. You have a patient with a recent tracheotomy that requires feeding. Which personnel could you **best** delegate this task?
   a. a CNA
   b. a LPN
   c. you should not delegate this task

7. While working in ICU, you are assigned 2 patients. Among your AM duties, you need to provide AM hygiene to both patients, administer Dopamine to patient A, and administer TPA to patient B. Of these task, which task could be delegated to the CNA?
   a. hygiene
   b. the Dopamine
   c. the TPA
   d. none of these tasks can be delegated

8. You have a patient that has just pulled out her IV; another patient has pulled out his NG tube, and one patient having chest pain. Which task could be delegated to the LPN?
   a. restarting the IV
   b. reinserting the NG
   c. assessing the patient with chest pain

9. The doctor has made rounds and wrote orders on three patients. The first patient is to have PCA of Demerol started. The second patient needs transferred to surgery for an emergency bypass STAT. The last patient needs to have a Foley catheter inserted for urinary retention. Which task could best be delegated to the LPN?
   a. starting the Demerol PCA
   b. accompanying the patient transferring to surgery
   c. inserting the Foley

10. You are working in the ER. You have a sickle cell patient needing his infusaport accessed to administer fluids and pain meds. You have another patient that needs IV antibiotics initiated. Your third patient needs IV Nitroglycerin started for chest pain. Which task could you delegate to the LPN?
    a. accessing the infusaport
    b. administering the IV antibiotic
    c. initiating the IV Nitroglycerin
    d. you can not delegate any of these task

11. While in the medication room drawing up Demerol for a patient needing pain relief, the CNA answers the phone from a doctor wanting to give an order on one of your patients. What is your **best** action?
    a. ask the CNA to take the order
    b. ask a at the desk LPN to take the order
    c. stop what you are doing to go take the order
12. You have a patient in having an acute asthma attack come into the ER. The doctor orders a STAT Albuterol respiratory treatment. What is your *best* next action?
   a. ask the CNA to administer the treatment
   b. administer the treatment yourself
   c. wait for the respiratory therapist to arrive
Answers: Practice II

1. A. The CNA would be appropriate because the patient does not have any swallowing problems. A history of Alzheimer Disease does not indicate dysphasia.

2. C. The RN is the only personnel that could administer a IVPB antibiotic.

3. A. The LPN can perform accuchecks, but she cannot change PCA meds or administer IV push meds.

4. B. The LPN at the desk seems to be free. The CNA could not apply the dressing.

5. B. The RN at the desk would be most appropriate. The LPN cannot insert IVs, and the other RN is making her rounds.

6. C. This task should not be delegated because the patient is a recent tracheotomy, and the patient may choke very easily or begin to bleed.

7. A. The CNA would be appropriate unless contraindicated by the patient’s condition.

8. B. The LPN can insert a NG tube. She cannot insert an IV, and should not assess a patient having chest pain.

9. C. The LPN can insert a Foley. She cannot initiate a PCA, and should not accompany a critical patient to surgery, a RN should.

10. D. The LPN can not administer IV antibiotics. She cannot access an infusaport, and she cannot initiate Nitroglycerin because it is a vasopressor.

11. B. The LPN can take the order, while the CNA cannot. You should not stop preparing a medication because you would be more likely to make a mistake. Also, your patient in pain should not have to wait longer than necessary.

12. B. The respiratory treatment should be administered as soon as possible because the patient is in distress. You should not wait for RT, and CNAs cannot perform this task.
# Panic Lab Values

For Adults (>13 years of age)

<table>
<thead>
<tr>
<th>Lab Value</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>&lt;46</td>
<td>&gt;484</td>
</tr>
<tr>
<td>BUN</td>
<td>&gt;104</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td>&gt;7.4</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>&lt;6.6</td>
<td>&gt;12.9</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>&lt;1.2</td>
<td>&gt;8.9</td>
</tr>
<tr>
<td>Total Bilirubin</td>
<td></td>
<td>&gt;15</td>
</tr>
<tr>
<td>Uric Acid</td>
<td></td>
<td>&gt;13</td>
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<tr>
<td>Sodium</td>
<td>&lt;120</td>
<td>&gt;158</td>
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<tr>
<td>Potassium</td>
<td>&lt;2.8</td>
<td>&gt;6.2</td>
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<tr>
<td>Chloride</td>
<td>&lt;75</td>
<td>&gt;126</td>
</tr>
<tr>
<td>CO2 Content</td>
<td>&lt;11</td>
<td>&gt;40</td>
</tr>
<tr>
<td>CSF- Glucose</td>
<td>&lt;37</td>
<td>&gt;438</td>
</tr>
<tr>
<td>Magnesium</td>
<td>&lt;1.0</td>
<td>&gt;4.9</td>
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<tr>
<td>Digoxin</td>
<td></td>
<td>&gt;2.0</td>
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<tr>
<td>WBC</td>
<td>&lt;2,000</td>
<td>&gt;25,000</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>&lt;6.6</td>
<td>&gt;19.9</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>&lt;18</td>
<td>&gt;61</td>
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<tr>
<td>Platelets</td>
<td>&lt;37,000</td>
<td>&gt;910,000</td>
</tr>
<tr>
<td>Protrombin</td>
<td></td>
<td>&gt;27</td>
</tr>
<tr>
<td>PTT</td>
<td></td>
<td>&gt;68</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td>&lt;88</td>
<td>&gt;775</td>
</tr>
</tbody>
</table>
For Children (>4 weeks to 13 years)

<table>
<thead>
<tr>
<th>Lab Value</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>&lt;46</td>
<td>&gt;445</td>
</tr>
<tr>
<td>BUN</td>
<td></td>
<td>&gt;55</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>&gt;3.8</td>
</tr>
<tr>
<td>Total Protein</td>
<td>&lt;3.4</td>
<td>&gt;9.5</td>
</tr>
<tr>
<td>Albumin</td>
<td>&lt;1.7</td>
<td>&gt;6.8</td>
</tr>
<tr>
<td>Calcium</td>
<td>&lt;6.5</td>
<td>&gt;12.7</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>&lt;1.3</td>
<td>&gt;8.9</td>
</tr>
<tr>
<td>Total Bilirubin</td>
<td></td>
<td>&gt;15</td>
</tr>
<tr>
<td>Uric Acid</td>
<td></td>
<td>&gt;12</td>
</tr>
<tr>
<td>Sodium</td>
<td>&lt;121</td>
<td>&gt;156</td>
</tr>
<tr>
<td>Potassium</td>
<td>&lt;2.8</td>
<td>&gt;6.4</td>
</tr>
<tr>
<td>Chloride</td>
<td>&lt;77</td>
<td>&gt;121</td>
</tr>
<tr>
<td>CO2 Content</td>
<td>&lt;11</td>
<td>&gt;39</td>
</tr>
<tr>
<td>Ammonia</td>
<td></td>
<td>&gt;109</td>
</tr>
<tr>
<td>CSF- Glucose</td>
<td>&lt;31</td>
<td></td>
</tr>
<tr>
<td>CSF- Protein</td>
<td></td>
<td>&gt;188</td>
</tr>
<tr>
<td>Magnesium</td>
<td>&lt;1.1</td>
<td>&gt;4.3</td>
</tr>
<tr>
<td>WBC</td>
<td>&lt;2.1</td>
<td>&gt;25</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>&lt;6.9</td>
<td>&gt;20.8</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>&lt;20</td>
<td>&gt;62</td>
</tr>
<tr>
<td>Platelets</td>
<td>&lt;53,000</td>
<td>&gt;916,000</td>
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<tr>
<td>Protime</td>
<td></td>
<td>&gt;21</td>
</tr>
<tr>
<td>PTT</td>
<td></td>
<td>&gt;62</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td>&lt;77</td>
<td></td>
</tr>
<tr>
<td>Bleeding Time</td>
<td></td>
<td>&gt;14</td>
</tr>
</tbody>
</table>
For Neonatal (0 days to 4 weeks)

<table>
<thead>
<tr>
<th>Lab Value</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>&lt;33</td>
<td>&gt;327</td>
</tr>
<tr>
<td>Total Bilirubin</td>
<td></td>
<td>&gt;13</td>
</tr>
<tr>
<td>Potassium</td>
<td>&lt;2.8</td>
<td>&gt;7.8 &gt;8.0 (hemolyzed)</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>&lt;9.5</td>
<td>&gt;22.3</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>&lt;33</td>
<td>&gt;71</td>
</tr>
</tbody>
</table>
Reference Websites

National Council of State Board of Nursing: www.ncsbn.org

Medline Plus: www.medlineplus.gov


Pubmed: http://pubmed.gov

Web Med Health: www.webmd.com
Signs and Symptoms of Abuse

Signs and Symptoms of Sexual Abuse

- Shows a sexual knowledge beyond that of expected for the age of the patient
  - Shows bizarre sexual behavior or is pregnant
- Overly affectionate and seems seductive with peers and other adults
  - Recurring genital infections or pain in the genital area
    - Pain or itching in genital area
    - Difficulty walking or sitting
  - Torn, stained, or bloody underclothing
- Bleeding/ bruising in external genitalia area, vaginal or anal area
- Evidence of sexually transmitted diseases (especially in pre-teens)
  - Actual report of sexual abuse
  - Threatened by physical contact
- Regression of behavior (ex. Thumb sucking)
- Most children will not tell because they:
  1. Think no one will believe them
  2. Do not have the vocabulary to explain what happened to them
  3. Have been taught to “obey their elders”
  4. Have been threatened not to reveal the abuse
Signs and Symptoms of Child Abuse or Neglect

Signs and Symptoms of Neglect

- Poor Hygiene
- Inappropriate dress for weather condition
  - Dirty, tattered or torn clothes
  - Unexplained hunger
  - Lavish attention on everyone
    - Withdrawal
    - Poor dental health
- Incomplete immunization records

Signs and Symptoms of Abuse

- Aggressive, disruptive, or destructive behavior
- Questionable cuts, bruises, burns, abrasions
  - Questionable broken bones
    - Black eyes
    - Human bites
- Appear to be afraid of caretaker or parent
- Reports injury by caretaker or parent
- Regression of behavior (ex. Thumb sucking)

Indicators that a caregiver or parent may be abusive

- Gives different and conflicting reasons for child’s injury
- Gives unbelievable causes for child’s injury
  - Gives NO reason for child’s injury
- Talks about child in degrading manner
  - Appears to be indifferent
- Uses harsh physical discipline measures
Signs and Symptoms of Domestic Abuse

Signs and Symptoms of Domestic Abuse noted in the victim

- Anxiety
- Anxious to please
- Confused
- Hostile
- Increasing depression
- Longing for death
- Physically injured
- Unresponsive
- Withdrawn or timid
- Vague health complaints

Signs and Symptoms of Domestic Abuse noted in the abuser

- Aggressive/defensive behavior
- Conflicting stories for cause of injury
  - Excusing behavior
    - Resentful
    - New affluence
    - New self-neglect
  - Preoccupation or depression
    - Shifting blame
    - Substance abuse
Signs and Symptoms of Elderly Abuse

Signs and Symptoms of Elderly Abuse seen in the older person

- Anxiety
- Anxious to please
- Confused
- Hostile
- Increasing depression
- Longing for death
- New poverty
- Physically injured
- Shopping for physicians
  - Unresponsive
  - Withdrawn or timid
  - Vague health complaints

Signs and Symptoms of Elderly Abuse seen in the caregiver

- Aggressive/defensive behavior
- Conflicting stories for cause of injury
  - Excusing behavior
    - Resentful
    - New affluence
    - New self-neglect
  - Preoccupation or depression
    - Shifting blame
    - Substance abuse
    - Unusual fatigue
  - Withholding food/medication
<table>
<thead>
<tr>
<th>Stage/Age</th>
<th>Psychosexual Stages (Freud)</th>
<th>Psychosocial Stages (Erikson)</th>
<th>Radius of Significant Relationships (Sullivan)</th>
<th>Cognitive Stages (Piaget)</th>
<th>Moral Judgment Stages (Kohlberg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Infancy</td>
<td>Oral sensory</td>
<td>Trust vs mistrust</td>
<td>Maternal person (unipolar-bipolar) Parental Persons (tripolar)</td>
<td>Sensorimotor (birth to 2 years) Preoperational thought, preconceptual phase (transductive reasoning, e.g., specific to specific) (2-4 years)</td>
<td>Preconventional (premoral) level Punishment and obedience orientation</td>
</tr>
<tr>
<td>II. Toddlerhood</td>
<td>Anal-urethral</td>
<td>Autonomy vs shame and doubt</td>
<td>Basic family</td>
<td>Preoperational thought, intuitive phase (transductive reasoning) (4-7 years)</td>
<td>Preconventional (premoral) level Naïve instrumental orientation</td>
</tr>
<tr>
<td>III. Early Childhood</td>
<td>Phallic-locomotion</td>
<td>Initiative vs guilt</td>
<td>Basic family</td>
<td>Concrete operations (inductive reasoning and beginning logic) (7-11)</td>
<td>Conventional level good-boy, nice-girl orientation. Law-and-order orientation</td>
</tr>
<tr>
<td>IV. Middle Childhood</td>
<td>Latency</td>
<td>Industry vs inferiority</td>
<td>Neighborhood, school</td>
<td>Formal operations (deductive and abstract reasoning) (11-15 years)</td>
<td>Postconventional or principled level. Social-contract orientation. Universal ethical principle orientation (no longer included in revised theory)</td>
</tr>
<tr>
<td>V. Adolescence</td>
<td>Genitality</td>
<td>Identity and repudiation vs identity confusion</td>
<td>Peer groups and outgroups. Models of leadership. Partners in friendship, sex, competition, cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI. Early Adulthood</td>
<td>Intimacy and solidarity vs isolation</td>
<td></td>
<td>Divided labor and shared household Mankind “My kind”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII. Young and middle adulthood</td>
<td></td>
<td>Generativity vs self-absorption</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII. Later Adulthood</td>
<td>Ego integrity vs despair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Stages of Labor

First Stage:
- Longer than second and third stage together
- Made of 3 phases:
  - Latent Phase:
    - Begins with the onset of true labor and ends when the cervix dilates 3 cm
    - More effacement of the cervix with little increase in the descent
  - Active Phase:
    - Lasts from the end of the latent phase until full dilation of the cervix (may take up to 20 hours)
    - Rapid dilation of the cervix and increase rate of descent of the presenting part.
  - Transition Phase:
    - Rapid dilation of the cervix and increase rate of descent of the presenting part.

Second Stage:
- Begins with full dilation of cervix and ends with delivery of the fetus
  - Labor up to 2 hours is within normal range for the second stage, but variations can occur (if the patient has an epidural)
  - Second stage can takes an average of from 20-50 minutes
- Made of 2 phases:
  - Latent Phase:
    - The period that begins about the time of complete dilation of the uterus when the contractions have weakened, and the patient does not feel the urge to push or is resting
  - Active Phase:
    - The period when contractions begin again, the patient is bearing down actively, and the fetal station advances
Third Stage:
- The period of time between delivery of the neonate and the delivery of the placenta
- The placenta usually with the third and fourth strong contraction after the delivery of the infant.
- Duration: May be as short as 3-5 min, but can last as long as 1 hour
- Risk of hemorrhage increases as the length of the third stage increases

Fourth Stage:
- Period that lasts 2 hours of delivery of the placenta
- Period of immediate recovery
- Important time to monitor patient for complications (hemorrhage)
STATE LICENSING REQUIREMENTS

ALABAMA
Board of Nursing
RSA Plaza, Ste. 250
770 Washington Avenue
Montgomery, AL  36130-3900
Phone: (334) 242-4060
Fax:  (334) 242-4360
www.abn.state.al.us/

Temporary Permit:  90 days by exam; three months if by endorsement; $50

State Board Application Fee:  $85

Additional State Endorsement: $85

NCLEX-RN® Test Fee:  $200

Re-Examination Limitations:  Every 45 days; $85; number unlimited

License Renewal:  December 31, per biennial renewal period; $75

CEU Requirements:  24 contact hours per biennial renewal period.  Nurses licensed by examination are required to have four contact hours of Board-provided continuing education for the first renewal (included in the total number of hours to be earned).  MEDCEU contact hours are no longer accepted.

Results:  Mail within 4 weeks

ALASKA
Board of Nursing
Dept. of Community and Economic Development
Division of Occupational Licensing
P.O. Box 110806
333 Willoughby Avenue, 9th Floor
Juneau, AK  99811-0806
Phone:  1-(907)-465-2544 (last names A-K); 1-(907)-465-2648 (last names L-Z)
269-8161
Fax:  1-(907)-465-2974
www.dced.state.ak.us/occ/pnur.htm

Hurst Review Services
Temporary Permit: Four months by exam or by endorsement; $50

State Board Fee: $215 permanent license fee; $50 application fee plus $59 fingerprint fee

Additional State Endorsement: $374 license fee; $50 application fee plus $59 fingerprint fee

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days. Must pass within 5 years, then retake with remediation.

License Renewal: November 30, every even year; $215

CEU Requirements: Method 1: Two of the three required for renewal – (1) 30 contact hours of CE, (2) 30 hours of professional nursing activities, (3) 320 hours of nursing employment. Method 2: Completed a board-approved nursing refresher course. Method 3: Attained a degree or certificate in nursing, beyond the requirements of the original license, by successfully completing at least two required courses. Method 4: Successfully completed the National Council Licensing Examination.

Results: Mail

ARIZONA
Board of Nursing
1651 E. Morten Avenue, Ste. 210
Phoenix, AZ 85020
Phone: (602) 889-5150
Fax: (602) 889-5155
www.azboardofnursing.org

Temporary Permit: Four months pending results of fingerprint check, must have already passed the exam; $25

State Board Fee: $220, plus $43 fingerprint fee

Additional State Endorsement: $150, plus $43 fingerprint fee

NCLEX-RN® Test Fee: $263

Re-Examination Limitations: Every 45 days; $60

License Renewal: June 30, every four years; $120

CEU Requirements: None

Maximum Number Attempts: Unlimited

Notification: Internet
ARKANSAS
State Board of Nursing
University Tower Building
1123 South University, Ste. 800
Little Rock, AR 72204-1619
Phone: (501) 686-2700
Fax: (501) 686-2714
www.arsbn.org

Temporary Permit: Up to 90 days if by endorsement; $25

State Board Fee: $75

Additional State Endorsement: $100

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 90 days

License Renewal: Birthday, every two years; $55
CEU Requirements: 15 contact hours or certification / re-certification during renewal period.

Maximum Number Attempts: Unlimited

Notification: Mail (5-7 business days)

CALIFORNIA
Board of Registered Nursing
400 R Street, Ste. 4030
P.O. Box 944210
Sacramento, CA 94244-2100
Phone: (916) 322-3350
Fax: (916) 327-4402
www.rn.ca.gov/

Temporary Permit: Interim license pending results of first exam; six months if by endorsement; $30

State Board Fee: $85 application fee, plus $32 fingerprint fee

Additional State Endorsement: $50, plus $56 fingerprint fee

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days; $75

License Renewal: Last day of the month following birth month, every two years; $85

CEU Requirements: 30 contact hours every two years.

Maximum Number Attempts: Unlimited
COLORADO
Board of Nursing
1560 Broadway, Ste. 880
Denver, CO  80202
Phone: (303) 894-2430
Fax:  (303) 894-2821
www.dora.state.co.us/nursing/

Temporary Permit:  90 days; four months if by endorsement; Fee is included in application fee.

State Board Fee:  $87 initial exam

Additional State Endorsement:  $37

NCLEX-RN® Test Fee:  $200

Re-Examination Limitations:  Every 45 days; $75

License Renewal:  September 30, every two years; $102

CEU Requirements:  None

Maximum Number Attempts:  Unlimited

Notification:  Mail (3 weeks) and Internet

CONNECTICUT
Board of Examiners for Nursing
Department of Public Health
RN Licensure
410 Capitol Avenue
MS# 12 APP
P.O. Box 340308
Hartford, CT  06134-0308
Phone:  (860) 509-7603
Fax: (860) 509-8457
www.dph.state.ct.us/licensure/licensure.htm#R

Temporary Permit:  4 months (120 days) from completion of nursing program.  Temporary permit also available for endorsement applicants, valid for 120 days, non-renewable; must hold valid license in another state.  Fee is included in application fee.

State Board Fee:  $83 (RN, LPN)

Additional State Endorsement:  $90

NCLEX-RN® Test Fee:  $200

Re-Examination Limitations:  Every 91 days, no more than four times in one year
License Renewal: Last day of birth month, every year; $50
CEU Requirements: None

Notification: Internet

DELAWARE
Division of Professional Regulation
Board of Nursing
861 Silver Lake Boulevard
Cannon Building, Ste. 203
Dover, DE 19904-2467
Phone: (302) 744-4516
Fax: (302) 739-2711
www.professionallicensing.dpr.state.de.us/boards/nursing/index.shtml

Temporary Permit: 90 days by endorsement or pending results of first exam; $25

State Board Fee: $77

Additional State Endorsement: $20-$94

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; $10

License Renewal: February 28, May 31, and September 30, every odd year; $67

CEU Requirements: 30 contact hours every two years. Nurses licensed by exam are exempt from CE requirements for the first renewal after initial licensure. Minimum practice requirement of 1,000 hours in five years or 400 hours in two years.

Maximum Number: Unlimited within 2 years of graduation. Greater than 2 years, must request from board to attempt. Board will individualize their requirements.

Notification: Mail (7 business days)

DISTRICT OF COLUMBIA
Board of Nursing
Department of Health
825 N. Capitol Street, N.E., Room 2224
Washington, DC 20002
Phone: (202) 442-4778
Fax: (202) 442-9431
dchealth.dc.gov/prof_license/services/main.asp

Temporary Permit: None

State Board Fee: $78 license fee; $65 application fee

Additional State Endorsement: $111 license fee; $65 application fee
NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days; $65

License Renewal: June 30, every two years; $60

CEU Requirements: Applicants for reinstatement of a license must submit 12 contact hours for each year after 6/30/90 that the applicant was not licensed, up to a maximum of 24 contact hours.

Notification: Internet

FLORIDA
Board of Nursing
4052 Bald Cypress Way, BIN C02
Tallahassee, FL 32399
Phone: (850) 245-4125
Fax: (850) 245-4172
www.doh.state.fl.us/mqa/nsglink

Temporary Permit: 90 days pending results of first exam; 60 days if by endorsement. Fee is included in licensure fee.

State Board Fee: $190 initial exam

Additional State Endorsement: $212

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; remedial training program is required after three attempts; $105

License Renewal: Every odd year; $65

CEU Requirements: 25 contact hours every two years. One hour per month. Two hours in the prevention of medical errors and one hour each in HIV and domestic violence by a provider approved by the state of Florida; proof of training in latter two prior to licensure. Nurses licensed by examination are exempt from CE requirements in the period following first licensure.

Notification: Internet
**GEORGIA**
Board of Nursing
237 Coliseum Drive
Macon, GA 31217-3858
Phone: (478) 207-1640
Fax: (478) 207-1660
www.sos.state.ga.us/plb/rn/

Temporary Permit: Six months if by endorsement. Fee is included in application fee.

State Board Fee: $40

Additional State Endorsement: $60

NCLEX-RN® Test Fee: $200, plus $12 when registering by telephone

Re-Examination Limitations: Every 91 days, three years maximum from graduation.

License Renewal: January 31, every even year. $45 if paid before November 30, $65 after November 30.

CEU Requirements: None

Maximum Number: Unlimited within 3 years from graduation. Return to nursing school to begin as a new student if not successful in 3 years.

Notification: Internet, mail. Time varies. May pay “extra” fee to obtain results earlier.

**HAWAII**
DCCA—PVL
Board of Nursing
P.O. Box 3469
Honolulu, HI 96801
Phone: (808) 586-3000
Fax: (808) 586-2689 – (2874)
www.state.hi.us/dcca/pvl/areas_nurse.html

Temporary Permit: By endorsement with employment verification

State Board Fee: $40

Additional State Endorsement: $135 or $180, depending on the year license is issued. Noted on application information sheet.

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days

License Renewal: June 30, every odd year (deadline May 31); $90

CEU Requirements: None
IDAHO
Board of Nursing
280 North 8th Street, Ste. 210
P.O. Box 83720
Boise, ID 83720-0061
Phone: (208) 334-3110
Fax: (208) 334-3262
www.2.state.id.us/ibn/ibnhome.htm

Temporary Permit: 90 days if by endorsement, $25

State Board Fee: $90

Additional State Endorsement: $85

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 46 days for 12 months from graduation

License Renewal: August 31, every odd year; $50

CEU Requirements: None

Maximum Number: Unlimited x 1 year. After 1 year must complete “form” for Board to decide on necessary recommendations.

Notification: 48 hours per phone and/or mail, Internet

ILLINOIS
Department of Professional Regulation
320 W. Washington Street, 3rd Floor
Springfield, IL 62786
Phone: (217) 782-8556
Fax: (217) 782-7645
www.dpr.state.il.us/WHO/nurs.asp

Temporary Permit: Three-month approval letter by examination; six months by endorsement; $25

State Board Fee: $73

Additional State Endorsement: $50

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days, three years from first writing to board

License Renewal: May 31, every even year; $40

CEU Requirements: None
**Maximum Number:** >3 years – Return to nursing school or remediation

**Notification:** Mail (time varies), Internet

**INDIANA**
State Board of Nursing  
Health Professions Bureau  
402 West Washington Street, Room W066  
Indianapolis, IN 46204  
Phone: (317) 234-2043  
Fax: (317) 233-4236  
[www.state.in.us/hpb/boards/isbn](http://www.state.in.us/hpb/boards/isbn)

**Temporary Permit:** 90 days if by endorsement; $10

**State Board Fee:** $50

**Additional State Endorsement:** $50

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 91 days

**License Renewal:** October 31, every odd year; $50

**CEU Requirements:** None

**Maximum Number:** Unlimited

**Notification:** Mail (7-10 business days), Internet

**IOWA**
Board of Nursing  
Riverpoint Business Park  
400 SW 8th Street, Ste. B  
Des Moines, IA. 50309-4685  
Phone: (515) 281-3255  
Fax: (515) 281-4825  
[www.state.ia.us/government/nursing/](http://www.state.ia.us/government/nursing/)

**Temporary Permit:** 30 days if by endorsement. Fee is included in application fee.

**Background Check:** $50; good for 1 year

**State Board Fee:** $93

**Additional State Endorsement:** $119

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days

Hurst Review Services
License Renewal: 30 days prior to the 15th of month of birth, every three years; $99

CEU Requirements: 36 contact hours or 3.6 CEUs every three years

Maximum Number: Unlimited

Notification: Mail (within 2 weeks), Internet

KANSAS
State Board of Nursing
Landon State Office Building
900 SW Jackson, Ste. 1051
Topeka, KS 66612-1230
Phone: (785) 296-4929
Fax: (785) 296-3929
www.ksbn.org

Temporary Permit: Pending results of first exam, or no longer than 90 days from graduation; 120 days if by endorsement. Fee is included in application fee.

State Board Fee: $75

Additional State Endorsement: $75

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days, unlimited number of times; after two years the applicant must provide an approved study plan.

License Renewal: Month of birth, every two years; $60

CEU Requirements: 30 contact hours every two years

Maximum Number: After two years must submit written action plan and receive approval.

Notification: Mail (3-5 business days), Internet
**KENTUCKY**  
Board of Nursing  
312 Whittington Parkway, Ste. 300  
Louisville, KY 40222-5172  
Phone: (502) 429-3300  
Fax: (502) 329-7011  
www.kbn.state.ky.us/  

*Temporary Permit:* No temporary work permits are issued to new graduates. Six months by endorsement. Fee included in application fee.

*After January 1, 2006 all applicants must complete 120 hours of clinical internship prior to NCLEX or obtaining license.*

**State Board Fee:** $110  
**Background Check:** $10  
**Additional State Endorsement:** $120  
**NCLEX-RN® Test Fee:** $200  

**Re-Examination Limitations:** Every 45 days  

**License Renewal:** October 31, every even year; $105  

**CEU Requirements:** 30 contact hours every two years; two of the 30 hours must be AIDS CE-approved by the Kentucky Cabinet for Health Services. A one-time, three-hour domestic violence requirement must be completed within three years of the date of initial licensing.

**Maximum Number:** Unlimited  

**Notification:** Mail only (within 2 weeks)  

**LOUISIANA**  
Board of Nursing  
3510 North Causeway Boulevard, Ste. 601  
Metairie, LA 70002  
Phone: (504) 838-5332  
Fax: (504) 838-5349  
www.lsbin.state.la.us/  

*Temporary Permit:* Pending results of first exam; 90 days if by endorsement. Fee is included in application fee. Permit becomes void when exam results received.

**State Board Fee:** $130  
**Additional State Endorsement:** $100 in, plus $50 fingerprint fee  
**NCLEX-RN® Test Fee:** $200
Re-Examination Limitations: Every 91 days, up to four times

License Renewal: January 31, every year; $45

CEU Requirements: For all RNs: 5, 10, or 15 contact hours every year, based on employment

MAINE
Board of Nursing
24 Stone Street
#158 State House Station
Augusta, ME 04333
Phone: (207) 287-1133
Fax: (207) 287-1149
www.state.me.us/boardofnursing

Temporary Permit: 90 days. Fee is included in application fee. Does not routinely issue permit.

State Board Fee: $60

Additional State Endorsement: $60

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days

License Renewal: Birthday, every two years; $40

CEU Requirements: None

Maximum Number: Unlimited

Notification: Mail (within 2 weeks), Internet

MARYLAND
Board of Nursing
4140 Patterson Avenue
Baltimore, MD 21215-2254
Phone: (410) 585-1900
Fax: (410) 358-3530
www.mbon.org

Temporary Permit: 90 days by endorsement, not renewable; $25

State Board Fee: $75

Additional State Endorsement: $75

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days
License Renewal: 28th day of month of birth, every year; $62

CEU Requirements: None

Notification: Internet

Massachusetts
Division of Professional Licensure
Board of Registration in Nursing
239 Causeway Street, Ste. 500
Boston, MA 02114
Phone: (617) 973-0800
Fax: (617) 727-1630
www.state.ma.us/reg/boards/rn/

Temporary Permit: Not granted

State Board Fee: $350, includes test fee

Additional State Endorsement: $130

NCLEX-RN® Test Fee: $200, included in state board fee

Re-Examination Limitations: Every 45 days

License Renewal: Birthday, every even year; $80

CEU Requirements: 15 contact hours every two years

Maximum Number Attempts: Unlimited.

Notification: Internet within 5 days; Mail within 10 days. May obtain “unofficial” results next day for additional fee.

Michigan
Bureau of Health Professions
Michigan Department of Community Health
Board of Nursing
Ottowa Towers North
611 West Ottowa, 1st Floor
Lansing, MI 48933
Phone: (517) 335-0918
Fax: (517) 373-2179
www.michigan.gov/healthlicense

Temporary Permit: No longer available

State Board Fee: $48

Additional State Endorsement: $48
**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 91 days, up to six attempts within three years. Must pass exam within 6 months of first attempt or attend another RN education program / remedial program.

**License Renewal:** March 31, every two years; $48

**CEU Requirements:** 25 credits every two years

**Maximum Number:** 6 times within 3 years. After 3 years, must complete nursing school again.

**Notification:** Mail; online if passed but results not always entered promptly in Website.

**MINNESOTA**
Board of Nursing
2829 University Avenue, SE #500
Minneapolis, MN 55414-3253
Phone: (612) 617-2270
Fax: (612) 617-2190
www.nursingboard.state.mn.us/

**Temporary Permit:** 60 days, license by exam; $60. One year if by endorsement, no fee.

**State Board Fee:** $105 initial exam

**Additional State Endorsement:** $105

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days. Must retake within one year or application becomes null; $60.

**License Renewal:** Birth month, every two years; $85

**CEU Requirements:** 24 contact hours every two years

**Maximum Number Attempts:** unlimited

**Notification:** Online (within 3-5 days after exam)
**MISSISSIPPI**  
Board of Nursing  
1935 Lakeland Drive, Ste. B  
Jackson, MS  39216  
Phone: (601) 987-4188  
Fax: (601) 364-2352  
www.msbn.state.ms.us/

Temporary Permit:  90 days by endorsement; $25

State Board Fee: $60

Additional State Endorsement: $60

NCLEX-RN® Test Fee: $200

Re-Examination Limitations:  Every 91 days

License Renewal:  December 31, every even year; $50

CEU Requirements:  None

**MISSOURI**  
Board of Nursing  
3605 Missouri Boulevard  
P.O. Box 656  
Jefferson City, MO  65102-0656  
Phone: (573) 751-0681  
Fax: (573) 751-0075  
www.pr.mo.gov/nursing.asp

Temporary Permit:  Six months.  Fee is included in application fee.

State Board Fee: $83 initial exam

Additional State Endorsement: $93

NCLEX-RN® Test Fee: $200

Re-Examination Limitations:  Retake after 45 days; $40

License Renewal:  April 30, every odd year; $80 (plus additional fee for renewing online).

CEU Requirements:  None

Maximum Number:  Unlimited

Notification:  Mail, telephone, Internet
MONTANA
Department of Labor and Industry
Board of Nursing
301 South Park, Rm. 430
P.O. Box 200513
Helena, MT  59620-0513
Phone:  (406) 841-2340 / 2345
Fax:  (406) 841-2343
https://app.discoveringmontana.com/cgi-bin/bsdrnw.cgi
dlibsdnur@mt.gov

Temporary Permit:  Yes for recent graduates for 90 days until either pass or fail.

State Board Fee:  $100

Additional State Endorsement:  $200

NCLEX-RN® Test Fee:  $200

Re-Examination Limitations:  Every 91 days, up to 5 attempts in 3 years.  After failing twice, must present a plan of study to the Board before next retake.  If one doesn’t pass within 3 years, must take Nursing Program before sixth retake.  (If do not pass on 5th attempt, must return to nursing school.)

License Renewal:  December 31, every two years; $100

CEU Requirements:  None

Notification:  Internet

NEBRASKA
Department of HHS Regulation and Licensure
Nursing and Nursing Support Section
State Office Building
301 Centennial Mall South, 3rd Floor
P.O. Box 94986
Lincoln, NE  68509-4986
Phone:  (402) 471-4376
Fax:  (402) 471-1066
www.hhs.state.ne.us/crl/nursing/

Temporary Permit:  60 days if by endorsement.  Fee is included in licensing fee.

State Board Fee:  $75 plus $2 LAP fee

Additional State Endorsement:  $75 plus $2 LAP fee

NCLEX-RN® Test Fee:  $200

Re-Examination Limitations:  Every 91 days
License Renewal: October 31, every even year; $40 plus $2 LAP fee. If 90 days prior to expiration, $10.

CEU Requirements: 20 contact hours every two years with 500 practice hours every five years, or a refresher course of study in previous five years. New graduates are exempt from CEU requirements for the first renewal period for two years from graduation.

Maximum Number: No limit on number of times to test. May retake after 45 days.

Notification: Internet

NEVADA
Board of Nursing
2500 W. Sahara Avenue, Ste. 207
Las Vegas, NV 89102-4392
Phone: (888) 590-NSBN or (702) 486-5800
Fax: (702) 486-5803
www.nursingboard.state.nv.us/

Temporary License: Four months, not renewable. Fee is included in application fee; $50 if not seeking permanent license. Application by endorsement.

State Board Fee: $100

Additional State Endorsement: $105

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days, up to three times, then only with remediation. If fail after 3rd time, conduct plan of study.

License Renewal: Birthday, every two years; $100

CEU Requirements: 30 contact hours every two years at renewal. New grads may be exempt from CE requirements for their first renewal period.

Notification: Internet
NEW HAMPSHIRE
Board of Nursing
78 Regional Drive, Building B
P.O. Box 3898
Concord, NH 03302-3898
Phone: (603) 271-2323
Fax: (603) 271-6605
www.state.nh.us/nursing/

Temporary Permit: Six months or until results of first exam are received and license is issued; $20

State Board Fee: $80

Additional State Endorsement: $70 plus $10 Criminal Release Authorization form

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days

License Renewal: Birthday, every two years; $60

CEU Requirements: 30 contact hours every two years

Notification: Internet, mail; obtaining results by phone discouraged. Usually given test results within 24 hours.

NEW JERSEY
Board of Nursing
P.O. Box 45010
Newark, NJ 07101
Phone: (973) 504-6430
Fax: (973) 648-3481
www.state.nj.us/lps/ca/medical.htm

Temporary Permit: Not available

State Board Fee: $75 application fee plus $65 initial license fee

Additional State Endorsement: $75 application fee; $65 license certificate fee

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; only with remediation after three attempts.

License Renewal: May 31, every two years, $65

CEU Requirements: None

Notification: Internet, mail, telephone.
**NEW MEXICO**
Board of Nursing
4206 Louisiana NE, Ste. A
Albuquerque, NM  87109
Phone: (505) 841-8340
Fax: (505) 841-8347
[www.state.nm.us/nursing](http://www.state.nm.us/nursing)

**Temporary Permit:** 24 weeks from graduation if application process is completed within 12 weeks of graduation; six months if by endorsement. Fee is included in application fee; must have NM employment verified.

**State Board Fee:** $110 initial exam

**Additional State Endorsement:** $110

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days; $55

**License Renewal:** Every two years from date of issue; $93

**CEU Requirements:** 30 contact hours every two years

**Maximum Number:** Unlimited

**Notification:** Mail, telephone, Internet

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**NEW YORK**
Board of Nursing
NYS Education Department
Office of the Professions
Division of Professional Licensing Services,
Nurse Unit
89 Washington Avenue
Albany, NY  12234-1000
Phone: (518) 474-3817, ext. 280
Fax: (518) 474-3398
[www.op.nysed.gov/nurse.htm](http://www.op.nysed.gov/nurse.htm)

**Temporary Permit:** Must have completed all other requirements for licensure except the licensing examination. Valid for one year from date of issue or until ten days after the applicant is notified of failure on the licensing examination, whichever occurs first. Graduates of New York state nursing programs may be employed without permit for 90 days immediately following graduation; $35

**State Board Fee:** $135 (includes first license and three-year registration)

**Additional State Endorsement:** $135

**NCLEX-RN® Test Fee:** $200
**Re-Examination Limitations**: Every 45 days

**License Renewal**: Every three years; $65

**CEU Requirements**: None

**Maximum Number**: Unlimited

**Notification**: Internet, mail.

**NORTH CAROLINA**

Board of Nursing
P.O. Box 2129
Raleigh, NC 27602-2129
Phone: (919) 782-3211
Fax: (919) 781-9461
www.ncbon.com

**Temporary Permit**: None for new graduates. By endorsement: six months or until the endorsement is approved, whichever occurs first; not renewable. Fee is included in application fee.

**State Board Fee**: $50

**Additional State Endorsement**: $135 plus $38 fingerprint fee

**NCLEX-RN® Test Fee**: $200

**Re-Examination Limitations**: Every 45 days; $35

**License Renewal**: Month of birth, every two years; $60

**CEU Requirements**: None

**Maximum Number**: Unlimited

**Notification**: Mail only.
**NORTH DAKOTA**
Board of Nursing
919 South 7th Street, Ste. 504
Bismarck, ND  58504-5881
Phone: (701) 328-9778
Fax: (701) 328-9785
www.ndbon.org

**Work Authorization:** By endorsement: 90 days; fee is included in endorsement fee. By exam: 90 days after the date of issue or upon notification of exam results, whichever occurs first. No limit on test taking.

You are not eligible for licensure in ND if your primary state of residence is AZ, AR, DE, ID, IA, ME, MD, MS, NM, NC, SD, TN, TX, UT, or WI. (Nurse Licensure Compact, 1/1/04)

**State Board Fee:** $110

**Additional State Endorsement:** $110

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 91 days, up to five attempts in three years

**License Renewal:** December 31, every even year; $90

Maximum Attempts: Unlimited

**CEU Requirements:** Nursing practice for re-licensure must meet or exceed 12 hours within preceding two years.

**Notification:** Internet

**OHIO**
Board of Nursing
17 South High Street, Ste. 400
Columbus, OH  43215-7410
Phone: (614) 466-3947
Fax: (614) 466-0388
www.state.oh.us/nur/

**Temporary Permit:** 180 days if by endorsement, not renewable. Fee is included in endorsement application fee.

**State Board Fee:** $75

**Additional State Endorsement:** $75

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days; $75
**License Renewal:** August 31, every odd year; $65

**CEU Requirements:** 24 hours in a 2-year period, except in the case of first renewal after licensure by examination.

**Maximum Number:** Unlimited until one year, then contact Board and complete new application.

**Notification:** Official results by mail; Internet.

**OKLAHOMA**
Board of Nursing
2915 North Classen Boulevard, Ste. 524
Oklahoma City, OK  73106
Phone: (405) 962-1800
Fax: (405) 962-1821
www.youroklahoma.com/gov/nursing

**Temporary Permit:** Not applicable to new graduates. 90 days if by endorsement. Fee is included in application fee.

**State Board Fee:** $75
**Additional State Endorsement:** $75

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 91 days. After two years, forced to return to school; retest after 45 days until two years, then return to school with approved remedial course.

**License Renewal:** Last day of birth month, every even year

**Notification:** Internet

**OREGON**
Board of Nursing
800 NE Oregon Street, Ste. 465
Portland, OR  97232-2162
Phone: (503) 731-4745
Fax: (503) 731-4755
www.welcomeoregon.gov/OSBN/
Search Division 31 Nurse Practice Act

**Temporary Permit:** None

**State Board Fee:** $100

**Additional State Endorsement:** $115

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days, up to three years from the date of graduation.
License Renewal: Birthday, every two years; $85

CEU Requirements: Nursing practice for re-licensure must exceed 960 hours within preceding five years.

Maximum Number: Unlimited up to 3 years from graduation, then return to repeat nursing school.

Notification: Internet, mail. Telephone notification discouraged.

PENNSYLVANIA
Board of Nursing
P.O. Box 2649
Harrisburg, PA 17105-2649
Phone: (717) 783-7142
Fax: (717) 783-0822
www.dos.state.pa.us/nurse

Temporary Permit: One year maximum; examination results preempt permit; $35

State Board Fee: $35

Additional State Endorsement: $100

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days

License Renewal: Renewal date by license number every two years; $45

CEU Requirements: None

Maximum Number: Unlimited

Notification: Mail, telephone.

RHODE ISLAND
Board of Nurse Registration and Nursing Education
3 Capitol Hill, Rm. 105
Providence, RI 02908
Phone: (401) 222-5700
Fax: (401) 222-3352
www.health.ri.org

Temporary Permit: Pending results of first exam but no longer than 90 days after graduation; 90 days if by endorsement. Not renewable. No fee.

State Board Fee: $93.75

Additional State Endorsement: $93.75
NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days

License Renewal: March 1, every two years by license number; $62.50

CEU Requirements: Beginning in March 2006, 10 contact hours in preceding two years.

Maximum Number: Unlimited

Notification: Mail, Internet.

SOUTH CAROLINA
Board of Nursing
P.O. Box 12367
Columbia, SC 29211-2367
Phone: (803) 896-4550
Fax: (803) 896-4525
www.llr.state.sc/pol/nursing

Temporary Permit: 90 days by endorsement only.

State Board Fee: $97

Additional State Endorsement: $114; with permit $124

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days, up to four times in one year; then must remediate. $97

License Renewal: January 31, every year; $84

CEU Requirements: Minimum practice requirement of 960 hours in preceding five years.

Maximum Number: Must pass within three years of graduation; if fail, return to school or apply in another state.

Notification: Internet, mail, telephone.
**SOUTH DAKOTA**
Board of Nursing
4305 S. Louise Avenue, Ste. 201
Sioux Falls, SD 7106-3115
Phone: (605) 362-2760
Fax: (605) 362-2768
[www.state.sd.us/dcr/nursing/](http://www.state.sd.us/dcr/nursing/)

**Temporary Permit:** 90 days from graduation pending results of first exam; 90 days if by endorsement; $25

**State Board Fee:** $100

**Additional State Endorsement:** $100

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days, maximum of four times per year in three years; then must requalify.

**License Renewal:** Birthday, every two years; $90

**CEU Requirements:** Continuing employment 140 hours in one year or 480 hours in six years.

**Maximum Number:** Unlimited

**Notification:** Mail.

**TENNESSEE**
Board of Nursing
425 Fifth Avenue North
Cordell Hull Building, 3rd Floor
Nashville, TN 37247-1010
Phone: (615) 532-5156
Fax: (615) 741-7899
[www.tennessee.gov/health](http://www.tennessee.gov/health)

**Temporary Permit:** Six months if by endorsement. Fee included in application fee.

**State Board Fee:** $140

**Additional State Endorsement:** $140

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days up to three years, then only with remediation.

**License Renewal:** Last day of month of birth, every two years; $50

**CEU Requirements:** Continued practice requirement over a five-year period.
**Maximum Number:** Pass within three years from graduation.

**Notification:** Mail (within 5 business days), Internet, telephone

**TEXAS**
Board of Nurse Examiners
333 Guadalupe #3-460
P.O. Box 430
Austin, TX  78701
Phone:  (512) 305-7400
Fax:  (512) 305-7401
www.bne.state.tx.us/

**Temporary Permit:** By endorsement: 12 weeks. By exam: 60 days or pending results of first exam. Fee included in application fee.

**State Board Fee:** $109

**Additional State Endorsement:** $169

**NCLEX-RN® Test Fee:** $200

**Re-Examination Limitations:** Every 45 days; unlimited testing within four years of eligibility; $70 retake fee

**License Renewal:** Every even year for those born in even years; every odd year for those born in odd years (initial licensure period ranges from six months to 29 months depending on birth year); $53

**CEU Requirements:** 20 contact hours (2 CEUs) every two years. Nurses licensed by exam or by endorsement are exempt from CE requirements for the first renewal after initial licensure.

**Notification:** Mail (within three weeks), Internet.

**UTAH**
Board of Nursing
Division of Occupational and Professional Licensing
P.O. Box 146741
Salt Lake City, UT  84114-6628
Phone:  (801) 530-6597
Fax:  (801) 530-6511
www.commerce.utah.gov/licensing/nurse.html

**Temporary Permit:** Four months; $50

**State Board Fee:** $99

**Additional State Endorsement:** $99

**NCLEX-RN® Test Fee:** $200
Re-Examination Limitations: Every 45 days; those who fail to pass exam within two years after completing educational program must submit plan of action for approval before retaking.

License Renewal: January 31, every odd year; $43

CEU Requirements: Must have practiced not less than 400 hours during two years preceding application for renewal, or have completed 30 contact hours, or have practiced not less than 200 hours and completed 15 contact hours during two years preceding application for renewal.

Maximum Number: Unlimited

Notification: Mail, Internet. Phone notification discouraged.

VERMONT
Board of Nursing
Office of the Secretary of State
81 River Street
Montpelier, VT 05609-1106
Phone: (802) 828-2396
Fax: (802) 828-2484
www.vtprofessionals.org/

Temporary Permit: 90 days if by endorsement; $25
State Board Fee: $90

Additional State Endorsement: $150

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; Board of Nursing approval is needed after two attempts; $30

License Renewal: March 31, every odd year; $85

CEU Requirements: Minimum practice requirement of 960 hours in five years or 400 hours in two years.

Maximum Number: After two failures, take NCLEX Review and appear before Board.

Notifications: Mail (7-14 days), Internet
VIRGINIA
Board of Nursing
6603 West Broad Street, 5th Floor
Richmond, VA 23230-1712
Phone: (804) 662-9909
Fax: (804) 662-9512
www.dhp.state.va.us/nursing

Temporary Permit: 90 days pending results of exam

State Board Fee: $130

Additional State Endorsement: $130

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; $25

License Renewal: Last day of month of birth, every even year for those born in even years; every odd year for those born in odd years; $95

CEU Requirements: None

Maximum Number: Unlimited

Notification: Mail, telephone

WASHINGTON
Nursing Care Quality Assurance Commission
310 Israel Road
P.O. Box 47860
Tumwater, WA 98501-7860
Phone: (360) 236-4706
Fax: (360) 236-4738
www.doh.wa.gov/

Temporary Permit: None

State Board Fee: $65

Additional State Endorsement: $65

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 91 days, up to three times in two years, then must re-qualify

License Renewal: Birthday, every year; $50

CEU Requirements: Not mandatory
Maximum Number: Four times in a 2 year period. After 4th failure, must complete approved program of study and then may retake four more times.

Notification: Mail, Internet. Telephone notification discouraged.

WEST VIRGINIA
Board of Examiners for Registered Professional Nurses
101 Dee Drive
Charleston, WV  25311-1620
Phone:  (304) 558-3595
Fax:  (304) 558-3666
www.wvrnboard.com

Temporary Permit: 90 days pending results of first exam; 90 days if by endorsement; $10

State Board Fee: $51.50

Additional State Endorsement: $30

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; additional requirements are needed after two attempts.

License Renewal: December 31, every year; $25

CEU Requirements: 30 contact hours every odd year. If initial licensure occurs during the first half of any 2-year reporting period: must complete 12 contact hours before the end of that reporting period. If initial licensure occurs during the second half of any 2-year reporting period: exempt from CE requirements for the entire reporting period.

Maximum Number: Unlimited

Notification: Internet with online verification (updated every night), mail.

WISCONSIN
Bureau of Health Service Professions – RN
Department of Regulation and Licensing
1400 East Washington Avenue
P.O. Box 8935
Madison, WI  53708-8935
Phone:  (608) 266-0145
www.drl.wi.gov/index.htm

Temporary Permit: Three months pending results of exam; three months if by endorsement; $10

State Board Fee: $68

Additional State Endorsement: $66
NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days; $15

License Renewal: February 28 or 29, every even year; $66

CEU Requirements: None

Notification: Internet

WYOMING

Board of Nursing
2020 Carey Avenue, Ste. 110
Cheyenne, WY 82001
Phone: (307) 777-7601
Fax: (307) 777-3519
www.nursing.state.wy.us/

Temporary Permit: 90 days by endorsement or by exam. Fee is included in application fee.

State Board Fee: $190

Additional State Endorsement: $195

NCLEX-RN® Test Fee: $200

Re-Examination Limitations: Every 45 days, maximum of 10 times within 5 years of graduation; then return to school.

License Renewal: December 31, every even year; $110

CEU Requirements: Minimum practice requirement of 1,600 hours in 5 years or 500 hours in 2 years.

Notification: Mail, Internet, telephone.
Testing Strategies

- Least Invasive First
- Pain never killed anyone
- Never release traction UNLESS you have an order from the MD to do so
- Polyuria—Think shock first
- If you have never heard of it…. Don’t pick it!
- Anytime you see fluid retention... Think heart problems first
- Stay away from restraints as long as you can… Remember the NCLEX is a perfect world.
- Do not pick an answer that delays care or treatment.
- Never pick an answer that does not allow your patient to speak.
- Select a “patient focused” answer.
- With priority questions… Remember you can only send one message to the NCLEX lady… so you must pick the “killer” answer
- ADH—Think H2O
- Aldosterone—Think sodium AND water
- With SIADH—TOO many letters TOO much WATER
- More Volume—More Pressure
- Less Volume—Less Pressure
□ Anytime you see the words “assessment” or “evaluation” think pertinent signs and symptoms

□ There will not be a test questions unless there is something to WORRY about…

□ Assume the WORST

□ If there is something you can do about the problem first... do that before calling the doctor

□ Hypoxia may be the first sign of respiratory acidosis

□ With restless patient… think hypoxia first

□ Limit protein in kidney patients EXCEPT with Nephrotic syndrome

□ Like illness can be put in the same room together

□ If there are any long term consequences to your patient with the answer you pick, you should not pick that answer.

□ Assess before implementing

□ If you have a fluid problem you have a Na problem too

□ If you have a fluid problem… you will do I&O and daily weights

□ “Always” and “whenever” are TOO definite

□ Read the questions…. Then decide what you are WORRIED about… then pick an answer that you can do to SOLVE the problem

□ If you see words like “assessment” or “evaluation” in the stem of the question…. Think pertinent signs and symptoms. The presents or absence of the signs or symptoms.

□ You can’t use medical dx in a nursing diagnosis

□ You will report something “new” or different” or “possible” to the next shift nurse.
If you can narrow the answers down to 2 answers… pick the more life threatening answer.

Anytime you have a magnesium or calcium question… think muscles first.

Digoxin + hypokalemia= toxicity

You elevate veins and dangle arteries.

Always worry if the rate decreased with a pacemaker

Never pick an answer that puts your work off on anyone else

Never pick an answer that does not allow your patient to speak

Never pick an answer that ignores or brushes off the patient’s compliant.

If the answer is not applicable to the situation… don’t pick it.

I promise that I will be happy if you get more right than wrong… We are not trying to get a 100!
Transfusing Blood and Blood Products

Points to Remember:

- Blood and Blood products are to be administered by the RN
- Only NS may be used in conjunction with administering blood and blood products
- Blood filters and special tubing may be used for up to 2 units of blood IF both units are infused in a 4 hour period of time
- Do not infuse any medication into the patient via the blood IV tubing.
- All blood products require a filter.
- Most of the time, blood will be given via a pump.
- Be sure to complete all vital signs and transfusion records. You will need a set of baseline vital signs before administering the blood.
  - You may have a separate flow sheet for administering blood products. See you facilities policy and procedure manual.
- Each patient must have a type and screen and crossmatch in the lab prior to obtaining a blood product. Each type and screen is only good for 72 hours.
- NO crossmatch is required for platelets
  - However, you must have a type and screen to administer platelets
- Upon receiving the blood or blood product from the lab, 2 RNs must verify the blood or blood product with the patient’s information prior to hanging the blood or blood product. See your hospitals policy and procedure manual for specific details.
  - Verification usually includes verifying: the patient’s name, Date of birth, blood bank number, unit number, expiration date of unit of blood or blood product, blood type and group, MD’s order
- You will need an MD’s order to administer blood or blood products.
Signed consent form from the patient (or the next of kin if the patient is unable to sign the form). It is the doctor’s responsibility to have the consent form signed and to explain to the patient and or family the need and possible side effects.

Initially begin infusion slowly and observe patient closely especially for the first 15 minutes of the infusion. If no reaction is observed, infusion rate may be increased. The rate will depend on the condition of the patient. You will not want to infuse the blood quickly if you have a patient is elderly, has any type of heart or kidney condition or someone very young.

Infusion of the blood should be started within 30 minutes of the receiving the blood from the blood bank.

All blood from each unit must be completed within a 4 hour time frame. If the unit of blood is not completed in a 4 hour time frame the blood must be discarded.

Dispose of blood tubing and blood or blood product bag in red trash can.

Be sure the flush lines after transfusing blood or blood product
Signs of Transfusion Reaction

- Chest pain
- Rash
- Fall in blood pressure
- Increase in temperature
- Anxiety
- Shortness of breath
- Wheezing
- Headache
- Flushing
- Back pain
If a reaction occurs you should:

- Discontinue the transfusion IMMEDIATELY
- Remove blood and blood tubing set.
  - Check your facilities policies and procedure manual. You may have to return the blood and tubing to the blood bank.
- Notify MD and monitor patient closely for anaphylaxis
- Notify lab of transfusion reaction
<table>
<thead>
<tr>
<th>Type of Shock</th>
<th>Description</th>
<th>Cause</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaphylactic shock</td>
<td>Massive vasodilation caused by release of histamines in response to allergic reaction</td>
<td>IV contrast, drugs (ASA, insect bites/stings, anesthetic agents, vaccines, foods, materials (latex)</td>
<td>Medication: (histamine H2 blockers (Tagament®), Epinephrine (drug of choice), diaphenhydramine (Benedryl®), Volume expanders, vasopressors (Dopamine®, Levophed®), Solu-medrol®, nebulized brochodilators Ensure patent airway, put pt in recumbent and elevated legs, keep warm</td>
</tr>
<tr>
<td>Hypovolemic shock</td>
<td>Loss of intravascular volume</td>
<td>3rd spacing, diuresis, hemorrhage(#1 cause), burns, GI fluid loss (vomiting, diarrhea, drainage from NG tube), DIC, DKA, HHNK, long bone fx</td>
<td>Rapid volume replacement (blood, isotonic solutions), Neo-synethrine, control bleeding</td>
</tr>
<tr>
<td>Cardiogenic Shock</td>
<td>Inability of heart to pump blood out effectively pump failure, resulting in decrease CO</td>
<td>Left ventricular dysfunction, MI (most common cause), CABG, arrhythmias, cardiomyopathy, tension pneumothorax, PE, cardiac tamponade</td>
<td>Medication: Dobutamine®, Dopamine®, Epinephrine®, Levophed®, Primacor®, Nitroglycerin®, Nipride, Morphine®, intraaoritic balloon pump (IABP), correct arrhythmias</td>
</tr>
<tr>
<td>Septic Shock</td>
<td>Sepsis with hypotension despite adequate fluid replacement, massive vasodilation caused by inflammatory response of body due to overwhelming infection</td>
<td>Infection (UTI, respiratory tract, indwelling lines (IV, central lines) or catheters), gram-negative bacteria (most common cause)</td>
<td>Antimicrobial therapy, surgical drains, volume replacement, cultures, antibiotics, control temperature</td>
</tr>
<tr>
<td>Neurogenic Shock</td>
<td>Pooling of blood -decrease venous return, decrease CO, hypotension, bradycardia</td>
<td>Massive vasodilation due to loss of vascular tone due to suppression of the sympathetic nervous system, injury/disease to the spinal cord at or above T6, spinal anesthesia, head injury</td>
<td>Treat the cause, Dopamine®, Levophed®, Neo-Synephrine®</td>
</tr>
</tbody>
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