Mark Klemik Lecture 1: Acid Base Principles

- As the ph goes, so goes my pt (except for k+)
- When ph goes up, systems in the body get irritable/hyper-excitable, borborygmi*
- When ph goes down, systems in the body shut down
- MacKussmauls. You see Kussmauls with metabolic acidosis
- There's a difference between s/s of acid base imbalances vs. causes of acid base imbalances
- Cause: Ask yourself is it lung? Then it's respiratory
- Is the pt over ventilating or under ventilating?
- For Over- pick alkalosis
- Under- pick acidosis
- Ventilation means gas exchange.
- Resp. rate doesn't matter. Sao2 matters.
- It's not lung? Then it's metabolic.
- ** **Only 1 scenario for Metabolic alkalosis**:
  If pt has prolonged vomiting or suctioning
- **For everything else that isn't lung, pick metabolic acidosis**
- Idk what to pick- Metabolic acidosis
- Modifying phrase trumps original noun. "An ocd pt who is now psychotic" (look @ psychotic). "A vomiting pt who is now dehydrated" (look @ dehydrated).

Vent Alarms

- **High pressure alarm goes off**: working too hard (obstruction)
  1. Check for kinks, unkink
  2. Water condensation in the tube, empty it
  3. Mucus in the airway: turn/cough/deep breathe,
  4. If that doesn't work then suction (last resort)

- **Low pressure alarm goes off**: that was too easy (disconnection)
  a. Main tubing: reconnect
  b. O2 sensor tubing (senses fio2 @ trachea area): reconnect

- Translate respiratory alkalosis to **ventilating over** (settings are too high)
- Respiratory acidosis to **ventilating under** (settings are too low)

Mark Klemik Lecture 2: Alcohol/Drugs

- Denial is the #1 problem in all abusive situations
- Alcoholism: #1 problem psychologically is denial.
- Treat it by confronting it. Point out the difference from what they say and what they do.
- With abuse you confront, with loss you support.
- Dependency: the abuser gets to keep using
- Codependency: the significant other feels positive self esteem from supporting the habit
- Set limits & enforce them, teach them to say no. “I'm saying no because I'm a good person.”
- Manipulation: Abuser gets significant other to do things for him/her that's not in the best interest for the significant other. The nature of the act is dangerous or harmful.
- Set limits & enforce them, teach them to say no.
- Manipulation is easier to treat than dependency because there's no positive self esteem issue with manipulation.
- Neutral: dependency/codependency has 2 pts.
- Negative: manipulation has 1 pt.

Wernicke Korsakoff- **Psychosis induced by Vitamin B1 or Thiamine**

- S/s: Amnesia with confabulation (memory loss with making up stories)
- Don't confront them or present reality. Redirect them.
- To **prevent/stop** it from getting worse: Take vitamin B1.
- They **don't** have to stop drinking, and it’s **irreversible**.

Aversion Therapy: **Antabuse (disufiram)** & **ReVia (naltrexone)**

- Makes you hate alcohol and if you drink it you’ll get deathly ill
- Takes 2 weeks to get into the system
- Need 2 weeks to get out of system to safely drink again
- Teach pt to avoid all alcohol products:
    1. Mouthwash
    2. Aftershave
    3. Perfumes/Cologne
    4. Insect repellent
    5. Anything that ends in elixir
    6. Alcohol based hand sanitizer
    7. Unbaked icing (vanilla extract)

****They can have red wine vinegarette!**

Every abused drug is either an upper or downer.

The most abused drug that isn't up or down is a laxative.

Uppers **(5)**:

- Caffeine, Cocaine, PCP/LSD (hallucinogens), Methamphetamines, Adderral
- S/s: (Things go up) euphoria, tachycardia, tachypnea, restlessness, irritability, borborygmi/diarrhea, reflexes +3/+4 (spastic), seizure

Downers:

- Heroin, Marijuana, Alcohol, Benzos (everything not an upper)
- S/s: Lethargy, respiratory depression, bradycardia, bradypnea,

How to answer the question:

- Ask yourself: Is the drug an upper or downer?
- Is the question asking about overdose or withdrawal?
- Withdrawal in upper: everything goes down
- Withdrawal in downer: everything goes up
- Resp. depression biggest risk in: downer overdose and upper withdrawal

Drug Addiction in Newborns

- Always assume intoxication, not withdrawal at birth
- Baby has to be 24hrs old to go through withdrawal
- Withdrawal: difficult to console, exaggerated startle reflex, seizure risk, shrill high pitch cry

Alcohol Withdrawal Syndrome vs Delirium Tremens

- Every alcoholic goes through withdrawal, **only a small amount get delirium tremens**. You go into alcohol withdrawal within 24 hrs. You go into delirium tremens within 72 hrs.
- AWS pts are not life threatening, DT's can kill you
- Pts with AWS not a danger to self or others, DT's are dangerous to self and others.

ALCOHOL WITHDRAWAL:

- Regular diet, semi-private room anywhere on unit, up adlib (go anywhere they want), no restraints.
- Meds: Antihypertensive pill, Tranquilizer, Vitamin B1

DELIRIUM TREMENS:

- NPO/clear liquids (seizure risk), private room, near nurses station, strict best rest / need bed pans & urinals, must be restrained appropriately: vest or 2 point locked leathers (opposite arm & leg) rotate every 2 hours.
- Meds: antihypertensive pill, tranquilizer, b1 vitamin

Aminoglycocides- A Powerful Class of Antibiotics

- A mean old mycin for a mean old infection
- Life threatening, resistant, serious, and gram negative infections
- All end in mycin, but not all that end in mycin are mean old mycins
- **NOT MeanOldMycins**: Arithromycin, Zythromycin, and Clarithromycin.
- If it has thro, throw it off the list!!
- They are ototoxic (ear toxic) mycin (mice- ears)
- Monitor for hearing, tinnitus, vertigo/dizziness
- The human ear is shaped like the kidney, so watch for nephrotoxicity
- Best indicator of liver funct: 24hr creatinine clearance****** #2 serum creatinine
- Administer them **q8hr.** Route: IM or IV. **Don't give PO for infection!**
- **Only 2 cases to give orally:** sterilize the bowel
  1. Hepatic encephalopathy/hepatic coma/liver coma
     (when ammonia level gets too high & gets to your brain)
     Kills the E. coli in the gut & lower the ammonia level
  2. Pre-op bowel surgery to sterilize the bowel
     Oral mycins will kill gram-negative bacteria in your gut (sterilize bowel)
- Sargent asks: **Who can sterilize my bowel?**
  Neo can! NEOMYCIN and CANOMYCIN!

--

TAP Levels:

- Trough- When drug is at its lowest (Draw before drug admin)
- Peak- When drug is at its highest (Draw after drug admin)
- **TAP** (trough, administer drug, peak) for narrow therapeutic windows
- THE DRUG DOESN'T MATTER, THE ROUTE MATTERS ;)
- Sublingual/IV/IM/SQ/PO **Trough**: Draw 30 mins before the next dose
- Sublingual **Peak**: 5-10 mins after drug is dissolved
- IV **Peak**: 15-30 mins after drug is finished
- IM **Peak**: 30-60 mins
- SQ- See diabetes lecture
- PO- They don't test PO peaks
- When there's 2 right answers, pick the highest without going over

Mark Klemik Lecture 3- Cardiac/Chest Tubes/Infection Precautions

- CCB's are like Valium for your heart (calms your heart down)

- CCB's are negative inotropics, negative dromotropics, and negative chromotropics.
- Weaken, slow down, and depress the heart. Cardiac depressant.

They treat: A, A-A, and A-A-A

- Anti-hypertensive
- Anti-angina
- Anti-atrial-arrhythmia= **it treats everything atrial related**, EXCEPT **supra ventricular tachycardia** (supra means above, above the ventricle is the atrial).
- Side effects: Headache & hypotension

Names of CCB's:

- Names ending in "dipine" (You're dipping in the calcium channel)
- Verapamil
- Cardizem = Continuous IV drip
- Monitor BP intermittently. If **systolic is below 100, hold**. For drip, if systolic was 98 titrate it down.

Cardiac Arrhythmias:

- Normal sinus rhythm- Peaks of p waves are evenly spaced
- V-fib- Chaotic squiggly line. No pattern
- V-tach- Sharp peak & jags. There's a pattern
- Asystole- Flat line
- QRS depolarization- Answer will always be **ventricular**
- P wave- Answer will always be **atrial**
- Lack of a P wave- Answer will always be **ventricular**
- A lack of QRS- **Asystole**
- A-flutter- Saw tooth
- **Chaotic** is always the word used to describe **fibrillation**
- **Bizarre** is always the word used for **tachycardia**

Low Priority:

- Premature ventricular contraction (PVC)
- A bunch of PVC's is like a short run of V-Tach

Moderate Priority:

- If more than 6 PVC's in a minute or row and/or if PVC falls on the T wave of the previous beat. **They never are high priority**!

Potentially Life Threatening:

- V-Tach- Pt has a pulse

Lethal Priority: Kills you in 8 mins or less

- ☙ Asystole- No pulse
- ☙ V-fib- No pulse

Treatment:
Supra Ventricular (Atrial) → ABCD's
Adenocard (Adenosine):
- ☙ Push in less then 8 secs
- ☙ Don't worry about Asystole
- ☙ When it comes to IV push, when you don't know go slow

Beta blockers (ending in "lol")
- ☙ Just like CCB's, same treatment, same side effects

Calcium channel blockers
- ☙ Better for asthmatics

Digoxin/Digitalis (Lanoxin)
V-fib → D-fib
Asystole → Epinephrine & Atropine (In that order if Epi doesn't work)
PVC's & V-Tach → Use Amiodarone for Ventricular

Chest Tubes: Reestablish negative pressure in the pleural space
- ☙ Pneumothorax- The chest tube removes air
- ☙ Hemothorax- The chest tube removes blood
- ☙ Pneumohemothorax- The chest tube removes air & blood
- ☙ Report in Hemothorax if- The chest tube isn't draining
- ☙ Report in Pneumothorax if: The chest tube isn't bubbling
  - **2 locations**:
    - ☙ **A**pical (up high) removes **a**ir
    - ☙ **B**asilar (**b**ottom of lungs) removes **b**lood
    - ☙ Use both locations for Pneumohemothorax

How many chest tubes & where would you place them for postop chest sx?
- ☙ Place apical & basilar on **same side** of surgery
- ☙ **Always assume** chest sx / trauma is **unilateral** unless otherwise specified
- ☙ The **only time** its **bilateral** is **when they say** it's bilateral

Trick Q: Where to put tubes for a post op right Pneumonectomy?
- ☙ NOWHERE because that is the removal of the lung LOL

What do you do when you knock out a closed chest drainage device?
(Ex: Pneumovac, Pleur-evac, etc.)
- ☙ Set it back up have pt take deep breaths, NOT an **emergency***

What if the water seal breaks?
- ☙ It's an **emergency*** because positive pressure can get in plural space.
  1. Clamp the water seal
  2. Cut it away

3. Submerge in sterilized water
4. Unclamp because we reestablished the water seal.

In a **best/priority question you only get to **pick one**. In a **first question** you **get to do the rest of the options**, but you have to pick which one is first**

What do you do when chest tube gets dislodged?
- **First**** Cover hole with gloved hand
- **Best**** Cover with Vaseline gauze

If there's bubbling in chest tube: Ask yourself where/when?
Water Seal
- Intermittent bubbling: **Always good, document***
- Continuous bubbling: **Always BAD, tape it***
  If it's **sealed** should it be continuously bubbling? **No**, it's leaking!

Suction Control Chamber
- Intermittent bubbling: **Always bad, suction isn't high enough***
- Continuous bubbling: **Always good, document***

A **straight-cath (in and out foley) is to a **foley** (continuous drainage) as a **thoracentisis** (in and out chest tube) is to a **chest tube** (continuous drainage)**
- Higher risk for infection- Foley & chest tube

Rules for clamping tubes
- Never clamp a tube for longer than 15 secs w/o a Dr order
- Use rubber tip double clamps

Congenital Heart Defects
- Every CHD is either trouble or no trouble
- **TR**ou**BL**e**-** need surgery to live, everything is bad, short life expectancy, delayed growth & development, exercise intolerance, financial difficulties, pediatric cardiologist.

- A **trouble** defect is right to left, because R comes before L.
- A **no-trouble** defect is left to right.
- Right to left means blue (cyanotic), left to right means acyanotic.
- All trouble heart defects that are trouble start with **T.**
- All heart defects (trouble or not) have a murmur and they all have an echocardiogram done.
- Tetralogy of Fallot: **V**arie**D P**icture**S O**f **A R**anc**H**
- Ventricular Defect
- Pulmonary Stenosis
- Overriding Aorta
- Right Hypertrophy

Infectious Disease & Transmission Based Precautions

Contact: Anything enteric (fecal/oral)

- C-diff, Hep A (stands for anus), Herpes, Staph infections, and RSV (Respiratory Syncytial Virus, babies get it) transmitted by droplet but works best still on contact precautions
- Private room, but can be in the same room if in cohort
- **PPE-** Gloves, Gown, Disposable supplies/dedicated supplies

Droplet (sneezing/coughing)**:** Meningitis, H-flu (causes epiglottis)

- Private room, unless cohort
- They need a lumbar puncture for cultures
- **PPE-** Gloves, Mask, Pt wears mask when leaving room, Disposable supplies/dedicated supplies, No gown

Airborne: Measles, Mumps, Rubella, TB, and Varicella.

- Private room required unless cohort.
- Mask, Gloves, Special filter mask (ONLY FOR TB), Pt wear mask when leaving room, Negative airflow room. TB is spread by droplet but airborne precaution.

PPE

- Always take off in alphabetical order
- Gloves, goggles, gown, mask
- Put on in the reverse alphabetical in the G's, but mask comes second
- Gown, mask, goggles, gloves

Mark Klemik Lecture 4: Crutches/Canes/Walkers/Psych

How To Measure Length of Crutches:

- 2-3 finger widths below the anterior axillary fold to a point lateral to and slightly in front of the foot
- ***No landmarks on the foot or axilla****

- Measure Hand Grip: up and down. The angle of elbow flexion is 30 degrees

Crutch Gaits

- 2 point: move a crutch and opposite foot together
- 3 point: two crutches and bad leg together
- 4 point: left crutch followed by right foot, right crutch followed by left foot
- Swing through: non-weight bearing (amputation)
- Amputation with a **prosthetic**: can bear weight
- Even for even, odd for odd. Use the even # gaits when the weakness is evenly distributed (you have an even # of legs messed up)
- 2 point for **mild bilateral weakness**
- 4 point for **severe bilateral weakness**
- Ask yourself how many legs are affected? If even # of legs (2) pick either 2 or 4 point gait. If 1 leg is affected, pick odd number (3 point gait). Ask yourself whether mild or severe.
- Up with the good, down with the bad. Going upstairs, lead with good foot (crutches move with bad legs)

Cane

- Hold cane on strong side.

Walkers

- Pick it up, set it down, walk to it
- If they must tie something to the walker, tie it to side, not the front of it
- No wheels, or tennis balls on walkers**

Psych: Non-Psychotic vs. Psychosis

Non-psychotic pt:

- Has insight (know that they're sick & know it's messing up their life)
- Use good therapeutic communication (like normal people)

Psychotic pt:

- Doesn't think they're sick & has no insight

- ☙ S/s: Delusions, Hallucinations, Illusions *

Delusion: A false, fixed idea or belief. Thinking, not sensing
- ☙ Paranoid Delusion- False, fixed belief that people are out to harm you
- ☙ Grandiose Delusion- False, fixed belief that you are superior
- ☙ Somatic Delusion- False belief about your body (X-ray vision)
- ☙ Erotomanic Delusion- False, fixed belief another person (usually famous or powerful) is in love with them.
- ☙ Jealous Delusion- False, fixed belief that their partner is unfaithful
- ☙ Persecutory Delusion- False, fixed of being treated in a malicious way

Hallucination: False, fixed sensory experience (5 senses)
- ☙ Most common in order- Auditory, Visual, Tactile.
- ☙ Rare ones -Gustatory (tasting) & Olfactory (smelling)

Illusion: Misinterpretation of reality (sensory experience)
The **difference** between **hallucination & illusion** is, with an **illusion** there's a **referent in reality**. There's actually **something there**, but they just **misinterpreted** it. With a **hallucination** there's actually **NOTHING there

3 Types of Psychotics
Functional psychotics: Can be married, have a family, job, live alone, pay bills…
- ☙ 90% of functionals are Schizo Schizo Major Manic
- ☙ Schizo- Schizophrenia
- ☙ Schizo- Schizo-affective Disorder
- ☙ Major- **Major** Depression
- ☙ Manic- Bipolar

2. **Dementia**: Brain damage
3. **Delirium**: Temporary, sudden dramatic secondary loss of reality usually due to a chemical imbalance in the body.
- ☙ (Ex- Ppl high on uppers, withdrawal from downers, drugs like Tegamet, post op pt, occult UTI in elderly, thyroid storm, adrenal crisis, etc)

How to answer these questions:
- ☙ Ask yourself, are they psychotic or non-psychotic?
- ☙ If non-psychotic, pick best good therapeutic communication response.
- ☙ If they're psychotic, decide which 3 categories that person falls in.

For Functional- This pt has the **potential** to learn reality
1. Acknowledge their feelings → "You seem angry"
   → "That must be distressing"

→ "Tell me how you're feeling"

2. <u>Present reality</u> → "I know that___ is real to you, but I don't see ___"
   → "I am a nurse & this is a hospital"
3. <u>Set a limit</u> → "That topic is off limits in our conversation"
   → "That topic we talk together we're not going to talk about that"
   → "Stop talking about those aliens/voices"
4. <u>Enforce the limit</u> → End the conversation
   → *Don't punish/restrict them*
   → "I see you're too ill to stay reality based, so our conversation is over"

For Dementia- This pt has a **brain damage** and **can't** learn reality

1. <u>Acknowledge their feelings</u> → "That seems exciting"
   → "I see that you're happy"
   → "I see that you're sad"
2. <u>Redirect them</u> → **DON'T **present** reality**
   → You can reality orient them (person, place, time)
   → "Ok, let's sit here and you can tell me about church while we wait for your dead husband"
   → DON'T change the subject

For Delirium- Remove the **underline cause** & **keep** them **safe**

1. <u>Acknowledge their feelings</u> → "That seems exciting"
   → "I see that you're happy"
   → "I see that you're sad"
2. <u>Reassure them</u> → "You are safe and that will go away when you get better"

Abnormal (Abn)- Antisocial, Borderline, Narcissistic

- Treat them like a functional. Set limits!

<u>Loose associations:</u>

- Flight of Ideas- Thought to thought to thought to thought
- Word Salad- Random words
- Neologism- Making up imaginary words
- Narrow Self-concept- When a functional psychotic refuses to leave their room or change their clothes. (They define who they are based on where they are and what they're wearing. They don't know who they are if they get undressed/ it terrifies them)
- Ideas of Reference- Pt thinks everyone is talking about them

Mark Klemik Lecture 6: Toxic Levels/Dumping Syndrome/Electrolytes

Toxicity Levels (5)
1. Lithium: **Therapeutic lvl** 0.6-1.2 // **Toxic lvl** Greater than 2
2. Lanoxin: **Therapeutic lvl** 1-2 // **Toxic lvl** Greater than or equal to 2
3. Aminophylline: **Therapeutic lvl** 10-20 // **Toxic lvl** Greater than or equal to 20
4. Dilantin: **Therapeutic** 10-20 **Toxic lvl** Greater than or equal to 20
5. Bilirubin in newborns: **Therapeutic lvl** <9.9 **Elevated lvl** 10-20
(Hospitalize when you get **halfway** in the **elevated lvl**) **Toxic lvl** greater or = 20

Kernicterus- Bilirubin in the brain. Occurs when bilirubin gets around 20
Opisthotonus- Position baby goes in when they have kernicterus
- They hyperextend due to irritation of the meninges
- What position should you put them in? On their side

Dumping Syndrome vs Hiatal Hernia

Hiatal Hernia:
- Regurgitation of acid into your esophagus because the upper part of stomach herniates upwards through the diaphragm
- 2 chambered stomach
- Moving in the wrong direction at the right rate
- Going the WRONG WAY on a ONEWAY street

S/s:
- GERD aka heartburn / indigestion
- GERD is regular heart burn if you get it at a random time
- It's hiatal hernia if you lay down right after you eat

Tx:
- High position HOB
- High fluids, high carbs.
- Everything needs to be high, except protein (low)

Dumping Syndrome:
- Usually following gastric sx.
- The gastric contents dump too quickly into the duodenum.
- Moving in the right direction at the wrong rate.
- SPEEDING TICKET!

S/s:
- **Drunk**: Staggering gait, slurred speech, delayed reaction time, emotional labile
- **Shock**: Hypotension, pail cold clammy skin, tachycardia

- **Acute abdominal distress**: Pain, guarding, borborygmi, diarrhea, bloating, distention, tenderness

Tx:

- Low position (HOB flat)
- Turn to side with head down
- Low fluids (**1-2hrs before or after meals**, not with the meals), Low carbs.
- If you want the stomach to empty slow, everything is low. Except protein

Electrolytes:

Kalemias**-** Do the **same** as the prefix **except for heart rate*** and urine output.

- S/s **Hyperkalemia**- Agitation, irritability, tachypnea, bradycardia, tall p waves, elevated ST waves, diarrhea, borborygmi, spastic muscles, hyperreflexia, oliguria

- S/s **Hypokalemia**- Lethargy, tachycardia, bradypnea, dynamic ileum, constipation, flaccid muscles, hyporeflexia, polyuria

Calcemias- Do the opposite. Muscles & nerves*

- S/s **Hypercalcemia-** bradycardia, bradypnea, flaccid muscles, hypoactive reflexes, lethargy, constipation

- S/s **hypocalcemia-** Tachycardia, agitation, irritability, tachypnea, diarrhea, borborygmi, spastic muscles, hyperreflexia, seizure, chvostek (cheek, face spasm) sign & trousseau sign (BP hand spasm), gay french man* lol

Magnesemias- Do the opposite. In a tie between Calcemia & Magnesium, **don't** pick Magnesium*

- S/s **Hypermagnesima**- Bradycardia, bradypnea, flaccid muscles, hypoactive reflexes, lethargy, constipation
- S/s **Hypomagnesima**- Tachycardia, agitation, irritability, tachypnea, diarrhea, borborygmi, spastic muscles, hyperreflexia, seizure

Sodium- Dehydration Vs. Fluid Overload

- **The one with the E is dehydration, the one with the O is overload**
- Dehydration- HypErnatremia, hot flushed skin give lots of fluids, hot/flushed skin
- Overload- HypOnatremia, fluid restriction & give Lasix

Earliest sign of **any** electrolyte imbalance is numbness/tingling aka **Paresthesia**
Nclex Vocab Word: **Circumoral Parasthesia**- Numb/tingling lips
All electrolyte imbalances cause **muscle weakness** AKA **paresis**

Tx for Potassium:

- Never IV push K+
- Never give more than 40 of K+ per liter of IV fluid

Fastest way to lower K+

- Give D5W with regular insulin
- **K+ enters early**
- K+ in blood will kill you, not K+ in cells
- D5W with insulin will push the K+ into the cell
- **Temporary but works fast *****

Kayexalate:

- Full of sodium, given via enema or orally
- **K+ exits late**
- Trades sodium for K+ so u shit it out.
- It results in hypernatremia (dehydration) so give them fluids to correct it
- **Takes hours but it's permanent *****

Mark Klimek Lecture 7- Endocrine Glands/Toys/Laminectomy
(Don't have to know thymus, pineal, parathyroid)

Hyperthyroidism: Graves Disease

- Turn thyroid into metabolism (hyper metabolism)
- "You're going to run yourself into the grave".
- Missy Elliot is a closet Elsa, the cold never bothered her anyway, and she hates the beach.

S/s:

- Weight loss, high HR, low BP, irritable/hyper, heat intolerance, cold tolerance, exophatalmos (bulging eyes)

Tx:

1. Radioactive Iodine-
    - Pt should be **isolated for 24 hrs**,
    - They have to be careful with their urine
    - If they spill it you need to call hospital hazmat team
2. PTU (cancer drug) -
    - Puts Thyroid Under
    - Monitor WBC's
3. Thyroidectomy- Total vs. Sub
    - Total's **need lifelong** hormone replacement & at risk for hypocalcemia
    - Subtotal's **don't need lifelong** hormone replacement.
    - **Subs are at risk for thyroid storm/crisis/thyrotoxicosis**: Very high temps of 105+, very high BP (stoke category), severe tachycardia, psychotically delirious. VERY BAD! Causes brain damage

    Tx:
    - Ice pack (**First**), Cooling blanket (**Best**), 02 per mask @ 10 L
    - Do not medicate. They will either come out on their own or die
    - 2 staff to 1 pt

Post Op Risks:
- In the first 12 hrs, top priority is airway
- 2nd is hemorrhage.
- 12-48hrs for **T**otal is **T**etany r/t hypocalcemia.
- 12-48hrs for **S**ubtotal is **S**torm
- NEVER PICK INFECTION IN FIRST 72 HRS!

Hypothyroidism (Hypo metabolism):

S/s:
- Obese, flat/boring/dull personality, heat tolerance, cold intolerance, pulse & BP low, slow people, myxedema

Tx:
- Thyroid hormone Synthroid (levothyroxine)
- **Do not sedate** these people! They will get into a **myxedema coma**
- NEVER HOLD THYROID HORMONES THE DAY OF SURGERY!

Adrenal Cortex Diseases- All start with A or C ;)
Addison's Disease: Under Secretions of Adrenal Cortex

S/s:
- ☙ Hyper pigmented (very tan), **does not adapt to stress**
- ☙ If they undergo any stress they might go into shock
- ☙ Glucose goes down & BP goes down

Tx:
- ☙ Steroids (-sones) ADD i SONe LOL :)

Cushing's Syndrome: Over Secretions of Adrenal Cortex
- ☙ If you have a cushy bank account you have more $

S/s of Cushing's & side effects of steroids:
- ☙ High glucose** (hyperglycemic)(insulin resistant)
- ☙ Moon face
- ☙ Hirsutism
- ☙ Big body / buffalo hump
- ☙ Gynecomastia
- ☙ Central obesity (apple body)
- ☙ Skinny extremities due to muscle atrophy
- ☙ Retains sodium & water
- ☙ Loses potassium
- ☙ Bruises and striae
- ☙ Irritable
- ☙ Immunosuppressed
- ☙ "I'm mad. I have an infection"

Tx:

- ☙ Adrenalectomy- Bilateral: You get Addison's

Toys: Is it safe? Is it age appropriate? Is it feasible?

Safety
- ☙ No small toys for kids under 4.
- ☙ No metal/die-cast toys if o2 is in use (sparks)
- ☙ Beware of fomites (teddy)(nonliving object that harbors microorganisms)

Age appropriate

0-6 months:
- ☙ Musical mobile, Soft & large, Teething soft books

6-9 months: Teach object permanence (looks for the toy when you hide it)
- ☙ **Best** option is a **"cover/uncover toy"**
- ☙ (Ex: Jack in the box, pop up pals, books with windows, peek a boo)
- ☙ Second best: large plastic/wood/metal

- **Worst toy** is a musical mobile
- NEVER pick answers with the words: build, sort, stack, make, construct, for a child under 9 months

9-12 months: Learning to speak
- Speaking toys
- Talking books

Toddlers (1-3 years): Push/pull toy
- (Ex: Popper, stroller, doggie, wagon, etc)
- Work on gross motor skills: running/jumping
- DO NOT choose answers with finger dexterity
  (Ex: Cut, use pencils, color) *NOT INCLUDING FINGER PAINTING!*
- Parallel play-play alongside other kids, but not together

Preschoolers: Finger dexterity/work on balance
- Tricycles
- Tumbling Class/Dance Class
- Coloring
- Play together
- They like to pretend (Imaginative thinkers)

School Aged Kids: Characterized by Triple C's
- Create: Let them make it (Blank paper & colored pencils, Legos)
- Collective (Pokemon cards, digimon, beanie babies)
- Competitive: Play games that they can win

Adolescence: Peer group association
- Hang out with friends
- Let this happen unless pt is fresh out of post op (<12 hrs), contagious disease, or immunosuppressed

Laminectomy: Removal of vertebral spinal processes (winged ends of vertebrae)
- Relieves nerve root compression

S/S:
- 3 P's: Pain, Paresthesia, Paresis

The most important thing to pay attention to is **location b/c it will determine prognosis, treatment, symptoms**

Locations:

- Cervical
- Thoracic
- Lumbar

Pre-op assessment:
- Cervical: Airway & function of arms/hands
- Thoracic: Cough/Bowel mechanisms
- Lumbar: Bladder- when was the last time they voided? & leg function
- **Post op spinal #1 answer: log roll****
- DON'T DANGLE THE PTS LEGS!
- DON'T SIT FOR LONGER THAN 30 MINS!
- THEY MAY WALK, STAND, LAY DOWN W/O RESTRICTION

Complications:
- Cervical: Pneumonia
- Thoracic: Pneumonia & Paralytic Ileus
- Lumbar: Urinary retention followed by leg problems

Discharge teaching: 4 temporary restrictions (6 weeks)
- Don't sit for longer than 30 mins
- Lie flat & log roll
- No driving
- Do not lift more than 5 pounds (gallon of milk)

3 permanent restrictions:
- Never lift objects by bending with the waist
- **Cervical lams not allowed to lift ANYTHING over their head**
- No jerking, horse back riding, 6 flags

Terms:

Anterior Thoracic: From the front thru the chest to the spine

Laminectomy w/ fusion: Bone graft from the iliac crest
2 incisions, one on the hip & one on the spine
- Hip has most pain/bleeding/draining
- Both have equal risk for infection
- Spine has highest risk of rejection

Lab Values: Klimek code:
A (Abnormal)- Do nothing

B- (Be concerned)- Assess/monitor
C- (Critical)- Do something, you can leave the bed side
D- (Deadly/Dangerous)- Do something now, NEVER LEAVE BED SIDE OF D**

Serum Creatinine: 0.6-1.2
- unless question says they have a dye procedure in the morning

INR: 2-3
- Anything 4+ is (C)

Potassium: 3.5-5.3
- Low or high is (C) unless it reaches 6+ then it is a (D)

pH: 7.35- 7.45
- Anything in the 6's is a (D)

BUN: 8-25
- (A) Assess for dehydration

Hemoglobin: 12-18
- If 8-11 it's a (B) Assess for anemia/bleeding/malnutrition
- If below 8 (C) Assess for bleeding, prepare to give blood, call doctor

Bicarbonate: 22-26
- (A)

Co2: 35-45
- 46-59 is a (C)
- Assess respirations, prepare to do pursed lip breathing
- 60+ is a (D)
- Assess respirations, prepare for intubation/ventilation, call respiratory therapy then the doctor

Hematocrit: 36-54 (3x's the hemoglobin)
- 54+ is a (B)
- Assess for dehydration

P02: 78-100
- Low 70s it's a (C)
- Assess respiratory, prepare to give 02
- Hypoxia 60s and lower is a (D)
- Give 02, assess respirations, prepare for intubation/ventilation, call respiratory therapy then doctor

O2: 93-100

- If less than 93 it's a (C)
- Assess respirations, raise head of bed, give 02, unless "best" question then just give 02

BNP: < 100

- 100+ (B)
- Look for signs of CHF

Sodium: 135-145

- (B) Unless change in LOC, then it's a (C)

Platelets:

- Below 90,000 is a (C)
- Below 40,000 is a D

RBCs: 4-6 mil (B)

WBC: therapeutic 5,000-11,000

ANC: 500+

CD4: 200+

- Less than normal value for WBC, ANC, CD4 are all (C)
- Low CD4=AIDs
- Place on Neutropenic Precautions**

<u>Neutropenic Precautions:</u>

- Strict Hand washing
- Shower BID with antimicrobial soap
- Avoid Crowds
- Private Room
- Limit numbers of staff entering room
- Limit Visitors for Healthy Adults
- No fresh flowers or potted plants
- Low Bacteria Diet: No Raw Fruits, Veggies, Salads
- No Undercooked meat.
- Do not drink water than has been standing longer than 15 minutes
- Vital signs (Especially Temperature) every 4 hours
- Check WBC (ANC) Daily
- Avoid the use of an indwelling catheter
- Do not re-use cups.. must wash between uses
- Use disposable plates, cups, straws, plastic knife, fork, spoon
- Dedicated Items in Room:
- Stethoscope
- BP Cuff
- Thermometer
- Gloves

- ASSESS FOR INFECTION!!!

What do you do when something is Critical (dragon drops)

1. Always hold/stop it first
2. Assess
3. Prepare to give
4. Call the doctor

Mark Klemik Lecture 5- Diabetes: An error in glucose metabolism

D.I:

- Polyuria, polydipsia leading to dehydration due to low ADH, low specific gravity, fluid volume deficit

SIADH:

- Low urine output, oliguria, not thirsty, high specific gravity, fluid volume excess

DM Type 1:

- Insulin dependent
- Ketosis Prone

S/s: Polyuria, polydipsia, polyphagia
Tx for type 1: Diet, **Insulin (most important)**, Exercise (DIE)

DM Type 2:

- Non-Insulin Dependent
- Non-Ketosis Prone

S/s: Polyuria, polydipsia, polyphagia

Tx for type 2: **Diet (most important),** Oral hypoglycemic (pill), Activity (DOA)

- A- Calorie restriction** (ex: 1600 calories / day)
- B- 6 small feedings / day (ex: 1600/ 6)

**Insulin lowers glucose levels (PEAK is tested more)*
When would you check for hypoglycemia? (Peak question)

4 Types of Insulin (MUST KNOW):

Regular Insulin(short acting)

- Onset is 1hr, peak 2hrs, duration 4hrs
- Clear solution
- Can be IV dripped
- R- Rapid & run
- Taken **before** a meal*

NPH (Intermediate acting)

- Onset 6hr, Peak 8-10hrs, Duration 12hrs
- Cloudy, suspension
- Never IV
- NPH- Not so fast & not in the bag
- Taken **after** a meal*

Humalog/Lispro(Rapid acting)

- Onset 15 min, Peak 30 min, Duration 3 hours.
- Give insulin **with** meals*

Lantis/Glargine (Long acting)

- Slowly absorbed, it has no essential peak
- Low risk of hypoglycemia
- Safely given at bedtime

Key Points:

- Check expiration date. After you open a bottle, the new expiration date is 30 days after that. Write the date you opened it and “exp” or “opened”.

- Teach pts to refrigerate their insulin at home. Hospitals keep unopened bottles of insulin in the fridge, but they can come out of the fridge once opened.

- Exercise does the same thing as insulin. Exercise is like another shot of insulin. If a diabetic is going to play soccer/exercise, they have to bring something to eat first. (Rapidly metabolized carbs)**

- When diabetics are <u>sick</u> their <u>glucose goes up</u>. They have to take their insulin even when they're not eating. Take sips of water or they might get <u>dehydrated</u>. Stay as active as possible.

- **Humulin 70/30**- percentages mixed of R and N (N is in the numerator, the bigger portion). If they ask you "x" units of 70/30, **"x"*.7** and **"x"*.3** = the % they get.
- Mix insulin in the same syringe? **Yes.** Clear to cloudy is R to N. RN's do it!

- Pressurizing the vial: inject air into the N bottle, then inject the air into R, then draw up the R, followed by the N= NRRN

<u>*Best test for long term is HBA1C (Glycosated Hemoglobin):</u>
- Good = 6 & lower
- Needs work up / evaluation = 7
- Out of control = 8 & up

<u>Acute Complications of DM:</u>

Hypoglycemia (Drunk + Shock)
- Causes: <u>Too much insulin/meds</u>***, not enough food, too much exercise
- S/s: [Drunk] Staggering gait, slurred speech, impaired judgment, delayed reaction times, labile (emotions all over the place)
  [Shock] Low BP, tachycardia, tachypnea, pallor, clammy, mottled skin
- Tx: Rapidly metabolized carbs (sugar), juice, soda, candy, 1/2 skim milk, orange juice & crackers, apple juice & turkey.
  One sugar & one starch // one sugar & one protein. NOT two SUGARS!
- *If **unconscious** give glucagon IM, D10W / D50W IV
  *If you're talking to parents **over the phone** tell them give glucagon **IM**
  If they're in the **ER**, say **IV** dextrose

Hyperglycemia in Type1- DKA → Higher Priority

- Causes: Acute viral upper resp. infection within last 2 weeks***, too much food, not enough meds or exercise.
- S/s: Dehydrated (hot, flushed, dry skin), Ketones in blood, Kussmaul, ^ K+, Acidotic, Acetone breath (fruity breath), Anorexia due to nausea
- Tx: IV fluid fast rate w/ Regular Insulin

Hyperglycemia in Type2- HHNK → More Fatal
- Causes: Dehydration
- Tx: IV fluids

Chronic Complications of DM:
- Poor Tissue Perfusion
- Peripheral Neuropathy

Mark Klimek Lecture 9- Psychotropic Drugs

All psych drugs cause hypotension & weight gain

Phenothiazines: 1st Gen / Typical Antipsychotics
- All end in zines*
- They don't cure psych diseases, only reduce symptoms
- *Zines for the zaney*
- ZzZ.. zines (sedatives)
- Small doses are anti-emetics
- Major tranquilizers
- *DO NOT confuse *zeps for *zines

Side Effects: **Non-toxic**
- **A**nticholinergic (dry mouth)
- **B**lurred vision
- **C**onstipation
- **D**rowsiness
- **E**PS- extrapyramidal syndrome (Pill rolling, cogwheel rigidity, shuffling gait)
- **F**otosensitivity
- a**G**ranulocytosis (Low WBC immunosuppressed)

If Pt Displays Side Effect:
- ☙ Teach pt to keep taking the drug
- ☙ Inform the Dr
- ☙ Keep taking the pill
- ☙ Treat the side effects

If Pt Displays Toxic Effects:
- ☙ Hold the drug & call the Dr immediately
- ☙ Nursing dx risk for injury/safety issues

Tricyclic Antidepressants: Grandfathered into a new class called NSSRI's
- ☙ **Take for 2-4 weeks before you see effects**
- ☙ Elavil, Tofranil*, Avatil, Desyrel
- ☙ Elavil elevates your mood
- ☙ **A**nticholinergic (dry mouth)
- ☙ **B**lurred vision
- ☙ **C**onstipation
- ☙ **D**rowsiness
- ☙ **E**uphoria (way too happy)

Benzodiazepines: Minor tranquilizers
- ☙ They always have "zep" in the name
- ☙ ZzZ.. Zep (sedative)
- ☙ A- Pre-op to induce anesthesia
- ☙ B- Muscle Relaxer
- ☙ C- Alcohol Withdrawal
- ☙ D- Seizures
- ☙ E- Help when pt is fighting the ventilator to calm down
- ☙ They work quickly but DON'T take them for more than 2-4 weeks
- ☙ AD's take a long time to work but you can take it for the rest of your life
- ☙ Mild tranquilizers work right away but can't be on long
- ☙ Heparin is to Coumadin as to tranquilizer is to an antidepressant
- ☙ *DO NOT confuse *zeps for *zines

Side effects:
- ☙ Anticholinergic (dry mouth)
- ☙ Blurred vision
- ☙ Constipation
- ☙ Drowsiness
- ☙ #1 Dx is injury

MAOi's: Monoamine Oxidase Inhibitors
- ☙ Beginning of the names all rhyme

- Partite, Nardil, Marplan, (Par, Nar, Mar) or PaNaMa

Pt Teaching:
- To prevent hypertensive crisis, avoid all foods containing **tyramine**
- Salad BAR
- **B**ananas
- **A**vocados
- **R**aisins (dried fruit)
- Organ/preserved/hot dogs/lunch meats (smoked, dried, cured, pickled, etc.)
- No dairy EXCEPT for mozzarella and cottage cheese
- No yogurt
- No alcohol
- No chocolate
- **Don't** take **OTC meds** while on MAOi's

Lithium: Bipolar disorder
- Decreases mania, not depression
- Only psych drug that doesn't mess with neurotransmitters

Side Effects: 3 P's- Peeing, Pooping, Paresthesia
- Give & don't call the Dr

Toxic effects: Tremors, metallic taste, severe diarrhea
- Hold & call Dr.

#1 Intervention while on the med:
- Increase fluids
- If they're sweating don't give water. Give Gatorade/PowerAde (electrolytes)
- Monitor for dehydration & sodium levels
- **(Low sodium = makes lithium toxic / High sodium = lithium won't work)**

Prozac: SSRI. Similar to Elavil

Side Effects:
- **A**nticholinergic (dry mouth)
- **B**lurred vision
- **C**onstipation
- **D**rowsiness
- **E**uphoria (way too happy)

- ☙ ***Insomnia- Give BEFORE noon, NOT at bedtime***
- ☙ Increased **suicide risk** when **changing doses** with **young adults**

Haldol: Schizophrenic, similar to Thorazine, Typical 1st Gen Antipsychotic

Side Effects:
- ☙ **A**nticholinergic (dry mouth)
- ☙ **B**lurred vision
- ☙ **C**onstipation
- ☙ **D**rowsiness
- ☙ **E**PS- extrapyramidal syndrome (parkinson's symptoms) no big deal
- ☙ **F**otosensitivity
- ☙ a**G**ranulocytosis (immunosuppressed) (destroys marrow)

*****NMS** Neuroleptic Malignant Syndrome***** BIG DEAL!
- ☙ Haldol overdose
- ☙ Young white men & elderly dudes can get it from overdose
- ☙ Potentially fatal hyperpyrexia (105-108)
- ☙ Includes **anxiety** and **tremors**
- ☙ Give elderly half of adult dose
- ☙ Take the temp to tell the difference from EPS

Clozaril/Clozapine: 2nd Gen Atypical Antipsychotic
- ☙ Used to treat severe schizophrenia, made to replace the *zines and haldol
- ☙ Does NOT have the side effects (A-F)
- ☙ Has **SEVERE** agranulocytosis (immunosuppressed)
- ☙ Monitor WBCs, they can fall very low

Geodon (Ziprasidone):
Black box warning- Prolongs QT interval and can cause **sudden cardiac arrest**, **DON'T** give to people with **heart conditions**.

Zoloft (Sertraline):
- ☙ SSRI, can cause insomnia but you can give it at bedtime
- **Zoloft interferes with this system increasing toxicity with other drugs**
- ☙ Lower the dose of other drugs
- ☙ Warfarin/Coumadin must be reduced because you can bleed out
- ☙ **St. John Wort + Zoloft = Serotonin syndrome** DON'T TAKE St. John Wort
- ☙ **S**weating

- **A**pprehension/impending sense of doom
- **D**izziness
- **HEAD**aches

Mark Klimek Lecture 10 & 11- Maternal/Newborn Overview

Pregnancy:

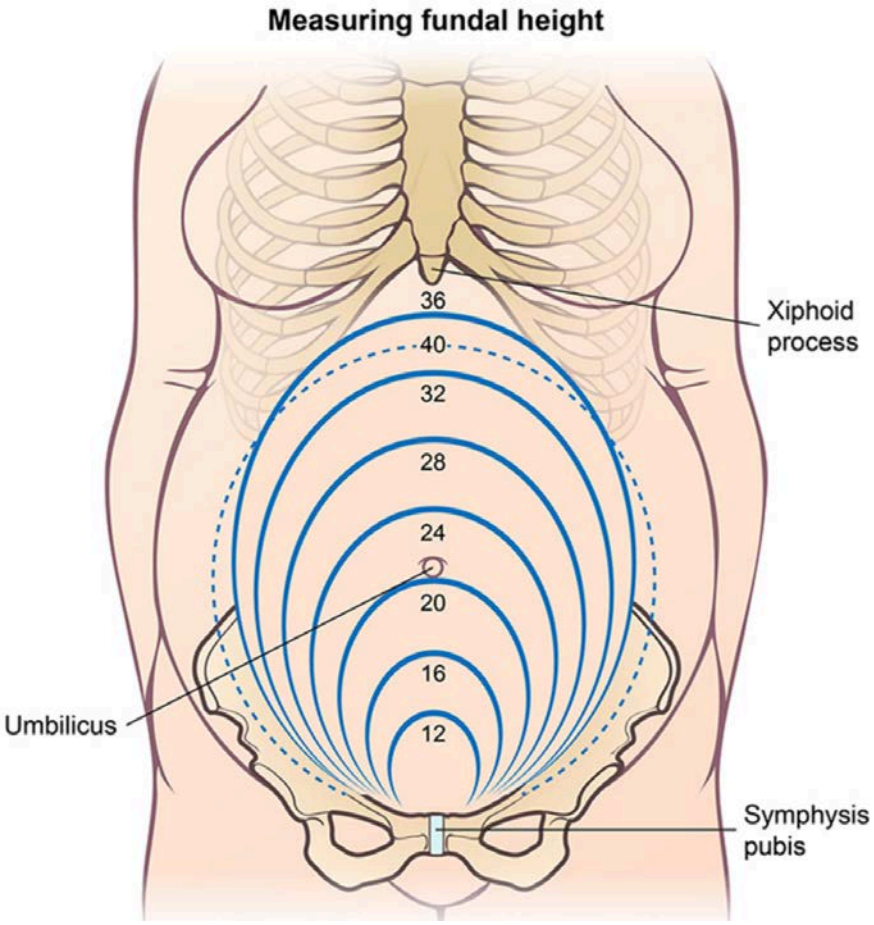
- First day of the LMP + 7 days - 3 months
- Average weight gain- 28 lbs plus or minus 3 lbs

1st trimester (1-12 weeks): 1 lb/month, total: 3 lbs
- Fundus not palpable. Mother is Priority
- If you can palpate the fundus or she gains 10lb, she might have a hydatiform mole, or not really be in the 1st tri
- You can palpate the fundus at the **end** of the 1st tri

2nd trimester (**13 - 27 weeks)**: 1lb/week
- Fundus at umbilicus or below it. Mother is Priority
- At 20-22 weeks the fundus is at the umbilicus

3rd trimester (28 - 40 weeks): 1lb/week
- Fundus above umbilicus. **Baby is Priority**

Ideal weight gain: [Week of gestation] - 9 plus or minus a couple lbs
- If more than 3 lbs, you need to assess, something could be wrong



Signs of Pregnancy:

- 4 Positive signs: Fetal skeleton on **x-ray**, fetal presence on **ultrasound**, auscultation of **FHR**, **examiner palpates** fetal movement
- HR begins to beat at 5 weeks, but you can hear it at **8-12** weeks, and when the examiner palpates fetal movement
- 3 Different Questions for OB Q's:
- "When would you **first** auscultate a fetal heart?" - 8 weeks
- "When would you **most likely** auscultate a fetal heart?" - 10 weeks
- "When **should** you first auscultate a fetal heart by?" - 12 weeks
- **"First"**: pick **earliest** part of range
- **"Most likely"**: pick **mid** part of range
- **"Should"**- pick **end** of range
- Quickening (kicking): 16-20 weeks

Probable/Presumptive "The Maybes":

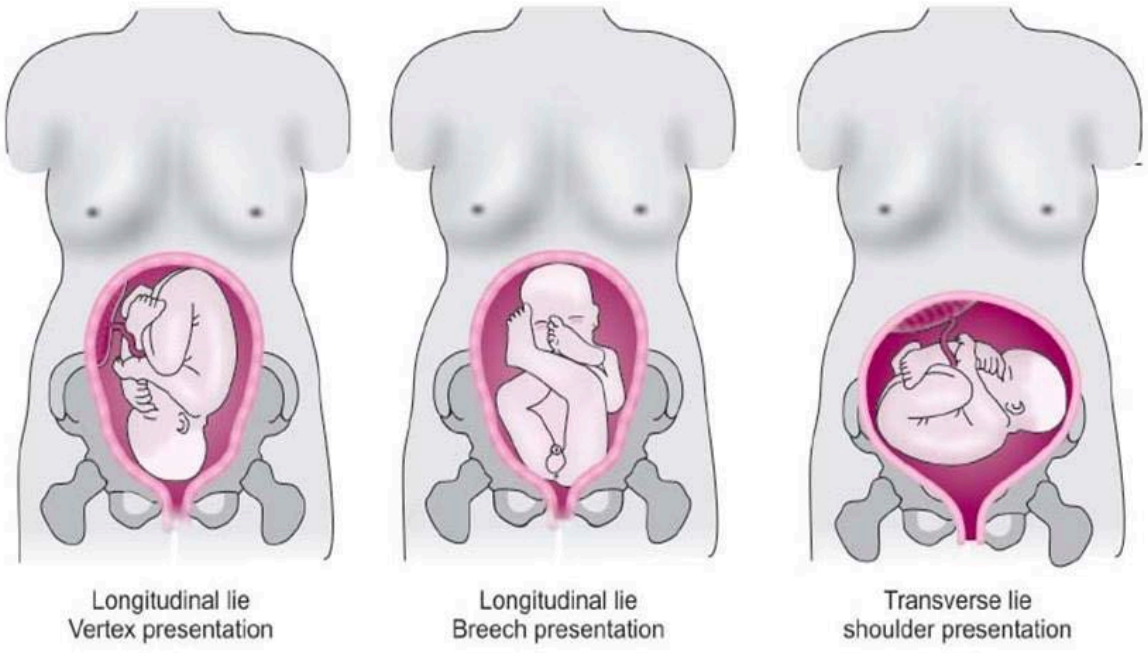
- Positive Prego Test
- Chadwick, Goodells, Hegar signs (Alphabetical in that order)
- Chadwick: Cervical color change to cyanosis ($4 blue candle)
- Goodells: Cervical softening (good when your cervix softens, 2 ll's =2 month)
- Hegar: Uterine softening (upside down g for 6 months)

Pt Teaching:

- Come **once/month** until week **28 (3rd tri)**
- Week 28 come **once every 2 weeks** until week **36**
- Week 36 **every week until delivery** until week 42.
- Hemoglobin will fall, it can fall to 10 & still be normal
- Treat morning sickness w/ dry carbs before you get out of bed, not for breakfast
- Frequent urination during 1st & 3rd tri. Tx: void q2hr min
- Difficulty breathing during 2nd & 3rd tri. Tx: Tripod position. (Feet flat, arms on table leaning forward)
- Back pain: 2nd & 3rd tri. Tx: Pelvic tilt exercises

Labor & Birth:

- Valid sign of labor: Onset of regular progressive contractions
- Dilation: Opening of cervix 0-10 cm
- Effacement: Thinning of the cervix. From thick to 100%
- Station: Relationship between the fetal presenting part & the ischial spines
- Negative station: Presenting part is above the tight squeeze (-1, -2) BAD
- Positive stations: Presenting part is below the tight squeeze (+1, +2) GOOD
- Lie: Relationship between the spine of mom & spine of baby
- Vertex lie (longitudinal): Compatible for natural birth
- Transverse lie (shoulder presentation): Trouble
- Mom's spine and baby's spine are parallel (Good)
- Presentation: Part of baby that enters the birth canal first
- Most common is: ROA or LOA



4 Stages of Labor:

Stage One:

- Phase 1 (**L**atent) **0-4 cm**, frequency **5 - 30 mins** apart, lasts **15-30secs**, intensity **mild**
- Phase 2 (**A**ctive) **5-7 cm**, frequency **3-5 mins** apart, lasts **30-60 secs**, intensity **moderate**
- Phase 3 (**T**ransition) **8-10 cm**, frequency **2-3 mins**, lasts **60-90 secs**, intensity **strong**

Only memorize phase 2. 1st 3 letters in latent tell u the order of phases

The purpose of uterine contractions in 1st stage: dilate & efface the cervix

Stage Two: Delivery of the baby

- Deliver head
- Suction the mouth then nose
- Check for nuchal (around the neck) cord
- Deliver shoulders then body
- Baby must have ID band on before leaving the delivery area

Stage Three: Delivery of the placenta

- Make sure it's all there
- Check for a 3 vessel cord- 2 arteries 1 vein- AVA

Stage Four: Recovery, contract the uterus to stop bleeding

- Postpartum technically begins 2 hours after the placenta comes out
- **4 things you do 4 times (q 15 min) an hour in the 4th stage:**
- **Vital Signs:** Looking for S/S of shock (pressures go down, rates go up, cold and clammy)
- **Fundus check:** If boggy=massage, if displaced= void / catheterize
- **Pads:** Dheck pad saturation. If bleeding excessively she will saturate a whole pad (100%) in 15 mins or less, if 98% saturated it's okay. She should not soak a pad in one hour or less due to risk of hemorrhage.
- **Roll her over:** check for bleeding underneath her

******PAY ATTENTION TO THE Q: PHASES ARE NOT STAGES! ******

Signs of uterine tetany/ uterine hyperstimulation/ stop Pitocin:
****Contractions shouldn't be longer than 90 seconds & closer than every 2 mins****

How to time contractions:

- Frequency: The beginning of one to the beginning of the next
- Duration: Beginning to end of one contraction
- Intensity: How strong they are & subjective
  (Palpate w/ 1 hand over the fundus w/ the pads of the fingers)

Complications:

- **Painful back labor:** Position Push: Reposition (knee chest: FaceDownAssUp), then push (take fist & push into sacrum) Low priority
- **Prolapsed Cord:** cord is presenting which wraps around baby's neck, **high priority**. Push position: push head off the cord, position her in knee chest

Interventions for all other complications of birth:

- LION (left side, increase IV, O2, notify)

- If Pitocin is running stop the Pitocin first! & then do LION*****

Pain MGMT:

- Do not administer pain med to a woman if the baby is likely to be born when the med peaks****

L- left side
I- increase IV
O- O2
N- notify

Variable **C**ord compression
Early decels **H**ead compression
Acceleration **O**k
Late decels **P**lacental insufficiency

Breast
Uterine fundus**
Bladder
Bowel
Lochia**
Episotomy
Hemoglobin/hematocrit
Extremity check**
Affect
Discomfort

Fetal Monitoring Patterns:

- **L**ow fetal HR- under 1
- 10- bad, do LION, if pitocin is running, stop the pitocin
- High fetal HR- over 160, normal, document take moms temp
- **L**ow baseline variability- stays the same, does not fluctuate, bad, do LION
- High baseline variability- always changing, good, document
- **L**ate decels- baby's heart slows after contraction, bad, do LION
- Early decels- baby's heart slows before or at contraction, good

- ☙ **V**ariable decels- very bad, prolapsed cord, put mom in push position

*******Any position that starts with **L**, do **LION**, except **variable (push position)*****
L's and V's = VERY BAD

- ☙ Check fetal heart rate*** always a good choice on test

Post Partum: Assessment 4-8 hrs

- ☙ **Uterine Fundus:** If boggy, massage. If displaced, catheterize.
  Fundal height = Day postpartum (ex-4 hotspot below) Make sure it's midline!
- ☙ **Lochia:** Rubra (Red), Serosa (Pinkish), Alba (White)
- ☙ **Extremity Check:** look for thrombophlebitis via bilateral calf measurements

Variations in the Newborn:

- ☙ Caput Succedaneum- Crosses Sutures
- ☙ Cephalohematoma- doesn't cross & asymmetrical
- ☙ Pathological Jaundice- normal
- ☙ Physiological Jaundice- 24hrs after birth

OB Meds:

Tocolytics: Stops labor

- ☙ **Terbutaline-** (causes maternal tachy)
- ☙ **Mag Sulfate-** (causes hypermagnasemia) making uterine contractions, HR, BP, **reflexes, respiratory rate**, and LOC go **down**)
  As long as the respirations are above 12, it's ok. If under titrate down
  2+ reflexes is good, 1+ is bad

Oxytoxics: Stimulate & strengthen labor

- ☙ **Pitocin-** Causes uterine hyper stimulation (longer then 90, closer then q 2 mins)
- ☙ **Methergine**- Causes high BP

Fetal Lung Maturing Meds:

- ☙ **Betamethasone (steroid)-** Mom gets it, given IM, given before the baby is born
- ☙ **Servanta (surfactant)-** Given to the neonate, given trans-tracheal (blown into the trachea), given after the baby is born

****The only antipsychotic pregnant women can get is Haldol****

Pharmacology Help/Hints:

Injections: what size needle are you using?

- IM: 21 gauge/1inch (1M- always pick the gauge/inch with the 1 in it)
- Subcutaneous: 25 gauge/ 5/8ths (S looks like 5)

Heparin VS Coumadin:

- **Heparin**- given IV or SQ, works immediately, cannot be given for more then 3 weeks (except for Lovenox (LMWH), antidote: protamine sulfate, lab: PTT (count on your fingers "heparin" you're only left with 3 fingers), can be given to pregnant women.
- **Coumadin**- given only PO, takes a few days to a week to work, can take forever, antidote: vitamin K, lab: PT/INR (count on your fingers "Coumadin" you're only left with 2 fingers), cannot be given to pregnant women.

Potassium Wasting/Sparing Diuretics:

- Any diuretic ending in X X's out K+ (wastes) + Direril
- All others are sparing

Muscle Relaxers:

- Fatigue/Drowsiness/Muscle weakness
- Teach not to drink/drive/operate heavy machinery when taking these
- Baclofen and Flexeril are most tested**
- When you're on your Baclofen you are your Back Loafin'

Piaget's Theory of Cognitive Development:

- **Present oriented (0-2 y/o):** teach while you do it verbally, pre-teach parents
- **Pre-operational (3-6 y/o):** fantasy oriented pick answer with "the morning/day of" or "two hours before" teach what you are going to do (future tense) through play
- **Concrete operational (7-11 y/o):** "concrete 7-11's" rule oriented, teach days ahead, teach what your going to do + **skills** with age appropriate reading and demonstration
- **Formal Operational (12+ y/o):** adult m/s question, teach like an adult, can **manage** their own care

7 Principles in Psych Nurse/Patient Relationships:

- Make sure you know what phase of the relationship you are in
- Gift giving: Do not give/accept gifts from patients
- Don't give advice- "What do you think you should do"

- Don’t guarantee anything- “If you talk to me I can help you/don’t cry you’ll feel better”
- Best answer is the one that keeps them talking (open ended), it’s never wrong to get a patient to talk in any instance
- Concreteness- Don’t use slang because psych patients take things literally. Don’t ask them what their neologisms are
- Empathy- acknowledge feeling, always be empathetic. Never choose answers like this “don’t feel…” “don’t worry”, Read the feeling in the q.
- Recognize an empathy question: always have quote in the question and in the answers.
- Put yourself in the clients shoes
- Ask yourself “If I said those words and meant them, how would I be feeling?”
- Choose the answer that reflects that feeling, NOT their words. Empathy ignores what is said and responds to what they feel.

Mark Klimek Lecture 12 - Prioritization/Delegation/MGMT

Priority/Delegation:

- Determine which pt is the sickest or healthiest depending on the question.
- Age, gender, dx, and *modifying phrase*, i.e.: "10 yr old male w/ hypospadias who's **throwing up bile & emesis**." *Irrelevant are age and gender*
- Dx & modifying phrase is important, but ***modifying phrase*** is always **more** important.

3 Rules for Prioritization:

- Acute beats chronic.
- Fresh post op (1st 12hrs) beats medical & other surgical no matter what
- Unstable beats stable. If it says stable then it's stable.

Stable Pts:

- The word “stable”
- Chronic illness makes you stable
- Post op greater than 12hrs
- Local or regional Anesthesia
- Lab abnormalities of an A or B level
- Phrases “ready for discharge”, "to be discharged”, or "admitted longer than 24hrs ago"

- Unchanged assessment
- Experiencing the typical expected s/s of the disease with which they were diagnosed

Unstable Pts:

- Acute illness
- The word “unstable”
- Post op less than 12hrs
- General Anesthesia
- Lab abnormalities of C or D
- Phrases "not ready for discharge”, "newly admitted”, "newly diagnosed”, or "admitted less than 24 hrs ago"
- Changing/changed assessment
- Experiencing unexpected s/s of the disease with which they're diagnosed

Always Unstable Regardless of Whether It's Expected or Not (4):

- Hemorrhage (there’s a difference between bleeding)
- High fevers (105+)
- Hypoglycemia
- Pulselessness or breathlessness **Unless it was unwitnessed, then they're dead already and not a priority**

3 Things That Result in Black Tags in an Unwitnessed Accident:

- Pulselessness
- Breathlessness
- Fixed and dilated pupils (even if they’re still breathing)…low priority

Tie Breaker:

- The more vital the organ, the higher the priority
- The organ we're talking about is the organ of the modifying phrase is happening, not the dx itself

Order of Organ Vitality:

- Brain
- Lungs
- Heart
- Liver
- Kidney

- Pancreas

Delegation: LPN

Do not delegate the following responsibilities to an **LPN**:

- Starting an IV
- Hanging/Mixing IV meds
- Pushing IV Push meds, BUT they **can** maintain/document the flow
- They **can't** administer blood or mess with central lines (including flushing or changing central line dressings unless thats the only option they can do)
- They cannot plan the care, BUT they **can implement but not create** the care plan
- They **can't** perform/develop teaching, BUT they **can** reinforce it
- They **can't** care for unstable patients
- They **can't** do the first of anything, RN must do the first of anything
- They **can't** do admission/discharge/transfer/first assessment after a change.

Delegation: UAP/Aid

- **Do not** delegate the following responsibilities to an **UAP/Nurses Aid**:
- Charting. They can chart what they did BUT not about the pt
- Giving meds EXCEPT for topical OTC barrier creams
- Assessments other than vital signs and accu-chek (finger stick)
- Treatments EXCEPT enemas... catheterize last resort
- You **CAN** delegate ADL's but they should **never** do the **first****

- Do not delegate to the family of the pt safety responsibilities (i.e.: taking off restraints for a family member in the room)
- With sitters/care givers, they can only do what you teach them to do and you must make sure you document that you taught them

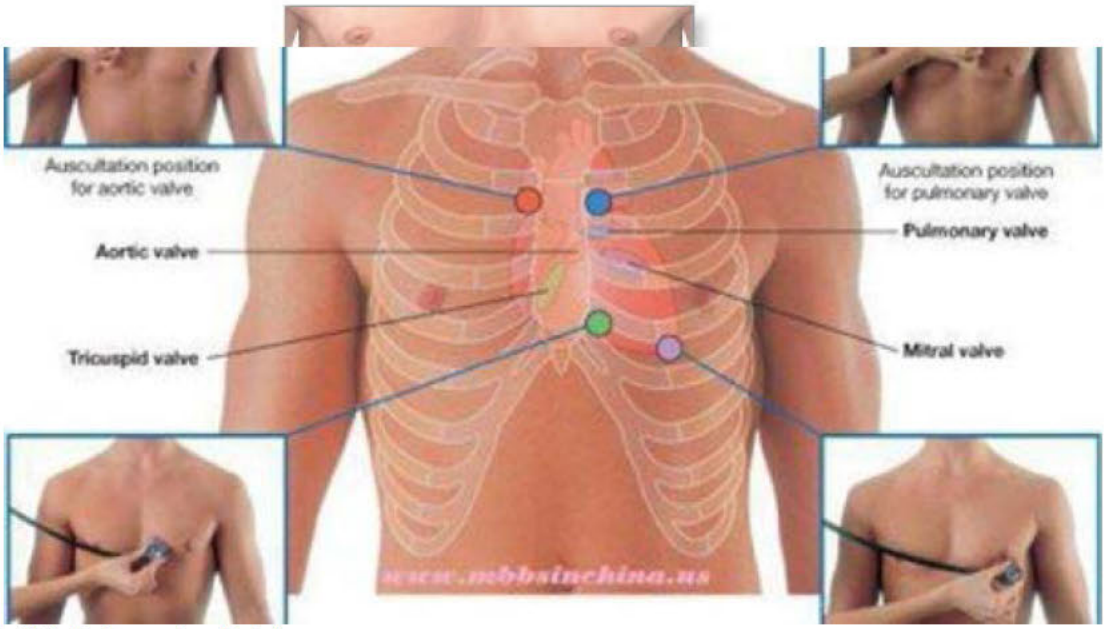
Staff MGMT:

How do you handle inappropriate behavior amongst staff?

- There are always four answers: "Tell supervisor", "Confront them and take over immediately", "Approach them later on and talk to them about it", and "Ignore the behavior"
- Ignore the behavior is **NEVER** the answer
- Ask yourself "Is what they are doing illegal?"
- If **yes**, choose "Tell the supervisor" (always the answer in this case)
- If **no**, ask yourself "Is anyone in immediate danger of physical/psychological harm?"

- If **yes**, choose "Confront immediately and take over" (always the answer in this case)
- If **no**, and it's just inappropriate, legal, and not harmful behavior, choose "Approach them later on and talk to them about it" (always the answer in this case)
- If it's harmful and illegal, **confront first then tell supervisor**

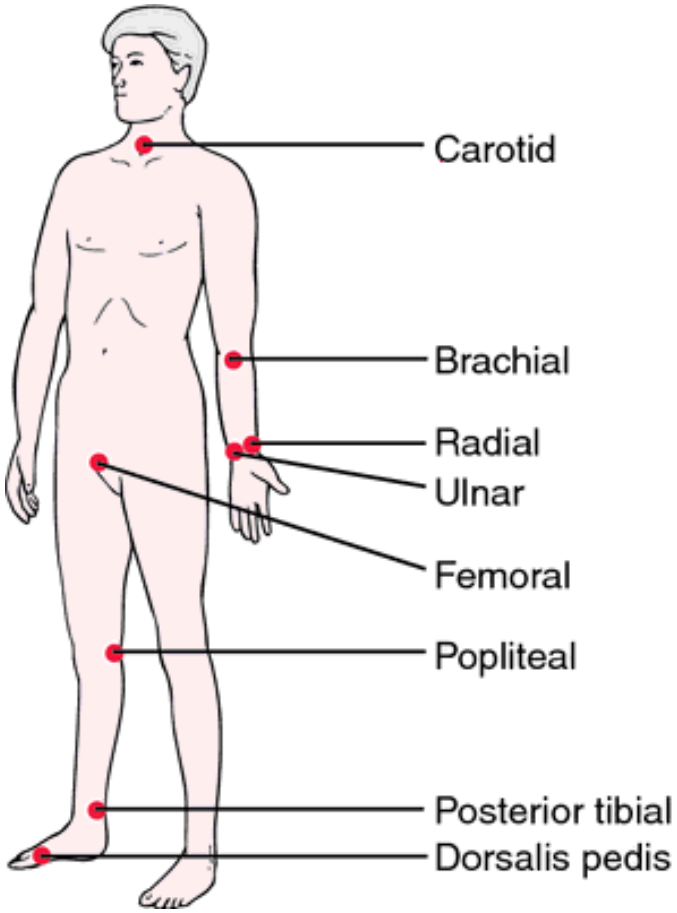
Where Are My Organs: (Point and click)



APT M: (Point and click)

- Aortic Valve: 2nd intercostal space (at the right sternal border)
- Pulmonic Valve: 2nd intercostal space (at the left sternal border)
- Tricuspid Valve: 4th intercostal space (at the left sternal border)
- Mitral Valve: 5th intercostal space (at the mid clavicular line) (**apical pulse**)

Pulses: (Point and click)



How To Guess:

Use knowledge first, then common sense, then educated guess

- **Psych questions:** best answer is “the nurse will examine their own feelings about…” to prevent countertransference. Another is “Establish a trusting relationship”.

- **Nutrition questions:** in a tie, pick chicken (unless it’s fried), if chicken’s not there pick fish (not shellfish). Also never pick casseroles for children. Never mix meds in children’s food. For toddlers choose finger foods. Preschoolers leave them alone, one meal a day is okay.

- **Pharmacology questions:** Memorize side effects of drugs. If you know what a drug does but you don’t know the side effects, pick a side effect in the same body system where the drug is working (i.e: GI drug pick diarrhea or a CNS drug pick drowsiness etc…). If you don’t know what the drug is look to see if it’s PO pick a GI side effect (works about 50/50). Never tell a child medicine is candy.

- **OB questions:** check fetal heart rate.

- **Med Surg questions:** LOC over airway on assessments, but the first thing you **do** should be establish airway.

- **Pediatric Growth and Development questions-**
  3 Rules based on the principle:
  (6 year old who can't read, 14 mo. can't walk, 6mo. trying to roll over v.s. sitting up)
  Always give the child more time, don't rush their growth and development
  Rule 1: When in doubt call it normal
  Rule 2: When in doubt pick the older age
  Rule 3: When in doubt pick the easier task

- Rule out generalized absolutes if you're guessing
- If two answers say the same thing, neither of them is right
- If two answers are opposite, one of them is probably right
- The "umbrella strategy": look for an answer that covers all the others without saying it does (i.e: use safety and good body mechanics when transferring a patient from bed to wheelchair)
- If the question gives you four right answers and the question is asking for prioritization, use the rules above, however if they give you one patient in the question and it asks "which needs is highest priority" don't use it! Do the worst consequence game. Choose the answer with the most severe consequence.
- When you're stuck between two answers, re-read the question
- The Sesame Street Rule: (**use as a last resort**) Right answers tend to be different then the others because it is the only one which is right so the other "wrong" answers have something in common
- Don't be tempted to answer a question based on your ignorance instead of your knowledge. Pull the "thing" you don't know out of the question and answer it with the things you know. Boards will give you things you never heard of to measure your common sense
- If something really seems right, it probably is. **DON'T go against your gut** answer unless you can prove why the other is superior

- Select all= It's never 1 and it's never all of them
- Conflicts on the job: never say you. Always say “I”
- Headache good thing to check on SATA!
- NEVER PICK INFECTION IN FIRST 72 HRS of anything!

3 Expectations **CAN’T HAVE** because they cause negativity:

- **Rule #1*:** Don’t expect 75 questions, prepare to get all 265 questions. “I’m still in the game”.
- **Rule #2:** Don’t expect to know everything.
- **Rule #3:** Don’t expect everything to go right.