ACID/BASES

* Rule of Bs: if pH & Bicarb are Both same direction → metaBolic
* As the pH goes, so goes the pt (besides K+)
* Mackussmaul = M (metabolic) ac (acidosis)
* Everything that isn't lung or vomitting/suctioning it is metabolic acidosis.

ALCOHOLISM

* When pt in denial, look at cause. Abuse = confront. Loss = support.
* Wernicke's (Korsakoff) syndrome = psychosis d/t vitamin B1 (thiamine) deficiency
  → amnesia w/ confabulation
  - usually permanent
  - redirect
* Revia/Antabuse (Disulfiram): Aversion Therapy
  - 2 weeks onset/duration
* All abused drugs are an upper or downer
  - uppers (S): caffiene, cocaine, PCP/LSD, methamp., adderall
  - downers (135): everything else
  - withdrawal (too little) or OD (too much)

  → upper OD = withdrawal downers ⇒ goes UP, seizure risk

  → downer OD = withdrawal uppers ⇒ goes DOWN, resp. arrest
* Babies: assume intoxication at birth, withdrawal after 24hrs
*

AWS	vs	DTs
regular diet		NPO, clear liquids – seizure risk
Semi private anywhere		private room near nurses station – dangerous & unstable
up, at liberty		restricted, bed rest
no restraints (not a danger to self or others)		restrained, either vest or 2 point (1 leg, 1 arm) locked leathers

* Both AWS + DTs: anti-HTN, vitamin B1, tranquilizer
  b/c withdrawal from downer

DRUGS

* Aminoglycoside = A mean old mycin
  resistant, serious, gram-neg infections
  - all end in -mycin (except for 3... "Thro" them off the list)
  - "mice" = ears ⇒ ototoxic (cranial nerve 8) ⇒ Q 8HR IM or IV
    ↳ kidney ⇒ nephrotoxicity
    Creatinine = best indicator of renal func.
  - PO only 2 cases: hepatic encephalopathy → kills e.coli that produces ammonia
    pre-bowel surgery → kills bacteria in bowel
    Neomycin & kanmycin = bowel sterilizers (no systemic effects)

* TAP levels = Trough, Admin, Peak

ROUTE	TROUGH	PEAK
sublingual	30	5-10 after dissolved
IV	30	15-30 after finished
IM	30	30-60 after injection
SubQ	30	SEE: Diabetes (b/c insulin)
PO	30	N/A (too variable)

Ca^+ CHANNEL BLOCKERS

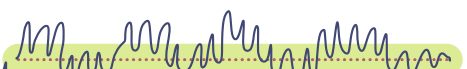
* Valium for the heart → brings it down
  ↳ negative inotropic, chronotropic, dromotropic
* Three A's: Antihypertensive
  Anti Angina
  Anti Atrial Arrhythmic → aflutter/afib
  (also supraventricular b/c atrial)
  HOLD FOR SYS < 100
* SE's: HA, Hypotension (b/c vasodilation) → so watch for dizziness
→ We're dipine in the Calcium Channel (verapamil/isoptin & cardizam ↓ can be given IV drip)

HEART RHYTHMS

* WORD	MEANING	
QRS depol.	ventricular	"a lack of QRS" = asystole
p wave	atrial	
saw tooth	flutter	"I saw the tooth & my heart did flutter"
chaotic bizarre	fibrillation tachycardia	"periodic wide, bizarre QRS's" = PVC's

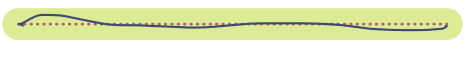
* Know by sight: NSR

LETHAL →
- V-fib — chaotic squiggly



- V-tach — sharp, pattern

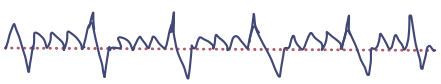
- a-systole



- a-fib

→ chaotic

- a-flutter



→ saw tooth

* PVC's concerning if: >6/min, >6 in a row, PVC falls on t-wave

→ Life threatening vs Lethal

V-tach (+/-)	asystole → no C.O.
a-fib	V-fib → no C.O.
a-flutter	

* Treatment

- PVCs & Vtach → Amiodarone
- Supraventricular/Atrial arrhythmias →
  - A adenosine → push fast
  - B beta blocker
  - C Ca+ ch. blocker
  - D digoxin/digitalis = lanoxin ✱
- Vfib you Defib
- Asystole → Epi then atropine

CHEST TUBE

* A. Why it was placed < air / blood

  B. Where it is located < apical = high = air = apex / basilar = low = blood = base

→ assume chest trauma is unilateral unless told otherwise

* Bubbles → water seal: continuous? BAD.
  → suction control chamber: continuous? GOOD.

straight cath : foley cath
thoracentesis : chest tube

HEART DEFECTS

* TRouBLe

RL Shunt = trouble
BLue = trouble
"T" = trouble

* All CHD kids have: murmur & ECHO.

* Tetralogy of Fallot:

Varie**D**	Ventricular Defect
Picture **S**	**P**ulmonary **S**tenosis
Of **A**	**O**verriding **A**orta
Ranc**H**	**R**ight **H**ypertrophy

PPE

Don	Doff
Gown	Gloves
Mask	Goggles
Goggles	Gown
Gloves	Mask

alph. order

put on clothes, brush teeth, put on sunglasses & mask to leave house

CRUTCHES

* 2-Point Gait : 2 points together – foot moves w/ opp. crutch
  - minor bilateral weakness

* 3-Point Gait : 3 points touch down together - 2 crutches + bad foot

* 4-Point Gait : Nothing moves together – crutch, opp foot, crutch, foot
  - everything weak. Slow but stable.

* Swing through: For non-weight baring
  - for two braced extremities, amputees

"Even for even, odd for odd" ..... How many legs are affected

2 or 4 when weight is evenly distributed
↓ mild ↘ severe ex: 4 = severe bilateral weakness

3 for when one leg is odd
ex: one leg is weak

Ex: Beginning rheumatoid arth: 2 point
L above knee amp : Swing
1st day post op RK replace – partial weight bearing : 3point
Advanced stages ALS : 4point
L hip replace – nonweight : Swing
Bilat knee rep. weight bar 1day Post : 4point
Bilat knee rep. 3wks post : 2point

* "Up with the good, down with the bad"

→ crutches always move with the bad leg

* Cane → on strong side. Advance with opp. side.

* walker → pick up, set down, walk to them
  - tie belongings to side – not front.
  - to move to chair : use chair, stand up, then grab walker

PSYCHOSES

① Is pt. Non-psychotic vs Psychotic

Insight (recognizes their problems)
Reality-based

Tx:
Therapeutic Cm.
(same as everyone)

No Insight (denial)
Not Reality based

Tx:
Unique, specific strategies

* S/Sx:

- Delusion: false, fixed belief/idea
  - paranoid/persecutory
  - grandiose
  - somatic (about body. Ex: I can see through walls)
- Hallucinations: false, fixed sensory experience
  1. auditory (most common)
  2. visual
  3. tactile
  4. gustatory > rare
  5. olfactory
- Illusion: misinterpretation of reality. Sensory.
  → referent in reality
  smtg to which a person refers... there is smtg there

WORDS:	HALLUCINATION:	ILLUSION:
"Listen, I hear demon voices"	no audible sound	when nurses at station are laughing
"Look, I see a bomb!"	looking at blank wall	when looking at fire extinguisher

② 3 Types of Psychoses

1. Functional (Schizo < phrenia, affective, mayor dep. & manic)
   ↳ chemicals
2. Dementia (Ex: Alzheimers, Wernickes, Strokes, Dementia, organic Brain syndrome)
   ↳ brain damage
3. Delirium (temporary & episodic, secondary dramatic sudden onset loss of reality d/t chemical imbalance)
   ↳ ex: upper OD, downer withdrawal, UTI, post-op psychosis, thyroid imbalance

③ Treatments:

1. Functional → Teach Reality:
   1. acknowledge feelings
   2. present reality
   3. set limit
   4. enforce limit
2. Dementia → cannot learn reality
   reality orientation: okay
   1. acknowledge feelings
   2. redirect
3. Delirium → 1. acknowledge feeling 2. reassure of safety & temporariness

* ABN's most sick personality disorders → functional steps
  Antisocial, Borderline, Neurotic

* Loosening of associations
  1. Flight of ideas: stringing phrases together. Tangential.
  2. Word salad: random words
  3. Neologisms: making up new words

* Narrowed self-concept = when psychotic refuses to change their clothes or leave room.
  → b/c they don't know who they outside of the clothes/room
  * Do not make a psychotic do smtg they don't want to

* Ideas of reference = think everyone is talking about you

DIABETES

* DI ⇒ polyuria, polydipsia → dehydration
  → d/t low ADH ... high UO, low specific gravity
  (opp: SIADH)

* TYPE I
  1. Insulin Dependent
  2. Ketosis Prone

TYPE II
1. Non-insulin Dependent
2. Non-ketosis prone

* S/Sx → 3 P's polydipsia, polyuria, polyphagia
  → increased swallowing/eating

* Treatment

MVP
1. insulin
2. exercise

TI → w/o they will Diet Insulin Exercise

TII → w/o Diet Oral Hypoglycemic Activity

MVP
1. Diet

* Diet: restrict cal, 6 small meals

* INSULIN

TYPE	DETAILS:	ONSET	PEAK	DURATION
R	Regular Rapid Run (IV)	1	2	4
N	NPH Not in the bag Not so fast Not clear	6	8-10	12
Humalog	Lispro Fastest W/ Meals * not AC!!	15	30	3
Glargine/ Lantus	Long acting Slow absorbtion Bedtime!!	-	*None ↓ low risk hypoglycemia	12-24hrs

Notice! 1, 2, 4, 6, 8-10, 12

* Check expiration *
↳ when closed... if open, 30 days after opening

- Teach pts to refridgerate insulin at home

* Exercise potentiates insulin! More exercise = Need less insulin

- Sick days → take insulin, sips of water & stay active

* HaIC: want <6 ... over 8 is out of control
- average BS over last 90 days
- a 7 would be they need further investigation/tests

* Acute Complications:

TYPE I

① **Low BS / Insulin Shock / Hypoglycemic Crisis**

- not enough food
* too much insulin/medication
- too much exercise

→ danger: permanent brain damage

COLD & CLAMMY → get some candy!!

S/Sx: Drunk, in Shock

- staggering gait
- slurred speech
- obnoxious/biligerant
- delayed rxn time
- labile emotions
- low BP
- tachypnea
- tachycardic
- cold, pale, clammy
- mottled

Tx: Rapidly metabolizing carbohydrate (candy, honey)
↳ ideal: sugar & protein
Unconscious = IV D50 or IM glucagon

② **High BS / DKA / Diabetic coma**

HOT & DRY → sugar is high!

- too much food
- not enough insulin
- not enough exercise

#1 cause = acute viral upper resp infections last 2 wks

S/Sx: Dehydration, Kussmaul resp., Ketones, K+ high (In blood, confirms Dx), Acidosis, Acetone breath, Anorexia (d/t N.)

Tx: Insulin IV (R) → 200mg/hr

TYPE II

(Low BS = same as above)

① **HHNK - Hyperosmolar Hyperglycemic non-ketotic Coma**
→ severe dehydration

S/Sx: increased HR, dry, dec. skin turgor

Tx: fluids / rehydration

* Long Term Complications:

d/t < Poor tissue perfusion
Peripheral Neuropathy

TOXICITY

* Top 5 to know:
  1. LITHIUM
  2. LANOXIN = DIG
  3. AMINOPHYLLINE
  4. BILIRUBIN
  5. DILANTIN

① Lithium:

Anti-mania
Therapeutic level: 0.6-1.2 → There is a grey level, but no agreed upon census
Toxic level ≥ 2

② Lanoxin / Digoxin / Digitalis

L's go Low

Afib & CHF
Therapeutic level: 1-2
Toxic level ≥ 2 ..... TOXIC

③ Aminophylline

Not bronchodilator → it treats the spasms
Therapeutic level: 10-20
Toxic level >20 ..... Toxic

④ Bilirubin

Waste product for breakdown of RBC's
Newborns*
Elevated level: 10-20 (usually ~15 → hospitalization)
↳ Toxic

⑤ Dilantin / Phenytoin

Seizures
Therapeutic level: 10-20
Toxic level >20 ..... Toxic

* Kernicterus = Bilirubin in the CSF
  - happens ~20 for newborns
  → causes: aseptic meningitis, aseptic encephalitis

* Opisthotonos = position baby assumes when they have kernicterus
  → hyperextend ... backward arching of head, neck, spine
  - have to put them on their side

DUMPING SYNDROME vs HIATAL HERNIAS

* **Hiatal Hernia** = regurgitation of acid into esophagus d/t upper stomach herniates upward thru diaphragm
  - like having 2 chamber stomach
  - contents move in wrong direction. Same rate of mvmt.

  S/Sx: GERD when you lie down after eating → position & timing dependent

  Tx: want stomach to empty faster
  1. Position: High before & after meals
  2. Fluids w/ meal: High
  3. Carbs w/ meal: High, low protein meals

  } Hiatal, need everything HIGH

* **Dumping Syndrome** = Post-op gastric surgery complication in which gastric contents "dump" into duodenum
  - right direction. Wrong rate → too fast.

  S/Sx: Drunk, in shock... w/ acute abdominal distress
  ↳ b/c cerebral impairment d/t blood rushes to abd

  cramping pain, gaurding, hyperactive (borborygmy)
  diarrhea, distension, tenderness

  Tx: want stomach to empty slower
  1. Position: Low, head flat → lay on side
  2. Fluids w/ meal: Low... before or after meals
  3. Carbs w/ meal: Low... high protein meals

  } when everything is low, stomach empties slow

ELECTROLYTES

* **kalemias do the same as prefix except for HR & UO**

Focus: Heart

Hypokalemia	Hyperkalemia
- Brain ↓ = Lethargy, Slow, tired, obtunded	- Brain ↑ = Agitation, Restless Aggressive, ↓ Inhibitions
- Lungs = bradypnea	- Lungs = tachypnea
- HR = High	- HR = Low
- T waves = depressed, U wave	- STs & T waves = elevated
- Bowel = constipation	- Bowel = diarrhea, Borborygmi
- Muscle = flacidity	- Muscle = Spasticity, ↑ tone, clonus
- Reflexes = +1	- Reflexes = +3, +4
- UO = polyuria	- UO = Low, oliguria

This is the most dangerous elyte imbalance b/c can stop heart!!

* **Calcemias do the opposite of the prefix.**

Focus: skeletal muscle & nerves

Hypocalcemia → neuromuscular irritability ↑

Chvostek's sign: cheek → facial spasm
Trousseau's sign: BP cuff → carpal spasm

* Magnesias do the opposite of the prefix.
(but don't choose it in multiple choice, not as common/serious)

* Sodium:

HypEr natremia = dEhydration

- dry, flushed skin
- thready pulse
- rapid HR

- can be present during DKA, HHNK

HypOnatremia = Overload

- crackles
- distended neck vein

- Earliest sign of elyte imbalances: numbness & paresthesia
  ↳ tingling
- Universal sign of elyte imbalances: paresis
  ↳ muscle weakness

* Tx for Potassium

- Hypo... To Raise:
  - Never push
  - NO more than 40mEq of K^+ per Liter

- Hyper... To lower:
  - D5W with insulin (Hides K^+) b/c drives potassium into cell.
    ↳ temporary
  - kayexcelate: eliminates K^+ from blood / body
    ↳ full of sodium, to avoid hypernatremic give w/ fluids
    ↳ takes hours
  → So, usually give both!

K^+ exits Late in kayexcelate

ENDOCRINE - THYROID

* **Hyperthyroidism** = **Hypermetabolism** → b/c that's what thyroid regulates
  - Skinny / weight loss
  - Irritable — HR & BP = ↑
  - Heat intolerance - b/c they're already hot!
  - Cold tolerance
  - diarrhea
  - → Exophthalmos = bulging eyes

- AKA: Graves Disease ... "run yourself into the grave"
- Tx Options: 1. Radioactive iodine
  - pt isolated for 24 hours
  - careful with urine, private room

  2. PTU: puts thyroid under
  - cancer drug → immunosuppression
  - watch WBC's!

  3. Surgery: thyroidectomy
  - total or subtotal
    - lifelong replacement
    - risk of: hypocalcemia (b/c Parathyroid hard to spare)
  - risk for: thyroid storm
    - S/Sx: 1. super high temp >105
      2. super high BP
      3. severe tachycardia
      4. psychotic delirium
    - Tx: ↓ Temp & ↑ O_2
      - first: ice packs
      - best: cooling blanket
      - O_2 10L oxygen mask
      - → self limiting condition, do not want to give drugs.

- Post-Op Risks:
  - First 12 hrs: Airway / Breathing hemorrage
  - 12-48 hrs: TOTAL = TETANY (d/t ↓Ca) SUBTOTAL = STORM
  - After 48 hrs: Infection

* **Hypothyroid** = Hypo **metabolism**
  - overweight
  - flat affect, slow
  - BP & HR ↓
  - Cold intolerance → b/c already cold!!
  - Heat tolerance

- AKA: Myxedema
- Tx: Tyroid hormone Replacement — Levothyroxine (synthoid) → SE's: hyperthyroid S/Sx
- Caution: DO NOT SEDATE! → they're already sedated
  DO NOT hold thyroid pills unless expressly stated → even when NPO

ENDOCRINE - ADRENAL CORTEX

* Names start with A or C

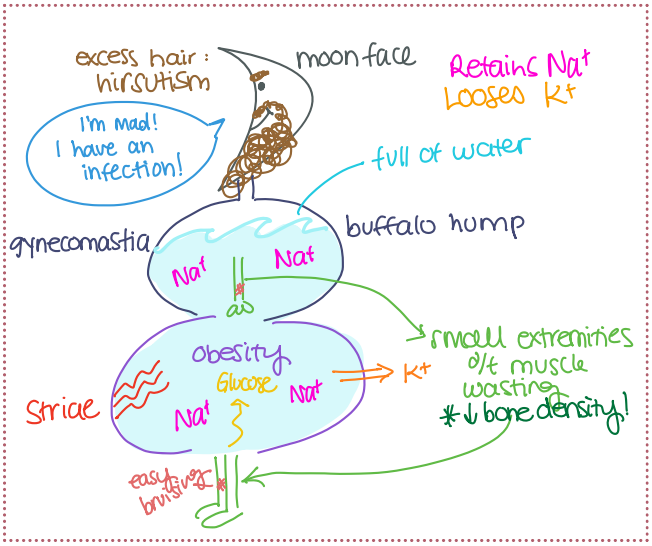
Remember: stress response purpose is to raise BP & glucose

* ADDISON'S → undersecretion · very rare & very serious

  - S/Sx: Hyperpigmented & DO NOT adapt to stress
    ↳ does not take much to go into shock
  - Tx: glucocorticoids "-sone" "Addison's you add a -sone"

* CUSHINGS → oversecretion "cushy" = more

  - S/Sx:



"Cushing Man"
- moon face
- hirsutism
- irritability
- immunosuppression
- gynecomastia
- buffalo hump
- water retention
- sodium retention
- Potassium expulsion
- muscle wasting
- ↓ bone density
- Obesity
- Increased glucose
- Striae
- Easy bruising

  - Tx: Adrenalectomy ... SE can be Addisons then need steroids ... SE: Cushings Sx

TOYS

* Three things to consider:

  ① Is it safe? → SAFETY
  - no small toys <4
  - no metal if O_2 in use
  - beware of fomites: nonliving object that harbors microorgs

  ② Is it age appropriate?

  ③ Is it feasible? AKA can you do it, common sense

AGE	TOY
0-6 mo	musical mobile d/t sensory motor or soft & large
6-9 mo	cover/uncover d/t teaching object permanence or large & firm ↳ wood/hard plastic

>9 mo NEVER: Build, sort, stack, make, construct

9-12 mo	talking toys d/t vocalization or smtg purposeful
1-3 yo	push-pull d/t working on gross motor (no finger dexterity) parallel play
Preschool	balance & finger dexterity pretend cooperative play
School age (7-11)	3C's: Creative (let them make it), Collecting, Competitive
Adolescent	peer group association ... Let them hang out unless: 1) <12 hrs post OP 2) immunosuppressed 3) contagious disease

LAMINECTOMY

* Removal of: lamina = vertebral spinus processes
  - the posterior processes, bumps you feel
  - Why: to relieve nerve root compression
  - S/Sx of Nerve ROOT Comp: Pain, Paresthesia, Paresis

* Pay attention to location in Neuro Q's *

- Locations: Cervical (neck), Thoracic, Lumbar

PRE-OP checks

- Cervical → Diaphragm & Arms
- Thoracic → abdominal muscles: cough & bowels
- Lumbar → bladder & legs & check ability to void / UO

POST-OP

#1 answer: LOG ROLL

- Activity:
  - Do not dangle/sit on side of bed
  - Allowed to walk, sit, stand, lie down
  - Limit sitting 20-30min
- Complications:
  - C: pneumonia
  - T: pneumonia & paralytic ileus
  - L: urinary retention, leg problems

* Anterior Thoracic will have chest tubes b/c goes through chest

* Laminectomy w/ fusion takes bone graft from iliac crest.
  - Site with most:
    - Pain = Hip
    - Bleeding = Hip
    - Risk for infection = Equal, hip & spine
    - Risk for rejection = Spine
  - surgeons using cadaver bones to eliminate hip surgical site.

* Discharge Tx:

6 weeks
- Do not sit >30min
- Lie flat, log roll
- Do not lift >5lbs

Permanent
- Have to lift objects w/ knees (not hips)
- Cervical: can not lift anything over head
- No horseback riding, amusement park rides, etc

LAB VALUES

* LEVELS:

A. Abnormal but... not super high priority

B. Bystander, not much you can do. Monitor.

C. Critical. need to report, do something.

D. Deadly. Have to intervene.

NAME	VALUE	LEVEL	NOTES
Creatinine Best indicator of renal func.	0.6-1.2	A	
INR measures coumadin/war.	2-3	≥4=C	1. HOLD coumadin 2. ASSESS for bleeding 3. PREPARE vitamin K 4. CALL Dr
K^+	3.5-5	C >6=D → everything STAT!	Low: 1. ASSESS heart 2. PREPARE to give K^+ 3. CALL Dr. High: 1. HOLD K^+ 2. ASSESS heart 3. PREPARE D5W/kayexelate 4. CALL Dr
pH	7.35-7.45	≤6=D	1. Check vital signs 2. Call Dr.
nitrogen waste BUN products	8-18	B	Check for dehydration
Hgb	12-18	8-11: B → Assess for anemia <8: C → Assess for bleeding, Prepare to admin blood, Call Dr	
HCO_3	22-26 "2+2+2=6"	A	
CO_2	35-45	50's: C → Assess Resp., do pursed lip breathing (00's: D → Assess, prepare to intubate & ventilate. Call RT first, Then PCP can do pursed breathing to ↓ anxiety ↳ at Resp. Failure Levels	

HCt	3x Hgb 36 - 54	↑ = B	→ Assess dehydration
pO2	80 - 100	70's = C ≤60s = D	→ Assess resp- Give Oxygen. → Assess, prepare to intubate & ventilate. Call RT first, then PCP give O2 to ↓ anxiety, could help
SaO2	93-100	C's	... kind of.
BNP indicates CHF	< 100	B	
Nat	135 - 145	B ΔLOC = C	high - dehydration low - overload
WBC	Total: 5-11k ANC > 500 Absolute neutrophils CD4 > 200	C	- Assess for S/Sx infection - Put on neutropenic precautions
PLTs	150 - 400k	< 90k = C < 40k = D	
RBCs	4-6mill	B	

What is neutropenic precautions?

aka Reverse/Protective Isolation
Strict hand washing
Shower BID with antimicrobial soap
Avoid crowds

Private Room
Limit number of staff entering room
Limit visitors to healthy adults
No fresh flowers or potted plants
Low bacteria diet: no raw fruits, veggies, salads or undercooked meat
Do not drink water that has been standing for longer than 15 minutes
Vital signs (temp) every 4 hours
Check WBC (ANC) daily
Avoid use of indwelling catheter
Do not re-use cups... must wash between uses
Use disposable plates, cups, straws, utensils
Dedicated items in room: stethoscope, BP cuff, Thermometer, gloves

low WBC
Leukopenia
Neutropenia
Agranulocytosis
Immunosuppression
Bone Marrow Suppression

What is bleeding precautions?

No unnecessary venipuncture- injection or IV. Use small gauge
Handle patient gently (use drawsheet)
Use electric razor
No toothbrushing or flossing
No hard foods
Well-fitting dentures
Blow nose gently
No rectal temp, enema, or suppository

No aspirin
No contact sports
No walking in bare feet
No tight clothing or shoes
Use stool softener. No straining
Notify MD of blood in urine, stool

* The 5 D's: K or pH in the 6's
pCO_2 or pO_2 in 60's
plts < 40k

PSYCHOTROPIC DRUGS

* All psych drugs cause: Hypotension & weight changes
* Phenothiazines "First Generation" "Typical"
  - "zine": thorazine, compazine
  - large dose: antipsychotic
    small dose: antiemetic
    major tranquilizers

"-zine for the zany"

aminoglycosides: Abx
phenothiazides: Tranquilizers

- SE's: A - Anticholinergic (dry mouth)
B - Blurred vision
C - Constipation
D - Drowsiness
E - EPS (tremors, parkinsonian)
F - "Fotosensitivity"
G - a Granulocytosis (low WBCs)

→ Risk for injury/ safety issues

* Teach pt about S/Sx of infection

→ NEVER stop the -zine

* Deconate or "D" = long-acting IM form giving to non-compliant client

* Tricyclic Antidepressants most are NSSRI

- Elavil, Tofranil, Aventyl, Desyrel
  - amitriptyline
  - Elevates your mood

* 2-4 wks before beneficial effects

- SE's: go to E
  - A - Anticholinergic (dry mouth)
  - B - Blurred vision
  - C - Constipation
  - D - Drowsiness
  - E - Euphoria

* Benzodiazepines minor tranquilizers

What do you find at Ledzepplin concert? A bunch of minors on tranquilizers

- always have "zep" in name
- prototype: valium, diazepam, lorazepam
- Indications:
  - Induction of anesthesia (pre-Op)
  - Muscle-relaxant
  - Alcohol withdrawal
  - Seizures
  - Helps those fighting ventilator
- Work quickly, dont take > 6 wks

work quickly, can't be on for long ← Heparin : coumadin / tranquilizer : antidepressant → can transition to & take forever

- SE's:
  - A - Anticholinergic (dry mouth)
  - B - Blurred vision
  - C - Constipation
  - D - Drowsiness

→ safety

* MAO Inhibitors — Antidepressants

- MARplan, NARdil, PARnate
- SE's:
  - A - Anticholinergic (dry mouth)
  - B - Blurred vision
  - C - Constipation
  - D - Drowsiness

  > safety

*a lot of OTC meds are incompatible

→ PT TEACHING
- to prevent severe, acute, potentially fetal HTN crisis

→ NO TYRAMINE DIET:
- salad BAR: bananas, avocados, raisins (↑ all dry fruit)
- no organ meats: liver, kidney, heart
  preserved meats: smoked, cured, dried, pickled
  hot dogs
- no yogurt or cheese (besides mozz & cottage chz)
- no alcohol, elixirs, caffiene, chocolate, licorice, soy sauce

* LITHIUM — an electrolyte... used for Bipolar disorder → mania

- SE's: 3 P's
  - Peeing (Polyuria)
  - Pooping
  - Paresthesia (tingling, numbness) (b/c earliest sign of all elyte imbalances)
- Toxic: tremors, metallic taste, severe diarrhea, & any other neuro movie
- *#1 NI: Good fluid hydration
  - if sweating → give sodium
  - DO NOT GIVE WATER
  - give gatorade or other elyte soln
  - monitor Na+ levels

* PROZAC — SSRI

* black box warning * for ad. & YA Δing dose

- similar to Elavil
- Antidepressant
- SE's:
  - A - Anticholinergic
  - B - Blurred vision
  - C - Constipation
  - D - Drowsiness
  - E - Euphoria

  > give before noon! causes insomnia

* Haldol (Haloperidol) – tranquilizer (has D form)

- SE's
  - A – Anticholinergic (dry mouth)
  - B – Blurred vision
  - C – Constipation
  - D – Drowsiness
  - E – EPS (tremors, parkinsonian)
  - F – "Fotosensitivity"
  - G – a Granulocytosis (low WBCs)

Typical 1st Gen

- NMS: Neuroleptic Malignant Syndrome
  - → from overdose
  - potentially fatal hyperpyrexic >104°F!
  - Dose of elderly pt should be ½ of adult dose

* Clorazil (Clozapine) Atypical Antipsychotic

- for severe schizophrenia

new class for the zanys

→ does not have SE's of A-F

- Do not confuse w/ Klonopin (Clonazepam)
- SE's: Agranulocytosis (severe) "trashes your bone marrow"

* Geodon

- prolongs QT interval & can cause sudden cardiac arrest.

* Zoloft (Sertaline) SSRI

- also causes insomia, but can give at bedtime
- * Interactions: St. Johns Wort (serotonin syndrome)
  Warfarin (bleeding risk)
- SE's: SAD HEAD
  - Sweating
  - Apprehensive → impending sense of doom
  - Dizzy
  - Headache

Zines = typical, old time, antipsychotics
zapines = new, atypical antipsychotics
zeps = minor tranquilizers

MATERNITY

* Due Date: Nagele's Rule:

First day LMP
+ 7 days
− 3 mo's
Due Date

ex: Jan 26 → NOV 2

June 10 → March 17

* Weight gain = 28 ± 3

1st Trimester: one pound each month = 3 lbs
2nd Trimester: one pound per week

WKS	Gain
12	= 3 lbs
13	= 4
14	= 5
15	= 6
16	= 7
⋮	⋮
20	= 11

−9

ex: 28 wks, 22 lb gain
28 − 9 = 19 lbs "ideally" so let's assess b/c 3 lbs off

31st wk, 15 lb gain
... 31 − 9 = 22
* BAD! Assess

Ideal weight = wks − 9

* Fundus: not palpable until wk 12

at belly button/umbilicus → 22 wks

Viability:
22 − 24 wks
end of 2nd

* Positive Signs of Pregnancy: → These never have a false positive

- Fetal skeleton on x-ray
- Fetal presence on ultrasound
- Auscultation of fetal heart rate (18 − 12 wks)
- Examiner palpates fetal mvmt/outline

- Quickening = kicking, range 16 − 20 wks

- First: 16 wks
- Most likely: 18 wks
- Should by: 20 wks

D/t there being ranges for everything in OB read Q's very carefully!
- First...
- Most likely...
- Should...

Auscultate fetal heart:
- First: 8 wks
- Most likely: 10 wks
- Should by: 12 wks

* Mayhes → the probable/presumptive signs:

alphabetical order

- all urine/blood tests
- Chadwicks - color Δ of cervix to cyanosis
- Godells - cervical softening
- Hegars - uterine softening

* Good Prenatal Care: Once a month until wk 28
28-36 = Once every 2 wks
>36 = Once every wk
at 42 = consider induction

- Hgb will fall b/c ↑ blood volume!
1st = 11 is normal
2nd = 10.5 is normal
3rd = 10 is normal

- Morning Sickness
1st Trimester - Dry carbohydrates before you get out of bed & avoid empty stomach

- Urinary incontinence
1st & 3rd - void every 2 hrs
not in 2nd: b/c in abdomen

- Difficulty breathing
2nd & 3rd - Tripod position

- Back pain
2nd & 3rd - Pelvic tilt exercises
put foot on stool then back again

* Signs of Labor: #1 onset of regular contractions → most valid sign
* progressive

- Dilation: opening of cervix (0-10cm)
- Effacement: thinning of cervix (thick - 100%)

- Station: rlnsp of fetal presenting part to Mom's ischial spine
  - negative: presenting part above spine
  - positive: presenting part below spine
  - engagement: station zero

ischial spine: narrowest part of pelvis baby has to fit through

negative #'s are neg. news
positive #'s are pos. news

- Lye: the rlnsp btwn spines of Mom & baby

- Presentation: part of baby that enters birth canal first

* Stages of Labor (4)

purpose of uterine contractions:
S1: dilate & efface cervix

- Stage One: Labor
  - Phases: Latent, Active, Transitional

- Stage Two: Delivery of Baby

S2: Push out baby

- Stage Three: Delivery of Placenta — S3: Push out placenta
- Stage Four: Recovery (First 2 hrs) — S4: Stop bleeding

Postpartum starts 2hrs after delivery of placenta!

* LABOR CHART

PHASE	LATENT	ACTIVE	TRANSITIONAL
Cm Dilated	0-4cm	5-7cm	8-10cm
CxN freq	5-30 min	3-5 min	2-3 min
Duration	15-30 sec	30-60 sec	60-90 sec
Intensity	Mild	Moderate	Strong

* 3 column sequential table
* memorize middle column – active!

contractions should NOT be >90sec & closer than 2min
↳ sign of uterine tetany
uterine hyperstimulation
parameters to stop pitocin

* Contractions

- Frequency: Beginning of one to the beginning of next.
- Duration: Beginning to end of one

- Palpate with one hand over fundus w/ pads of fingers

* Complications:

- 18 complications, 3 protocols

① Painful back labor "Op" at the end

- Position knee to chest, then put her on her back
- Push on sacrum to relieve pressure

② Prolapsed cord – high priority

- Push head off cord
- Position knee chest

③ All other Complications

- L Left side
- I Increased IV
- O Oxygenate
- N Notify Physician

• In OB crisis, if PITocin is running, stop it

* Pain meds in Labor

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

ex: primigravida at 5cm wants IV pain med
Likely to deliver in next 15-30min? NO

Multigravida at 8cm wants IM pain med
Likely to deliver in next 30-60min? YES

POSTPARTUM

* Fetal Heart Rate

Low fetal HR (<110) = Bad → LION

High fetal HR (>160) = Fine → take mom's temp

Low baseline variability = Bad → LION
HR stays the same

High baseline variability = Fine → document

Late decelerations = Bad → LION
HR slows down during/after

Early deceleration = Fine → document

- Variable deceleration = VERY bad → prolapsed cord.
Push & Position

Variable = Cord compression
Early = Head compression
Accelerated = Okay
Late = Placental insufficiency

* Second Stage: Delivery

1. deliver head
2. suction mouth & nose
3. check for nuchal cord
4. deliver shoulders & body
5. make sure baby has ID band

* Third Stage : Placenta

1. Make sure it's all there
2. Check for 3 vessel cord → AVA , 2 arteries

* Fourth Stage: Recovery

4th stage
4 things to do
4 times an hour

1. VS (S/Sx of Shock, BP↓ HR↑)
2. Check fundus (if boggy - massage, displaced? catheterize)
3. Check pads (excessive → 15 min or less)
4. Roll to side (check bleeding under pad)

* Post partum assessment

B reasts
U terine fundus – want • firm → if not, massage
B ladder • & midline → or catherize
B owel • height fundal height = day PP
L ochia – rubra, cerasa, alba
E pisiotomy rub,rub=red ROSY albino=white
H gb/Hct
E xtremities → thrombophlebitis (calf circumference, distal pulses)
A ffect
D iscomforts

NEWBORN

* Difference btwn

- Cephalohematoma → swelling caused by bleeding btwn astium & periosteum of skull.

- Caput succedaneum = C.S. → Crosses Sutures
Caput Symmetrical
edematous swelling on scalp caused by pressure during birth. usually disappears in a few days

* Normal:

- Hyperbilirubinemia normal, appears after 24hrs & disappears in ~1 week

- Vernix caseosa whitish cheese-like substance which appears intermittenly over first 7-10 days

OB MEDS

* Tocolytics = Stop labor
  - Terbutaline - tachycardia
  - mag. sulfate - as mag goes up, body goes ↓
    ↓HR, ↓BP, ↓RR, ↓reflexes → normal=2
* Oxytocics = stimulate labor
  - Pitocin - uterine hyperstimulation (>90sec, closer 2min)
  - Methargine - high BP
* Fetal Lung Maturers
  - Betamethasone = given to mother, IM, before birth
  - Survanta = surfactant. Given to baby, transtracheal

MED TIPS

* Insulin: Nicole Richie, RN
  - Draw up total amt air
  - put air into N
  - put air into R
  - draw R
  - draw N
* Injections: IM - both parts have 1 (21g, 1in)

  SQ - S = 5, both parts have 5 (25g, 5/8 inch)
* Heparin & Coumadin

Heparin	Coumadin
- IV or SQ	- PO
- immediate	- takes days - 1 wk
- max 3 wks (except Lovenox)	- can take forever
- Anti = Protamine Sulfate	- Anti: Vitamin K (K for Koumadin)
- PTT ← looks like T	- INR (pt)
	- can not be pregnant women

- Only major trang that can be given to pregnant women... Haldol

* Diuretics: Any ending in x ... ex's out K ... wastes it
  plus diaril
  Ex: Bumex

  - Everything else - Spares

* Muscle Relaxants: SE = fatigue, muscle weakness

  Tx = don't drink, drive, op. heavy mach.

  - Flexaril ... get a little more flexible
  - Baclofen ... you're on your back "loafin"

PEDIATRIC TEACHING

* Piaget's Theory:

- 0-2yo Sensorimotor - present oriented.
  teach as you do it, what you're doing verbally
- 3-6yo Preoperational - fantasy oriented
  preschooler
  teach shortly before, what you're going to do
  Plays.
- 7-11yo Concrete 7-11s operations - Rule oriented
  teach days ahead what you're going to do, plus skills
  age approp reading & demonstration
- 12-15yo Formal cauterefect operations - Treat like an adult

PSYCH CMCTN

- Know what phase of the rlnsp you're in
- Don't accept gifts
- Don't give advice
- Don't give guarantees
- Keep pt talking
- Don't use slang
- Empathy → you accept their feelings

① Recognize empathy Q's...
Question contains quote
& all answers are quotes

② Put yourself in pt's shoes - How would I be feeling?

③ Choose answer that reflects that feeling (not the words)

PRIORITIZATION

- You are deciding which patient is sickest or healthiest
  → know which one you're looking for
- Info: Age, Gender, Dx & modifying phrase
  ↑ not pertinent information
  ↳ most important

Ex: Angina pectoris vs myocardial infarction → MI #1
Add: w/ unstable BP w/ stable VS → Angina #1 b/c unstable

① Acute beats chronic

Ex: CHF vs COPD vs appendicitis #1

② Fresh post-op beats medical or other surgical
12hrs

③ Unstable beats Stable

Unstable	Stable
- use of word unstable	- use of word stable
- acute illness	- chronic illness
- post op <12hrs	- post-op >12hrs
- general anesthesia	- local or regional anesthesia
- changing assessment	- unchanged assessment
- "newly admitted," <24hrs "newly diagnosed"	- phrase "to be discharged"
- lab values C/D	- Lab values A/B
→ pts experiencing unexpected atypical S/Sx, complications	→ pts experiencing typical/expected S/Sx of their diagnosed disease (& for which they're receiving tx)

- Always unstable: hemorrhage, hypoglycemia, fever ≥ 104, pulselessness or breathlessness

* TIEBREAKER:

④ The more vital the organ, the higher priority
Brain, lungs, heart, liver, kidneys, pancreas
*organ of modifying phrase

DELEGATION

* Do not delegate to LPN:

  - start IV
  - hang or mix IV meds → can maintain IV meds
  - IV push/PB meds
  - admin blood or central lines
  - develop plan of care
  - pt teaching → can reinforce
  - perform assessments that require inferences/judgments
  - unstable pts ↳ can make observations about stable patients
  - first of anything
  - take verbal orders from MD or transcribe orders
  - Admission/Discharge/transfer

* Do not delegate to UAP:

  - cannot chart → can document what they did
  - meds → can do topical OTC barrier creams
  - assessments → can do VS & accucheck
  - treatments → can do enemas
  - EAT: evaluate, assess, teach

* Do not delegate to family:

  - safety responsibilities → they can only do what you teach them

MANAGEMENT

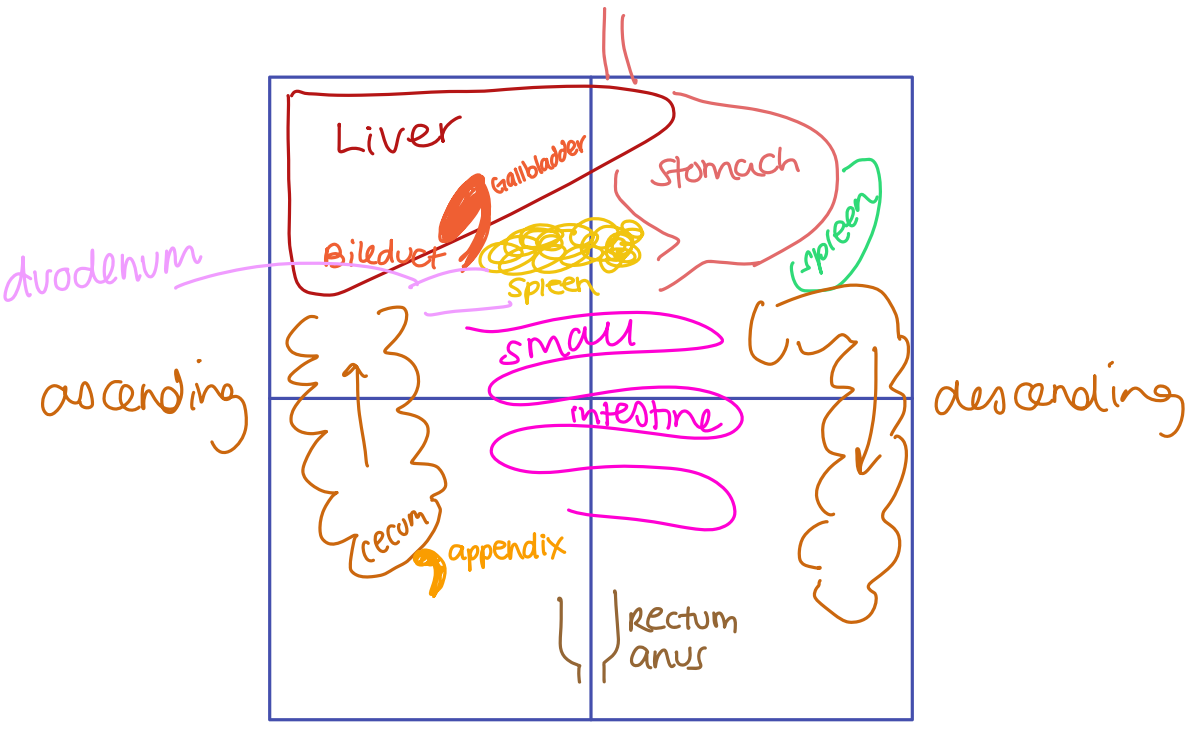
* How do you intervene w/ inappropriate staff?

  1) Tell supervisor
  2) Intervene immediately
  3) Counsel them later on
  4) ~~Ignore it~~ → never correct

  A) Is what they're doing illegal? → (1)
  B) Is anyone in immediate danger? → (2)
  C) Legal, not dangerous, but inappropriate? → (3)

REGIONS OF ABDOMEN

RIGHT		LEFT
Gall stones Stomach ulcer Pancreatitis	Heartburn/indegestion Stomach Ulcer Pancreatitis Gallstones Epigastic hernia	Duodenal ulcer Stomach ulcer Pancreatitis Billary Colic
Kidney Stones Urine infection Constipation Lumbar Hernia	Umbilical hernia Stomach Ulcer Pancreatitis Early appendicitis IBS - Small	Kidney Stones Diverticular Disease Constipation Inflammatory Bowel Disease
Appendicitis Constipation pelvic pain (Gynae) Groin pain L Inguinal hernia	Urine Infection Diverticular Disease Inflammatory Bowel pelvic pain (Gynae)	Diverticular Disease pelvic pain (Gynae) Groin pain L Inguinal hernia



VALVE PLACEMENT

Aortic valve
2nd IC space
R sternal border

Pulmonic valve 2nd IC space, L sternal border

Erb's: 3rd

Tricuspid valve 4th IC space L sternal border

Mitral valve
5th IC space, mid clavicular line

GUESSING

* Psych: The nurse will examine their own feelings...
  Establish a trust relationship

* Diet: In a tie, pick chicken
  2nd fish, not shellfish
  Never pick casserole for children
  Never mix meds in pt food
  Toddlers: finger food

* Drugs: Pick SE in same body system as drug is working
  If it's PO pick a GI SE

* OB: Check Fetal HR

* Medsurg: Check LOC

* Peds: Always give child more time to grow & develop
  When in doubt pick older age
  Pick easier task in age devel. Q
  When in doubt call it normal

- If 2 answers opposite → one is correct
- Think worst thing that can happen
- If you don't know term, use common sense
- Umbrella answer: covers all the others w/o saying them

- If you get prioritization of 4 diff needs for one patient
  "If I did not do this... what's the worst consequence?"

Last Resort: Right answers tend to be different

1. Don't expect 75 questions... Expect 145!
2. Don't expect to know everything
3. Don't expect everything to go right