

Mz.ANTICHOLINERGIC vs. CHOLINERGIC EFFECTS

ANTICHOLINERGIC	CHOLINERGIC
<ul style="list-style-type: none"> • ↓ Mucus • Bronchodilation • Dry mouth • Dry eyes • Urinary retention • Dry skin • Constipation • Shut down GI • Prevents V when trying to intubate 	<ul style="list-style-type: none"> • Bronchorrhea (large amounts of mucus in airway) • Bronchoconstriction • Salivation • Lacrimating • Urination • Diaphoresis/Diarrhea • GI Upset • Emesis

ACID BASE GASES

A. *ABG Interpretation*

a. Rule of the B's

- i. If the pH and the BICARB (HCO_3)
- ii. Are BOTH in the same direction,
- iii. Then it is METABOLIC

b. ↓ pH = acidosis

c. ↑ pH = alkaline

B. *Values*

- a. Normal pH = 7.35 – 7.45
- b. Normal Bicarb = 22-26
- c. PaO₂ = 80-100 mmHg
- d. PaCO₂ = 35-45 mmHg
- e. SaO₂ = 95-100%

C. *Signs & Symptoms of Acid-Base Imbalance*

- a. As the pH goes, so goes the patient except for Potassium (bc it will try to compensate)

pH UP ↑ K↓ [ALKALOSIS]	pH DOWN ↓ K↑ [ACIDOSIS]
<ul style="list-style-type: none"> • Tachycardia • Tachypnea • Diarrhea • Tremors • Seizure • Hyperreflexia • Agitated 	<ul style="list-style-type: none"> • Bradycardia • Bradypnea • Hypotension • ↓ lucidity • anorexia • coma • lethargy

- Borborygmi (↑ bowel sounds)
- Hypertension
- Palpitations
- Tetany
- Anxiety/Panic
- Poly
- cardiac arrest
- suppressed, decreased, falling

D. *Causes of Acid-Base Imbalance*

- First ask, "Is it Lung?"
 - If YES → then it is **Respiratory**
- Then ask yourself:
 - Are they **Overventilating** or **Underventilating**?
 - If **Overventilating** → pick **Alkalosis**
 - If **Underventilating** → pick **Acidosis**
- If not lung, then it's **Metabolic**
 - If the patient has **prolonged gastric vomiting** or suction, pick **Metabolic Alkalosis**
 - For everything else that isn't lung, pick **Metabolic Acidosis**
 - Also, if you don't know what to pick choose **Metabolic Acidosis**

VENTILATOR ALARMS

- High Pressure Alarms** are triggered by ↑ resistance to air flow and can be caused by **obstructions** of three types:
 - Kinked Tube**
 - NRS ACTION: Unkink it
 - Water in tubing (caused by condensation)**
 - NRS ACTION: Empty it/Remove H₂O
 - Mucus in airway**
 - NRS ACTION: Turn, C&DB; only use suction if C&DB fails, as a last resort
- Low Pressure Alarms** are triggered by ↓ resistance to air flow and can be caused by disconnections of the:
 - Tubing**
 - NRS ACTION: Pay attention to where tubing

- is...(contamination)
 - ii. If on floor, change out
 - iii. If on chest, clean with alcohol then put back on
- 3. **Respiratory Alkalosis (Overventilation)** means ventilator settings may be too **HIGH**.
- 4. **Respiratory Acidosis (Underventilation)** means ventilator settings may be too **LOW**.
- 5. To **“Wean”** → To gradually and incrementally decrease with the goal of ridding all together

ALCOHOLISM

Note: Remember in a psych question if you are asked to prioritize **DO NOT** forget Maslow! Use the following priorities:

1. Physiological
2. Safety
3. Comfort
4. Psychological
5. Social
6. Spiritual

Also, ALL PSYCH PATIENTS START AS MED SURG PATIENTS...RULE OUT ALL FEASIBLE MED ANSWERS BEFORE PICKING PSYCH ANSWERS

1. *Psychodynamics of Alcoholism*

a. The #1 psychological problem in abuse is **DENIAL**.

i. Definition:

1. Refusal to accept the reality of their problem.

ii. Treatment:

1. Confront it by pointing out to the person the difference between what they say and what they do.

2. In contrast, support the denial of loss and grief (BC the use of denial is serving a functioning person)

b. **DEPENDENCY/CODEPENDENCY**

i. Dependency: When the **abuser** gets the significant other to

do things for them or make decisions for them.

ii. Codependency: When the significant **other** derives positive **self-esteem** from doing other things for or making decisions for the **abuser**.

iii. Treatment:

1. Set **boundary (limits)** and **enforce** them. Agree in advance on what requests are allowed then enforce the agreement
2. Work on the **self-esteem** of the codependent person.

c. MANIPULATION

i. Definition: When the abuser gets the significant other to do things for him/her that are not in the best **interest** of the Significant Other. The nature of the act is dangerous or **harmful** to the significant other

ii. Treatment:

1. Set **limits** and **enforce**
2. Its easier to treat than dependency/codependency because **nobody** likes to be manipulated

2. Wernicke's (Korsakoff's) Syndrome

a. **Psychosis** induced by **Vitamin B1** (Thiamine) deficiency.

b. Primary symptom: **amnesia** with **confabulation** (making up stories to fill in memory loss—believe as true)

c. Characteristics:

i. Preventable

1. By giving B1 vitamins

ii. Arrestable

1. Can stop from getting worse- not imply better

iii. Irreversible

1. Dementia symptoms don't get better—only worse

3. Antabuse/Revia

a. Disulfiram (drugs used for alcoholism)

b. Aversion Therapy

c. Onset and duration of effectiveness: **2 weeks**

i. Take drugs 2 weeks and builds up in blood to a level that when drinking alch will become horribly sick; if off for two weeks, will be able to drink without sickness again

d. Patient teaching: Avoid ALL forms of **alcohol** to avoid **nausea, vomiting, and possibly death**, including:

i. Mouthwash, aftershave, perfumes/cologne, insect repellent,

vinegarettes (salad dressings), vanilla extract, elixirs
(contains alch-OTC med), alcohol prep pad, alch sanitizers

OVERDOSE VS. WITHDRAWAL

First ask yourself, is the drug an upper or a downer?

UPPERS↓	DOWNERS↓
Names: <ul style="list-style-type: none">• Caffeine• Cocaine• PCP/LSD (Psychedelic hallucinogens)• Methamphetamines-speed• ADHD- adderrall/Ritalin• Bath Salts (Cath-Kath)	Names: <ul style="list-style-type: none">• Everything else
Signs/Symptoms: <ul style="list-style-type: none">• Tachycardia• Hypertension• Diarrhea• Agitation• Tremors• Clonus• Belligerence• Seizures• Exaggerated, shrill, high pitched cry• Difficult to console	Signs/Symptoms: <ul style="list-style-type: none">• Bradycardia• Hypotension• Constipation• Constricted pupils• Flaccidity• Respiratory arrest• Decreased core body temp

Then ask yourself, "Are they talking about **overdose** or **withdrawal**?"

<u>Overdose/Intoxication</u>	<u>Withdrawal</u>
"I have too much..."	"I don't have enough.."
Too much upper: → Everything is UP ↑	Too little upper: → Everything is DOWN ↓
Too much downer → Everything is DOWN ↓	Too little downer: → Everything is UP ↑

Drug Addiction in the Newborn

Always assume intoxication (first 24 hours after birth), then after this time, assume withdrawal

Alcohol Withdrawal Syndrome vs. Delirium Tremens

1. Differences:

- Every alcoholic goes through **alcohol withdrawal syndrome (AWS)** (after 24 hours)
- Only a minority get **delirium tremors (DT)**
- AWS** is not life threatening. **DT's** can kill you.
- Patients with **AWS** are *not* **dangerous** to themselves or others. Patients with **DTs** are **dangerous** to self and others.

AWS	DT's	BOTH
Semi-private-anywhere	Private-near nurses station	Anti-hypertensives
Regular diet	Clear liquids or NPO	Tranquilizer
Up Ad Lib (no activity restriction)	Restricted bedrest (no bathroom privileges)	B1 multi-vitamin (to prevent dementia)
Do not restrain	Should be restrained (2 pt leather restraints) 2 extremity restricted—arm on one side and leg on one, one upper extremity and one opposite lower extremity	

AMINOGLYCOSIDES

1. Think “**A mean old mycin**”
2. Powerful antibiotics—to treat **severe, life-threatening, resistant infections**
3. All aminoglycosides end in ‘**mycin**’, but not all drugs that end in **mycin** are aminoglycosides. For example..
 - a. Azithromycin, clarithromycin, erythromycin **thromycin** → **NOT**
4. **Examples of aminoglycosides:** Streptomycin, Cleomycin, Tobramycin, Gentamicin, Vancomycin, Clindamycin
5. **Toxic Effects:**
 - a. The most famous feature of the worlds most famous mouse (ears)
 - i. Toxic effect: **ototoxicity**
 - ii. Must monitor **hearing, balance, tinnitus**
 - b. The human ear is shaped like a **kidney**
 - i. Toxic effect: **nephrotoxicity**
 - ii. Monitor: **creatinine**
 1. Best indicator of kidney function
 2. 0.6-1.2 mg/dL
 - c. The number **8** drawn inside the ear reminds you of:
 - i. Cranial nerve **8** (Drug toxic to)
 - ii. Frequency of administration: **Every 8 hours**
6. **Route of Administration**
 - a. Give **IM** or **IV**
 - b. Do not give **PO (not absorbed)** except in these two cases:
 - i. Hepatic encephalopathy
 1. Also called **Liver Coma, Ammonia-Induced Encephalopathy**
 2. When want a sterile bowel
 3. Due to a high **ammonia** level
 - ii. Pre-op Bowel surgery
 1. REMEMBER this military sound off:
 - a. **NEO**mycin
 - b. **KAN**mycin
 - c. **WHO CAN STERILIZE MY BOWEL? NEO KAN**
 - d. ^ **PO, 2 bowel sterilizers**
7. **Trough and Peak Levels**
 - a. Reason for drawing **TAP** levels: **narrow therapeutic range**

b. Time table:

ROUTE	TROUGH (lowest)	PEAK (highest)
Sublingual	30 min before next dose	5-10 mins after drug dissolve
IV	30 min before next dose	15-30 min after drug finished
IM	30 min before next dose	30-60 min after drug given
SQ	30 min before next dose	See diabetes lecture
PO	30 min before next dose	Forget about it.

BIOTERRORISM

1. Categories of Biological Agents

- a. *Category A (Most serious)*
 - i. Small pox
 - ii. Tularemia
 - iii. Anthrax
 - iv. Plague
 - v. Hemorrhagic fever [Ebola]
 - vi. Botulism
- b. *Category B*
 - i. All others. A long list.
- c. *Category C*
 - i. Hanta virus
 - ii. Nipah virus

2. Category A Biological Agents

- a. *Smallpox*
 - i. Inhaled transmission/on Airborne Precautions
 - ii. Dies from septicemia. Blood infection. *only class A that dies from this.
 - iii. Rash starts around mouth first (early ID & isolation is crucial to contain)
- b. *Tularemia*
 - i. Inhaled

- ii. Chest symptoms (coughing, chest pain, sputum)
- iii. Dies from respiratory failure
- iv. Treat with Streptomycin (watch hearing and creatinine)

c. *Anthrax*

- i. Spread by inhalation
- ii. Looks like flu (chest symptoms and achy muscles)
- iii. Dies from respiratory failure
- iv. Treat with Cipro, PCN, and streptocycin

d. *Plague*

- i. Spread by inhalation
- ii. Has the 3 H's:
 1. Hemoptysis (coughing up blood)
 2. Hematemesis (vomiting blood)
 3. Hematochezia (bloody diarrhea)
- iii. Dies from respiratory failure and DIC
- iv. Treat with Doxycycline and Mycins
- v. No longer communicable after 24 hours of treatment

e. *Hemorrhagic Fever [Ebola]*

- i. 21 day time frame
- ii. Primary symptoms are petechair and ecchymosis
- iii. High % fatal
- iv. Die of DIC

f. *Botolism*

- i. Ingested (drink/eat)
- ii. Has 3 major symptoms:
 1. Descending paralysis (starts at head-goes down to diaphragm)
 2. Fever
 3. But is alert
- iii. Dies from respiratory failure

3. Chemical Agents

- a. Mustard Gas → Blisters (Vesicant, eventually cover airway)
- b. Cyanide → Respiratory arrest. Treat with Sodium Thiosulfate IV
- c. Phosgine chloride → Choking
- d. Sarin → Nerve agent.
 - i. Symptoms (Cholinergic Effects)
 1. Bronchorrhea
 2. Bronchoconstriction
 3. Salivation
 4. Lacrimating

5. Urination
 6. Diaphoresis/diarrhea
 7. GI upset
 8. Emesis
4. All chemical agents require only soap and water cleansing except for Sarin, which requires a bleach
- a. Nursing Actions: Bioterrorism- Isolation, Antibiotics
 - b. Chemical: Decontamination
 - i. Send all suspected cases to decontamination center
 - ii. Remove all clothing
 - iii. Chemical hazard double bag
 - iv. Incinerated
 - v. Shower in soap and water (bleach- sarin)
 - vi. Discharged in government clothes

CALCIUM CHANNEL BLOCKERS

Note: They are like Valium for your heart

1. Calcium Channel Blockers: **Negative** [ino, chrono, dromo]

Dig is only drug that mixes + & - effects; other 99% either have + or -

ACTION	DEFINITION	POSITIVE ↑	NEGATIVE ↓
<i>Inotropic</i>	Strength of heartbeat	Strong	Weak
<i>Chronotropic</i>	Rate of heartbeat	Fast	Slow
<i>Dromotropic</i>	Conductivity	Excitable	Blocks/Slows conduction

2. What do Calcium Channel Blockers treat? (Indications)
 - a. Antihypertensives (BP way UP-relaxes blood vessels)
 - b. Antianginal (relaxes- reduces O2 demand)
 - c. Anti Atrial Arrhythmia (does not tx ventricular arrhythmias)
3. Side Effects(↑):
 - a. Headache
 - b. Hypotension
 - c. Bradycardia
4. Names of Calcium Channel Blockers
 - a. -soptin (Verapeunil)
 - b. -zem
 - c. -dipine

5. Nursing Actions: before administering – BP systolic lower than 100..if < 100 hold and call Dr

CARDIAC ARRHYTHMIAS

1. Terminology
 - a. “QRS depolarization” always refer to **ventricular** (not atrial, junctional, or nodal)
 - b. “P wave” refers to **atrial**
2. *Six rhythms tested on NCLEX*
 - a. **Asystole**
 - i. A lack of QRS depolarization’s (a straight line)
 - b. **Atrial flutter**
 - i. Rapid P-wave depolarization’s in a saw-tooth (flutter)
 - c. **Atrial fibrillation**
 - i. Chaotic P-wave depolarization’s (lacks any discernable pattern)
 - d. **Ventricular fibrillation**
 - i. Chaotic QRS depolarization’s
 - e. **Ventricular tachycardia**
 - i. Wide, bizarre QRS’s
 - ii. Tachy is always discernable repeating pattern
 - f. **Premature ventricular contractions (PVC)**
 - i. Periodic wide, bizarre QRS’s
 - ii. Generally low to moderate priority. unless everyone else has a normal rhythm
 - iii. **Be concerned, if:**
 1. More than **6** per minute
 2. **6** in a row
 3. PVC falls of **T-wave** of previous beat
3. Lethal arrhythmias
 - a. Asystole
 - b. V-fib
4. Potentially life threatening arrhythmia: **V-tach**
 - a. Pulseless v-tach; same as asystole and v. fib and would depend on how long down
 - b. After 8 mins consider dead
5. Treatment
 - a. PVC’s
 - i. *Lidocaine* (Ventricular, lasts longer), *Amiodorone*
 - b. V Tach

CHEST TUBES

The purpose for chest tubes is to re-establish **negative** pressure in the pleural space

1. In a **pneumothorax**, the best tube removes *air*
2. In a **hemothorax**, the chest tube removes *blood*
3. In a **pneumohemothorax**, the chest tube removes *air* and *blood*

Location of chest tubes:

1. **Apicals** (HIGH) for Air
 - a. Label "A"- up high
2. **Basilar** (LOW) for Blood
 - a. Label "B"- placed at base; bottom of lung

Examples

1. How many chest tubes (and where) for unilateral pneumohemothorax?
 - a. **2; apical and basilar all on same side**
2. How many chest tubes (and where) for bilateral pneumothorax?
 - a. **2; apical right and left**
3. How many chest tubes (and where) for post-op chest surgery?
 - a. **2; apical and basilar unilateral**
 - b. Exception: If surgery total pneumonectomy then → no chest tube bc no pleural space
 - c. Always assume chest trauma and surgery is unilateral

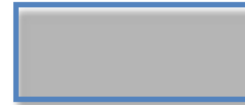
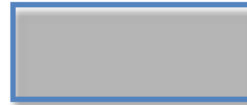
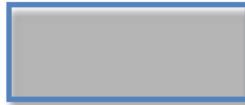
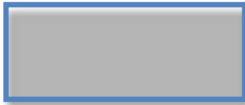
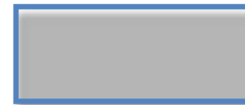
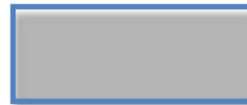
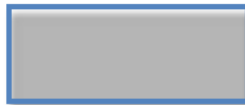
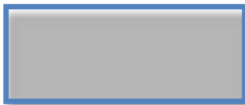
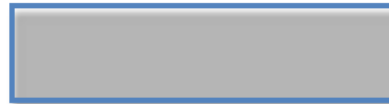
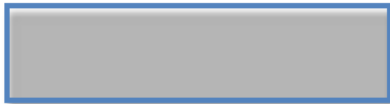
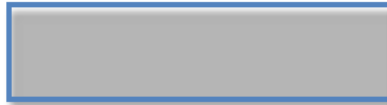
Problem Solving

1. What do you do if you kick over the collection bottle?
 - a. Not a big deal; can just sit it right back up; have take a couple deep breaths
2. What do you do if the water seal breaks?
 - a. This is more serious, because it is allowing air in creating a 2 way
 - b. First: Clamp chest tube (Better no way than 2 way for brief period of time) ****in routine care never clamp chest tube!!**
 - c. Best: Submerge
 - i. Cut tube away (down) by device; submerge under water preferably sterile-then unclamp
3. What do you do if the chest tube comes out?

- a. First: cover hole with gloved hand; Vaseline gauze dressing; 4 sided sterile dressing; tape
- b. Best: Vaseline gauze

4. Bubbling

- a. Ask yourself two questions:
 - i. **WHEN** is it bubbling
 - ii. **WHERE** is it bubbling



5. Rules for clamping the tube:

- a. Never clamp for longer than **15 seconds** without a Dr.'s order
- b. Use **rubber tipped double clamp**

CONGENITAL HEART DEFECTS

Every congenital heart defect is either TROUBLE or NO TROUBLE

T R o u B L e

R-L → *Blood shunts*

B → *Cyanotic*

T → *All CHD's beginning with "T" are trouble*

Exception → Left ventricular hyperplastic syndrome

Examples of "Trouble"	Examples of "No Trouble"
<ul style="list-style-type: none">• Tricuspid• Tricuspid arterioles• Tetralogy of Fallot	<ul style="list-style-type: none">• Ventricular septal defect• Patent foramen ovale• Patent ductus arterioles• Pulmonary

All CHD kids have two things whether trouble or not:

1. Murmur
2. All get echocardiogram done (@ least 1)

Four defects present in Tetralogy of Fallot:

1. **V**aried → **V**entricular **D**efect
2. **P**icture → **P**ulmonic **S**tenosis
3. **O**f → **O**verriding **A**orta
4. **R**anch → **R**ight **H**ypertrophy

CRUTCHES, CANES, & WALKERS

1. How to measure: **2-3 finger widths** below anterior axillary fold to a point **lateral to** and slightly in front of foot
2. When the handgrip is properly placed, the angle of elbow flexion will be **30 degrees**
3. Types of gaits:
 - a. **2-Point Gait**
 - i. Step One: Move one crutch and opposite foot **together**
 - ii. Step Two: Move other crutch and other foot together
 - iii. Remember: 2 points together for a 2 point gait
 - iv. Examples: one knee replacement
 - b. **3-Point Gait**
 - i. Step One: Move two crutches and bad leg together
 - ii. Step Two: move good foot by self
 - iii. Remember: 3 point is called 3 point because three points touch down at once
 - iv. Examples: Stairs
 - c. **4-Point Gait**
 - i. Step One: One crutch
 - ii. Step Two: Opposite foot
 - iii. Step Three: Other Crutch
 - iv. Step Four: Other foot
 - v. Examples: total both knee right after surgery
 - d. **Swing-through**: for two braced extremities
 - i. Examples: arthritis braced legs
4. When to use each gait
 - a. Use the **even** numbered gaits (2&4 point) when weakness is **evenly** distributed (bilateral). Two point for mild problem; four-point for severe problem
 - b. Use the **odd** numbered gait (3 point) when one leg is **odd** (unilateral problem)
5. Stairs: which foot leads when going up and down stairs on crutches?
 - a. Remember: **UP** with the good; **DOWN** with the bad
 - b. The crutches always move with the **bad** leg
6. Cane
 - a. Hold can on the **strong (unaffected)** side
 - b. Advance cane with the **weak** side for a wide base of support
7. Walkers

- a. Pick it up, set it down, **walk** to it
- b. **Tie belongings to side of walker, not front**
- c. Getting out of chair to walker- always push, never pull (same for cane, crutches)

DELUSIONS, HALLUCINATIONS, & ILLUSIONS

1. Psychotic vs Non-Psychotic
 - a. A *non-psychotic* person has **insight & is reality based**
 - b. A *psychotic* person has **NO** insight and is **NOT** reality based
2. **Delusions**
 - a. Definition: a delusion is a **false, fixed** belief or idea or thought. There is no **sensory** component.
 - b. Three types of delusions:
 - i. Paranoid or Persecutory: false, fixed belief that people are out to **harm** you.
 - ii. Grandiose: False, fixed belief that you are **superior**
 - iii. Somatic: False, fixed belief about **parts of your body**
3. **Hallucinations**
 - a. Definition: a hallucination is a false, fixed **sensory** experience
 - b. Five types of hallucinations:
 - i. Auditory (most common* hearing)
 - ii. Visual
 - iii. Tactile
 - iv. Olfactory
 - v. Gustatory
4. **Illusions**
 - a. Definition: An illusion is a misinterpretation of **reality**. It is a **sensory** experience.
 - b. Differentiation between illusions & hallucinations: *with illusions there is a referent* in reality
5. When dealing with a patient experiencing delusions, hallucinations or illusions, first ask yourself, "What is their problem?"
 - a. **Functional** Psychosis
 - b. Psychosis of **Dementia**
 - c. Psychotic **Delirium**
6. **Functional Psychosis**
 - a. These are:
 - i. Schizophrenia

- ii. Schizoaffective Disorder
- iii. Major Depression
- iv. Mania
- b. Patient has the potential to learn **reality**
- c. Four steps:
 - i. Acknowledge **how they feel**
 - ii. Present **reality**
 - iii. **Set** a limit
 - iv. Enforce **the limit**

7. Psychosis of dementia

- a. These are:
 - i. Alzheimers
 - ii. Senility
 - iii. Organic Brain Syndrome
 - iv. Post Stroke
 - v. Wernickes
- b. This patient has a **destructive** problem and **cannot** learn reality.
- c. Two steps:
 - i. Acknowledge **their feelings**
 - ii. **Redirect**

8. Psychotic delirium

- a. Description: Episodic, temporary, sudden onset, dramatic, loss of reality, secondary to a chemical imbalance
- b. Two steps:
 - i. Acknowledge their feeling
 - ii. Reassure (it will get better, I will keep them safe)

9. Loosening of association

- a. *Flight of Ideas*: stringing phrases together
- b. *Word salad*: string words together
- c. *Neologisms*: making up new words

10. Narrowed self-concept:

- a. when a PSYCHOTIC refuses to:
 - i. Leave the room and refuses to change their clothing
 - ii. Action- do not make them! Tell them they can wait until they are ready

11. Ideas of reference

- a. When you think everyone is talking about you

DIABETES MELLITUS

1. Definition: DM is a error of **glucose** metabolism
 - a. (vs Diabetes Insipidus **polyuria, polydipsia leading to dehydration**)
2. Types:
 - a. **Type I**
 - i. Insulin dependent
 - ii. Juvenile Onset
 - iii. Ketosis prone (tend to make ketones)
 - b. **Type II**
 - i. "Non" all the above
 - ii. "Non" insulin dependent
 - iii. "Non" juvenile onset
 - iv. "Non" ketosis prone
3. Signs and Symptoms
 - a. Polyuria
 - b. Polydipsia
 - c. Polyphagia
4. Treatment
 - a. **Type I**
 - i. Diet (3)
 - ii. Insulin (1)
 - iii. Exercise(2)
 - b. **Type II**
 - i. Diet (1)
 - ii. Oral hypoglycemics (3)
 - iii. Activity (2)
 - c. **Diet (type II)**
 - i. Calorie restriction
 - ii. Need to eat 6x a day
 - d. Insulin acts to **lower** blood sugar
 - i. Types of insulin

Type of Insulin	Onset	Peak	Duration
REGULAR (clear, short acting, rapid; IV)	1 hour	2 hours	4 hours
NPH (cloudy, intermediate acting)	6 hours	8-10 hours	12 hours
HUMALOG (Insulin Lispro) (Worlds fastest acting; give with meals)	15 minutes	30 minutes	3 hours
Lantus (Glargine) (long acting insulin)	Slow absorption	No peak, therefore no risk of hypoglycemia	12-24 hours

- ii. Check **expiration date**
 - 1. After open new expiration date 20-30 days after opening
- iii. Refrigeration: **optional for opened; necessary for unopened**
- e. Exercise **Potentiates (decreases)** insulin:
 - i. If more exercise, need *decrease* insulin
 - ii. If less exercise, need *increase* insulin
- f. Sick days
 - i. Take **insulin** (even if not eating!)
 - ii. Take **sips of H2O to prevent dehydration**
 - iii. Stay as active as possible
- 5. Complications of DM
 - a. *Low Blood Sugar in Type I DM (=insulin shock) [Hypoglycemia]*
 - i. Causes:
 - 1. Not enough food
 - 2. Too much **exercise**
 - 3. Too much insulin
 - ii. Danger:
 - 1. Permanent brain damage
 - iii. Signs and Symptoms
 - 1. Cerebral impairment & vasomotor collapse (blood vessel wall muscles don't have enough E to maintain tone) → slurred speech, staggered gait, abnormal reaction time, uncontrolled emotions, lowered BP, increased pulse, skin pale, cold, clammy, inattentive to social boundaries
 - iv. Treatment
 - 1. Administer rapidly metabolizable **Carbohydrates (sugar)**

2. Ideal combination: **food with sugar and protein (& maybe starch)**
 3. If unconsciousness: **Nothing! Glucagon IM, Dextrose IV, never anything in mouth!**
- b. *High Blood Sugar in Type I DM- DKA Diabetic Coma [Hyperglycemia]*
- i. Causes:
 1. Too much **food**
 2. Not enough **insulin**
 3. Not enough **exercise**
 4. **#1 cause is acute viral upper respiratory infection within the last week or two**
 - ii. Signs and Symptoms
 1. **Dehydration** (appear dry, hot, flush, HA, pulse weak, thready, increase in temp)
 2. **Ketones** (in urine & blood); increase in K⁺; Kussmaul respirations
 3. **Acidotic**; acetone (fruity) breath; anorexia with nausea
 - iii. Treatment
 1. IV with regular insulin @ 200/hr at high flow rate
- c. *Low Blood Sugar in Type II DM (Hypoglycemia)*
- i. Treatment is the same as for low BGM in Type I Diabetes
- d. *High Blood Sugar in Type II DM (Hyperglycemia)*
- i. Called HHNK (or HHNC):
 1. **Hyperosmolar, hyperglycemic, non-ketotic coma**
 - ii. This is **dehydration**
 - iii. Signs & symptoms are like S&S of **dehydration**
 1. *Including: increased temp*
 - iv. Treatment: **rehydrate (glucose will usually turn to normal on own)**
- e. Long term complications are related to two problems:
- i. Problems with tissue perfusion
 - ii. Peripheral neuropathy (nerve damage)
- f. Which lab test is the best indicator of LT BGM control (compliance/effectiveness) ? **Hemoglobin A1C**
- i. **HA1C for dx** → >6.5 → DM/pre DM
 - ii. **Monitoring tx** → >7.0 out of control

DRUG TOXICITIES

DRUG	THERAPEUTIC LEVEL	TOXIC LEVEL
Lithium (antimania)	0.6-1.2	≥ 2.0
Lanoxin (uses #1 CHD #2 atrial arrhythmias)	1-2	≥ 2
Aminophylline (airway antispasmodic)	10-20	≥ 20
Dilantin (seizures)	10-20	≥ 20
Bilirubin (not a drug)	Elevated hyperemibilirubin 10-20 Toxic >20	<i>Kernicterus</i> <ul style="list-style-type: none"> Bilirubin >20; crosses BBB in CSF- invaded brain causes encephalitis meningitis <i>Opisthotonos</i> <ul style="list-style-type: none"> Position of extension seen with kernicterus Arching d/t bili irritation in brain Place this child on his/her side

- Total bilirubin: 0-1.0 mg/dl
- Direct (conjugated) bilirubin: 0-0.3 mg/dL
- Indirect (unconjugated) bilirubin: 0-0.3 mg/dL

DUMPING SYNDROME VERSUS HIATAL HERNIA

	HIATAL HERNIA (2 chambered stomach)	DUMPING SYNDROME
DEFINITION	<ul style="list-style-type: none"> • Regurgitation of acid into esophagus, because upper stomach herniates upward through the diaphragm • Gastric contents move in the wrong direction (UP instead of DOWN) direction at the correct rate 	<ul style="list-style-type: none"> • Post op gastric surgery complication in which gastric contents dump too quickly into the duodenum • Gastric contents move in the correct (DOWN) direction at the wrong (too fast) rate
SIGNS & SYMPTOMS	<p>Upper GI S/S:</p> <ul style="list-style-type: none"> • Indigestion • Heart burn • GERD • Chest pain 	<p>Lower GI S/S</p> <ul style="list-style-type: none"> • Acute lower abdominal distress: diarrhea, cramping, gas, abdominal pain, cramping, guarding, splinting, rigidity, distension • Drunk (look), all blood going to gut not brain (cerebrally impaired; confused) • Shock: blood in parasympathetic system; pale, cold, clammy, decreased BP, rapid pulse • D&S hypoglycemia
Treatment	<ol style="list-style-type: none"> 1. Raise HOB (High Fowlers) 2. High Fluids 3. High Carbs (Decrease Protein) 	<ol style="list-style-type: none"> 1. Low HOB 2. Low/Restricted fluids-in between meals 3. Low Carbs (Increase Protein)

ELECTROLYTES

KALEMIAS do the **same** the prefix except for **heart rate** and **urine output**

HYPERKALEMIA ↑ HR ↓ UO

HYPOKALEMIA ↓ HR ↑ UO

CALCEMIAS do the **opposite** the prefix. No exceptions. [& anything to BP]

HYPERCALCEMIA ↓

HYPOCALCEMIA ↑

Two signs of neuromuscular irritability associated with **low calcium**:

1. Chovostek's sign ↑

Tap cheek → spasm

2. Trousseau's sign ↑

Put on BP cuff and arm goes into carpal spasm(arm looks like swan neck)

MAGNESEMIAS do the **opposite** the prefix

Note: In a tie, never pick Mg. If symptom involves nerve or skeletal muscle, pick **Calcium**. For any other symptom, pick **Potassium**

HYPERMAGNESEMIA ↓

HYPOMAGNESEMIA ↑

NATREMIAS

HYPERNATREMIA

"E" → dehydration

- Poor skin turgor
- Dark urine
- Hot flushed skin
- Increase urine specific gravity
- Weak, thready pulse

HYPONATREMIA

"O" → overload

- Increased weight
- edema

The earliest sign of any electrolyte disorder is **numbness (paresthesia) & tingling**

The universal sign/symptom of electrolyte imbalance is **muscle (paresis) weakness**

ELECTROLYTE TREATMENT

1. **Never push Potassium IV [Fatal]**
2. Not more than **40 mEq** of K⁺ per liter of IV fluid [clarify if over 40]
3. Give **D5W with regular insulin** to decrease K⁺ [carrier mediated transport]
4. **Kayexalate [K-exit-late]**
 - a. Puts drug in gut, full of sodium; Na picked up by bloodstream; Doesn't need that much + charge, so body exchanges for K, diarrhea)
 - b. B/C is slow → do this with D5W + insulin

ENDOCRINE OVERVIEW

Thyroid

1. Hyperthyroidism (Hyper-Metabolism)

i. *Signs & Symptoms*

1. ↓ weight ♦ tachycardia ♦ ↑ BP ♦ Agitation ♦
Restlessness ♦ nervousness ♦ diarrhea ♦ ↑ **energy** ♦
bulging eyes ♦ warm ♦ <3 organ most effective

ii. **Graves** Disease [literally run self into grave]

iii. The problem is hyperthyroidism. Treatment options:

1. *Radioactive Iodine*

a. Watch out for urine [DANERGOUS]

i. Use private bathroom

ii. Flush 2-3 times

2. *PTU (Prothyroidicil) *sp*

a. Cancer drug-knocks out cells metastizing problem- agranulocytosis (↓ WBC)

b. Education- isolation, wear mask, no kids

3. *Surgical removal*

a. Thyroidectomy (remove thyroid)

i. **Total thyroidectomy**

1. Need lifelong **T3, T4** hormone replacement

2. At risk for **hypocalcemia** (bc at risk for loosing parathyroid gland)

3. S/S hypocalcemia: **tetany**

a. Earliest sign:

paresthesia

ii. **Subtotal thyroidectomy**

1. At risk for **thyroid storm**

2. S/S thyroid storm:

a. Very high fever >104 F

b. Very high V/S

c. Psychotic Delirium *life threatening priority

3. Treatment

- a. Wait out: either die, come out, give O2 and lower body temp
- b. Tx focuses on saving the brain until they come out of it
- c. Lowering body temp:
 - i. Ice packs: on axilla, axilla, groin, groin, back, neck
 - ii. Cooling blanket

iii. Post-op risks 1st 12 hours

airway&hemorrhage

- **after first 12 ours it is assumed that the patient is stable
- Post-op risks 12-48 hours for TOTAL: ↓ calcium (tetany)
- Post-op risks 12-48 for SUB-TOTAL: Thyroid storm

2. Hypothyroidism (Hypo-Metabolism)

a. *Signs & Symptoms*

- i. ↑ weight ♦ cold ♦ sluggish ♦ slow ♦ decreased BP ♦ bradycardia ♦ hair and nails brittle ♦ decreased E

b. Name of disease: **myxedema**

c. *Treatment: thyroid pills*

d. *Caution: DO NOT sedate these patients! (already ↓)*

e. *Surgical Implication: call anesthesiologist and ask if thyroid pills should be held. Do not do well with anesthesia*

Adrenal Cortex Diseases (start with letters A or C)

1. Addison's Disease

a. **Under secretion** (too little) of adrenal cortex

b. *Signs & Symptoms*

- Hyperpigmented (3 or 4 shades darker than before)
- Inability to adapt normally to stress—sends off limit—shock

c. Treatment

i. Give steroids [glucocorticoids and mineralcorticoids]

1. Steroids all end in -sone

2. Cushing's Syndrome

a. Over secretion of adrenal cortex

b. Signs & Symptoms [also reflex S/S of steroids]

c. Treatment: adrenoectomy

INFECTIOUS DISEASE & TRANSMISSION-BASED PRECAUTIONS

Contact:

For :

1. Herpes,
2. anything Staph (MRSA),
3. Enteric (intestinal) [cholera, shigellosis, rotovirus],
4. RSV (Respiratory Syncytial Virus)
 - a. [spread droplet; but research found this is best for precautions]

Select all that apply

Private Room	Eye/Face Shields
Mask	Special Filter Respirator Masks
Gloves	Pt wear mask when leaving room
Gown	Disposable supplies
Handwashing	Negative air flow

Droplet: For

1. ALL Viruses
2. ALL Influenzas [DTaP, Pertussis, Mumps]

Select all that apply

Private Room	Eye/Face Shields
Mask most important	Special Filter Respirator Masks
Gloves	Pt wear mask when leaving room
Gown	Disposable supplies
Handwashing	Negative air flow

Airborne:

For:

1. TB *spread droplet
2. Chicken Pox (varicella)
3. Measles
4. SARS (Severe acute respiratory system)

Select all that apply

Private Room	Eye/Face Shields
Mask	Special Filter Respirator Masks w/TB only N95
Gloves	Pt wear mask when leaving room
Gown	Disposable supplies
Handwashing	Negative air flow

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Unless otherwise specified, assume that PPE includes: **Gowns, Goggles, Mask, Gloves**

The proper place for donning (putting on) PPE is **outside of the room**

The proper order for donning PPE is:

1. Put on gown
2. Put on mask
3. Put on goggles
4. Put on gloves

The proper place for removing (doffing) PPE is **inside room**

The proper order for removing PPE is:

1. Gloves
2. Goggles
3. Gown
4. Mask → need to take mask off outside so you don't breathe in contaminated air

In airborne precautions ONLY, the mask is removed **outside of the room**

HANDWASHING AND GLOVING

Handwashing

Handwashing versus Scrubbing

	Handwashing	Scrubbing
Position	Hands below elbows	Elbows below hands
Length	Seconds	Minutes
Handles	Yes; sink with handles	No sink with handles
When	Upon entry or leaving room before and after gloving, when soil hands	When patient is immunosuppressed for any reason
Use	Soap and water	Something with chloro in it

Use an Alcohol-Based Solution

1. On entering or leaving a room
2. Before putting on gloves, after taking off gloves
3. Cannot → after soil hands!!

What about after using the rest room? → must use soap and water

Dry from **cleanest (hand)** to **dirtiest (elbow)**

Turn water off with **new** paper towel

Sterile Gloving

Glove **dominant** hand first.

Grasp **outside** of cuff.

Touch only the **inside** of glove surface.

Do not **roll** cuff.

Fingers **inside** of second glove cuff.

Keep thumb **abducted back**.

Only touch **outside** surface of glove

Skin touches inside of glove

Outside of glove only touches outside of glove

Remove glove to glove

Skin to skin

INTERDISCIPLINARY CARE

Identifying which patients need interdisciplinary care...**different than prioritizing** → **who would most benefit from a team working together on their care**

Patients who do not need interdisciplinary care: **Patients who need or have multiple doctors**

Patient who **DO** need interdisciplinary care:

1. Major Criteria
 - a. Patients with **multi-dimensional** needs
 - i. For example:
 1. Physical
 2. Psychological
 3. Social
 4. Spiritual
 5. Intellectual needs
 - b. Patients who need **rehabilitation**
 - b. Patients who need **rehabilitation**
2. Minor Criteria [choosing between patients]
 - a. A patient whose current **treatment** is ineffective
 - b. A patient who is preparing for **discharge**

LAB VALUES

A=ABNORMAL → Do Nothing

B= BE CONCERNED → Assess/Monitor

C=CRITICAL → Do Something

D = DEADLY DANGEROUS → Do Something NOW

Creatinine

- Best indicator of Kidney Function
- 0.6-1.2
- Elevated = A

INR (International Normalized Ratio)

- Monitors Coumadin (Warfarin) Therapy [Anticoagulant]
- Therapeutic 2-3
- $\geq 4=C$
 - Patient could bleed to death
 - Hold all warfarin
 - Assess for bleeding
 - Prepare to administer Vitamin K
 - Call Physician

Potassium (K⁺)

- 3.5-5.3
- Low=C [Hypokalemia]
 - Assess the heart (may include EKG which aid can do)
 - Prepare to give K⁺
 - Call physician
- 5.4-5.9 = C [Hyperkalemia]
- High but still in the 5's
 - Hold K⁺
 - Assess heart (may include EKG which aid can do)
 - Prepare Kayexelate and d5W with regular insulin
 - Call physician
- $\geq 6 = D$ Cardiac Danger Zone
 - Do steps simultaneously
 - Need help once levels hit 6; if cardiac symptomatic call rapid response team

pH

- 7.35-7.45 (as pH drops so does the patient)
- K⁺ can increase which can stop the heart
- Low pH in the 6's = D [severe acidosis]
- Immediately assess vital signs
- Call dr if v/s bad, also call rapid response team

BUN [Blood Urea Nitrogen]

- 8-30
- Elevated =B
- Check for dehydration

HgB [Hemoglobin]

- 12-18
- 8-11 = B
- <8 = C
- Assess for bleeding (may transfuse <8)
- Call Dr

HCO₃ (Bicarb)

- 22-26
- Abnormal =A

CO₂

- 35-45
- In 50's = C
 - Assess respiratory status
 - Do have patient do pursed lip breathing (like blowing out candle)
- In 60's = D Respiratory failure
 - Assess respiratory status; if symptomatic call rapid response
 - Do pursed lip breathing
 - Prepare ventilate and intubate
 - Call DR
 - Cal respiratory therapist

Hct (Hematocrit)

- 36-54
- Abnormal = B; Assess for bleeding

PO2 (Oxygen level in blood; obtained from ABG)

- 78-100
- Low 70-77 =C Respiratory insufficiency
 - Assess respiratory status
 - Give oxygen
- Low \leq 60s =D Respiratory failure
 - Assess respiratory status
 - Give oxygen
 - Prepare intubate and ventilate
 - Call Dr
 - Call respiratory therapist

O2 Sat

- 93-100
- <93=C
 - Assess RR
 - Give O2

BNP

- Good indicator of CHF
- Normal <100
- Elevated=B

Sodium

- 135-145
- Abnormal =B (Hypo-Overload) (Hyoer-dehydration)
- If change in LOC=C
 - Fall risk * Implement precautions and call dr

WBCs

- WBCs 5,000-10,000
 - WBC < 5000 = C
- Absolute Neutrophil Count (ANC) >500
 - ANC <500 =C
- CD4 Count (T Cells)
 - Should be greater than 200
 - <200= AIDS
 - CD4 < 200 =C
- For top three implement (NP) reverse isolation precautions:

- ***Neutropenic Precautions:***
 - Strict handwashing
 - Shower BID with antimicrobial soap
 - Avoid crowds
 - Private room
 - Limit number of staff entering the room
 - Limit visitors to healthy adults
 - No fresh flowers or potted plants
 - Low bacteria diet
 - No raw fruits, veggies, salads
 - No undercooked meat
 - Do not drink water that has been standing 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 in between use
 - Use disposable plates, cups, straws, plastic knife, fork, spoon
 - Dedicated items in room: stethoscope, BP cuff, Thermometer, Gloves
- Terminology:
 - *High WBC Count*
 - Leukocytosis
 - *Low WBC Count*
 - Leukopenia
 - Neutropenia
 - Agranulocytosis
 - Immunosuppression
 - Bone Marrow Suppression

Platelets (Thrombocyte Clotting Cell)

- Wide range 150,000-400,000
 - **<90,000 = C**
 - **Assess for bleeding**
 - **Bleeding precautions**
 - **Call Dr**
 - **<40,000 = D**
 - **could spontaneously hemorrhage to death**
 - **Assess for bleeding**

- **Bleeding precautions**
- **Prepare for transfusion**
- **Call DR**
- **Bleeding Precautions(Thrombocytopenic Protocol):**
 - No unnecessary venipuncture-injection or IV. Use small gauge
 - Handle patient gently; use drawsheet
 - Use electric razor
 - No toothbrush or flossing
 - No hard foods
 - Well fitting dentures (no rub)
 - Blow nose gently
 - No rectal temp, enema, suppository
 - No aspirin
 - No contact sports
 - No walking in bare feet
 - No tight clothes or shoes
 - Use stool softener. No straining
 - Notify MD of blood in urine, stool

RBCs

- **4-6**
- **Abnormal =B (check for bleeding)**

Summary/Analysis

Know the 5 D's which are the most dangerous

- **K+ ≥ 6**
- **pH 6 & <6**
- **CO2 60's and up**
- **pO2 60's and down**
- **Plt <40,000**

Know what to do for the C's

Don't spend time memorizing the A&B's

When should you call a Rapid Response Team? **When symptomatic! ASAP!**

Don't call before assessing

LACINECTOMY AND SPINAL CORD

1. Definition:
 - a. 'Ectomy' = 'removal of'
 - b. 'Lamina' = Vertebral spinous processes
2. Reason for laminectomy: to treat nerve root **compression**
3. Signs & Symptoms of nerve root compression
 - a. Pain [usually distal extremities]
 - b. Paresthesia [numbness and tingling]
 - c. Paresis [muscle weakness]
4. Locations:
 - a. Cervical (neck)
 - b. Thoracic (upper back)
 - c. Lumbar (lower back)
5. **Pre-op Cervical Laminectomy**
 - a. cervical spine innervates diaphragm and arms!
 - b. Most important assessment:
 - i. *Breathing*
 - ii. *2nd: how are arms functioning*
6. **Pre-op Thoracic Laminectomy**
 - a. Thoracic innervates abdomen and bowel functions
 - b. Most important assessment:
 - i. *Cough mechanism and bowel function*
7. **Pre-op Lumbar Laminectomy**
 - a. Innervates bladder and legs
 - b. Most important assessment:
 - i. *Bladder retention and leg function*
8. **Post-Op Care**
 - a. *#1 post op answer on NCLEX with spinal cord: log roll (move spine in ONE piece)*
 - b. Specific "activity"/mobilization strategy post-op
 - i. Do NOT dangle (sitting-worst position for spine/back)
 - ii. Limit sitting for 30 minutes at a time
 - iii. May walk, stand, or lay without restrictions
 - c. **Post-Op Complications**
 - i. Cervical: Watch for *pneumonia (diaphragm and arm probs)*
 - ii. Thoracic: Watch for *aspirational pneumonia (abdominal-paralytic ileus [bowel])*
 - iii. Lumbar: Watch for *urinary retention (bladder retention and lower extremity probs)*

- d. Laminectomy with fusion involves taking a **bone graft** from the **iliac crest** (most common site). (and fuse them)
 - i. Of the two sites which site has the most:
 - 1. Pain? **Hip**
 - 2. Bleeding/drainage? **Hip**
 - 3. Risk for infection? **50/50 equal spine and hip**
 - 4. Risk for infection? **Spine site**

Surgeons are using cadaver bone from bone banks. Why?

So don't have to do grafts, reducing rejection and infection rate. Bone has decreased protein with antigens and won't be as easily rejected. Decrease pain in patients post op as well.

9. Discharge Teaching

- a. Temporary restrictions [normally always 6 weeks]
 - i. Don't **sit** for longer than **30 minutes**
 - ii. **Lie flat & Log roll** for 6 weeks
 - iii. No **driving** for 6 weeks
 - iv. Lifting restrictions: do not lift more than **5lbs for 6 weeks**
- b. Permanent restrictions [forever]
 - i. Laminectomy patients will never be allowed to lift by **bending at waist [must use knees]**
 - ii. Cervical laminectomy patients will never be allowed to lift objects **above head**
 - iii. No horseback riding, off-trail biking, jerky amusement park rides, etc

PEDIATRIC TEACHING

Piaget's Stages of Intellectual Development

Age/Stage	Characteristics	Teaching Guidelines
Age: 0-2 years old Stage: Sensorimotor	Totally present-oriented. Only think about when they SENSE or are DOING right now. Don't understand past or future	<i>When</i> → As you do it <i>What</i> → You are currently doing <i>How</i> → Verbally explained
Age: 3-6 years old Stage: Pre-Operational	Fantasy oriented Illogical No rules	<i>When</i> → teach ahead of time (not too far, a hour or two; day of or morning before) <i>What</i> → you are going to do <i>How</i> → using play [doll, story..]
Age: 7-11 years old Stage: Concrete Operations	Rule-oriented Live & Die by the rules! Cannot abstract Only 1 way to do things *Perfect age to teach skills	<i>When</i> → can teach days ahead <i>What</i> → you are going to do + skills <i>How</i> → don't use toys and play! Internet Use age appropriate reading and audio visual material
Age: 12-15 years old Stage: Formal Operations	Able to think abstractly Understand cause-effect Adult when it comes to thinking	<i>When</i> → like adult <i>What</i> → like adult <i>How</i> → like adult Like any other med surg pt

KIDS TOYS

Three principles to consider when choosing appropriate toys..

1. Is it **safe**
2. Is it **age appropriate**
3. Is it **feasible**

Safety considerations:

1. No small toys for children 4 and under
2. No metal toys where oxygen is in use
3. Beware of fomites [so if immunocompromised → no stuffed animals!]

Age Appropriateness:

1. First year of life

a. 0-6 months (sensorimotor)

- 1) Best toy: musical mobile
- 2) 2nd Best toy: Something large, soft (can't be swallowed, no fomites)

b. 6-9 months (object permanence)

- 1) Best toy: cover/uncover toys [peek a boo]; jack in the box
- 2) 2nd Best toy: large, hard, plastic metal

c. 9-12 months

- 1) Best toy: verbal toy [toy which talks]
- 2) Purposeful activity with objects [@ 9 mos first start doing purposeful things]

Avoid answers with the following words in them for children 9 months and younger:

- Build
- Sort
- Stack
- Make
- Construct

2. Toddler (1-3 years)

- a. Best toy push/pull toy [wagon]
- b. Work on Gross motor
- c. Characterized by parallel play [next to each other but not with]

3. Preschoolers (3-6 years)

- a. Work on fine motor [puzzles, chalk, crayons]

- b. Work on balance [dance, skate]
- c. Characterized by cooperative play
- d. They Like to pretend

4. School age (7-11 years)

Characterized by the 3 C's

- 1. **Collective** [like to collect- ex. Beanie babies]
- 2. **Creative** [blank paper, coloring pencils, legos—need to make things into other things]
- 3. **Competitive** [winners & losers]

5. Adolescents (12-18 years)

Their “play” is **peer group association** (hang out in large groups, doing nothing)

Allow adolescents to be in each others' rooms unless one of them is:

- 1. Immunosuppressed
- 2. Contagious
- 3. Fresh post-op (12 hours)

MEDICATION HELPS & HINTS

1. Humulin 70/30

2. Drawing up Insulin

- 1) Pressurize Normal
- 2) Pressurize Regular
- 3) Draw up Regular [clear before cloudy]
- 4) Draw up Normal

3. Injections

IM	SQ
	

4. Heparin & Coumadin

HEPARIN	COUMADIN (WARFARIN)
<ul style="list-style-type: none">• Works right away (so start right away)• IV & SQ• 21 days [after that body makes own enzymes-dangerous]<ul style="list-style-type: none">○ therefore, notify MD if at it 2 weeks and ask if time to switch to Warfarin○ when start may be on bed rest 5-10 days until bodies enzymes adapt• Antidote: protamine sulfate• PTT• Can be given in pregnancy<ul style="list-style-type: none">○ Not safe however○ Class C: use with caution	<ul style="list-style-type: none">• Takes days (therefore start heparin too at same time)• Kicked in when INR 2-3• PO• Antidote: Vitamin K• PT (INR)• Cannot give in pregnancy<ul style="list-style-type: none">○ Can cross placenta○ Class X

K+ sparing vs K+ wasting Diuretics

Baclofen (Lioresal)

- Muscle relaxants
 - Can take with Oxycodone & cut dose $\frac{1}{2}$
- 1) Causes drowsiness
 - 2) Relaxes muscles (muscle weakness)
 - 3) No alcohol
 - 4) No driving
 - 5) Cannot supervise kids under 12 alone

PSYCHIATRIC NURSE TEST-TAKING

PRINCIPLES

Phase Specificity

The best psych answers are those answers that are most appropriate to the phase of the nurse-patient therapeutic relationship that you are in

If the question tells you the phase of the relationship, the phase will be the determinant of which answer is correct

The phases of the nurse-patient relationship:

The Pre-Interaction Phase

Purpose: For the nurse to explore his/her own feelings. To prevent judgmental, intolerant reactions.

Length: Begins when you learn you are going to be caring for someone and ends when you meet them.

Correct Answer(s): "The nurse will explore her/his own feelings about..."

The Introductory Phase

Purpose: To establish trust and explore/assess

Length: Begins when you first meet the patient and ends when a mutually agreed-upon care plan is in place

Key Words:

- These phrases are designed to hint to you that you are in the introductory phase:
 - 1. *"During the initial interview..."*
 - 2. *"Upon admitting the patient..."*
 - 3. *"On admission..."*
 - 4. *"At your first few meeting with..."*
 - 5. *"While assessing..."*
 - 6. *"On the day of admission..."*
 - 7. *"While formulating nursing diagnoses..."*

Correct answers: Should be very tolerant, accepting, explorative, probing, "nosy."
Be warm and fuzzy

The Working Phase (Therapeutic Phase)

Purpose: To implement the plan of care

Length: From the finished care plan until discharge

Key Words:

- 1. “During the therapeutic interview...”
- 2. “While implementing the care plan..”
- 3. “While working on the care plan goals...”
- 4. “During treatment sessions..”
- 5. “During therapy..”
- 6. “In your weekly session..”
- 7. “Three days after admission...”
- 8. “After improving..”

Correct Answers:

Should be very focused, directive, “tough.” In some ways these answers will seem stern and slightly unfriendly. Set limits. Enforce proper communication.

The Termination Phase

The only question asked here has been, “When does the termination phase begin?”

The answer “On admission”

GIFT GIVING

In psych, do not give something of value to the patient. Conversely, do not accept something of value from the patient

A gift is something of tangible or intangible value given from one person to another.

Gifts include: hugs, kisses, compliments, opinions, holding hands, placing an arm around, etc

DO NOT do these behaviors in psych. (May be appropriate in med-surg)

Difference between complimenting and observing progress

ADVICE-GIVING

DO NOT GIVE ADVICE. Let the patient formulate own solutions and alternatives.

Remember, giving advice and setting limits are not the same. The former is bad, the latter is good.

KEY WORDS TO AVOID:

1. "Suggest that.."
2. "Advise the patient to.."
3. "Tell the patient to.."
4. "If I were you, I would..."
5. "You should do.."
6. "You ought to.."
7. "You should NOT do.."
8. "Don't do..."
9. "Recommend that..."

Any words with these phrases violate this principle and are **WRONG. RULE THEM OUT!**

Always say, "And what do you think you should do, Mr. Smith?"

GUARANTEE GIVING

DO NOT GIVE GUARANTEES IN PSYCH. You cannot predict the human mind of know another's experience

Giving guarantees is okay in Med/Surg—if true

KEY WORDS:

1. "If you...then..."
2. "You will improve if you.."
3. "We can..."

A guarantee violates trust when the promised results do not appear

Only things can guarantee: 1) meds will work 2) you are safe

IMMEDIACY

The best psych answers communicate to the patient that the nurse is willing to deal with the patient's problem right then and right there

Key Phrases:

AVOID answers like these

1. "Refer patient to..."
2. "Have you spoken to your...about this?"
3. "Why don't you talk to your...about this?"

Avoid changing the subject—unless you are refocusing a patient who is avoiding the subject of therapeutic session

CONCRETENESS

The best psych answers are those answers that say exactly what they mean in a literal sense—word for word

KEY PHRASES: Avoid slang, figurative speech, sayings, proverbs, verses, poetry, stories, parables, allegories, neologisms.

Tie-Breakers

1. "Why" questions are not as good
2. Reflection is good.
3. Open-ended is better than closed-ended.
4. Answers with **I, me, we, us** in the subject are not good.
5. Shortest answers are the best

PSYCH TREATMENT PROTOCOLS

CATEGORY	PROTOCOL
DEPRESSION	<ul style="list-style-type: none"> • Most cases not psychotic • Suicide rates high <ul style="list-style-type: none"> ○ If even slightest indication must bluntly ask, "have you ever thought of.." • Psychomotor retardation: sit around and don't do anything, slow, inactive <ul style="list-style-type: none"> ○ Must push these patients to do things and be very directive • Activities: in a group, but does not require interaction ex. Movie, craft
SCHIZOPHRENIA	<ul style="list-style-type: none"> • High suicide rate • Activities: group, requiring interaction- this brings pt to reality
BIPOLAR	<ul style="list-style-type: none"> • <u>Hypomania</u>: minor; preceding; admit at this phase to prevent full mania. Pt hyperexaggerated but still functioning • <u>Mania</u>: full blown; when stops ADLs and other responsibilities <ul style="list-style-type: none"> ○ Major problems: dehydration, malnutrition, lack of sleep ○ Actions: high cal finger foods, allow sleep/naps whenever they want, gross motor activities alone

ANXIETY DISORDER most common psych prob in U.S.	<ul style="list-style-type: none">• Phobias: treatment: desensitization (gradual exposure)• 4 levels:<ul style="list-style-type: none">○ 1. Talk about it○ 2. See pics of it○ 3. Be in environment with is○ 4. Actually experience it• Patient has to be calm and ready to experience each next level
SUBSTANCE ABUSE	<ul style="list-style-type: none">• Denial• Dependency• Manipulation
VIOLENT CLIENTS	<ul style="list-style-type: none">• Deal with violence as a team (of 5-1 person for each extremity)• In de-escalation process- only one person talks• Always give patient a chance to gain control of self before taking action

EMPATHY

The best psych answers are those answers that communicate to the patient that the nurse accepts that patients feelings as being valid, real, and worthy of action.

Key Phrases: A low-empathy answer is always wrong

Avoid Saying:

1. "Don't worry..."
2. "Don't feel..."
3. "You shouldn't feel..."
4. "I would feel..."
5. "Anybody would feel..."
6. "Nobody would feel..."
7. "Most people would feel..."

Four Steps to Answering Empathy Questions

1. Recognize that it is an empathy question

*Empathy questions have a **quote** in the question, and each of the answers contains a **quote**.*

2. Put yourself in the clients shoes. Say their words as if you really meant them.
3. Ask yourself, "If I said those words and really meant them, how would I be **feeling** right now?"
4. Choose the answer that reflects the **feelings**...not the answer that reflects their **words**.

PSYCHOTROPIC DRUGS

Note: All psych drugs cause a decrease in BP and weight change

1. Phenothiazines

- a. All end in -zine
- b. Very potent
- c. Immediate onset
- d. Ex. Thorazine, Compazine
- e. Actions:
 - i. Does not cure disease. Reduces symptoms
 - ii. *Large doses:* Psychotic symptoms (Hallucinations...)
 - iii. *Small doses:* Nausea/Vomiting
 - iv. *Major: Tranquilizers*
- f. Side Effects: (remember ABCDEFG...)
 - i. Anticholinergic Effects
 - ii. **B**lurred vision and **B**ladder retention
 - iii. **C**onstipation
 - iv. **D**rowsiness
 - v. **E**xtra Pyramidal Syndrome (EPS)
 - vi. **F**Photosensitivity
 - vii. **A**Granulocytosis (low WBC count-immunosuppression)
 - viii. Teach patient to report sore throat and any S/S of infection to DR
- g. Nursing Care: treat side effects. Number one nursing diagnosis is **safety**.
- h. “Deconate” after name of drug means it is *long acting* (at least 2 weeks to month) IM form given to **non-compliant** patients

2. Tricyclic Antidepressants

- a. Antidepressant
- b. “**mood elevators**” to treat depression
- c. Ex. Elavil, Tofranil, Aventyl, Desyrel
- d. -pram, -trip
- e. Side Effects: (Elavil starts with E so this group goes through E)
 - i. Anticholinergic Effects
 - ii. **B**lurred vision and **B**ladder retention
 - iii. **C**onstipation
 - iv. **D**rowsiness
 - v. **E**uphoria
- f. Must take meds for **2-4 weeks** before beneficial effects

3. Benzodiazepines

- a. Antianxiety meds (considered **minor tranquilizers**)
- b. Always have **-pam, -lam** in the name
- c. Prototype: Diazepam (Valium)
- d. Indications:
 - i. Induction of anesthetic
 - ii. Muscle relaxant
 - iii. Alcohol withdrawal
 - iv. Seizures—especially status epilepticus
 - v. Facilitates mechanical ventilation
- e. Tranquilizers work quickly
 - i. Must not take for more than **90 days/3 weeks-3 mos**
 - ii. Keep on Valium until Elavil kicks in
- f. Side Effects:
 - i. Anticholinergic Effects
 - ii. **Blurred vision and Bladder retention**
 - iii. **Constipation**
 - iv. **Drowsiness**
- g. #1 Nursing DX: **Safety**

4. Monoamine Oxidase (MAO) Inhibitors

- a. Antidepressants
- b. Depression is thought to be caused by a deficiency of norepinephrine, dopamine, and serotonin in the brain. Monoamine oxidase is the enzyme responsible for breaking down norepinephrine, dopamine, and serotonin. MAO inhibitors prevent the breakdown of these neurotransmitters and thus restore more normal levels and decrease depression.
- c. 2-4 weeks
- d. Drug Names:
 - i. **Mar-plan**
 - ii. **Nar-dil**
 - iii. **Par-nate**
- e. Side Effects
 - i. Anticholinergic Effects
 - ii. **Blurred vision and Bladder retention**
 - iii. **Constipation**
 - iv. **Drowsiness**
- f. Interactions: (Patient Teaching)

- i. To prevent severe, acute, sometimes fatal **hypertensive (stroke) crisis**, the patient **MUST** avoid all foods containing **TYRAMINE**.

- 1. *Foods containing TYRAMINE:*

- a. **Fruits and veggies**(remember salad “BAR”)

- i. **AVOID:**

- 1. Bananas

- 2. Avocados

- 3. Raisins (any dried fruits)

- b. **Grains:** all okay except things made from active yeast

- c. **Meats**

- i. No organ meats: liver, kidney, tripe, heart, etc

- ii. No preserved meats: smoked, dried, cured, pickled, hot dogs

- d. **Dairy**

- i. No aged cheese

- ii. No yogurt

- iii. Cannot eat brick cheese

- e. **Other**

- i. No alcohol, elixirs, tinctures, caffeine, chocolate, licorice, soy sauce

- ii. **Drug Interactions:**

- 1. Teach patient not to take OTC meds unless they are prescribed

5. Lithium

- a. An electrolyte—notice **-ium** ending as in potassium, etc
- b. Used for treating BPD (manic depression)—it decreases **mania**
- c. Side Effects: (The 3 P's)
 - i. **P**eeing (Polyuria)
 - ii. **P**ooping (Diarrhea)
 - iii. **P**aresthesia (First sign of electrolyte imbalance)
- d. Toxic:
 - i. Tremors, metallic taste, severe diarrhea or any other neuro signs besides paresthesia
 - ii. #1 intervention: **keep hydrated**
 - iii. If sweating, give **electrolyte drink** as well as fluids
- e. Note: Closely linked to sodium. Monitor sodium levels. Low sodium levels prolong lithiums half-life, causing lithium toxicity. High sodium levels decrease the effectiveness of Lithium.
 - i. Will only work as prescribed if Sodium normal!!

6. Prozac (Fluoxetine)

- a. Prozac is a SSRI (Antidepressant)
- b. Similar to Elavil (A tri-cyclic antidepressant)—same info
- c. Side Effects:
 - i. Anticholinergic Effects
 - ii. **B**lurred vision and **B**ladder retention
 - iii. **C**onstipation
 - iv. **D**rowsiness
 - v. **E**uphoria
- d. Prozac causes **insomnia**, so give before 12 noon
 - i. If BID give at 6A & 12 N
- e. When changing the dose of Prozac for a adolescent or young adult watch for **suicidal ideation**

7. Haldol (Haloperidol)

- a. Also has deconate form [IM, long acting, given to pts who wont take pills
- b. Same info as Thorazine
- c. Very potent
- d. Immediate onset
- e. Actions:
 - i. Does not cure disease. Reduces symptoms
 - ii. *Large doses:* Psychotic symptoms (Hallucinations...
 - iii. *Small doses:* Nausea/Vomiting
 - iv. *Major: Tranquilizers*
- f. Side Effects: (remember ABCDEFG...)
 - i. Anticholinergic Effects
 - ii. Blurred vision and Bladder retention
 - iii. Constipation
 - iv. Drowsiness
 - v. Extra Pyramidal Syndrome (EPS)
 - vi. FPhotosensitivity
 - vii. AGranulocytosis (low WBC count-immunosuppression)
 - viii. Teach patient to report sore throat and any S/S of infection to DR
- g. Nursing Care: treat side effects. Number one nursing diagnosis is **safety.**
- h. ****Elderly patients may develop Neuroleptic Malignant Syndrome (NMS), a potentially fatal hyperpyrexia (fever) with a temp of >104 F from overdose. Dose for elderly patient should be HALF of usual adult dose.**

8. Clozaril (Clozapine)

- a. Second generation atypical antipsychotic
- b. Used to treat severe schizophrenia
- c. Advantage: it does not have side effects A, B, C, D, E, or F (much less)
- d. Disadvantage: it DOES have side effect: **Agranulocytosis** (worse than cancer drug in susceptible patients)
- e. For first month need WBC counts weekly. If WBC LOW STOP!
- f. Do not confuse with Klonopin (Clonazepam)

9. Zoloft (Sertraline)

- a. Another SSRI like Prozac
- b. S/E ABCDE
- c. 2-4 weeks to work
- d. Also causes insomnia but CAN be given in evenings
- e. Watch for interaction with:
 - i. *St. John's wort*- **serotonin syndrome *deadly**
 1. Sweating
 2. Apprehension →impending sense of doom
 3. Dizziness
 4. **HEAD**-ache
 - ii. *Warfarin (Coumadin)*- watch for **bleeding** (may need to lower warfarin dose)
 1. When take Zoloft- warfarin and INR stays UP