

Pharmacology Drugs

DRUG LIST ANTIBIOTICS

*All antibiotics have GI effects

Aminoglycosides	-micin i.e. gentamicin -mycin i.e. vancomycin, neomycin	Side effects: – Ototoxicity – Nephrotoxicity -GI irritation Vancomycin: Red man syndrome; administer over 60 minutes	-Assess for allergies esp. anaphylactic allergies - Monitor appropriate lab values prior to administration i.e. aminoglycosides with BUN and Cr -Monitor for adverse effects and report to HCP if they occur - Monitor ins and outs - Encourage fluid intake - Emphasize importance of completing full prescribed course
Cephalosporins (broad spectrum)	Cef- i.e. cefaclor, cefradoxil, cefdinir, cefotaxime, cephalexin	-GI disturbances – Nephrotoxicity - Superinfections i.e. C. difficile Similar to penicillins ; contraindicated for clients with penicillin sensitivity	
Floroquinolones Floroquinol(one) bone marrow depression	-floxacin i.e. ciprofloxacin, gatifloxacin	Headache, dizziness, insomnia, depression -GI effects – bone marrow depression i.e. thrombocytopenia - photosensitivity, fever, rash	
Macrolides	-thromycin i.e. azithromycin, erythromycin	-GI effects - pseudomembranous colitis (c. diff colitis) - superinfections – Hepatotoxic -causes a prolonged QT interval, which may lead to sudden cardiac death due to torsades de pointes	
Penicillins	-cillin i.e. amoxicillin, carbenicillin, ampicillin	-hypersensitivity reactions, including anaphylaxis -related to cephalosporins -GI effects	
Sulfonamides	Sulfa- i.e. sulfadiazine, sulfasalazine	– hepatotoxic and nephrotoxic – bone marrow depression i.e. thrombocytopenia - photosensitivity -ANY RASH WITH SULFONAMIDES MUST BE REPORTED TO HCP!	
Tetracyclines	-cyclines i.e. doxycycline, tetracycline	-GI effects – hepatotoxicity -teeth staining and bone damage -photosensitivity, hypersensitivity Can cause pill induced esophagitis . Clients taking this should sit upright for a period of time after ingestion to	

		prevent tablet from lodging in esophagus	
Antifungal medications	Amphotericin B - nazole i.e. Fluconazole Ketoconazole	-gastrointestinal effects - neuritis, dizziness, headache, malaise, drowsiness, hallucinations	
Antiviral medications	-clovir i.e. acyclovir, ganciclovir, foscarnet	-hearing loss (ototoxicity) -peripheral neuritis	

CARDIOVASCULAR MEDICATIONS

Anticoagulants	Oral: Warfarin, Dabigatran, Rivaroxaban Parenteral: Dalteparin, Heparin, Enoxaparin, Desirudin, Fondaparinux, Tinzaparin, Argatroban	Prevent clot formation by inhibiting factors in clotting cascade and decreasing blood coagulability i.e. in MI, mechanical heart valves, DVT, atrial fibrillation, unstable angina	Side effects: Hemorrhage Hematuria Thrombocytopenia Hypotension	-contraindicated in clients taking NSAIDs, ginkgo and ginseng, corticosteroids, vit K containing foods (have this in moderation; no sudden increase or decrease) - contraindicated with active bleeding -Heparin-Induced Thrombocytopenia can be ironic in that it can cause stroke and embolism
Thrombolytic medications	-teplase i.e. alteplase, reteplase, tenecteplase	Activates plasminogen which digests plasmin and dissolves clots in cases of MI, DVT, occluded shunts and pulmonary emboli	Bleeding Dysrhythmias Allergic reactions	-Contraindicated in active bleeding, history of hemorrhagic brain attack (stroke), intracranial or intraspinal surgery within the last 2 months, uncontrolled HTN -Apply direct pressure over a puncture site for 20 to 30 minutes -Used only for acute, life-threatening conditions <i>Antidote:</i> Aminocaproic acid
Antiplatelet medications	Aspirin, clopidogrel, cilostazol, dipyridamole, ticlopidine	Inhibit aggregation of platelets in clotting process, thereby prolonging bleeding time	GI bleeding Bruising Hematuria Tarry stools	-may be used with anticoagulants -used in prophylaxis of long-term complications following MI, CAD, stents, and strokes
Positive inotropes/cardiotonic medications	Dobutamine Dopamine Imanrinone Milrinone	Stimulate myocardial contractility and produce a positive inotropic effect for heart failure – increases CO , decreasing preload, improving blood flow to periphery and kidneys and increasing fluid excretion	Dysrhythmias Hypotension Thrombocytopenia Adverse effects: Hepatotoxicity Hypersensitivity- wheezing, SOB, pruritus, urticaria (hives, clammy skin and flushing)	-used for IV administration; administer with IV infusion pump -monitor electrolyte (may lower K) and liver enzyme levels (may increase due to hepatotoxicity), platelet count, and renal function studies
Cardiac glycosides	Digoxin	Stimulates myocardial contractility by inhibition of sodium-potassium pump – slows HR (negative chronotrope) and slows conduction velocity (negative dromotrope)	-GI effects -headache -visual disturbances: diplopia, blurred vision, photophobia - drowsiness – bradycardia -fatigue, weakness	-used for HF and cardiogenic shock, anything atrial (tach, fibrillation, flutter) -Early signs of digoxin toxicity present as GI symptoms (anorexia, nausea, vomiting, diarrhea); then heart rate abnormalities and visual disturbances appear – hypokalemia can cause digoxin toxicity ; toxic levels above 0.5 to 2 are toxic (POTASSIUM COMPETES WITH DIGOXIN)
Peripherally acting Alpha Adrenergic blockers	-zosin i.e. doxazosin, prazosin, terazosin	Decrease sympathetic vasoconstriction resulting in vasodilation and decreased BP	Orthostatic hypotension Reflex tachycardia Drowsiness Nasal congestion Sodium and water retention	-Monitor for fluid retention and edema -Avoid over the counter meds -change positions slowly to prevent orthostatic hypotension

Centrally acting Adrenergic blockers	Clonidine Guan- i.e. Guanabenz, Guanfacine Methyl dopa	Causes vasodilation , reducing peripheral resistance	Na and water retention Drowsiness Bradycardia Hypotension	-contraindicated in impaired liver function -Do not discontinue meds abruptly as it can lead to severe rebound HTN
ACE inhibitors and ARBs	-prils i.e. perindopril, enalapril -sartans i.e. losartan, eprosartan	Causes vasodilation ; treats HTN and CHF	Hyperkalemia Hypotension Persistent dry cough (ACEI) Angioedema (ACEI) Hypoglycemia with DM	-can cause hyperkalemia! Avoid use with potassium supplements and potassium- sparing diuretics -Report side effect angioedema to the HCP right away -teratogenic drugs
Nitrates	Isosorbide Nitroglycerin	Vasodilates and improves blood flow in MI	Vasodilation/ Orthostatic hypotension Flushing or pallor Confusion Reflex tachycardia Dry mouth	-administer up to three times in 15 mins; if after 5 mins symptoms have not been relieved at home, call 911 right away -always assess BP before administration and lower head of bed if hypotension occurs - administer sublingually -keep in a dark tightly closed bottle; cannot be mixed with other drugs
Beta blockers	-lol i.e. metoprolol, bisoprolol	Block release of catecholamines thus decreasing HR and BP	Bradycardia Bronchospasm Hypotension Dizziness	- contraindicated in clients with asthma , bradycardia or stroke, DM -assess for resp distress and for signs of wheezing and dyspnea -can mask symptoms of hypoglycemia i.e. tachycardia and nervousness; monitor BG
Calcium channel blockers	-dipine i.e. amlodipine, felodipine Verapamil Diltiazem	Promote vasodilation of coronary and peripheral vessels	Bradycardia Reflex tachycardia as a result of hypotension Changes in liver and kidney function	-better choice for clients with asthma -monitor kidney function tests -DO NOT ADMINISTER WITH GRAPEFRUIT JUICE as it can lead to severe hypotension
Miscellaneous vasodilator	Nesiritide	Vasodilates arteries and veins in CHF	Hypotension Confusion Dysrhythmias	Administer by continuous infusion via IV pump Monitor BP, cardiac rhythm, urine output and body weight
Adrenergic Agonists	Dopamine Epinephrine	Positive inotropes increases BP and cardiac output	Tachycardia	-Epinephrine used for cardiac stimulation in cardiac arrest (asystole)
HMG-CoA Reductase Inhibitors (statins)	-statin i.e. atorvastatin, rosuvastatin	Lowers serum cholesterol	Elevated liver enzyme levels Muscle cramps (myopathy) Nausea, abd pain or cramps Dizziness, headache Blurred vision (Cataract formation)	- Lovastatin is highly protein- bound and should not be administered with anticoagulants and should be administered with caution in clients taking immunosuppressive medications -instruct client to receive annual eye exam because meds can cause cataract formation - Hepatotoxic -HCP should be notified when client experiences muscle aches (monitor CK and myoglobin levels)
Antidysrhythmics	Amiodarone		Pulmonary fibrosis Photosensitivity Peripheral neuropathy Tremor Corneal deposits Bluish skin discoloration Poor coordination	Used to treat anything ventricular (V tach or PVCs)

DIURETICS *All diuretics are contraindicated in clients taking **lithium**! Hyponatremia can induce lithium toxicity *ALL diuretics can induce Digoxin toxicity **except** potassium-sparing diuretics i.e. spironolactone!

-not effective for IMMEDIATE

Thiazide diuretics	-thiazide i.e. Chlorothiazide, chlorthalidone, hydrochlorothiazide, indapamide, metolazone	Increase sodium and water excretion by inhibiting sodium reabsorption in kidneys	Hypokalemia, hyponatremia Hypovolemia Hypotension Photosensitivity *Hyperglycemia	diuresis -used with caution in the client taking lithium because lithium toxicity can occur (due to lack of sodium) -instruct client to take meds in morning to prevent nocturia and sleep interruption -change positions slowly to prevent orthostatic hypotension -instruct client with DM to check BG periodically
Loop diuretics (Potassium-wasting diuretics)	-ide i.e. Furosemide , Torsemide, ethacrynic acid, bumetanide	Inhibit sodium and chloride reabsorption from the loop of Henle and the distal tubule	Hypokalemia, hyponatremia Thrombocytopenia Hyperuricemia Dehydration Orthostatic hypotension Ototoxicity and deafness	-more rapid than thiazide diuretics -causes hypo of all electrolytes; monitor electrolytes, Mg, BUN, Cr, and uric acid levels -monitor digoxin (due to hypokalemia) or lithium (hyponatremia) toxicity - administer furosemide IV slowly to prevent ototoxicity
Potassium-sparing diuretics	Spironolactone , triamterene, amiloride HCl, eplerenone	Promotes sodium and water excretion AND potassium retention	Hyperkalemia Nausea, vomiting, diarrhea Rash Dizziness, weakness	-contraindicated in severe kidney or hepatic disease and severe hyperkalemia -monitor for HYPERKALEMIA!! – avoid salt substitutes because they contain potassium
Osmotic diuretics	Mannitol	Increases osmotic pressure of the GFR, inhibiting reabsorption of water and electrolytes -used with chemo to induce diuresis	Fluid and electrolyte imbalances Pulmonary edema Tachycardia from the rapid fluid loss Hyponatremia and dehydration	-can be used to decrease ICP

DIABETIC DRUGS Watch for hypoglycemia during peaks! INSULIN

NPH	Basal long acting	Onset: 6 h Peak: 8-10 h Duration: 12 h	Cloudy suspension; precipitates and therefore cannot be given IV (can overdose client) “N for not so fast and not in the bag” – never given at bedtime (can cause hypoglycemia while asleep) -given twice daily
Glargine (lantus), Detemir	Basal long acting	No essential peak Duration: 12-24 h	-little to no risk for hypoglycemia; only safe insulin for bedtime
Regular i.e. humulin R, novolin R	Postprandial short acting	Onset: 1 h Peak: 2 h Duration: 4 h	– best for IV use (i.e. DKA) –“R for rapid and run insulin”
Lispro (Humalog), Aspart, Glulisine (LAG)	Postprandial short acting	Onset: 15 mins Peak: 30 mins Duration: 3 h	– give as client begins to eat , with meals <u>not</u> before meals (not AC) -ensure client eats within 15 minutes of administration

ORAL HYOGLYCEMIC AGENTS

Biguanides	Metformin	Supresses hepatic production of glucose disturbances and increases insulin sensitivity	Diarrhea Lactic acidosis GI Metallic taste in mouth Hypoglycemia	-DO NOT TAKE same day of iodine contrast procedures i.e. cardiac catheterization (can induce lactic acidosis) Discontinue 24-48 hours prior to test
Sulfonylureas	Chlorpropamide Gli(____)ide i.e. glimepiride, glipizide, glyburide Tol(____)ide i.e. tolazamide, tolbutamide	Stimulate the beta cells to produce more insulin	Hypersensitivity reaction Weight gain GI disturbances Hypoglycemia	-Cross reaction with sulfa antibiotics (sulfonamides); if client has allergic reaction to either one, DISCONTINUE
Meglitinides	-linide i.e. nateglinide, repaglinide	Stimulate beta cells to produce more insulin -short duration of action; less chance of blood glucose-lowering effects	Hypoglycemia GI disturbances	Very fast onset of action allows client to take medication with meals and skip medication when a meal is skipped
Gliptins (DPP-4 inhibitors)	-gliptins i.e. sitagliptin, saxagliptin	Block the action of DPP-4, which destroys the hormone incretin (incretin help body produce more insulin when needed; inhibition causes	Flulike symptoms (runny nose, headache, nausea, stomach pain) Rash GI problems	

			more insulin to be produced)		
Thiazolidinediones	-glitazone i.e. ciglitazone, darglitazone, englitazone	Insulin-sensitizing agents that lower blood glucose by decreasing hepatic glucose production and improving target cell response to insulin	Hepatotoxicity Increased bone fractures Increased LDLs	-Monitor for elevated ALTs and ASTs	

PSYCH DRUGS *All psych drugs have indications for WEIGHT GAIN and HYPOTENSION *Always taper medications down and never stop dosing abruptly

Serotonin Reuptake Inhibitors (SSRIs) Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)	-lopram i.e. citalopram Sertraline Fluoxetine Fluvoxamine Venlafaxine Duloxetine	Antidepressants that work through inhibition of serotonin reuptake	Contraindications: St. John's Wort, MAOIs Side effects: Anticholinergic- dry mouth Blurred vision Constipation Drowsiness *Insomnia Toxic effects: Agranulocytosis Priapism	-Monitor client for increased risk of suicidality esp. during improved mood and increased energy levels, and changes in doses - Instruct to change positions slowly to avoid ortho hypotension -Be aware of potential for Serotonin Syndrome Signs and symptoms include: <i>Mental status changes</i> (Anxiety, agitation, restlessness) and <i>autonomic/neuromuscular hyperactivity</i> (fever, muscle rigidity, shivering, diaphoresis, tachycardia, HTN, tremors) è Risk greatly elevated with concurrent use of MAOIs -Can cause insomnia; do not administer at bedtime
Monoamine Oxidase Inhibitors (MAOIs)	PITS Phenelzine Isocarboxacid Tranylcypamine Selegiline	Inhibits metabolism of amines, NE, and serotonin thus improving mood and preventing depression	RISK OF: With SSRIs: Serotonin Syndrome With TCAs: hypertensive crisis <i>Antidote for hypertensive crisis: phentolamine IV</i>	-given at the last resort when no other antidepressant therapies are effective -TYRAMINE-CONTAINING FOODS may cause hypertensive crisis; avoid BAR (bananas, avocados and raisins or dried fruit), organ meats and processed meats, and aged cheeses
Tricyclic Antidepressants (TCAs)	-triptyline i.e. amitriptyline, nortriptyline - pramine i.e. desipramine, imipramine	Antidepressants which block NE and serotonin reuptake	Side effects: Anticholinergic Blurred vision Constipation Drowsiness *Sedation Urinary retention	-Concurrent use with MAOIs can lead to hypertensive crisis - Cardiac toxicity can occur and all clients should receive an ECG before treatment and after - <i>antidote for TCA overdose: physostigmine</i>
			Lithium is a competitive binder with sodium -	-Avoid anything that has

Mood stabilizers	Lithium Quetiapine Olanzapine Risperidone Carbamazepine	Stabilizes mood	hyponatremia can cause toxicity -therapeutic level is 0.6-1.2; toxic is >2 - Lithium is teratogenic Side effects: Peeling Pooping Paresthesia Weight gain Drowsiness Anticholinergic	any diuretic effects i.e. diuretics, coffee, tea, cola - dehydration can cause lithium toxicity -Instruct client to maintain a fluid intake of six to eight glasses of water
Benzodiazepines	-zepam i.e. clonazepam, diazepam, oxazepam -lam i.e. alprazolam, triazolam Chlordiazepoxide	Antianxiety; minor tranquilizer	Side effects: Anticholinergic Blurred vision Constipation Drowsiness - can lead to somnolence	-contraindicated in glaucoma and should be used cautiously in children and older adults -used for induction of anesthesia, muscle relaxant, alcohol withdrawal syndrome, tranquilizer – <i>antidote for benzo overdose</i> : flumazenil -can only be given for 2-4 weeks, not a long term drug
Barbiturates	-barbital i.e. anobarbital sodium Choral hydrate Eszopiclone Zolpidem Zaleplon	Used for short-term treatment of insomnia for sedation to relieve anxiety, tension and apprehension	Side effects: Dizziness Confusion Agranulocytosis	-maintain safety by supervising ambulation and using side rails at night -avoid driving or operating hazardous equipment if drowsiness, dizziness or unsteadiness occurs
Antipsychotics	Typical: (older-think EPS as main side effect) Haloperidol Loxapine Chlorpromazine Atypical: Olanzapine Quetiapine Risperidone Aripiprazole (not a proton pump inhibitor)	Reduces psychotic symptoms Typical antipsychotics are better indicated for positive symptoms (like +) i.e. delusions, hallucinations, illusions Atypical better for negative symptoms i.e. anhedonia, catatonia	Side effects: Anticholinergic Blurred Vision Constipation Drowsiness *EPS- Typical i.e. parkinsonism, dystonia, rigidity, tremors Haldol- Torsades de pointes (can be fatal as it can lead to V. fib or pulseless V. tach)	-Administer with food or milk to decrease gastric irritation -protect liquid concentration from light -inform that some meds may cause a harmless change in urine color to pinkish to red-brown Neuroleptic Malignant Syndrome (Haldol is most commonly tested)-characterized by <i>altered mental status</i> (lethargy, decreased LOC), <i>muscle rigidity</i> , <i>hyperthermia</i> (>40 C), tachycardia, HTN, tachypnea Treated by: supportive measures i.e. control temp (dantrolene), control agitation by benzodiazepines , and add dopamine agonist (bromocriptine) ☐ antipsychotic decrease dopamine levels

RESPIRATORY MEDICATIONS *For any respiratory medication, think **sympathetic** effects!

Bronchodilators (beta 2 agonists)	-ol i.e. albuterol, formoterol, salmeterol Terbutaline (also a tocolytic drug)	Relax smooth muscle of bronchi and dilate airways; promotes sympathetic response	Side effects: Palpitations and tachycardia Hypertension Dysrhythmias Restlessness, anxiety, tremors Hyperglycemia	-assess vitals and lung sounds -given as rescue drug along with ipratropium (only drugs used for acute asthma exacerbations)
Methylxanthines	-phylline i.e. Theophylline Aminophylline	Stimulate CNS and respiration, dilate coronary and pulmonary vessels, cause diuresis and relax smooth muscle – muscle spasm relaxer	Dysrhythmias Seizures* Tachycardia Insomnia Restlessness GI effects Signs of toxicity: Anorexia Nausea, vomiting Insomnia, restlessness Cardiac toxicity	-if administered with beta 2 agonist, cardiac dysrhythmias may result - administer with or after meals to decrease GI irritation -therapeutic level is 10-20; toxic level is >20 -IV infusions should be administered slowly and via an infusion pump - Usually given to relax airways during bronchospasm before bronchodilators can be effective -cimetidine and ciprofloxacin can dramatically increase serum theophylline levels and should not be used in these clients
Anticholinergics	-tropium i.e. tiotropium, ipratropium	Results in bronchodilation due to blocking of muscarinic receptors in the bronchioles (anti-acetylcholine) Antiparasympathetic therefore sympathetic effects	drying of secretions* Dry mouth Blurred vision Urinary retention Hypertension Constipation	-clients with peanut allergies should not take ipratropium because it contains soya lecithin, which is in the same plant family as peanuts - contraindicated in clients with glaucoma
Glucocorticoids	-sone i.e. beclomethasone, prednisone, fluticasone -ide i.e. ciclesonide, flunisolide	Long term treatment of inflammation associated with asthma	Immunosuppression	-Monitor for signs of infection and report to HCP i.e. fever, high WBCs -Not used for acute exacerbations – Rinse mouth after use to prevent oral candidiasis or thrush infection
Leukotriene modifiers	-lukast i.e. montelukast, zafirlukast	Used in prophylaxis and treatment of chronic asthma (not used for acute exacerbations) - inhibit bronchoconstriction caused by specific antigens and reduce edema and smooth muscle constriction	Immunosuppression Nausea, vomiting Dyspepsia Generalized pain, myalgia	-Coadministration of inhaled glucocorticoids increase the risk of upper respiratory infections - monitor liver function lab values i.e. ALT, AST
Antihistamines	Dimenhydrinate Diphenhydramine -tadine i.e. loratadine, olapatadine Cetirizine	Prevents a histamine response; used for common cold, rhinitis, nausea and vomiting	drying effect* Drowsiness, fatigue Dizziness Urinary retention Constipation Dry mouth	-Can cause CNS depression if taken with alcohol, opioids, tranquilizers or barbiturates -suck on hard candy or ice chips for dry mouth - contraindicated for glaucoma
Nasal decongestants	Pseudoephedrine (ephedrine looks similar to epinephrine) - zoline i.e. naphazoline, tetrahydrozoline,	Reduce fluid secretion	Major sympathetic effects* Hypertension (due to vasoconstriction) Hyperglycemia Restlessness, insomnia, nervousness	-contraindicated in HTN, cardiac disease, hyperthyroidism, or DM - should NOT be used for longer than 48 hours due to tolerance and rebound nasal congestion

		xylometazoline			(vasodilation)	
	Opioid antagonists	Naloxone Naltrexone Alvimopan	Reverse respiratory depression in opioid overdose	Nausea, vomiting Tremors, Sweating Hypertension Tachycardia	- Avoid use for non-opioid respiratory depression -Re-occurrence of respiratory depression can occur if duration of opiate effects exceed duration of antagonist- re-administer if needed	
	Tuberculosis Agents	Isoniazid Rifampin Ethambutol Pyrazinamide Rifabutin Rifapentine	Treats active tb; treatment goes for 6-9 months for otherwise healthy clients (immunosuppressed clients can go for as long as 9-12 months) Isoniazid treatment can be used for latent tb	Hepatotoxicity Ototoxicity Neurotoxicity (numbness and tingling) Dry mouth Dizziness Red secretions (rifampin)	-after 2-3 weeks of treatment, risk of transmission is greatly reduced -when one med is discontinued abruptly, resistance can occur (MDR-TB) - decrease efficacy of oral contraceptives ; other means of birth control must be used -Take pyridoxine (vit B6) to prevent neuropathy	
Other commonly tested drugs						
	Folate antimetabolite, antineoplastic, immunosuppressant drugs	Methotrexate	-treats malignancies, Rheumatoid Arthritis and psoriasis - CONTRAINDICATED in pregnancy unless abortion is warranted i.e. ectopic pregnancy	Bone marrow suppression Immunosuppression Hepatotoxicity Photosensitivity	-Clients should be instructed to get vaccinated with inactivated vaccines, avoid crowds and persons with known infections (as though they are being treated with chemo- antineoplastic drug) - Avoid alcohol as it is HEPATOTOXIC	
	Anticonvulsants	Phenytoin	Used to treat tonic-clonic seizures	Therapeutic range is 10-20 mcg/mL Anything >20 is toxic Main side effect: Gingival hyperplasia Toxic effects: Gait unsteadiness/Ataxia Horizontal nystagmus CNS effects	-Good oral hygiene can limit symptoms of gingival hyperplasia	
	NSAIDs	Ibuprofen Naproxen Indomethacin	Indicated for pain i.e. joint and inflammation	Tarry stools (due to GI bleeding) Nephrotoxicity Hypertension (sodium retention) Fluid overload	Contraindicated in CHF due to sodium retention and associated HTN - Contraindicated in clients taking Lithium (again due to associated sodium retention) -Take with food to prevent GI upset – Bleeding risk associated when taken with aspirin, anticoagulants and other NSAIDs	
	Proton pump inhibitors	-prazole i.e. Omeprazole Pantoprazole	Decreases acid production in stomach	Associated with increased risk of pneumonia C. diff diarrhea Calcium malabsorption (osteoporosis)	-may increase risk of C. diff infection due to lack of acid production in stomach leading to loss of gastric protection	
	Aspirin		Antipyretic, anti-inflammatory, antiplatelet and prophylactic treatment in recurrent MI	Tinnitus Hyperthermia Reye's syndrome in peds	Contraindicated in administration to children due to risk of Reye's syndrome (except in Kawasaki disease)	
					-Do not discontinue abruptly – Increase dose of corticosteroid therapy in Addison's disease	

Corticosteroids	-sone i.e. prednisone, bethametasone	Used for lack of corticosteroids in body (i.e. Addison's), immune diseases	Hyperglycemia Immunosuppression Bone and muscle catabolism GI irritation	during times of stress as a stress response can cause a sudden decrease in cortisol levels and can trigger an Addisonian crisis -Recommend diets high in calcium, protein and low in fat and simple carbs while on treatment - Cataracts are a side effect of corticosteroids
Anticholinergics	Benztropine	Used to treat tremors in Parkinson's disease	Blurred vision Dry secretions Constipation Urinary retention (contraindicated in BPH)	-contraindicated in glaucoma as it can precipitate an acute glaucoma episode

EXTRA TIPS:

- Do not administer anything sedative i.e. opioids, benzodiazepines, barbiturates to clients with increased ICP as it can **mask somnolence and decreasing LOC**
- Always monitor blood pressure in vasodilating medications prior to administration i.e. ACE inhibitors, nitrates
- Neuroleptic Malignant Syndrome and Malignant Hyperthermia are similar in terms of symptoms! i.e. muscle rigidity, hyperthermia, mental status changes, tachycardia, tachypnea—difference lies in **causes**

Neuroleptic Malignant Syndrome

- Causes: **Antipsychotics** and low dose **phenothiazines** used as antiemetics i.e. Haldol, chlorpromazine · Treated by: dantrolene for hyperthermia, benzodiazepines for anxiety and agitation, **and** dopamine agonist bromocriptine

Malignant Hyperthermia

- Causes: inhaled **anesthetics** ie. Halothane, **muscle relaxant** i.e. succinylcholine · Treated by: dantrolene for hyperthermia, benzodiazepines for anxiety and agitation, **NO** bromocriptine