



TOP 200 STUDY GUIDE

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MedEd 101 

REAL LIFE PHARMACOLOGY PODCAST – TOP 200 STUDY GUIDE

DRUG	MECHANISM OF ACTION	3 HIGHLY TESTABLE PEARLS
Hydrocodone/acetaminophen (Vicodin, Lortab, Norco) Podcast	Hydrocodone - Binds, activates mu-opioid receptor, Acetaminophen – suspected to inhibit prostaglandin synthesis which reduces pain	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation
Lisinopril (Prinivil) Podcast	Inhibits angiotensin converting enzyme which ultimately leads to reduction in angiotensin 2 (a potent vasoconstrictor)	<ul style="list-style-type: none"> • Cough • Hyperkalemia • Used to help protect the kidneys in diabetes
Simvastatin (Zocor) Podcast	Inhibits HMG-CoA reductase – this enzyme is the rate limiting step in cholesterol formation	<ul style="list-style-type: none"> • Myopathy • Reduces risk of heart attack or stroke • Dosed at night
Levothyroxine (Synthroid) Podcast	Synthetic form of thyroid hormone (T4)	<ul style="list-style-type: none"> • Binding interactions with calcium and iron can lower concentrations • TSH is monitored to adjust dose • Signs of hypothyroid – fatigue, dry skin, constipation
Amoxicillin (Amoxil) Podcast	Inhibits penicillin binding protein which prevents cell wall synthesis	<ul style="list-style-type: none"> • Diarrhea • Nausea/Vomiting • Rash
Azithromycin (Zithromax) Podcast	Binds 50s ribosomal subunit and prevents protein synthesis	<ul style="list-style-type: none"> • Longer half-life than many antibiotics • GI adverse effects • Rare risk for QTc prolongation
Hydrochlorothiazide (HCTZ);(Microzide) Podcast	Blocks sodium reabsorption in the distal convoluted tubule of kidney	<ul style="list-style-type: none"> • Frequent urination • Elevate uric acid level (exacerbate gout) • Can help with edema and hypertension
Amlodipine (Norvasc) Podcast	Blocks the entry of calcium into smooth muscle, causing vasodilation	<ul style="list-style-type: none"> • Edema • No action on the heart (compared to diltiazem, verapamil) • Used to help prevent angina

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Alprazolam (Xanax) Podcast	Enhances GABA activity which has sedative, hypnotic, anticonvulsant, and muscle relaxant properties	<ul style="list-style-type: none"> • Used for acute management of anxiety • Dizziness/sedation • Generally avoid in elderly
Metformin (Glucophage) Podcast	Primarily decreases hepatic glucose production	<ul style="list-style-type: none"> • Avoid in moderate to severe kidney disease, rare risk of lactic acidosis • GI side effects like diarrhea is most prominent • First line agent in type 2 diabetes
Atorvastatin (Lipitor) Podcast	Inhibits HMG-CoA reductase – this enzyme is the rate limiting step in cholesterol formation	<ul style="list-style-type: none"> • Myopathy • Reduces risk of heart attack/stroke • Higher intensity statin
Omeprazole (Prilosec) Podcast	Inhibits H ⁺ /K ⁺ ATPase pump in gastric parietal cells (reduces hydrogen ion – stomach acid concentration in stomach)	<ul style="list-style-type: none"> • Short term only recommended for GERD • Associated with low magnesium and B12 • Most potent acid blocking medication class
Amoxicillin/Clavulanate (Augmentin) Podcast	Amoxicillin – see agent; clavulanate – inhibits beta-lactamase which is produced by bacteria to break down beta lactam antibiotics	<ul style="list-style-type: none"> • Diarrhea • Nausea/vomiting • Rash
Atenolol (Tenormin) Podcast	Blocks beta-1 receptors (found primarily in the heart); prevents activity of sympathetic nervous system leading to reduction in heart rate and BP	<ul style="list-style-type: none"> • Pulse monitoring • Can blunt beta-agonist activity (potentially exacerbate asthma, COPD) • Can block signs of hypoglycemia (exception sweating)
Furosemide (Lasix) Podcast	Blocks reabsorption of sodium, chloride and water from the ascending limb of the loop of Henle – increases urine output	<ul style="list-style-type: none"> • Hypokalemia • Frequent urination • Can lead to dehydration (rising creatinine)

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<p>Metoprolol (Lopressor) Podcast</p>	<p>Blocks beta-1 receptors (found primarily in the heart); prevents activity of sympathetic nervous system leading to reduction in heart rate and BP</p>	<ul style="list-style-type: none"> • Pulse monitoring • Can blunt beta-agonist activity (potentially exacerbate asthma, COPD) • Block signs of hypoglycemia (exception sweating)
<p>Sertraline (Zoloft) Podcast</p>	<p>Inhibits reuptake of serotonin which leads to higher concentrations in the synapse</p>	<ul style="list-style-type: none"> • Takes a significant amount of time to work (usually weeks) • GI side effects • Serotonin syndrome risk (Elevated temperature, BP, Heart rate)
<p>Zolpidem (Ambien) Podcast</p>	<p>Enhances GABA activity which has sedative, hypnotic effects</p>	<ul style="list-style-type: none"> • Used for insomnia only • Dizziness/sedation • Generally avoid in elderly
<p>Oxycodone/APAP (Percocet) Oxycodone Podcast Acetaminophen Podcast</p>	<p>Oxycodone - Binds, activates mu-opioid receptor, Acetaminophen – suspected to inhibit prostaglandin synthesis which reduces pain</p>	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation
<p>Esomeprazole (Nexium) Podcast</p>	<p>Inhibits H⁺/K⁺ ATPase pump in gastric parietal cells (reduces hydrogen ion – stomach acid concentration in stomach)</p>	<ul style="list-style-type: none"> • Short term only recommended for GERD • Associated with low magnesium and B12 • Most potent acid blocking medication class
<p>Clopidogrel (Plavix) Podcast</p>	<p>Blocks binding of ADP to the P2Y₁₂ receptor; by doing this, it prevents platelet aggregation</p>	<ul style="list-style-type: none"> • Prodrug – converted to its active metabolite by CYP2C19 • Bleed risk • Often used in combination with aspirin following stenting
<p>Montelukast (Singulair) Podcast</p>	<p>Blocks leukotriene receptors in the lungs which reduces bronchoconstriction and inflammation</p>	<ul style="list-style-type: none"> • Used in asthma and allergies • Not a rescue medication • Rare reports of psychiatric adverse events

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<p>Prednisone (Sterapred) Podcast</p>	<p>Multiple possible pathways of reducing inflammation and suppressing the immune system (inhibition of cytokines, chemokines, arachidonic acid etc.)</p>	<ul style="list-style-type: none"> • Suppression of HPA axis • Increases blood sugars, causes insomnia and GI upset • Increases risk of osteoporosis
<p>Escitalopram (Lexapro) Podcast</p>	<p>Inhibits reuptake of serotonin which leads to higher concentrations in the synapse</p>	<ul style="list-style-type: none"> • Takes a significant amount of time to work (usually weeks) • GI side effects • Serotonin syndrome risk (Elevated temperature, BP, Heart rate)
<p>Ibuprofen (Advil) Podcast</p>	<p>Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation</p>	<ul style="list-style-type: none"> • Increase GI Bleed risk; take with food • Exacerbates • CHF/edema • Inhibits platelet activity
<p>Citalopram (Celexa) Podcast</p>	<p>Inhibits reuptake of serotonin which leads to higher concentrations in the synapse</p>	<ul style="list-style-type: none"> • Takes a significant amount of time to work (usually weeks) • QTC prolongation risk (higher doses, elderly more susceptible) • Serotonin syndrome risk (elevated temperature, BP, and Heart rate)
<p>Albuterol (ProAir) Podcast</p>	<p>Beta-2 adrenergic receptor agonist – relaxes bronchial smooth muscle and opens airways</p>	<ul style="list-style-type: none"> • Tremor • Tachycardia • Usual drug of choice for acute relief of respiratory symptoms
<p>Fluoxetine (Prozac) Podcast</p>	<p>Inhibits reuptake of serotonin which leads to higher concentrations in the synapse</p>	<ul style="list-style-type: none"> • Takes a significant amount of time (usually weeks) • GI side effects • Serotonin syndrome risk (Elevated temperature, BP and Heart rate)
<p>Gabapentin (Neurontin) Podcast</p>	<p>Not well understood – possible action on voltage sensitive calcium channels</p>	<ul style="list-style-type: none"> • Dizziness • Sedation • Can accumulate in renal disease

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<p>Warfarin (Coumadin) Podcast</p>	<p>Inhibits vitamin K dependent production of clotting factors 2, 7, 9, and 10</p>	<ul style="list-style-type: none"> • Bleed risk • Routine INR monitoring require (most often goal is 2-3 with a few exceptions) • Tons of drug interactions (metronidazole, amiodarone, Bactrim, etc.)
<p>Tramadol (Ultram) Podcast</p>	<p>Binds, activates mu-opioid receptors leading to analgesic effects</p>	<ul style="list-style-type: none"> • Increase seizure risk • Sedation • Risk of dependence and addiction
<p>Clonazepam (Klonopin) Podcast</p>	<p>Enhances GABA activity which has sedative, hypnotic, anticonvulsant, and muscle relaxant properties</p>	<ul style="list-style-type: none"> • Used for acute management of anxiety • Dizziness/sedation • Generally avoid in elderly
<p>Lorazepam (Ativan) Podcast</p>	<p>Enhances GABA activity which has sedative, hypnotic, anticonvulsant, and muscle relaxant properties</p>	<ul style="list-style-type: none"> • Used for acute management of anxiety • Dizziness/sedation • Generally avoid in elderly
<p>Cephalexin (Keflex) Podcast</p>	<p>Inhibits penicillin binding protein which prevents bacterial cell wall synthesis</p>	<ul style="list-style-type: none"> • Diarrhea • Nausea/Vomiting • Primarily gram + bacteria coverage
<p>Cyclobenzaprine (Flexeril) Podcast</p>	<p>Not well understood – skeletal muscle relaxant possibly gamma and alpha motor system effects</p>	<ul style="list-style-type: none"> • Sedating • Anticholinergic potential (i.e. dry mouth, confusion, etc.) • Not well tolerated in the elderly
<p>Sulfamethoxazole/trimethoprim (Bactrim, Septra) Podcast</p>	<p>Sulfamethoxazole – interferes with bacterial folate synthesis; trimethoprim blocks production of tetrahydrofolic acid in bacteria by binding dihydrofolate reductase</p>	<ul style="list-style-type: none"> • Significant interaction with warfarin • Beware of patients with a sulfa allergy – should not take this medication • Take with full glass of water

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<p>Ciprofloxacin (Cipro) Podcast</p>	<p>Inhibits DNA gyrase in bacteria which prevents DNA separation and cell division</p>	<ul style="list-style-type: none"> • Risk of spontaneous tendonitis or tendon rupture • Dose adjustments with poor kidney function • Interaction with iron/calcium can block absorption
<p>Fluticasone (Flonase) Podcast</p>	<p>Stimulates glucocorticoid receptors which leads to reduced inflammation</p>	<ul style="list-style-type: none"> • May work a little better if taken routinely • Nose bleeding, irritation • Used in allergic rhinitis
<p>Triamterene/HCTZ (Dyazide) HCTZ Podcast</p>	<p>Triamterene – blocks epithelial sodium channels, causing a diuretic type effect in the kidney</p>	<ul style="list-style-type: none"> • Elevated K+ possible with triamterene • Lowers blood pressure • In combo with HCTZ can help even out potassium levels as HCTZ lowers levels
<p>Pravastatin (Pravachol) Podcast</p>	<p>Inhibits HMG-CoA reductase – this enzyme is the rate limiting step in cholesterol formation</p>	<ul style="list-style-type: none"> • Myopathy • Reduces risk of heart attack/stroke • If patients can't tolerate simvastatin or atorvastatin, this one is often tried
<p>Rosuvastatin (Crestor) Podcast</p>	<p>Inhibits HMG-CoA reductase – this enzyme is the rate limiting step in cholesterol formation</p>	<ul style="list-style-type: none"> • Myopathy • Reduces risk of heart attack/stroke • Higher intensity statin
<p>Fluticasone + salmeterol (Advair) Podcast</p>	<p>Corticosteroid combined with long acting beta agonist – steroid works on inflammation and salmeterol opens up the airway</p>	<ul style="list-style-type: none"> • Rinse mouth following use of steroid (Reduces thrush risk) • Controller medication, not for rescue • Beta agonist effects – increased heart rate, tremor
<p>Trazodone (Desyrel) Podcast</p>	<p>Possible serotonin type activity, not well understood; histamine blockade may be responsible for sedative effect</p>	<ul style="list-style-type: none"> • Dry mouth • Most often used for sleep, rarely used for straight depression • Possibly a little safer in elderly than Z-drugs like Zolpidem

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<p>Alendronate (Fosamax) Podcast</p>	<p>Inhibits resorption of bone by osteoclasts</p>	<ul style="list-style-type: none"> • Extremely long half life • Administration without other drugs, food – with a plain glass of water, patient to remain upright after • Usually reassessed after 5 years of use
<p>Fexofenadine (Allegra) Podcast</p>	<p>Selective H1 receptor antagonist which leads to relief of allergy symptoms</p>	<ul style="list-style-type: none"> • Sedation • Dry mouth • Once daily dosing
<p>Lovastatin (Mevacor) Podcast</p>	<p>Inhibits HMG-CoA reductase – this enzyme is the rate limiting step in cholesterol formation</p>	<ul style="list-style-type: none"> • Myopathy • Reduces risk of heart attack/stroke • Risk of rhabdomyolysis • (Associated with all statins)
<p>Carvedilol (Coreg) Podcast</p>	<p>Blocks beta-1 receptors (found primarily in the heart); prevents activity of sympathetic nervous system leading to reduction in heart rate and BP; has some alpha blockade as well</p>	<ul style="list-style-type: none"> • Pulse monitoring • Can blunt beta-agonist activity (potentially exacerbate asthma, COPD) • Can block signs of hypoglycemia (exception sweating)
<p>Paroxetine (Paxil) Podcast</p>	<p>Inhibits reuptake of serotonin which leads to higher concentrations in the synapse</p>	<ul style="list-style-type: none"> • Takes a significant amount of time to work (usually weeks) • GI side effects • Serotonin syndrome risk (Elevated temperature, BP, Heart rate)
<p>Meloxicam (Mobic) Podcast</p>	<p>Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation</p>	<ul style="list-style-type: none"> • Increase GI Bleed risk; take with food • Exacerbates CHF/edema • Inhibits platelet activity
<p>Diazepam (Valium) Podcast</p>	<p>Enhances GABA activity which has sedative, hypnotic, anticonvulsant, and muscle relaxant properties</p>	<ul style="list-style-type: none"> • Used for acute management of anxiety/seizure • Dizziness/sedation • Generally avoid in elderly

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<p>Valsartan (Diovan) Podcast</p>	<p>Angiotensin receptor blocker – prevents the activity of angiotensin which is a vasoconstrictor</p>	<ul style="list-style-type: none"> • Hyperkalemia • Alternate to ACE Inhibitor • Less incidence of cough compared to ACE inhibitors
<p>Duloxetine (Cymbalta) Podcast</p>	<p>Serotonin and Norepinephrine reuptake inhibitor which increases concentrations of both in the brain synapses</p>	<ul style="list-style-type: none"> • More beneficial for pain than SSRI's (Neuropathy) • Possible increase in hypertension at high doses • GI side effects, serotonin syndrome risk
<p>Venlafaxine (Effexor) Podcast</p>	<p>Serotonin and Norepinephrine reuptake inhibitor which increases concentrations of both in the brain synapses</p>	<ul style="list-style-type: none"> • More beneficial for pain than SSRI's (Neuropathy) • Possible increase in hypertension at high doses • GI side effects, serotonin syndrome risk
<p>Ranitidine (Zantac)</p>	<p>Histamine 2 Receptor Antagonist which reduces gastric acid secretion leading to relief of heartburn and GI symptoms</p>	<ul style="list-style-type: none"> • Slightly less potent than the PPI's • Can accumulate in kidney disease • Tend to work a little quicker than the PPI's
<p>Fluconazole (Diflucan) Podcast</p>	<p>Inhibits fungal cytochrome P450 enzyme 14alpha-demethylase</p>	<ul style="list-style-type: none"> • 3A4 drug interactions (amiodarone, phenytoin, warfarin, etc.) • GI upset • Liver concerns
<p>Naproxen (Aleve) Podcast</p>	<p>Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation</p>	<ul style="list-style-type: none"> • Increase GI Bleed risk; take with food • Exacerbates CHF/edema • Inhibits platelet activity
<p>Doxycycline (Vibramycin) Podcast</p>	<p>Inhibits bacterial protein synthesis by binding to the 30s ribosomal subunit</p>	<ul style="list-style-type: none"> • Increases sensitivity to sunburn • Binding interactions with calcium and iron • Avoid in pregnancy

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<p>Potassium (Klor-Con) Podcast</p>	<p>Potassium replacement</p>	<ul style="list-style-type: none"> • Often used for patients on diuretics that deplete potassium • GI upset • Often patient do have trouble swallowing larger doses (big pills) – some forms can be dissolved in water
<p>Amitriptyline (Elavil) Podcast</p>	<p>Inhibits norepinephrine and serotonin reuptake, leading to increased concentrations in the synapse</p>	<ul style="list-style-type: none"> • Highly anticholinergic (sedation, confusion, dry eye, etc.) • Can be used for pain syndromes (migraines, fibromyalgia, etc.) • Higher risk of cardiac concerns in overdose compared to SSRI's so less often used for depression
<p>Lansoprazole (Prevacid) Podcast</p>	<p>Inhibits H⁺/K⁺ ATPase pump in gastric parietal cells (reduces hydrogen ion – stomach acid concentration in stomach)</p>	<ul style="list-style-type: none"> • Short term only recommended for GERD • Associated with low magnesium and B12 • Most potent acid blocking medication class
<p>Pioglitazone (Actos) Podcast</p>	<p>Decreases insulin resistance in the periphery; leading to greater uptake of glucose into muscle tissue and lower blood sugar</p>	<ul style="list-style-type: none"> • Weight gain • Edema • Generally avoid in CHF patients
<p>Methylprednisolone (Medrol) Prednisolone Podcast</p>	<p>Multiple possible pathways of reducing inflammation and suppressing the immune system (inhibition of cytokines, chemokines, arachidonic acid etc.)</p>	<ul style="list-style-type: none"> • Suppression of HPA axis • Increases blood sugars, causes insomnia and GI upset • Increases risk of osteoporosis

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Allopurinol (Zyloprim) Podcast	Inhibition of xanthine oxidase which results in less production of uric acid and lower levels	<ul style="list-style-type: none"> • Not meant for acute gout flares • Rash • Can accumulate in kidney disease
Codeine + APAP (Tylenol #3) Codeine Podcast Acetaminophen Podcast	codeine - Binds, activates mu-opioid receptor, Acetaminophen – suspected to inhibit prostaglandin synthesis which reduces pain	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation
Enalapril (Vasotec) Podcast	Inhibits angiotensin converting enzyme which ultimately leads to reduction in angiotensin 2 (a potent vasoconstrictor)	<ul style="list-style-type: none"> • Cough • Hyperkalemia • Used to help protect the kidneys in diabetes
Carisoprodol (Soma)	Not well understood, potential effects at GABA receptors	<ul style="list-style-type: none"> • Sedation • Controlled substance • Dizziness
Tamsulosin (Flomax) Podcast	Blocks alpha-1a receptors which causes smooth muscle relaxation of the bladder neck and prostate	<ul style="list-style-type: none"> • Dizziness, low blood pressure • Work fairly quickly compared to 5 alpha reductase inhibitors • Rare risk of floppy iris syndrome in patients having eye surgery
Ezetimibe (Zetia) Podcast	Inhibits intestinal absorption of cholesterol leading to lower levels	<ul style="list-style-type: none"> • GI upset • Not great evidence that indicates it reduces the risk of heart attack and stroke • Second or third line agent for lowering cholesterol (statins are drug of choice)
Quetiapine (Seroquel) Podcast	Blockade of dopamine 2 receptors is primary mechanism	<ul style="list-style-type: none"> • Sedation and orthostasis risk • Extrapyrimal symptoms • Metabolic syndrome and QTc prolongation risk

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<p>Levofloxacin (Levaquin) Podcast</p>	<p>Inhibits DNA gyrase in bacteria which prevents DNA separation and cell division</p>	<ul style="list-style-type: none"> • Risk of spontaneous tendonitis or tendon rupture • Dose adjustments with poor kidney function • Binding interaction with iron and calcium can reduce absorption
<p>Fenofibrate (Tricor) Podcast</p>	<p>Activates lipoprotein lipase and reduces synthesis of apoprotein C-3; both of these mechanisms work to lower cholesterol</p>	<ul style="list-style-type: none"> • Target for elevated triglycerides, SE = myopathy • Statins reserved for cardiovascular risk reduction and LDL lowering • Elevated triglycerides increase risk of pancreatitis
<p>Clonidine (Catapres) Podcast</p>	<p>Stimulates centrally acting alpha-2 receptors causing reduced sympathetic outflow which lowers BP and pulse</p>	<ul style="list-style-type: none"> • Dry mouth • Dizziness, CNS changes • Generally avoided in the elderly
<p>Promethazine (Phenergan) Podcast</p>	<p>Possible anticholinergic (blocks acetylcholine) and antihistamine effects, also may mildly block dopamine receptors</p>	<ul style="list-style-type: none"> • Used for motion sickness, nausea and vomiting • Sedating • Anticholinergic side effects
<p>Ethinyl estradiol + Drospirinone (Yaz) Podcast</p>	<p>Oral contraceptive – estrogen prevents ovulation and reduces risk of pregnancy</p>	<ul style="list-style-type: none"> • DVT/PE • Hypertension • Headache/GI symptoms
<p>Sildenafil (Viagra) Podcast</p>	<p>Inhibition of phosphodiesterase-5 (PDE-5) causes smooth muscle relaxation and increased blood flow to the penis</p>	<ul style="list-style-type: none"> • Low blood pressure • Rare vision adverse effect • Avoid using with nitrates

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Celecoxib (Celebrex) Podcast	Selective inhibition of COX-2 leads to reduced formation of arachidonic acid and prostaglandins	<ul style="list-style-type: none"> • GI side effects generally less than traditional NSAIDs • Edema risk • Kidney risk still the same as traditional NSAIDs
Loratadine (Claritin)	Selective H1 receptor antagonist which leads to relief of allergy symptoms	<ul style="list-style-type: none"> • Sedation • Dry mouth • Once daily dosing
Oxycodone (OxyContin) Podcast	Oxycodone - Binds, activates mu-opioid receptor	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation
Glargine (Lantus, Basaglar) Podcast	Long acting insulin analog	<ul style="list-style-type: none"> • Weight gain • Hypoglycemia risk • Dose once daily and targets fasting blood sugars
Mometasone (Nasonex) Podcast	Stimulates glucocorticoid receptors which leads to reduced inflammation	<ul style="list-style-type: none"> • May work a little better if taken routinely • Nose bleeding, irritation • Used in allergic rhinitis
Pregabalin (Lyrica) Podcast	Not well known; suspected that it might bind the alpha2-delta subunits leading to a reduction in neuronal excitability	<ul style="list-style-type: none"> • Sedation • Dizziness • Weight gain
Amaryl (Glimepiride) Podcast	Stimulates pancreatic beta cells to release insulin	<ul style="list-style-type: none"> • Weight gain • Hypoglycemia • Inexpensive
Temazepam (Restoril) Benzodiazepine Podcast	Enhances GABA activity which has sedative, hypnotic, anticonvulsant, and muscle relaxant properties	<ul style="list-style-type: none"> • Shorter half-life than others, so may see this one used for sleep • Dizziness/sedation • Generally avoid in elderly

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<p>Conjugated Estrogen (Premarin) Podcast</p>	<p>Replacement estrogen in postmenopausal women who experience symptoms like hot flashes, vaginal dryness, etc.</p>	<ul style="list-style-type: none"> • DVT/PE • Hypertension • Increased risk of breast cancer
<p>Folic acid (Folvite) Podcast</p>	<p>Supplement of folic acid</p>	<ul style="list-style-type: none"> • Tolerability is usually fine • Given with methotrexate for RA/psoriasis etc. • Deficiency can lead to anemia
<p>Spirolactone (Aldactone) Podcast</p>	<p>Aldosterone antagonist that blocks the effects of aldosterone, leading to lower blood pressure and a diuretic effect</p>	<ul style="list-style-type: none"> • Hyperkalemia • Gynecomastia (Man- boobs) • Monitor kidney function
<p>Digoxin (Lanoxin) Podcast</p>	<p>Inhibits sodium, potassium ATPase leading to an increase in the force of contraction of the heart</p>	<ul style="list-style-type: none"> • Used in atrial fibrillation or CHF • Toxicity signs include GI, CNS changes, visual changes, and weight loss • Can accumulate in kidney disease and cause more toxicity with low potassium levels
<p>Isosorbide Mononitrate (Imdur) Podcast</p>	<p>Increase in nitric oxide leads to venous and arterial dilation</p>	<ul style="list-style-type: none"> • Headache • Dizziness • Can become tolerate to effects, usually recommended to have a nitrate free period during the day
<p>Cefdinir (Omnicef) Podcast</p>	<p>Inhibits penicillin binding protein which prevents bacterial cell wall synthesis</p>	<ul style="list-style-type: none"> • Diarrhea • Nausea/Vomiting • Broader spectrum coverage than cephalexin
<p>Ramipril (Altace) Podcast</p>	<p>Inhibits angiotensin converting enzyme which ultimately leads to reduction in angiotensin 2 (a potent vasoconstrictor)</p>	<ul style="list-style-type: none"> • Cough • Hyperkalemia • Used to help protect the kidneys in diabetes

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<p>Triamcinolone (Nasacort) Podcast</p>	<p>Stimulates glucocorticoid receptors which leads to reduced inflammation</p>	<ul style="list-style-type: none"> • May work a little better if taken routinely • Nose bleeding, irritation • Used in allergic rhinitis
<p>Losartan (Cozaar) Podcast</p>	<p>Angiotensin receptor blocker – prevents the activity of angiotensin which is a vasoconstrictor</p>	<ul style="list-style-type: none"> • Hyperkalemia • Alternate to ACE Inhibitor • Less incidence of cough compared to ACE inhibitors
<p>Methylphenidate (Concerta) Podcast</p>	<p>Prevents catecholamine reuptake in CNS synapses leading to increased dopamine and norepinephrine</p>	<ul style="list-style-type: none"> • Weight loss • Insomnia • Anxiety, tachycardia, and increased BP
<p>Glyburide (Diabeta) Podcast</p>	<p>Stimulates pancreatic beta cells to release insulin</p>	<ul style="list-style-type: none"> • Weight gain • Hypoglycemia • Inexpensive
<p>Valacyclovir (Valtrex) Podcast</p>	<p>Inhibits DNA Polymerase which prevent viral replication</p>	<ul style="list-style-type: none"> • Treatment of herpes and varicella viruses • GI upset • Prodrug; converted to acyclovir
<p>Oseltamivir (Tamiflu) Podcast</p>	<p>Inhibits influenza virus neuraminidase, which likely alters replication or release of budding viruses</p>	<ul style="list-style-type: none"> • GI side effects • Dose adjusted based on kidney function • Used in treatment and prophylaxis of influenza
<p>Tiotropium (Spiriva) Podcast</p>	<p>Long acting antimuscarinic (anticholinergic) that binds to M3 receptors which relaxes smooth muscle leading to bronchodilation</p>	<ul style="list-style-type: none"> • One of the drugs of choice in COPD maintenance therapy • Not intended for acute relief (rescue) of symptoms • Dry mouth

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Benazepril (Lotensin)	Inhibits angiotensin converting enzyme which ultimately leads to reduction in angiotensin 2 (a potent vasoconstrictor)	<ul style="list-style-type: none"> • Cough • Hyperkalemia • Used to help protect the kidneys in diabetes
Lamotrigine (Lamictal) Podcast	Inhibits voltage sensitive sodium channels which stabilizes neuronal membranes	<ul style="list-style-type: none"> • Can be used for seizures or mood disorders like bipolar • Drug interaction with valproic acid • Rash (possibly severe) • Stephen Johnson's Syndrome)
Olmesartan (Benicar) Podcast	Angiotensin receptor blocker – prevents the activity of angiotensin which is a vasoconstrictor	<ul style="list-style-type: none"> • Hyperkalemia • Alternate to ACE Inhibitor • Less incidence of cough compared to ACE inhibitors
Donepezil (Aricept) Podcast	Acetylcholinesterase Inhibitor which helps increase acetylcholine in the brain (Remember than anticholinergics can cause confusion)	<ul style="list-style-type: none"> • Weight loss • Diarrhea • Does not reverse dementia
Risperidone (Risperdal) Podcast	Blockade of dopamine 2 receptors is primary mechanism	<ul style="list-style-type: none"> • Sedation and orthostasis risk • Extrapyrimal symptoms • Metabolic syndrome and QTc prolongation risk
Glipizide (Glucotrol) Podcast	Stimulates pancreatic beta cells to release insulin	<ul style="list-style-type: none"> • Weight gain • Hypoglycemia • Inexpensive
Amphetamine salts (Adderall)	Prevents catecholamine reuptake in CNS synapses leading to increased dopamine and norepinephrine	<ul style="list-style-type: none"> • Weight loss • Insomnia • Anxiety, tachycardia, and increased BP
Aripiprazole (Abilify) Podcast	Blockade of dopamine 2 receptors is primary mechanism	<ul style="list-style-type: none"> • Indicated for augmentation of depression as well as schizophrenia • Extrapyrimal symptoms • Metabolic syndrome and QTc prolongation risk

REAL LIFE PHARMACOLOGY PODCAST – TOP 200 STUDY GUIDE

Verapamil (Verelan) Podcast	Non-dihydropyridine; Blocks the entry of calcium into smooth muscle and heart, causing vasodilation and slowing of heart rate	<ul style="list-style-type: none"> • Used in Afib, HTN, or chronic headaches • Monitor pulse • Edema
Clindamycin (Cleocin) Podcast	Bind 50s subunit of bacterial ribosome which prevents protein synthesis	<ul style="list-style-type: none"> • GI side effects • Higher risk of colitis and C.diff • Good for anaerobic bacteria
Metronidazole (Flagyl) Podcast	Disrupts bacterial DNA synthesis	<ul style="list-style-type: none"> • Interaction with warfarin • Avoid alcohol when taking medication • Used for Anaerobic bacteria
Ethinyl Estradiol + Norgestimate (Ortho Tri-Cyclen) Ethinyl Estradiol Podcast	Oral contraceptive – estrogen prevents ovulation and reduces risk of pregnancy	<ul style="list-style-type: none"> • DVT/PE • Hypertension • GI/Headache
Tadalafil (Cialis) Podcast	Inhibition of phosphodiesterase-5 (PDE-5) causes smooth muscle relaxation and increased blood flow to the penis	<ul style="list-style-type: none"> • Low blood pressure • Rare vision adverse effect • Avoid using with nitrates
Phentermine (Adipex) Podcast	Sympathetic amine – increases adrenaline, dopamine, and possibly serotonin	<ul style="list-style-type: none"> • Used for weight loss • Monitor for cardiac concerns; increase in BP and pulse • Can cause insomnia or anxiety
Hydroxyzine (Vistaril) Podcast	H1 receptor antagonist which leads to relief of allergy symptoms and causes sedation	<ul style="list-style-type: none"> • Anticholinergic effects • Used for anxiety • Considered a first-generation antihistamine (sedating)
Diclofenac (Cataflam) Podcast	Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation	<ul style="list-style-type: none"> • Increase GI Bleed risk; take with food • Exacerbates CHF/edema • Inhibits platelet activity

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Metoclopramide (Reglan) Podcast	Inhibition of D2 receptors in chemoreceptor trigger zone	<ul style="list-style-type: none"> • Risk of movement disorders like EPS • Often used in gastroparesis • Can exacerbate • Parkinson's disorder
Gemfibrozil (Lopid) Podcast	Not well known - targets triglycerides and can possibly help raise HDL	<ul style="list-style-type: none"> • Risk of myopathy • Interaction with statins (increases risk of myopathy and rhabdomyolysis) • Indicated for significantly high triglycerides
Diltiazem (Cardizem) Podcast	Non-dihydropyridine; Blocks the entry of calcium into smooth muscle and heart, causing vasodilation and slowing of heart rate	<ul style="list-style-type: none"> • Used in Afib, HTN, or chronic headaches • Monitor pulse • Edema
Divalproex (Depakote) Podcast	Not well known, possibly increasing GABA in the brain	<ul style="list-style-type: none"> • Sedation • Weight gain • Ataxia, CNS changes
Nitrofurantoin (Macrobid) Podcast	Altered by bacterial flavoproteins to reactive intermediates which breakdown bacterial ribosomal proteins	<ul style="list-style-type: none"> • GI upset • Nitrofurantoin lung (rare) • Avoid use if suspected kidney/systemic infection, good for UTI only

Mirtazapine (Remeron) Podcast	Multiple potential mechanisms include blocking alpha-2 receptors, as well as serotonin subtypes and histamine blockade	<ul style="list-style-type: none"> • Weight gain • Sedating • Classified as antidepressant but often used for sleep/sedative properties
Latanoprost (Xalatan) Podcast	Prostaglandin agonist which increases aqueous humor outflow and reduces intraocular pressure	<ul style="list-style-type: none"> • Used for glaucoma • Will help eye lashes grow • Can alter color of the eye
Sitagliptin (Januvia) Podcast	DPP-4 inhibitor – DPP-4 breaks down incretins like GLP-1 which are hormones that can reduce blood sugars by promoting fullness	<ul style="list-style-type: none"> • Rare pancreatitis risk • GI side effects • Low risk of hypoglycemia when used alone

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Acyclovir (Zovirax) Podcast	Inhibits DNA Polymerase which prevent viral replication	<ul style="list-style-type: none"> • Treatment of herpes and varicella viruses • GI upset • Can accumulate in kidney disease
Doxazosin (Cardura) Podcast	Blocks alpha receptors which causes smooth muscle relaxation of the bladder neck and prostate and vasodilation	<ul style="list-style-type: none"> • Orthostasis risk • Not selective for bladder so can be used for HTN and BPH • Usually dosed at night
Eszopiclone (Lunesta) Podcast	Enhances GABA activity which has sedative, hypnotic effects	<ul style="list-style-type: none"> • Used for insomnia only • Dizziness/sedation • Generally avoid in elderly
Niacin (Niaspan) Podcast	Inhibition of triglyceride synthesis by stimulating intracellular Apo-B degradation and reduces release of VLDL and LDL	<ul style="list-style-type: none"> • Can cause flushing • Increases uric acid • Option in reducing triglycerides
Propranolol (Inderal) Podcast	Non-selective beta blocker; reduced heart rate, blood pressure; may have higher risk for adverse effects due to non-selectivity (also lot of unique uses – tremor, esophageal varices, migraines)	<ul style="list-style-type: none"> • Pulse monitoring • Can blunt beta-agonist activity (potentially exacerbate asthma, COPD) • Can block signs of hypoglycemia (exception sweating)
Buprenorphine/naloxone (Suboxone) Podcast	Partial opioid agonist that has a peak effect on stimulating the mu receptors combine with a full opioid antagonist (naloxone), used to treat opioid use disorder	<ul style="list-style-type: none"> • Possible opioid-like effects to a certain extent • Prevents full opioid agonists from binding in management of addiction • Need a special prescribing certificate to prescribe for opioid use disorder
Bupropion (Wellbutrin) Podcast	Inhibits reuptake of norepinephrine, dopamine and possibly serotonin to help treat depression	<ul style="list-style-type: none"> • Used in smoking cessation • Avoid in patients with seizures • Can contribute to insomnia
Guaifenesin (Robitussin) Podcast	Increases volume and reduces thickness of mucous (expectorant)	<ul style="list-style-type: none"> • Well tolerated • Questionable effectiveness • Take with lots of water

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Topiramate (Topamax) Podcast	Blocks voltage dependent sodium and calcium channels, may have some activity on GABA as well	<ul style="list-style-type: none"> • Cognitive slowing, confusion • Sedation • Antiseizure medication, but often used for migraines
Buspirone (Buspar) Podcast	Serotonin partial agonist and 5HT1A receptors; possible activity at dopamine receptors as well	<ul style="list-style-type: none"> • Takes a while to work • Used in anxiety • Pretty well tolerated compared to benzodiazepines especially in elderly
Meclizine (Antivert)	Antihistamine effects at H1 receptors	<ul style="list-style-type: none"> • Sedation • Anticholinergic side effects • Primarily used for nausea and motion sickness
Tolterodine (Detrol) Podcast	Antagonist at muscarinic (M2 and M3) receptors which helps in the management of overactive bladder	<ul style="list-style-type: none"> • Dry mouth • Confusion • Can exacerbate urinary retention
Lisdexamfetamine (Vyvanse) Podcast	Prevents catecholamine reuptake in CNS synapses leading to increased dopamine and norepinephrine	<ul style="list-style-type: none"> • Weight loss • Insomnia • Anxiety, tachycardia, and increased BP
Quinapril (Accupril)	Inhibits angiotensin converting enzyme which ultimately leads to reduction in angiotensin 2 (a potent vasoconstrictor)	<ul style="list-style-type: none"> • Cough • Hyperkalemia • Used to help protect the kidneys in diabetes
Mupirocin (Bactroban) Podcast	Inhibits bacterial protein and RNA synthesis	<ul style="list-style-type: none"> • Topical antibiotic • Skin irritation • MRSA coverage (but only as a topical agent)
Methotrexate (Rheumatrex) Podcast	Inhibition of dihydrofolate reductase (anticancer) also is classified as a disease modifying anti- rheumatic drug (DMARD)	<ul style="list-style-type: none"> • Low doses used for RA • Need to supplement with folic acid • Dose once weekly and monitor liver function
Polyethylene Glycol (Miralax)	Osmotic laxative that draws moisture into the bowel to help relieve constipation	<ul style="list-style-type: none"> • Diarrhea • Mix with 8oz. of fluid • Rare possibility for electrolyte abnormalities

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Fentanyl (Duragesic) Podcast	Binds, activates mu-opioid receptor	<ul style="list-style-type: none"> • Patch formulation • NOT for acute pain • Very slow onset/offset
Benzonatate (Tessalon Pearls)	Anesthetic type effects which can numb the throat and suppress cough	<ul style="list-style-type: none"> • Sedation • GI upset • Make sure you aren't masking ACE inhibitor cough
Irbesartan (Avapro)	Angiotensin receptor blocker – prevents the activity of angiotensin which is a vasoconstrictor	<ul style="list-style-type: none"> • Hyperkalemia • Alternate to ACE Inhibitor • Less incidence of cough compared to ACE inhibitors
Albuterol + Ipratropium (Duonebs, Combivent) SABA Podcast	Combination beta-agonist and short acting anticholinergic	<ul style="list-style-type: none"> • Dry mouth • Tachycardia • Tremor
Ibandronate (Boniva) Podcast	Inhibits resorption of bone by osteoclasts	<ul style="list-style-type: none"> • Extremely long half life • Administration without other drugs, food – with a plain glass of water, patient to remain upright after • Usually reassessed after 5 years of use
Methadone (Methadose) Podcast	Binds, activates mu-opioid receptor	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation
Clotrimazole + Betamethasone (Lotrisone)	Combination antifungal and topical corticosteroid	<ul style="list-style-type: none"> • Fungal infections can take a while to treat • Skin thinning with prolonged use • Skin irritation
Sumatriptan (Imitrex) Podcast	Serotonin agonist at 5HT1D receptors – thought to cause vasoconstriction, but maybe a little more unknown now?	<ul style="list-style-type: none"> • Caution in patients at high risk of cardiovascular concerns • Treatment of acute migraine • CNS adverse effects like confusion
Nifedipine (Procardia)	Blocks the entry of calcium into smooth muscle, causing vasodilation	<ul style="list-style-type: none"> • Edema • No action on the heart (compared to diltiazem, verapamil) • Used to help prevent angina and manage blood pressure

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<p>Famotidine (Pepcid) Podcast</p>	<p>Histamine 2 Receptor Antagonist which reduces gastric acid secretion leading to relief of heartburn and GI symptoms</p>	<ul style="list-style-type: none"> • Slightly less potent than the PPI's • Can accumulate in kidney disease • Tend to work a little quicker than the PPI's
<p>Finasteride (Proscar) Podcast</p>	<p>Inhibits 5 alpha reductase which prevent dihydrotestosterone formation which contributes to enlargement of the prostate</p>	<ul style="list-style-type: none"> • Sexual dysfunction side effect • Can be used for hair growth in baldness • Takes months to shrink prostate
<p>Ferrous Sulfate (Feosol) Podcast</p>	<p>Iron replacement</p>	<ul style="list-style-type: none"> • Deficiency can cause anemia and RLS • GI upset • Constipation
<p>Terazosin (Hytrin) Podcast</p>	<p>Blocks alpha receptors which causes smooth muscle relaxation of the bladder neck and prostate and vasodilation</p>	<ul style="list-style-type: none"> • Orthostasis risk • Not selective for bladder so can be used for HTN and BPH • Usually dosed at night
<p>Fish Oil (Lovaza) Podcast</p>	<p>Not well understood, but can help reduce triglycerides and increase HDL</p>	<ul style="list-style-type: none"> • Burping/fish taste • GI upset • Rare potential to interfere with platelet aggregation (usually help around surgery)
<p>Tizanidine (Zanaflex) Podcast</p>	<p>Central alpha-2 receptor agonist which inhibits motor neurons and reduces spasticity</p>	<ul style="list-style-type: none"> • Sedation • Dizziness • Maybe a little better tolerated in the elderly than cyclobenzaprine
<p>Risedronate (Actonel) Podcast</p>	<p>Inhibits resorption of bone by osteoclasts</p>	<ul style="list-style-type: none"> • Extremely long half life • Administration without other drugs, food – with a plain glass of water, patient to remain upright after • Usually reassessed after 5 years of use

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Memantine (Namenda) Podcast	Inhibition of N-methyl-d-aspartate (NMDA) receptors	<ul style="list-style-type: none"> • CNS side effects like sedation, confusion • Dose adjusted in kidney impairment • Used in delaying progression of dementia
Insulin Aspart (Novolog) Podcast	Rapid acting insulin analog	<ul style="list-style-type: none"> • Hypoglycemia • Weight gain • Targets post-prandial elevations in blood sugars
Aspirin Podcast	Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation	<ul style="list-style-type: none"> • Risk of Reye’s syndrome in pediatrics • Typically used for cardiovascular protection as low dose 81-325 mg once daily • GI bleed risk
Clobetasol (Temovate)	Topical corticosteroid that can reduce inflammation, redness and itching	<ul style="list-style-type: none"> • Skin thinning • Possible systemic effects with large quantities over longer periods of times • Used for psoriasis and dermatitis
Bisoprolol (Zebeta) Podcast	Blocks beta-1 receptors (found primarily in the heart); prevents activity of sympathetic nervous system leading to reduction in heart rate and BP	<ul style="list-style-type: none"> • Pulse monitoring • Can blunt beta-agonist activity (potentially exacerbate asthma, COPD) • Can block signs of hypoglycemia (exception sweating)
Nitroglycerin (NitroStat) Podcast	Relaxes vascular smooth muscle and dilates arteries and veins	<ul style="list-style-type: none"> • Dizziness • Headache • Use for acute chest pain (angina); administer 3 tablets over 15 minutes, call 911 if still having chest pain
Varenicline (Chantix) Podcast	Partial nicotine agonist which prevents nicotine from binding and reduces reward sensation from smoking	<ul style="list-style-type: none"> • Vivid dreams and nightmares • GI upset • Insomnia

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<p>Raloxifene (Evista) Podcast</p>	<p>Selective estrogen receptor modifier; blocks activity at some estrogen receptors and helps at others in management of reducing breast cancer risk and can help in osteoporosis</p>	<ul style="list-style-type: none"> • DVT/PE risk • Hot flashes • Vaginal dryness
<p>Olanzapine (Zyprexa) Podcast</p>	<p>Blockade of dopamine 2 receptors is primary mechanism</p>	<ul style="list-style-type: none"> • Sedation and orthostasis risk • Extrapyrimal symptoms • Metabolic syndrome and QTc prolongation risk
<p>Ondansetron (Zofran) Podcast</p>	<p>Inhibits 5-HT₃ (serotonin) receptors in the chemoreceptor trigger zone to reduce nausea</p>	<ul style="list-style-type: none"> • Rare QTc prolongation risk • Often used in patient receiving emetogenic chemotherapy • CNS side effects
<p>Ropinirole (Requip) Podcast</p>	<p>Dopamine agonist that can be used for Parkinson's where there is a shortage of dopamine; more commonly used in RLS</p>	<ul style="list-style-type: none"> • Edema • Obsessive behaviors like excessive gambling, eating • GI side effects
<p>Dicyclomine (Bentyl) Podcast</p>	<p>Anticholinergic that can be helpful in managing diarrhea and relaxing smooth muscle in patients with GI spasms and pain</p>	<ul style="list-style-type: none"> • Constipation • Dry eyes/dry mouth • Confusion
<p>Insulin Lispro (Humalog) Podcast</p>	<p>Rapid acting insulin analog</p>	<ul style="list-style-type: none"> • Hypoglycemia • Weight gain • Targets post-prandial blood sugars
<p>Nabumetone (Relafen) Podcast</p>	<p>Non-selective inhibitor of cyclooxygenase (COX) – which ultimately reduces the production of prostaglandins which are involved in pain/inflammation</p>	<ul style="list-style-type: none"> • Increase GI Bleed risk; take with food • Exacerbates CHF/edema • Inhibits platelet activity

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<p>Clarithromycin (Biaxin) Podcast</p>	<p>Binds 50s ribosomal subunit and prevents protein synthesis</p>	<ul style="list-style-type: none"> • Numerous CYP3A4 drug interactions (inhibitor) • GI adverse effects • Rare risk for QTc prolongation
<p>Lidocaine patch (Lidoderm) Podcast</p>	<p>Binds to neuronal membrane receptors and inhibits sodium ion influxes and prevents cell action potential</p>	<ul style="list-style-type: none"> • Local pain relieving effects • 12 hours on/12 off • Systemic side effects usually minimal
<p>Dutasteride (Avodart) Podcast</p>	<p>Inhibits 5 alpha reductase which prevent dihydrotestosterone formation which contributes to enlargement of the prostate</p>	<ul style="list-style-type: none"> • Sexual dysfunction side effect • Fatigue • Takes months to shrink prostate
<p>Phenytoin (Dilantin) Podcast</p>	<p>Not well understood, possibly blocking voltage gated sodium channels</p>	<ul style="list-style-type: none"> • Ataxia, CNS changes with toxicity • Highly protein bound drug, low albumin can increase toxicity risk • Enzyme inducing type effect on CYP3A4 and others
<p>Colchicine (Colcrys) Podcast</p>	<p>Binds to tubulin and prevents microtubule polymerization – reduces a gout flare and prevents it as well</p>	<ul style="list-style-type: none"> • Diarrhea • Rare indication for prophylaxis and treatment • Dose adjusted with poor kidney function
<p>Moxifloxacin (Avelox) Podcast</p>	<p>Inhibits DNA gyrase in bacteria which prevents DNA separation and cell division</p>	<ul style="list-style-type: none"> • Risk of spontaneous tendonitis or tendon rupture • Considered a respiratory fluoroquinolone only • Binding interaction with iron and calcium can reduce absorption

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<p>Baclofen (Lioresal) Podcast</p>	<p>Not well understood; skeletal muscle relaxant</p>	<ul style="list-style-type: none"> • Used in management of spasms • Sedation, confusion • Can be used on an as needed basis
<p>Hydroxychloroquine (Plaquenil) Podcast</p>	<p>Not well understood, originally was used as antimalarial drug, in US, primarily used as DMARD in RA and Lupus</p>	<ul style="list-style-type: none"> • Eye exams required • LFT/CBC monitoring • Takes a while to begin working (not a quick acting medication in RA or Lupus)
<p>Enoxaparin (Lovenox) Podcast</p>	<p>Increases activity of antithrombin that ultimately inactivates factor 10a; some activity against clotting factor 2a (thrombin), but less than heparin</p>	<ul style="list-style-type: none"> • Injection • Bleed risk • Risk of heparin induced thrombocytopenia
<p>Atomoxetine (Strattera) Podcast</p>	<p>Possible inhibition of norepinephrine transporter – used in ADHD</p>	<ul style="list-style-type: none"> • Insomnia, anxiety, weight loss • Not a controlled substance (compared to methylphenidate and amphetamine derivatives) • Can worsen agitation, irritability and possibly cause suicidal thoughts
<p>Diphenhydramine (Benadryl) Podcast</p>	<p>H1 receptor antagonist which leads to relief of allergy symptoms and causes sedation</p>	<ul style="list-style-type: none"> • Anticholinergic effects • Used for itching, mild to moderate allergic reactions • Over the counter availability
<p>Ketoconazole (Nizoral)</p>	<p>Inhibits fungal cytochrome P450 enzyme 14alpha-demethylase</p>	<ul style="list-style-type: none"> • 3A4 drug interactions (amiodarone, phenytoin, warfarin, etc.) • Primarily used as topical agent (if so, side effects are pretty minimal) • Liver concerns

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Nortriptyline (Pamelor) Podcast	Inhibits norepinephrine and serotonin reuptake, leading to increased concentrations in the synapse	<ul style="list-style-type: none"> • Highly anticholinergic (sedation, confusion, dry eye, etc.) • Can be used for pain syndromes (migraines, fibromyalgia, etc.) • Higher risk of cardiac concerns in overdose compared to SSRI's so less often used for depression
Benztropine (Cogentin) Podcast	Anticholinergic that is centrally acting and can inhibit dopamine uptake in the synapse – used to prevent EPS from antipsychotics and possible benefit in Parkinson's	<ul style="list-style-type: none"> • Anticholinergic side effects like dry eyes, dry mouth, confusion, sedation • If patients are benefitting from antipsychotics but experiencing EPS, this drug may be used • Not well tolerated in elderly
Minocycline (Minocin) Podcast	Inhibits bacterial protein synthesis by binding to the 30s ribosomal subunit	<ul style="list-style-type: none"> • Increases sensitivity to sunburn • Binding interactions with calcium and iron • Most often used for skin disorders (i.e. acne)
Pantoprazole (Protonix) Podcast	Inhibits H ⁺ /K ⁺ ATPase pump in gastric parietal cells (reduces hydrogen ion – stomach acid concentration in stomach)	<ul style="list-style-type: none"> • Short term only recommended for GERD • Associated with low magnesium and B12 • Most potent acid blocking medication class
Cefuroxime (Ceftin) Podcast	Inhibits penicillin binding protein which prevents bacterial cell wall synthesis	<ul style="list-style-type: none"> • Diarrhea • Nausea/Vomiting • Broader spectrum coverage than cephalexin
Oxybutynin (Ditropan) Podcast	Antagonist at muscarinic receptors which helps in the management of overactive bladder	<ul style="list-style-type: none"> • Dry mouth • Confusion • Can exacerbate urinary retention
Levetiracetam (Keppra) Podcast	Not well known; possible anti-seizure activity due to inhibition of presynaptic calcium channels	<ul style="list-style-type: none"> • Sedation • Confusion • Can accumulate in kidney disease
Hydralazine (Apresoline) Podcast	Not well understood, direct vasodilator, reduces blood pressure	<ul style="list-style-type: none"> • Dosed multiple times per day • Can exacerbate, cause Lupus • Low blood pressure, dizziness risk

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Liraglutide (Victoza) Podcast	Acts like human incretin (GLP-1 agonist) which can aid in promoting fullness, decrease appetite and possibly stimulate insulin release	<ul style="list-style-type: none"> • Weight loss effect as well as lowering blood sugars • Injection, GI side effects • Avoid in patients who've had thyroid cancer
Prasugrel (Effient) Podcast	Blocks binding of ADP to the P2Y12 receptor; by doing this, it prevents platelet aggregation	<ul style="list-style-type: none"> • Bleed risk • Often used in combination with aspirin following stenting • Costlier than clopidogrel
Mirabegron (Myrbetriq) Podcast	Acts as an agonist at Beta-3 type receptors which causes detrusor smooth muscle relaxation and can help with overactive bladder	<ul style="list-style-type: none"> • Increase in blood pressure • Increase heart rate • Unique mechanism from anticholinergic medication used for OAB
Canagliflozin (Invokana) Podcast	Inhibits SGLT-2 which helps keep glucose in the urine – so ultimately reduces blood sugar	<ul style="list-style-type: none"> • Risk of urinary tract infections • Mild diuretic effect • Monitor kidney function
Apixaban (Eliquis) Podcast	Inhibits clotting factor 10a to prevent blood clots and stroke	<ul style="list-style-type: none"> • Dose adjustments based on age, weight, and kidney function • Alternative to warfarin without routine INR requirement • Bleed risk
Tradjenta (Linagliptin)	DPP-4 inhibitor – DPP-4 breaks down incretins like GLP-1 which are hormones that can reduce blood sugars by promoting fullness	<ul style="list-style-type: none"> • Rare pancreatitis risk • GI side effects • Low risk of hypoglycemia when used alone
Dulaglutide (Trulicity) Podcast	Acts like human incretin (GLP-1 agonist) which can aid in promoting fullness, decrease appetite and possibly stimulate insulin release	<ul style="list-style-type: none"> • Weight loss effect as well as lowering blood sugars • Injection (once weekly), GI side effects • Avoid in patients who've had thyroid cancer
Morphine (MS Contin) Podcast	Binds, activates mu-opioid receptor	<ul style="list-style-type: none"> • Addiction/dependence risk • Respiratory depression • Constipation

REAL LIFE PHARMACOLOGY PODCAST – TOP 200 STUDY GUIDE

Empagliflozin (Jardiance) Podcast	Inhibits SGLT-2 which helps keep glucose in the urine – so ultimately reduces blood sugar	<ul style="list-style-type: none">• Risk of urinary tract infections• Mild diuretic effect• Monitor kidney function
Rivaroxaban (Xarelto) Podcast	Inhibits clotting factor 10a to prevent blood clots and stroke	<ul style="list-style-type: none">• Dose adjustments based on age, weight, and kidney function• Alternative to warfarin without routine INR requirement• Bleed risk
Amiodarone (Cordarone) Podcast	Class 3 antiarrhythmic; likely inhibits potassium and sodium channels which increase the duration of ventricular and atrial muscle contraction	<ul style="list-style-type: none">• LFT monitoring• TSH monitoring• Can cause pulmonary fibrosis
Carbamazepine (Tegretol) Podcast	Sodium channel antagonist used in the management of seizure, bipolar, and trigeminal neuralgia	<ul style="list-style-type: none">• Potent enzyme inducer, lots of drug interactions• LFT monitoring• Hyponatremia risk

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