

Medication Review

Cardiac

Anticoagulants

- Rivaroxaban (Xarelto)
- Dabigatran (Pradaxa)
- Apixaban (Eliquis)
- Heparin (various)
- Warfarin (Coumadin)

Action:

Decreases the clotting (coagulating) ability of the blood. Sometimes called blood thinners, although they do not actually thin the blood. They do NOT dissolve existing blood clots. Used to treat certain blood vessel, heart and lung conditions.

Indications:

Helps to prevent harmful clots from forming in the blood vessels. May prevent the clots from becoming larger and causing more serious problems. Often prescribed to prevent first or recurrent stroke.

Antiplatelet Agents and Dual Antiplatelet Therapy (DAPT)

- Aspirin
- Clopidogrel (Plavix)
- Dipyridamole
- Prasugrel (Effient)
- Ticagrelor (Brilinta)

Action:

Keeps blood clots from forming by preventing blood platelets from sticking together.

Indications:

Helps prevent clotting in patients who have had a heart attack, unstable angina, ischemic strokes, TIA and other forms of cardiovascular disease. Usually prescribed preventively when plaque buildup is evident but there is not yet a major obstruction in the artery.

Angiotensin-Converting Enzyme (ACE) Inhibitors

- Benazepril (Lotensin)
- Captopril (Capoten)
- Enalapril (Vasotec)
- Fosinopril (Monopril)
- Lisinopril (Prinivil, Zestril)
- Moexipril (Univasc)
- Perindopril (Aceon)
- Quinapril (Accupril)
- Ramipril (Altace)
- Trandolapril (Mavik)

Medication Review

Action:

Expands blood vessels and decreases resistance by lowering levels of angiotensin II. Allows blood to flow more easily and makes the heart's work easier or more efficient.

Indications:

Used to treat or improve symptoms of cardiovascular conditions including high blood pressure and heart failure.

Angiotensin II Receptor Blockers (or Inhibitors)

*Also known as ARBs or Angiotensin-2 Receptor Antagonists

- Candesartan (Atacand)
- Eprosartan (Teveten)
- Irbesartan (Avapro)
- Losartan (Cozaar)
- Telmisartan (Micardis)
- Valsartan (Diovan)

Action:

Rather than lowering levels of angiotensin II (as ACE inhibitors do) angiotensin II receptor blockers prevent this chemical from having any effects on the heart and blood vessels. This keeps blood pressure from rising.

Indications:

Used to treat or improve symptoms of cardiovascular conditions including high blood pressure and heart failure.

Beta Blockers

- Acebutolol (Sectral)
- Atenolol (Tenormin)
- Betaxolol (Kerlone)
- Bisoprolol/hydrochlorothiazide (Ziac)
- Bisoprolol (Zebeta)
- Metoprolol (Lopressor, Toprol XL)
- Nadolol (Corgard)
- Propranolol (Inderal)
- Sotalol (Betapace)

Action:

Decreases the heart rate and cardiac output, which lowers blood pressure and makes the heart beat more slowly and with less force.

Indications:

Used to lower blood pressure. Used with therapy for cardiac arrhythmias and in treating angina. Used to prevent future heart attacks in patients who have had a heart attack.

Medication Review

Combined alpha and beta-blockers

Combined alpha and beta-blockers are used as an IV drip for those patients experiencing a hypertensive crisis. They may be prescribed for outpatient high blood pressure use if the patient is at risk for heart failure. May cause a drop in blood pressure when patient stands up.

- Carvedilol (Coreg)
- Labetalol hydrochloride (Normodyne, Trandate)

Calcium Channel Blockers

- Amlodipine (Norvasc, Lotrel)
- Diltiazem (Cardizem, Tiazac)
- Felodipine (Plendil)
- Nifedipine (Adalat, Procardia)
- Nimodipine (Nimotop)
- Nisoldipine (Sular)
- Verapamil (Calan, Verelan)

Action:

Interrupts the movement of calcium into the cells of the heart and blood vessels. May decrease the heart's pumping strength and relax blood vessels.

Indications:

Used to treat high blood pressure, angina caused by reduced blood supply to the heart muscle and some arrhythmias.

Cholesterol-lowering medications

- Statins: Atorvastatin (Lipitor), Rosuvastatin (Crestor)
- Nicotinic Acids: Lovastatin (Advicor)
- Cholesterol Absorption Inhibitors: Ezetimibe/Simvastatin (Vytorin)

Action:

Various medications can lower blood cholesterol levels, but drug other than statins should only be used for patients in whom statins are not effective enough or who have serious side effects due to statin therapy. They work in the body in different ways. Some affect the liver, some work in the intestines and some interrupt the formation of cholesterol from circulating in the blood. Watch an animation of how statins work.

Indications:

Used to lower LDL cholesterol.

*Some cholesterol-lowering medications may interact with grapefruit, grapefruit juice, pomegranate and pomegranate juice.

Medication Review

Digitalis Preparations

- Digoxin (Lanoxin)

Action:

Increases the force of the heart's contractions, which can be beneficial in heart failure and for irregular heartbeats.

Indications:

Used to relieve heart failure symptoms, especially when the patient isn't responding to ACE inhibitors and diuretics. Also slows certain types of arrhythmias, particularly atrial fibrillation.

Diuretics

- Amiloride (Midamor)
- Bumetanide (Bumex)
- Chlorothiazide (Diuril)
- Chlorthalidone (Hygroton)
- Furosemide (Lasix)
- Hydro-chlorothiazide (Esidrix, Hydrodiuril)
- Indapamide (Lozol)
- Spironolactone (Aldactone)

Action:

Causes the body to rid itself of excess fluids and sodium through urination. Helps to relieve the heart's workload. Also decreases the buildup of fluid in the lungs and other parts of the body, such as the ankles and legs. Different diuretics remove fluid at varied rates and through different methods.

Indications:

Used to help lower blood pressure. Used to help reduce edema from excess buildup of fluid in the body.

Vasodilators

- Isosorbide dinitrate (Isordil)
- Nesiritide (Natrecor)
- Hydralazine (Apresoline)
- Nitrates
- Minoxidil

Action:

Relaxes blood vessels and increases the supply of blood and oxygen to the heart while reducing its workload. Can come in pills to be swallowed, chewable tablets and as a topical application (cream).

Indications:

Used to ease angina

Medication Review

Insulins

Rapid-acting insulin

- Onset: 15 minutes
- Peak: 1 hour
- Duration: 2 to 4 hours.
 - Types: Insulin glulisine (Apidra), insulin lispro (Humalog), and insulin aspart (NovoLog)

Regular or Short-acting insulin

Onset: 30 minutes

Peaks: 2 to 3 hours

Duration: 3 to 6 hours.

- Types: Humulin R, Novolin R

Intermediate-acting insulin

- Onset: 2 to 4 hours
- Peak: 4 to 12 hours
- Duration: 12 to 18 hours.
 - Types: NPH (Humulin N, Novolin N)

Long-acting insulin

- Onset: several hours and lowers glucose levels fairly evenly over a 24-hour period.
 - Types: Insulin detemir (Levemir) and insulin glargine (Lantus)

Antibiotics

Penicillins

Another name for this class is the beta-lactam antibiotics, referring to their structural formula. The penicillin class contains five groups of antibiotics: aminopenicillins, antipseudomonal penicillins, beta-lactamase inhibitors, natural penicillins, and the penicillinase resistant penicillins.

- penicillin V potassium
- amoxicillin
- amoxicillin/clavulanate (Augmentin)

Tetracyclines

Tetracyclines are **broad-spectrum** against many bacteria and treat conditions such as acne, urinary tract infections, intestinal tract infections, eye infections, sexually transmitted diseases, periodontitis, and other bacterial infections.

- doxycycline
- tetracycline
- minocycline

Medication Review

Cephalosporins

There are five generations of cephalosporins, with increasing expanded coverage to include gram-negative infections. Cephalosporins treat many infections, including strep throat, ear infections, urinary tract infections, skin infections, and meningitis. The fifth-generation cephalosporin ceftaroline (Teflaro) is active against methicillin-resistant *Staphylococcus aureus* (MRSA).

- cefuroxime (Ceftin)
- ceftriaxone (Rocephin)
- Cefdinir (Omnicef)

Quinolones

The quinolones, also known as the fluoroquinolones, are a synthetic, bactericidal antibacterial class with a **broad-spectrum** of activity. The quinolones can be used for difficult-to-treat urinary tract infections when other options are aren't effective, hospital-acquired pneumonia, bacterial prostatitis, and even anthrax or plague.

- ciprofloxacin (Cipro)
- levofloxacin (Levaquin)
- moxifloxacin (Avelox)

Lincomycins

This class has activity against gram-positive aerobes and anaerobes, as well as some gram-negative anaerobes. The lincomycin derivatives may be used to treat infections like pelvic inflammatory disease, intra-abdominal infections, lower respiratory tract infections, and bone and joint infections. These drugs include:

- clindamycin (Cleocin)
- lincomycin (Lincocin)

Macrolides

The macrolides can be used to treat community-acquired pneumonia, pertussis (whooping cough), or for uncomplicated skin infections, among other susceptible infections. Ketolides are a newer generation of antibiotic developed to overcome macrolide bacterial resistance.

- azithromycin (Zithromax)
- clarithromycin (Biaxin)
- erythromycin

Sulfonamides

Sulfonamides are effective against some gram-positive and many gram-negative bacteria, but resistance is widespread. Common uses for sulfonamides include UTIs, treatment or prevention of pneumocystis pneumonia, or ear infections (otitis media).

Medication Review

- sulfamethoxazole-trimethoprim (Bactrim, Bactrim DS, Septra)
- sulfasalazine (Azulfidine)
- sulfisoxazole (combined with erythromycin)

Glycopeptide Antibiotics

Members of this group may be used for treating methicillin-resistant *staphylococcus aureus* (MRSA) infections, complicated skin infections, *C. difficile*-associated diarrhea, and enterococcal infections such as endocarditis which are resistant to beta-lactams and other antibiotics.

- dalbavancin (Dalvance)
- oritavancin (Orbactiv)
- telavancin (Vibativ)
- vancomycin (Vancocin)

Aminoglycosides

Aminoglycosides inhibit bacterial synthesis by binding to the 30S ribosome and act rapidly as bactericidal antibiotics. These drugs are usually given intravenously.

- gentamicin
- tobramycin
- amikacin

Carbapenems

These injectable beta-lactam antibiotics have a wide spectrum of bacteria-killing power and may be used for moderate to life-threatening bacterial infections like stomach infections, pneumonias, kidney infections, multidrug-resistant hospital-acquired infections and many other types of serious bacterial illnesses.

- imipenem/cilastatin (Primaxin)
- meropenem (Merrem)
- doripenem (Doribax)
- ertapenem (Inanz)

Examples of Broad Spectrum Antibiotics:

- Aminoglycosides (except for streptomycin)
- Ampicillin
- Amoxicillin
- Amoxicillin/clavulanic acid (Augmentin)
- Carbapenems (e.g. imipenem)
- Piperacillin/tazobactam
- Quinolones (e.g. ciprofloxacin)
- Tetracyclines
- Chloramphenicol
- Ticarcillin
- Trimethoprim/sulfamethoxazole (Bactrim)