

Lisinopril

Drug Class: ACE Inhibitor

MOA: Inhibits ACE, reducing angiotensin II levels.

Indications: Hypertension, heart failure, Post-MI, Diabetic Nephropathy

Side Effects: Cough, Hyperkalemia, Angioedema, Hypotension

Contraindications: Pregnancy, Angio-oedema History, Bilateral Renal-Artery Stenosis

Monitor: Blood pressure, Potassium, Renal Function

Losartan

Drug Class: Angiotensin II receptor blocker (ARB)

MOA: Selectively blocks AT₁ receptor (prevents Ang II effects; no bradykinin build-up)

Indications: Hypertension, diabetic nephropathy, stroke-risk reduction, heart failure

Side Effects: Dizziness, hyper-kalaemia, hypotension, renal impairment, rare angioedema

Contraindications: Pregnancy, bilateral renal-artery stenosis, aliskiren with diabetes

Monitor: Blood pressure, potassium, renal function

Atenolol

Drug Class: β_1 -selective β -blocker

MOA: Selectively blocks cardiac β_1 -adrenergic receptors (↓ heart rate & contractility)

Indications: Hypertension, angina, post-MI, supraventricular arrhythmias

Side Effects: Bradycardia, fatigue, hypotension, bronchospasm

Contraindications: Sinus bradycardia, $>1^\circ$ AV block, decompensated HF, severe asthma

Monitor: BP, HR/ECG, glucose in diabetes

Metoprolol

Drug Class: β_1 -selective β -blocker

MOA: Selectively blocks cardiac β_1 receptors

Indications: Hypertension; angina; post-MI; heart failure

Side Effects: Bradycardia, fatigue, hypotension, depression

Contraindications: Severe bradycardia, Heart block, Decompensated Heart Failure, Sick Sinus Syndrome

Monitor: BP, HR/ECG, glucose

Amlodipine

Drug Class: Dihydropyridine Ca²⁺-channel blocker

MOA: Inhibits calcium influx into vascular smooth muscle.

Indications: Hypertension, stable & variant angina

Side Effects: Peripheral edema; headache; flushing

Contraindications: Severe hypotension, cardiogenic shock

Monitor: BP, ankle oedema, HR

Verapamil

Drug Class: Calcium Channel Blocker

MOA: Blocks L-type Ca²⁺ channels in heart and vessels (↓ AV conduction, vasodilation)

Indications: Hypertension; angina; supra-ventricular tachyarrhythmias (e.g. SVT, AF rate control)

Side Effects: Constipation, bradycardia, hypotension

Contraindications: Severe LV dysfunction, AV block, sick-sinus, severe hypotension; cardiogenic shock

Monitor: BP, HR/ECG

Diltiazem

Drug Class: Calcium Channel Blocker

MOA: Inhibits L-type Ca^{2+} channels (slows AV node conduction, vasodilation)

Indications: Hypertension, Arrhythmias, Angina

Side Effects: Bradycardia, hypotension, oedema

Contraindications: Severe hypotension, AV block, acute MI

Monitor: BP, HR/ECG, LFTs

Furosemide

Drug Class: Loop Diuretic

MOA: Inhibits $\text{Na}^{+}\text{-K}^{+}\text{-2Cl}^{-}$ cotransporter in thick ascending limb (high diuresis)

Indications: Edema, CHF, Hypertension

Side Effects: Hypokalemia; dehydration; hypotension; ototoxicity

Contraindications: Anuria, severe sulfonamide allergy

Monitor: Electrolytes (Na^{+} , K^{+} , Mg^{2+}); renal function; blood pressure

Hydrochlorothiazide

Drug Class: Thiazide Diuretic

MOA: Inhibits NaCl reabsorption in distal tubule.

Indications: Hypertension; edema; nephrolithiasis (calcium stones); diabetes insipidus

Side Effects: Hypo-kalaemia, hyperuricaemia, hyponatraemia, photosensitivity

Contraindications: Anuria, sulfonamide hypersensitivity

Monitor: Electrolytes (Na⁺, K⁺, uric acid, glucose); renal function; blood pressure

Spiroinolactone

Drug Class: Aldosterone antagonist (K⁺-sparing diuretic)

MOA: Antagonizes aldosterone receptor in collecting duct (↑ Na⁺ excretion, ↓ K⁺ excretion)

Indications: Heart failure; resistant hypertension; primary hyperaldosteronism

Side Effects: Hyperkalemia; gynecomastia; menstrual irregularities

Contraindications: Hyperkalemia; acute renal insufficiency; Addison's disease

Monitor: Serum potassium; renal function. BP

Atorvastatin

Drug Class: HMG-CoA reductase inhibitor (statin)

MOA: Inhibits HMG-CoA reductase to lower cholesterol.

Indications: Hypercholesterolemia; atherosclerotic cardiovascular disease prevention

Side Effects: Myalgia, Liver enzyme elevation

Contraindications: Liver disease, Pregnancy

Monitor: Lipids, LFTs, CK if myalgia

Simvastatin

Drug Class: HMG-CoA reductase inhibitor (statin)

MOA: Inhibits HMG-CoA reductase to lower cholesterol.

Indications: Hypercholesterolemia; cardiovascular risk reduction

Side Effects: Myopathy, ↑ LFTs, GI upset

Contraindications: Active liver disease, strong CYP3A4 inhibitors, pregnancy

Monitor: Lipid profile; LFTs; CK (in high-risk patients)

Rosuvastatin

Drug Class: HMG-CoA reductase inhibitor (statin)

MOA: Inhibits HMG-CoA reductase to lower cholesterol.

Indications: Hypercholesterolemia; cardiovascular risk reduction

Side Effects: Myalgia, ↑ LFTs, diabetes risk

Contraindications: Active liver disease, pregnancy/lactation

Monitor: Lipids, LFTs, CK

Warfarin

Drug Class: Anticoagulant (Vitamin K Antagonist)

MOA: Inhibits vitamin K epoxide reductase (↓ activation of factors II, VII, IX, X)

Indications: Anticoagulation (DVT/PE treatment & prophylaxis; stroke prevention in AF; mechanical valves)

Side Effects: Bleeding; skin/tissue necrosis; purple toe syndrome, teratogenicity

Contraindications: Pregnancy (most cases), active bleeding, poor compliance

Monitor: INR (target 2–3 usually); CBC (for anemia/bleeding); signs of bleeding

Heparin

Drug Class: Unfractionated heparin anticoagulant

MOA: Potentiates antithrombin III (inactivates thrombin and factor Xa)

Indications: DVT, PE, MI Prevention

Side Effects: Bleeding, HIT, osteoporosis (long-term)

Contraindications: Active bleeding, HIT history, severe thrombocytopenia

Monitor: aPTT/anti-Xa, platelet count, Hb/Hct

Enoxaparin

Drug Class: Low Molecular Weight Heparin

MOA: Inhibits factor Xa via antithrombin.

Indications: DVT/PE treatment & prophylaxis

Side Effects: Bleeding, thrombocytopenia, hematoma; injection site reactions

Contraindications: Active bleeding, HIT

Monitor: Anti-Xa levels (if needed), CBC

Clopidogrel

Drug Class: P2Y₁₂ ADP receptor inhibitor (antiplatelet)

MOA: Irreversibly blocks platelet P2Y₁₂ receptor, preventing ADP-mediated aggregation

Indications: MI, Stroke, Peripheral artery disease

Side Effects: Bleeding, GI upset

Contraindications: Active bleeding, Peptic ulcer

Monitor: CBC, signs of bleeding

Aspirin

Drug Class: NSAID antiplatelet (irreversible COX-1 inhibitor)

MOA: Irreversibly inhibits COX enzymes (↓ TXA₂ synthesis), blocking platelet aggregation

Indications: Acute coronary syndrome (MI, unstable angina); stroke/TIA prophylaxis; analgesic/antipyretic

Side Effects: GI irritation/bleeding, bronchospasm, tinnitus (high dose)

Contraindications: Active ulcer, aspirin hypersensitivity, viral infection in children (Reye)

Monitor: GI bleed, renal function (chronic use), salicylate level if toxic

Digoxin

Drug Class: Cardiac Glycoside

MOA: Inhibits Na^+/K^+ ATPase → increases intracellular Ca^{2+} .

Indications: Heart failure (symptomatic control); atrial fibrillation/flutter (rate control)

Side Effects: Arrhythmias (AV block, PVCs); nausea/vomiting; visual changes (yellow/green halos); confusion

Contraindications: Ventricular fibrillation; heart block without pacemaker

Monitor: Serum digoxin level (trough); electrolytes (K^+ , Mg^{2+}); renal function; ECG

Amiodarone

Drug Class: Antiarrhythmic (Class III)

MOA: Prolongs repolarization by blocking K^+ channels.

Indications: Atrial/Ventricular arrhythmias

Side Effects: Pulmonary fibrosis, thyroid & liver toxicity, corneal deposits, photosensitivity, bradycardia/QT prolongation

Contraindications: Severe sinus-node disease, 2°–3° AV block, iodine allergy

Monitor: ECG, LFTs, PFTs, thyroid function