Drug Classes of Anti-hypertensive	
Thiazides	- HCTZ 12.5 – 25 mg QD - Chlorthalidone 12.5 – 25 mg QD
Calcium Channel Blockers (CCBs)	- Amlodipine 5 – 10 mg QD - Diltiazem 180 – 360 mg QD
β-Blockers	- Metoprolol 25 – 200 mg QD - Carvedilol 12.5 – 50 mg BID
Angiotensin-Converting Enzyme (ACEIs)	Lisinopril 10 – 40 mg QD
Angiotensin-Receptor Blockers (ARBs)	Valsartan 80 – 320 mg QD
Renin Inhibitors	Aliskiren 150 – 300 mg QD
Aldosterone Receptor Blockers	- Spironolactone 25 mg – 50 mg QD - Eplerenone 25 – 50 mg QD
α1-Blockers	Doxazosin 2 – 8 mg QD at night
α2-Agonist	Clonidine 0.1 – 0.3 mg TID (Patch 0.1 – 0.3 mg QD)

Mechanism of Action	
Thiazides: - Hydrochlorothiazide - Chlorthalidone	Inhibit Na+ reabsorption in distal tubule
Calcium Channel Blockers (CCBs): - Amlodipine (DPH) - Diltiazem (non-DPH)	BOTH: Inhibition of L-type Ca2+ channel NON-DPH: AV node conduction → ↑HR
β-Blockers: - Metoprolol - Carvedilol	Block NE at β-AR
Angiotensin-Converting Enzyme (ACEIs): - Lisinopril	Inhibit ACE production of Angiotensin-II (AngII)
Angiotensin-Receptor Blockers (ARBs): - Valsartan	Block Angiotensin-II (AngII) at AT1 receptor
Renin Inhibitors - Aliskiren	Inhibit renin production of Angiotensin-I (AngI)
Aldosterone Receptor Blockers: - Spironolactone - Eplerenone	Inhibit aldosterone receptor
α1-Blockers	Block NE at α-AR
α2-Agonist	Stimulate α2-AR (pre-synaptic)

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Physiology

Thiazides: - Hydrochlorothiazide - Chlorthalidone	Mild diuretic, but powerful antihypertensive
Calcium Channel Blockers (CCBs): - Amlodipine (DPH) - Diltiazem (non-DPH)	BOTH: Vasodilator (arterial) NON-DPH: ↓HR & ↓CO
β-Blockers: - Metoprolol - Carvedilol	- Bradycardia (↓HR) - ↓contractility
Angiotensin-Converting Enzyme (ACEIs): - Lisinopril	Vasodilator (arterial/venous/renal)
Angiotensin-Receptor Blockers (ARBs): - Valsartan	Vasodilator (arterial/venous/renal)
Renin Inhibitors - Aliskiren	Vasodilator (arterial/venous/renal)
Aldosterone Receptor Blockers: - Spironolactone - Eplerenone	Mild diuretic
α1-Blockers	Vasodilator
α2-Agonist	- ↓HR & ↓contractility - Vasodilation

Adverse Drug Reactions (ADRs)

Thiazides: - Hydrochlorothiazide - Chlorthalidone	- Hypotension – Hypovolemia/hyponatremia – Hypokalemia – Hypercalcemia – Hyperuricemia – Lipid/glucose disturbances
Calcium Channel Blockers (CCBs): - Amlodipine (DPH) - Diltiazem (non-DPH)	- Hypotension – Peripheral edema – GI/Constipation
β-Blockers: - Metoprolol - Carvedilol	- Hypotension – Bradycardia – Fatigue – Sexual dysfunction – Lipid/glucose disturbances

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Adverse Drug Reactions (ADRs) (cont)	
Angiotensin-Converting Enzyme (ACEIs): - Lisinopril	- Cough (ACEIs only) – Hypotension (careful in volume depletion) – Hyperkalemia – Acute kidney injury – Angioedema (acute/chronic)
Angiotensin-Receptor Blockers (ARBs): - Valsartan	– Hypotension (careful in volume depletion) – Hyperkalemia – Acute kidney injury – Angioedema (acute/chronic)
Renin Inhibitors - Aliskiren	– Hypotension (careful in volume depletion) – Hyperkalemia – Acute kidney injury – Angioedema (?)
Aldosterone Receptor Blockers: - Spironolactone - Eplerenone	– Hypotension – Hyperkalemia – Acute kidney injury – Gynecomastia
α1-Blockers	– Orthostatic hypotension – Dizziness – Fatigue – Tolerance
α2-Agonist	– Hypotension – Bradycardia – Fatigue – Somnolence – Discontinuation syndrome!!!!

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