7. Non-Selective CCBs
MOA: Block Vascular & cardiac Ca^{2+} channels - ↓HR (SA/AV)
Verapamil – minimal vasodilation
Diltiazem
Use: Hypertension – low renin, arrhythmia
SE: Gingival hyperplasia, AV block, Bradycardia, constipation

8. Selective CCBs - Dihydropyridines
MOA: Block Vascular Ca^{2+} Channels
Nifedipine, amlodipine, nicardipine
Use: HTN - Preg./emergency, Raynaud
SE: Tachycardia, Gingival hyperplasia, Peripheral Edema

9. Mixed Arterial and Venous Dilators
MOA: Nitric oxide → SM dilation
Sodium Nitroprusside
Use: Hypertensive emergency
SE: Thiocyanate toxicity → kidney failure
CI: preeclampsia

10. Arterial Vasodilators
MOA: ↑cGMP and ↑K_{ATP}
Hydralazine – cGMP and K_{ATP}
Minoxidil – K_{ATP} (Pro-drug)
Fenoldopam – D1 agonist, Diuresis
Use: Hypertension, urgency, CHF
SE: Reflex tachy ↑CO , H_2O retention, Lupus (Hydrazine), Hair growth (Minoxidil)
CI: kidney failure - Hydralazine

11. Angiotensin receptors blockers (ARBs)
MOA: ↓AT1 receptor activation → ↓ constriction, ↓SNS, ↓ALDO, ↓Hypertrophy, ↑Dilation (AT_2 receptor)
Losartan, valsartan candesartan
Use: RAAS → Hypertension w diabetes, MI, CHF
SE: Hyperkalemia, ↓GFR, NO COUGH
CI: K-sparing diuretics, Beta-blockers, pregnancy

12. ACE Inhibitors
MOA: ↓Production of Ang II
Enalapril (prodrug), *captopril,*
Use: RAAS → Hypertension w/ diabetes, CHF, MI (↓Cardiac Remodeling)
SE: Hyperkalemia, ↓GFR, Angioedema, Cough/Lung Irritation (BK), 1st dose hypotension, ↑AT1, ↑Renin
CI: : K-sparing diuretics, **β**-blockers, pregnancy, renal artery stenosis, NSAIDs

13. Direct Renin Inhibitors
MOA: ↓production of Ang I
Aliskiren
Use: RAAS → Hypertension
SE: Hyperkalemia, ↓GFR,
CI: : K-sparing diuretics, Beta-blockers, pregnancy

6. β-Blockers
MOA: Inhibit CO, ↓SNS, ↓RAAS, ↑PGI
Propranolol – Beta 1&2
Metoprolol – Beta 1
Atenolol – Beta 1
Nebivolol – Beta1 & NO prod.
Use: MI, HTN, CHF, Migraine, Arrhythmia, Thyroid storm
SE: Hyperglycemia ($β_2$), Bradycard, Hyperkalemia ($β_2$), rebound HTN, ↑LDL/↓HDL, **TX:** Glucagon
CI: Asthma, Diabetes, NSAIDs, K-sparing Diuretics, ACEI, ARB, Hyperadrenergic

5. α/β-Blockers
MOA: Block Beta and alpha receptors
Carvedilol,
Labetalol – Preg. HTN
Use: HTN, HF,
SE: Rebound, Adverse lipid profile, No Reflex
CI: Diabetes

4. Adrenergic Nerve Blockers
MOA: Inhibit Neuronal release of NE/EPI
Reserpine
Use: hypertension
SE: Depression, Sedation (central) GI ulcer
CI: migraine, Cold meds

3. Selective $α_1$ Antagonists
MOA: blockade of $α_1$ receptors
Prazosin (*-osin*)
Use: HTN, BPH, PTSD
SE: 1st dose effect, Orthostatic hypo, Sexual dysfunction, Tachycardia (less),

2. Nonselective α Antagonists
MOA: blockade of $α_1$ & $α_2$ receptors
Phentolamine - Reversible
Phenoxybenzamine- Irreversible
Use: hypertension, cocaine OD, pheochromocytoma
SE: Orthostatic hypo, Sexual dysfunction, Tachycardia (reflex)

1. $α_2$ Agonists
MOA: Central inhibition of SNS outflow
α-methyl-dopa –DOC pregnancy
Clonidine
Guafacine, Guanabenz, Tizanidine
Use: hypertension, HF, ANS failure, Dx Pheo. ADHD
SE: Sedation, Rebound, Dry mouth, H_2O retention, Lupus
CI: Alcohol – sedation

KEY
MOA = mechanism of action
SE = side effects
CI = contraindications
= Constricting/activation
= Dilating/activation
= Dilating/inhibiting
= MOA – activating
= MOA - inhibiting