

### Renal tubular inhibitory diuretics

CAI	Thiazide or thiazide-like diuretics	Loop diuretics	K sparing diuretics
Decreases H <sup>+</sup> and Na ion exchange so Na remains in lumen and gets excreted with HCO <sub>3</sub> <sup>-</sup> and water.	In mild HTN alone or in edema caused by nephritic syndrome, liver cirrhosis, HF		Excrete Na & Cl without K, which may lead to hyperkalemia--cardiac risk.

Drug design concept originates from anti-bacterial **sulfanilamide** (weak CAI)

Two groups:

1. Heterocyclic sulfonamides; <b>Acetazolamide</b> , <b>Methazolamide</b>	<b>Hydrochlorothiazide</b> or <b>Indapamide</b> ; thiazide like	Furosemide; Azosemide; Ethacrynic acid	Spirolactone; hormonal SE; Amiloride: less hormonal SE; Triamterine
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2. Metadisulfamoyl benz deriv.; Dichlorphenamide, Chloraminophenamide

NOT given to sulpha-allergic patients: CAI- Thiazide Diuretics- Loop diuretics except ethacrynic a'

### Osmotic diuretics

Given in high concentrations to increase osmotic pressure in urine and increase its secretion into urine along with water.

Decreases IOP

1. Glycerine/glycerol

2. Mannitol: **Taken IV**; Safe on kidney so for renal function diagnosis, acute renal failure or cerebral edema

3. Sorbitol (D-glucitol)/Isosorbide

### Vasodilators

Hydralazine HCl	Sodium nitroprusside	K channel agonists
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Best in combination to avoid individual increase in dose leading to unwanted SE.	Indicated for hypertensive emergencies (very potent VD)	Diazoxide: IV for emergency BP lowering in hospitalized pt.
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Minoxidil: for severe HTN and alopecia.

### Sympatholytic

<i>Affects central nerves:</i>	<i>Affects peripheral nerves:</i>
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a-methyl dopa	Reserpine, guanethidine; deplete NT store
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Clonidine	Prazosin: $\alpha_1$ antagonist
	Propranolol, atenolol: B blockers

### RAS inhibitors

ACEI	ARBs
Captopril: thiol gp attaches to Zn of the metalloenzyme and responsible for SE urticaria or rash	Candesartan: Prodrug that gives free acid from hydrolysis of ethyl ester

Gen2 (prodrugs): Lisinopril, Quinapril, Enalapril	Losartan (non-peptide imidazole): Orally active, potent, selective to AT1 on angiotensin II receptor.
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**No thiol gp.** . Long acting ACEI. Valsartan

