## ACE INHIBITORS (end in ".- ol")

**PROTOTYPE**
- lisinopril (Prinivil, Zestril)

**Drug of choice for HF**
- Reduce afterload
- Increases cardiac output
- Enhance excretion of sodium and water
- Lowers peripheral resistance and reduces blood volume

**PRIMARY USE:** To decrease BP and reduce blood volume; dilate veins

**ADVERSE EFFECTS:**
- First-dose hypotension
- Cough
- Hyperkalemia
- Renal failure

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## ANGIOTENSIN II RECEPTOR BLOCKERS (ARBs) (cont)

**PROTOTYPE**
- candesartan (Atacand)

**Actions very similar to ACE inhibitors**
- Usually used for pts who are unable to tolerate ACE inhibitors

**PRIMARY USE:**
- HTN and HF (for those who can’t tolerate ACE inhibitors)
- Diuretic
- (Negative) inotropic effect
- Reduce workload of heart

**ADVERSE EFFECTS:**
- Electrolyte imbalances
- Hypovolemia
- Orthostatic hypotension

**PATIENT TEACHING:**
- Sodium & potassium restrictions
- Contraception

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## DIURETICS

**PROTOTYPE**
- furosemide (Lasix)

**Primary Use:**
- Increase urine flow
- Reduce blood volume and cardiac workload
- Edema and pulmonary congestion

**ADVERSE EFFECTS:**
- Neutropenia
- Dysrhythmias
- Digital toxicity

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## CARDIAC GLYCOSIDES

**PROTOTYPE**
- digoxin (Lanoxin)

**Primary Use:**
- Increase force of heartbeat, slow heart rate
- Improve cardiac output
- Second-line treatment for HF
- Narrow therapeutic range

**ADVERSE EFFECTS:**
- Reduce symptoms of HF
- Slow progression of disease

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## PHOSPHODIESTERASE INHIBITORS

**PROTOTYPE**
- milrinone (Primacor)

**Primary Use:**
- As a short term therapy for HF
- Block enzyme phospho diesterase
- Increase calcium for myocardial contraction
- Cause positive inotropic response and vasodilation
- Increase contractility & decrease afterload
- Short-term therapy only

**ADVERSE EFFECTS:**
- Hypokalemia
- Hypotension
- Ventricular dysrhythmias

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## DIRECT VASODILATORS

**PROTOTYPE**
- hydralazine (Apresoline)

**Primary Use:**
- Antihypertensive
- Treatment of hypertensive crisis

**ADVERSE EFFECTS:**
- Fluid retention
- Worsening of HF
- Fatigue
- Hypotension
- Bradycardia
- Heart block
DIRECT VASODILATORS (cont)

- Stopping abruptly can cause rebound HTN
- Flushing
- Reflex tachycardia
- Palpatations
- Lupus-like reaction
- Hypotension

CONTRAINDICATED IN THOSE WITH:
- Tachycardia
- Angina
- Rheumatic heart disease