- b-blockers
- ACE inhibitors (lowers the blood pressure)
- calcium channel blockers
- diuretics

Hypertension

- excessive tension exerted by blood on arterial walls, which results in an intermittent (labile) or sustained elevation in blood pressure
- elevation may be systolic (contraction) or diastolic (relaxation) pressure or in both
- classified into 3:
 - Primary HTN
 - Secondary HTN
 - Hypertensive crisis
 - Isolated systolic hypertension

Etiology of Hypertension

Primary HTN

- also called essential/idiopathic HTN
- familial disease; unknown etiology but has risk factors

Secondary HTN

- •
- •
- develops secondary to another disease the pre-existing • the pre-existing the hyper els ou
- etiology: 10% of hypertension cases are triggered by renal disease (increase of renin secretion of the kidney which elevates the BP), Cushing syndrome, hypo and hyperthyroidism (alteration in the CO), excessive alcohol ingestion, and prolonged used of oral contraceptives

Hypertensive crisis

- sudden acute elevation in arterial blood pressure
- classified into 2: hypertension urgency and hypertension emergency
- Hypertension urgency severe elevation in BP; doesn't produce organ damage; asymptomatic
- Hypertension emergency severe BP; manifestation of elevation in deterioration

etiology: ischemic chest pain, pulmonary edema, intracerebral hemorrhage,

Isolated systolic hypertension

- elevation in systolic pressure •
- greater than 140
- usually affects the elderly
- decrease in cardiac output, increase in peripheral vascular resistance (PVR)

Pathophysiologic Process of Hypertension

- $BP = CO \times PVR$
- elevation in BP = increase in PVR (vasoconstriction) and increase in CO (increased heart rate and stroke volume)
- Renin-Angiotensin Aldosterone System (RAAS)
 - o responsible for producing vasoconstriction whenever blood flow to the kidney is decreased by releasing renin
- Sympathetic NS

Treatmen of U pert

- B-blockers
 - ACC nhibitors
 - RB's (Angiotensin receptor blockers)
- Vasodilators
- Calcium channel blockers

Process of maintaining BP:

- 1. Arterial baroreceptors
- 2. RAAS
- 3. Atrial natriuretic peptide
- 4. Steroids
 - these systems manage the degree of or vasoconstriction vasodilation within the systemic circulation
 - controls the retention of sodium and water in the body
 - maintain adequate circulating blood volume
 - dysfunction in one of these systems can lead to the development of hypertension (can result in increased CO, systemic vascular resistance or both)

*As we get older, our blood vessels become less elastic and more rigid and it will not dilate and