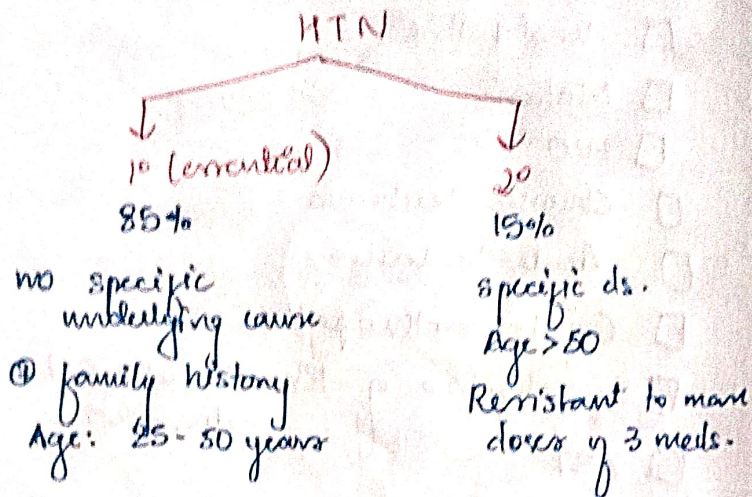


# Hypertension

## Classification of BP (ACC 2017)

	Systolic	Diastolic
Normal	< 120	& < 80
Elevated BP	120-129	& < 80
Stage 1 HTN	130-139 or 80-89	
Stage 2 HTN	≥ 140 or ≥ 90	



## Essential HTN (1°) -

- Risk factors: genetics
- environmental: salt intake, obesity → leptin, occupation, alcohol intake, family size, overexerting
- Impaired sodium excretion
- Stress
- Humoral mechanism: ANS, RAAS

## Etiology of 2° HTN:-

- 1) Renal parenchymal ds (mild)
  - acute glomerulonephritis
  - PKD
  - Chronic nephritis
  - Diabetic nephropathy
  - Hydronephrosis
  - Renal Artery Stenosis
  - Renin producing tumours
- 2) Endocrine:-
  - Adrenal: Cushing's, 1° aldosteronism
  - 1° adrenal hyperplasia

- Hypothyroidism (diastolic)
- Hyperthyroidism (systolic)
- Hypercalcaemia
- Neuroendocrine
- Carcinoid

## 3) Cardiovascular:-

Coarctation of aorta  
PAN

## 4) Neurologic:

- Psychogenic
- Porphyrria
- Pb poisoning
- Riley day syndrome (1° dysautonomia)
- EnB syndrome
- ⊕ ICP

## 5) Obstructive sleep apnea

## 6) Preeclampsia / Eclampsia

- ## 7) Meds:
- High dose estrogens
  - Adrenals
  - Steroids
  - Decongestant
  - Amphetamines
  - TCA
  - NSAIDs
  - Cocaine
  - Alcohol

## Ambulatory BP Monitoring (ABPM):

Preferred method for confirming diagnosis of HTN.

## Clinical features:

- 1) Majority - asymptomatic
- 2) Acute HTN → transient headache  
polymia
- 3) Long standing HTN →
  - LVH
  - heaving apical impulse
  - accentuation of A<sub>2</sub>
  - S<sub>4</sub>
  - short early diastolic murmur
  - fundal Δs.

## Complications of HTN:

- 1) CNS - TIA  
CVA or stroke  
SAH  
Hypertensive encephalopathy
- 2) Ophthalmic: Hypertensive retinopathy
- 3) CVS - CAD  
LVF & pulmonary edema  
Atrial fibrillation (AF)
- 4) Blood vessels: Atherosclerosis  
Aneurysm of aorta  
Aortic dissection
- 5) Renal - proteinuria  
hematuria

## Investigations: ① Urine analysis

- ② Blood: urea & creatinine: RFT
- ③ Serum electrolytes: for hyponatremia
- ④ Fasting & postprandial blood glucose
- ⑤ Lipid profile - Serum total cholesterol & HDL

• ECG: 12-lead ECG for LVH.

## Treatment:

Goal: Standard target BP  
SBP < 140 mm Hg  
DBP < 95 mm Hg.

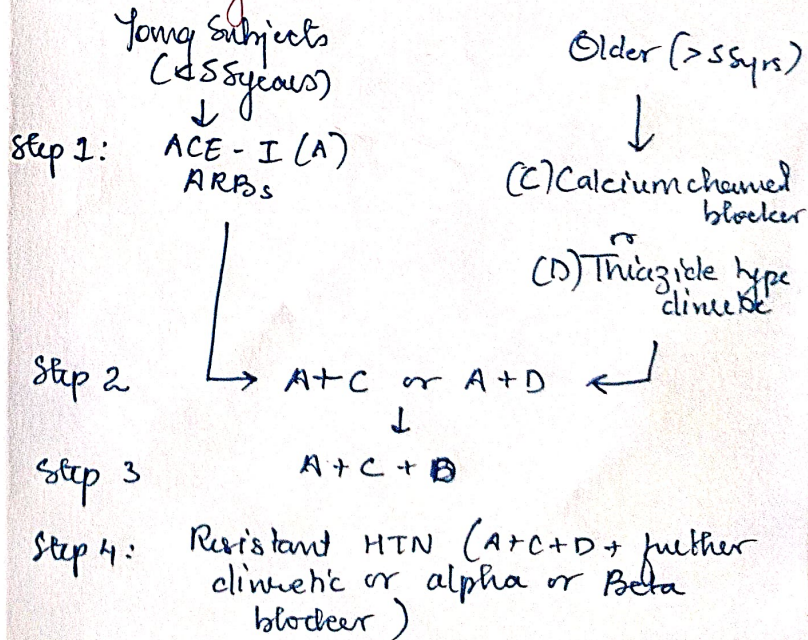
High Risk; DM, Renal impairment  
Established CVD  
Target: < 130/80

## Non-pharmacological:

- 1) Weight management: Control obesity  
Target BMI: 20-25 kg/m<sup>2</sup>
- 2) DIET: DASH  
Salt: < 6g NaCl/day  
↓ intake of fat & saturated fat
- 3) ↑ consumption of fruits & veg. (> 5/day)
- 4) ↓ alcohol ≤ 3 units/day - men  
≤ 2 units/day - women
- 5) Smoking - quit ✓
- 6) Aerobic exercise: > 30 mins of brisk walking.

## Stress Reduction

## Pharmacological:



# Hypertensive Encephalopathy

SBP: > 180 - 220 mmHg

DBP: > 120 - 130 mmHg

MAP: > 180 mmHg

↑ cerebral blood flow

↓

hyperfiltration

↓

local or diffuse cerebral edema

↓

cerebral ischemia

CF: Severe headache

Vomiting

Visual disturbance

Confusion

Focal or generalized seizures

Papilledema