

UNDERSTANDING HYPERTENSION

A clinical presentation delivered by

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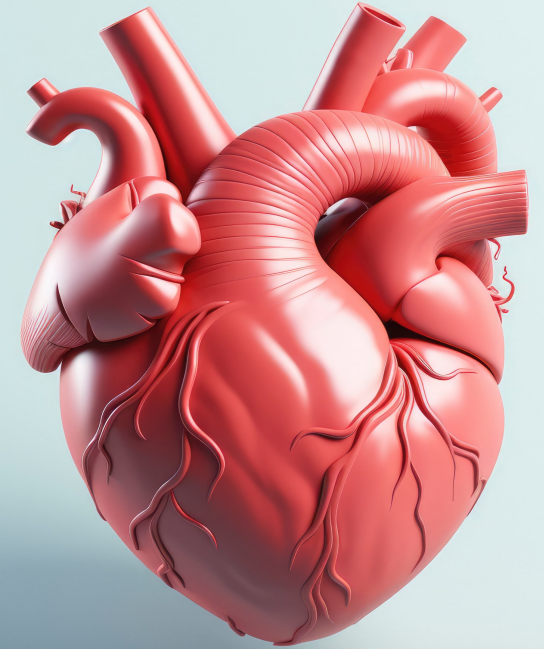
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FOR THE VOLUNTEER MEDICAL CORPS (VMC)

IN COMMEMORATION OF WORLD HEART DAY 2024



Volunteer
MEDICAL
Corps

Logo for Volunteer Medical Corps, featuring a blue globe with a stethoscope around it.

3 John 1:2

Dear friend, I pray that you may enjoy good health and that all may go well with you, even as your soul is getting along well.

Hosea 4:6

my people are destroyed from lack of knowledge.



Why is Hypertension important?

- 10.4 million deaths per year
- Estimated 1.39 billion people had hypertension in 2010
 - 349 million in high income countries
 - 1.04 billion in low-middle income countries



Classification of hypertension based on office/clinic blood pressure measurement

| Category | Systolic (mmHg) | Diastolic (mmHg) |
|----------------------|-----------------|------------------|
| Normal BP | <130 | <85 |
| High-normal BP | 130-139 | 85-89 |
| Grade 1 Hypertension | 140-159 | 90-99 |
| Grade 2 Hypertension | ≥160 | ≥100 |

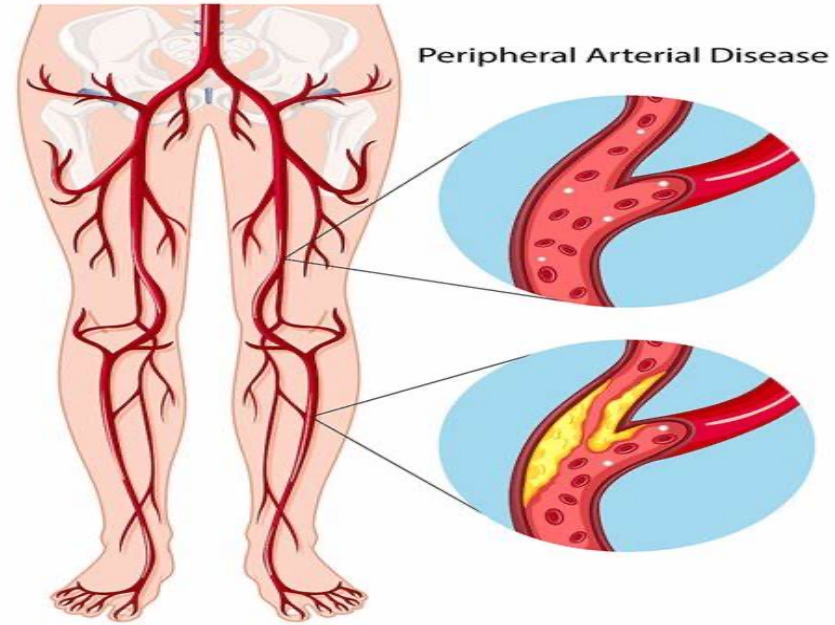
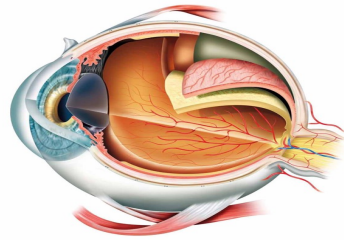
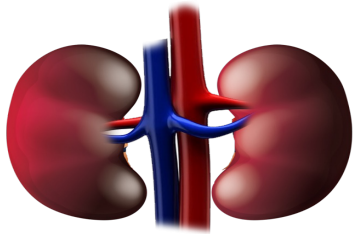
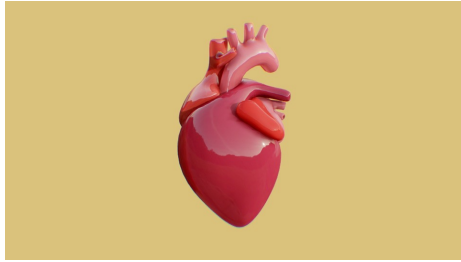
Blood pressure of 2 - 3 office visits ≥ 140/90 mmHg indicates hypertension.

Blood pressure variations

- Seasonal:
 - High BP at low T^0
 - Low BP at high T^0
- >40 years: age related rise in BP ≈ 7 mmHg per decade
- Age-related increases in blood pressure have been observed in almost every population, except among hunter-gatherers, farmers, and pastoralists (herdsmen).

Major risk factors

- Levels of systolic and diastolic BP
- Smoking
- Dyslipidemia:
 - Total cholesterol > 5.1 mmol/l, OR
 - LDL > 3 mmol/l, OR
 - HDL men < 1 and women < 1.2 mmol/l
- Diabetes mellitus
- Men > 55 years
- Women > 65 years
- Family history of early onset of CVD:
 - Men aged < 55 years
 - Women aged < 65 years
- Waist circumference: abdominal obesity:
 - Men \geq 102 cm
 - Women \geq 88 cm
 - The exceptions are South Asians and Chinese:
 - men: > 90 cm
 - women: > 80 cm



Hypertension-mediated organ damage (HMOD)

The structural or functional alteration of the arterial vasculature and/or the organs it supplies that is caused by elevated hypertension.

Possible Complications

Coronary heart disease

Heart failure

Chronic kidney disease:

- macroalbuminuria > 30 mg/mmol
- OR eGFR < 60 ml/min

Stroke or TIA

Peripheral arterial disease

Advanced retinopathy:

- haemorrhages OR
- exudates
- papilloedema

Healthy lifestyle choices

- Prevent or delay the onset of hypertension
- Reduce cardiovascular risk
- It is the first line of antihypertensive treatment
- Can enhance the effects of antihypertensive treatment

Recommended Lifestyle Modifications in Hypertension

| Modification | Description |
|--------------------|--|
| Alcohol moderation | <p>Abstain from binge drinking</p> <p>Limit to moderate daily consumption (i.e., 1.5 standard drinks per day for women and 2 for men)</p> |
| Diet | <p>Increase consumption of dairy, fruits, polyunsaturated fats, vegetables, and whole grains</p> <p>Increase consumption of foods high in calcium, magnesium, and potassium (e.g., avocados, legumes, nuts, seeds, tofu)</p> <p>Increase consumption of vegetables high in nitrates (e.g., leafy vegetables, beetroot)</p> <p>Reduce consumption of foods high in sugar, and saturated or trans fats</p> |
| Healthy drinks | <p>Consider hibiscus tea, pomegranate juice, beetroot juice, and cocoa</p> <p>Moderate consumption of coffee, and green and black tea</p> |
| Physical activity | <p>Add strength or resistance training 2 to 3 days per week</p> <p>Moderate intensity aerobic activity (e.g, walking, jogging, cycling, yoga, swimming) at least 5 days per week</p> |

Salt reduction Avoid adding salt when cooking or dining

Limit consumption of high salt foods, including fast foods, processed foods, and soy sauce

Many breads and cereals are high in salt

Smoking cessation Smoking cessation programs and adjuncts are recommended

Stress reduction Daily mindfulness or meditation appears to improve blood pressure measurements

Weight loss Evaluate obesity by waist-to-height ratio less than 0.5, or by ethnic-specific body mass index targets

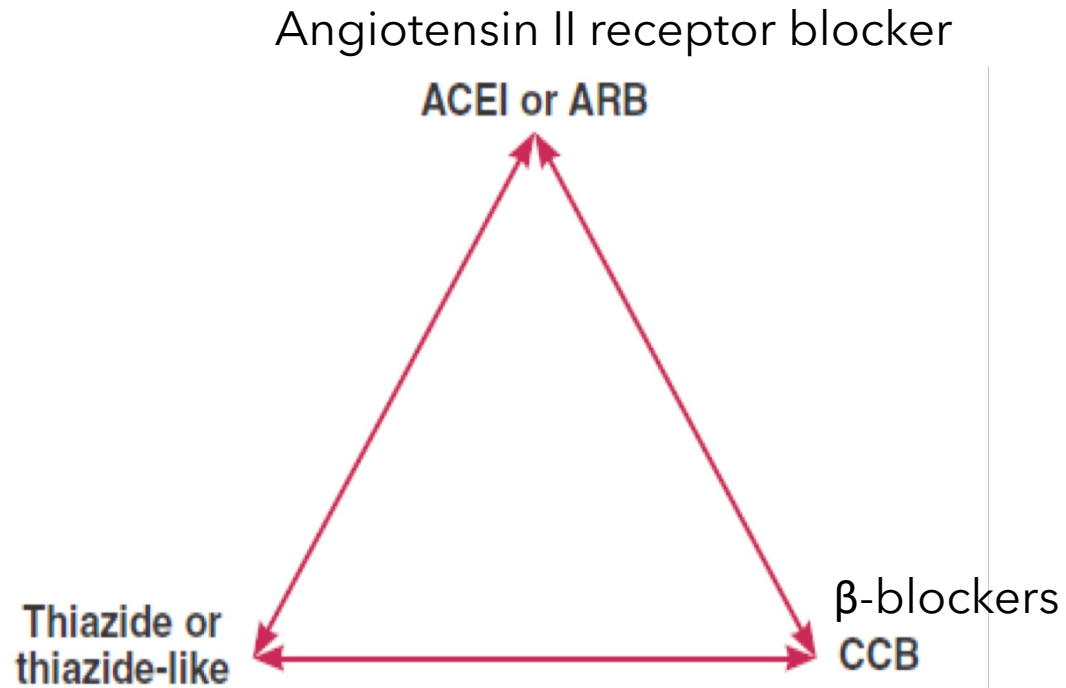
Limit obesity, particularly truncal obesity

Adapted from Unger T, Borghi C, Charchar F, et al. 2020 International Society of Hypertension global hypertension practice guidelines. J Hypertens. 2020;38(6):989.

Results of lifestyle modifications

| Modification | Recommendation | Approx ↓ SBP (mmHg) |
|-------------------------|---|---------------------|
| Weight reduction BMI | 18.5-24.9 kg/m ² | 5-20 per 10 kg |
| Dash diet | ↓ saturated fat and total fat ↑ fruit and vegetables | 8-14 |
| Dietary Na ⁺ | < 100 mmol or 6 g NaCl/day | 2-8 |
| Physical activity | Brisk walking for 30 minutes per day most days | 4-9 |
| Moderation of alcohol | No more than two drinks per day most days | 2-4 |
| Tobacco | Complete cessation | - |

Initial choices of antihypertensive treatment



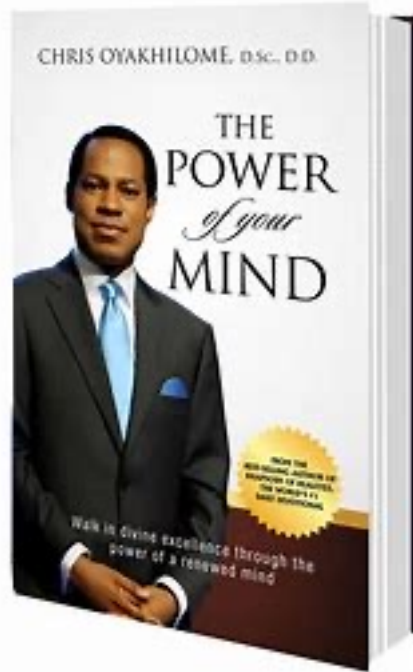
Cardiovasc J Afr 2014; 25: 288-294

Key Points to note

- 140/90 mm Hg for office/clinic diagnosis of hypertension
- Initial work-up/ investigations: Cardiovascular risk assessment and assess for any hypertension-mediated organ damage
- For Grade 1 hypertension and no comorbidities: Consider lifestyle interventions for 3-6 months before medication
- For those on medication , and aged younger than 65 years:
 - 3 months: target BP <140/90 mm Hg
 - > 3 months target BP < 130/80 mm Hg
- Healthy lifestyle choices are essential in prevention, delay and reducing harmful effects of hypertension



Reduce stress and induce mindfulness through the WORD OF GOD



The image is a composite graphic. On the left, there is a large blue and yellow circular logo with a stylized 'R' inside, surrounded by yellow stars. Below this logo is the title "RHAPSODY OF REALITIES" in a yellow, outlined font. To the right of the logo is a black and white photograph of a man in a suit speaking to a large audience seated in a church or auditorium. Below the photograph is the text "SATURDAY 25". At the bottom left, there is an image of an open book with the title "RHAPSODY OF REALITIES" on its cover. To the right of the book is a quote in italics: "My son, attend to my words; incline thine ear unto my sayings. Let them not depart from thine eyes; keep them in the midst of thine heart. For they are life unto those that find them, and health to all their flesh (Proverbs 4:20-22)."

Faith's Proclamations of Healing & Health

"My son, attend to my words; incline thine ear unto my sayings. Let them not depart from thine eyes; keep them in the midst of thine heart. For they are life unto those that find them, and health to all their flesh" (Proverbs 4:20-22).

3 John 1:2

Dear friend, I pray that you may enjoy good health and that all may go well with you, even as your soul is getting along well.

1 Corinthians 6:19-20

Do you not know that your body is a temple of the Holy Spirit, who is in you, whom you have received from God? You are not your own; you were bought at a price. Therefore honour God with your body.

1 Timothy 4:8

For physical training is of some value, but godliness has value for all things, holding promise for both the present life and the life to come.

Proverbs 31:17

She sets about her work vigorously; her arms are strong for her tasks.

Proverbs 20:1

Wine is a mocker and beer a brawler; whoever is led astray by them is not wise.

Deuteronomy 7:15

The LORD will keep you free from every disease.



World Heart Day

29 Sept.

Gift a family a BP machine in commemoration of this year's "World Heart Day"

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