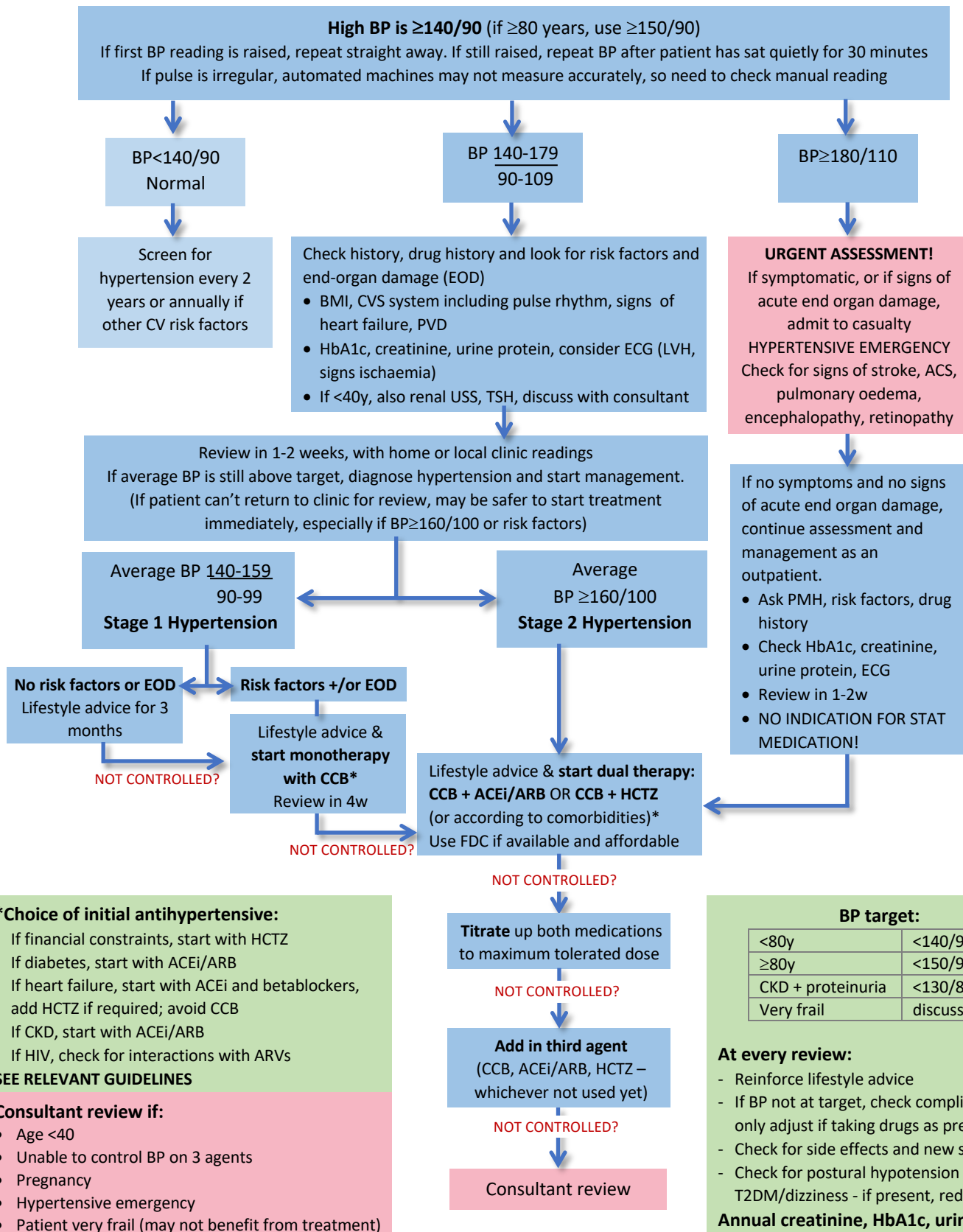


Hypertension

- Hypertension is a modifiable risk factor for cardiovascular disease
- It is estimated that 24% Kenyans have hypertension, but only 8% are on treatment and only 4.6% of those on treatment are well controlled¹
- In a high percentage of adults, high BP is related to an unhealthy diet, lack of physical activity and/or use of alcohol²
- HIGH RISK PATIENTS** are those with: cardiovascular disease (CVD), diabetes, renal disease and a CVD risk >20%



Follow up

- Every 2-4 weeks until BP in target range. Then, review every 3-6 months
- Ask patient to get home/local clinic readings for the few days before each appointment if possible
- Check creatinine after dose increases of ACEi/ARB and HCTZ
- If patient is from far away, consider follow up in nearby clinic – discuss with patient. If referring to another clinic, ensure a good discharge letter is given for continuity of care. Explain advice to patient, lab results, treatment given, plan for review and next steps.

Women of childbearing age with hypertension

Manage as above, but check if planning pregnancy, are pregnant or are breast-feeding. Discuss family planning (see guideline, avoid oestrogens). Ideally switch antihypertensives pre-conception to nifedipine +/- methyldopa; do not use ACEi/ARB or HCTZ; start aspirin 75mg from 12w, see maternity guidelines.

Hypertension in the elderly

Check for postural drop in BP at reviews

REDUCE/STOP antihypertensives if BP well below the target, and then monitor

Causes of secondary hypertension	Lifestyle advice
<p>Drugs – NSAIDs, corticosteroids, oestrogens, salbutamol (esp. oral), triptans, alcohol, illegal drugs (cocaine, amphetamines)</p> <p>Renal causes – renal artery stenosis, CKD</p> <p>Thyroid disorder</p> <p>Coarctation of the aorta</p> <p>Sleep apnoea</p> <p>Primary hyperaldosteronism – muscle weakness, FH hypertension and CVA <40y</p> <p>Cushing's syndrome – rapid weight gain, polyuria, polydipsia with central obesity, moon face, buffalo hump, striae, hyperglycaemia</p> <p>Phaeochromocytoma – headaches, palpitations, pallor, excessive sweating, changeable BP</p>	<p>Smoking cessation</p> <p>Healthy diet:</p> <ul style="list-style-type: none"> - For those who are overweight, for every kilogram of weight loss, expect approximately 1mmHg drop in SBP³ - Eat a diet low in fats and refined carbohydrates; high in fruit and vegetables <p>Exercise: Moderate exercise every day for 30 minutes if possible. This is anything that makes you a bit short of breath or sweaty. Look at what you're doing already and consider how you can do more. Any exercise is good.</p> <p>Reduce alcohol intake</p> <p>Reduce salt intake – no more than 1 teaspoon per day, this includes hidden salts. Do not add salt to food – try using spices and herbs instead. Avoid stock cubes. Check food labels for hidden salt. Avoid processed foods.</p> <p>Sleep – try to sleep for 7-8 hours each night</p>

Antihypertensive medication

		Starting dose	Maximum dose	Notes
CCB	Amlodipine Nifedipine	5mg OD 10mg BD	10mg OD 40mg BD	Preferred first choice Amlodipine preferred over Nifedipine as once daily Side effects: ankle swelling (amlodipine), headache (nifedipine)
ACEi	Enalapril	5mg OD	20mg OD (max 20mg BD)	Preferred first choice if diabetes, heart failure or CKD Check creatinine before starting and with every dose increase AVOID in women who may become pregnant Side effects: ACEi persistent cough – change to ARB
ARB	Losartan	50mg OD	100mg OD	
Thiazide diuretic	HCTZ	12.5mg	25mg	Rarely clinical benefit with doses above 12.5mg, and risk side effects increases AVOID in women who may become pregnant Side effects: hypokalaemia, hyponatraemia, urinary frequency, erectile dysfunction
Fixed dose combination	Amlodipine/ Losartan	1 tablet 5mg/50mg	2 tablets OD	As for individual components
	Losartan H	1 tablet 50mg/12.5mg	2 tablets OD	As for individual components

References

1. Kenya National Guidelines for Cardiovascular Diseases Management, MOH, 2018
2. Circulation 2022;146:868
3. JAMA 2022;328:1849
4. Blood pressure targets for the treatment of people with hypertension and cardiovascular disease. *Cochrane Database of Systematic Reviews* 2022, DOI: [10.1002/14651858.CD010315.pub5](https://doi.org/10.1002/14651858.CD010315.pub5)
5. NEJM 2019;380:2429
6. NICE NG136, 2019, updated 2022
7. Red Whale GP Update Hypertension <https://www.redwhale.co.uk/content/hypertension>
8. NCD guide 2023 Hypertension, Primary Care International (*adapted for this context and location. PCI have not been involved in, nor hold responsibility for any adaptations. Original can be found at: <https://www.pci-academy.org/clinical-guides>*)

10/23, Version 3