The Physician Learning Program and the Office of Lifelong Learning

Cardiovascular Issues in Primary Care

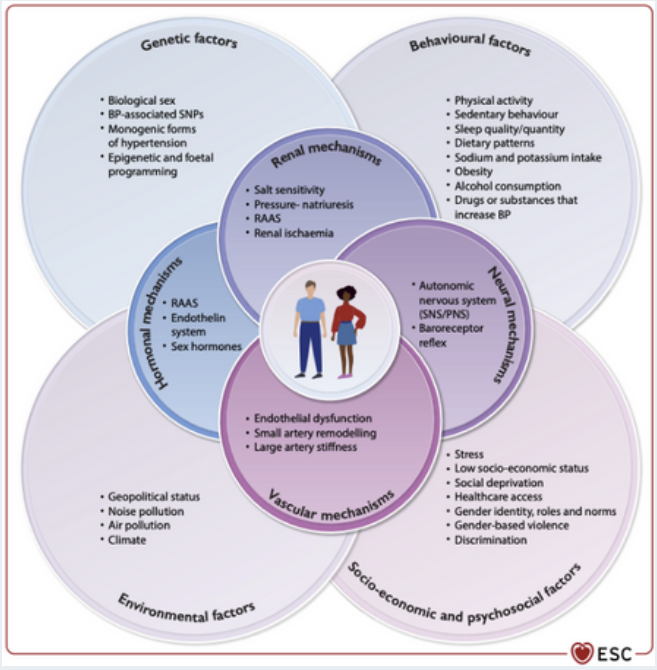
Pressing Matters: How to approach hypertension

Dr. Raj Padwal

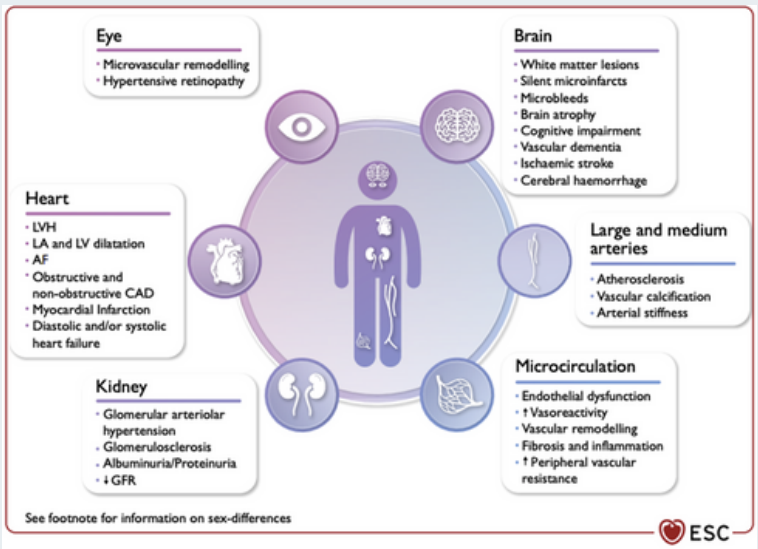
Etiology for hypertension is multifactorial

Most common etiologies:

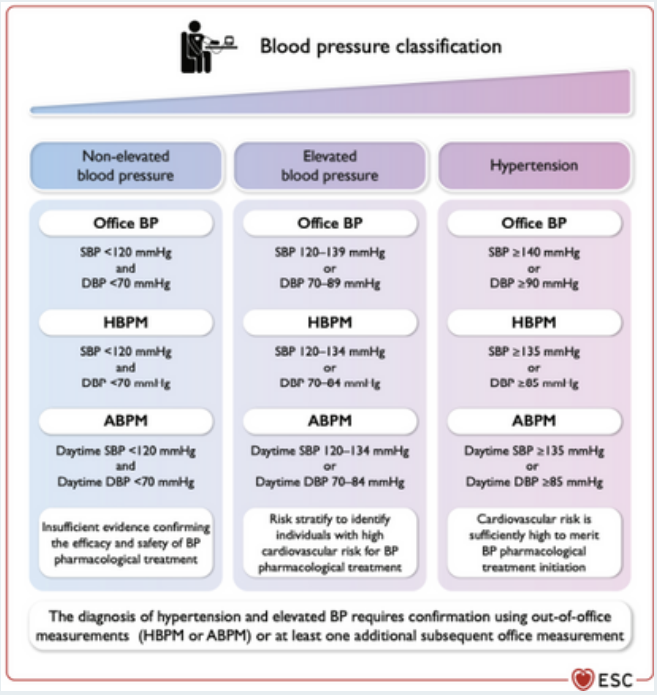
1. Primary (polygenetic) HTN
2. Obesity (central adiposity) with or without sleep apnea associated hypertension
3. Vascular stiffness (isolated systolic HTN) in elderly patients.
4. Primary aldosteronism - a commonly missed secondary cause



Sequelae of Uncontrolled Hypertension



Diagnostic Thresholds



Most contemporary HTN guidelines recommend a target BP <130 mmHg systolic in moderate to high-risk individuals, but individualize according to frailty level. The Clinical Frailty Score is useful for assessing frailty.

Click here for detailed information of the **European Society of Cardiology 2024** guidelines.

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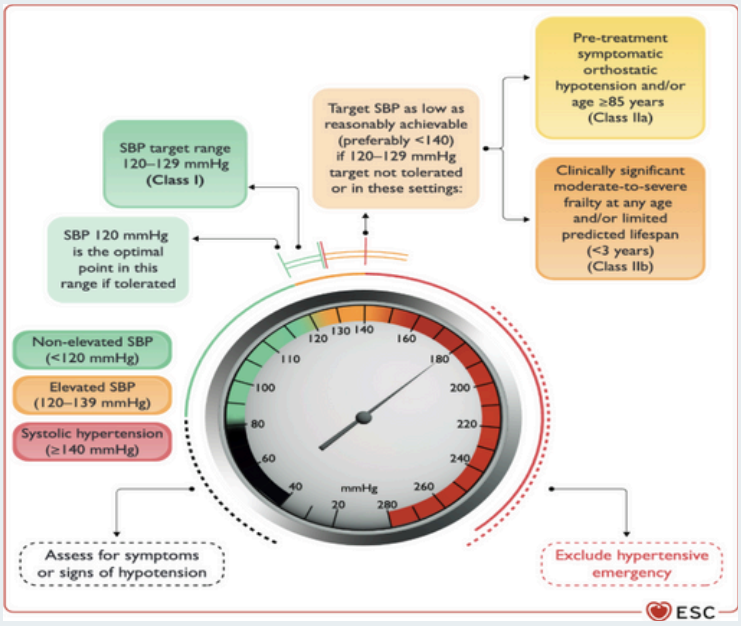
Treatment Targets



Screening for Secondary Causes

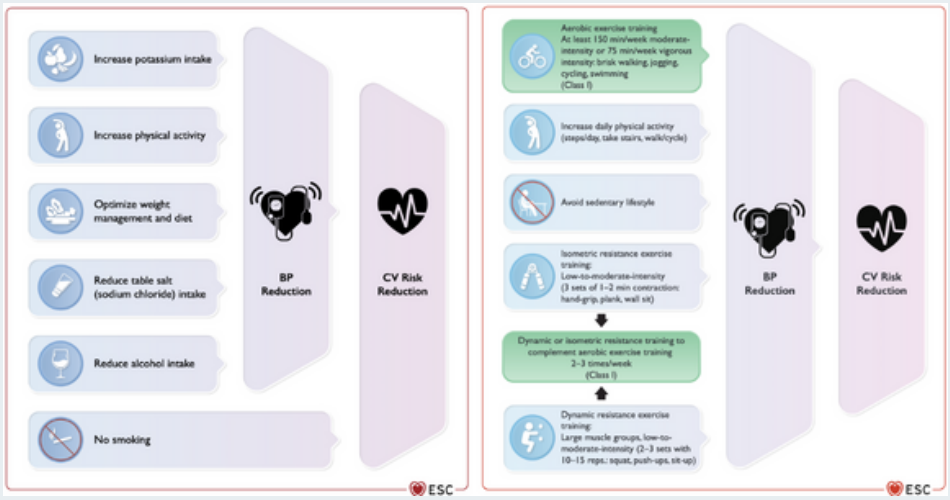
Cause	Screening Test
Primary Hyperaldo	Aldo/renin ratio (7-10 am; ambulatory)
Renovascular	CT angiogram renal arteries, MRA or renal dopplers in centres with experience
Cushing's	24-hour urine cortisol, low dose dexamethasone suppression test and/or late-night salivary cortisol (two of three)
Pheo-chromocytoma	Plasma metanephrines (supine for 20 min) or 24-hour urine metanephrines
Renal Parenchymal	Creatinine, urinalysis, ultrasound

Accurate BP Measurement

Key Messages

- Accurate BP measurement is essential. Periodically reinforce proper home BP measurement technique.
- Secondary hypertension work-up is key in cases in which usual etiologies (primary, central adiposity, advanced age with vascular stiffness, meds) are absent. Also consider when severe or resistant or early onset hypertension is present.

Health Behaviour Optimization



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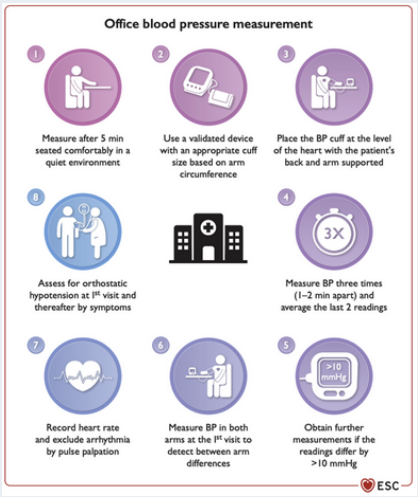
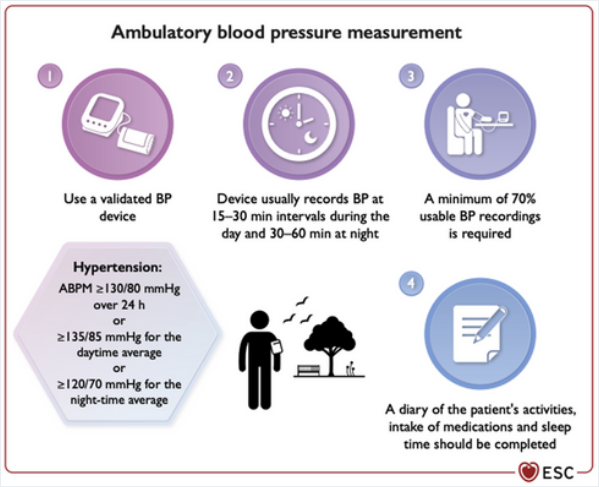
Diagnosis of High blood pressure

Out-of-office BP measurements (ABPM, home BP series) are preferred for diagnosis and follow-up.

More accessible



The Gold standard



Primary Aldosteronism Screening

Screening for hyperaldosteronism should include plasma aldosterone and renin activity (or renin concentration)

- measured in morning samples.
- taken from patients in a sitting position after resting at least 15 minutes.
- **Renin should be suppressed or nearly suppressed.**
- In Edmonton, aldosterone to renin ratio of **≥140 pmol/L/ng/ml/h** is required. Usually the aldosterone value is ≥400-440 pmol/L.

- Aldosterone antagonists, ARBs, beta-blockers and clonidine should be discontinued prior to testing. Alpha-blockers, hydralazine and verapamil can be used.
- A positive screening test should lead to referral or further testing.

Stopping/switching meds not always feasible.

Other resources:

Hypertension Dyslipidemia Clinic Kaye Edmonton Clinic: Accepts referrals for Resistant HTN, HTN in patient at high-risk, Secondary HTN, 24-hour ABPM; Familial Hypercholesterolemia (LDL ≧ 5.0 mmol/L), Statin intolerance, Secondary prevention, High Lp(a), High triglycerides

Phone 780-492-7711; Fax 780-492-7277; Connect Care direct.

Click here for detailed information of the **European Society of Cardiology 2024** guidelines!

Join NAPCReN (Northern Alberta Primary Care Research Network) to learn more about how you can contribute to primary care research in a meaningful way.

Consider using **MyL3Plan**, a free online tool developed by the Office of LIfelong Learning (L3) that can be used to meet and support the 3 activities/action plans required by the PPIP-CPSA and earn up to 36 Mainpro+ certified credits. by completing the following cycles:

- Practice-driven quality improvement using objective data (CQI)
- Personal Development (PD
- Standards of Practice Quality Improvement (SOP).

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