GUIDELINES & PROTOCOLS
ADVISORY COMMITTEE

BRITISH COLUMBIA The Best Place on Earth | Ministry of Health

SUMMARY OF GUIDELINES

Part I: Detection and Diagnosis of Hypertension
Part II: Treatment of Essential Hypertension

For full Guideline please go to website: http://www.bcguidelines.ca

Definition

An elevation of systolic or diastolic blood pressure or both

Patient Populaion

BP measurement should be rigorous in those patients who have:

- Known or newly detected elevated BP, including those on antihypertensive therapy.
- Cardiovascular target organ damage (ASHD, CHF, CVA, LVH, nephropathy, PVD, retinopathy, TIA).
- Other risk factors.

Measurement

- Patient should be seated and resting for at least 5 minutes.
- Use a cuff of the correct size (bladder encircles 80% of arm).
- Read systolic at phase I Korotkoff (first clear sound) and diastolic at phase V (disappearance of sound).
- At least once, measure BP in both arms; if different, follow up using higher side.

6-Month Plan for BP >140/90 AND <200/130

NOTE: At every visit, monitor BP and provide lifestyle reminders.

Month 1	• Measure BP at least twice. • Seek out risk factors, modifiable causes, and target organ damage.
Month 2	• Measure BP. If elevated, repeat search for risk factors, modifiable causes, etc. • Arrange for blood tests (electrolytes, creatinine, FBS, lipid profile), ECG and urinalysis.

Month 3	• Review test results.
	• Assess for target organ damage:
	  • Present: If BP > 140/90, move to drug treatment
	  • Not present: If BP > 180/105, move to drug treatment
	• Drug therapy:
	  • Age < 60: Choose from low dose thiazide diuretic, ß blocker, ACEI, ARB, or long-acting dihydropyridine calcium channel blocker. e.g., nifedipine (GITS) Use combination if monotherapy is not sufficient.
	  • Age ≥ 60: Choose from low dose thiazide diuretic, long-acting dihydropyridine calcium channel blocker or ACE or ARB if the first two are ineffective, contraindicated or not tolerated. Use combination if monotherapy is not sufficient. ß blockers are not first-line treatment.

Months 4,5 & 6	Measure BP and adjust treatment as needed. When BP <140/90 with no target organ damage, move to yearly assessment.

Hypertensive Urgencies and Emergencies

Asymptomatic diastolic blood pressure higher than 130 mm Hg or systolic >200 mm Hg

Accelerated malignant hypertension with papilloedema

Cerebrovascular:
- Hypertensive encephalopathy
- Atheroembolic brain infarction with severe hypertension
- Intracerebral hemorrhage; Subarachnoid hemorrhage

Excessive circulating catecholamine
- Pheochromocytoma
- Tyramine-containing foods or drug interactions with MAO inhibitors
- Sympathomimetic drug use (eg, cocaine use)
- Rebound hypertension after cessation of antihypertensive drugs
- Toxemia of pregnancy: eclampsia

Cardiac
- Acute aortic dissection
- Acute refractory left ventricular failure
- Acute MI or ischemia with persistent ischemic pain
- Marked rise in BP soon after coronary bypass surgery

Renal
- Acute glomerulonephritis
- Renal crises from collagen vascular diseases
- Severe hypertension following renal transplantation

Surgical
- Severe hypertension in patients requiring emerg surgery
- Postoperative hypertension
- Postoperative bleeding from vascular suture lines
- Severe epistaxis following severe body burns

Pharmacologic treatment with co-morbid conditions

With co-morbid conditions

Indication	Drug Therapy
Compelling Indications Unless Contraindicated	
Diabetes mellitus with proteinuria	ACE I, ARB
Heart failure (systolic)	ACE I or ARB, diuretics
Isolated systolic hypertension (older patients)	Diuretics (preferred), CCB (long-acting DHP)
May have Favorable Effects on Co-morbid Conditions	
Myocardial infarction	Beta blockers (non-ISA), ACE I
Angina	Beta blockers, CCB, consider ACE I
Atrial tachycardia and fibrillation	Beta blockers, CCB (non-DHP)
Cyclosporine-induced hypertension (caution with the dose of cyclosporine)	CCB
Essential tremor	Beta blockers (non-CS)
Heart failure	ACE I, Beta blockers, ARB, diuretic
Hyperthyroidism	Beta blockers
Migraine	Beta blockers , CCB (non-DHP)
Osteoporosis	Thiazides
Preoperative hypertension	Beta blockers
Prostatism (BPH)	Alpha blockers
Systolic dysfunction	ACE I (diuretics, Beta blocker, spironolactone as add on) avoid calcium channel blockers

Contraindications

Contraindications to antihypertensive medications	
Asthma	Beta blockers (non CS)
Depression	Beta blockers, central alpha-agonists, reserpine
2° or 3° heart block	Beta blockers, CCB (non-DHP)
Liver disease	Methyldopa
Relative Contraindications	
COPD, Asthma	Beta blockers (CS)
Diabetes mellitus (types 1 and 2)	Beta blockers, high-dose diuretics
Dyslipidemia	Beta blockers (non-ISA), diuretics (high-dose)
Gout	Diuretics
Heart failure	CCB (non-DHP)
Liver disease	Labetalol
Peripheral vascular disease	Beta blockers
Renal insufficiency	Potassium-sparing agents
Renovascular disease	ACE I, ARB