

A quick reference guide for hypertension

Definition	Blood pressure sustained above 140/90 after repeated measurement
Classification	<ul style="list-style-type: none">• hypertension with no risk factors and no organ damage• hypertension with risk factors alone• hypertension with organ damage• hypertension with risk factors and organ damage
Measurement of blood pressure	Sitting or supine, repeated twice after 3 minutes if initially $\geq 140/90$ Note. Observers require training.
High risk groups	<ul style="list-style-type: none">• smokers• diabetes mellitus• elderly• hyperlipidaemia• previous myocardial infarction• evidence of organ damage• family history
Minimum data set for clinical assessment of hypertension	<p><i>History</i></p> <ul style="list-style-type: none">• presenting complaints and duration• previous history of myocardial infarction, stroke, diabetes, renal disease and peripheral vascular disease• family history of hypertension, myocardial infarction, stroke, diabetes and peripheral vascular disease• drug history, e.g. use of non-steroidal anti-inflammatory drugs, oral contraceptives, corticosteroids• previous therapies/previous adverse reactions to drugs• risk behaviour, such as smoking <p><i>Physical examination</i></p> <ul style="list-style-type: none">• to look for signs of secondary hypertension such as:<ul style="list-style-type: none">– Cushing syndrome yes/no– polycystic kidney yes/no– renal artery stenosis yes/no– phaeochromocytoma yes/no– coarctation yes/no• to look for signs of organ damage such as:<ul style="list-style-type: none">– left ventricular hypertrophy and failure (displaced apical impulse, gallop, rales) yes/no– retinal changes yes/no, if yes specify– peripheral pulses reduced yes/no– peripheral pulses synchronous yes/no– cerebrovascular disease yes/no

Laboratory tests

- urine analysis
- blood glucose
- ECG (SV₁+RV₅ or RV₆)
- serum creatinine or blood urea nitrogen
- haematocrit
- serum potassium and sodium
- serum cholesterol

Target blood pressure To achieve the maximum tolerated reduction in blood pressure $\leq 140/90$

Management

Nonpharmacological

- reduce fat intake
- reduce salt (do not add)
- take regular dynamic exercise (e.g. walking)
- reduce weight (if obese)
- reduce alcohol
- avoid tobacco

Pharmacological

- diuretic or β -blockers as first line unless contraindicated
- ACE inhibitors especially in diabetes with incipient nephropathy
- calcium channel blockers, α -blockers
- others

Note. The choice of drug is influenced by associated disease, risk factors or organ damage.

Education

Public

- raising awareness
- change in attitudes and lifestyle

People with hypertension

- compliance with regimen

Note. Adequate time should be given to each patient during consultation

Doctors and nurses (including continuing education)

- blood pressure measurement
- levels of hypertension to treat

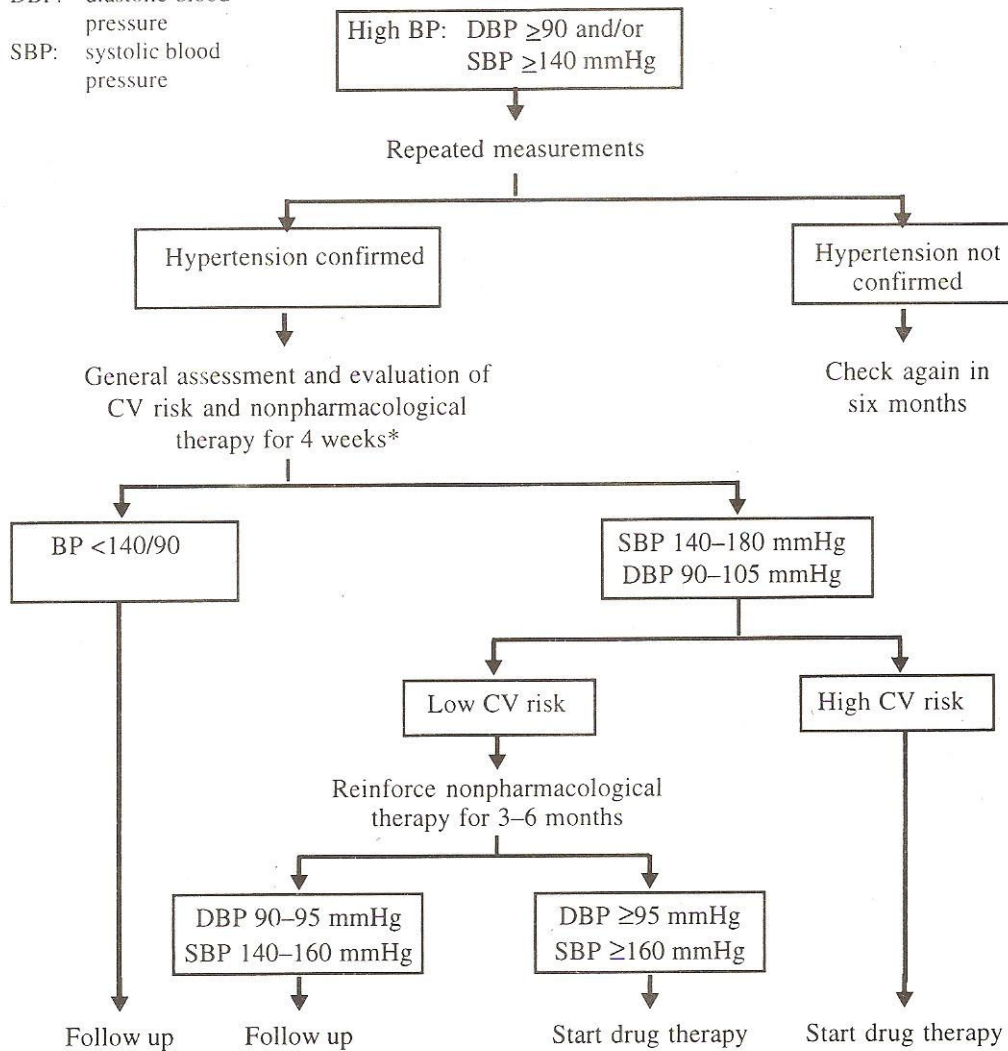
Indicators (audit)

- % $\geq 140/90$ on treatment, $\geq 160/100$, $\geq 180/110$, $\geq 200/120$
- % with complete data set
- % team trained in blood pressure measurement
- % lost to follow up
- % with complete medical records

A simplified scheme for management of hypertension

Key

BP: blood pressure
 CV: cardiovascular
 DBP: diastolic blood pressure
 SBP: systolic blood pressure



Important. Patients with diastolic pressures of 105 mmHg or over and/or systolic pressures of 180 mmHg or over should be referred for immediate evaluation. Drug therapy should not be delayed in patients with target organ damage or those with high risk.

* The period of 4 weeks can be extended if a significant response is shown.

Guidelines for selecting first-line drugs for hypertension

Class of drug	Condition/indications	Contraindications	Caution/limited value
Diuretics	Heart failure Elderly patients Systolic hypertension Black patients	Gout	Diabetes Hyperlipidaemia Pregnancy ^a Sexually active males
β -Blockers	Angina After myocardial infarct Tachyarrhythmias Pregnancy	Asthma and chronic obstructive pulmonary disease Peripheral vascular disease Heart block ^b	Hypertriglyceridaemia Insulin-dependent diabetes mellitus Heart failure Athletes and physically active patients Black patients
ACE inhibitors	Heart failure Left ventricular hypertrophy After myocardial infarct Diabetes with micro-albuminuria	Pregnancy Bilateral renal artery stenosis	Black patients
Calcium antagonists	Angina Peripheral vascular disease Elderly patients Systolic hypertension Glucose intolerance Black patients	Pregnancy	Congestive heart failure ^c Atrioventricular heart block ^d
α -Blockers	Prostatic hypertrophy Glucose intolerance		Orthostatic hypotension

^a Because of reduced plasma volume.

^b Grade II and III atrioventricular block.

^c Verapamil should be avoided or used only with great caution.

^d Verapamil and diltiazem should be avoided or used only with great caution.