

APC Guidelines for management of hypertension

Ischaemic heart disease/TIA/Stroke/CKD/diabetes/obstructive sleep apnoea syndrome?

	No	Yes
< 130/85	Monitor 5 yearly	Monitor yearly
130-139/85-89	Monitor yearly	Confirm (12wk) & Treat
140-159/90-99	Confirm (12wk) & Treat	Confirm (4wk) & Treat
160-179/100-109	Confirm (4wk) & Treat	Confirm (2-4wk) & Treat
> 180/110	Confirm (1-2wk) & Treat	Treat

Patient	Step 1	Step 2	Step 3	Step 4
Under 55 years	A	A + C or A + D	A + C + D	Add: further diuretic or alpha blocker or beta blocker Seek specialist advice
55 years or older or black patients of any age	C (D)			

A = ACE inhibitor or ARB

C = calcium channel blocker – dihydropyridine, diltiazem or verapamil

D = thiazide-type diuretic – at Step 1 if intolerant to C

Adapted from NICE/BHS Guidelines 2011

Black patients are those of African or Caribbean descent,
NOT mixed race, Asian or Chinese patients

Co-morbidity	No	Yes
Target BP	140/85mmHg	130/80mmHg
Time between NICE/BHS steps	12 weeks	4 weeks

When to refer:

- 1 Secondary cause suspected
- 2 BP not controlled at NICE/BHS Step 3
- 3 Multiple drug intolerance
- 4 Resistant hypertension
- 5 Complex co-morbidity

Key practice points

1. Have you checked for secondary hypertension and white coat hypertension?
2. For uncomplicated BP 140/90 or higher up to 180/100mmHg and no secondary hypertension, confirm BP raised on ambulatory BP or home BP. NB: thresholds lower for ABP and HBP.
3. Have you checked for other cardiovascular risk factors, identified and managed them?
4. Have you checked 10 year cardiovascular disease risk?
5. Offer people aged 80 years and over same antihypertensive drug treatment as people aged 55–80 years, taking into account any comorbidities.
6. Monitoring: Potassium and creatinine in CKD, or with ACEi, ARBs, direct renin inhibitor and diuretics, especially potassium sparing; 24h urinary electrolytes and creatinine.

BP MANAGEMENT GUIDELINES

Latest NICE UK guidelines on BP measurement and management released August 2011 [BHS website: www.bhsoc.org].

Key points

- Hypertension should be diagnosed based on use of a **validated device** [updated validated list: www.bhsoc.org] using cuff appropriate for patient's arm size, patient rested in quiet setting. Step 1 hypertension: clinic BP 140/90 or higher and subsequent ambulatory BP monitoring (**ABPM**) or Home BP Monitoring (**HBPM**) 135/85 or higher.
- Step 2 hypertension: clinic BP 160/100 or higher and subsequent ambulatory BP monitoring (**ABPM**) or Home BP Monitoring (**HBPM**) 150/95 or higher.
- Severe hypertension: clinical systolic BP 180 or higher OR clinic diastolic BP 100 or higher.
- ABPM**: Use average of at least 14 readings - at least two/hr during usual waking hours. **HBPM**: for each BP reading, two consecutive seated measurements, at least 1 min. apart; BP re-recorded twice daily, morning and evening; recordings for at least 4 days; use average of all recordings **EXCEPT discard 1st day HBM readings**.
- Initial diagnosis based on raised readings on more than one visit: at least 3 readings per visit (see 2. and 3. above for primary hypertension and ABPM or HBM to confirm hypertension). The exception is severe hypertension or serious end-organ damage. These patients should be referred urgently for specialist advice*.
- Effective life style measures help to reverse hypertension preventing future rise in blood pressure and reduce the number and dose of blood pressure treatments needed, especially by: losing excess weight, decreasing salt intake[^], reducing high alcohol intake, increased intake of fresh fruit and vegetables, encouraging exercise.
- Avoid or minimise use of OTC (over the counter) preparations that can raise blood pressure or blunt the response to blood pressure treatments. OTCs of concern include nasal decongestants, non-steroidal anti-inflammatory drugs (NSAIDs) and preparations with high sodium content e.g. sodium salt antacids.
- NICE/BHS algorithm-based stepped care management: progress through single treatment to 2 classes of treatment, 3 classes of treatment and then 4 or more classes of treatments (figure 1).
- Isolated systolic hypertension is as important a cause of serious preventable complications as diastolic hypertension: aim for 140mmHg target systolic pressure to age 80; 150mmHg for >80 years of age.
- Beta-blockers use should reserved for patients
 - currently on beta-blockers without adverse effects
 - or with established ischaemic heart disease.

- Direct renin inhibition should be reserved for one of the treatment choices at step 4 or higher i.e. when patients need 4 or more classes of treatment.
- Do not use loop diuretics (furosemide or bumetanide) to lower blood pressure.
- Combination treatment at step 2 or 3 i.e. 2 or 3 different classes of treatment together, should be based on combinations of ACE inhibitor (A) or angiotensin R blocker (a) with calcium channel blocker (C) and/or thiazide diuretic (D) i.e. **(A or a) + (C and/or D)**
- Other classes of blood pressure lowering treatment should be reserved for step 4 or beyond i.e. the need to have 4 or more classes of BP treatment.
- Caution in drug choice if there is co-morbidity** e.g.
 - heart failure **worsened** by cardio-selective calcium channel blockers [diltiazem and verapamil]
 - bradycardia **worsened** by cardio-selective calcium channel blockers [diltiazem and verapamil] and beta-blockers^^
 - Asthma or COPD **worsened** by beta-blockers
 - High potassium **worsened** by ACEi, ARB and potassium sparing diuretics (spironolactone, amiloride, triamterene)
 - Prostatism **improved** by alpha blockers
 - Prostatism **worsened** by amlodipine-like calcium channel blockers
 - Bladder instability/incontinence **worsened** by alpha blockers

[^]Dietary salt intake is easy to measure: the target is as far below 100mmol/day as possible, based on 24 hour urinary collection for electrolytes and creatinine: similar cost to blood U & Es.

^{^^}Except for specialist use in selected patients already on ACEi or ARB and diuretic treatment.

*Referrals:

UHCW NHS Trust Coventry and Rugby	S Warwickshire Foundation NHS Trust Warwick	George Eliot Hospital Trust - Nuneaton
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