Managing Uncomplicated Hypertension

The guidance does NOT override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

NICE guidance CG127 published in August 2011 highlights a number of changes to the way in which hypertension should be diagnosed, monitored and treated. In view of this, the cardiac network has developed the following prescribing guidance. Please note: This guidance does not cover management of hypertension for Type 2 Diabetes (See NICE guideline CG 87) or Chronic kidney disease (CKD) (See NICE guideline CG182).

Hypertension is one of the most important preventable causes of premature morbidity and mortality in the UK and at least 25% of adults have high blood pressure. The risk associated with increasing blood pressure is continuous, with each 2mmHg rise in systolic blood pressure associated with a 7% increased risk of mortality from ischaemic heart disease and a 10% increased risk of mortality from stroke.

Initiating Treatment

<table>
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<tr>
<th>Stage 1 - clinic BP is ≥140/90mmHg and subsequent Ambulatory Blood Pressure Monitoring (ABPM) daytime average or Home Blood Pressure Monitoring (HBPM) average BP is ≥ 135/85mmHg</th>
<th>Stage 2 – clinic BP is ≥ 160/100mmHg and subsequent ABPM daytime average or HBPM average BP is ≥ 150/95mmHg</th>
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| Offer treatment to people aged <80 years who have ≥1 of the following:  
- Established cardiovascular disease (CVD)  
- Target organ damage (Left ventricular hypertrophy, CKD, hypertensive retinopathy)  
- Renal disease  
- Diabetes  
- A 10 year CVD risk ≥20% | Offer treatment to all patients |

For people aged < 40 years with stage 1 hypertension and no evidence of target organ damage, CVD, renal disease or diabetes, consider seeking specialist evaluation of secondary causes of hypertension and a more detailed assessment of potential target organ damage as the 10 year CVD risk can underestimate the lifetime risk of CV events in these people.

Overarching Principles

- Where possible, recommend treatment with drugs taken only once daily
- Prescribe generic drugs where these are appropriate and cost-effective.
- Offer people with isolated systolic hypertension (SBP ≥160mmHg) the same treatment as people with both raised SBP and diastolic BP (DBP ≥ 100mmHg)
- Provide appropriate guidance and materials e.g. patient information leaflets about the benefits of antihypertensive therapy and the unwanted side effects sometimes experienced, in order to help people make informed choices
- Estimate cardiovascular risk in line with the recommendations in NICE Clinical Guideline 181 – Lipid Modification
- Use interventions to overcome practical problems associated with non adherence – see NICE Clinical Guideline 76 – Medicines Adherence
- Offer anti-hypertensive drug treatments to women of childbearing potential in line with the recommendations in NICE Clinical Guideline 107 – Hypertension in Pregnancy

Monitoring

- Use clinic blood pressure measurements to monitor the response to lifestyle modification and anti-hypertensive drug treatment
- Clinic blood pressure targets – NOTE: Different targets apply for HBPM, ABPM, diabetic patients and those with CKD
  - Patients aged under 80 years: lower than 140/90mmHg
  - Patients aged over 80 years: lower than 150/90mmHg
- Although the BP targets differ for older patients, the same drug treatment algorithm should be followed (as overleaf)
- Provide an annual review to monitor BP, including discussion of lifestyle issues, and support with medications

Lifestyle advice

- Lifestyle advice should be offered initially and then periodically:
  - Encourage low dietary sodium intake by reducing or substituting sodium salt (avoid salt substitutes containing high levels of potassium)
  - Do not offer calcium, magnesium or potassium supplements as a method for reducing blood pressure
  - Discourage excessive consumption of coffee and other caffeine rich products
  - Offer advice and help to smokers to stop smoking
  - Encourage regular exercise
  - Relaxation therapies can reduce blood pressure, however routine provision by primary care is not recommended
  - Alcohol moderation to within safe limits (up to 21 units per week for men and 14 units per week for women). Where excessive alcohol intake is suspected to be contributing to high BP, abstinence should be advised.
This guideline is currently under review pending NICE updates. Please continue to use this version until the review has been completed.

**Aged under 55 years**

**Step 1**

ACE inhibitor* (ACEi) (ramipril, lisinopril or enalapril)

**Step 2**

ACEi* (ramipril, lisinopril or enalapril) + CCB (amlodipine)

**Step 3**

ACEi* (ramipril, lisinopril or enalapril) + CCB (amlodipine) + Thiazide type Diuretic (indapamide 2.5mg tablets)

**Step 4**

**Resistant Hypertension - add further diuretic therapy**

- Spironolactone 25mg once daily or high dose indapamide.
  (See resistant hypertension section below for further advice)

If further diuretic therapy is not tolerated, C/I or ineffective, consider an alpha blocker (doxazosin) or a beta-blocker (atenolol or bisoprolol).

Consider seeking specialist advice

If BP remains uncontrolled with either optimal or maximum tolerated doses of four drugs, check adherence and seek expert advice if it has not already been obtained.

* If an ACE inhibitor is prescribed and is not tolerated e.g. due to an intractable cough, offer a low cost Angiotensin Receptor Blocker (ARB) e.g. losartan or candesartan.

**Key treatment principles**

- For patients already having treatment with bendroflumethiazide or hydrochlorothiazide, whose BP is stable and well controlled, treatment should be continued with these agents.
- If diuretic treatment is to be initiated or changed, offer a thiazide like diuretic such as indapamide 2.5mg daily in preference to bendroflumethiazide or hydrochlorothiazide. Chlortalidone can be considered as an alternative to indapamide, however please note these tablets may need to be halved or quartered for appropriate dosing.
- For black people of African or Caribbean family origin, consider a low cost ARB (e.g. Losartan) in preference to an ACEi in combination with a CCB at step 2/3.
- At step 1 and 2, if a CCB is not suitable e.g. due to oedema, intolerance or evidence/high risk of heart failure, offer a thiazide like diuretic.
- Ensure the dose of ACEi / ARB is titrated at 4 weekly intervals to achieve optimal BP control. The dose of ACEi / ARB should be optimised before the addition of a second agent.
- Do not combine an ACEi with an ARB to treat hypertension.
- Beta blockers are not a preferred initial therapy. However they may be considered in younger people, particularly in those with an intolerance / contra-indication to ACEi / ARBs, women of childbearing potential, people with evidence of increased sympathetic drive or those with other compelling indications for a beta-blocker (e.g. coronary heart disease or heart failure).
- If a beta-blocker is prescribed and a second line therapy is required, add a CCB rather than a thiazide like diuretic to reduce the risk of developing diabetes.
- Patient adherence should be routinely checked to support effective medicines use. This is of particular importance for patients taking two or more medicines for the management of a long term condition such as hypertension.

**Resistant Hypertension**

Resistant hypertension is BP >140/90mmHg despite treatment with the optimal or maximal tolerated doses of an ACEi / ARB plus a CCB and a diuretic. For resistant hypertension - consider adding a fourth antihypertensive and/or seek expert advice. Further diuretic options are spironolactone 25mg once daily if blood potassium ≤4.5mmol/L (caution in those with a reduced eGFR (stage 3 or beyond; e.g. eGFR<60ml/min) as the risk of hyperkalaemia is increased) OR higher dose thiazide-like diuretics, such as chlortalidone 50mg daily, if blood potassium >4.5mmol/L. For both options, monitor blood sodium and potassium levels and renal function within 1 month and repeat as required thereafter.

**References**

- NICE guidance CG127 Hypertension – Clinical management of primary hypertension in adults. August 2011