South London
Cardiac and Stroke Network

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, *Hypertension*, published in August 2011, highlights a number of changes in the way hypertension should be diagnosed, monitored and treated. In view of this, the South London Cardiac and Stroke Network (SLCSN) has developed the following prescribing guidance. **Please note**: This guidance does not cover management of hypertension for Type 2 diabetes (*see NICE guideline CG87*) or chronic kidney disease (CKD) (*see NICE guideline CG73*).

Hypertension is one of the most important preventable causes of premature morbidity and mortality in the UK. Approximately 25 per cent of the UK population has high blood pressure[1]. The risk associated with increasing blood pressure is continuous, with each 2mmHg rise in systolic blood pressure associated with a 7 per cent increased risk of mortality from ischaemic heart disease and a 10 per cent increased risk of mortality from stroke.

Initiating treatment	
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	**Stage 2** – Clinic BP is ≥ 160/100mmHg and subsequent ABPM daytime average or HBPM average BP is ≥ 150/95mmHg
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 • 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 non proprietary drugs (drugs that have lost their patent) 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 drugs 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 guidance CG67, *Lipid modification*
- Use interventions to overcome practical problems associated with non adherence (*see NICE guidance CG76, Medicines adherence*)
- Offer anti-hypertensive drug treatment to women of childbearing potential, in line with the recommendations in NICE guidance CG107, *Hypertension in pregnancy*

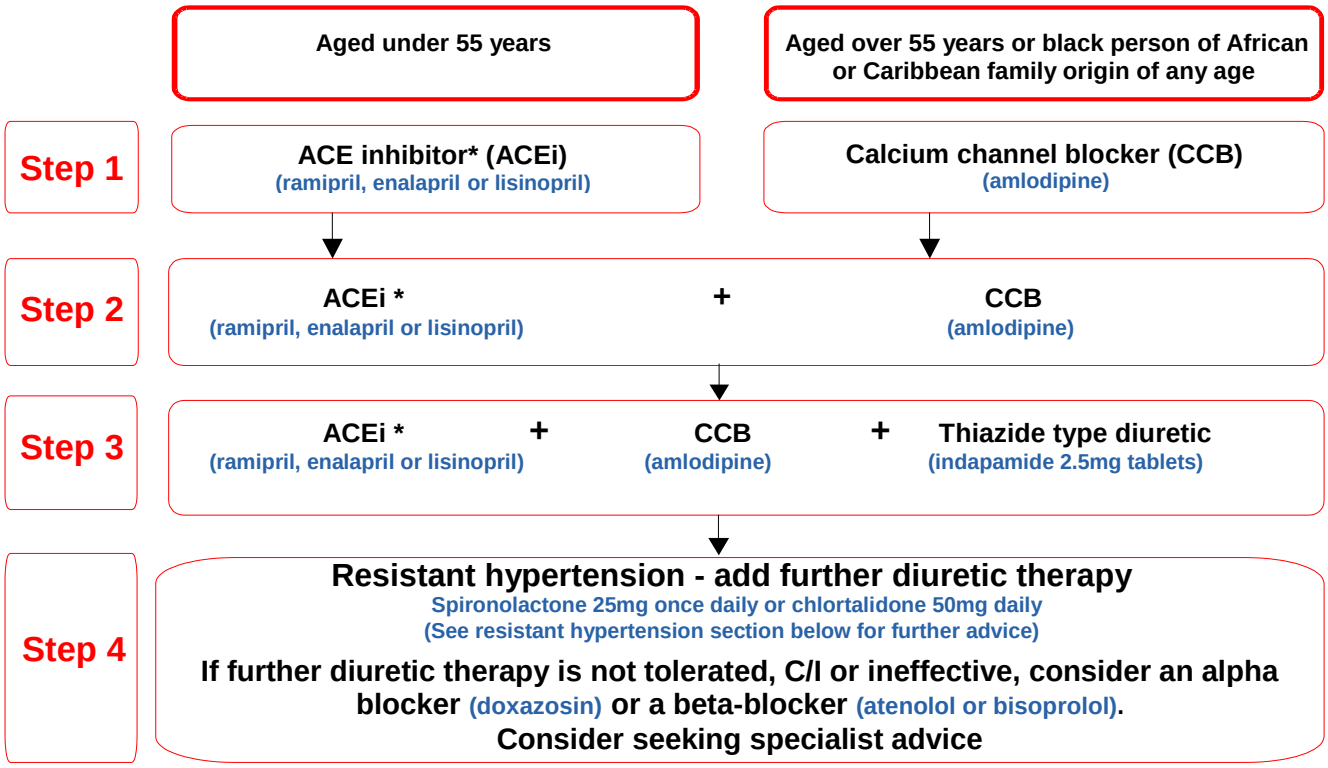
Monitoring

- Use clinic blood pressure measurements to monitor the response to anti-hypertensive treatment with lifestyle modifications or drugs
- Clinic blood pressure targets (**Note**: Different targets apply for ABPM, HBPM, 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 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:
  - Discourage excessive consumption of coffee and other caffeine rich products
  - Encourage low dietary sodium intake by reducing or substituting sodium salt
  - Offer advice and help to smokers to stop smoking
  - Encourage regular exercise
  - Do not offer calcium, magnesium or potassium supplements as a method for reducing blood pressure
  - 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

[1] NICE slide deck *Hypertension: Implementing NICE guidance*, August 2011



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

Blue text **indicates preferred agents within drug class**

* 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).

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 once 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 or 3.
- At step 1 or 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 four 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 anti-hypertensive 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 one month and repeat as required thereafter.

References

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