Hypertension Care Pathway

Stage 1 Hypertension - CBPM ≥ 140/90 mmHg and subsequent ABPM/HBPM ≥135/85 mmHg

Stage 2 Hypertension - CBPM ≥160/100 mmHg and subsequent ABPM/HBPM ≥150/95 mmHg

Severe Hypertension - Clinical systolic blood pressure is ≥180mmHg or clinical diastolic blood pressure is ≥ 110 mmHg

Stage 1 Hypertension (Under 80 years old)

If target organ damage present or 10-year cardiovascular risk >20% or diabetes or established renal or cardiovascular disease

If younger than 40yrs

Offer antihypertensive drug treatment

Consider specialist referral

Offer lifestyle interventions

Offer patient education and interventions to support adherence to treatment

Offer annual review of care to monitor blood pressure, provide support and discuss lifestyle, symptoms and medication.

Stage 2 Hypertension (Any Age)

Offer antihypertensive drug treatment

Consider specialist referral

Offer lifestyle interventions

Offer patient education and interventions to support adherence to treatment

Offer annual review of care to monitor blood pressure, provide support and discuss lifestyle, symptoms and medication.

Severe Hypertension

Refer people to specialist care the same day if they have:
- Accelerated hypertension (blood pressure usually higher than 180/110 mmHg with signs of papilloedema and/or retinal haemorrhage) or
- Suspected phaeochromocytoma (labile or postural hypotension, headache, palpitations, pallor and diaphoresis). Consider the need for specialist investigations in people with signs and symptoms suggesting a secondary cause of hypertension.

*This pathway does not cover people with diabetes, children and young people (under 18 years), pregnant women, secondary causes of hypertension, severe acute hypertension associated with grade 3 retinopathy and encephalopathy or high blood pressure in emergency care settings.*
Aged under 55 years

A

Aged over 55 years or black person of African or Caribbean family origin of any age

C¹

A + C¹

A + C + D

Resistant Hypertension
A + C + D + consider further diuretic², ³ or alpha- or beta- blocker⁴, ⁵

Consider seeking expert advice

Footnotes
1. A CCB is preferred but consider a thiazide-like diuretic if a CCB is not tolerated or the person has oedema, evidence of heart failure or a high risk of heart failure
2. Consider a low-dose spironolactone or higher doses of a thiazide-like diuretic
3. Spironolactone does not have a UK marketing authorisation for this indication. Informed consent should be obtained and documented
4. Consider an alpha-blocker or beta-blocker if further diuretic therapy is not tolerated or is contra-indicated or is ineffective
5. An alpha-blocker is preferred if already on a thiazide-like diuretic to reduce the persons risks of developing diabetes.

Treatment Targets
Under 80 years old- CBPM < 140/90 mmHg. ABPM/HBPM < 135/85 mmHg.
80 years and over- CBPM <150/90 mmHg. ABPM/HBPM 145/85 mmHg.

Key, with Sheffield Formulary first choice* options
A- ACE inhibitor or low-cost angiotensin II receptor antagonist (AIIRA); ramipril, losartan
C- Calcium channel blocker (CCB); amlodipine
D- Thiazide-like diuretic; Indapamide standard-release (not m/r preparation)

*If first choice options are inappropriate, please consult the Sheffield Formulary for other drug options in each category.

Adapted from NICE CG127-
https://www.nice.org.uk/guidance/cg127
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INTRODUCTION

The Sheffield Hypertension Care Pathway focuses on stage-1 and stage-2 hypertension and covers all adult patients with hypertension. It however does not cover the following patient groups:

- People with diabetes
- Children and young people under the age of 18 years
- Pregnant women
- Secondary causes of hypertension (for example, Conn’s adenoma, phaeochromocytoma and renovascular hypertension)
- People with accelerated hypertension (that is, severe acute hypertension associated with grade III retinopathy and encephalopathy)
- People with acute hypertension or high blood pressure in emergency care settings

Offer antihypertensive drug treatment to women of child-bearing potential in line with the recommendations in Hypertension in pregnancy: diagnosis and management. For blood pressure targets in patients with diabetes please see recommendations in Type 1 diabetes in adults: diagnosis and management and Type 2 diabetes in adults: management.

When choosing antihypertensive treatment, where possible, recommend treatment taking into consideration the individual patient’s circumstances, co-morbidities and preferences and use drugs taken only once a day.

Once blood pressure is under control provide patients with an annual review of care to monitor blood pressure. Also, provide people with support and discuss their lifestyle, symptoms and medication. This can be done as part of a yearly review of their other long term conditions. You may also choose to involve your local community pharmacist who can provide support to improve treatment concordance via the community pharmacy Medicines Use Review (MUR) service.

STEP-1 TREATMENT

- Offer people aged under 55 years treatment with an Angiotensin-converting enzyme inhibitor (ACEi). If an ACEi is prescribed and is not tolerated (for example, because of cough), offer a low cost Angiotensin-II receptor antagonist (AIIRA).
- Offer treatment with a calcium channel blocker (CCB) to people aged over 55 years and black people of African or Caribbean family origin of any age. If a CCB is not suitable, for example because of oedema or intolerance, or if there is evidence of heart failure or a high risk of heart failure, offer a thiazide-like diuretic.
- If diuretic treatment is to be initiated or changed, offer a thiazide-like diuretic. Indapamide 2.5mg once daily is the Sheffield Formulary choice.
• For people who are already having treatment with bendroflumethiazide or hydrochlorothiazide and whose blood pressure is stable and well controlled continue treatment with the bendroflumethiazide or hydrochlorothiazide.

• Beta-blockers are not a preferred initial therapy for hypertension. However, beta-blockers may be considered in younger people, particularly:
  o those with an intolerance or contraindication to ACE inhibitors and angiotensin II receptor antagonists or
  o women of child-bearing potential or
  o People with evidence of increased sympathetic drive.

STEP-2 TREATMENT

• If blood pressure is not controlled by step-1 treatment offer step-2 treatment with a CCB in combination with either an ACEi or AIIRA.

• For black people of African or Caribbean family origin, consider an AIIRA in preference to an ACEi in combination with a CCB.

• Do not combine an ACEi with an AIIRA to treat hypertension - see also MHRA drug safety update regarding combination use of medicines from different classes of renin-angiotensin system blocking agents: risk of hyperkalaemia, hypotension and impaired renal function (published 19 June 2014).

• If a CCB is not suitable for step-2 treatment, for example because of oedema or intolerance, or if there is evidence of heart failure or a high risk of heart failure, offer a thiazide-like diuretic in combination with ACEi or AIIRA.

• If therapy is initiated with a beta-blocker and a second drug is required, add a CCB rather than a thiazide-like diuretic to reduce the person’s risk of developing diabetes.

STEP-3 TREATMENT

Before considering step-3 treatment check compliance with drug therapy and review medication to ensure step-2 treatment is at optimal or best tolerated doses.

• If treatment with three antihypertensive drugs is required, the combination of ACEi or AIIRA, calcium-channel blocker and thiazide-like diuretic should be used.

• Regard clinic blood pressure that remains higher than 140/90mmHg after treatment with the optimal or best tolerated doses of an ACEi (or an AIIRA) plus a CCB plus a thiazide-like diuretic as resistant hypertension, and consider adding a fourth antihypertensive drug (see step-4 treatment) and/or seeking expert advice.

STEP-4 TREATMENT

• Consider further diuretic therapy with low-dose spironolactone* (25mg once daily) if the blood potassium level is 4.5mmol/L or lower. Use particular caution in people with a reduced eGFR because they have an increased risk of hyperkalaemia - see also MHRA drug safety update regarding spironolactone and

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renin-angiotensin system drugs in heart failure: risk of potentially fatal hyperkalaemia

- Consider higher dose of thiazide-like diuretic treatment if the blood potassium level is higher than 4.5mmol/L.
- When using further diuretic therapy for resistant hypertension in step-4, monitor sodium and potassium and renal function within 1 month and repeat thereafter in accordance with the Sheffield Common Blood Monitoring Schedules
- If further diuretic therapy for resistant hypertension at step-4 is not tolerated, or is contraindicated, or ineffective, consider an alpha- or beta-blocker. An alpha-blocker is preferred if already on a thiazide-like diuretic to reduce the person's risks of developing diabetes
- If blood pressure remains uncontrolled with the optimal and maximum tolerated doses of four drugs, seek expert advice.

OTHER RELATED GUIDELINES

Hypertension in pregnancy: diagnosis and management

Type 1 diabetes in adults: diagnosis and management

Type 2 diabetes in adults: management

Chronic kidney disease in adults: assessment and management

Diabetes in pregnancy

REFERENCES

1. NICE CG127 August 2011- Hypertension in adults: diagnosis and management
2. Sheffield Formulary- Cardiovascular system (published May-2015)

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