227FM.2 CLINICAL MANAGEMENT OF HYPERTENSION IN ADULTS

Background

The August 2019 NICE hypertension guidelines (see NICE guideline NG136) update and replace the August 2016 guidelines. The Cardiovascular Reference Group has reviewed the updated guidance and made the local recommendations detailed below. This guidance applies to adults with hypertension (18 years and older) including those with type 2 diabetes (replaces NICE guideline CG87) and 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. Approximately 25% of the UK population has high blood pressure. The risk associated with increased blood pressure is continuous, with each 2 mmHg 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. Despite these risks 60% who have a diagnosis are still not controlled to target.

Diagnosing hypertension

ALWAYS check the pulse first for regularity to exclude/diagnose atrial fibrillation (AF) (also automated machines will be inaccurate in those with AF so will need manual blood pressure measurements).

- If blood pressure (BP) is raised >140/90 repeat measurement and if substantially different repeat again and record lower of second and third measurements as clinic BP.
- In clinic blood pressure should be checked in both arms. If the difference is more than 15 mmHg then repeat and if still more than 15 mmHg then use the arm with the higher reading for recording of blood pressure.
- Offer ambulatory blood pressure monitoring (ABPM) first line to those with a clinic BP >140/90. If this is not tolerated, readily available or declined then offer home blood pressure monitoring (HBPM). **https://www.bhf.org.uk/informationsupport/risk-factors/high-blood-pressure**.
- When using ABPM to confirm a diagnosis of hypertension, ensure that at least two measurements per hour are taken during the person's usual waking hours (e.g. between 08.00 and 22.00). Use the average value of at least 14 measurements taken during the person's usual waking hours to confirm a diagnosis of hypertension.
- When using HBPM to confirm a diagnosis of hypertension, ensure that:
  - for each blood pressure recording, two consecutive measurements are taken at least one minute apart and with the person seated, **and**
  - blood pressure is recorded twice daily, ideally in the morning and evening, **and**
  - blood pressure recording continues for at least 4 days, ideally for 7 days

  Discard the measurements taken on the first day and use the average value of all the remaining measurements to confirm a diagnosis of hypertension.
- Follow up can be nurse or pharmacist led, aiming for less than 140/90 mmHg.

<table>
<tr><td colspan="2">Initiating Treatment If ABPM or HBPM >135/85
Check for end organ damage, electrocardiogram (ECG), urea and electrolytes (U+Es) (if potassium low consider Conn’s Syndrome), lipid profile, haemoglobin (HbA1c) (to screen for undiagnosed diabetes), urine albumin:creatinine ratio (ACR), optometry retinal check.</td></tr>
<tr><td>Stage 1:
Clinic BP is ≥140/90 and ≤159/99 mmHg and subsequent ABPM daytime average or HBPM average is ≥135/85 mmHg.</td><td>Stage 2:
Clinic BP is ≥160/100 mmHg and subsequent ABPM daytime average or HBPM average is ≥150/95 mmHg.</td></tr>
<tr><td>Offer treatment in addition to lifestyle advice to people aged <80 years who have had one or more of the following:
Established cardiovascular disease (CVD)
Target organ damage (left ventricular hypertrophy, chronic kidney disease (CKD), hypertensive retinopathy)
Renal disease
Diabetes
10 year (CVD) risk ≥10%</td><td>Offer treatment to all patients.

New guidance on management/referral if BP >180/120 mmHg - refer same day if any red flags or if no signs end organ damage repeat 7 days.</td></tr>
<tr><td colspan="2">Consider treatment in addition to lifestyle advice for those aged <60 with stage 1 hypertension and a QRISK® <10% as the CVD 10 year risk score can underestimate the lifetime risk.</td></tr>
<tr><td colspan="2">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 cardiovascular events in these people.</td></tr>
<tr><td colspan="2">Involve patients in deciding how they wish to manage their hypertension.
NICE provides decision aids: https://www.nice.org.uk/guidance/NG136/resources.

Refer to Live Well Stay well for help with weight management, smoking cessation, exercise etc. https://www.livewellstaywellbucks.co.uk/.</td></tr>
</table>

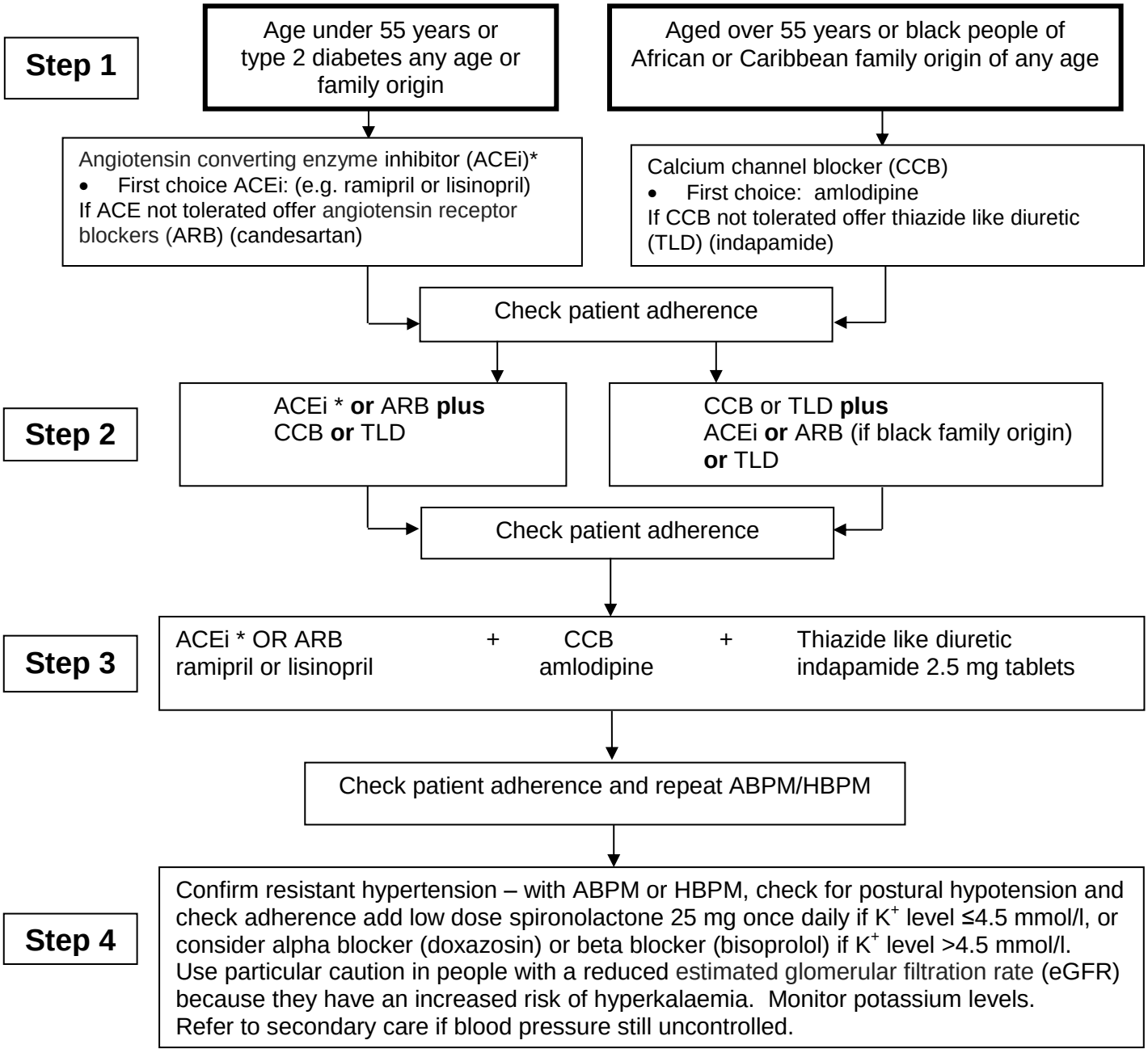
Visual on diagnoses and treatment:
https://www.nice.org.uk/guidance/ng136/resources/visual-summary-pdf-6899919517

Initiating and monitoring treatment
NICE guidance should be followed in principle. Local drug recommendations have been included in the flowchart below.

Treatment targets – state to now reduce and maintain to targets below*

	Age <80	Age >80	CKD and diabetes or ACR >70 mg/mmol
Clinic (mmHg)	<140/90	<150/90	<130/80
ABPM or HBPM	<135/85	<145/85	<125/75

Use clinical judgement regarding targets for people with frailty, at end of life, multi-morbidity or with a postural drop, throughout treatment.



In terms of monitoring clinic BP can be used to monitor treatment or advise use of HBPM for people who choose to self-monitor.

Key principles

- If an ACEi is prescribed and is not tolerated (e.g. due to an intractable cough), offer a low cost angiotensin receptor blocker (ARB), e.g. candesartan.
- For patients being treated with bendroflumethiazide or hydrochlorothiazide (non-formulary), whose blood pressure 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, TLD such as indapamide 2.5 mg once daily in preference to bendroflumethiazide or hydrochlorothiazide.
- For black people of African or Caribbean family origin, use a low cost ARB 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 TLD.
- Do not combine an ACEi with an ARB to treat hypertension.
- Patient adherence should be checked regularly.
- If patient has unprovoked hypokalaemia, consider Conn's syndrome as a possible diagnosis.

References

MHRA. Combination use of medicines from different classes of renin-angiotensin system blocking agents: Risk of hyperkalaemia, hypotension and impaired renal function – new warnings. Drug Safety Update, Volume 7, Issue 11, June 2014

MHRA. Spirinolactone and renin-angiotensin system drugs in heart failure: risk of potentially fatal hyperkalaemia. Drug Safety Update, Volume 9, Issue 7, February 2016

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