Hypertension in adults: diagnosis and treatment

Offer lifestyle advice and continue to offer it periodically

**Clinic BP**
- **Under 140/90 mmHg**
  - Check BP at least every 5 years and more often if close to 140/90 mmHg

- **140/90 to 179/119 mmHg**
  - Offer ABPM (or HBPM if ABPM is declined or not tolerated)
  - Investigate for target organ damage
  - Assess cardiovascular risk

- **180/120 mmHg or more**
  - Refer for same-day specialist review if:
    - retinal haemorrhage or papilloedema (accelerated hypertension)
    - life-threatening symptoms
    - suspected pheochromocytoma

**ABPM or HBPM**
- **Under 135/85 mmHg**
  - Offer lifestyle advice.

- **135/85 to 149/94 mmHg** (Stage 1)
  - Offer lifestyle advice.

- **150/95 mmHg or more** (Stage 2)
  - Offer lifestyle advice and drug treatment

**Use clinical judgement for people with frailty or multimorbidity**
- **Under 140/90 mmHg**
  - Check BP at least every 5 years and more often if clinic BP close to 140/90 mmHg

- **150/95 mmHg or more**
  - If evidence of target organ damage, consider alternative causes

**Offer lifestyle advice.**

In addition, for the following groups:

- **Age >80 with clinic BP >150/90 mmHg:**
  - Consider drug treatment

- **Age <80 with target organ damage, CVD, renal disease, diabetes or 10-year CVD risk ≥10%:**
  - Discuss starting drug treatment

- **Age <60 with 10-year CVD risk <10%:**
  - Consider drug treatment

- **Age <40:**
  - Consider specialist evaluation of secondary causes and assessment long-term benefits and risks of treatment

Discuss the person's CVD risk and preferences for treatment, including no treatment.

See [NICE's patient decision aid for hypertension](www.nice.org.uk/guidance/NG136)

See next page for choice of drug, monitoring and BP targets.

- Offer annual review
- Support adherence to treatment

This is a summary of the recommendations on diagnosis and treatment from NICE's guideline on hypertension in adults. See the original guidance at [www.nice.org.uk/guidance/NG136](www.nice.org.uk/guidance/NG136)

**Abbreviations:** ABPM, ambulatory blood pressure monitoring; BP, blood pressure; CVD, cardiovascular disease; HBPM, home blood pressure monitoring.
Choice of antihypertensive drug\(^1\), monitoring treatment and BP targets

### Monitoring treatment

Use clinic BP to monitor treatment.

Measure standing and sitting BP in people with:
- type 2 diabetes or
- symptoms of postural hypotension or
- aged 80 and over.

Advise people who want to self-monitor to use HBPM. Provide training and advice.

Consider ABPM or HBPM, in addition to clinic BP, for people with white-coat effect or masked hypertension.

### BP targets

**Age <80 years:**
- Clinic BP <140/90 mmHg
- ABPM/HBPM <135/85 mmHg

**Age ≥80 years:**
- Clinic BP <150/90 mmHg
- ABPM/HBPM <145/85 mmHg

**Postural hypotension:**
- Base target on standing BP

**Frailty or multimorbidity:**
- Use clinical judgement

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1. For women considering pregnancy or who are pregnant or breastfeeding, see NICE’s guideline on hypertension in pregnancy. For people with chronic kidney disease, see NICE’s guideline on chronic kidney disease.
2. For people with heart failure, see NICE’s guideline on chronic heart failure.
3. See BIHS for previous work on treatment published by the BIHS (formerly BHS).

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**Step 1**

- **Hypertension with type 2 diabetes**
- **Hypertension without type 2 diabetes**

- **Step 1**
  - ACEi or ARB\(^2,3\)
  - CCB

- **Step 2**
  - ACEi or ARB\(^2,3\)
  - CCB or thiazide-like diuretic

- **Step 3**
  - ACEi or ARB\(^2,3\) + CCB + thiazide-like diuretic

- **Step 4**
  - Confirm resistant hypertension: confirm elevated BP with ABPM or HBPM, check for postural hypotension and discuss adherence
  - Consider seeking expert advice or adding a:
    - low-dose spironolactone\(^4\) if blood potassium level is ≤4.5 mmol/l
    - alpha-blocker or beta-blocker if blood potassium level is >4.5 mmol/l
  - Seek expert advice if BP is uncontrolled on optimal tolerated doses of 4 drugs

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Abbreviations: ABPM, ambulatory blood pressure monitoring; ACEi, ACE inhibitor; ARB, angiotensin-II receptor blocker; BP, blood pressure; CCB, calcium-channel blocker; HBPM, home blood pressure monitoring.