INTRODUCTION
In August 2019, the National Institute for Health and Care Excellence (NICE) released its new hypertension guidelines.1 This article highlights the key recommendations and changes since 2011.

DIAGNOSING HYPERTENSION
The diagnostic threshold for hypertension remains 140/90 mmHg on clinic blood pressure (BP). As previously, it is recommended that diagnosis is based on out-of-office measurement, given the risk of white-coat hypertension, defined as a difference of >20/10 mmHg between clinic readings and average daytime home or ambulatory measurements. The gold standard is ambulatory BP monitoring (ABPM) but, as this is not suitable or tolerated by everyone, home BP monitoring (HBPM) is offered as an alternative. For HBPM, patients should be advised to take at least two recordings, 1 minute apart, twice a day for 4 to 7 days. The first day of readings should be discounted and the mean of the remaining readings used. If the mean BP is close to the diagnostic threshold, ABPM may be needed to confirm the diagnosis, particularly in younger people (for example, aged <60 years) where the implications of a new hypertension diagnosis may be more significant. The diagnostic threshold for ABPM or HBPM remains 135/85 mmHg. Standing BP should be measured in those with type 2 diabetes, aged ≥80 years, and patients with symptoms of postural hypotension. The standing BP should be measured after the person has been standing for at least 1 minute. Where there is a significant postural drop in systolic BP (>20 mmHg), treatment should be targeted at the standing BP.

BETWEEN-ARM BLOOD PRESSURE DIFFERENCES
BP should be checked in both arms at the time of diagnosis as a significant difference in readings between arms is an important marker of vascular disease and can lead to undertreatment.2 In recognition, NICE lowered its definition of what is considered a significant between-arm difference from 20 mmHg to 15 mmHg. BP should be measured consistently in the arm with higher BP during subsequent monitoring where possible.

RECOGNITION OF MALIGNANT HYPERTENSION
Urgent admission for BP assessment or control is only recommended for individuals with stage 3 hypertension (BP >180/120 mmHg) (Table 1) who also have signs of acute end organ damage, including papilloedema or retinal haemorrhage, or life-threatening symptoms such as acute chest pain, confusion, or decompensated heart failure. Urgent admission is also recommended if a phaeochromocytoma is suspected based on significant hypertension alongside symptoms such as headache, abdominal pain, pallor, or diaphoresis.

In the absence of one of these indications for acute referral, NICE suggests assessing for target organ damage and, if present, considering initiating treatment without waiting for ABPM or HBPM. If there is no evidence of target organ damage, the clinician should repeat a clinic BP within 1 week and re-evaluate.

<table>
<thead>
<tr>
<th>Hypertension stage</th>
<th>CBPM threshold</th>
<th>ABPM/HBPM threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>140/90</td>
<td>135/85</td>
</tr>
<tr>
<td>Stage 2</td>
<td>160/100</td>
<td>150/95</td>
</tr>
<tr>
<td>Stage 3</td>
<td>180/120</td>
<td>Does not Require ABPM/HBPM</td>
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</tbody>
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ABPM = ambulatory blood pressure measurement.
CBPM = clinic blood pressure measurement.
HBPM = home blood pressure measurement.
Hypertension in patients with diabetes is now included in the guideline and, importantly, the thresholds for both diagnosis and treatment have been brought into line with the recommendations for patients without diabetes. The ACCORD study found no benefit in terms of fatal and non-fatal major cardiovascular events when patients with type 2 diabetes were treated to a target systolic BP of 120 mmHg compared with 140 mmHg.7,8

For patients aged <80 years, treatment should aim to reduce clinic BP below 140/90 mmHg or 135/85 mmHg if using HBPM. Unlike recent US and European guidance, NICE does not suggest aiming for lower BP targets, because of a lack of evidence in primary prevention as well as the increased risk associated with this strategy, including falls and electrolyte imbalance.6,7

## TREATMENT APPROACH

Clinicians should offer regular lifestyle advice, including diet and exercise, to all patients with suspected or diagnosed hypertension. Figure 1 shows the treatment flow chart for people with hypertension. Dual therapy (for example, with an ACE and CCB) is not recommended in the first instance, even if a combined pill is used, as NICE found insufficient evidence regarding the risks and benefits of this approach, and suggests further research is needed in this area.

Patients with hypertension should receive at minimum an annual review, to discuss BP, lifestyle, symptoms, and medication. If BP control is inadequate on a single agent, a combination pill is used, as NICE found insufficient evidence regarding the risks and benefits of this approach, and suggests further research is needed in this area.

Patients who remain hypertensive despite this are considered to have resistant hypertension. Adherence should be checked and BP readings using ABPM or HBPM confirmed. If further treatment is indicated, low-dose spironolactone may be most suitable for those with a potassium level of ≤4.5 mmol/L, or an alpha- or beta-blocker for other patients. More frequent monitoring and expert advice may be required.

### References


### Figure 1. Treatment flow chart. *At each step optimise medication dose and check adherence. At step 4, consider confirming the blood pressure measurement is accurate with home or ambulatory readings. ACE = angiotensin-converting enzyme. ARB = angiotensin receptor blocker. CCB = calcium channel blocker.*