Clinical Effectiveness
South East London

South East London Integrated Care System

NHS

Hypertension

A guide for South East London Primary Care (Adult)

Key messages

1. Offering blood pressure (BP) checks to high-risk adults can prevent cardiovascular disease
2. Lifestyle changes are key to lowering blood pressure and reducing cardiovascular risk
3. Regularly review cardiovascular risk with a QRISK assessment tool and start lipid lowering therapy promptly if indicated
4. Optimise BP control aiming for NICE targets and review BP at least annually

Always work within your knowledge and competency

September 2024 (review September 2026, or earlier if indicated)

Contents

Why focus on Hypertension?

Definition

- Hypertension (HTN) is usually defined as a sustained blood pressure (BP) of ≥140/90mmHg, but thresholds may vary with comorbidities/frailty.
- Primary hypertension, where there is no identifiable cause, occurs in 90% of cases.
- Secondary hypertension, where there is an underlying cause (diabetes, kidney disease), occurs in 10% of cases.[1]

Hypertension is the leading modifiable risk factor for cardiovascular disease (CVD) and third biggest risk factor for premature death and disability in England.[44]

Hypertension management in South-East London

28% of patients on the HTN register have uncontrolled hypertension.[3]

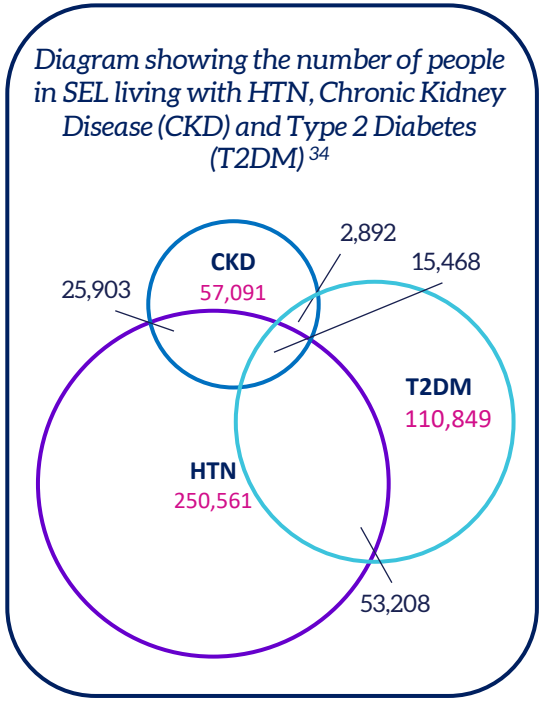
If 80% of patients with HTN had optimal BP control, in one year we could prevent:[5]

- **203** Heart Attacks
- **303** Strokes
- **162** Deaths

Every 10mmHg reduction in BP results in[4]**:**

- **27%** reduction for stroke
- **28%** reduction for heart failure
- **17%** reduction for coronary heart disease
- **13%** reduction in all-cause mortality

Diagram showing the number of people in SEL living with HTN, Chronic Kidney Disease (CKD) and Type 2 Diabetes (T2DM) [34]



What's new in Hypertension and Cardiovascular disease management?

QOF 2024/25 hypertension update:
- QOF now aligns with NICE guidelines for BP targets.
- There are different BP control targets for Ambulatory BP monitoring and readings taken in a clinical setting.

Pharmacies play an important role in diagnosing and managing HTN:
- Pharmacies offer free BP checks in patients >40 who have not previously been diagnosed with HTN and Ambulatory BP Monitoring (ABPM).
- Refer using DXS (Community Pharmacy Hypertension Case Finding Service) or EMIS (Local Services). See list of participating pharmacies in SEL.

Lipid management update:
- New injectables for cholesterol management are **not approved** for primary prevention and their long-term effect on CVD (beyond 5 years) is unknown.[6]
- Use 'lipid lowering therapy declined' code if a patient declines treatment
- If a patient with a QRISK of <10% understands the potential harms and benefits of taking a statin and would like to start it anyway, the clinician should provide a prescription.

QRISK3-lifetime:
- Consider using lifetime risk to inform discussions on CVD risk and motivate lifestyle changes.

People living with HIV:
- It is likely that QRISK underestimates the risk of CVD in people living with HIV.
- Following the REPRIEVE study, the British HIV Association recommends that any person living with HIV >40 should be offered a statin for primary prevention of CVD irrespective of lipid profile QRISK.

Gestational hypertension increases future CVD risk

When compared to someone who did not have HTN in pregnancy, those who develop new hypertension in pregnancy (gestational hypertension) are:
- Up to 4 times more likely to develop hypertension in later life
- Up to 3 times more likely to have a stroke or heart attack

Health Inequalities in Hypertension

Background

- The term 'health inequalities' refers to the differences in the care that people receive and their opportunities for leading healthy lives. [7] There are systemic differences in health that arise between different groups of people which are avoidable and unfair. [7]
- On this page we explore the factors contributing to hypertension-related health inequalities in SEL communities and discuss steps to reduce these disparities.

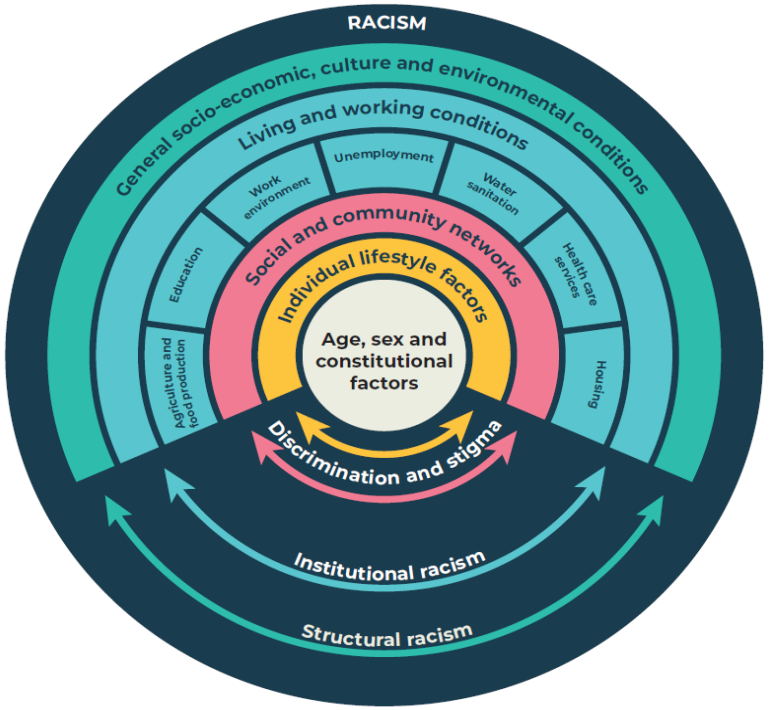
Deprivation

- People from the most deprived areas in England are 30% more likely to have HTN than the least-deprived; and these inequalities are worse for complications of HTN including stroke and coronary heart disease).[8]
- These differences are also reflected in SEL, where the more deprived populations are more likely to have HTN as well as poorer BP control.[3]
- Black, Asian and minority communities living with frailty and deprivation are more likely to take multiple medicines (8+), increasing the risks of adverse drug interactions with antihypertensives.[45]

Severe Mental Illness (SMI)

People with SMI live on average 15 to 20 years less than the general population and have a higher risk of cardiovascular disease.[10]

*'Though social determinants are universal, **racism** is one of a range of driving forces that exists in our societies and that acts on these determinants.[18,19]*



Black African and Black Caribbean communities in SEL:

- Have a greater prevalence of hypertension than any other ethnic group[3] with a higher risk of stroke and worse outcomes. [11]
- Present approx. 10 years younger with acute stroke compared to white ethnicity patients.[12]
- Are less likely to have a BP that is treated to target compared to other ethnic groups.[13]
- The drivers for these inequalities include overcrowded housing, higher levels of deprivation, unemployment, barriers to education attainment and racism.[14,12]
- NICE guidance (referenced in this guide) advises that Black African and Black Caribbean patients are offered different first line hypertension treatments. The rationale for doing this remains unclear and may wrongly assume that ethnicity is a reliable replacement for genetic or biological differences.[15]

Black African and Black Caribbean communities in SEL have told us that barriers to optimal hypertension detection and management include:[16]

- **Trust** – lack of trust in health services generally and not trusting individual healthcare professionals
- **Access** – difficulties accessing services

Learning Disabilities (LD)

60% of deaths in people with LD occurred before the age of 65 years compared to 10% of deaths in the general population. Half of these deaths were judged to be avoidable, and 14% were attributed to hypertension.[17]

How can we tackle health inequalities

- **Involve the whole team:** share and embed the Hypertension Resource Pack for Non-Clinical GP Teams which has useful tips.
- **Co-design care:** work with your communities and patient groups.
- **Know your data:** use *SEL Hypertension and Vital 5 dashboards* (contact bi@selondonics.nhs.uk for access).
- **Target patient groups:** use Ardens case-finder searches to identify patients e.g. no ethnicity coded, at high risk, poorly controlled etc.
- **Ask for help:** contact your CESEL facilitator for support.

Team and system actions [19,16]

- **Cultural humility training**: acknowledge and challenge power imbalances and improve your understanding to support patients in their preferences for their care.
- **Location of services:** community-based BP testing and advice e.g. pharmacies, places of worship and community events, have high acceptability.
- **Type of services:** patients prefer face-to-face care, especially for a new diagnosis of hypertension.
- **Encourage self-care and engagement** e.g. home BP monitors and out of hours drop-in BP checks available.

Individual actions

- Acknowledge that patients may have experienced racism in healthcare services.
- Re-establish trust with patient-centred consultations and shared decision making.[16]

Blood Pressure Checks[24]

Who needs a BP Check?

All adults should have their blood pressure checked.
At least 6 million people in the UK have undiagnosed hypertension.

Hypertension risk factors

Anxiety and emotional stress
Can raise BP due to increased adrenaline and cortisol levels

Medications & Drugs that can increase BP: Steroids, NSAIDs, COCP, herbal remedies and cocaine

Age
Blood pressure tends to rise with advancing age

Gender
Up to 65 years, women tend to have lower BP than men. Between 65-74 years, women tend to have higher BP

Social Deprivation
people from the most deprived areas in England are 30% more likely to have hypertension than those from the least deprived

Long-term conditions
Diabetes, kidney or thyroid disease, Atrial Fibrillation and HIV

Lifestyle factors
smoking, obesity, excessive alcohol consumption, lack physical activity, excess dietary salt

Genetic Factors
A positive family history (FH) increases the risk of developing hypertension

Ethnicity
People of Black African and Black Caribbean origin are more likely to develop HTN

How to do a BP Check in Clinic

BP Check Top Tips

1. Ensure patient is in the correct position with their arm outstretched and supported
2. Check pulse, if irregular do a manual BP check
3. Use the right size cuff to get an accurate reading See BIHS advice
4. Check BP in both arms, if >15 mmHg difference, repeat
5. If the difference remains, use the arm with the higher reading and code in EMIS
6. If BP is raised (≥140/90) repeat and use the lowest of the 2 readings

Lying and standing BP

Consider performing a lying/standing BP in patients with diabetes, symptoms of postural hypotension e.g., falls, or age ≥ 80yrs:

- Measure the sitting BP then ask the patient to stand, wait at least 1 min and then measure the standing BP.
- If systolic drop ≥ 20mmHg or symptoms of postural hypotension, review medication and treat to BP target based on standing BP

White Coat Effect and White Coat Hypertension[24,25]

A 'White coat effect' is a persistent discrepancy of >20/10 mmHg between clinic and average daytime ABPM/HBPM readings. This can occur in patients with and without HTN and may contribute to white coat hypertension.

- White coat hypertension is a BP that is ≥140/90 in clinic but normal in other situations, and it occurs in 15-30% of the population.
- Code this on EMIS and use patients preferred method for reviews.

Home (HBPM) and Ambulatory BP monitoring (ABPM)[24, 26]

HBPM	**Home Blood Pressure Monitoring** is when a patient measures their own BP at home using a BP machine for 4-7 days (ideally), taking a note of each reading.
ABPM	**Ambulatory Blood Pressure Monitoring** is when a patient's BP is measured for up to 24 hours during their normal daily activities with a small BP monitor which attaches to a belt around their waist connected to a cuff on their upper arm. A reading is taken automatically at specific intervals usually every 15-30 minutes (less frequently at night). ABPM is more specific and sensitive than Clinic BP readings and HBPM, leading to truly hypertensive patients being identified correctly and receiving appropriate treatment.[27]
Patient experience	• HBPM is well accepted by patients and a useful way to assess BP. • 30% of patients with hypertension monitor their own BP at home in the UK. In other countries, this figure is over 70%.

When to use ABPM or HBPM?

- To diagnose hypertension and can be particularly useful if there is:
  - Suspected or confirmed 'white coat effect' or 'white coat hypertension'
  - Possible 'masked hypertension' (where the BP is raised at home but normal in clinic)
  - Variability of BP throughout the day
- To inform treatment plan or check effectiveness/compliance with medication
- To investigate people with uncontrolled BP
- For long-term monitoring of patients with hypertension

Note:

- HPBM with automated devices is contraindicated in patients with an irregular pulse e.g. atrial fibrillation (BHF)
- ABPM is also contraindicated in patients with an irregular pulse. It may disturb sleep and the inflation may be too disruptive [29]

How to do HBPM

What to tell patients who need HBPM?

- Print a BP diary for the patient to use or text them a BP questionnaire
- Explain how to take BP correctly and tell the patient to:
  1. Use a BP monitor that is validated (and calibrated)
  2. Use an upper arm cuff (with the right sized cuff) as it is more reliable than a wrist cuff.
     - Standard adult cuff (width 12-13cm) – arm circumference <33cm
     - Large Adult cuff (width 12-16cm) – arm circumference <50cm
  3. Check their BP in both arms and tell them to use the arm with the **higher systolic** for all future readings
  4. They should record at least two BP readings (at least 1 minute apart) every morning (06:00-12:00) and evening (18:00- 00:00) every day for at least 4 days (ideally 7)
  5. Disregard the first day's readings and take an average of the subsequent readings.

How to do ABPM

What to tell patients who need ABPM?

- Advise the patient on where to get an ABPM – remember to check which local pharmacies offer ABPM. Refer as appropriate.
- No driving, exercising or bathing/showering with the equipment on.
- Patients should record any medication taken and any symptoms that occur during the monitoring
- Ensure sufficient readings - minimum 14 readings during waking hours (usually 2 reading each hour)
- Always use **ABPM Daytime average** for diagnosis
- If a patient is unsuitable for ABPM or unable to tolerate it, offer HBPM.

Note:

- HBPM/ABPM readings have different target thresholds compared to clinic readings.
- Not adjusting may lead to undertreatment or underdiagnosis of hypertension.

Follow up: If HBPM or ABPM daytime average is more than 135/85 **follow hypertension diagnosis algorithm**

SNOMED Codes: ***Average home systolic/diastolic Blood pressure, Self-reported systolic/diastolic blood pressure, Ambulatory systolic/diastolic blood pressure.***

How to implement HBPM in a practice [28]

1. Create a clear evidence-based protocol that all staff (clinical and non-clinical) can follow. Remember that HBPM has lower diagnostic thresholds and treatment targets.

2. Ensure that all staff members understand their role and how to apply the protocol practically e.g.
   - Managing the BP monitors and explaining to patients how to use it
   - How patients should record their HBPM
   - Who will enter BP readings in patient notes
   - How to action high BP readings

3. Share learning and drive improvements within the practice by discussing specific clinical cases. Engage the team on the positive impact HBPM has on patient outcomes and how it can benefit the practice.

Hypertension diagnosis[24,30]

Initial BP reading

Clinic

Systolic < 140
AND
Diastolic <90 mmHg

HBPM*

Systolic < 135
AND
Diastolic <85 mmHg

Interpretation

Normal BP

Check BP at least every 5 years, more often if close to 140/90 mmHg

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Systolic 140-179 mmHg
OR
Diastolic 90-119 mmHg

Systolic 135-149 mmHg
OR
Diastolic 85-94 mmHg

Suspected Hypertension
Offer ABPM to confirm diagnosis

- Offer HBPM if ABPM declined/not tolerated
- Screen target organ damage/ complications
- Assess cardiovascular risk (QRISK)

Systolic ≥ 180mmHg
OR
Diastolic ≥ 120mmHg

Stage 3 (Severe) Hypertension
Urgent GP review

Same day GP review to check for worrying symptoms and target organ damage

Worrying Symptoms?

- Retinal haemorrhage or papilloedema (accelerated hypertension)
- Suspected phaeochromocytoma

Yes → A&E

No

Target organ damage?

Yes

No → Repeat clinic BP within 7 days

ABPM/HBPM

Interpretation

ABPM/ HBPM not needed

ABPM/ HBPM results

Consider urgent ABPM/ HBPM

Systolic < 135
AND
Diastolic <85 mmHg

Normal BP

Follow advice above

Systolic 135-149 mmHg
OR
Diastolic 85-94 mmHg

Stage 1 Hypertension

Assess for complications and CV risk (QRISK)

Systolic ≥ 150mmHg
OR
Diastolic ≥ 95mmHg

Stage 2 Hypertension

Assess for complications and CV risk (QRISK)

Action

Calculate QRISK
Assess 10-year CV risk using QRISK

*Includes readings taken in other locations such as pharmacies

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≥80 years AND clinic BP > 150/90
OR
<60 years AND QRISK <10%

'Consider' starting BP treatment

<80 years AND one or more of:

- QRISK ≥10%
- Diabetes
- CKD/other renal disease
- Hypertensive eye disease
- LVH or CVD

'Discuss' starting BP treatment

Start BP treatment

'Consider' starting BP treatment **without ABPM/ HBPM**

- **Code hypertension and offer lifestyle advice**
- Discuss the person's QRISK and preferences for both antihypertensive and lipid lowering therapy, including no treatment
- Calculate and record target BP, achieve BP control (in line with NICE guidance) ; use clinical judgment in frailty/multi-morbidity
- Offer review at least annually (BP, blood tests, ACR, lifestyle advice and support adherence to treatment)
- <40 years: consider specialist evaluation of secondary causes and assessment of long-term benefits and risks of treatment

Which BP target? Aim for and maintain at NICE BP targets (or below)[24, 31 ,35, 36]

Which condition?	Which cohort within the condition?	NICE Clinic BP Target (mm/Hg)	ABPM/HBPM Target Note: corresponding targets are 5mmHg lower than clinic BPs	QOF BP Targets[37] 2024/25
• **Always use clinical judgment considering co-morbidities, polypharmacy, frailty, and life expectancy to individualise targets to the patient** • For people ≥80 years with hypertension and T2DM, CKD, PAD, CVD or TIA/Stroke, individual NICE guidance on these areas offers no age-specific BP targets for this cohort.				
Hypertension, including Type 2 Diabetes (but with no CKD)	Age <80yrs	**≤140/90**	**≤135/85**	≤140/90mmHg
	Age ≥80yrs	**≤150/90**	**≤145/85**	≤150/90mmHg
Diabetes	Type 2 Diabetes	**Same as hypertension if no CKD**		≤140/80mmHg
	Type 1 Diabetes + no albuminuria	**≤135/85**	**≤130/80**	
	Type 1 Diabetes + albuminuria or ≥ 2 features of metabolic syndrome	**≤130/80**	**≤125/75**	
CKD (chronic kidney disease)	ACR <70mg/mmol	**<140/90 (systolic range = 120-139)**	**<135/85**	No QOF target
	ACR ≥70mg/mmol or co-existent Diabetes	**<130/80 (systolic range = 120-129)**	**<125/85**	
Ischaemic heart disease (IHD)/ Peripheral arterial disease (PAD) or TIA/Stroke	History of IHD/PAD	**Same as hypertension, if no CKD**		No QOF target for PAD, but for IHD/TIA/Stroke based on age i.e. <80yrs ≤140/90mmHg ≥80yrs ≤150/90mmHg
	History of TIA/Stroke	**Same as hypertension, if no CKD**		
During and after pregnancy	During pregnancy	**≤135/85mmHg**		Patients who have been hypertensive in pregnancy should not be included in the register
	Post natal	**≤140/90mmHg**		

Hypertension investigations[24,31]

	BP	12 lead ECG & Fundoscopy	Urine ACR	Lipids/HbA1c	Renal profile	Urine dipstick	TFTs
At diagnosis & to assess target organ damage	Yes	Yes	Yes	Yes	Yes	Yes	
To investigate secondary causes of HTN					Yes	Yes	Yes
To include in annual review	Yes		Yes	Yes	Yes		
Notes on the investigations	How to take an accurate BP in clinic or at home Treatment targets vary according to age and comorbidities Maintaining BP within target range reduces the progression of CKD and reduces the risk of CVD and mortality.	ECG is needed to assess cardiac function and detect left ventricular hypertrophy On fundoscopy look for the presence of: • Hypertensive retinopathy • Retinal haemorrhages • Cotton wool spots • Hard exudates • Papilloedema	See CESEL CKD Guide for more information on how to action a raised Urine ACR In CKD, BP targets vary according to urine ACR Albuminuria is a key early marker of glomerular damage Several factors may transiently affect ACR including menstruation, strenuous exercise, genital discharge. If in doubt, repeat the test	Link to SEL lipid guide and CESEL guide These results are needed to calculate the QRISK score. Use this to identify patients who may benefit from cholesterol medication. Identify patients with non-diabetic hyperglycaemia so that you can reduce their risk of developing diabetes People with diabetes are at increased risk of CVD, however controlling blood pressure and HbA1c levels can help to reduce the risk	Interpret eGFRs as a trend over time and do not adjust for ethnicity. If eGFR is >90ml/min/1.73m^2, use an increase in serum creatinine concentration of >20% to infer significant reduction in kidney function Renal disorders are the most common cause of secondary hypertension, including: CKD, chronic pyelonephritis, diabetic nephropathy and polycystic kidney disease If there is hypokalaemia + alkalosis (elevated bicarbonate) + hypernatraemia + hypertension → consider primary hyperaldosteronism	Non-visible haematuria (NVH) or microscopic haematuria is when there is at least 1+ of blood on dipstick Presence of NVH with hypertension suggests a renal cause which needs further investigation See CESEL CKD Guide for more information on how to action visible haematuria (VH) or macroscopic haematuria	Thyroid hormones regulate blood pressure by influencing cardiac output and peripheral resistance Hyperthyroidism increases systolic blood pressure by increasing the heart rate, decreasing systemic vascular resistance and raising cardiac output.[32] Hypothyroidism impairs endothelial function, increasing systemic vascular resistance, and increasing diastolic blood pressure. It also causes increased variability on 24-hour ABPM.[32]

Cardiovascular disease and Hypertension[20]

What is Cardiovascular disease (CVD)?

- CVD describes conditions that affect the heart, blood vessels or both.
- It is caused by thrombosis (blood clot) or atherosclerosis (narrowing of arteries).
- Types of CVD include: coronary heart disease e.g. angina, myocardial infarction, stroke, Transient ischaemic attack (TIA), peripheral arterial disease and aortic disease e.g. aortic aneurysm)

CVD is one of the main causes of avoidable death and disability in the UK.

1. Screening

Comorbidities that are also CVD risk factors	Other CVD risk factors
• Hypertension • Diabetes and non-diabetic hyperglycaemia • CKD • Dyslipidaemia (high cholesterol) • Atrial fibrillation • Systemic inflammatory disorders (e.g. rheumatoid arthritis) • Serious mental health conditions • HIV	• **Lifestyle factors** such as smoking, physical inactivity and being overweight • **Socioeconomic status** - death from CVD is 3x higher among the most deprived communities • **Lack of social support** - those socially isolated are more likely to die prematurely from CVD

Target organ damage is damage to organs such as the heart, brain, kidneys and eyes and is associated with increased cardiovascular risk and morbidity.

How to assess target organ damage:

- **Examination:** check eyes (fundoscopy), urine dipstick (for blood), CV exam
- **Tests:** full blood count (FBC), renal profile, lipid profile (cholesterol), HbA1c, thyroid function test (TFT), urine albumin creatinine ratio (ACR), and 12 lead ECG
- **Record:** smoking status, physical activity level, alcohol intake, BMI, family history (use Ardens Template)

2. Assessing risk

QRISK2 or QRISK3?

- CVD risk assessment should be offered at least once every 5 years to adults >40
- QRISK2/3 estimates the risk of a patient developing CVD over the next 10 years
- Don't use QRISK in patients at high risk of CVD (e.g. diabetes, CKD 3-5, previous stroke/TIA or people >85) as they should already be on/offered lipid modification therapy
- QRISK2 'calculator' is integrated into EMIS. For several conditions QRISK2 will underestimate people's risk e.g. severe mental illness and rheumatological conditions.
- QRISK3 includes more conditions to improve accuracy. Template available in Ardens.
- QRISK3-lifetime can be used to inform discussions about CVD risk if QRISK score <10% or <40 with CVD risk factors.
- QRISK 2/3 are estimate calculators – always individualise the risk to the patient and consider co-morbidities, polypharmacy, frailty, life expectancy
- **Limitations** – uses BMI instead of waist circumference, potentially underestimating risk across ethnicities and does not consider higher risk with younger age at diagnosis. Not validated in <25yr olds.

3. Actioning QRISK[20,22]

QRISK <10%

- Don't rule out treatment with statin based on QRISK alone, use clinical judgement
- If a patient requests statin and understands risks/benefits, then statin should be issued
- Ensure co-morbidities are optimally treated
- Address modifiable risk factors
- Consider using QRISK3-lifetime to inform discussions around risk especially in younger patients

QRISK ≥10%

- Address modifiable risk factors, then consider treatment if risk still >10%
- Exclude familial hypercholesterolemia or secondary causes (e.g. excess alcohol, hypothyroidism)
- Offer **atorvastatin 20mg**
- Check lipid profile and LFTs in 3 months
- **Target:** reduce non-HDL cholesterol by ≥40% from baseline. If not achieved, consider up titrating statin, or if intolerant to statin -follow SEL ICS guideline on lipid management

Patient info

- BHF- high cholesterol
- BHF - statins
- BHF Q&A on Statins
- Patient video on Cholesterol/Statins
- Familial Hypercholesterolaemia
- NHS – Ezetimibe
- Decision Aid: Should I take a statin?

Statins

What to cover when discussing statins with patients[23]

- Statins reduce the production of LDL cholesterol inside the liver
- High levels of LDL cholesterol can lead to cardiovascular disease
- 1 in 20 people on statins for 5 years will avoid a serious event e.g. heart attack or stroke
- Medication is taken daily and usually for life – stopping causes cholesterol to rise again
- Usually well tolerated, but side effects include headache, dizziness, nausea, muscle pains
- A liver function and cholesterol blood test will be requested after you start the statin
- For patients with Statin intolerance, follow the NHS statin intolerance pathway

Exception reporting in EMIS

If lipid lowering therapy is declined/not tolerated/contraindicated, use these codes:

- Lipid lowering therapy declined
- Lipid lowering therapy not indicated
- Lipid lowering therapy contraindicated

Hypertension management outline[24]

This guidance is aligned to SEL IMOC Hypertension 2021 guidance for Primary Care and excludes patients with type 1 diabetes and patients who are pregnant/breastfeeding).

Minimise Cardiovascular risk factors

Lifestyle advice
Patient education is integral to management of hypertension

AND

Offer and optimise lipid control
Assess 10-year CV risk using QRISK3.
Offer a statin to all CKD patients (unless contraindicated)

AND

Optimise DM control
See CESEL Diabetes guide for more detailed advice

AND

Treat according to co-morbidities
Individual targets may apply to patients with frailty.

Optimise medication to most effective tolerated dose and check adherence at each step before stepping up

Hypertension with CKD[31]
(See CESEL CKD guide for more detailed advice)

ACR ≥ 30 mg/mmol

STEP 1:
ACE-I or ARB,
then follow BP algorithm

ACR < 30 mg/mmol
Follow BP algorithm based on age and ethnicity

Type 2 Diabetes or Age <55 years
(excluding Black African/African-Caribbean family origin)

STEP 1: ACE-I or ARB*
1st line: Ramipril/Lisinopril or Losartan

STEP 2: add CCB/ thiazide-like diuretic
1st line: Amlodipine or Indapamide

Age ≥ 55 years or
Black African/African-Caribbean family origin

STEP 1: CCB
1st line: Amlodipine or Thiazide-like diuretic (indapamide) if CCB related oedema or heart failure

STEP 2: add ACE-I or ARB* / thiazide-like diuretic
1st line: Ramipril/Lisinopril or Losartan, or Indapamide

STEP 3: Check adherence and add 3rd medication (ACE-I or ARB* + CCB + thiazide-like diuretic)

If uncontrolled on optimal doses of 3-4 antihypertensives, regard as resistant hypertension.
Repeat ABPM/HBPM, assess for postural hypotension, discuss adherence and consider specialist advice

If potassium ≤4.5mmol/L and good renal function: consider further diuretic with low-dose spironolactone

If potassium >4.5 mmol/L and/or reduced renal function: prescribe alpha-blocker (doxazosin) or beta-blocker (atenolol/bisoprolol) and/or consider seeking specialist advice

Important information

***For people of black African or African-Caribbean family origin, use ARB instead of ACE-I (as increased risk of angioedema with ACE-I)**

For each dose titration check: creatinine (increase by <30%), eGFR (decrease by <25%), and potassium (<5.0mmol).[21]

Hypertension management in people who are planning pregnancy, pregnant or breastfeeding [33,34]

Hypertension (HTN) disorders in pregnancy: 1 in 10 people have high blood pressure in pregnancy. **80%** develop HTN for the first time in pregnancy and 20% have pre-existing HTN

Preconception | **<20 weeks gestation** | **>20 weeks gestation** | **Postnatal (8 weeks after birth)**

Diagnostic cut offs for HTN with and without pregnancy are the same: *Systolic ≥140mmHg and/or Diastolic ≥90mmHg*

Pre-existing or Chronic HTN (<20 weeks)
- Refer to pre-pregnancy counselling clinic if contemplating pregnancy
- Hypertension under 20 weeks is *unlikely* to be due to pregnancy

Gestational hypertension (>20 weeks)
New hypertension & pre-eclampsia occurs on/after 20 weeks gestation

If gestational HTN or pre-eclampsia during pregnancy and not on treatment.

Start antihypertensive treatment if
Systolic ≥150mmHg and/or Diastolic ≥100mmHg

BP Target during pregnancy *≤135/85mmHg (clinic)*

Postnatal BP Target *≤140/90mmHg (clinic)*

1. Initial review

- Check BP and dipstick urine, if ≥1+ protein send for urine ACR/PCR
- Lifestyle advice
- Assess for risk factors of pre-eclampsia:
  - If ≥2 moderate risk factors
  - Or ≥1 high risk factors (see pre-eclampsia table)
  - Offer Aspirin 75-150mg OD between 12-16 weeks, up to 36 weeks.

2. Review medicines

- If planning pregnancy or pregnant stop ACEi/ARB/thiazide-like diuretics asap due to increased risk of congenital abnormalities
- Start an alternative that is safe in pregnancy - see table below (seek specialist advice if needed)
- Discuss treatment options using the decision aid
- Consider amending treatment if: systolic <110mmHg and/or diastolic <70mmHg or symptomatic hypotension

3. Check for red flags

In pregnancy any symptoms of pre-eclampsia including:
- Severe headache
- Visual problems
- Severe pain below ribs
- Vomiting
- Sudden swelling of hands, face or feet

If BP >160/110mmHg → admit
If not pregnant see red flags

4. Refer to specialist

- If pre-existing or gestational HTN refer to maternal medicine
- They will monitor the patients' BP, proteinuria and bloods (FBC, LFTs and U&Es) and assess for pre-eclampsia
- Note: people with pre-existing HTN are at higher risk of pre-eclampsia

5. Postnatal review

1. Check BP at least daily, day 1-5 post-delivery. In pre-eclampsia, monitor every 1-2 days for up to 2 weeks.
2. Post delivery, review patient at 2 weeks, 6-weeks and as clinically indicated.
3. Repeat bloods and urine dipstick if previously abnormal. Consider referral to renal if kidney assessment is abnormal at 3 months.
4. Review Medication: if on methyldopa change by day 2 post-delivery. For those breastfeeding use enalapril (if black African/Caribbean origin use nifedipine) otherwise follow BP algorithm.
5. Agree frequency of BP checks and plans for reducing/stopping medication
6. Code: *essential hypertension, gestational hypertension or pre-eclampsia.*

Which hypertensive medicine in pregnancy?

Beta blockers	Calcium Channel blockers	Alpha-2 antagonists	ACE-Is	Alpha-blockers	ARBs	Diuretics	Vasodilators
Labetalol (1st line) CI: asthma	Nifedipine (2nd Line)	Methyldopa (3rd Line) CI: postnatal depression	X	X	X	X	X

Considered safe

Specialist initiation

- Note: whilst Nifedipine is preferred, patients can remain on amlodipine if needed.[19]
- More information on the safe use of medicines in people who are pregnant, including patient resources available here.

Pre-eclampsia

Pre-eclampsia is a cause of maternal mortality and morbidity (e.g. stroke). It also causes higher neonatal admissions and complications such as a low birthweight.

Definition	Moderate Risk factors	High Risk factors

• Pre-existing or gestational HTN AND 1 or more of:
  • Proteinuria (ACR ≥8mg/mol)
  • Neurological involvement
  • Renal, liver, haematological changes
• Can occur up to 4 weeks postpartum
• Can be diagnosed with placental growth factor (PLGF)
	• First pregnancy
	• Aged 40+
	• BMI >35
	• FH of pre-eclampsia
	• Multiple pregnancy
	• Pregnancy interval of 10+ years.
		• Chronic HTN
		• HTN in previous pregnancy
		• CKD
		• Type 1/2 Diabetes
		• Autoimmune disease e.g. SLE or APLS

Future risks of gestational HTN:
- 1 in 5 will have raised BP in future pregnancies
- Up to 4 times more likely to develop hypertension in later life
- Up to 3 times more likely to have a stroke or heart attack compared to someone who did not have HTN in pregnancy

Clinical Effectiveness
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Medication compliance & side effects

Medications should be taken at the same time each day. Check compliance before stepping up.

Side effects vary depending on the drug and affect up to 10% patients.

Common side effects: dizziness, headache, GI disturbance, cough, ankle swelling, erectile dysfunction. Consider trying a lower dose before stopping.[9]

CKD Hypertension Targets		
ACR<70	Systolic 120-139	Diastolic <90
ACR>70	Systolic 120-129	Diastolic <80
Frail	Individualised	

CVD Comorbidities

Stress the importance of managing other long-term conditions especially DM, CKD and cholesterol and having regular reviews.

Medical

On average a standard dose of BP medication reduces systolic blood pressure by approx. **9mmHg**[38]

Medications & Drugs

Steroids, NSAIDs, COCP, herbal remedies and cocaine can cause a rise in BP.

CVD Risk

Proactively discuss with patients >40 at least every 5 years. Understand the limitations of QRISK 2/3 and consider using QRISK lifetime.

AKI & Sick day rules[41]

Counsel risk of AKI and symptoms with ACE/ARB and diuretics (reduced urine output, appetite loss, nausea, vomiting, shortness of breath, oedema).

Patients on ACE-I, ARBs, diuretics, metformin, NSAIDs, sulfonylureas, SGLT2 inhibitors should observe sick day rules in acute illness.

See CESEL CKD guide for more information.

Patient advice

Patient education is integral to the management of hypertension

Mental Health

Screen for depression or anxiety with GAD-2/7 or PHQ-2/9
Consider local IAPTs for Long Term Conditions.

Exercise

Regular exercise- aim for >150mins/ week of moderate intensity (e.g. brisk walking or cycling).

4-9mmHg

Education

Provide sources of support.

Smoking

Support cessation
Major additive CVD risk factor.

BP returns to normal 20 minutes after you stop smoking

Lifestyle

On average a standard dose of BP medication reduces systolic blood pressure by approx. 9mmHg.[38]

Lifestyle changes can be more effective. Set realistic goals with patients.

Approx. systolic BP reduction for each intervention is in pink boxes[38,39]

Salt

Reduce dietary sodium intake to <6 g per day (1 level teaspoon) and it should not be added at the table.[40]

2-8mmHg

Alcohol

Below or equal to 14 units/week - calculator here

2-4mmHg

Weight

Advise patients to maintain a healthy weight
Obesity increases risk of declining eGFR.
Signpost to local resources.

5-20mmHg/10kg loss

Diet

DASH diet: consume a diet rich in fruits, vegetables, low-fat dairy with reduced saturated and total fat. Reduce excessive caffeine or caffeine-rich products.

8-14mmHg

Patient support

Services		Borough					
		Bexley	**Bromley**	**Greenwich**	**Lambeth**	**Lewisham**	**Southwark**
Weight management	**Patient info**	• Bexley - Get help managing your weight	Bromley - Healthy weight	• Greenwich - Healthy weight	• Lambeth - Weight management service	• Lewisham - Weight management	• Southwark - Healthy weight
	Local Services	• Bexley's Tier 2 Weight Management Service DXS - 'Weight management infographics'	ROP / Health promotion and lifestyle/ referrals/ weight management The system will display referral options appropriate to the patient	Tier 2: DXS – 'RGB Healthwise' • Weight Loss Plan - Greenwich (Better UK) Tier 3: • TBC healthcare – 1 year programme • 4 Healthy Weight Greenwich	• Lambeth healthy weight hub	• Slimming world • Up!Up! - Healthy weight programme - For Black African/Caribbean community Form on DXS refer via e-RS	• Everyone Health Southwark DXS/'Single Point of Access Tier 2 WM HLH'
	National/ SEL	• NHS Digital Weight Management : Free 12-week online behavioural and lifestyle programme > Form on DXS refer via e-RSr? • South East London healthy living programme Tier 3 - 1 year programme. Form on DXS refer via e-RSr? (not available in Greenwich, for Greenwich Tier 3, see above)					
Healthy lifestyle	**Patient info**	• Borough of Bexley: Sport and Fitness	• Be active in Bromley	• Greenwich council: Sport and physical activity	• Lambeth Council: Get active	• Lewisham Council: Exercise and fitness	• Southwark Council: Leisure and sport
	Exercise on referral – on DXS		• ROP / Health promotion and lifestyle/ referrals/ exercise	• Live Well Greenwich - Healthwise • DXS - 'Exercise on Referral' Scheme via Better Gyms		• Healthwise referral:– Referral on DXS	• Kickstart, Active Boost and Cardiactive - Everyone Health Southwark Referral on DXS
	Stop Smoking	• Smoke Free Bexley	• Smoke Free Bromley	• Stop Smoking Greenwich	• Lambeth - Stop Smoking	• Smoke Free Lewisham	• Southwark Stop Smoking
Social Prescribing		• Bexley - Mental Health Hub	• Bromley Well via ROP	• Live Well Greenwich • Greenwich - Mental Health Hub	• Health and wellbeing | Lambeth Council	• Lewisham Wellbeing Hub • Social prescribing in Lewisham • Community Connections Lewisham	• Southwark Wellbeing Hub

SEL / National resources

Diet	• Eat well - NHS • African & Caribbean Eatwell Guide • The Eatwell Guide - NHS • 8 tips for healthy eating • DASH diet • Healthy living – BHF	**BP**	• Check your BP reading Understanding your BP • Home BP measurements • How to reduce your blood pressure 6 top tips • BP Patient information leaflets in different languages • Online programme about hypertension for patients	**Community Pharmacy BP Check Service** Patients over the age of 40 may qualify for a free BP check at a local pharmacy without a GP referral. See list of participating pharmacies in SEL.

Hypertension Management[24]

When to refer a patient?

Suspected secondary cause OR patient <40 years

- **Secondary causes of hypertension in a patient of any age** e.g. Cushing's syndrome, Conn's Syndrome, obstructive sleep apnoea, scleroderma, lupus, polyarteritis nodosa, retroperitoneal fibrosis
- **Consider if <40 years + BP ≥140/90mmHg + no evidence of CVD, renal/hypertensive eye disease or diabetes**
- **In patients of African or Caribbean family origin,** primary hypertension can present earlier, if in doubt, consider A&G to discuss need for referral

Refer to specialist clinic for further investigation

Worrying symptoms

- **Life-threatening symptoms -** new onset confusion, chest pain, signs of heart failure (HF), acute kidney injury (AKI)
- **Accelerated (or malignant) hypertension** - BP is usually 180/120mmgH or higher with signs of retinal haemorrhage and/or papilloedema
- **Suspected phaeochromocytoma –** labile or postural hypotension, headache, palpitations, pallor (pale skin), abdominal pain, excessive sweating
- Features of pre-eclampsia

Immediate: 999 or A&E

South East London Cardiovascular and Hypertension Referral Pathways

Advice & Guidance			
Clinical support	**Service**	**Hospital**	**How to access**
Urgent telephone advice	Consultant connect	GSTT/KCH/LGT	Consultant connect app / telephone
Non-urgent 'Advice & Guidance'	Depending on the context use most appropriate clinic based on referral criteria – see above.	GSTT/KCH/LGT	**eRS**
Drug related advice via email	Community hypertension clinics - GSTT pharmacists	GSTT	gst-tr.KHPCommunityCVD@nhs.net
Hypertension in Pregnancy	Depending on the context use most appropriate clinic based on referral criteria	GSTT/LGT	GSTT: HypertensioninPregnancy@gstt.nhs.uk LGT: lg.lew-anc@nhs.net/ lg.qe-antenatalclinic@nhs.net

South East London Cardiovascular and Hypertension Referral Pathways

Specialist Clinics						
Referral criteria	**Bromley** (Use ROP – referrals opt protocol)	**Bexley** (Use DXS/eRS)	**Southwark** (Use DXS/eRS)	**Lambeth** (Use DXS/eRS)	**Lewisham** (Use DXS/eRS)	**Greenwich** (Use DXS/eRS)
• **Consider if hypertension and <40 years** • **Hypertension with suspected secondary cause**	ROP/ Cardiology/referrals or ROP/Renal/referrals (depending on comorbidities)	Hypertension clinic (GSTT) or GSTT's Bexley Cardiology Service (ask for consultant review)	Hypertension clinic (GSTT/KCH/LGT)			
• **Resistant hypertension (on 3+ meds, one of which is a diuretic)** • **Multiple adverse reactions to antihypertensive therapies** • **Complex prescribing due to co-morbidities** • **Persistent non-adherence to drug therapies**	ROP/ Renal/ referrals or ROP/ Cardiology/ referrals (depending on comorbidities) Record will be automatically evaluated and the correct referral pathway will open	Community hypertension clinic (combined with lipids) Email: Gst-tr.KHP CommunityCVD@nhs.net or Hypertension clinic (GSTT/KCH/LGT)				
Hypertension with renal impairment (See referral section in CESEL CKD guide)	ROP/ Renal/ referrals	CKD clinic (GSTT/KCH) or General nephrology (LGT/KCH)				
Hypertension in patients contemplating pregnancy	ROP/Obstetrics/referrals	Pre-conception counselling clinic (GSTT/KCH)				
Hypertension in pregnancy	ROP/Obstetrics/referrals	Hypertension in Pregnancy clinic (GSTT/KCH/PRUH/LGT) Refer to booking hospital, if urgent consider referring to Early Pregnancy Unit (EPAU) or Maternity assessment unit (MAU)				
Hypertension in pregnant women with other co-morbidities	ROP/Obstetrics/referrals	Obstetric Medicine clinic (GSTT/KCH/PRUH/LGT) Refer to booking hospital, if urgent consider referring to EPAU or MAU				

Hypertension: preferred medication [22,24,42,43]

Consider if the benefits of continuing to prescribe antihypertensives outweighs the risks. Older patients are at higher risk of postural hypotension, making them susceptible to falls. Other risks include adverse drug reactions (metabolic, cardiac and renal), frailty and/or multimorbidity. Follow this outline on how to deprescribe antihypertensives.[45,46,47]

	Drug	Starting dose	Daily Range	Notes (This information is not exhaustive, please refer to the SEL Joint Medicines Formulary for further details and the BNF for additional information especially titration increments/cautions/contra-indications)
ACE-I	Ramipril	2.5mg OD (1.25mg OD in frail/elderly patients)	2.5-10mg OD	• **For people of Black African or African-Caribbean family origin, use ARB instead of ACEI (as increased risk of angioedema with ACEI)** • Check baseline renal profile (Na/K/Cr/eGfr). Hyperkalaemia may occur, therefore close monitoring of serum potassium is required • Re-check renal profile within 2 weeks of initiation, or dose increase and then at least annually • **Titrate ACEI/ARB up at 2-4 weekly intervals to achieve optimal BP control** • Initiation/Dose titrations: If serum creatinine increases by >20% (or eGFR falls by >15%) – stop ACEI and seek specialist advice. ACEI dose should only be increased if serum creatinine increases by less than 20% (or eGFR falls by less than 15%) after each dose titration, and potassium <5mmol • **ACEI/ARB dose should be optimised before the addition of a second agent** • Side-effects: Symptomatic hypotension can occur on first dosing – suggest to take at night. Dry cough with ACEI, consider switch to ARB • **Caution: Do not combine an ACEI and an ARB to treat hypertension** • For diabetic nephropathy ARB of choice: losartan and irbesartan
	Lisinopril	10mg OD	10-80mg OD (usual maintenance dose 20mg OD for hypertension)	
ARBs	Losartan	50mg OD (25mg OD if >75yrs old)	50-100mg OD	
	Candesartan	8mg OD	8mg-32mg OD	
CCBs	Amlodipine	5mg OD	5-10mg OD	• Increase after 2-4 weeks to maximum dose of 10mg OD • **Caution: Interacts with simvastatin – consider switching to atorvastatin** • Step 1: If amlodipine causes ankle oedema, consider using a thiazide-like diuretic instead of a CCB • **CI: Unstable angina, aortic stenosis** • Side effects include flushing and headaches at initiation; swollen ankles especially at higher doses
Thiazide - like diuretics	Indapamide immediate release (IR)	2.5mg OD	2.5mg OD	• Check baseline renal profile, then after 2 weeks, then at least annually. • **If potassium <3.5mmol/L or eGFR <25ml/min, stop indapamide and seek specialist advice**
Aldosterone antagonist	Spironolactone	25mg OD	25mg OD	• Step 4: Spironolactone is the preferred diuretic at step 4 (NICE), but is an unlicensed indication in resistant hypertension (BNF) • Consider only if potassium ≤4.5mmol/L (caution in reduced eGFR <30ml/min, as increased risk of hyperkalaemia). Monitor Na/K/renal function within 1 month and repeat 6 monthly thereafter • If K>4.5mmol/L should be stopped
Alpha-Blocker	Doxazosin immediate release (IR)	1mg OD	2-16mg OD (or BD dosing when dose >8mg/day)	• Consider at Step 4 if potassium ≥ 4.5mmol/L. Initial dose of 1mg usually increased after 1-2 weeks to 2mg OD • At doses above 8mg/day, consider split dosing from OD to BD to reduce BP variation • Caution: Initial dose postural hypotension, avoid in elderly as orthostatic hypotension risk
Beta-Blocker	Atenolol	25mg OD	25-50mg OD	• Consider at Step 4 if potassium ≥ 4.5mmol/L. • Beta blockers may be considered in younger people and in those with an intolerance/CI to ACEI or ARBs, women of childbearing potential, co-existent anxiety/tachycardia/heart failure • Particular caution in T2DM: symptoms of hypoglycaemia may be masked • Caution: Increased risk of diabetes when beta-blocker is prescribed with a thiazide diuretic. Beta-blockers can cause bradycardia if combined with certain CCBs e.g., verapamil/diltiazem • CI: Asthma, 2nd/3rd degree AV block, severe PAD
	Bisoprolol	5-10mg OD	5-20mg OD	
Related Medication				
Statin	Atorvastatin	20mg OD	20-80mg OD	• Please see SEL IMOC guideline on lipid management: medicines optimisation pathways (2023) • Primary prevention 20mg, secondary prevention 40-80mg (alternative is rosuvastatin)

Hypertension management at practice level [24]

The following tasks may be done by practice administrators, care co-ordinators, HCAs, nurses, pharmacists, physicians associates, paramedics or GPs .
Use the CESEL Hypertension Resource Pack for Non-Clinical GP Teams and contact your CESEL facilitator

	Tasks	Tools/Support
1. Maintaining the hypertension register (prevalence improvement)	**Unknown blood pressure**: Identify patients with no blood pressure measurement in the past 5 years (not on the hypertension register)	• EMIS searches e.g. QOF/Ardens
	Uncoded hypertension: Identify patients with a blood pressure ≥140/90mmHg who do not have an 'Essential Hypertension' code	
	How to get BP readings	• During consultations • Practice blood pressure pod • Online consultation/ messaging tool • Community Pharmacy • Secondary care sources: Cerner/ LCR/ clinic letters
2. Call/Recall of patients on hypertension register	**Prioritise high risk patients** (e.g. BP ≥180/120mmHg, BP ≥160/100mmHg, BP ≥140/90mmHg if BAME with CVD, CKD, Diabetes or BMI >35 No BP reading in 18 months	• EMIS searches e.g. Ardens • ULCP searches[2] • Online consultation/ messaging tool • Letter to patient • Telephone call • Opportunistic at reception or during consultation
	Pre-patient review • Arrange bloods (renal function, lipids, HbA1c and consider FBC as abnormalities may affect HbA1c interpretation) • Arrange BP measurement and pulse check (in practice/machine at home) • Book appointment for annual review	

3. QOF BP review of those on hypertension register (at least annually)	• **History:** patient concerns + screen for worrying symptoms/target organ damage related to
	  • Hypertension
	  • Hypotension (dizziness, nausea, weakness, confusion, systolic BP <90, diastolic BP <60)
	• **Review investigations**: BP, blood results (renal function, lipids, HbA1c), urine ACR.
	• **Re-calculate QRISK2/3** (if appropriate)
	• **Discuss risk-reduction and offer lifestyle advice**: BMI, smoking, alcohol, diet, activity
	• **Mind and body:** consider screening for mental health conditions
	• **Medication review**: concerns, side-effects, adherence, adjust medications if renal impairment
	  Note that some drugs/substances can cause hypertension: Combined oral contraceptives, corticosteroids, NSAIDs, sympathomimetics, venlafaxine, cyclosporine, liquorice (present in some herbal medicines), alcohol and substances of abuse including cocaine
	• **Deprescribing:** Review if indication for the antihypertensive(s) is still valid, if not follow the steps below[45,46,47]
	  • Consider other indications for antihypertensives before deprescribing e.g. heart failure, atrial fibrillation
	  • Consider duration of treatment and the life expectancy of the patient
	  • If more than one antihypertensive is used, stop one at a time maintaining the dose of the other antihypertensives
	  • Monitor the person closely; recurrence of hypertension is most likely to happen in the first six months
	  • Please check the summaries of product characteristics (SPCs) for possible withdrawal effects
	  • Deprescribing should be a shared decision, planned in advance, with an agreement to slowly taper medications[45]
	• **Refer to secondary care** if worrying symptoms or target organ damage from hypertension
		In practice consultations
		• F2F or remote consultation using Ardens hypertension template
		• Structured medication review (SMR) with pharmacist
		
		Out of practice consultations
		• Community home visiting teams
		• Out of Hours/Enhanced Access
		• Secondary care
		
		Remote consultations
		• Remote BP monitoring
		
		Deprescribing resources
		• Deprescribing guidance
		• PrescQipp Deprescribing antihypertensives

	Follow-up • Review **BP monthly until it is at target** • If uncontrolled on optimal doses → repeat ABPM/HBPM, assess for postural hypotension, discuss adherence • If resistant hypertension referral to secondary care	As above, prioritise high risk patients using EMIS searches e.g. Ardens

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Abbreviations and definitions

ABPM –Ambulatory blood pressure monitoring

ACEI– Angiotensin converting enzyme inhibitor

ACR – Albumin-creatinine ratio. Ideally first-void morning urine sample

A+G – Advice and Guidance through eRS

AKI – Acute kidney injury

APLS – Antiphospholipid syndrome

ARB- Angiotensin II receptor blocker

Ardens – clinical decision support tool embedded in EMIS that provides templates for long term conditions management

AV – Atrioventricular

BMI – Body mass index

BNF – British National Formulary

BP – Blood pressure

CCB – Calcium channel blocker

CI - Contraindication

CKD – Chronic kidney disease

COCP – Combined oral contraceptive pill

CrCl – Creatinine clearance

CV - Cardiovascular

CVD – Cardiovascular disease

DASH diet – Dietary approaches to stop hypertension diet

DM – Diabetes mellitus

DXS – Point-of-care tool for EMIS Web

ECG – Electrocardiogram (12-lead)

eGFR – Estimated glomerular filtration rate

EPAU – Early Pregnancy Assessment unit

eRS – Electronic referral system

FBC – Full blood count

FH – family history

GAD – Generalised anxiety disorder

GI - gastrointestinal

GSTT – Guy's & St Thomas' NHS Trust

HF – Heart failure

HbA1c – Haemoglobin A1c

HBPM – Home blood pressure monitoring

HDL – high-density lipoprotein cholesterol

HIV – Human immunodeficiency virus

HTN – hypertension

IAPT – improving access to psychological therapies

IHD – Ischaemic heart disease

IMOC - Integrated Medicines Optimisation Committee

IR – Immediate release

K – Serum potassium

KCH – King's College Hospital NHS Trust

LCR – London Care Record

LD – learning disability

LFT – liver function tests

LGT – Lewisham and Greenwich NHS Trust

LVH – Left ventricular hypertrophy

MAU – Maternity Assessment Unit

Na – Serum sodium

NICE - National Institute for Health and Care Excellence

NSAID – Non-steroidal anti-inflammatory drug

NVH – non-visible haematuria

OD – Once daily dosing

PAD – Peripheral arterial disease

PCR – protein creatinine ratio

PHQ 9- patient health questionnaire 9 used for assessment in depression

PLGF – placental growth factor

PLWH – people living with HIV

Pod – This is a touchscreen computer connected to a BP monitor that patients can use without clinical supervision

QOF – Quality and outcomes framework (contract)

QRISK- an algorithm that predicts 10-year CVD risk. EMIS is currently using QRISK2 (although QRISK3 was released in 2017)

SEL – South East London

SMI – serious mental illness

SMR – structured medication review

SLE - systemic lupus erythematosus

TFT – Thyroid function blood tests

TIA-Transient ischaemic attack

T2DM – Type-2 diabetes

UCLP – University College London Partners

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Click here for our website and contact information.

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Making the right thing to do the easy thing to do.

September 2024 (review September 2026, or earlier if indicated)