Clinical Effectiveness
South East London

South East London Integrated Care System
NHS

Hypertension

A guide for Greenwich General Practice

Key messages

1. Check blood pressure at every opportunity (and do a pulse check)
2. Life-style changes are key to reducing CV risk and lowering blood pressure
3. Check for complications and do a QRISK score
4. Optimise BP management (lifestyle + medication) and aim for NICE BP targets

Always work within your knowledge and competency

November 2021 (review November 2023, or earlier if indicated)

Why focus on BP in Greenwich

Why is BP important?

Hypertension is a risk factor for having worse outcomes from Covid-19.

Treatment of high BP significantly reduces risk of stroke, IHD, heart failure and all cause mortality[1]

- **Risk reduction**: Every 10 mmHg reduction in systolic BP reduces risk of major CV events by 20%[1]
- **Under-treated:** 30% of Greenwich patients aged <80 years, with hypertension, have a BP >140/90mmHg[2]
- **Under-diagnosed:** 25,600 people remain undiagnosed (prevalence = 12.4% vs expected 20.9%)[1]

In Greenwich, if we reduce the average BP in people with hypertension by 10 mmHg, in one year, we could prevent:

- **68** people from having a stroke
- **41** people from developing heart failure
- **78** people from developing IHD
- **210** deaths

Hypertension diagnosis and assessment, including for people with Type 2 diabetes (T2DM) *

Diagnosis

Confirm hypertension diagnosis and stratify CV risk[3,4]

Clinic BP
<140/90mmHg

Clinic BP
140-179mmHg systolic or 90 to 119 mmHg diastolic

Confirm diagnosis, request bloods/ACR + check for complications
Do ABPM/HBPM

ABPM/HBPM
≥ 135/85mmHg
Stage 1 Hypertension

ABPM/HBPM
≥ 150/95mmHg
Stage 2 Hypertension

Clinic BP
Systolic ≥ 180mmHg OR Diastolic ≥ 120mmHg
(Severe Hypertension)

Urgent (same day) GP review

Target organ damage?

No

Repeat clinic BP within 7 days (or urgent ABPM/HBPM) and treat accordingly

Yes

Consider treating BP without ABPM/HBPM result

Worrying symptoms?

999/A&E

Offer life-style advice (see page 5)

Assess for complications + CV risk (QRISK)
(See page 4)

If <60 yrs + QRISK <10%

If >80 yrs + BP >150/90 mmHg

If <80 yrs and ≥1 of: QRISK ≥10% diabetes/renal disease/ hypertensive eye disease/CKD/LVH or CVD

'Consider' starting BP treatment

'Discuss' starting BP treatment

***Start* BP Treatment**
Use clinical judgment in frailty/multi-morbidity

QRISK (to assess 10-year CV risk)

≤10%
No statin

≥10%
Address modifiable risk factors first, then consider initiating or optimising statin if still >10%

BP every 5 years, or annually if near to 140/90mmHg, or if target organ damage/T2DM (see Traffic Light page within SELIMOC hypertension 2021 guidance for primary care)

Get BP under control and add to hypertension register

BP review (at least annually or more frequently when clinically indicated)
(BP/blood tests/ACR/urine dip/lifestyle and medication review)

See page 4 for notes on:

- Confirming diagnosis with ABPM/HBPM
- When to do postural BPs?
- How to assess for complications?
- QRISK & CKD/CVD
- What are worrying symptoms?
- When to refer to a specialist?

***New NICE guidance: T2DM**

Diagnostic thresholds and treatment targets for BP in people with T2DM are **now the same as hypertension alone**, unless there is co- existent CKD (see page 5)

Hypertension diagnosis: additional information

Diagnosis

Diagnosing hypertension

How to measure BP when considering a diagnosis of hypertension:

- Measure blood pressure in both arms (using the correct cuff size), if difference >15 mmHg, repeat measurements
- If difference in readings between arms remains >15 mmHg on the second measurement, measure subsequent blood pressures in the arm with the higher reading (note this on EMIS)

When to measure standing + sitting BP?

- In DM, postural hypotension (systolic drop ≥ 20 mm Hg from sitting to standing), or age ≥80yrs
- If significant drop/symptoms of postural hypotension, **review medication and treat to BP target based on standing BP**

- **Ambulatory BP monitoring (ABPM)**
  Ensure sufficient readings - minimum 14 readings during waking hours
  Use daytime average BP for diagnosis

- **Home BP monitoring (HBPM)**
  Ensure a validated (calibrated) BP machine is being used and advise to record two BP readings every morning and evening every day, for at least 4 days (ideally 7)
  In practice, disregard the first day's readings and take an average of the remaining readings

Assessing complications

Look for complications (target organ damage – i.e., check eyes (fundoscopy), dip urine, CV exam) + do a **QRISK**

- **Tests:** renal profile, lipids, FBC, HbA1c, TFT, ACR, urinalysis for haematuria + ECG + fundoscopy
- **Record:** smoking status, physical activity level, alcohol intake, BMI, [waist circumference], family history [use BP EMIS or Ardens Template]

Corrected eGFR in Black people of African or Caribbean origin
The updated CKD NICE guidance does not recommend adjusting the estimation of glomerular filtration rate (eGFR) in people of African-Caribbean or African family background.

Assessing Cardiovascular (CV) risk: QRISK

- Currently a QRISK2 'calculator' is integrated into EMIS, even though a more inclusive CV risk score QRISK3 can be found online or via Arden's Template.
- It may help some people with these conditions to make an informed choice on whether to take a statin. The calculated CV risk is an estimate. Clinical judgement is required to adjust for factors that the risk calculator does not take into account

QRISK& CKD/CVD

- QRISK 3 is a more advanced risk calculator than QRISK 2 as it has additional inclusions such as CKD 3-5, severe mental illness and rheumatological conditions.
- QRISK 2/3 are CVD risk estimate calculators only, and **therefore clinical judgment must be used**. For example, people considered high risk of CVD should already be on/offered lipid management treatment (such as those with type 1 diabetes, CKD 3-5, existing CVD/previous Stroke/TIA, familial hypercholesterolaemia and people aged >85 yr).

When to refer a patient?

Suspect secondary causes OR patient <40 years?

- If you suspect **secondary causes in a patient of any age** e.g. Cushing's, Conn's*
- **If <40 years + BP ≥140/90mmHg + no evidence of CVD, renal/hypertensive eye disease or diabetes.** The 10-year CV risk can underestimate the lifetime risk of CV events in this cohort.[3]
- 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 investigation

Worrying symptoms?

- **Life-threatening symptoms -** new onset confusion, chest pain, HF, AKI
- **Accelerated hypertension -** retinal haemorrhage, papilloedema
- **Suspected phaeochromocytoma -** labile or hypotension, headache, palpitations, pallor, abdo pain, excessive sweating

Immediate: 999 or A&E

QRISK 3 on Ardens not on EMIS

*Other conditions which can cause hypertension include Connective tissue disorders: scleroderma, systemic lupus erythematous, polyarteritis nodosa, retroperitoneal fibrosis, obstructive sleep apnoea

Lifestyle and targets

Impact of lifestyle changes on BP[6]

Action	Recommendation	Approx. systolic BP reduction
Reduced weight	Maintain normal body weight	5-20mmHg/10kg loss
DASH diet	Consume a diet rich in fruits, vegetables, low-fat dairy with reduced saturated and total fat	8-14mmHg
Reduced salt intake	Reduced dietary sodium intake (maximum 6gm per day as per NICE)	2-8mmHg
Increased exercise	Regular aerobic physical activity (at least 30 min/day, most days of the week)	4-9mmHg
Reduced alcohol intake	Below or equal to 14 units/week	2-4mmHg

Note: In addition, discourage consumption of excessive caffeine or caffeine-rich products.[4] Average BP reduction (systolic) from one anti-hypertensive drug= 12.5-15.5mmHg.[7] The effects of implementing lifestyle modifications are dose and time dependent, and could be greater for some individuals.[6] In the study used, stress management's impact on BP was variable.[6]

Which BP target? Aim for and maintain at NICE BP targets (or below)[4, 5, 8, 9]

Which condition?	Which cohort within the condition?	NICE Clinic BP Target • Use clinical judgment in frailty/multi-morbidity • Adjust BP target by 5mmHg for ABPM/HBPM	QOF BP Targets[15] 2021/2022	
Hypertension, including Type 2 Diabetes (but with no CKD)	Age <80yrs	**≤140/90mmHg**	Hypertension only ≤140/90mmHg	*Note QOF Target for **Hypertension in T2DM is ≤140/80mmHg**
	Age ≥80yrs	**≤150/90mmHg**	Hypertension only ≤150/90mmHg	
Diabetes	Type 2 Diabetes	**Same as hypertension if no CKD**	≤140/80mmHg	
	Type 1 Diabetes + no albuminuria	**≤135/85mmHg**		
	Type 1 Diabetes + albuminuria or ≥ 2 features of metabolic syndrome	**≤130/80mmHg**		
IHD/PAD or TIA/Stroke	History of IHD/PAD	**Same as hypertension if no CKD**	No QOF target for PAD, but for rest, based on age i.e. <80yrs ≤140/90mmHg ≥80yrs ≤150/90mmHg	
	History of TIA/Stroke	**Same as hypertension if no CKD**		
CKD	ACR <70mg/mmol	**<140/90mmHg (systolic range = 120-139mmHg)**	No QOF target	
	ACR ≥70mg/mmol or co-existent Diabetes	**<130/80mmHg (systolic range = 120-129mmHg)**		

Note: 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. However, NICE Hypertension guidelines (as mentioned above) do suggest a target of ≤150/90 mmHg for those ≥80 years with hypertension, but with frailty/multimorbidity use clinical judgement.

Management

Hypertension treatment[3,4]

For CVD patients consider first line treatments according to co-morbidities

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

Hypertension with type 2 Diabetes

(any age or family origin)

Hypertension without type 2 diabetes

Age <55 years and not of Black African or African-Caribbean family origin

Age ≥ 55 years

Black African or African-Caribbean family origin

(any age)

Step 1

ACEI or ARB*

ramipril/lisinopril or losartan

CCB
[or thiazide-like diuretic if CCB related oedema, or if heart failure**]

amlodipine (or indapamide)

Step 2

ACEI or ARB*
+
CCB or thiazide-like diuretic

CCB
+
ACEI or ARB* or thiazide-like diuretic

Step 3

ACEI or ARB* + CCB + thiazide-like diuretic

If uncontrolled on optimal doses, regard as **Resistant hypertension.**
Repeat ABPM/HBPM, assess for postural hypotension, discuss adherence

Step 4

Consider further diuretic with **low-dose spironolactone** if potassium ≤4.5mmol/L and good renal function. 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

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

** If hypertension in context of heart failure, please see CES Heart Failure guide

Other relevant groups

Hypertension in Chronic Kidney Disease[9]
(CKD stages 3-5 i.e. eGFR <60ml/min)

ACR <30 mg/mmol	Follow BP algorithm
ACR ≥30 mg/mmol	1st line: ACEI or ARB, then follow BP algorithm

Women with pre-existing hypertension contemplating pregnancy[10]

Refer to specialist **pre-conception counselling** (Page 9)

Drugs to avoid at conception/in pregnancy include: ACEI/ARB/thiazide or thiazide-like di uretic (increased risk of congenital abnormalities)

NICE guidelines:
Stop ACEI/ARBs and change medication (preferably within 2 working days of notification of pregnancy). Offer alternatives:
- Labetalol if no CI e.g., asthma, nifedipine or methyl-dopa. Can also remain on amlodipine –GSTT Obstetrics Medicine advice
- **Target BP ≤ 135/85 mmHg**
- **Offer aspirin 75-150mg OD from week 12 of pregnancy**

Refer to **Hypertension in Pregnancy clinic (GSTT) ASAP**

This guidance is aligned to SEL IMOC Hypertension 2021 guidance for Primary Care

Hypertension: preferred medication[3, 4, 11, 12, 13, 14]

Meds

	Drug	Starting dose	Daily Range	Notes (These are not extensive, please refer to the latest BNF for further information, especially titration increments, cautions and contraindications)
ACEIs	1st Line: Ramipril	2.5mg OD (1.25mg OD in frail/elderly patients)	2.5-10mg OD	- 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 <5.5mmol - **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
	2nd line: Lisinopril	10mg OD	10-80mg OD (usual maintenance dose 20mg OD for hypertension)	
ARBs	Losartan	50mg OD (25mg OD if >75yrs old)	50-100 mg 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, aorticstenosis - Side effects include flushing and headaches at initiation, swollen ankles especially at higher doses
Thiazide-like diuretics	Indapamide (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, 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
α-B	Doxazosin (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
β-B	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 Drugs			
S	Atorvastatin	20mg OD	20-80mg OD	- Please see SEL IMOC guideline on lipid management: medicines optimisation pathways (Sept 2021) - Primary prevention 20mg, secondary prevention 40-80mg (alternative is rosuvastatin)

AKI SICK DAY RULES[16] When patients have any of the following: **Vomiting, diarrhoea, or general dehydration** due to intercurrent illness, Advice to **STOP** taking the medicines listed below (restart after feeling well/after 24-48hrs of eating and drinking normally): • **ACE Inhibitors, ARBs, Diuretics**, Metformin, NSAIDs, Sulfonylureas, SGLT2 inhibitors (e.g. Empagliflozin)

Hypertension review (at least annual)

Review

	Tasks/Activity	Who?	Where?	Tools/Support
Review planning at practice level	**Call/recall planning** use searches to help determine who to invite for review first e.g. BP >160/100mmHg recorded in the last year vs those that are well controlled	Admin colleague with clinician support (GP nurse/GP)	In practice or remotely via EMIS	Ardens/EMIS searches e.g. top priority searches
Pre-patient review	**Contact patient to:** 1. **Arrange bloods (renal function, FBC, lipids, HbA1c) & urine ACR** 2. **Arrange BP measurement** (in practice/machine at home either via patient's own or through BP at Home PCN (4) initiative, Community Pharmacies), at least annually	HCA/GP Nurse	Remote or F2F In practice/at home	AccuRx text messages
Patient review	1. **Concerns + screen for symptoms/complications related to** • **hypertension** • **hypotension (dizziness/nausea/weakness/confusion, BP<90/60 mmHg)** 2. **Review BP trend** 3. **Review investigations:** blood + urine ACR results 4. **Re-calculate QRISK** (if appropriate) 5. **Discuss risk-reduction + lifestyle**: in context of QRISK (BMI, smoking, alcohol, diet, activity) & COVID 6. **Mind + Body:** consider screening for mental health conditions 7. **Medication review**: concerns, side-effects, compliance, adherence, ensure renal function satisfactory and adjust medications if needed. Note that some drugs/substances can cause hypertension*	GP/GP Nurse/ GP Pharmacist/HCA	Remote or F2F	EMIS or Arden's templates (for correct coding, annual review, medication review & Vital 5** recording) Brief-interventions around lifestyle
	8. **Self-management/Shared decision making**	GP/GP Nurse, Social prescribing link worker OR Health and Well-being Coach & Patient		Self-management resources - send links via AccuRx: British Heart Foundation resources • Understanding your BP • 6 tips for reducing BP • BP and COVID-19 • Online Community for patients • Online programme about BP for patients
	9. **Follow-up plans: review BP monthly until it is at target**	GP/GP Nurse/GP Pharmacist/HCA		

*Drugs/other substances that can cause hypertension, include[4]
- combined oral contraceptives, corticosteroids, NSAIDs, sympathomimetics
- venlafaxine
- ciclosporin
- liquorice (present in some herbal medicines)
- alcohol, substances of abuse including cocaine

**Vital 5: Hypertension, smoking, BMI, alcohol intake and mental health.

Greenwich Patient Support

Patient resources

- **Practice connected social prescribing link worker**
- **Live Well Coach: For signposting and support to live well, 0800 470 4831**
- **Weight management programme:** Tier 3 referral (see DXS)
- **Greenwich 'Exercise on Referral' Scheme** (see DXS, via Better Gyms)
- **British Heart Foundation: Preventing Heart Disease (resources for patients):** https://www.bhf.org.uk/heart-health/preventing-heart-disease
- **DASH diet:** https://www.nhlbi.nih.gov/files/docs/public/heart/dash_brief.pdf
- **Stop smoking services:** Live Well Greenwich | Stop Smoking
- **Greenwich Healthy Lifestyle Hub**: Live Well Greenwich | Healthy living activities around Greenwich, London
  See also page 8 under self-management for excellent BHF patient support
- **(Active) Pharmacies providing Blood Pressure Checking Service and local SELGP Surgeries (May 2022) - Google My Maps**

Shared resources

NICE has produced a document on shared decision making in the context of hypertension and it can be found at:

Making decisions about your care | NICE and the public | NICE Communities | About | NICE

Greenwich Clinical Support

Urgent telephone advice- Consultant connect: Cardiology (your practice will have been given its own specific telephone number)

Specialist clinics- Refer via eRS to: Obstetrics>'Maternal medicine' for Pre-conception counselling clinic (GSTT), Hypertension clinic, Pregnancy in Hypertension clinic (QE/GSTT), Obstetric Medicine clinic (QE/GSTT) – for pregnant women with multiple co-morbidities, [CKD clinic (GSTT), Diabetic medicine

Hypertension data: SELICB Hypertension Dashboard is available to practices. Watch this webinar for more information and contact bi@selondonics.nhs.uk for access.

Health Inequalities in Hypertension

Our population - South East London (SEL)

The Black African and Black Caribbean population in SEL has greater prevalence of hypertension than any other ethnic group[1] and these individuals have higher risk of stroke due to hypertension, associated with worse outcomes[2]. In South London, these patients are more likely to have **hypertension and diabetes and be approx. 10 years younger when presenting with acute stroke** compared to White ethnicity stroke patients[3]. The drivers for these inequalities include overcrowded housing, higher levels of deprivation, unemployment, barriers to education attainment and racism[2,4].

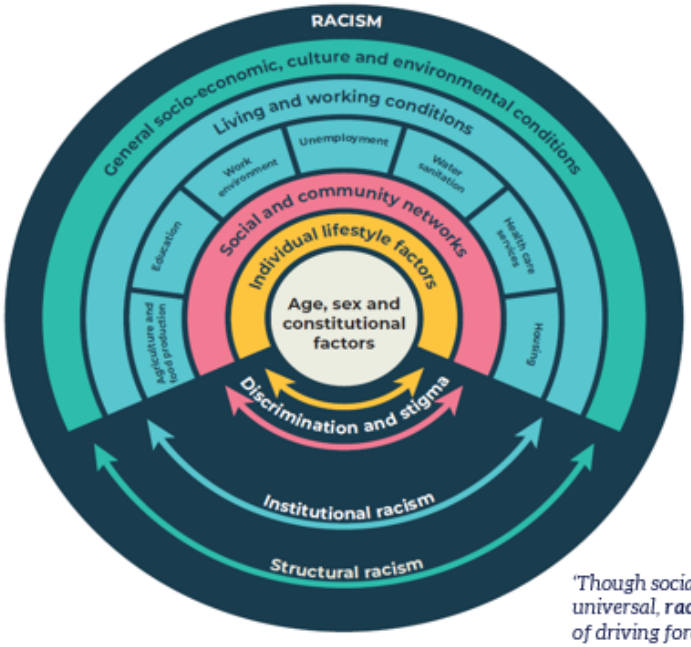
What people have told us [5]

Barriers to optimal hypertension detection and management include:

Trust – lack of trust in health services generally and not trusting individual healthcare professionals

Access – difficulties accessing services

Racism and the wider determinants of health



*'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.'*[4,5]

Racism and the wider determinants of health

Individual actions

- Acknowledge that patients may have experienced racism in healthcare services.
- Re-establish trust with patient-centred consultations and shared decision making[6].

Team and system actions

- Undertake cultural humility training to acknowledge and challenge power imbalances and improve your understanding to support patients in their preferences for their hypertension care[2, 8]. There are many cultural awareness courses available, find one that has cultural humility at its core and essential components of self-reflection, understanding the impact of your own culture on others and the intent to neutralise patient-provider power imbalances.
- Access the SEL Hypertension Dashboard to better understand the ethnic mix of your hypertension patients[1].
- Ardens case-finder searches can identify those patients without their ethnicity coded in your practice, contact your CESEL facilitator for support
- Consider where you offer your service - community-based blood pressure testing and advice, including pharmacies, places of worship and community events, has high acceptability[9].
- Patents prefer face-to-face care, especially for a new diagnosis of hypertension[9].
- Encourage self-care and engagement for example home BP monitors and out of hours drop-in GP attendance for BP testing[9].

References

Pages 1 - 9

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Pages 10: 'Health Inequalities in South East London'

Thank you to the One London Hypertension Pathfinder Project and Mabadiliko for help developing this resource.

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Approval: CESEL Steering Group, November 2021

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Abbreviations

α-B – Alpha-blocker

ABPM –Ambulatory blood pressure monitoring

ACEI– Angiotensin converting enzyme inhibitor

ACR – Albumin-creatinine ratio

A&G – Advice & Guidance

AKI – Acute kidney injury

ARB- Angiotensin II receptor blocker

β-B – Beta-blocker

BD – Twice daily dosing

BMI – Body mass index

BP – Blood pressure

CCB – Calcium channel blocker

CI - Contraindication

CKD – Chronic kidney disease

Cr – Serum creatinine

CV - Cardiovascular

CVD – Cardiovascular disease

DASH diet – Dietary approaches to stop hypertension diet

DXS – Point-of-care tool for EMIS Web

ECG – Electrocardiogram (12-lead)

eGFR – Estimated glomerular filtration rate

eRS – Electronic referral system

FBC – Full blood count

GSTT – Guy's & St Thomas' NHS Trust

HF – Heart failure

K – Serum potassium

KCH – King's College Hospital NHS Trust

HbA1c – Haemoglobin A1c

HBPM – Home blood pressure monitoring

IHD – Ischaemic heart disease

IMOC: Integrated Medicines Optimisation Committee

IR – Immediate release

LVH – Left ventricular hypertrophy

Na – Serum sodium

NSAID – Non-steroidal anti-inflammatory drug

OD – Once daily (dosing)

PAD – Peripheral arterial disease

QOF – Quality and outcomes framework (contract)

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

Renal profile – this includes serum sodium/potassium/creatinine/eGFR

S- Statin

SELAPC – South East London Area Prescribing Committee

TFT – Thyroid function blood tests

TIA-Transient ischaemic attack

T2DM – Type-2 diabetes

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

November 2021 (review November 2023, or earlier if indicated)