Bedfordshire, Luton and Milton Keynes
Health and Care Partnership

NHS

BEDFORDSHIRE, LUTON AND MILTON KEYNES AREA PRESCRIBING COMMITTEE (APC)

NHS East of England Protocols for the Management of Hypertension

Ratified by BLMK APC: February 2025
Review date: February 2027

The following organisations contribute to and participate in the BLMK APC – Bedfordshire Luton and Milton Keynes Integrated Care Board; Bedfordshire Hospitals NHS Foundation Trust; Cambridgeshire Community Services NHS Trust; Central and North-West London NHS; Foundation Trust; East London NHS Foundation Trust; Milton Keynes University Hospital NHS

These regional protocols have been developed by clinical leads, commissioners and medicines optimisation teams from ICBs across the East of England, with the support of the NHS England regional team, Health Innovation East and PrescQIPP. They are based on work from BLMK ICB.

There are 3 key underlying principles:

1.) **Efficiency** - when using medicines to treat high blood pressure (BP), it is preferable to use those with licensed starting doses providing near-maximal BP-lowering efficacy, and therefore requiring little or no dose uptitration. This reduces the time needed to treat to BP target and, critically, the number of contacts / appointments needed - making it much less likely for someone to be lost to follow-up and reducing the burden on healthcare services associated with successful treatment

2.) **Effectiveness** – prescribing an additional BP-lowering medicine with a different mechanism of action is likely to have greater impact on blood pressure, and a better balance of efficacy against tolerability, than further increasing the dose of any already-prescribed BP-lowering therapies. Given the evidence is clear that most people with stage 2 hypertension will need at least two BP-lowering medicines to reach their BP target, there is generally little value in delaying starting a second medicine in favour of further uptitrating existing therapy with already near-maximal effect

3.) **Empowerment** - where considered clinically appropriate, people with hypertension can be involved in their treatment pathway through a patient-led intensification approach, armed with information on their blood pressure target, encouragement to self-monitor their progress through home BP recording, and knowledge of what to do if their target has not been met (e.g. to start another BP-lowering medicine for which they have a prescription) – alongside information of what to do if they have questions or need support

There are two protocols enclosed – one for people aged under 80 years and the other for those aged 80 years and over - reflecting differences in treatment targets, suggested dosing of some medicines and the risk of adverse effects, including postural symptoms.

Although outside the scope of these protocols, the importance of lifestyle changes in reducing blood pressure is well recognised; alongside medical treatment, clinicians are encouraged to support people to adopt positive lifestyle changes to address appropriate behavioural risk factors such as weight, smoking, and physical activity, while avoiding undue delays in starting treatment.

Both protocols are considered compliant with NICE guidance and reflect the most recent guidance from the British and Irish Hypertension Society. ICBs may change the specific examples of medicines from each class according to their individual needs, preferences and priorities; the choice of specific CCB or ARB is less important than the three key principles detailed above.

ARBs are used in preference to ACE-i because they tend to be better tolerated while having similar BP-lowering efficacy and acquisition cost and are preferred over ACE-i in people of Black ethnicity. The licensed starting doses of ARBs tend to have near-maximal BP-lowering efficacy, negating the need for uptitration. Their positioning over ACE-i in this protocol is pragmatic, recognising the multiple pressures on already-strained healthcare services, with an acknowledgment that the evidence-base for the benefits of ACE-i is superior in many respects. However, clinicians should be aware of contexts where using an ACE-i may be preferable (e.g. HFrEF if ineligible for ARNI).

In summary, we anticipate that following these protocols for the medical management of most people with hypertension (there will inevitably be people for whom your clinical judgement suggests doing otherwise – and, when this arises, your clinical judgement should prevail) will have benefits for both healthcare services and people with hypertension. They should result in both more timely treatment to target and reduced number of contacts / appointments to get there, than typically seen for conventional approaches to hypertension management with multiple uptitration steps, later initiation of second therapies and entirely HCP-driven intensification processes.

If you have any questions or feedback on these protocols, please contact your local ICB medicines optimisation team or clinical lead, or alternatively contact Chirag Bakhai, Primary Care Clinical Lead for the East of England Clinical Network on c.bakhai@nhs.net

East of England Hypertension Protocol (for people aged < 80 years)

Measure BP as recommended by NICE. If clinic BP ≥ 140/90 then take a 2nd. If this is substantially different, take a 3rd. Record lowest as clinic BP

If lowest clinic BP is between 140/90 and 179/119 then confirm diagnosis with ABPM/HBPM
If systolic and diastolic BP are in different categories (e.g. 140/100) then classify in the more severe category

Clinic BP ≥ 180/120
Assess immediately
If any red flags, e.g. chest pain, new confusion, signs of HF or AKI (e.g.↓U.O.), retinal haemorrhage or papilloedema, refer for same-day acute assessment. If none, assess for target organ damage asap and review within few days

HBPM / ABPM avg BP < 135/85	HBPM / ABPM avg BP 135/85 – 149/94	HBPM / ABPM avg BP ≥ 150/95
No HTN	Stage 1 HTN	Stage 2 HTN
Offer lifestyle advice		Stage 3 HTN

Check: • Lipids • LFTs • Renal • HbA1c • urine ACR and dip (haematuria) • fundoscopy • ECG • consider BMI / CV exam
Further ix/referral if suspected 2° HTN - e.g. age < 40 or features of: OSA, thyroid cause, pheo, renal cause, RAS, Conn's (↓K+), Cushing's, etc

Are there any of the following: • CVD • QRISK ≥10% • CKD • Diabetes • target organ damage?

Key lifestyle factors include diet, salt intake, smoking, alcohol, physical activity and weight

No	Yes		
Address lifestyle factors. Consider medical therapy now if aged < 60y or limited scope for lifestyle change	Start medical therapy and address lifestyle factors	Start medical therapy without delay and address lifestyle factors	Start medical therapy without delay and address lifestyle factors

BP targets:
- <135/85 if AMBP/HMBP
- <140/90 if clinic BP
- If UACR≥70, lower SBP and DBP targets by 10mmHg

Avoid overtreatment in frailty or if likely limited benefit (e.g. probable few remaining life years)

The algorithm below may not apply for people with CKD, HF, IHD, BPH or potential for pregnancy. The majority of BP-lowering medicines are not considered safe in pregnancy or if planning pregnancy

May only need 1 BP-lowering medicine	Likely to need > 1 BP-lowering medicine

Initiate CCB OR ARB at optimal dose
(see box on left for suggested medicines and doses and box on bottom left for influencing factors)

Either follow pathway to the left or, if clinically appropriate, consider offering a patient-led intensification approach (considering ability to self-monitor, motivation, understanding, any safety risks)
This involves providing prescriptions for both CCB AND ARB at optimal doses (see box on left of page), with clear instructions to start 1st medicine as initial monotherapy and, if BP remains uncontrolled at 4 weeks (according to HMBP) without significant postural symptoms, to then add in 2nd medicine (see box on bottom left of page for which class to start 1st)

An 'optimal' dose in this context has high (or near-maximal) efficacy but with lower SE burden than likely to occur with greater doses

CCB options include:
- Lercanidipine 10mg daily (avoid if eGFR < 30)
- Amlodipine 5mg daily

ARB options include:
- Candesartan 8mg daily
- Losartan 50mg daily

Use half of the above ARB dosing if age>75y, LVSD / HFrEF, renal impairment and/or volume depletion

Initiation / dose increase of ARB requires checking of renal function and potassium after 1-2 weeks

Assess BP after 4 weeks. If not meeting target then check adherence. Reinforce lifestyle advice

If BP uncontrolled, add 2nd medicine (of different class) rather than increasing dose of 1st medicine

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Consider increasing CCB and ARB to 'maximum tolerated' doses.
Note that increases from 'optimal' doses may provide only limited BP-lowering effect while increasing risk of significant AEs. Consider current BP and distance to target when assessing options. It may be more clinically appropriate to add a 3rd medicine than to uptitrate further

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Add thiazide-like diuretic (e.g. indapamide 2.5mg daily)

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Add spironolactone 25mg daily if K+ < 4.6 mmol/l
If spironolactone unsuitable then add alpha blocker (e.g. doxazosin) or beta blocker (e.g. bisoprolol). Up-titrate according to BP and tolerability

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Consider Advice & Guidance or referral as appropriate

Factors indicating 1st choice is ARB rather than CCB:
- Age < 55 years
- Diabetes
- CKD (caution if baseline potassium > 5mmol/l)
- HFrEF (but ARNI [if eligible] preferable, or ACE-I)

For people with CKD, consider titrating ARB to max tolerated dose before starting a new medicine

Factors indicating 1st choice is CCB rather than ARB:
- Age ≥ 55 years
- Black African or Black Caribbean ethnicity

If woman of reproductive potential or history of stable angina then consider beta blocker 1st-line

If benign prostatic hyperplasia, then consider using alpha-blocker 1st-line

This protocol is guidance only and should not override clinical judgement. Responsibility for checking suitability of treatments rests with the prescriber

East of England Hypertension Protocol (for people aged ≥ 80 years)

Measure BP as recommended by NICE. If clinic BP ≥ 140/90 then take a 2nd. If this is substantially different, take a 3rd. Record lowest as clinic BP

If lowest clinic BP is between 140/90 and 179/119 then confirm diagnosis with ABPM/HBPM
If systolic and diastolic BP are in different categories (e.g. 140/100) then classify in the more severe category

Clinic BP ≥ 180/120
Assess immediately
If any red flags, e.g. chest pain, new confusion, signs of HF or AKI (e.g.↓U.O.), retinal haemorrhage or papilloedema, refer for same-day acute assessment. If none, assess for target organ damage asap and review within few days

HBPM / ABPM avg BP < 135/85
No HTN
Offer lifestyle advice

HBPM / ABPM avg BP 135/85 – 149/94
Stage 1 HTN

HBPM / ABPM avg BP ≥ 150/95
Stage 2 HTN

Stage 3 HTN

Check: • Lipids • LFTs • Renal • HbA1c • urine ACR and dip (haematuria) • fundoscopy • ECG • consider BMI / CV exam
Further ix/referral if suspected 2° HTN – e.g. renal cause, renal artery stenosis, OSA, thyroid cause, pheochromocytoma, etc

Key lifestyle factors include diet, salt intake, smoking, alcohol and physical activity. Caution with weight loss as may precipitate/exacerbate sarcopenia and falls risk

Is average home BP > 145/85?
(or clinic BP > 150/90?)

No
Address lifestyle factors. Not recommended to start medical treatment yet. Review ≤ 1 yr

Yes
Start medical therapy and address lifestyle factors

Start medical therapy without delay and address lifestyle factors

Start medical therapy without delay and address lifestyle factors

BP targets:
- <145/85 if AMBP/HMBP
- <150/90 if clinic BP
- If CKD and ACR<70, lower SBP target by 10mmHg
- If CKD and ACR>70, lower SBP target by 20mmHg and DBP target by 10mmHg

Avoid overtreatment in frailty or if likely limited benefit (e.g. probable few remaining life years)

The algorithm below may not apply for people with CKD, HF, IHD or BPH.
Use clinical judgement in people with frailty or multimorbidity

May only need 1 BP-lowering medicine

Likely to need > 1 BP-lowering medicine

An 'optimal' dose in this context has high (or near-maximal) efficacy but with lower SE burden than likely to occur with greater doses

CCB options include:
- Lercanidipine 10mg daily (avoid if eGFR < 30)
- Amlodipine 5mg daily

Initiate CCB at optimal dose OR ARB at cautious dose
(CCB usually preferable; see box on bottom left for ARB indications and box on left for suggested medicines / doses)

Assess BP after 4 weeks. If not meeting target then check adherence. Reinforce lifestyle advice

If BP still uncontrolled, add 2nd medicine (of different class) rather than increasing dose of 1st medicine

Either follow pathway to the left or, if clinically appropriate, consider offering a patient-led intensification approach (considering ability to self-monitor, motivation, understanding, any safety risks)
This involves providing prescriptions for both CCB at optimal doses and ARB at cautious dose (box on left of page), with clear instructions to start 1st medicine as initial monotherapy and, if BP remains uncontrolled at 4 weeks (according to HMBP) without significant postural symptoms, to then add in 2nd medicine (see box on bottom left of page for which class to start 1st)

A 'cautious' dose in this context has a relatively low risk of causing significant SEs (e.g. postural symptoms)

ARB options include:
- Candesartan 4mg daily
- Losartan 25mg daily

Initiation / dose increase of ARB requires checking of renal function and potassium after 1-2 weeks

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Consider increasing CCB and ARB to 'maximum tolerated' doses.
Note that, although there may be scope to double ARB dose from 'cautious' dose, further increase of either CCB or ARB dose may provide only limited BP-lowering effect while increasing risk of significant AEs. Consider current BP and distance to target when assessing options

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Add thiazide-like diuretic (e.g. indapamide 2.5mg daily)

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Add spironolactone 25mg daily if K^+ < 4.6 mmol/l
If spironolactone unsuitable then add alpha blocker (e.g. doxazosin) or beta blocker (e.g. bisoprolol). Up-titrate according to BP and tolerability

Assess BP after 4 weeks. Check adherence if BP above target. Reinforce lifestyle advice

Consider Advice & Guidance or referral as appropriate

Postural hypotension is a sustained reduction in systolic BP of at least 20mmHg, or diastolic BP of 10mmHg, that occurs within three minutes of standing.

Check for symptoms and signs of postural hypotension e.g., standing precipitates feeling lightheaded, dizzy, blurry vision, weakness, syncope, confusion, nausea, palpitations.

Consider checking sitting and standing BP if frail, multimorbidity, diabetes or on multiple anti-hypertensives

1st choice is usually CCB but may be ARB if:
- Diabetes
- CKD (caution if baseline potassium > 5mmol/l)
- HFrEF (but ARNI [if eligible] preferable, or ACE-I)
  - For people with CKD, consider titrating ARB to max. tolerated dose before starting a new medicine
  - If stable angina, then consider beta blocker 1st-line
  - If BPH, then consider using alpha-blocker 1st-line

This protocol is guidance only and should not override clinical judgement. Responsibility for checking suitability of treatments rests with the prescriber