

# Type 2 Diabetes Blood Pressure Management For Adults $\geq 18$ years

## Aim: To reduce cardiovascular risk

**NB.** This guidance is not appropriate for pregnant patients. Please see separate guidance.

### STEP 1: Blood Pressure and Pulse

- Use automated or manual calibrated device (manual if pulse irregular) and ensure correct size cuff. Follow best practice technique.
- Rest patient for 5 minutes prior to measurement, be aware of variability of BP results and risk of 'white coat hypertension'
- Home BP monitoring: Twice daily readings at the same time each day for 1 week
- Carry out full CVD assessment (lipids, U&Es, ECG, urine sample) on first diagnosis

**Target: 140/80 or 130/80 with eye, kidney or cerebrovascular disease**

**Target: 150/90 in moderate or severe frailty (Rockwood frailty score  $\geq 6$  [link here](#))**

**Eye Disease:** retinopathy graded R1, R2, R3 or maculopathy graded M1

**CKD:** 3, 4 or 5 (eGFR  $<60$ mls/min) OR 2 consecutive measurements of ACR  $>3$  mg/mmol

**Cerebrovascular Disease** – Stroke or TIA

Refer the person to specialist care the **same day** if they have accelerated hypertension:

- Blood pressure higher than 180/110 with signs of papilloedema and/or retinal haemorrhage
- Symptoms of acromegaly, cushings syndrome or phaeochromocytoma

### STEP 2: Assess QRISK2

- Do not use in patients with eGFR  $<60$ ml/min/1.72m<sup>2</sup>
- Do not use in pregnancy or breast feeding
- Do not use if Rockwood frailty score  $\geq 6$

**If 10-year CVD risk is  $>10\%$  discuss risk and offer support to change lifestyle and modify risk:**

- If BMI  $>25$  kg/m<sup>2</sup> encourage 5% weight loss
- Encourage a diet high in fruit, vegetables & wholegrains and low in saturated fat and salt
- Encourage physical activity – 150 minutes of moderate intensity each week
- Encourage smoking cessation

### STEP 3: One Month Review

**If lifestyle modification is ineffective and 2<sup>nd</sup> BP measurement is  $>$  target **START TREATMENT****

- Start Ramipril 2.5mg once daily (1.25mg in frail elderly) Follow algorithm (see over page)
- Explain action, duration and side-effect profile. Discuss sick day rules and AKI with all medication
- Titrate monthly until BP is at target

### STEP 4: Review and Titration

Treat to target

- Review BP every month
- Check patient attitudes to medication and **review adherence**
- Add additional medication according to algorithm once previous drug is at max tolerated dose

#### Postural hypotension

If patient reports dizziness or falls, measure sitting and standing BP (interval of 1 minute)

- If BP falls by  $>20$  mmHg or patient reports dizziness refer to GP for assessment

**1<sup>st</sup> CHOICE: ACE inhibitor (ACE) or Angiotensin Receptor Blocker**

**RAMPIRIL**

- Starting dose 2.5mg (1.25mg in frail elderly and eGFR 10-60ml/min/1.73m<sup>2</sup>)
- Monthly titration to a maximum 10mg daily (5mg in frail elderly and eGFR 10-60ml/min/1.73m<sup>2</sup>)

or

**LOSARTAN** (if ACE inhibitor not tolerated)

- Starting dose 50mg (25mg in frail elderly)
- Monthly titration to a maximum 100mg daily (50mg in frail elderly)

**NB.** In people of African or Caribbean origin, start ramipril or losartan (if ACEi not tolerated) and then amlodipine **in addition** one month later

Contraindications: Renal artery stenosis, pregnancy. **Do NOT combine an ACE with an ARB**

Considerations: Risk of first dose hypotension. Use with caution if K<sup>+</sup> >5 mmol/l or eGFR <30mls/min

Monitoring: Repeat U&Es & eGFR in 1-2 weeks. If eGFR falls >25% or creatinine rises >30% **stop ACE or ARB**

Side-effects: ACE cough, postural hypotension, cramps

*Review adherence, offer lifestyle support*

**2<sup>nd</sup> CHOICE: Calcium channel blocker (CCB)**

**AMLODIPINE**

- Starting dose 5mg
- Monthly titration to a maximum 10mg daily (slower in frail elderly)

Contraindications: Significant aortic stenosis

Considerations: Caution in heart or hepatic impairment. Suitable for women of child bearing age

Monitoring: None required

Side-effects: Ankle oedema, flushing, headaches

*Review adherence, offer lifestyle support*

**3<sup>rd</sup> CHOICE: Thiazide-like diuretic**

**INDAPAMIDE**

- 2.5mg daily

Contraindications: Addison's, hypercalcaemia, hyponatraemia, hypokalaemia

Considerations: Ineffective in eGFR <30mls/min

Monitoring: Repeat U&Es within 1-2 weeks. Discuss/ refer abnormal results

Side-effects: Gout

*Review adherence, offer lifestyle support*

**4<sup>th</sup> CHOICE: Alpha Blocker or Beta Blocker**

**DOXAZOSIN**

- Starting dose 2mg
- Titrated monthly to a maximum 16mg daily (slower in frail elderly)

Considerations: risk of postural hypotension and first dose hypotension

Monitoring: none required

Side-effects: Myalgia, anxiety, coughs

or

**BISOPROLOL**

- Starting dose 2.5mg
- Titrated monthly to 10mg

Considerations: Avoid in unstable asthma/ COPD, bradycardia, severe PAD or heart failure

Monitoring: may mask hypoglycaemia. SMBG may be required

Side-effects: Bradycardia, shortness of breath, cold extremities

*If patients are established on maximal tolerated therapy and have resistant hypertension, check adherence and then refer to the secondary care diabetes team.*

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## References

1. CGA Toolkit Plus. Rockwood Frailty scale. <https://www.cgakit.com/fr-1-rockwood-clinical-frailty-scale>
2. QRISK3. <https://qrisk.org/three/>
3. National Institute for Health and Care Excellence. NICE Guideline CG127: Type 2 diabetes in adults: management. (2015) Available at: <https://www.nice.org.uk/guidance/ng28>
4. National Institute for Health and Care Excellence. NICE Guideline CG127: Hypertension in adults: diagnosis and management. (2011) Available at: <https://www.nice.org.uk/guidance/cg127>

## Resources

### Hypertension Patient Information and Decision Aid

NICE Patient Information: <https://www.nice.org.uk/guidance/cg127/ifp/chapter/High-blood-pressure>

Healthwise: <https://www.healthwise.net/ohridecisionaid/Content/StdDocument.aspx?DOCHWID=zx1768>

HealthDecision (NB uses US units): <https://www.healthdecision.org/tool#/tool/hypertension>

### Weight loss services/referrals

Tier 1 & 2 services: Wiltshire Weight Management Pathway:

<https://prescribing.wiltshireccg.nhs.uk/?wpdmdl=1680>

NHS Wiltshire CCG: Tier 3 and 4 services:

[https://www.nbt.nhs.uk/sites/default/files/North%20Bristol%20Centre%20for%20Weight%20Loss,%20Metabolic%20&%20Bariatric%20Surgery%20-%20Information%20for%20GPs%20\(November%202014\).pdf](https://www.nbt.nhs.uk/sites/default/files/North%20Bristol%20Centre%20for%20Weight%20Loss,%20Metabolic%20&%20Bariatric%20Surgery%20-%20Information%20for%20GPs%20(November%202014).pdf)

NHS Wiltshire CCG Weight Management on referral - Eligibility & Referral Guidance:

<https://prescribing.wiltshireccg.nhs.uk/?wpdmdl=1681>

Wiltshire Council Health Improvement Services: <https://prescribing.wiltshireccg.nhs.uk/?wpdmdl=1682>

NHS BaNES CCG: Passport to Health programme, Health Improvement Services, The Bungalow, 11 Park Road, Keynsham. Tel 01225 831852