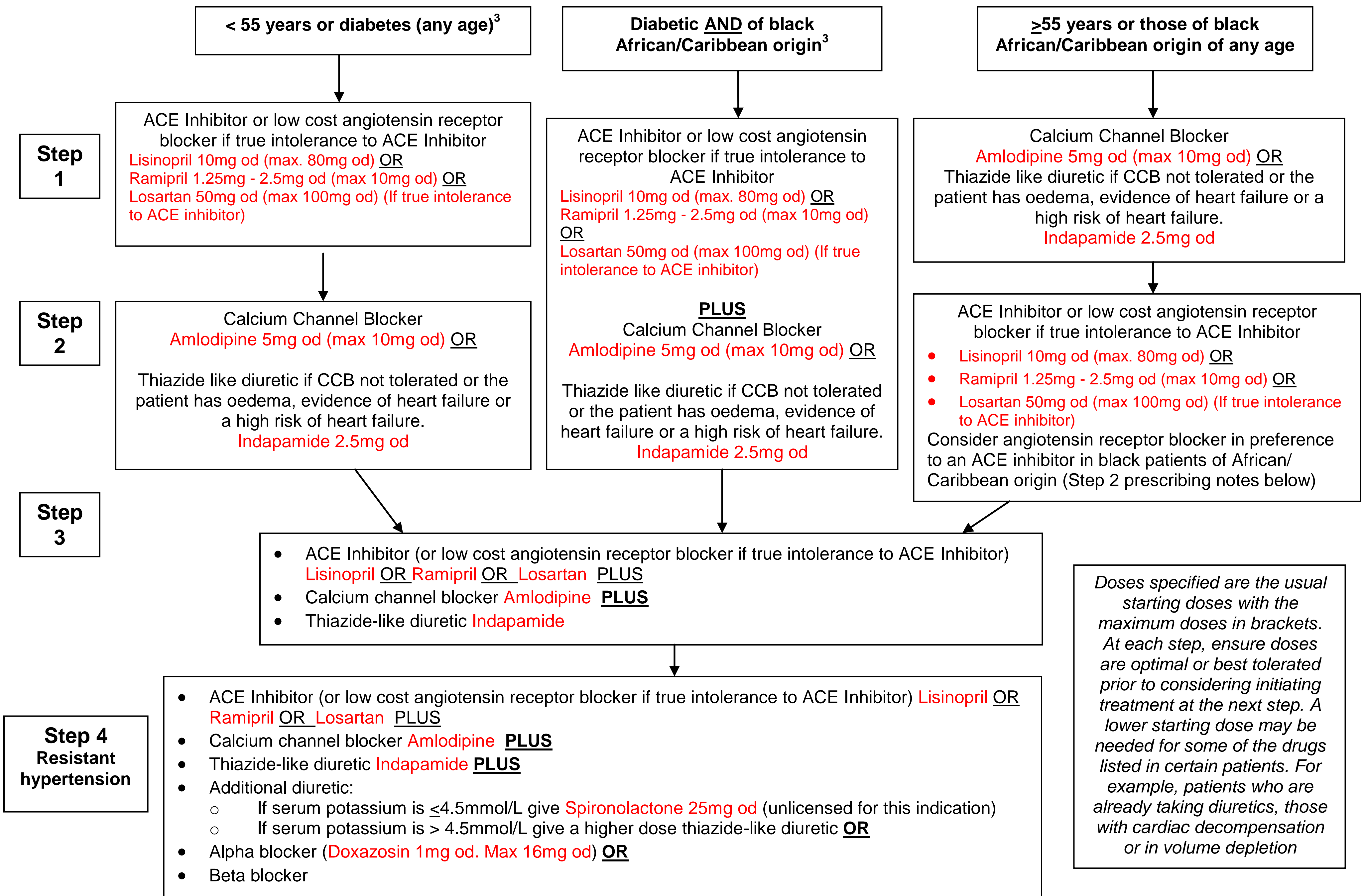
Choosing drugs to lower blood pressure and reduce cardiovascular risk[1,2]



Prescribing notes:

STEP 1

- **Do not** combine an ACE inhibitor with an Angiotensin receptor blocker.
- For diabetic patients, who are black and of African/Caribbean origin, combination with an ACEI **plus** either Thiazide like diuretic or Calcium Channel Blocker is appropriate first line.
- For female diabetic patients, of child bearing age, a calcium-channel blocker should be the first-line blood-pressure-lowering therapy.
- ACEIs and Angiotensin receptor blockers are contraindicated in pregnancy and should be avoided in women of childbearing potential (or ensure effective contraception).
- Bendroflumethiazide or hydrochlorothiazide are no longer the recommended thiazide-like diuretics for hypertension.[1]
- There is currently no evidence to confirm beneficial effects of bendroflumethiazide or hydrochlorothiazide on clinical outcomes in patients with hypertension.[2] However, a lack of evidence should not be taken as proof that low dose bendroflumethiazide or hydrochlorothiazide is ineffective. Patients who are already taking bendroflumethiazide whose blood pressure is stable, can continue treatment.[4]
- Beta blockers are not recommended as a routine initial therapy for hypertension. However, they can be used in step 1 for:[2]
  - younger people when an ACE Inhibitor or and Angiotensin receptor blocker is contraindicated or not tolerated or,
  - there is evidence of increased sympathetic drive or,
  - in women of child bearing potential
  - may be appropriate for those who have another indication for beta-blocker therapy – angina, previous MI, heart failure

STEP 2

- For black people of African/Caribbean family origin, consider an Angiotensin receptor blocker in preference to an ACE inhibitor, in combination with a Calcium channel blocker.[5] In black people of African or Caribbean family origin, ACE inhibitors are associated with an increased risk of developing angioedema, which can be life threatening. Although the incidence of this adverse effect is low, an A2RA in preference to an ACE inhibitor should be considered for such patients when step 2 treatment is required.
- If beta blocker was used in Step 1, add a CCB rather than a thiazide-like diuretic (reduce risk of developing diabetes)
- Before considering step 3 treatment, review medication to ensure step 2 treatment is at optimal or best tolerated

STEP 3

- If blood pressure is still over 140/90 and patient is taking optimal doses of antihypertensives, treat as 'resistant hypertension'

STEP 4

- Consider spironolactone in patients with a potassium level ≤4.5mmol/L. Use with caution in patients with a low eGFR due to increased risk of hyperkalaemia. Monitor sodium and potassium within 1 month and then at regular intervals.
- If potassium level >4.5mmol/L consider a higher dose thiazide-like diuretic. Monitor sodium and potassium within 1 month and then at regular intervals.
- If further diuretic therapy is not tolerated or is contraindicated or ineffective consider an alpha blocker or beta blocker.
- If BP remains uncontrolled with optimal/maximum tolerated doses of four drugs, seek specialist advice.

References

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4. Hypertension stepped care management (NICE CG127). Medicines management briefing. RDTC January 2012.
5. NICE updates its guidance on management of hypertension. MeReC Rapid Review October 2011. Available at: http://www.npc.nhs.uk/rapidreview/?p=4470&print=1 Accessed <1.5.12>

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