bpacnz PRIMARY CARE UPDATE SERIES

HYPERTENSION

If left undiagnosed and untreated, chronic hypertension considerably increases the risk of cardiovascular disease and end-organ damage. Although lifestyle modifications are essential for almost everyone with hypertension – and may delay, limit or eliminate the need for antihypertensives – some patients find it difficult to commit to substantial change or changes are ineffective, meaning pharmacological treatment is ultimately required. Once initiated, therapeutic inertia and adherence to antihypertensive medicine dosing are the biggest obstacles to patients consistently achieving blood pressure targets.

Key practice points:

- Blood pressure (BP) measurements alone are generally insufficient to diagnose hypertension and to guide the decision to initiate antihypertensive treatment; instead, five-year cardiovascular disease (CVD) risk should be calculated using NZ primary prevention equations in all patients with a BP ≥ 130/80 mmHg and lifestyle changes should be trialled
  - Ministry of Health guidelines state that if the patient's five-year CVD risk is:
    - **< 5%** – antihypertensive treatment is not recommended
    - **5–15%** – antihypertensive treatment should be considered if the blood pressure is ≥140/90 mmHg
    - **≥ 15%** – antihypertensive treatment is recommended
  - Patients with a BP ≥ 160/100 mmHg should be initiated on antihypertensive treatment regardless of their CVD risk level
- Angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs), calcium channel blockers and thiazide(-like) diuretics are all first-line antihypertensives with a comparable BP-lowering effect; beta-blockers are not first-line unless there is a specific clinical indication, e.g. atrial fibrillation
  - Co-morbidities and current medicine use should be considered when selecting an appropriate antihypertensive
- Monotherapy is less likely to be successful for controlling BP in many patients with hypertension; low dose dual antihypertensive treatment with any combination of first-line medicines is recommended initially in most international guidelines unless a patient is within 20/10 mmHg of their BP target, aged ≥ 80 years, frail, or committing to major lifestyle changes
  - On average, any single antihypertensive will only lower systolic BP by approximately < 10 mmHg
  - Half the standard dose of an antihypertensive still provides 80% of the BP-lowering effect of the full standard dose, i.e. dose increases do not greatly improve BP-control and are most suitable when the patient is close to their target
  - The BP-lowering effect is additive with two antihypertensives, i.e. two low dose antihypertensives that separately reduce systolic BP by 8 mmHg should lower the patient's blood pressure by approximately 16 mmHg when used in combination
  - In general, different antihypertensives do not potentiate the adverse effects of each other, and starting both at a low dose reduces the risk of adverse effects occurring
- Once daily dosing at night-time reduces the risk of primary CVD outcomes (including CVD death, myocardial infarction and stroke) and may limit the perception of any adverse effects
- Blood pressure targets should always be individualised:
  - < 130/80 mmHg is suitable for patients with a high risk of CVD, e.g. patients with hypertension and type 2 diabetes
  - < 140/90 mmHg is suitable for patients with a low risk of CVD
  - Targets can be more lenient, and reduction less gradual, in elderly or frail patients, patients with dementia, or those with a limited life expectancy
- For patients with resistant hypertension despite dual antihypertensive treatment, adherence should be checked and re-emphasised, and a third antihypertensive should be added, or doses can be increased if the patient is close to their BP target; spironolactone or other medicines (e.g. beta- or alpha-blockers) should then be added if triple antihypertensive treatment has not reduced BP to target levels