THE UNIVERSITY OF WESTERN AUSTRALIA

WESTERN AUSTRALIAN CENTRE FOR HEALTH AGEING

CENTRE FOR OPTIMISATION OF MEDICINES

ANTIHYPERTENSIVES

Deprescribing in older people: A clinical practice guideline

dRx™

ANTIHYPERTENSIVES

Agents acting on the renin-angiotensin system:

- Angiotensin-converting enzyme (ACE) inhibitors: Captopril, enalapril, fosinopril, lisinopril, perindopril*, quinapril, ramipril*, trandolapril
- Angiotensin II receptor blockers (ARBs): Candesartan*, irbesartan*, olmesartan*, telmisartan*, valsartan
- Drugs for heart failure: Sacubitril with valsartan*

Beta-blocking agents:

- Beta-blockers for HFrEF (bisoprolol*, carvedilol, metoprolol succinate modified-release, nebivolol*)
- Non heart failure-specific beta-blockers (atenolol*, metoprolol tartrate*, propranolol)

Calcium channel blockers (CCBs):

- Selective CCBs with mainly vascular effects: Amlodipine*, clevidipine, felodipine*, lercanidipine*, nifedipine
- Selective CCBs with direct cardiac effects: Diltiazem*, verapamil*

Diuretics:

- Low-ceiling diuretics, thiazides: Hydrochlorothiazide (alone or with amiloride)
- Low-ceiling diuretics, excluding thiazides: Chlorthalidone, indapamide

Other antihypertensives:

- Antiadrenergic agents, centrally acting: Clonidine, methyldopa, moxonidine*
- Antiadrenergic agents, peripherally acting: Prazosin*
- Agents acting on arteriolar smooth muscle: Diazoxide, hydralazine, minoxidil

Combination drugs used for hypertension:

- Hydrochlorothiazide with amiloride/ candesartan*/ enalapril/ fosinopril/ irbesartan*/ olmesartan (alone or with amlodipine)/ quinapril/ telmisartan*/ valsartan (alone or with amlodipine*) / amlodipine (alone or with valsartan) / olmesartan (alone or with amlodipine)
- Amlodipine with telmisartan*/ perindopril*/ valsartan*/ olmesartan/ hydrochlorothiazide (alone or with valsartan*/ olmesartan)
- Perindopril with indapamide*
- Ramipril with felodipine
- Trandolapril with verapamil
- Lercanidipine with enalapril
- Antihypertensives in combination with lipid-modifying agents: Amlodipine with atorvastatin*

*Common Pharmaceutical Benefits Scheme medicines

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Type	Recommendation

WHEN TO DEPRESCRIBE

CBR Following shared decision-making, we suggest deprescribing of antihypertensives be offered to older people with:

1. Relative contraindications such as:

- Verapamil or diltiazem used in heart failure with reduced ejection fraction in the absence of atrial fibrillation (AF);
- Beta-blockers or verapamil/diltiazem use in inappropriate bradycardia (e.g. < 60 beats/minute) or any evidence of atrioventricular block causing symptoms (e.g. exertion fatigue);
- Loop/thiazide diuretics used in symptomatic hyponatremia, diabetes mellitus, or gout;
- Refractory/persistent hyperkalaemia in people taking ACE inhibitors, ARBs, aldosterone antagonists or potassium-sparing diuretics; or
- Combination of ACE inhibitor and ARB (at least one should be deprescribed).

2. Adverse effects potentially outweigh benefits:

- Systolic blood pressure (SBP) < 150 mmHg in people aged ≥ 80 years (SBP < 140 mmHg if 75-79 years of age) and diastolic blood pressure (DBP) < 90 mmHg with any of the following: orthostatic hypotension/recurrent falls/ moderate-to-severe frailty assessed using validated tools/life expectancy < 3 years; or
- After a single episode of hyperkalaemia in people taking antihypertensive(s) commonly affect potassium levels (e.g. ACE inhibitors, ARBs, aldosterone antagonists or potassium-sparing diuretics) where the symptoms of heart failure or blood pressure can be controlled with other agents.

GPS Deprescribing decisions should be made in consultation with the person and their GP and/or specialist providers to ensure it aligns with their preferences, goals and overall treatment plans (ungraded good practice statement).

ONGOING TREATMENT

CBR We suggest continuing antihypertensives in people:

- Who are robust, including those aged 85 years or older, if well tolerated, with the same target blood pressure as younger people;
- Taking beta-blockers for the management of AF at the lowest effective dose;
- Taking ACE inhibitors, ARBs, or beta-blockers for the management of heart failure; or
- Taking ACE inhibitors or ARBs for renoprotection.

CBR If deprescribing is unsuccessful despite two attempts, we suggest maintaining the lowest effective dose, but we suggest reassessing the need for long-term therapy periodically.

CBR, consensus-based recommendation; GPS, good practice statement

HOW TO DEPRESCRIBE

CBR We suggest tapering beta blockers and centrally acting antihypertensives (e.g. methyldopa, moxonidine and clonidine) as they are more likely to lead to withdrawal symptoms (e.g. headache, palpitations, and tremors) or rebound hypertension when stopped abruptly.

In general, we suggest halving the daily dose every two weeks, ensuring individuals remain symptom-free and SBP < 150 mmHg in people 80 years or above (SBP < 140 mmHg if 75-79 years of age) and DBP < 90 mmHg before initiating each tapering. Once half the lowest standard dose formulation is reached, we suggest discontinuing completely and providing advice on lifestyle changes.

For other antihypertensive drug classes, we suggest individualising the need for tapering depending on the drug class and the individual's response and tolerance.

CBR We suggest restarting antihypertensives if SBP is ≥ 150mmHg in people 80 years or above with moderate-to-severe frailty or a history of adverse effects (or SBP ≥ 140 if aged 75-79 years) and DBP is ≥ 90 mm Hg on three consecutive readings over four weeks. If SBP ≥ 180mmHg or DBP ≥ 110mmHg, restart immediately.

CBR For people taking multiple antihypertensives, we suggest deprescribing one medicine at a time. Priority should be given to antihypertensives with a higher risk of side effects. We suggest the following sequence for deprescribing:

1. Loop diuretics, centrally acting antihypertensives, peripheral vasodilators or alpha-blockers
2. Aldosterone antagonists
3. Beta-blockers, thiazide diuretics
4. Calcium channel blockers
5. ACE inhibitors, ARBs

When two antihypertensives have a similar safety profile, the individual's preferences should guide the deprescribing process.

CBR, consensus-based recommendation; GPS, good practice statement

MONITORING

CBR We suggest advising people to self-monitor for orthostatic symptoms, angina symptoms, blood pressure, and heart rate at home by using a blood pressure monitor if people can use it correctly and to report unusual symptoms to their healthcare provider as needed.

We suggest monitoring other drug-specific adverse drug withdrawal events such as palpitations (verapamil, diltiazem, beta-blockers), prostatism (alpha-blockers), or peripheral oedema and shortness of breath (diuretics).

CBR We suggest closely monitoring for fall risks and ongoing cardiovascular risk factors, at least monthly for the first six months after deprescribing, followed by monitoring every six months thereafter. However, this should be tailored based on individual factors such as their preferences, responses and tolerance to deprescribing. People at a higher risk of cardiovascular risk factors may require more frequent monitoring. We suggest offering advice on lifestyle optimisation for potentially modifiable cardiovascular risk factors.

CBR, consensus-based recommendation; GPS, good practice statement

Note: This section includes evidence from studies that targeted drugs commonly used for hypertension, which includes one or more common drug classes classified under the cardiovascular system. Evidence from studies specifically targeting diuretics is presented separately in the following section.

Note:

Evidence is drawn from studies involving participants aged ≥ 65 years and over.

Chronological age may not reflect health status. Among Aboriginal and Torres Strait Islander peoples, individuals aged 50 years and over are considered older.

Statements in this guideline are not prescriptive and should be applied using a shared decision-making approach.

Access to healthcare services may vary and can influence healthcare decisions.

Medicine needs may change over time; medicines may be restarted if clinically necessary, based on shared decision-making and informed consent.

For supporting evidence and further information, please visit **deprescribing.com** or scan the QR code:

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