

Deprescribing considerations for older people in general practice



CPD 

**Hui Wen Quek,
Amy Page, Kathleen Potter,
Christopher Etherton-Beer**

Background

Deprescribing is an integral part of patient care. The term 'deprescribing' may be new to some, but the concept is not. Deprescribing refers to the planned withdrawal of medicines that are causing harm or not helping an individual.

Objective

This article collates the latest evidence on deprescribing to guide general practitioners (GPs) and nurse practitioners on how to deprescribe for their elderly patients.

Discussion

Deprescribing is a safe and effective method of reducing polypharmacy and high-risk prescribing. The challenge for GPs in deprescribing medicines for older people is to avoid adverse drug withdrawal events. Strategies to deprescribe confidently in partnership with patients include incorporating a 'stop slow, go low' approach and careful consideration of the medicine withdrawal plan.

MEDICINE USE is one of the most common interventions in healthcare. A general practitioner (GP) in Australia typically prescribes 85.5 medicines per every 100 consultations.¹ Part of good prescribing practice is selecting the most appropriate medicine and dosage to meet an individual's therapeutic needs for a suitable duration.² Prescribing is a dynamic process that requires continuing reassessment and monitoring. The risk-benefit profile of medication is constantly shifting, especially in older people with multimorbidity. Deprescribing encompasses the concept of good prescribing practice and refers to the withdrawal of medicine that is no longer warranted.^{3,4}

Why is inappropriate polypharmacy an issue for older people?

In 2020–21, over half (54%) the medicines dispensed under the Pharmaceutical Benefits Scheme and the Repatriation Schedule of Pharmaceutical Benefits were for people aged 65 years and above.⁵ In addition to old age and comorbidities, the individual prescriber is a major risk factor for polypharmacy, defined as the concurrent use of five or more medicines.⁶ Polypharmacy is considered inappropriate when the potential harm of taking multiple

medicines outweighs the potential benefits. Inappropriate polypharmacy in older people has a negative impact on cognition, health-related quality of life and mortality.^{7–9} Although some medicines may be therapeutically indicated for an individual, polypharmacy paves the way for an increased risk of drug–drug interactions, medicine errors due to complex regimens and increased healthcare expenditure.^{10,11} Because of frailty, older people are most vulnerable to the negative consequences of polypharmacy.¹² Polypharmacy increases the treatment burden for a patient and, paradoxically, may lead to the underprescribing of indicated medicines.⁷ Complex medication regimens are also associated with non-adherence, contributing to poor patient outcomes, and medicine wastage.¹³

High-risk prescribing for older patients

The use of potentially inappropriate medicines (PIMs) is common in polypharmacy, but also occurs in the absence of polypharmacy.¹⁴ PIMs are medicines with an unfavourable benefit-harm ratio or no clear evidence-based indication that are not cost-effective or are used instead of a safer and more

effective alternative.^{15,16} For example, anticholinergic and sedative medicines are often considered PIMs in older people because they are associated with serious adverse outcomes in this group, including increased frailty, reduced appetite and impaired cognitive and physical function.^{17,18}

Prescribing cascades occur when a drug-related adverse reaction is misinterpreted as a new medical condition and a second medicine is used to manage the symptoms.¹⁹ An example of this is the use of loop diuretics to manage ankle oedema arising from the use of calcium channel blockers.²⁰ Prescribing cascades are preventable. GPs should always first consider a patient's current medicines as the cause of any new or ongoing troublesome symptoms. The question to ask is, 'Are any of these medicines contributing to the symptoms experienced by my patient?'

Why should GPs consider deprescribing?

Deprescribing is an intervention to reduce inappropriate polypharmacy and

high-risk prescribing (including PIMs and prescribing cascades; Figure 1). The common goals of deprescribing in older people are to reduce pill burden, improve health outcomes and reduce the risk of specific geriatric syndromes, such as falls and cognitive impairment;^{23,24} the ultimate goal is to improve quality of life.

The decision to deprescribe encompasses the concept of patient-centred care by focusing on an individual's treatment goals and preferences, all of which evolve as a person ages and their functional status changes. The process of deprescribing is important because it provides a prime opportunity to reassess an individual's health status and reconcile their current medicines list.

What tools are available to help with deprescribing?

GPs are very familiar with the concept of discontinuing ineffective medicines or those causing adverse effects worse than the condition being treated. However, with multiple competing priorities, many prescribers will not feel as confident with a shared decision-making process that

involves a comprehensive assessment and medicines reconciliation with a focus on identifying suitable targets for cessation. Hence, several tools have been developed to facilitate decision making in this type of deprescribing (Table 1). For example, the CEASE (Current medicines, Elevated risk, Assess, Sort, Eliminate) algorithm (Figure 2) and ERASE (Evaluate, Resolved conditions, Ageing normally, Select targets, Eliminate) approach (Figure 3) are clinical mnemonics developed to aid deprescribing. Table 2 lists the resources available for the specific medicines prescribers may consider targeting first.

Approaches to successful and safe deprescribing

Deprescribing interventions appear to cause few adverse outcomes (Table 3).^{22,33-35} Physicians should consider tapering medicines more likely to cause withdrawal symptoms and those that cause rebound syndromes if ceased abruptly. Such medicines include central nervous system-active medicines, proton pump inhibitors, beta-blockers and non-steroidal

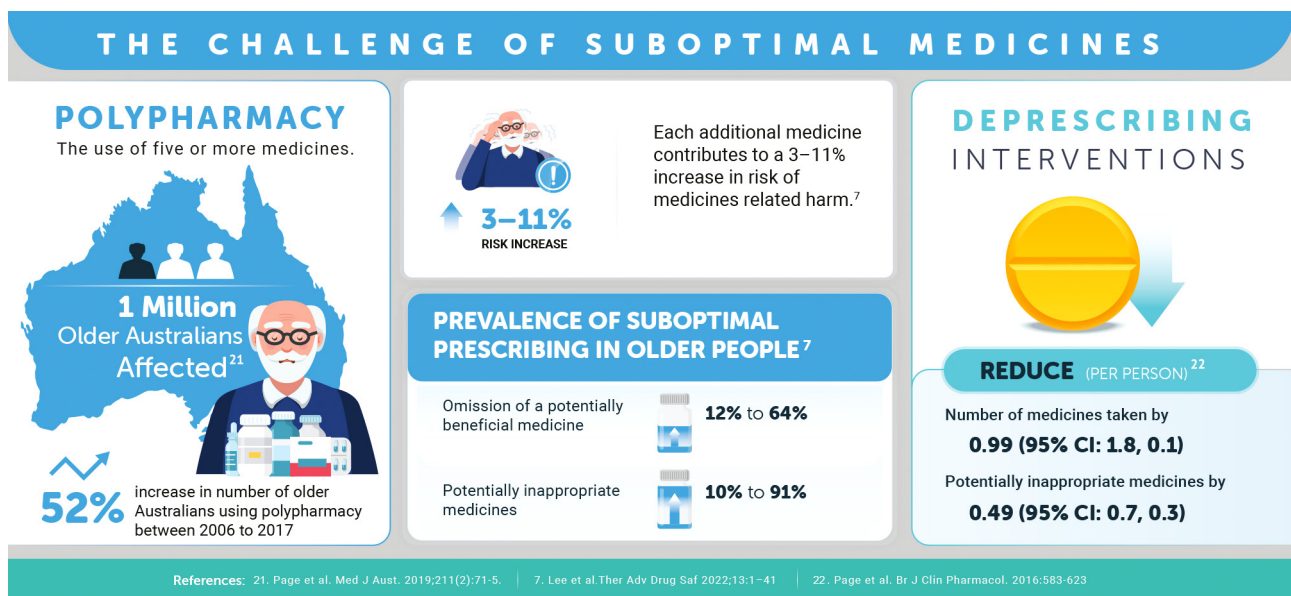


Figure 1. Snapshot of polypharmacy, suboptimal use of medicines and deprescribing interventions.

anti-inflammatory drugs.³⁶ In most cases, adverse drug withdrawal events are not severe and, if necessary, the withdrawn medicine (or an alternative) can be restarted. When there is more than one medicine to deprescribe, GPs should first prioritise the medicine with the highest risk of harm and the lowest anticipated benefit from continued use. The prioritisation matrix (Figure 4) is unique to each individual, and GPs are familiar with using risk stratification strategies in their day-to-day practice.

Outcomes of deprescribing

A 2016 systematic review of deprescribing polypharmacy found that the intervention did not alter mortality in randomised controlled trials (odds ratio [OR] 0.82; 95% confidence interval [CI]: 0.61, 1.11), but did reduce mortality in non-randomised studies (OR 0.32; 95% CI: 0.17, 0.60).²² Although the benefits of deprescribing on health outcomes are uncertain, recent evidence suggests it is safe and feasible,^{22,37-39} with the caution that many deprescribing studies are of low

quality with small participant numbers and short follow-up periods.⁴⁰

What do patients think of deprescribing?

Recent studies of patient attitudes towards deprescribing found that 84–90% were willing to withdraw one or more of their medicines when suggested by the prescriber.^{41,42} Although individual cases vary, most people accept their GP's opinion and advice. One of the critical

Table 1. Tools to aid deprescribing

Tool	Purpose	Example of applicability	Reference	Open access?
MATCH-D criteria (Medication Appropriateness Tool for Comorbid Health conditions during Dementia)	To optimise medicine use in people with dementia	For people with early stage dementia, consider stopping antiplatelet, anticoagulant and antithrombotic agents used for preventative measures	Page et al ²⁵	Yes, with the tool freely available at http://www.match-d.com.au/
Validated prescribing appropriateness criteria for older Australians	Australian prescribing indicators to help identify common medicine-related problems in older people	Patient taking a PPI is NOT taking a medication that may cause dyspepsia unless prescribed for gastroprotection	Basger et al ²⁶	Yes
Beers Criteria®	Explicit list of potentially inappropriate medicines in older people	Avoid using antipsychotics for behavioural problems of dementia	American Geriatrics Society Beers Criteria® Update Expert Panel ²⁷	No
STOPP (Screening Tool for Older Peoples Prescriptions)	Explicit rules for ceasing certain medicines	Cease calcium channel blockers with chronic constipation	O'Mahony et al ²⁸	Yes
Deprescribing algorithm modified from the Good Palliative – Geriatric Practice (GPGP) algorithm	Decision tree diagram for deprescribing	<ul style="list-style-type: none"> Inappropriate prescription Adverse effects or interaction Drug taken for symptom relief Drug intended to prevent serious future events 	Page et al ²⁹	No
CEASE algorithm (Figure 2)	Guide the deprescribing process during a doctor–patient encounter	Current medicines, Elevated risk, Assess, Sort, Eliminate	Scott and Le Couteur ³⁰	Tool provided in this article
ERASE approach (Figure 3)	Review diagnoses and associated medicines	Evaluate diagnoses through the consideration of Resolved conditions, Ageing normally, Selecting appropriate targets to Eliminate unnecessary diagnoses and medicines	Page and Etherton-Beer ⁶	Tool provided in this article
Prescribing and deprescribing in CKD	Optimising medicine use in people with CKD	List of commonly prescribed medications that may require dose reduction or cessation in people with CKD (eg diabetes medications)	Manski-Nankervis et al ³¹	Yes

CCB, calcium channel blocker; CKD, chronic kidney disease; PPI, proton pump inhibitor.

attributes of deprescribing is 'patient-centred care'.⁴³ Partnering with the patient is an important part of patient-centred care, which encompasses the concept of individualised care by assessing a person's needs that define the overall goals of care in the patient context.⁴⁴

Barriers and enablers to deprescribing intervention

Many factors impede implementation of deprescribing as part of routine clinical care,⁴⁰ including:

- clinician-related barriers: lack of time or resources, competing priorities, inadequate communication between different healthcare professionals about medical history or the medicine withdrawal plan, possible lack of knowledge and skills
- patient-related barriers: inadequate knowledge about deprescribing or medication review, perceived or potential reliance on certain medicines, personal beliefs and attitudes
- system-related barriers: gaps in transitional care between different healthcare settings, insufficient health campaign on deprescribing, poor design of GP prescribing software that warns of significant drug interactions, limited availability of effective non-pharmacological treatment options.

Interprofessional collaboration between GPs, pharmacists and nurses can address some of these barriers, in particular GPs' lack of time and resources to perform a detailed medication review (Box 1).⁴⁵ Pharmacist-led medication reviews identify medicines suitable for deprescribing, and nurses can undertake the monitoring and

patient support components.^{46,47} Patients favour the involvement of pharmacists in the process,⁴⁸ and pharmacists can address important patient-related barriers, such as inadequate knowledge about medicine cessation. Collaborative deprescribing also empowers patients to be more proactive and involved in their own care.

Conclusion

Deprescribing should be a core component of the clinical care provided to older people by GPs because this intervention is a key antidote to the harms caused by inappropriate polypharmacy. GPs can make deprescribing a routine part of their day-to-day clinical practice by using evidence-based practical deprescribing tools and engaging in collaborations with pharmacist and nurse colleagues.

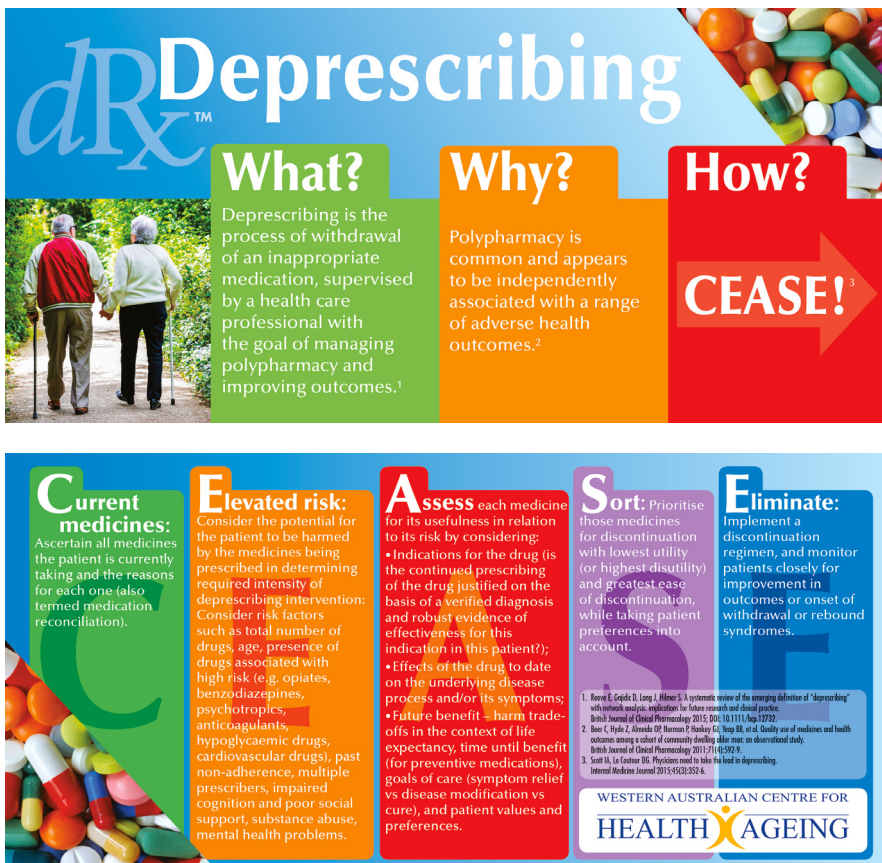


Figure 2. The CEASE (Current medicines, Elevated risk, Assess, Sort, Eliminate) algorithm.

Key points

- Deprescribing is an intervention to reduce polypharmacy and high-risk prescribing.
- The ultimate goal of deprescribing is to improve patient outcomes.
- GPs can deprescribe medicines safely by ensuring slow dose tapering and patient engagement.
- Deprescribing is acceptable to patients.
- Deprescribing requires an individualised approach and can be supported by a multidisciplinary team.

Authors

Hui Wen Quek BPharm(Hons), GradCertAppPharmPrac, PhD student, School of Allied Health, University of Western Australia, Perth, WA

Amy Page GCertHProfEd, GradDipBiostat, MClinPharm, PhD, MAACP, AdvPracPharm, GStat, FPS, Adjunct Associate Professor and Senior Research Fellow, School of Allied Health, University of Western Australia, Perth, WA

Kathleen Potter MBChB, PhD, FRACGP, Research Facilitator, Ryman Healthcare, Christchurch, New Zealand

Christopher Ethernon-Beer MBBS, GradCertHPEd, PhD, FRACP, Professor, Western Australian Centre for Health and Ageing, University of Western Australia and Royal Perth Hospital, Perth, WA

Competing interests: KP is employed by Ryman Healthcare aged-care provider, outside of the submitted work, is Co-chair of the Medication Advisory Committee of Ryman Health Care and is a Community Representative of Health of Older People Service Level Alliance. The remaining authors have no competing interests to disclose.

Funding: HWQ is supported by an Australian Government Research Training Program (RTP) Scholarship at The University of Western Australia.

Provenance and peer review: Commissioned, externally peer reviewed.

Correspondence to:
amanda.quek@uwa.edu.au

References

1. Britt H, Miller G, Henderson J, et al. A decade of Australian general practice activity 2004–05 to 2013–14. General Practice Series 37. Sydney: Sydney University Press, 2014.
2. De Vries TPGM, Henning RH, Hogerzeil HV, Fresle DA. Guide to good prescribing: A practical

manual. WHO/DAP/94.11. Geneva: World Health Organization, 1994.

3. Farrell B, Mangin D. Deprescribing is an essential part of good prescribing. *Am Fam Physician* 2019;99(1):7–9.
4. Reeve E, Gnjidic D, Long J, Hilmer S. A systematic review of the emerging definition of ‘deprescribing’ with network analysis: Implications for future research and clinical practice. *Br J Clin Pharmacol* 2015;80(6):1254–68. doi: 10.1111/bcp.12732.
5. Australian Institute of Health and Welfare (AIHW). Medicines in the health system. Canberra, ACT: AIHW, 2022. Available at www.aihw.gov.au/reports/medicines/medicines-in-the-health-system [Accessed 22 August 2022].
6. Page A, Etherton-Beer C. Undiagnosing to prevent overprescribing. *Maturitas* 2019;123:67–72. doi: 10.1016/j.maturitas.2019.02.010.
7. Lee GB, Etherton-Beer C, Hosking SM, Pasco JA, Page AT. The patterns and implications of potentially suboptimal medicine regimens among older adults: A narrative review. *Ther Adv Drug Saf* 2022;13:20420986221100117. doi: 10.1177/20420986221100117.
8. Aljeadid MS, Tan EC. The association between polypharmacy and cognitive ability in older adults: A national cohort study. *Res Social Adm Pharm* 2022;18(3):2505–09. doi: 10.1016/j.sapharm.2021.04.018.
9. Aljeadid MS, Haaksma ML, Tan ECK. Polypharmacy and trajectories of health-related quality of life in older adults: An Australian cohort study. *Qual Life Res* 2022;31(9):2663–71. doi: 10.1007/s11136-022-03136-9.
10. Rodrigues MC, Oliveira Cd. Drug–drug interactions and adverse drug reactions in polypharmacy among older adults: An integrative review. *Rev Lat Am Enfermagem* 2016;24:e2800. doi: 10.1590/1518-8345.1316.2800.
11. Kwak MJ, Chang M, Chiadika S, et al. Healthcare expenditure associated with polypharmacy in older adults with cardiovascular diseases. *Am J Cardiol* 2022;169:156–58. doi: 10.1016/j.amjcard.2022.01.012.
12. McLachlan AJ, Bath S, Naganathan V, et al. Clinical pharmacology of analgesic medicines in older people: Impact of frailty and cognitive impairment. *Br J Clin Pharmacol* 2011;71(3):351–64. doi: 10.1111/j.1365-2125.2010.03847.x.
13. Wimmer BC, Cross AJ, Jakanovic N, et al. Clinical outcomes associated with medication regimen complexity in older people: A systematic review. *J Am Geriatr Soc* 2017;65(4):747–53. doi: 10.1111/jgs.14682.
14. Coe A, Kaylor-Hughes C, Fletcher S, Murray E, Gunn J. Deprescribing intervention activities mapped to guiding principles for use in general practice: A scoping review. *BMJ Open* 2021;11(9):e052547. doi: 10.1136/bmjopen-2021-052547.
15. O’Mahony D, Gallagher PF. Inappropriate prescribing in the older population: Need for new criteria. *Age Ageing* 2008;37(2):138–41. doi: 10.1093/ageing/afm189.
16. Opondo D, Eslami S, Visscher S, et al. Inappropriateness of medication prescriptions to elderly patients in the primary care setting: A systematic review. *PLoS One* 2012;7(8):e43617. doi: 10.1371/journal.pone.0043617.
17. Gnjidic D, Cumming RG, Le Couteur DG, et al. Drug burden index and physical function in older Australian men. *Br J Clin Pharmacol* 2009;68(1):97–105. doi: 10.1111/j.1365-2125.2009.03411.x.

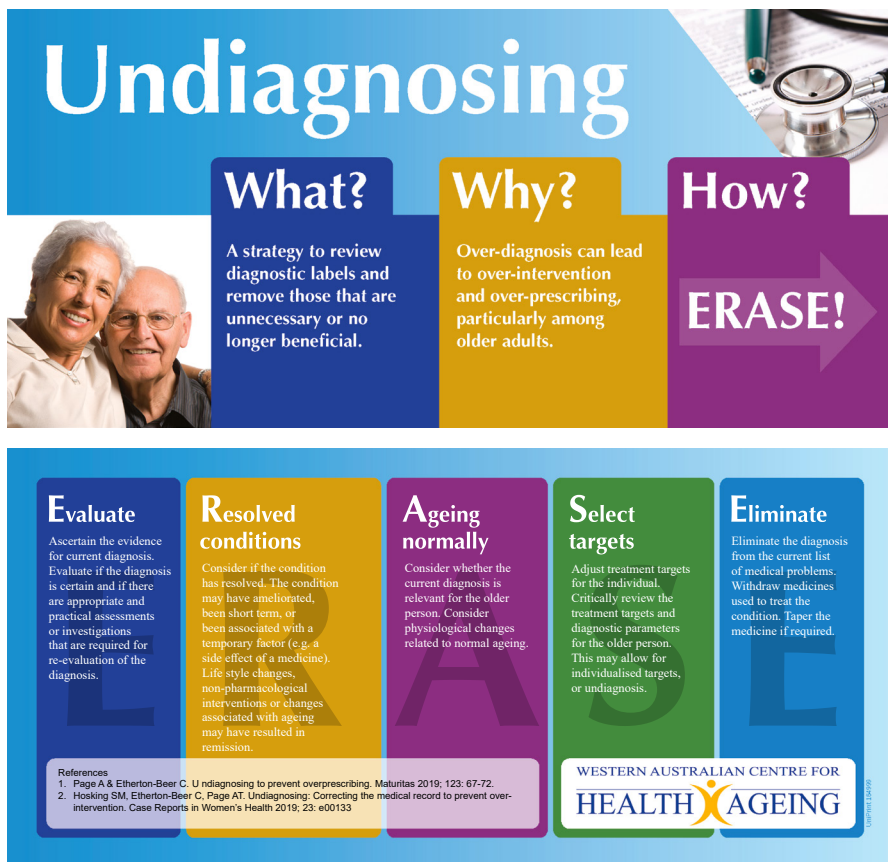


Figure 3. The ERASE (Evaluate, Resolved conditions, Ageing normally, Select targets, Eliminate) approach for undiagnosing in older people.

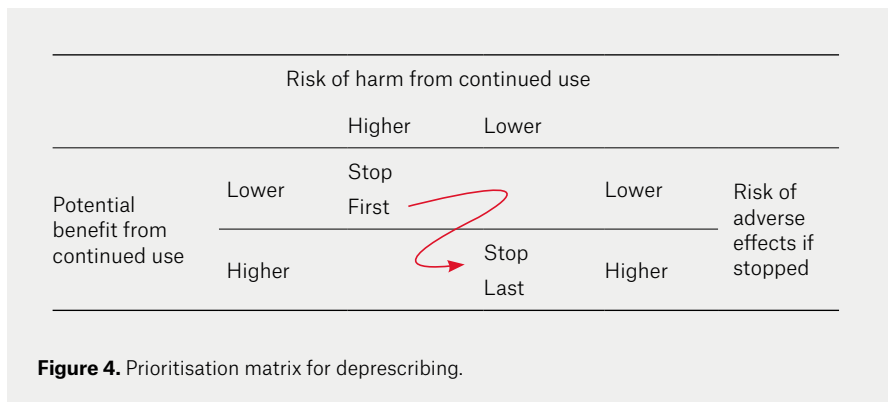


Figure 4. Prioritisation matrix for deprescribing.

Table 2. Deprescribing guidelines for specific medicines/drug classes

Medicine/drug class	Risk for use in older people	Relevant deprescribing guidelines
Allopurinol	Worsening renal dysfunction and serious skin toxicity	A
Anticholinergics	Cognitive impairment and urinary retention	B
Antihyperglycaemics	Hypoglycaemia and related morbidity	A, C
Antihypertensive agents	Falls	A
Antipsychotics	Parkinsonism or extrapyramidal symptoms, falls	A, B, C
Aspirin	GI bleeding	A
Benzodiazepines and/or Z-drugs	Sedation, falls, confusion, dependence	A, C
Bisphosphonates	Hypocalcaemia	A
Cholinesterase inhibitors and memantine	GI upset, urinary incontinence, bradycardia	A, C
Gabapentinoids	Sedation, ataxia, falls	D
Glaucoma eye drops	Mostly well tolerated but may no longer be indicated if life expectancy is limited	A
NSAIDs	GI bleeding, renal failure, exacerbation of cardiovascular diseases	A
Opioids	Sedation, falls, fractures, dependence	A, B, E
Proton pump inhibitors	Long-term use increases the risk of fractures, altered absorption of nutrients and some medicines	A, B, C, Turner et al ³²
Sedating antihistamines	Falls, fractures, confusion, drowsiness	B
SSRIs and SNRIs	Falls	B
Statins	Myopathy, rhabdomyolysis and fatigue	A
Tricyclic antidepressants	Falls, sedation, anticholinergic adverse effects	B
Vitamin D and calcium	Falls, hypercalcaemia	A

A, Primary Health Tasmania (<https://www.primaryhealthtas.com.au/resources/deprescribing-resources/>);

B, New South Wales Therapeutic Advisory Group (<http://www.nswtag.org.au/deprescribing-tools/>);

C, Bruyère Research Institute (<https://deprescribing.org/resources/deprescribing-guidelines-algorithms/>);

D, Canadian Medication Appropriateness and Deprescribing Network (<https://www.deprescribingnetwork.ca/patient-handouts/>);

E, Victorian Department of Health (<https://www.health.vic.gov.au/sites/default/files/migrated/files/collections/policies-and-guidelines/safe-opioid-use/recommendations-for-deprescribing-or-tapering-opioids---for-health-professionals.pdf>).

GI, gastrointestinal; NSAIDs, non-steroidal anti-inflammatory drugs; SNRIs, serotonin noradrenaline reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors; Z-drugs, zopiclone, eszopiclone, zaleplon and zolpidem.

18. Lim R, Kalisch Ellett LM, Widagdo IS, Pratt NL, Roughead EE. Analysis of anticholinergic and sedative medicine effects on physical function, cognitive function, appetite and frailty: A cross-sectional study in Australia. *BMJ Open* 2019;9(9):e029221. doi: 10.1136/bmjopen-2019-029221.

19. Rochon PA, Gurwitz JH. Optimising drug treatment for elderly people: The prescribing cascade. *BMJ* 1997;315(7115):1096-99. doi: 10.1136/bmj.315.7115.1096.

20. Savage RD, Visentin JD, Bronskill SE, et al. Evaluation of a common prescribing cascade

of calcium channel blockers and diuretics in older adults with hypertension. *JAMA Intern Med* 2020;180(5):643-51. doi: 10.1001/jamainternmed.2019.7087.

21. Page AT, Falster MO, Litchfield M, Pearson SA, Etherton-Beer C. Polypharmacy among older Australians, 2006-2017: A population-based study. *Med J Aust* 2019;211(2):71-75. doi: 10.5694/mja2.50244.

22. Page AT, Clifford RM, Potter K, Schwartz D, Etherton-Beer CD. The feasibility and effect of deprescribing in older adults on mortality and health: A systematic review and metaanalysis.

Br J Clin Pharmacol 2016;82(3):583-623. doi: 10.1111/bcp.12975.

23. Reeve E. Deprescribing tools: A review of the types of tools available to aid deprescribing in clinical practice. *J Pharm Pract Res* 2020;50(1):98-107.

24. Steinman M, Reeve E. Deprescribing. Wellesley, MA: Uptodate, 2021. Available at www.uptodate.com/contents/deprescribing#H3758700122 [Accessed 22 August 2022].

25. Page AT, Potter K, Clifford R, McLachlan AJ, Etherton-Beer C. Medication appropriateness tool for co-morbid health conditions in dementia: Consensus recommendations from

Table 3. Potential pitfalls of a deprescribing intervention

Potential consequences	Examples	Suggestions
Return of original disease symptoms	Symptoms of reflux on discontinuation of a proton pump inhibitor Rebound insomnia on discontinuation of temazepam	'Stop slow, go low' approach: <ul style="list-style-type: none"> • short-term pharmacological substitution or management • taper the medicine • psychological support (if applicable) • periodic monitoring of the original disease
Adverse drug withdrawal events	Sleep disturbance, tremor, irritability, anxiety, and palpitation on discontinuation of a benzodiazepine	'Stop slow, go low' approach: <ul style="list-style-type: none"> • stop one medicine at a time (refer to Figure 4) • taper the medicine • close monitoring
Unmasking drug interactions	For patients on warfarin, altered INR on discontinuation of amiodarone	Thorough medication review before deprescribing to identify any potential pharmacokinetic interactions
Damaging patient–doctor relationship	Patients may interpret deprescribing as 'giving up'	Shared decision making and patient collaboration: <ul style="list-style-type: none"> • engage patients (and their caregivers) in every step of the intervention • clear explanation of expected risks and benefits • provide written patient information • psychological support where needed
Deprescribing-related complications	An occurrence of myocardial infarction being attributed to discontinuing a statin	<ul style="list-style-type: none"> • Careful consideration of the benefit–harm ratio of a preventative medicine is key, taking into account an individual's life expectancy • Consider other options for risk management (eg lifestyle changes) • Document all reasonable grounds for stopping a medicine

INR, international normalised ratio.

- a multidisciplinary expert panel. *Intern Med J* 2016;46(10):1189–97.
- Basger BJ, Chen TF, Moles RJ. Validation of prescribing appropriateness criteria for older Australians using the RAND/UCLA appropriateness method. *BMJ Open* 2012;2:e001431.
 - American Geriatrics Society Beers Criteria® Update Expert Panel. American Geriatrics Society 2019 updated Beers Criteria® for potentially inappropriate medication use in older adults. *J Am Geriatr Soc* 2019;67(4):674–94.
 - O'Mahony D, O'Sullivan D, Byrne S, O'Connor MN, Ryan C, Gallagher P. STOPP/START criteria for potentially inappropriate prescribing in older people: Version 2. *Age Ageing* 2015;44:213–18.
 - Page AT, Etherton-Beer CD, Clifford RM, Burrows S, Eames M, Potter K. Deprescribing in frail older people – do doctors and pharmacists agree? *Res Social Adm Pharm* 2016;12(3):438–49.
 - Scott IA, Le Couteur DG. Physicians need to take the lead in deprescribing. *Intern Med J* 2015;45(3):352–56.
 - Manski-Nankervis J, McMorrow R, Nelson C, Jesudason S, Slugggett JK. Prescribing and deprescribing in chronic kidney disease. *Aust J Gen Pract* 2021;50(4):183–87.
 - Turner JP, Thompson W, Reeve E, Bell JS. Deprescribing proton pump inhibitors. *Aust J Gen Pract* 2022;51(11):845–48.
 - Iyer S, Naganathan V, McLachlan AJ, Le Couteur DG. Medication withdrawal trials in people aged 65 years and older: A systematic review. *Drugs Aging* 2008;25(12):1021–31. doi: 10.2165/0002512-200825120-00004.
 - Garfinkel D, Mangin D. Feasibility study of a systematic approach for discontinuation of multiple medications in older adults: Addressing polypharmacy. *Arch Intern Med* 2010;170(18):1648–54. doi: 10.1001/archinternmed.2010.355.
 - Le Couteur D, Gjnjic D, McLachlan A. Deprescribing. *Aust Prescr* 2011;34:182–85.
 - Best Practice Advocacy Centre New Zealand. A practical guide to stopping medicines in older people. Dunedin: BPAC NZ Limited, 2010. Available at <https://bpac.org.nz/bpj/2010/april/stopguide.aspx> [Accessed 22 August 2022].
 - Kua CH, Mak VSL, Huey Lee SW. Health outcomes of deprescribing interventions among older residents in nursing homes: A systematic review and meta-analysis. *J Am Med Dir Assoc* 2019;20(3):362–72.e11. doi: 10.1016/j.jamda.2018.10.026.
 - Wu H, Kouladjian O'Donnell L, Fujita K, Masnoon N, Hilmer SN. Deprescribing in the older patient: A narrative review of challenges and solutions. *Int J Gen Med* 2021;14:3793–807. doi: 10.2147/IJGM.S253177.
 - Bloomfield HE, Greer N, Linsky AM, et al. Deprescribing for community-dwelling older adults: A systematic review and meta-analysis. *J Gen Intern Med* 2020;35(11):3323–32. doi: 10.1007/s11606-020-06089-2.
 - Scott IA, Reeve E, Hilmer SN. Establishing the worth of deprescribing inappropriate medications: Are we there yet? *Med J Aust* 2022;217(6):283–86. doi: 10.5694/mja2.51686.
 - Weir KR, Ailabouni NJ, Schneider CR, Hilmer SN, Reeve E. Consumer attitudes towards deprescribing: A systematic review and meta-analysis. *J Gerontol A Biol Sci Med Sci* 2022;77(5):1020–34. doi: 10.1093/geron/ab222.
 - Reeve E, Wolff JL, Skehan M, Bayliss EA, Hilmer SN, Boyd CM. Assessment of attitudes toward deprescribing in older Medicare beneficiaries in the United States. *JAMA Intern Med* 2018;178(12):1673–80. doi: 10.1001/jamainternmed.2018.4720.
 - Page A, Clifford R, Potter K, Etherton-Beer C. A concept analysis of deprescribing medications in older people. *J Pharm Pract Res* 2018;48:132–48. doi: 10.1002/jppr.1361.
 - Le Bosquet K, Barnett N, Minshull J. Deprescribing: Practical ways to support person-centred, evidence-based deprescribing. *Pharmacy (Basel)* 2019;7(3):129. doi: 10.3390/pharmacy7030129.
 - Duncan P, Duerden M, Payne RA. Deprescribing: A primary care perspective. *Eur J Hosp Pharm* 2017;24(1):37–42. doi: 10.1136/ejpharm-2016-000967.

Box 1. Case study

Tom (age 80 years) sees you today for a repeat prescription on all of his usual medicines for his chronic conditions. Tom's medical conditions include hypercholesterolaemia, hypertension, gout, chronic constipation, and insomnia, for which he takes a daily dose of **rosuvastatin 10 mg, ramipril 5 mg, hydrochlorothiazide 25 mg, allopurinol 150 mg, amitriptyline 10 mg and docusate sodium/senna 50 mg/8 mg**. During the consultation, you ask Tom how he feels about all the medicines he is currently taking, with a focus on his medication adherence, possible side effects, his personal views towards each medicine and cost. Tom expresses his concern to you over side effects and increased treatment burden. You then ask Tom if he would prefer stopping or reducing some of his medicines. Tom agrees to give it a try, and asks for your recommendations. You decide to use the CEASE algorithm to help with your decision making:

1. You reconcile Tom's current medicines (or provide a referral to an accredited pharmacist for a Home Medicines Review).
2. You are aware of the different tools available to help you identify medicines that may be more harmful to Tom. By referring to the Beers and STOPP criteria, you identify:
 - **amitriptyline**, which is highly anticholinergic and sedating, may cause orthostatic hypotension, worsen constipation and could be a prescribing cascade with docusate sodium/senna
 - **hydrochlorothiazide**, because it may exacerbate gout and could be a prescribing cascade with allopurinol.
3. You assess the benefit-harm trade-offs of these medicines in the context of Tom's age, concurrent medicines, overall physical health, possible pill burden, personal preferences, treatment goals, and social and financial support. Based on this, you further identify the following as potential deprescribing targets:
 - **rosuvastatin** for primary prevention
 - **ramipril**, considering the blood pressure targets for Tom's age
 - **docusate sodium/senna**, due to the evidence of inefficacy
 - **allopurinol**, which may be ceased if Tom has been asymptomatic for the past 12 months and diuretic has been ceased or if Tom's dietary and alcohol intake have improved.
4. By using the prioritisation matrix and taking into account Tom's preferences, you decide to prioritise ceasing amitriptyline over the other medicines because it has a comparatively higher risk of harm from continued use.
5. You propose a medication withdrawal plan using the relevant drug-specific deprescribing guideline to gradually taper the dose of amitriptyline. Finally, you inform Tom of what to expect and reassure him that you will monitor his progress closely for improvement in outcomes or the onset of adverse events. You also provide Tom with a leaflet on managing insomnia through lifestyle modifications.

On future visits, if Tom is responding well and no longer has constipation, you could then suggest the next plan is to deprescribe his other medicines.

46. Trenaman SC, Kennie-Kaulbach N, d'Entremont-MacVicar E, et al. Implementation of pharmacist-led deprescribing in collaborative primary care settings. *Int J Clin Pharm* 2022;44(5):1216-21. doi: 10.1007/s11096-022-01449-w.
47. Wright DJ, Scott S, Buck J, Bhattacharya D. Role of nurses in supporting proactive deprescribing. *Nurs Stand* 2019;34(3):44-50. doi: 10.7748/ns.2019.e11249.
48. Bužancic I, Dragovic P, Pejakovic TI, Markulin L, Ortner-Hadžiabdic M. Exploring patients' attitudes toward deprescribing and their perception of pharmacist involvement in a European country: A cross-sectional study. *Patient Prefer Adherence* 2021;15:2197-208. doi: 10.2147/PPA.S323846.

correspondence ajgp@racgp.org.au