

GENERAL INFORMATION

KEY POINTS

- Patients should be informed that deprescribing is intended to improve their quality of life by ensuring they do not receive unnecessary medicines that have minimal benefit or have potential for harm.
- Indications for use of many medications may change with time, and medication that was clearly appropriate in the past, may no longer be so (e.g. peptic ulcer treatment, analgesia, preventative strategies).
- Cessation of medication may be an appropriate action in certain clinical situations amongst older adults. Drug cessation triggers could include patients with an increased frequency of falls, with delirium and/or cognitive impairment and in end-of-life situations.
- Drug cessation should be considered in all patients as a part of regular medication review.
- Explaining to the patient the rationale for deprescribing improves success rates and empowers the person to take better control of their medications.
- It is prudent to initiate a trial of withdrawal of one medication at a time. Choosing priority will be based on individual case considerations.

INTRODUCTION

Modern medications have had a major impact on survival and symptom reduction from a range of medical conditions, and clinical guidelines for the management of the majority of common medical conditions are available. In patients with multiple morbidities, however, applying the relevant guidelines may result in a significant medication load. The higher the medication load, the more likely that an adverse effect will occur as a result of interactions between the medications and the multiple conditions. Over a 5 year period, one in four older people are hospitalised for medication related problems.¹ In addition, patients with low resilience (typically older, frailer patients) may have undesirable outcomes from the indiscriminate use of clinical guidelines.² In particular, patients who are frail are more likely to have adverse effects from medication. Frailty has been defined as three or more of: unintentional weight loss, exhaustion, weakness, slow walking, low physical activity and accumulation of medical, functional or social deficits.³

PRINCIPLES

Deprescribing has been described as the systematic process of identifying and discontinuing potentially inappropriate drugs with the aim of minimising polypharmacy and improving patient outcomes.⁴ A recent network analysis of the various definitions used in multiple articles across many countries proposed the definition

“Deprescribing is the process of withdrawal of an inappropriate medication, supervised by a health care professional with the goal of managing polypharmacy and improving outcomes.”⁵

The term can, however, also be considered more broadly, taking in the concept of minimisation and reduction of medication “load” in terms of dose and/or number of tablets/administration times.

Cessation of medication may be an appropriate action in certain clinical situations amongst older adults. Drug cessation triggers could include patients with an increased frequency of falls, with delirium and/or cognitive impairment and in end-of-life situations.⁶ Drug cessation should also be considered in all patients as a part of regular medication review.

Scott et al. identified a hierarchy of utility of medications that assists in determining the strength of the current indication of a medication (See Figure 1).¹

PRINCIPLES

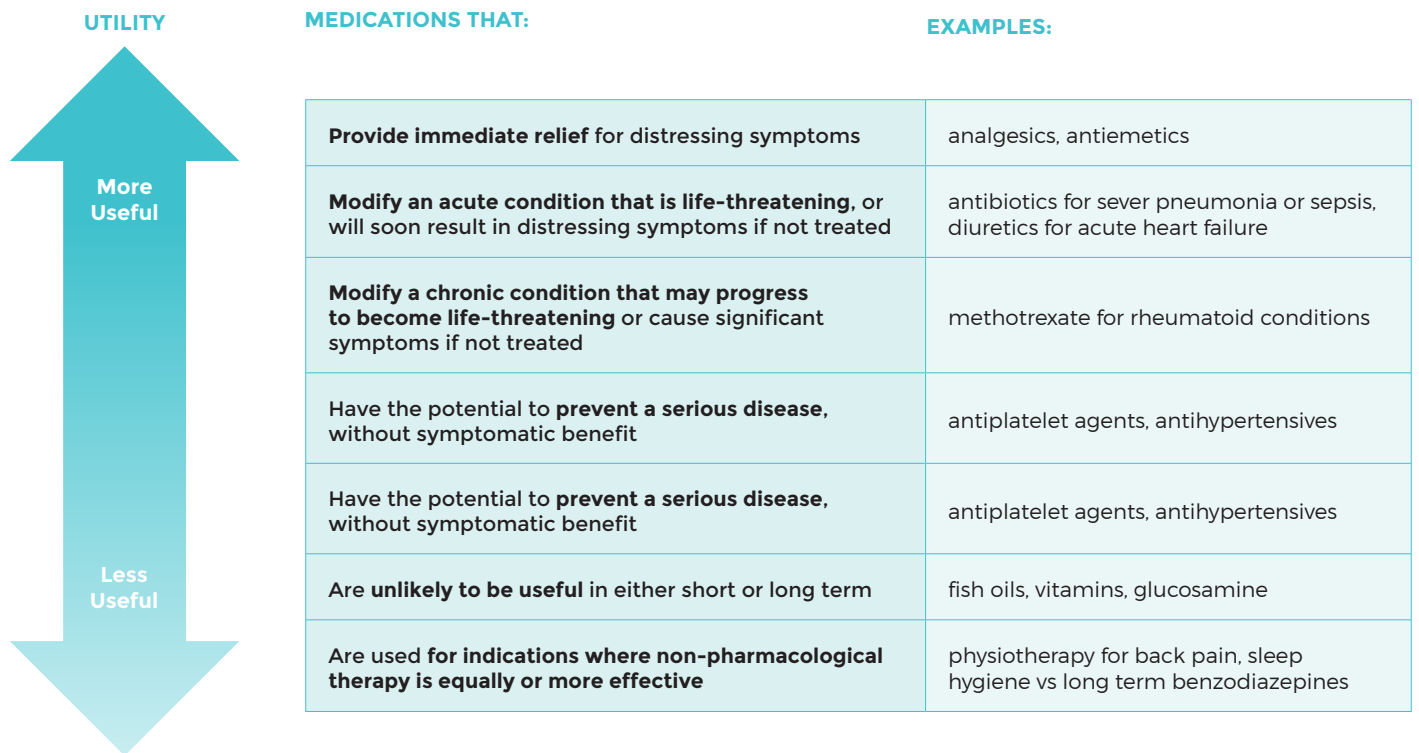


Figure 1 Hierarchy of Utility of Medications

In a more recent publication, Scott et al. constructed an algorithm for deciding the order and mode in which drug use could be discontinued.⁷ This is shown in Figure 2 below.

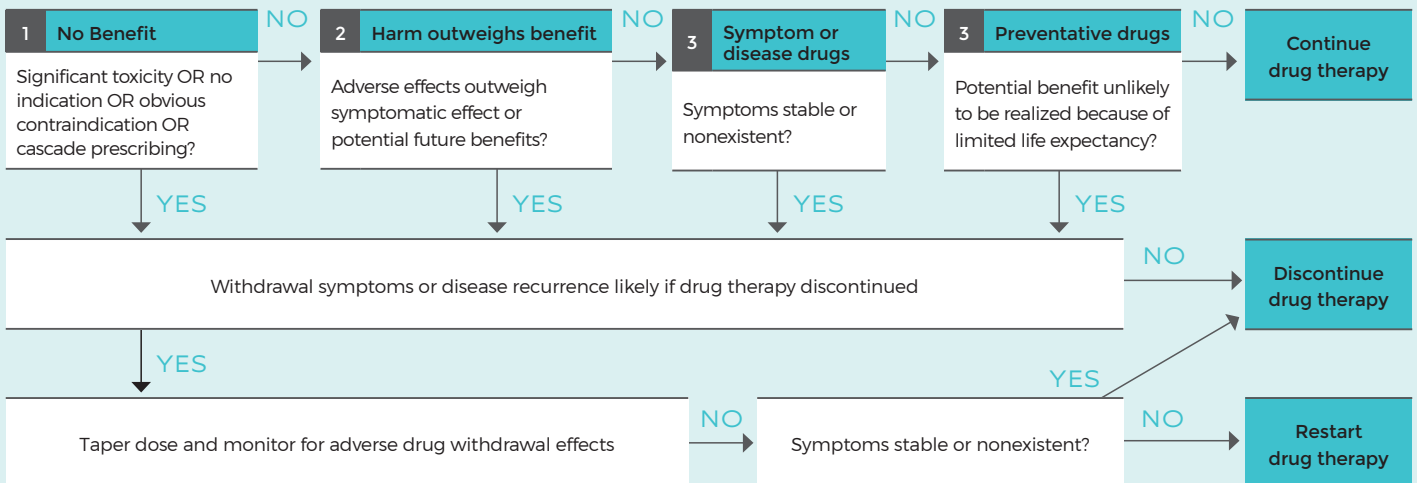


Figure 2: Algorithm for Deprescribing⁷



TRIALS OF DEPRESCRIBING

Scott *et al* have also recently completed a pilot study of deprescribing for older patients receiving multiple medications hospitalised in Queensland.⁸ Among 50 patients (Mean age 82.5), it was possible to cease 186 of 542 regular medications (34.3%). The list of regular medications was reduced by at least one medication in 47 patients (94%), at least two medications in 42 patients (84%) and by 4 or more in 25 (50%) of patients.

Highest rates of discontinuation (more than 50%) occurred for

- nitrates [8/11(73%)],
- inhaled bronchodilators [14/20(70%)],
- oral hypoglycaemics [9/15(60%)],
- antihypertensives other than ACEIs/ARBs [10/17(59%)],
- statins [21/37(57%)] and
- benzodiazepines [8/15(53%)].

The authors were able to follow up 39 of the patients (median follow-up was 78 days) and only 5 of the 149 ceased medications were recommenced (in three patients), all due to symptom relapse (amitriptyline and fentanyl for refractory pain, frusemide for pedal oedema and carbamazepine for recurrent trigeminal neuralgia).

A study in nursing homes in Western Australia has also recently been completed.⁹ Ninety-five people aged over 65 years living in four RACF in rural mid-west Western Australia were randomised in an open study. The intervention group (n = 47) received a deprescribing intervention, the planned cessation of non-beneficial medicines. The control group (n = 48) received usual care. Participants were monitored for twelve months from randomisation. Study participants had a mean age of 84.3±6.9 years and 52% were female. Intervention group participants consumed 9.6±5.0 and control group participants consumed 9.5±3.6 unique regular medicines at baseline. Of the 348 medicines targeted for deprescribing (7.4 ±3.8 per person, 78% of regular medicines), 207 medicines (4.4±3.4 per person, 59% of targeted medicines) were successfully discontinued. The mean change in number of regular medicines at 12 months was -1.9±4.1 in intervention group participants and +0.1±3.5 in control group participants (estimated difference 2.0±0.9, 95%CI 0.08, 3.8, p = 0.04).⁹ A larger, randomised controlled trial of deprescribing to optimise health outcomes for frail older people in residential aged care (Optimed) is currently recruiting patients in Australia.¹⁰

Authors in Israel had undertaken a similar study using similar principles in 70 patients (average age 82.8 years).¹¹ They followed patients for an average of 19 months and were able to cease 311 different medications in 64 of the patients. At follow-up, 81% of the medications had not been recommenced and 88% of patients reported an improvement in global improvement in health. Cessation was most commonly attempted with benzodiazepines, statins, antihypertensives and frusemide.¹¹



WITHDRAWAL AND RECURRENCE ISSUES

If cessation of an agent is undertaken it is important to monitor the patient after the cessation for any potentially negative outcomes.¹² Some medications may cause withdrawal reactions which may require that cessation be undertaken by tapering the dose. Some medications may be having an impact on the patient's metabolism or elimination of other agents, and cessation may result in a changed effect from remaining medications (e.g. ceasing amiodarone in a patient taking digoxin will result in a gradual reduction in the digoxin level). Finally, and most commonly, the underlying condition for which the medication was prescribed may return. In some cases, true rebound may occur and the condition is worse than when the medication was originally commenced (e.g. rebound hyperacidity from ceasing proton pump inhibitors).¹²



PATIENT PERCEPTIONS

Patient attitudes to deprescribing have been examined by Qi *et al*.¹³ It was found that of 180 patients (median age 78), 161 (89%) reported that they would be willing to stop one or more of their regular medications if their doctor said it was possible.

Whilst many patients may be willing to try ceasing medicines, some barriers may exist, including:

- previous negative experiences with drug withdrawal (e.g. previous rebound insomnia after ceasing temazepam)
- anxiety and fear of consequences of stopping a medicine that has been prescribed for a long period (e.g. previous doctors' instructions to take "for the rest of their lives")
- reluctance to stop a drug when a patient believes it may prolong life or improve function (e.g. Statins in the elderly many years after a primary event)
- perception that deprescribing suggests that the patient is 'not worth treating' (e.g. cessation of aspirin interpreted as "giving up")

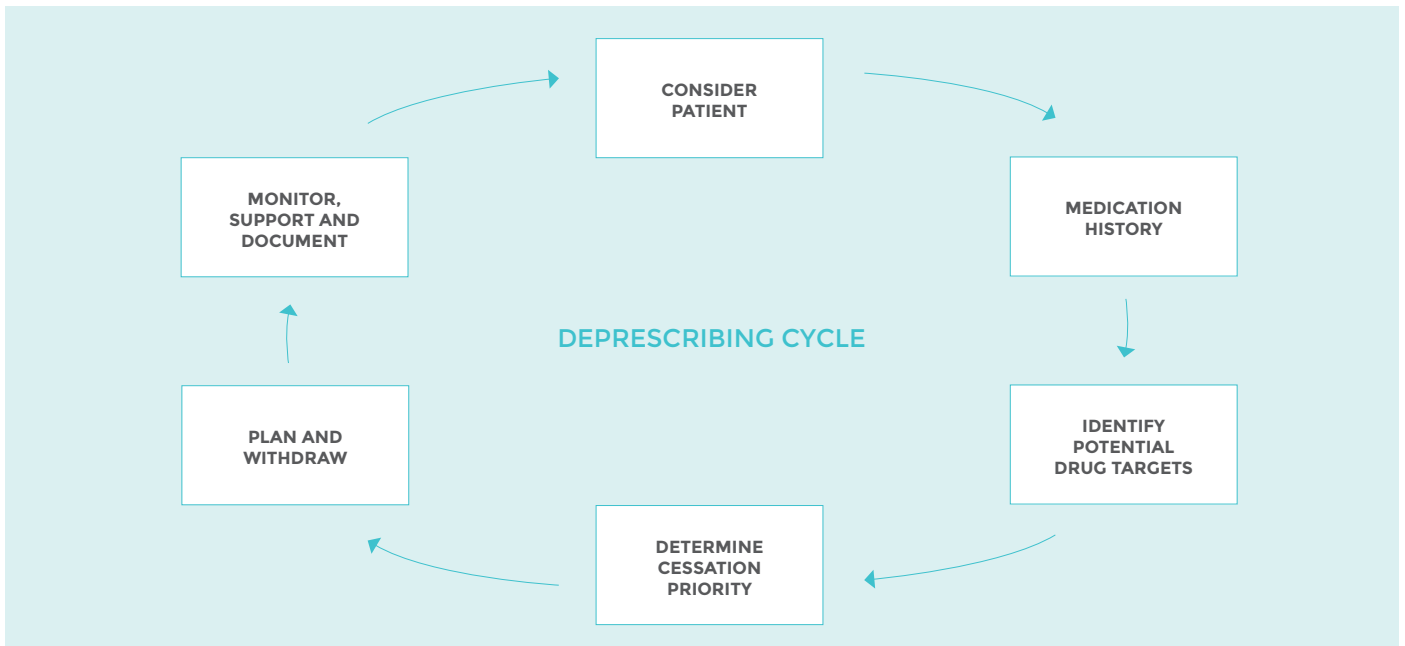
The doctor, patient and/or carer need to be engaged in the process and without cooperation deprescribing is less likely to succeed.

Patients should be informed that deprescribing is intended to improve their quality of life by ensuring they do not receive unnecessary medicines with either no or minimal benefit and/or some potential for harm.

Explaining that cessation/reduction is to be monitored, so that they are aware that drugs may be restarted if needed, enhances the likelihood of participation. Following up to determine the success or otherwise (i.e. development of any withdrawal symptoms etc.) of any reduction/cessation is an important part of the process.



DEPRESCRIBING: A PERSONALISED APPROACH



CONSIDER THE PERSON

- What are their goals and expectations?
- What is most important to the person?
- What is their degree of frailty?
- Can you assess their reasonable life-expectancy?

Estimating life expectancy is problematic in an individual. Often asking the question “would I be surprised if this patient died in the next 6-12 months?” is as effective as other techniques. Some formal life expectancy resources are available, all of which take into account the level of comorbidity, specific high mortality disease states, functional status and age.^{14,15}

Frailty is a vulnerable state known to be more likely to be associated with adverse outcomes. Quantification of frailty is possible using a number of available techniques¹⁶. Frailty scales incorporate number of measures including cognitive state, weight loss, social supports as well as some measures of muscle strength (e.g. a “timed get up and go” test). The Edmonton Frail Scale is available as an application for phone or other devices.

Listening carefully to the person regarding aspects of their quality and duration of life and expectations of treatment (including efficacy) will assist with determining priorities for deprescribing. Deprescribing should be viewed as an individualised process allowing that individual patients attach different importance to particular outcomes depending on a range of factors, including life experience.

CONSIDER THE MEDICATIONS

- What are they taking?
- How long and how much have they been taking? (including dose, frequency and duration)
- Why are they taking them?
- Any adverse effects or possible interactions? (drug-drug or drug-disease)

Determine what prescription and OTC medication is being taken, including prescriptions from other practitioners along with any vitamins and herbal medicines. This can be done by asking the patient to bring all medications to an appointment or via a home visit either by a pharmacist (i.e. a Home Medicines Review) or a nurse visit (Comprehensive Health Assessment or similar).

Indications for use of many medications may change with time, and medication that was clearly appropriate in the past, may no longer be so (e.g. peptic ulcer treatment, analgesia, preventative strategies).

Although many adverse effects are predictable, uncommon adverse effects still occur and the role of medication should be considered in all patients who develop new symptoms. In particular, medication interactions with underlying diseases should be evaluated (e.g. anticholinergic drugs and cognitive impairment, NSAIDs/ACE inhibitors and renal impairment)

IDENTIFY POTENTIAL DRUGS TO BE CEASED/MODIFIED

3

- Risk/benefit analysis for individual drugs with particular attention to high risk drugs and those originally prescribed for disease prevention which may no longer be relevant or needed.

In addition to determining the usefulness of a medication, attempting to determine the likelihood of any harm (incorporating the concept of medication load) also assists in identifying potential agents for deprescribing. Scott et al. suggested the following:

- Medications known to have a poor risk : benefit ratio in the elderly (e.g. Beer’s criteria,^{17,18}, STOPP/START criteria,^{19,20} or other inappropriate prescribing lists) Alternatives to many of these high risk agents have been recently published.²¹
- Medications that duplicate indications and/or classes of agents (e.g. mirtazapine at night with temazepam at night)
- Medications to treat a sign or symptom that may be an adverse drug event from another medication (e.g. oxybutynin for urinary incontinence associated with cholinesterase inhibitors)
- Medications used at a dose that is likely to cause toxicity in the elderly (e.g. 20mg rivaroxaban in elderly patients, 4g paracetamol in lightweight elderly women) should have doses reduced
- Medications that are associated with multiple drug-drug or drug-disease interactions (e.g. diltiazem) may be substituted
- Medications that are taken more than once daily (e.g. three times daily metformin) could be converted to once daily.
- Multiple medications that are available in combination forms may reduce medication burden (e.g. amlodipine/ atorvastatin)
- Medications where adherence is an issue (e.g. metered dose aerosols, night-time statins)

PRIORITISE MEDICATIONS TO BE DEPRESCRIBED

4

- Drugs with least utility or highest risk .
- Drugs adversely impacting on wellbeing.
- Patient preference.
- Drugs with complicated administration regimens.

Although many medications may be targeted for deprescribing, it may be prudent to initiate a trial of withdrawal of one medication at a time. Choosing priority will be based on individual case considerations. In some cases, deprescribing may be a case of simplifying or reducing the dose regimen prescribed rather than ceasing an agent.

PLAN AND INITIATE WITHDRAWAL TRIAL

5

- Seek consent from patient/carer explaining rationale and steps to take if symptoms recur.
- Prepare withdrawal plan with appropriate tapering of one medication at a time.
- Inform other health professionals involved of rationale and tapering plan.

Explaining the rationale to the person improves success rates in deprescribing and empowers the patient to take control of their medications. The National Prescribing Service has prepared a number of specific and general patient resources with regard to deprescribing of medications.²²

It is important to provide the patient and carer with information on what they should do if symptoms recur and about alternative non-drug strategies that may be used to control symptoms.

A written tapering plan is desirable, especially for the classes of medication that require slow tapering to avoid either return of disease symptoms or withdrawal symptoms (e.g. corticosteroids, opioids, PPIs).

MONITOR AND SUPPORT

6

- Set up a follow-up / withdrawal plan to monitor any adverse effects or return of symptoms.
- Review plan with person and ask for feedback.
- Document result of withdrawal process and move on to next medication if appropriate.

As with prescribing, deprescribing should involve a review/monitoring plan for efficacy and adverse outcomes. The required frequency of this will depend on the medication/disease process involved and the duration of the tapering regimen.

RESOURCES

QUICK REFERENCE GUIDE

GENERAL INFORMATION

ALLOPURINOL

ANTIHYPERTENSIVES

ANTIPLATELET AGENTS

ANTIPSYCHOTICS

BENZODIAZEPINES

BISPHOSPHONATES

CHOLINESTERASE INHIBITORS

GLAUCOMA EYE DROPS

NSAIDS

OPIOIDS

PROTON PUMP INHIBITORS

STATINS

SULPHONYLUREAS

VITAMIN D AND CALCIUM

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MAY 2016



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