Deprescribing and polypharmacy | Te whakaiti whakahau rongoā me ngā rongoā takitini

Deprescribing definition

The systematic process of identifying and discontinuing medicines when:

- Existing or potential harms outweigh existing or potential benefits within the context of an individual patient's goals or current level of functioning.
- When life expectancy is shorter than the time that medication would take to achieve significant effect.

Definition of polypharmacy

Polypharmacy is where the increased number of tablets increases the risk of adverse effect and is an indication for deprescribing.

Multidisciplinary medication review

- Team-based approach to medicines review that includes the prescriber, senior nurse and pharmacist, the patient and their families/whānau/support persons.
- Aim is to identify medication that could be deprescribed and optimise ongoing medicines.
- Decisions to deprescribe should be in line with the patient's goals of care, and the patient should be involved in the decision-making, as appropriate.
- In residential facilities, this can form part of the resident's three-monthly review.

When to consider deprescribing

- Patient's presentation includes problems that could be an adverse medicine effect; commonly falls, confusion, fatigue.
- When there is no clear indication for a medicine, or the indication is no longer clinically relevant – particularly at three-monthly reviews.
- When medicines are being used for prevention (rather than treatment).
- When there has been significant change in health status with new goals of care, such as increased frailty, end-stage disease, terminal cancer.
- Receiving high-risk medicines/combinations, or polypharmacy in general.

Medicines to consider deprescribing in frailty

- Medicines for prevention of future complications: statins, aspirin (primary prevention), antidiabetic medicines
- Antihypertensives
- Proton pump inhibitors
- Anticholinergic medicines
- Sedatives: hypnotics, benzodiazepines, zopiclone
- Antipsychotics for the behavioural and psychological symptoms of dementia (BPSD)

Five steps to deprescribing

1. Ascertain all medicines the patient is currently taking and indication or reason for being on each one. This is best done with a pharmacist and the multidisciplinary team.
2. Consider overall risk of drug-induced harm to determine the appropriate intensity of deprescribing intervention – include consideration of the risks posed by polypharmacy.
3. Assess each medicine for its current benefit, compared with current or future harm/burden potential.
4. Prioritise for deprescribing if:
    a) the medicine being given is for a condition that has resolved or is no better despite the medicine (ie, pain, oedema, dyspepsia, agitation)
    b) the dose can be reduced with no significant risk of deterioration in symptomatic control – aim for the lowest effective dose
    c) the medicine is suspected of causing adverse effects, or expected benefits do not outweigh all the possible known adverse effects
    d) there is a low risk of withdrawal reactions or these can be addressed without consequences to the patient (ie, use of antacids with proton pump inhibitors (PPIs) withdrawal).
5. Implement a discontinuation plan, where multiple interventions are made in a stepwise manner. Monitor patients closely for improvement in outcomes, onset of adverse effects or re-emergence of problems after stopping medicines.

Deprescribing considerations for priority medicines

Statins, eg, simvastatin, atorvastatin

What is the indication for the statin?

- There is no reason to prescribe or continue statins for primary prevention in frailty.
- Re-evaluate the patient's risk profile for secondary prevention.
- Consider intensity of treatment needed with respect to life expectancy and ADR risk.

Factors in favour of deprescribing statin

- Used for primary prevention.
- Known adverse effects, particularly muscle weakness, which increases falls risk.
- If the person is likely not to live > 5 years.
- If the person has a large number of medicines (high pill burden).
- In secondary prevention when the person has had > 5 years' treatment and their total cholesterol is low with no further thromboembolic events.

In favour of continuing statin

- Used for secondary prevention of CVD and:
  - patient has good quality of life
  - life expectancy > 5 years
  - absence of side effects
  - consider lowest effective dose.
- Recent stroke (past two years) for plaque stabilisation.
- Actively treating peripheral vascular disease where symptoms improve on statin therapy.

Proton pump inhibitors (PPIs), eg, omeprazole

Why has this medicine been prescribed?

- Treatment of medical problem, such as GORD, hiatus hernia.
- Gastro protection due to other medicines (previous or current).

In favour of deprescribing PPI

- No current symptoms.
- GORD that has been treated x 4–8 weeks.
- Peptic ulcer disease with known underlying cause removed/treated (NSAIDs, *H. pylori*).
- Prescribed for gastro protection due to other medicines that have or can be discontinued (aspirin, dabigatran, NSAIDs, oral bisphosphonates).
- Mild-to-moderate oesophagitis or reflux that can be managed with antacids.

In favour of continuing PPI

- Barrett's oesophagitis.
- Severe oesophagitis.
- Documented history of bleeding GI ulcer.

Factors to consider when deprescribing

- Decrease to a lower dose for a month, to reduce the risk of rebound hyperacidity.
- Aim to establish lowest effective dose.
- Chart PRN antacid.
- After stopping completely, monitor for 4–12 weeks for re-emergence of symptoms: heartburn, epigastric pain, dyspepsia, nausea. In non-verbal patients, look for regurgitation, weight loss, increased agitation or decreased appetite.

Deprescribing considerations for priority medicines continued

Sedatives and hypnotics, eg, temazepam, lorazepam, midazolam, clonazepam, zopiclone

Why was the medicine prescribed – appropriate uses include

- seizures
- alcohol withdrawal
- refractory anxiety
- acute agitation in psychosis
- palliative care, shortness of breath and/or acute ongoing anxiety or agitation.

In favour of deprescribing sedatives and hypnotics

- The target symptom is no longer a concern, ie, night sedation but patient is sleeping well.
- Patient has cognitive impairment: benzodiazepines result in five-fold increase in memory problems.
- Mobile patient with high falls risk: two-fold increase in falls/fractures with sedatives.
- Daytime sedation.
- Aim for lowest effective dose.

Factors to consider when deprescribing

- Treat underlying issues:
  - poor sleep on beta-blockers, steroids
  - untreated depression
  - untreated anxiety
  - agitation due to constipation or untreated pain.
- Research has shown no improvement in mood and health-related quality of life and somatic symptoms with benzodiazepine use.

Bendodiazepine tapering guidelines

- Reduce dose 10 percent x 1–2 weeks until reaching 20 percent of initial dose.
- Then, reduce by 5 percent every 2–4 weeks until off.

Antipsychotics, eg, haloperidol, risperidone, quetiapine, olanzapine

Why has it been prescribed?

- Treatment of long-term mental health disorder (schizophrenia, bipolar disorder).
- Dementia and BPSD.

Factors in favour of deprescribing

- Primarily being used for insomnia.
- BPSD treatment > 3 months and symptoms are controlled (aggression, agitation, psychosis).
- BPSD treatment when there has been no change in target symptom(s).
- Adverse effects; postural hypotension.
- Underlying cause of symptom can be identified and treated.

In favour of continuing antipsychotics

- Treatment of long-term mental health condition or actively under the care of mental health services.
- Acute delirium (can be stopped as soon as delirium clears (within days), but should never be given for longer than a month).
- BPSD treatment duration < 3 months and patient has responded well to medicine.
- BPSD where withdrawal has been trialled and failed or symptom relapse is considered too risky or unacceptably severe.

Stopping antipsychotic medicines:

- Ensure underlying problems are assessed and managed (constipation, UTIs, pain).
- Tapering: 25–50 percent dose reduction over 1–2 weeks with monitoring.
- Develop a non-pharmacology intervention care plan.

Deprescribing considerations for priority medicines continued

Antihypertensives

Why has it been prescribed?

- Prevention of long-term health consequences; stroke, renal impairment in diabetes or cardiovascular protection.
- Active treatment of symptomatic hypertension causing headache, ongoing TIAs/stroke, heart failure, rate control in AF.

In favour of deprescribing antihypertensives

- High risk of falls or dizziness, and blood pressure is consistently < 140/90 mmHg.
- Hypotension where BP < 120/60 mmHg.
- Orthostatic hypotension – systolic drop of 20 mmHg or more.
- Diuretics for peripheral oedema in absence of congestive heart failure.

In favour of continuing antihypertensives

- Blood pressure > 150/90 without treatment.
- History of stroke and BP between 120 mmHg and 140 mmHg on treatment.
- Uses other than solely for BP: beta-blockers for rate control or heart failure, ACE inhibitors after recent MI or heart failure.

Factors to consider

- Thiazides can increase incidence of electrolyte abnormalities, dehydration and reduced effectiveness when CrCl < 30 ml/min:
  - deprescribe these first.
- Withdrawal should be gradual at monthly intervals, over 3–6 months.
- Blood pressure goals are higher in the frail – avoidance of systolic BP < 130 mmHg is recommended, and up to 150 mmHg may be appropriate in the very old or frail.

Anticholinergic medicines

Why has it been prescribed?

Many medicines have anticholinergic side effects:

- Antipsychotics: quetiapine, olanzapine
- Antidepressants: amitriptyline, nortriptyline, paroxetine, doxepin
- Antihistamines: promethazine, ranitidine
- Urinary antispasmodic: oxybutynin, solifenacin
- Parkinson's disease medicines: benztropine, amantadine

Anticholinergic adverse effects

- Confusion and cognitive decline.
- Delirium, hallucinations and agitation.
- Constipation.
- Urinary retention.
- Orthostatic hypotension and blurred vision, increases risk of falls.
- Dry mouth, increases dental caries.

Factors in favour of deprescribing

- The patient is experiencing clear anticholinergic side effects.
- The target symptom is no longer a concern; incontinence drugs when pads already in use.
- Burden is high and alternative medicines exist – consider swapping medicines.

Factors to consider

- There is an accumulation of side effects with each additional anticholinergic medication.
- Anticholinergic burden can be calculated: www.acbcalc.com.
- Anticholinergics can cause withdrawal reactions if stopped suddenly; withdraw slowly, where possible.

Crushing medicines

From Waitematā DHB's *Crushing Guide for Oral Medication in Residential Aged Care* (www.saferx.co.nz/RAC_crushing_guide.pdf). This is to guide decisions about crushing oral medicines for residents who have swallowing difficulties in residential aged care.

Some medicines should **not** be crushed because this will alter the absorption or stability of the medicine or it may cause a local irritant effect or unacceptable taste. Sometimes the exposure of powder from crushing medicines may cause occupational health and safety risk to staff. Crushing or altering the medicine is often outside the product licence.

Before crushing – consider:

- alternative medication, formulations, routes
- assessment of swallowing.

Notes:

- When switching to a liquid or alternative formulation there may be a difference in the bioavailability of the medication – do not assume that the dose will be the same.
- Avoid sprinkling crushed tablets or capsule contents onto meals because the meal may remain uneaten.

Effect of crushing tablets – important examples

Preparation type	Abbreviations	Notes	Examples
Modified release • Long-acting • Controlled release • Extended release • Slow release • Controlled delivery • Prolonged release	LA CR XR SR CD XL May have 'retard', 'slow' or 'continuous' in the title	**Do not crush or chew** This medicine is designed to be released slowly (long acting). If crushed, the resident may receive the full dose faster than expected	Diltiazem CD Metoprolol CR Felodipine ER Sinemet CR
Enteric coated	Usually has EN or EC in the medicine name	**Do not crush** The coating may protect the stomach	Aspirin EC Mesalazine EC
Film and sugar coated	Usually has FC in the medicine name	**Do not crush (preferably)** The coating may be necessary to prevent rapid degradation of the medicine or to mask the taste	Doxycycline (Doxine), Morphine sulphate (Sevredol), Citalopram (PSM)
Pre-scored tablets	Tablets that have a score line	May be broken along the score line to give half doses but may not necessarily be crushed	Isosorbide mononitrate (Duride) SR Carbamazepine (Tegretol CR) CR
Cytotoxic or locally irritant		If crushed, cytotoxic drug powder may be exposed to staff and cause occupational health or safety risk (a). If crushed, irritant medicines may cause irritation/ulceration of the mouth or oesophagus (b).	(a) Methotrexate, Finasteride (b) Alendronate, Risidronate

Not all medicines can be crushed

- It is important for the RN or carer to inform the prescriber if a resident is unable to swallow medicines whole or is chewing medicines.
- The formulation of medicines change frequently and new formulations may or may not be able to be crushed. The website www.saferx.co.nz is updated monthly with new formulations of medicines.
- Individual medicines can be checked if they can be crushed, and it includes suggestions for alternative formulation for those with swallowing difficulties.

Dabigatran (Pradaxa) caution:

Do not crush, chew or open. Bioavailability increases by 75 percent when pellets are taken without the capsule shell. This will result in an increased risk of bleeding.

Bibliography | Te rārangi pukapuka

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Best Practice Journal. 2010. *A practical guide to stopping medicines in older people*. URL: https://bpac.org.nz/bpj/2010/april/docs/bpj_27_stop_guide_pages_10-23.pdf (accessed 31 May 2019).

Burridge N, Symons K (eds). 2011. *Australian don't rush to crush handbook*. Melbourne: Society of Hospital Pharmacists of Australia.

Coggins MD. 2017. Deprescribing improves quality of life. *Today's Geriatric Medicine* 10(4): 8.

Curran HV, Collins R, Fletcher S, et al. 2003. Older adults and withdrawal from benzodiazepine hypnotics in general practice: effects on cognitive function, sleep, mood and quality of life. *Psychological Medicine* 33(7): 1223–37.

Kutner JS, Blatchford PJ, Taylor DH, et al. 2015. Safety and benefit of discontinuing statin therapy in the setting of advanced, life-limiting illness: a randomized clinical trial. *JAMA Internal Medicine* 175(5): 691–700. DOI: 10.1001/jamainternmed.2015.0289

Li G, Rhew IC, Shofer JB, et al. 2007. Age-varying association between blood pressure and risk of dementia in those aged 65 and older: a community-based prospective cohort study. *Journal of the American Geriatrics Society* 55(8): 1161–7. DOI: 10.1111/j.1532-5415.2007.01233.x

Liu LM. 2014. Deprescribing: an approach to reducing polypharmacy in nursing home residents. *Journal for Nurse Practitioners* 10(2): 136–9. DOI: 10.1016/j.nurpra.2013.09.010

McMaster University. (nd). Canadian guideline for safe and effective use of opioids for chronic non-cancer pain – Appendix B-6: Benzodiazepine tapering. URL: http://nationalpaincentre.mcmaster.ca/opioid/cgop_b_app_b06.html#table_b_app_06_01 (accessed 31 May 2019).

Pottie K, Thompson W, Davies S, et al. 2016. Evidence-based clinical practice guideline for deprescribing benzodiazepine receptor agonists. URL: https://www.open-pharmacy-research.ca/evidence-based-deprescribing-algorithm-for-benzodiazepines/ (accessed 31 May 2019).

Reeve E, Ong M, Wu A, et al. 2017. A systematic review of interventions to deprescribe benzodiazepines and other hypnotics among older people. *European Journal of Clinical Pharmacology* 73(8): 927–35. DOI: 10.1007/s00228-017-2257-8

Rehman B, Lambie A. 2019. *Guide for crushing oral medication for residents with swallowing difficulties in residential aged care*. URL: http://www.saferx.co.nz/assets/Documents/e14603781b/Crushing-table-RAC.pdf (accessed 25 June 2019).

Scott IA, Hilmer SN, Reeve E, et al. 2015. Reducing inappropriate polypharmacy: the process of deprescribing. *JAMA Internal Medicine* 175(5): 827–34. DOI: 10.1001/jamainternmed.2015.0324

Swallowing Difficulties. (nd). Safely providing solutions for those with swallowing difficulties. URL: https://swallowingdifficulties.com/ (accessed 31 May 2019).

Tannenbaum C, Martin P, Tamblyn R, et al. 2014. Reduction of inappropriate benzodiazepine prescriptions among older adults through direct patient education: the EMPOWER cluster randomized trial. *JAMA Internal Medicine* 174(6): 890–8. DOI: 10.1001/jamainternmed.2014.949

Villalba-Moreno AM, Alfaro-Lara ER, Pérez-Guerrero MC, et al. 2016. Systematic review on the use of anticholinergic scales in poly pathological patients. *Archives of Gerontology and Geriatrics* 62: 1–8. DOI: 10.1016/j.archger.2015.10.002

Waitematā DHB. 2018. *Crushing Guide for Oral Medication in Residential Aged Care.* URL: www.saferx.co.nz/RAC_crushing_guide.pdf (accessed 25 June 2019).

Wright D, Chapman N, Foundling-Miah M, et al. 2015. *Guideline on the medication management of adults with swallowing difficulties.* URL: https://www.rosemontpharma.com/sites/default/files/20150911_adult_dysphagia_full_guideline_clean_approved_sept_15.pdf (accessed 25 June 2019).

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