

This guidance is intended to be a resource for primary care prescribers and practice pharmacists to highlight the importance of medication review, prioritise patients/medications for review and highlight available resources.

The initial decision to prescribe medicines, the patient's experience of using the medicines and the patient's needs may change over time, making regular medication review essential.

What is a medication review?

A medication review has been defined as 'A structured critical examination of a patient's medicines with the objective of **reaching an agreement with the patient** about treatment, optimising the impact of medicines, minimising the number of medication-related problems and reducing waste'.¹

Who should be prioritised for a medication review?

- elderly or 'frail'
- patients on polypharmacy or high risk medicines
- residents in care homes
- patients recently discharged from hospital.

A robust **Prescribing Protocol (repeat and acute)** helps to ensure safe systems for prescribing and helps identify and manage patients who require a medication review. All staff need to be aware of how their IT system is set up to facilitate safe prescribing. Some features of a robust repeat prescribing system include:

- All staff are aware of the prescribing protocol and have been trained in their roles
- Certain tasks (such as adding/deleting medicines, handling hospital discharge information) are only performed by a prescriber or other trained and competent health care professional
- A medication review date is recorded for all patients receiving repeat medicines
- All staff are aware of the medication review date and action required if this is due/overdue
- Systems are in place to highlight medication over or under use

An audit tool is available to review your practice's prescribing systems on the Primary Care Intranet.*

Points to consider when undertaking a medication review

Clinical Need

- Is there a documented indication and does the patient know why they are taking the medicine?
- Does the patient still need the medication?
- Is the medication working and does the condition require monitoring e.g. BP check for antihypertensives?
- Is a medication required because of an adverse effect of another treatment e.g. opioids & constipation?

Patient Factors

- Does the patient have any concerns/problems with their medicines e.g. non adherence?
- Could the medication regime be simplified e.g. once daily dosing rather than twice daily?
- Does the patient use a compliance aid? (Remember to add a warning to the patient's records and note the pharmacy's name/number to inform of any 'mid cycle' changes).
- Could medicines be aligned to allow ordering on the same day? This may improve patient adherence and reduce calls to the surgery.

Appropriateness

- Is medication in line with latest evidence/guidance and safety recommendations and is it cost effective? (Useful resources can be found on the NI Formulary² and NI Medicines Governance³ websites).
- Is there any potentially 'high risk' prescribing? Several prescribing safety indicators have been developed.⁴ See page 4 for examples.
- Are there any serious potential drug interactions with prescribed/OTC/complimentary medicines?
- Are quantities appropriate e.g. lower quantities for drugs with abuse potential?

Monitoring

- Is any other monitoring required e.g. renal function & electrolytes?
- Does any medication need the dose reduced due to poor renal function?
- Is it appropriate to advise the patient on 'sick day rules' i.e. temporarily stopping ACE inhibitors/ATII receptor antagonists, diuretics, metformin and NSAIDs during dehydration to help prevent acute renal failure.^{5,6}

Stopping or reducing medicines

Inappropriate polypharmacy, especially in older people, imposes a substantial burden of adverse drug events, ill health, disability, hospitalisation, and even death. The single most important predictor of inappropriate prescribing and risk of adverse drug events in older patients is the number of prescribed drugs.⁷

Whilst there is good evidence for treating many individual conditions, such as hypertension, heart failure, diabetes, the evidence base for multiple interventions for several conditions in an individual is poor.

Stopping medicines can be challenging as there are numerous guidelines available on when to start a medication, but far less information and evidence to help support decisions to stop therapy.

De-prescribing is a systematic process of identifying and discontinuing drugs when existing or potential harm exceeds existing or potential benefits within the context of the individual patient's care goals, level of function, life expectancy, values and preferences.

It is **not** about denying effective treatment to people who would benefit.⁷

a. General notes on stopping medicines⁸

- Recognise the potential for stopping a medicine. Most do not need to be used life-long.
- Try to reduce or stop one medicine at a time. If problems develop, it's then easier to identify the likely cause.
- Some treatments should not be stopped abruptly following long term use. If in doubt, taper as it's safer.
- Taper when appropriate e.g. reduce dose by half, then review and reduce again.
- Check for benefit or harm after each medicine is stopped. Beneficial effects should be noted to reinforce that the decision to reduce or stop the medicine was correct.
- If symptoms of the initial condition return and are troublesome, despite gradual tapering, then the medicine may need reintroduced. However, often the patient may be able to be managed on a reduced dose.

b. Wondering where to start? - The HSCB Prescribing Stop List

The HSCB have produced a practice-specific Prescribing Stop List, which can be found in the practice's compass report. Examples of these items are listed.

They should not be prescribed because of lack of proven efficacy or product licence. Further information is available in the Stop List newsletter.⁹

Glucosamine and Glucosamine/Chondroitin Bio-Oil[®]
 Infacol[®] or Dentinox[®] Drops
 Gamolenic Acid / Evening Primrose Oil
 Green Lipped Mussel (Pernaton Gel[®])
 Gluten-Free Non-Staple Foods
 Comfort Milk[®] or Colief[®]
 Spatone[®]
 Co-enzyme Q10, Cubitan[®]
 Omega 3 fatty acids for neurological conditions e.g. autism, ADHD e.g. EyeQ[®] and Efalex[®]



c. Medicines of limited clinical efficacy or rarely indicated long term⁵

| Medication | Rationale for reviewing/stopping |
|---|--|
| Antispasmodics | Rarely effective; rarely indicated or licensed long term. |
| Anti-emetics | Review reason for prescribing and if still required. See MHRA warning for domperidone re serious cardiac adverse effects. ¹⁰ |
| Antibiotics (prophylactic) | There is no evidence that prophylactic antibiotic use for UTIs has any additional benefit beyond 6-12 months. ¹¹ |
| Peripheral vasodilators | Rarely effective; rarely indicated long term. |
| Quinine | Short term use only; review effectiveness regularly; can cause thrombocytopaenia, blindness and deafness. |
| Antihistamines | Rarely indicated long-term for any condition (including vertigo); anticholinergic effects. |
| Supplements e.g. vitamins and iron | Stop iron and folic acid 3 months after deficiency is corrected. Check for valid indication for vitamin supplements. Review need for dietary supplements.* |

d. Priority medicines to consider stopping or reducing, particularly in elderly or frail patients⁸

Benzodiazepines*

Rationale: Avoid regular and prolonged use because of the risk of tolerance, dependence and adverse effects. Older people are particularly prone to adverse effects e.g. falls, fractures, confusion, memory loss and psychiatric problems.

Notes: Older people can withdraw from benzodiazepines use just as successfully as younger people, even if they have taken the medication for years. Precise rate of withdrawal is an individual matter but should be gradual.

Acid suppressants*

Rationale: Increased risk of C. diff infections, low sodium, low magnesium and fractures with PPIs. H₂ receptor antagonists have anticholinergic effects.

Notes: If can't stop, ensure taking lowest effective maintenance dose. When stopping, taper the dose to reduce rebound hypersecretion of gastric acid. Halve the dose for 4-8 weeks then stop (or step down to a less potent agent). Alginates and antacids can help prevent rebound hyperacidity symptoms.

Antidepressants

Rationale: Is there still a valid indication for prescribing? Do the adverse effects outweigh the benefits? e.g. TCAs worsen dementia, glaucoma, constipation, urinary retention. SSRIs can increase the risk of hyponatraemia. Are TCAs given with other drugs with anticholinergic activity e.g. oxybutynin, chlorphenamine, antipsychotics? SSRIs pose risk of gastric bleeding especially if given with other agents e.g. NSAIDs or antiplatelets/anticoagulants.

Notes: Tapering required (except 30mg or less fluoxetine).

Bisphosphonates

Rationale: Are these still needed e.g. is the patient at low risk of falls? Has treatment been taken for five years or more? Trials haven't lasted more than 5 years so the risk and benefits past 5 years are unknown. Consider a 'drug holiday' for anyone taking bisphosphonates for more than 5 years and reassess need in 2 years time.

Notes: No need for tapering. More advice on reviewing bisphosphonates is available elsewhere.¹²

Antihypertensives

Rationale: If BP is now low, if patient at risk of falls, experiencing adverse effects.

Notes: If taking more than 1 antihypertensive, stop or reduce dose one at a time. If BP rises above 150mmHg systolic or 90mmHg diastolic (or >160mmHg if no organ damage) restart antihypertensive. Gradual dose reduction recommended for beta-blockers.

Statins* (and other lipid agents)

Rationale: Consider stopping if risks outweigh benefits e.g. experiencing troublesome side effects. Anti-lipidaemic agents should be stopped in palliative patients.

Notes: NICE guidance on lipids 2014 advises not to routinely prescribe fibrates or omega 3 fatty acid compounds for CVD prevention either alone or in addition to statins.¹³

Oral corticosteroids

Rationale: Commonly cause osteoporosis, diabetes, glaucoma, GI toxicity, the consequences of which may be more serious in the elderly.

Notes: Need withdrawn gradually. The magnitude and speed of dose reduction should be determined on a case-by-case basis and should take into consideration the underlying condition being treated, likelihood of relapse and duration of corticosteroid treatment.

Transdermal opioid patches*

Rationale: Modified release morphine is the recommended first line choice strong opioid. Opioid patches have safety implications e.g. fever or external heat may increase absorption and adverse effects. They are not suitable for patients with unstable pain.

Notes: Care is required if converting from one opioid to another. Consult Northern Ireland guidelines on converting doses of opioid analgesics.^{3*}

Anticholinergic agents

Rationale: Many medicines (e.g. antihistamines, tricyclic antidepressants, antipsychotics and drugs for urinary incontinence) have anticholinergic effects which are additive and have been linked with cognitive impairment, falls, increased morbidity and mortality. They can also cause constipation, urinary retention, hot/dry skin, blurred vision, mydriasis and cardiovascular adverse effects.

Notes: More information on reviewing anticholinergic agents is available elsewhere,^{5,8,14} including a review tool for antimuscarinic agents for urinary incontinence.*

Other useful resources on medication review include the NHS Scotland Polypharmacy Guidance,⁵ the Presquipp Polypharmacy and Deprescribing webkit,¹⁵ and the Pharmacy Forum Guide to Support Medication Review.¹⁶

Some examples of Prescribing Safety Indicators

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|---|--|--|
| <p>Top 10 medicines causing fatal medication errors in the UK¹⁷</p> <ul style="list-style-type: none"> Methotrexate (26%) Warfarin (9%) Opioids (6%) Digoxin (6%) Theophylline (6%) Other anticoagulants (5%) Aspirin (4%) NSAIDs (4%) Beta-blockers (4%) Antibiotics (3%) | <p>Prescribing an NSAID in the following circumstances⁸</p> <ul style="list-style-type: none"> • Older patients without a PPI • History of peptic ulcer • Those with poor renal function (eGFR < 60 ml/min) • In combination with ACE inhibitor or ATII receptor antagonist plus diuretic ('triple whammy') • Diagnosis of heart failure • In combination with warfarin or one of the Non vitamin k oral anticoagulants (NOACs) e.g. dabigatran, apixaban, rivaroxaban, edoxaban. | <p>Indicator of uncontrolled asthma¹⁸</p> <ul style="list-style-type: none"> • The RCGP review of asthma deaths document has highlighted that over use of reliever inhalers and under use of preventer inhalers is a key factor in asthma death. • Anyone with asthma who has been prescribed 12 or more reliever inhalers (e.g. salbutamol/terbutaline) in the past year, or less than 12 inhaled corticosteroid inhalers in the past 12 months should be called for urgent review. |
| <p>Warfarin in combination with:⁸</p> <ul style="list-style-type: none"> • Another antiplatelet. Always check with whoever initiated the combination. Although specific indications for this may exist, the risk is high and the intention to prescribe the combination should be confirmed. • NSAID • NOACs • Azole antifungal, including miconazole gel (if essential, increase INR monitoring) | <p>Women's Health¹⁹</p> <ul style="list-style-type: none"> • Prescription of a combined hormonal contraceptive in a woman and any of the following: <ul style="list-style-type: none"> - Is ≥ 35 years and current smoker - BMI ≥ 35²⁰ - History of venous or arterial thromboembolism • Prescription of oral or transdermal oestrogens and either of the following: <ul style="list-style-type: none"> - History of breast cancer - Without progesterone in a woman with an intact uterus | <p>Laboratory monitoring¹⁹</p> <ul style="list-style-type: none"> • Patients on methotrexate but no full blood count and/or liver function test within the previous 3 months. • Patients on ACE inhibitor or ATII receptor antagonist without renal function and electrolytes measured within the past 15 months. • Patients on a statin without liver function test done before starting and within 3 months of starting. |

References:

1. Taskforce on Medicines Partnership and the National Collaborative Medicines Management Services Programme (2002). Room for Review.
2. <http://niformulary.hscni.net/>
3. www.medicinesgovernance.hscni.net/ look under 'Primary Care' tab
4. Polypharmacy and medicines optimisation: Making it safe and sound. King's Fund 2013.
5. NHS Scotland. Polypharmacy Guidance, March 2015.
6. www.thinkkidneys.nhs.uk
7. JAMA Intern Med. 2015;175(5):827-834.
8. All Wales Medicines Strategy Group. Polypharmacy: Guidance for Prescribing July 2014
9. See ref 2. Medicines Management Newsletter Supplement May 2015. HSCB STOP list.
10. MHRA warning <https://www.gov.uk/drug-safety-update/domperidone-risks-of-cardiac-side-effects>.
11. N.I. Antimicrobial Guidelines for Primary & Community Care <http://cms.horizonsp.co.uk/viewer/nipha>
12. Guidance to Support the Safe Use of Long-term Oral Bisphosphonate Therapy. <http://www.awmsg.org/>
13. NICE guidance on lipid modification CG 181, July 2014.
14. See ref 2. Medicines Management Newsletter Supplement Feb 2016. Anticholinergic drugs in older people.
15. Prescqiipp Polypharmacy and Deprescribing Webkit. <https://www.prescqiipp.info/>
16. A Guide to Support Medication Review in Older People <http://forum.psni.org.uk/>
17. Medicines optimisation: identifying medicines associated with serious medication errors. Medicines Evidence Commentary NICE 's Medicines Awareness Service February 2015.
18. See ref 2. Medicines Management Newsletter Supplement Vol 6 Jan 2015. Review of Asthma Deaths.
19. Identification of an updated set of prescribing-safety indicators for GPs. Br J Gen Pract 2014 e181-9.
20. UK Medical Eligibility Criteria http://www.fsrh.org/pages/Clinical_Guidance_1.asp

KEY: * Denotes resources available on the NI GP intranet <http://primarycare.hscni.net/>
 Look under 'PMMT' / 'Resources' / Clinical (e.g. Therapeutic Audits) or Non-clinical (i.e. systems resources e.g. Repeat/Acute Prescribing audits).