

IMPACT - Improving Medicines and Polypharmacy Appropriateness Clinical Tool

This bulletin provides suggestions for consideration by commissioning organisations and clinicians to optimise medicines use, and provide practical advice (where it is available) about how to safely stop/discontinue/withdraw a medicine and issues to consider. For patient-centred care, clinicians should discuss and review medicines benefits and risks with the patient and make shared decisions with the patient about whether to stop or continue a medicine. If therapy is appropriate, it should be continued. Where it is decided to stop a medicine because the risk of continuing outweighs the benefit to the patient, the information in this bulletin can be used as a practical decision aid, in conjunction with other relevant, patient specific data.

Background

The World Health Organisation (WHO) is aiming to reduce severe avoidable medication related harm by 50% globally by 2022. [WHO 2017] PrescQIPP have developed resources to support the WHO Medication without harm challenge, which are available here: <https://www.prescqipp.info/our-resources/bulletins/bulletin-252-medicines-without-harm/>

The WHO have stated that more than 50% of all medicines are prescribed, dispensed or sold inappropriately, and half of all patients fail to take medicines correctly. Medicines should be used rationally and responsibly. [WHO 2012]

The NHS in England and Wales spent £9.794 billion on medicines in primary care in 2019/2020. [NHS Digital 2020, Welsh Government 2020] It is estimated that medicines worth over £350 million are wasted each year in England and Wales. The cost to the NHS of people not taking their medicines properly and not getting the full benefits to their health has been estimated at over £500 million a year. [CPW 2010, NHSE 2015, YHEC 2010]

Prescribers should consider:

- Strategies for appropriate, safe and judicious prescribing.
- Prescribing principles to ensure medicines are used optimally.

These include: discussing medicines adherence with patients (is there a medication plan agreed with the patient, how often are medicines requested and collected); use of non-drug therapies; being cautious about unproven drug use or new drugs; remaining vigilant to adverse effects of medicines and educating patients about these and the monitoring required, so therapy is not stopped unnecessarily; obtaining unbiased information before making a decision on whether to prescribe or not, or whether to stop a medicine. [Schiff 2011, Avery 2011]

When talking with patients about their medicines, health-care professionals should review whether therapy is appropriate and still being taken. Since July 2019, clinical pharmacists working in Primary Care Networks are responsible for undertaking adherence-centred medication reviews in people with complex polypharmacy. This applies especially to the elderly, people in care homes, those with multiple comorbidities (in particular frailty, COPD and asthma) and people with learning disabilities or autism (through STOMP – Stop Over Medication Programme). [NHSE 2016, NHSE 2021, NHSE 2021a]

The National Institute for Health and Care Excellence (NICE) clinical guideline on medicines optimisation (MO) and Kings Fund report about MO highlight that polypharmacy may be either appropriate or problematic/inappropriate. Problematic/inappropriate polypharmacy should be reviewed to optimise medicines use. [[Duerden 2013](#), [NICE NG5](#), [NICE KTT18](#)]

There are many examples of tools to support reviewing medicines and safely tapering or withdrawing ones which are no longer appropriate: [PrescQIPP Polypharmacy & Deprescribing webkit](#), [NO TEARS](#), [STOPP-START](#), [Beers criteria 2019](#), [Scotland Polypharmacy Guidance 2018](#), [Australian 10-step discontinuation guide](#), [NHS Specialist Pharmacy Service patient centred approach to polypharmacy](#) and the Canadian [MedStopper](#) tool.

Some medicines may need to be stopped. This should be done in an evidence-based manner. [[WHO 2017](#), [NICE NG5](#), [Scott 2013](#)]

Medicines may be considered for stopping if:

- There is no valid or relevant indication for prescribing as assessed by changes in symptoms, signs, laboratory and diagnostic test results. [[Scott 2013](#), [Garfinkel 2010](#)]
- The known possible adverse drug reactions outweigh the possible benefits. [[Scott 2013](#), [Garfinkel 2010](#)] It is important to note that adverse drug reactions and risks of medicines can change over time as patients become older and more frail.
- There is a risk of cumulative toxicity if particular medicines are taken together. [[Scott 2013](#)]
- The patient is choosing to not take/use the medication as prescribed or intended. [[Scott 2013](#)]
- Unlicensed medicines ('specials') are being prescribed when an alternative licensed medicine or formulation that is suitable for the individual will provide the same therapeutic benefit. [[RPS 2015](#)]
- Non-drug measures can provide benefit, without adverse effects. [[Scott 2013](#)]
- The patient is nearing end of life. [[Scotland Polypharmacy Guidance 2018](#)]

If a medicine is no longer appropriate and needs to stop, the prescriber and patient should discuss and agree a decision. Good communication is essential for successful withdrawal of therapy that is no longer suitable. [[Straand 2001](#), [Drugs Ther Perspec 2014](#)]

Notes for the IMPACT table

- In the IMPACT table, the lists of example medicines are not exhaustive.
- Links to PrescQIPP resources are included where relevant. In order to access the PrescQIPP resources you will need to be **LOGGED IN to the website** before clicking links in the document.
- **Clinical risk** classifies the risks versus the benefits of continuing therapy based on usual maintenance doses as a general indication for classes of medicines. The clinical risk is not absolute and is intended as a guide. Risks may differ for individual patients depending on various factors, e.g. age, co-morbidities etc.
- **Deprescribing priority** is to help in situations where, for example a patient is on 20 drugs and ten could be changed. It may not be possible (or desired by the clinician/patient) to stop these all at once, so criteria are needed to help decide which to do first. The priority has been assigned based on clinical risk and medicine/patient safety factors first, and only considers cost when all safety issues are equal.
- When reviewing treatment for individual patients, it is important to consider the cumulative risks of medicines taken together and adjust the clinical risk and deprescribing priority accordingly using clinical judgement.
- A separate data pack is available to show current spend on medicines and also contains a tool where you can input an individual patient's medicines to pull off a patient specific deprescribing prioritisation report: https://data.prescqipp.info/?pdata.u/#/views/B268_IMPACT/Introduction?.iid=1

Contents

Click on the drug name to jump directly to the page

Gastrointestinal (GI) system

- Antispasmodics 4
- H2 blockers/PPIs 5
- Infantile colic products 5
- Laxatives 6

Cardiovascular system

- Aldosterone antagonists/mineralocorticoid receptor antagonists (MRAs) 7
- Antianginals 8
- Antiarrhythmics 8
- Anticoagulants – oral and injected 9
- Antihypertensives 10
- ACE inhibitors 11
- Alpha 1 blockers 11
- Central alpha blockers 11
- Angiotensin II receptor blockers (ARB) 11
- Beta blockers 11
- Calcium channel blockers 12
- Diuretics 12
- Antiplatelets 13
- Aspirin – low dose 14
- Digoxin 15
- Fibrates 15
- Nitrates 16
- Omega 3 fatty acid supplements 16
- Peripheral vasodilators 17
- Statins 17

Respiratory system

- Antihistamines 18
- Corticosteroids – inhaled 19
- Corticosteroids – oral 20
- Cough and cold remedies 21
- Theophylline 21

Central nervous system

- Analgesics – non opioid 22
- Antidepressants 24
- Anti-epileptic drugs 25
- Antipsychotics 26
- Barbiturates 27
- Benzodiazepines and other hypnotics 28
- Chloral hydrate 30
- Dementia drugs 31
- Drugs used in nausea and vertigo 31

Infections

- Antibacterials 32
- Antifungals 32

Endocrine system

- Anti-hyperglycaemics 33
- Bisphosphonates 34
- Liothyronine 35
- Oestrogens ± progestogens 35

Obstetrics, gynaecology and urinary tract

- Drugs for urinary retention 36
- Drugs used for urinary frequency, urgency and incontinence 37
- Finasteride or dutasteride 37
- Tadalafil once daily preparations 37

Malignant disease and immunosuppression

- Cytotoxics, immunosuppressants 38

Nutrition and blood

- Calcium + vitamin D 39
- Lutein and antioxidant vitamins 39
- Sip feeds 39
- Sodium, potassium and iron supplements 39
- Vitamins 39

Musculoskeletal and joint diseases

- Cannabis based medicinal products 40
- DMARDs 40
- Glucosamine 40
- NSAIDs 41
- Allopurinol or febuxostat 41
- Quinine 41
- Rubefaciants 42
- Skeletal muscle relaxants 42

Eye/ear, nose and oropharynx/skin

- Eye drops/ointments 43
- Ear/nose/throat drops, sprays, solutions 43
- Antimicrobial creams, ointments 43
- Eflornithine 44

Anaesthesia

- Lidocaine plasters 45

Wound management products and elasticated garments

- Dressings 46

Miscellaneous

- Complementary therapies, herbal supplements, homeopathy 47
- Probiotics 47

References

- References 48

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Antispasmodics (e.g. atropine, dicycloverine (dicyclomine), propantheline, hyoscine butylbromide)	<p>How long have they been prescribed?</p> <p>Avoid long term use, they are highly anticholinergic preparations, uncertain effectiveness. [Scotland Polypharmacy Guidance 2018, Beers criteria 2019]</p> <p>Are likely to cause constipation, and non-constipating alternatives are available, for example alverine, mebeverine. [STOPP-START]</p>	<p>Withdraw slowly to avoid adverse effects from sudden discontinuation. [Scott 2013]</p> <p>PrescQIPP Anticholinergic burden bulletin and briefing, searches</p>	M	M

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
<p>Laxatives (e.g. bisacodyl, docusate, ispaghula, lactulose, macrogols, methylcellulose, senna, sodium picosulfate)</p>	<p>Is hypokalaemia an issue? May be a sign of laxative abuse. [BNF]</p> <p>Has previous use of opioid analgesics reduced or stopped? [CKS constipation]</p> <p>Do regular bowel movements occur without difficulty? Is the patient eating and drinking and has an adequate fluid intake? [CKS constipation]</p> <p>What type of stool is passed? Use the Bristol stool chart.</p>	<p>If >1 laxatives are used, reduce and stop one at a time slowly.</p> <p>Do not stop abruptly. Withdrawal may take a few months. Reduce stimulant laxative first, increase the dose of other laxatives if necessary. Restart laxatives if relapse occurs. Use stool frequency and consistency as a guide. Advise patient to have adequate fluid and fibre intake to stop constipation occurring. [CKS constipation]</p>	M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Aldosterone antagonists/ mineralocorticoid receptor antagonists (MRAs) (e.g. spironolactone, eplerenone)</p>	<p>MRAs can be used in people with heart failure with reduced ejection fraction with continuing symptoms, however there is a risk of hyperkalaemia if:</p> <ul style="list-style-type: none"> • Spironolactone dose >25mg/day • Creatinine clearance <30ml/min • Or concomitantly taking an NSAID, ACE inhibitor, angiotensin II receptor blocker, aliskiren, amiloride, triamterene or potassium supplement. [STOPP-START, Scotland Polypharmacy Guidance 2018, Beers criteria 2019] Consider stopping the NSAID to reduce risk. <p>Measure serum sodium and potassium, and assess renal function, before and after starting an MRA and after each dose increment. Once the target, or maximum tolerated, dose of an MRA is reached, monitor treatment monthly for 3 months and then at least every 6 months, and at any time the person becomes acutely unwell. [NICE NG106]</p> <p>If used as a step 4 treatment for resistant hypertension, check adherence with other antihypertensives. [NICE NG136] See entry for antihypertensives.</p>	<p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (e.g. chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor), stop the MRA.</p> <p>If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			
		CR		DP	
Antianginals (e.g. ivabradine, nicorandil, ranolazine)	<p>Not first line treatments.</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits, e.g. visual disturbance, MI, severe bradycardia, arrhythmia (ivabradine), severe mouth ulceration (nicorandil), GI and neuropsychiatric disorders, palpitations, peripheral oedema, bradycardia, hypotension, QT prolongation, (ranolazine). [Prescrire 2018]</p> <p>Reduce antianginal treatment if mobility decreases. [Scotland Polypharmacy Guidance 2018]</p>	<p>No tapering required.</p> <p>Discuss withdrawal with specialist.</p>			
Antiarrhythmics (e.g. amiodarone, dronedarone)	<p>Not first line treatments. [NICE CG180]</p> <p>Rate control has better balance of benefits and harms than rhythm control for most older adults in AF. Associated with multiple toxicities (thyroid, pulmonary, QT prolongation).</p> <p>Check all monitoring is being done. [STOPP-START, Scotland Polypharmacy Guidance 2018, Beers criteria 2019, Prescrire 2018, NHSE/NHSCC 2019]</p>	<p>Discuss tapering/withdrawal with specialist.</p>			

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Anticoagulants – oral and injected (e.g. warfarin, apixaban, dabigatran, edoxaban, rivaroxaban, heparin, dalteparin, enoxaparin, tinzaparin)</p>	<p>Do the known possible adverse drug reactions outweigh the possible benefits, e.g. bleeding? [STOPP-START, Beers criteria 2019, Pirmohamed 2004]</p> <p>Are LMWHs/oral anticoagulants prescribed following hip/knee replacement surgery still required? [BNF]</p> <p>Is there a concurrent significant bleeding risk? [STOPP-START]</p> <p>No proven added benefit of warfarin use >6 months for first DVT or >12 months for first PE unless there are continuing, provoking risk factors. [STOPP-START]</p> <p>Long term treatment after completion of 3 months warfarin is not routinely recommended when the VTE was provoked by surgery, non-surgical trigger factors, such as plaster cast, pregnancy or combined pill (COC) or the VTE occurred in the calf only. Unprovoked VTE events, have a higher risk of recurrence and longer treatment may be warranted. [Keeling 2011]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p> <p>If patient cannot take warfarin for cognitive reasons, DOACs may not be indicated either. [Scotland Polypharmacy Guidance 2018]</p> <p>Do not use with aspirin for chronic AF as there is no benefit from adding in aspirin. [STOPP-START]</p> <p>No added benefit from dual therapy with antiplatelets for stable coronary, cerebrovascular or peripheral arterial disease. [STOPP-START]</p> <p>Do not use with NSAIDs as risk of major GI bleeding. [STOPP-START]</p> <p>Do not stop anticoagulants on the basis of falls risk. [NICE CG180]</p> <p>Check BNF and individual SPCs for interactions with concomitant medicines – are any of them enzyme inducers or inhibitors? [BNF] See https://www.medicines.org.uk/emc/</p>	<p>Warfarin - no tapering required. [CKS anticoagulation oral]</p> <p>DOACs – no tapering required.</p> <p>LMWH - no tapering required.</p>			M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Antihypertensives see individual drug classes for further information.</p>	<p>Is the BP at a normal level or too low?</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits, e.g. orthostatic hypotension, CNS effects, risk of falls? [Beers criteria 2019, Pirmohamed 2004]</p> <p>Would leg elevation/compression hosiery be more appropriate? [STOPP-START]</p> <p>Is lifestyle advice being followed? [NICE NG136]</p> <p>ACE inhibitors, angiotensin II receptor blockers, calcium channel blockers and central alpha blockers not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	<p>If >1 antihypertensives are used, stop one at a time, maintaining the dose of the others without change. Restart antihypertensives if BP increases above 90 mm Hg diastolic and/or 150mm Hg systolic (160mm Hg if no organ damage). [Garfinkel 2010] Check adherence first.</p> <p>Withdraw alpha agonists gradually to avoid severe rebound hypertension. ACE inhibitors, beta blockers and diuretics are commonly associated with adverse effects if discontinued suddenly and require slow withdrawal. [Scott 2013]</p> <p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor), stop the drug.</p> <p>If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p> <p>PrescQIPP antihypertensive deprescribing algorithm</p>				

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			
ACE inhibitors (ACEI, e.g. captopril, enalapril, lisinopril, perindopril , ramipril)	Consider changing treatment if hyperkalaemia present. [STOPP-START] There is no benefit of perindopril arginine over generic perindopril erbumine. [NHSE/NHSCC 2019]	If >1 antihypertensives are used, stop one at a time, maintaining the dose of the others without change. Restart antihypertensives if BP increases above 90 mm Hg diastolic and/or 150mm Hg systolic (160mm Hg if no organ damage). [Garfinkel 2010] Check adherence first. Withdraw alpha agonists gradually to avoid severe rebound hypertension. ACE inhibitors, beta blockers and diuretics are commonly associated with adverse effects if discontinued suddenly and require slow withdrawal. [Scott 2013] If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor), stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper] See also: PrescQIPP antihypertensive deprescribing algorithm	M	M	
Alpha 1 blockers (e.g. prazosin, doxazosin , terazosin)	High risk of orthostatic hypotension, not recommended as routine treatment. Other antihypertensives have better risk-benefit profile. [Beers criteria 2019] There is no good evidence of benefit with doxazosin MR over immediate release doxazosin. [NHSE/NHSCC 2019]		M	H	
Central alpha blockers (e.g. clonidine, methyldopa, moxonidine, reserpine)	Not routinely recommended, use only if other antihypertensives not tolerated or not effective. High risk of adverse CNS effects may cause bradycardia and orthostatic hypotension. [STOPP-START , Beers criteria 2019]		H	H	
Angiotensin II receptor blockers (ARB) (e.g. candesartan, losartan, valsartan)	Consider changing treatment if hyperkalaemia present. [STOPP-START]		M	H	
Beta blockers (e.g. atenolol, bisoprolol, celiprolol, metoprolol, nebivolol, propranolol)	Risk of heart block with concomitant use of verapamil/diltiazem. [STOPP-START] Risk of complete heart block/asystole if patient has bradycardia, type II or complete heart block. [STOPP-START] Potential risk of toxicity in overdose with propranolol. [HSIB 2020]		M	M	

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice				
Cardiovascular system Calcium channel blockers (e.g. amlodipine, diltiazem, felodipine, nifedipine, verapamil)	Verapamil / diltiazem may worsen heart failure. [STOPP-START] Avoid use of immediate release nifedipine due to risk of hypotension and precipitating myocardial ischaemia. [Beers criteria 2019]	If >1 antihypertensives are used, stop one at a time, maintaining the dose of the others without change. Restart antihypertensives if BP increases above 90 mm Hg diastolic and/or 150mm Hg systolic (160mm Hg if no organ damage). [Garfinkel 2010] Check adherence first.	M	H		
	Diuretics (e.g. amiloride, bendroflumethiazide, bumetanide, chlortalidone, furosemide, indapamide)	Do the known possible adverse drug reactions outweigh the possible benefits? Regular monitoring of U&Es required. [Scotland Polypharmacy Guidance 2018] Loop diuretic - Do not use as first line treatment, may exacerbate incontinence, do not use for ankle oedema without clinical, biochemical or radiological evidence of heart failure, liver failure, nephrotic syndrome or renal failure. [STOPP-START] Thiazide diuretics can precipitate hypokalaemia, hypocalcaemia, hyponatraemia and gout, avoid use if these are present. [STOPP-START , Pirmohamed 2004]	Withdraw alpha agonists gradually to avoid severe rebound hypertension. ACE inhibitors, beta blockers and diuretics are commonly associated with adverse effects if discontinued suddenly and require slow withdrawal. [Scott 2013] If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor), stop the drug.	M	H	
	Renin inhibitor (e.g. aliskiren)	Insufficient evidence of effectiveness of aliskiren to recommend use. [NHSE/NHSCC 2019 , Prescrire 2018]	If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper] See also: PrescQIPP antihypertensive deprescribing algorithm	H	H	

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Antiplatelets (e.g. clopidogrel, prasugrel, ticlopidine)	<p>Not indicated for primary prevention of CHD. [Scotland Polypharmacy Guidance 2018]</p> <p>Aspirin + clopidogrel only given for 12 months post ACS. [Scotland Polypharmacy Guidance 2018]</p> <p>Clopidogrel and prasugrel have similar efficacy, stronger evidence and fewer side effects than dipyridamole. [STOPP-START, Beers criteria 2019, NICE TA210]</p> <p>No added benefit from dual therapy with anticoagulants for stable coronary, cerebrovascular or peripheral arterial disease. [STOPP-START]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits e.g. GI bleeding? [STOPP-START, Scotland Polypharmacy Guidance 2018, Pirmohamed 2004] Avoid concurrent use of anticoagulants and NSAIDs. [STOPP-START, Scotland Polypharmacy Guidance 2018]</p> <p>Use PPI (e.g. lansoprazole or pantoprazole) with clopidogrel if GI risk factors present. [STOPP-START, Scotland Polypharmacy Guidance 2018]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	<p>No tapering required. Record stopping date for short term treatment and stop treatment when course complete.</p>	H	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
------------	---------------------------------	---	-----------------	-------------------	----------------

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Aspirin – low dose	<p>Re-evaluate the patient's risk profile for primary prevention. [STOPP-START]</p> <p>Do not use aspirin monotherapy solely for stroke prevention in people with atrial fibrillation. [NICE CG180]</p> <p>Do not offer aspirin for the primary prevention of cardiovascular disease to adults with type 1 diabetes. [NICE NG17]</p> <p>Do not offer antiplatelet therapy (aspirin or clopidogrel) for adults with type 2 diabetes without cardiovascular disease. [NICE NG28]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits e.g. bleeding? [Garfinkel 2010, Pirmohamed 2004]</p> <p>Is a dose of >150mg/day being used for a cardiovascular indication? [STOPP-START]</p> <p>Do not use with anticoagulants for chronic AF as there is no added benefit from aspirin. [STOPP-START]</p> <p>Use concomitantly with clopidogrel for maximum of 12 months post ACS. [Scotland Polypharmacy Guidance 2018]</p>	No tapering required.	M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Digoxin	<p>Do the known possible adverse drug reactions outweigh the possible benefits? E.g. if there is an increase in toxicity, or a decreased oral fluid intake. [STOPP-START, Garfinkel 2010, Pirmohamed 2004]</p> <p>Long term digoxin at >125microgram/day in patients with impaired renal function can lead to an increased risk of toxicity. [STOPP-START]</p> <p>BNF advises to reduce dose in elderly patients. [BNF]</p>	<p>Digoxin is commonly associated with adverse effects if stopped suddenly. Slow weaning required. [Scott 2013]</p> <p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor) stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>			M	H
Fibrates (e.g. bezafibrate, ciprofibrate, fenofibrate, gemfibrozil)	<p>Do the known possible adverse drug reactions outweigh the possible benefits, e.g. cutaneous, haematological and renal disorders?</p> <p>Monitor renal function and creatine phosphokinase levels closely. [Prescrire 2018]</p>	No tapering required.			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Nitrates (e.g. isosorbide mononitrate, isosorbide dinitrate)	<p>The patient has not had chest pain for 6 months. [Garfinkel 2010] The patient has reduced mobility. [Scotland Polypharmacy Guidance 2018]</p> <p>Is the patient on nitrate monotherapy and still symptomatic? Consider alternative treatment.</p> <p>Avoid concurrent use of PDE-5 inhibitor (e.g. sildenafil, tadalafil, vardenafil) due to risk of cardiovascular collapse. [STOPP-START]</p>	<p>Withdraw slowly to avoid adverse effects from sudden discontinuation. [Scott 2013]</p> <p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (chest pain, pounding heart, increased heart rate, increased blood pressure (re-measure for up to 6 months), anxiety, tremor) stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>		M	M
Omega 3 fatty acid supplements	<p>Not recommended by NICE for a variety of conditions – MI secondary prevention, sleep problems in autism, primary prevention of cardiovascular disease in type 2 diabetes, preventing hypertensive disorders in pregnancy or treating familial hypercholesterolaemia. [NHSE/NHSCC 2019]</p>	No tapering required.		L	L
Other lipid lowering agents (e.g. colesvelam, colestipol, colestyramine, ezetimibe, nicotinic acid, alirocumab, evolocumab, inclisiran, lomitapide, volanesorsen)	<p>Check indication for use, adherence to therapy and lifestyle modifications optimised.</p> <p>Nicotinic acid and bile acid sequestrants not recommended by NICE for preventing CVD. [BNF]</p>	<p>No tapering required.</p> <p>Discuss withdrawal with specialist.</p>		L	L

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Peripheral vasodilators (e.g. cilostazol, moxislyte, naftidrofuryl, pentoxifylline)	<p>Clinical effectiveness not established. [Scotland Polypharmacy Guidance 2018, BNF]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits? [Garfinkel 2010]</p> <p>Rarely indicated for long term treatment. [Scotland Polypharmacy Guidance 2018]</p> <p>Only naftidrofuryl oxalate recommended as an option by NICE. [NICE TA223]</p>	No tapering required.		M	H
Statins (e.g. atorvastatin, fluvastatin, pravastatin, rosuvastatin, simvastatin)	<p>Re-evaluate the patients risk profile for primary and secondary prevention of cardiovascular disease. [Petersen 2010]</p> <p>Consider need for and intensity of treatment with respect to life expectancy and adverse drug reaction (ADR) risk. [Scotland Polypharmacy Guidance 2018]</p> <p>Stop in metastatic disease [Kutner 2015, LeBlanc 2015, Todd 2013] or other contraindications as per the SPCs, e.g. liver disease. See https://www.medicines.org.uk/emc/</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	No tapering required. PrescQIPP statin deprescribing algorithm		M	M

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Antihistamines (e.g. acrivastine, alimemazine, brompheniramine, cetirizine, chlorphenamine maleate, clemastine, cyproheptadine, desloratadine, diphenhydramine, fexofenadine, hydroxyzine, levocetirizine, loratadine, promethazine)	First generation antihistamines are highly anticholinergic, clearance is reduced with advanced age, greater risk of confusion, dry mouth, constipation, tolerance develops when used as a hypnotic. [Beers criteria 2019]	First generation antihistamines No tapering required.	H	H
	Hay fever symptoms can be self-treated, usually with non-sedating antihistamines which are less anticholinergic than the first-generation more sedating antihistamines. [NHSE/NHSCC 2018]	Non-sedating antihistamines No tapering required. PrescQIPP Anticholinergic burden bulletin, briefing, searches	M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Corticosteroids - inhaled (e.g. beclometasone, fluticasone, budesonide, mometasone)	<p>In asthma – review every 3 months, has control been achieved? If yes, maintain patients on the lowest possible dose of inhaled corticosteroid. [BNF]</p> <p>In COPD – if adding an inhaled corticosteroid to a long acting antimuscarinic bronchodilator (LAMA) and a long acting beta2 agonist (LABA) does not improve symptoms after 3 months, switch back to LAMA/LABA combination. [NICE NG115]</p> <p>If the risk of stopping or tapering a medicine is increased due to external factors (e.g. COVID) then delay the deprescribing until it is safe to do so. [NICE NG168]</p>	<p>Reduce dose slowly (by 25-50% every 3 months). [BNF, BTS/SIGN 2019]</p> <p>Corticosteroids are commonly associated with adverse effects if discontinued suddenly and require slow reduction. [Scott 2013]</p> <p>If stepping down a combination product, a switch to an alternative product may be required. Note that while combination inhalers should be prescribed by brand, inhaled corticosteroids are not directly interchangeable. [BTS/SIGN 2019]</p> <p>If an adult is on high doses of an inhaled corticosteroid (>800 micrograms budesonide or equivalent), and/or on several asthma medicines, discuss withdrawal with a specialist.</p> <p>PrescQIPP asthma bulletin</p>			M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication		Withdrawing/tapering advice		CR	DP
Corticosteroids - oral (e.g. betamethasone, dexamethasone, fludrocortisone, hydrocortisone, prednisolone)	<p>For exacerbations in COPD give 30mg oral prednisolone for 5 days then stop. [NICE NG115]</p> <p>Oral prednisolone maintenance in COPD is not usually recommended. [NICE NG115, GOLD 2020]</p> <p>Prescribe oral steroids at the lowest possible dose for the shortest duration. [Beers criteria 2019]</p> <p>Some people with advanced COPD may need long-term oral corticosteroids when these cannot be withdrawn following an exacerbation. In these cases, the dose of oral corticosteroids should be kept as low as possible. [NICE NG115]</p> <p>Avoid in older adults with or at high risk of delirium because of potential of inducing or worsening delirium. [Beers criteria 2019]</p> <p>There is an increased risk of peptic ulcer or GI bleed when prescribed with and NSAID - avoid. [Beers criteria 2019]</p>		<p>The magnitude and speed of dose reduction and withdrawal should be determined on a case by case basis.</p> <p>Gradual withdrawal should be considered for those who have received more than 3 weeks treatment, and/or 40mg prednisolone daily (or equivalent) or have other possible causes of adrenal suppression. [STOPP-START, Scott 2013, BNF]</p>		M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP	
Cough and cold remedies (e.g. dextromethorphan, codeine or pholcodine (cough suppressants); guaifenesin or ipecacuanha (expectorants); phenylephrine hydrochloride, pseudoephedrine hydrochloride, ephedrine hydrochloride, oxymetazoline, or xylometazoline hydrochloride (decongestants))	<p>These are treatments with limited clinical value/evidence. Advise patients who wish to try cough mixtures, decongestants, inhalations or lozenges, to purchase OTC. [NHSE/NHSCC 2018, PrescQIPP Self care - over the counter items bulletin]</p> <p>Expectorants not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	No tapering required.	L	L	
Theophylline	<p>Monotherapy in COPD is not appropriate – safer, more effective alternatives are available. [STOPP-START]</p>	No tapering required.	H	H	

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
------------	---------------------------------	---	-----------------	-------------------	----------------

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Analgesics - non opioid (e.g. paracetamol, aspirin, low dose ibuprofen, nefopam)	Purchase short courses of analgesics (e.g. paracetamol, ibuprofen) OTC. [NHSE/NHSCC 2018] Patients may also purchase up to 100 tablets/month OTC at the discretion of a community pharmacist. Don't switch patients to co-codamol. Nefopam can cause antimuscarinic side effects, use with caution in the elderly. [BNF]	No tapering required, possible withdrawal headache.	L	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP	
<p>Analgesics – opioid (e.g. morphine, codeine, oxycodone, tramadol, dihydrocodeine, pethidine, fentanyl, buprenorphine, tapentadol, meptazinol, methadone)</p>	<p>Is a regular opioid still needed for pain relief? Has the underlying painful condition resolved/been treated? [Opioids Aware, NICE NG193] Patients who do not achieve useful pain relief from opioids within 2 to 4 weeks are unlikely to gain benefit in the long term. [Opioids Aware]</p> <p>Harms outweigh benefits if over 120mg oral morphine equivalent/24 hours is taken. [Opioids Aware]</p> <p>Does the patient have intolerable side effects? The risk of constipation and falls can outweigh the benefits particularly with weak opioids. [BNF, Opioids Aware]</p> <p>Co-codamol and co-dydramol are considered less suitable for prescribing. [BNF]</p> <p>Review laxative use when opioid stopped. [Scott et al 2013, PrescQIPP constipation bulletin]</p> <p>Fentanyl patches: life-threatening and fatal opioid toxicity from accidental exposure, particularly in children. [DSU 2018]</p> <p>PrescQIPP Bulletin: Fentanyl immediate release formulations: potential safety problems due to high doses of a potent opioid and complicated titration/maintenance instructions. [NHSE/NHSCC 2019]</p> <p>Stop oxycodone/naloxone combination - not cost effective. [NHSE/NHSCC 2019]</p> <p>Stop co-proxamol - withdrawn in 2005 for safety concerns. [NHSE/NHSCC 2019]</p> <p>Stop tramadol/paracetamol combination - not more effective than established analgesics. [NHSE/NHSCC 2019]</p> <p>Switch from MR tramadol to immediate release or codeine. [STOPP-START, Beers criteria 2019, CKS analgesia]</p> <p>Is there strong evidence that the patient is diverting their medication(s) to others? [Opioids Aware] Is the patient over ordering or collecting? Check the number of collections over the last 6 months. If needed, add a minimum number of days between issuing prescriptions.</p> <p>Risk of potentially fatal respiratory depression when opioids co-prescribed with a benzodiazepine. [BNF, DSU 2020]</p>	<p>Opioids are commonly associated with withdrawal symptoms if discontinued suddenly, slow weaning required. [Scott 2013, Opioids Aware]</p> <p>The dose of opioid can be tapered by 10% weekly or every two weeks. [Opioids Aware]</p> <p>Consider paracetamol with PRN opioid as an alternative to combination products.</p> <p>Consider non-drug options and self-management strategies as alternative treatments. [Opioids Aware, NICE KTT21]</p> <p>Reduce medications for opioid ADRs, e.g. laxatives.</p> <p>Reduce and synchronise quantities.</p> <p>PrescQIPP opioid deprescribing algorithm</p>	H	H	

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Antidepressants (e.g. selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants (TCADs), others: MAOIs, agomelatine, duloxetine, reboxetine, venlafaxine, mirtazapine)</p>	<p>For a single episode of depression treat for 6 to 9 months; for multiple episodes, treat for at least 2 years, no upper duration of treatment has been identified. [Maudsley Prescribing Guidelines 2018]</p> <p>Dosulepin should not be prescribed. [NHSE/NHSCC 2019, BNF]</p> <p>Does the patient have advanced/end stage dementia? [Parsons 2015]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits? e.g. TCADs can worsen dementia, glaucoma, constipation, urinary retention; SSRIs may induce clinically significant hyponatraemia. [STOPP-START, Garfinkel 2010]</p> <p>Are TCADs being taken with other medicines that have anticholinergic activity and can increase risk of cognitive impairment, e.g. chlorpromazine, oxybutynin, chlorphenamine?</p> <p>See PrescQIPP anticholinergic burden bulletin for further information.</p> <p>TCADs not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	<p>Reduce dose of antidepressants gradually to avoid withdrawal effects. [Scott 2013, BNF] If taken continuously for 6 weeks or longer, reduce dose slowly over 4 weeks. Antidepressants with short half lives (e.g. paroxetine, venlafaxine) may need to be tapered more slowly. Fluoxetine (long half-life) 20mg can be stopped immediately, higher doses should be stopped over 2 weeks. [PrescQIPP antidepressants bulletin, Maudsley Prescribing Guidelines 2018]</p> <p>PrescQIPP antidepressant deprescribing algorithm</p> <p>Anticholinergic burden bulletin, briefing, searches</p>			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Anti-epileptic drugs (e.g. brivaracetam, carbamazepine, clobazam, clonazepam, eslicarbazepine, ethosuximide, gabapentin, lacosamide, lamotrigine, levetiracetam, oxcarbazepine, perampanel, phenytoin, phenobarbital, pregabalin, primidone, rufinamide, sodium valproate, tiagabine, topiramate, vigabatrin, zonisamide)	<p>Reduce dose of gabapentin and pregabalin if creatinine clearance <60ml/min. [Beers criteria 2019]</p> <p>Pregabalin - are adjustments in dose or dosing regimen needed for patients at higher risk of respiratory depression, e.g. those with compromised respiratory function; respiratory or neurological disease, or renal impairment taking other CNS depressants (including opioid-containing medicines); aged older than 65 years. [DSU 2021]</p> <p>Epilepsy</p> <p>Check that medicines prescribed for epilepsy are prescribed as per the MHRA advice about those which must be supplied by brand and those which can be generic. [BNF]</p> <p>Non-epilepsy indications</p> <p>Assess effectiveness/dose if used for pain management. [Scotland Polypharmacy Guidance 2018, NICE CG173]</p> <p>Review sub-therapeutic doses of anti-epileptic drugs for non-epilepsy indications, if adverse effects outweigh benefits withdraw gradually and stop.</p> <p>Where sub-therapeutic doses of anti-epileptic drugs for non-epilepsy indications are used in care homes for people with learning difficulties, discuss gradually withdrawing and stopping with the prescriber. [NHSE 2016]</p> <p>Ensure females of childbearing potential prescribed valproate medicines are supported on the Valproate Pregnancy Prevention Programme. [NICE CG137, CKS epilepsy, DSU 2018]</p>	<p>Discuss tapering/withdrawal for epilepsy and trigeminal neuralgia with specialist. [CKS epilepsy, CKS trigeminal neuralgia]</p> <p>If gabapentin or pregabalin are not effective or not tolerated for neuropathic pain, discontinue treatment gradually over a minimum of 1 week. [CKS neuropathic pain]</p> <p>Neuropathic pain bulletin, briefing and audit.</p>			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP	
Antipsychotics (e.g. chlorpromazine, levomepromazine, promazine, pericyazine, fluphenazine, perphenazine, prochlorperazine, trifluoperazine, benperidol, haloperidol, flupentixol, zuclopenthixol, pimozide, sulpiride, clozapine, aripiprazole, olanzapine, quetiapine, amisulpride, risperidone)	<p>Do the known possible adverse drug reactions outweigh the possible benefits? [Garfinkel 2010]</p> <p>Are chlorpromazine or trifluoperazine being taken with other medicines that have anticholinergic activity and increase risk of cognitive impairment, e.g. TCADs, oxybutynin, chlorphenamine? See PrescQIPP anticholinergic burden bulletin for further information.</p> <p>Are they being prescribed to control behavioural symptoms in dementia and learning disabilities? Often referred to as agitation or aggression. [NHSE 2106]</p>	<p>Discuss tapering/withdrawal with specialist.</p> <p>Withdrawal after long term therapy (1 to 2 years) must be gradual (start with 10-25% dose reduction), review weekly, then monthly, closely monitor for 2 years after drug withdrawal to avoid relapse. [Scotland Polypharmacy Guidance 2018, Scott 2013, BNF]</p> <p>In dementia patients with behavioural and psychological symptoms, review and discontinue if there has been no response and symptoms are mild, unless there is extreme risk or distress for the patient. [NHSE 2016, Alzheimer's Society 2017, Van Leeuwen 2018]</p> <p>Standardised symptom evaluations and drug cessation attempts should be undertaken at regular intervals. [Alzheimer's Society 2017, Van Leeuwen 2018]</p> <p>PrescQIPP antipsychotics in dementia deprescribing algorithm</p>	M	H	

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Barbiturates (e.g. amobarbital, butobarbital, phenobarbital, secobarbital)	<p>Intermediate acting preparations should only be used in severe intractable insomnia, avoid use in the elderly. [BNF]</p> <p>The long-acting barbiturate phenobarbital is still sometimes of value in epilepsy but its use as a sedative is unjustified. [BNF]</p> <p>All sedatives have an anticholinergic burden, use cautiously.</p> <p>See PrescQIPP anticholinergic burden bulletin for further information.</p> <p>High rate of physical dependence, tolerance to sleep benefits, risk of overdose at low doses. [Beers criteria 2019]</p>	<p>If used daily for more than 3 to 4 weeks, reduce the dose by 25% every 3 to 4 days. Once at 25% of the original dose and no withdrawal symptoms (e.g. restlessness, insomnia, weakness, dizziness, nausea, sweating, anxiety, tremors, seizures, hallucinations, psychosis, hyperthermia, circulatory failure) have been seen, stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>			M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Benzodiazepines and other hypnotics (including 'Z' drugs) (e.g. alprazolam, clomethiazole, chlordiazepoxide, clonazepam (see also anti - epileptic drugs), diazepam, flurazepam, lorazepam, melatonin, nitrazepam, oxazepam, temazepam, zopiclone, zaleplon, zolpidem)</p>	<p>Is use still required if physical and psychological health and personal circumstances are stable? If the patient is willing, committed and compliant, and has adequate social support, is withdrawal possible in primary care? [CKS benzodiazepines]</p> <p>With long term use, risk of adverse effects including falls, exceeds therapeutic benefit of continued use. [STOPP-START, Scott 2013, BNF, Fiss 2011]</p> <p>All sedatives have an anticholinergic burden, use cautiously. See PrescQIPP Anticholinergic burden bulletin for further information.</p> <p>Current or recent use of benzodiazepines has been associated with an increased risk of pneumonia. [Sun 2019]</p> <p>A case control and observational studies suggest that taking benzodiazepines for more than three months, particularly those with longer half-lives strengthen the association of an increased risk of pneumonia, but potential biases in the studies limit the conclusions that can be drawn. [NICE KTT6]</p> <p>Nitrazepam and flurazepam have a prolonged action and may give rise to residual effects on the following day; repeated doses tend to be cumulative. [BNF]</p>	<p>Withdrawal should be flexible. Rate of reduction must be tolerable for the patient. The rate depends on the initial dose of benzodiazepine, duration of use, and the patient's clinical response. [BNF, CKS benzodiazepines] Short-term users (2 to 4 weeks only) can usually taper off within 2 to 4 weeks. [BNF] For long term users, withdrawal should be gradual to avoid confusion, toxic psychosis and convulsions. [STOPP-START, BNF, CKS benzodiazepines]</p> <p>Switch to an approximately equivalent dose of diazepam. Start with 5–10% reduction every one to two weeks, or an eighth of the dose fortnightly (use a slower reduction at lower doses), titrate according to the severity of withdrawal symptoms. [CKS benzodiazepines]</p> <p>Information continued on next page.</p>			M	H

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
<p>Benzodiazepines and other hypnotics (including 'Z' drugs) (e.g. alprazolam, clomethiazole, chlordiazepoxide, clonazepam (see also anti - epileptic drugs), diazepam, flurazepam, lorazepam, melatonin, nitrazepam, oxazepam, temazepam, zopiclone, zaleplon, zolpidem)</p>	<p>See page above</p>	<p>Withdrawal symptoms (e.g. loss of appetite and body-weight, tremor, insomnia, anxiety, perspiration, tinnitus, perceptual disturbances) may start within 1 day with short acting benzodiazepines to up to 3 weeks after stopping a long acting benzodiazepine. Some symptoms may continue for weeks or months after stopping. Withdrawal symptoms for long-term users usually resolve within 6 to 18 months of the last dose. [BNF]</p> <p>Drug withdrawal may take 3 months to a year or longer. [Scotland Polypharmacy Guidance 2018, CKS benzodiazepines]</p> <p>PrescQIPP polypharmacy benzodiazepine deprescribing algorithm</p> <p>PrescQIPP dependence forming medicines benzodiazepine deprescribing algorithm</p>		

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Chloral hydrate	<p>No convincing evidence of usefulness; avoid use/prolonged use. [BNF]</p> <p>All sedatives have an anticholinergic burden, use cautiously.</p> <p>See PrescQIPP anticholinergic burden bulletin for further information.</p>	<p>Do not withdraw abruptly. [BNF]</p> <p>If used daily for more than 3 to 4 weeks reduce dose by 25% every week (i.e. week 1: 75%, week 2: 50%, week 3: 25%) and this can be extended or decreased (10% dose reductions) if needed. Withdrawal symptoms (e.g. rebound insomnia, tremor, anxiety, hallucinations, seizures and delirium) usually occur 1 to 3 days after a dose change. If they are intolerable go back to the previously tolerated dose until symptoms resolve and plan for a more gradual taper with the patient. Dose reduction may need to slow down as smaller doses used (i.e. 25% of the original dose). Overall, the rate of discontinuation needs to be controlled by the person taking the medication. [Medstopper]</p>			M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Dementia drugs (e.g. donepezil, galantamine, memantine, rivastigmine)	If MMSE <10, medicines may be continued if they help with behaviour. NICE recommends memantine if MMSE>10. Review benefit, use should only continue if the MMSE score is ≥10 and treatment has an effect on the global, functional or behavioural symptoms. [NICE TA217]	Discuss tapering/withdrawal with specialist.		M	M
Drugs used in nausea and vertigo (e.g. betahistine, prochlorperazine, metoclopramide, domperidone, hyoscine hydrobromide, cyclizine, doxylamine + pyridoxine)	<p>Review indication and whether symptoms are ongoing (can be restarted if symptoms return). [BNF]</p> <p>Metoclopramide only for short term use (up to 5 days). [DSU 2013] How long has it been prescribed? Can cause extrapyramidal effects including tardive dyskinesia, risk greater in older adults with frailty. [Beers criteria 2019]</p> <p>Betahistine - consider reducing dose, evidence inconclusive regarding effectiveness, refer to ENT specialist if ineffective. [CKS Meniere's disease]</p> <p>Domperidone, maximum duration of treatment should not exceed one week. [DSU 2019]</p> <p>Cyclizine prone to abuse due to its euphoric and hallucinogenic effects. [SPC]</p> <p>Drugs for motion sickness such as hyoscine hydrobromide - should be purchased as part of self care. [NHSE/NHSCC 2018]</p> <p>Not appropriate for vertigo in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	<p>If taken for less than 3 to 4 weeks, no tapering needed.</p> <p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen, stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>		H	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Antibacterials (e.g. aminoglycosides, penicillins, tetracyclines, cephalosporins, carbapenems, quinolones, macrolides, minocycline)	<p>Inappropriate uses – bacterial infection has resolved; a viral infection has been diagnosed; prophylactic treatment prescribed but no pathogen isolated (unless immunocompromised). [BNF] Minocycline should not be prescribed for acne due to safety risks and lack of evidence that it is more effective or better tolerated than other tetracyclines. [NHSE/NHSCC 2019] Treatment of asymptomatic bacteriuria (ASB) in older patients and people with diabetes has no beneficial effects. [Scotland Polypharmacy Guidance 2018, PHE 2019]</p> <p>There is a lack of evidence to evaluate the effect of preventing catheter associated-ASB with antibiotics. [Scotland Polypharmacy Guidance 2018] Is fluid intake adequate? Nitrofurantoin has potential for pulmonary toxicity, lack of efficacy in patients with CrCl <30ml/min due to inadequate drug concentration in the urine; avoid long term use. [Beers criteria 2019]</p> <p>See also PrescQIPP prevention, management and treatment of UTI resources</p>	No tapering required.			M	H
Antifungals (e.g. fluconazole, itraconazole, clotrimazole, econazole, ketoconazole, tioconazole, miconazole, nystatin, griseofulvin, terbinafine)	<p>For fungal nail infections, self care measures and topical antifungal nail paints should be tried first. Topical treatment should be purchased OTC. [BNF, CKS fungal nail infection]</p> <p>Skin scrapings should be taken if systemic therapy is being considered or doubt about the diagnosis. When a course of treatment of appropriate length has been finished, e.g. terbinafine orally for nail infections usually 6 weeks to 3 months (may need longer for toenail infection); oral and topical nystatin usually 7 days; do not continue indefinitely. [BNF]</p> <p>For finger and toe nail infections, cure is achieved in only a minority of patients, the relapse rate is high. [DTB 2008]</p>	No tapering required.			M	M

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Anti-hyperglycaemics (e.g. acarbose, alogliptin, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, glibenclamide, gliclazide, glimepiride, glipizide, linagliptin, metformin, nateglinide, pioglitazone, repaglinide, sitagliptin, saxagliptin, tolbutamide, vildagliptin)	<p>Do the known possible adverse drug reactions outweigh the possible benefits?</p> <p>Do any of the following apply, patient is palliative/end of life, anti-hyperglycaemic medicine now contraindicated, patient does not wish to take anti-hyperglycaemic after shared decision making, patient has lost significant weight and anti-hyperglycaemic no longer needed. [BNF]</p>	<p>No tapering needed.</p> <p>PrescQIPP antihyperglycaemic treatment deprescribing algorithm</p>	H	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low		
Drugs	Considerations to optimise medicines use after checking for a valid current indication		Withdrawing/tapering advice				
<p>Bisphosphonates (e.g. alendronate, risedronate, etidronate, ibandronate, zoledronic acid)</p>	<p>Was the patient suitable for a fracture risk assessment and was their FRAX® score in line with NICE treatment criteria? [NICE QS149] Is the patient suitable for a drug treatment break? [NOGG 2017] For a drug treatment break see PrescQIPP bulletin 231. Bisphosphonate treatment for osteoporosis</p> <p>Review adults for the need to continue treatment.</p> <p>Risk factors for osteoporotic fractures include prolonged immobility, rheumatoid arthritis, BMI <22kg/m2. [Scotland Polypharmacy Guidance 2018]</p> <p>Are there any risk factors suggesting continued need for treatment for up to 10 years? For example previous history of hip or vertebral fracture, age >75 years, ≥ one low trauma fracture during treatment (exclude poor adherence, e.g. < 80% of treatment has been taken, and secondary osteoporosis causes), taking oral glucocorticoids ≥ 7.5mg prednisolone/day or equivalent, DXA scan post treatment hip BMD T-score <-2.5. [Sun 2019]</p> <p>Has zoledronic acid been taken for 3 years or alendronate, ibandronate or risedronate for 5 years or more? [NICE QS149]</p> <p>Consider deprescribing, see PrescQIPP bisphosphonate deprescribing algorithm:</p> <ul style="list-style-type: none"> • If risk outweighs benefits. [Garfinkel 2010] • After 3 years treatment in patients with multimorbidity. [NICE NG56] • If T-score >-2.5 and reassess BMD and fracture risk after 2 years. [NICE QS149] • If treatment length >10 years in discussion with the individual. [NOGG 2017] <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>		<p>No tapering needed. [NICE QS149]</p> <p>PrescQIPP bisphosphonate deprescribing algorithm</p>			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
Liothyronine	Liothyronine monotherapy is not recommended in hypothyroidism; it may be suitable for a small number of patients who have not benefitted from levothyroxine. Combination levothyroxine / liothyronine should not be used routinely in the management of hypothyroidism due to lack of clinical evidence to show that combination therapy is superior to levothyroxine monotherapy. Seek specialist advice. [RMOC 2019]	Do not stop abruptly, discuss tapering/withdrawal with specialist.			M	H
Oestrogens ± progestogens (e.g. estradiol, estriol, ethinylestradiol, tibolone)	Length of use of HRT - discuss individual benefits and risks of short term (up to 5 years) and longer-term use (e.g. VTE, CVD, type 2 diabetes, breast cancer, osteoporosis, dementia). [NICE NG23] Topical low dose oestrogen intravaginal cream is safe and effective for dyspareunia and other vaginal symptoms. [Beers criteria 2019] Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015 , CKS Dementia] See also PrescQIPP menopause bulletin	HRT can be stopped immediately or gradually by decreasing the dose or number of days per week that HRT is taken. Gradually reducing may limit recurrence of symptoms in the short term. Gradually reducing or stopping immediately makes no difference to symptoms in the longer term. [NICE NG23]			M	M

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
<p>Drugs for urinary retention (e.g. alfuzosin, doxazosin (see also antihypertensives), tamsulosin, prazosin (see also antihypertensives), indoramin, terazosin, bethanechol)</p>	<p>Regular use is generally not indicated if a patient has a long-term catheter in situ. [Scotland Polypharmacy Guidance 2018]</p> <p>Alpha blockers may be used for at least 2 days before catheter removal to manage acute urinary retention. [BNF]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p> <p>Bethanechol is a parasympathomimetic which is denoted less suitable for prescribing in the BNF. Its use has been largely superseded by catheterisation. [BNF]</p>	<p>Alpha blockers are commonly associated with adverse effects if discontinued suddenly and require slow withdrawal. [Scott 2013]</p> <p>If used daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen (e.g. return of symptoms, chest pain, pounding heart, increased heart rate, increased blood pressure, anxiety, tremor), stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>	M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			
<p>Drugs used for urinary frequency, urgency and incontinence</p> <p>(e.g. oxybutynin, tolterodine, darifenacin, fesoterodine, mirabegron, propiverine, solifenacin, trospium)</p>	<p>Review effectiveness every 4 to 6 weeks until symptoms stabilise, and then every 6 to 12 months. [BNF]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits? [Garfinkel 2010] e.g. postural hypotension, urinary retention, constipation.</p> <p>Check if continence pads are also used, is concomitant use necessary? No evidence on the use of continence pads for urinary incontinence and potential adverse effects in the long term on skin integrity.</p> <p>Lifestyle advice and pelvic floor muscle training should be offered. [CKS incontinence]</p> <p>Oxybutynin will decrease MMSE score in patients with dementia. [STOPP-START]</p> <p>Are antimuscarinics being taken with other medicines that have anticholinergic activity and can increase risk of cognitive impairment, e.g. chlorpromazine, TCADs, chlorphenamine?</p> <p>See PrescQIPP Anticholinergic burden bulletin for further information.</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	<p>Anticholinergics are commonly associated with adverse effects if discontinued suddenly and require slow withdrawal. [Scott 2013]</p> <p>If taken daily for more than 3 to 4 weeks reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen, stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose. [Medstopper]</p>	M	H	
<p>Finasteride or dutasteride</p>	<p>Not indicated if patient has a long-term catheter. [Scotland Polypharmacy Guidance 2018]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p> <p>The MHRA has received reports of depression in men taking finasteride for benign prostatic hyperplasia. Patients should be advised to stop finasteride immediately and inform a healthcare professional if they develop depression. [BNF]</p>	<p>Discuss stopping with urology specialist. [Scotland Polypharmacy Guidance 2018]</p>	M	M	
<p>Tadalafil once daily preparations</p>	<p>The once daily preparation is not recommended as it is not cost-effective in most patients. 'On demand' tablets taken when required are the preferred option. [NHSE/NHSCC 2019]</p>	<p>No tapering needed.</p>	M	L	

KEY**CR** = Clinical risk level**DP** = Deprescribing priority if no longer needed or indicated**H = High****M = Medium****L = Low**

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Cytotoxics, immunosuppressants	<p>What outcome is expected, do the known possible adverse drug reactions outweigh the possible benefits? [Garfinkel 2010]</p> <p>Consider withdrawal of azathioprine for autoimmune conditions and ciclosporin for nephrotic syndrome if there is no improvement within 3 months of use. [BNF]</p> <p>Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015, CKS Dementia]</p>	Refer to doctor who initiated treatment.	M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Calcium + vitamin D	Does the patient have adequate levels through diet/sunlight exposure? [CKS osteoporosis] If the patient is not mobile, is a supplement still needed?	No tapering needed.		L	L
Lutein and antioxidant vitamins	Evidence base does not show that lutein and other eye vitamins are beneficial. If required, they should be purchased as self care. [NHSE/NHSCC 2019]	No tapering needed.		L	L
Sip feeds	Does the patient have a MUST score, has a recent BMI/weight been recorded? Has a dietician recently reviewed the patient; is the patient able to prepare, or have someone else prepare fortified food and therefore does not need sip feeds? Is the patient at the end of life? Does the patient have limited mobility and is using sip feeds instead of a normal diet? Is an indication documented and does it meet ACBS criteria?	No tapering needed.		L	L
Sodium, potassium and iron supplements	Do the known possible adverse drug reactions outweigh the possible benefits? [Garfinkel 2010] Check if any other drug therapy is causing the depletion? No evidence of enhanced iron absorption at elemental iron doses >200mg daily [STOPP-START] or with vitamin C.	No tapering needed.		L	L
Vitamins (see also vitamin D)	Does the patient have a disorder which requires vitamin and mineral supplements? [Garfinkel 2010 , BNF] Dietary supplements/'pick me ups' should be purchased as self care. [NHSE/NHSCC 2018]	No tapering needed.		L	L

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Cannabis based medicinal products	Treatment with THC:CBD spray should be initiated and supervised by a physician with specialist expertise in treating spasticity due to multiple sclerosis. Treatment should only continue after a 4-week trial if the person has had at least a 20% reduction in spasticity-related symptoms on a 0 to 10 patient-reported numeric rating scale. [NICE NG144]	Refer to specialist.		H	H
DMARDs (e.g. methotrexate, sulfasalazine, penicillamine, leflunomide, hydroxychloroquine)	Discontinue penicillamine if there is no improvement within 1 year. [BNF] Not appropriate in nursing home patients with advanced/end stage dementia. [Parsons 2015 , CKS Dementia] Methotrexate is a weekly dose, to minimise errors, only one strength (2.5mg) should be prescribed and dispensed. [BNF]	Refer to doctor who initiated treatment.		M	M
Glucosamine (including products containing chondroitin)	Not recommended by NICE for treatment of osteoarthritis (OA). Purchase OTC if required. [NHSE/NHSCC 2019 , NICE CG173]	No tapering needed.		L	L

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>NSAIDs</p> <p>(e.g. ibuprofen, naproxen, diclofenac, dexibuprofen, flurbiprofen, ketoprofen, dexketoprofen, aceclofenac, etodolac, celecoxib, indometacin, meloxicam, nabumetone, piroxicam, sulindac, tenoxicam, etoricoxib, parecoxib)</p>	<p>Is an NSAID still needed/appropriate? E.g. long-term treatment of gout but no prophylaxis is prescribed. [STOPP-START]</p> <p>Do the known possible adverse drug reactions outweigh the possible benefits? e.g. >3 months use for symptom relief in mild osteoarthritis, use in patients with severe hypertension/heart failure/chronic renal failure. [STOPP-START , Garfinkel 2010] Has PPI prophylaxis been prescribed if also taking concurrent antiplatelet/anticoagulant treatment? [STOPP-START]</p> <p>If topical NSAIDs are continued indefinitely, review the need for use; short courses are generally advised for piroxicam, felbinac, diclofenac and ketoprofen. [BNF]</p>	<p>No tapering needed. [Medstopper]</p> <p>PrescQIPP NSAID deprescribing algorithm</p>			M	M
<p>Allopurinol or febuxostat</p>	<p>Has patient been symptom free for many years? Have they successfully addressed modifiable risk factors, ceased or reduced diuretics? Has renal function improved? Does the patient have a normal serum uric acid level (<360micromol/L)? [CKS gout]</p>	<p>Reduce dose initially and monitor symptoms. If symptoms do not reappear, consider discontinuing treatment.</p> <p>PrescQIPP allopurinol deprescribing algorithm</p>			M	M
<p>Quinine</p>	<p>Not recommended for routine treatment due to potential toxicity. Should not be used unless cramps are very painful or frequent; when other treatable causes have been excluded; when non-pharmacological treatments have not worked (e.g. passive stretching exercises) and there is regular disruption to sleep. Interrupt treatment every 3 months to assess the need to continue. [BNF, Prescribe 2018]</p>	<p>In patients taking quinine long term, a trial discontinuation may be tried. [BNF]</p> <p>No tapering needed. [Medstopper]</p>			H	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice		CR	DP
Rubefacients (e.g. methylsalicylate, capsaicin)	The evidence available does not support the use of topical rubefacients in acute or chronic musculoskeletal pain. Rubefacients should not be offered to treat OA. [NHSE/NHSCC 2019] If wanted purchase OTC for self care. See PrescQIPP bulletin 114. Rubefacients. NICE states capsaicin patches should not be used for neuropathic pain in non-specialist settings, unless advised by a specialist. [NICE CG173]	Capsaicin patches - refer to specialist who initiated treatment. Rubefacients - no tapering needed.		L	M
Skeletal muscle relaxants (e.g. baclofen, tizanidine, dantrolene)	Rarely indicated long term (except for spasticity). [Scotland Polypharmacy Guidance 2018] Hypotonia possible side effect. [BNF]	Baclofen is commonly associated with adverse effects if discontinued suddenly and requires slow withdrawal. [Scott 2013] If used daily for more than 3 to 4 weeks reduce dose by 25% every week (i.e. week 1: 75%, week 2: 50%, week 3: 25%) and this can be extended or decreased (10% dose reductions) if needed. If intolerable withdrawal symptoms occur (usually one to three days after a dose change, e.g. return of symptoms, muscle pain/spasm), go back to the previously tolerated dose until symptoms resolve and plan for a more gradual taper with the patient. Dose reduction may need to slow down as one gets to smaller doses (i.e. 25% of the original dose). Overall, the rate of discontinuation needs to be controlled by the person taking the medication. [Medstopper]		M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice			CR	DP
<p>Eye drops/ointments (e.g. preservative free hypromellose, polyvinyl alcohol, sodium hyaluronate, sodium chloride, chloramphenicol, ciprofloxacin, ofloxacin, fusidic acid, gentamicin, tobramycin)</p>	<p>Review need for preservative free eye drops - is there a valid indication for prescribing (e.g. compromised cornea, previous preservative toxicity, use of multiple eye drops, eye drops instilled multiple times per day? [Moorfields])</p> <p>Have antibiotic/antifungal/antiviral preparations been continued without a review or stop date? [BNF]</p> <p>Patients can manage mild to moderate cases of dry eye syndrome and sore tired eyes by using self care measures (e.g. good eyelid hygiene, avoidance of environmental factors) and lubricant eye drops, gels or ointments purchased OTC. [NHSE/NHSCC 2018]</p>	No tapering needed.			M	M
<p>Ear/nose/throat drops, sprays, solutions etc. (e.g. ciprofloxacin, ofloxacin, beclomethasone, budesonide, fluticasone, sodium cromoglicate, ephedrine, oxymetazoline, xylometazoline)</p>	<p>Is the medicine still required? Have antibiotic/steroid/sympathomimetic preparations been continued without review or a stop date? [BNF]</p> <p>Nasal sprays for the symptomatic relief of hay fever and congestion should be purchased OTC. [NHSE/NHSCC 2018]</p>	No tapering needed.			M	M
<p>Antimicrobial creams, ointments (e.g. fusidic acid, mupirocin, neomycin)</p>	<p>Has the condition resolved? Would continued use cause adverse effects or exacerbate the condition, e.g. preparations containing antibacterials or corticosteroids? Mupirocin, and neomycin are for short term use only. [BNF]</p> <p>Is the patient using sufficient emollient to minimize the use of steroids? [CKS eczema atopic]</p>	No tapering needed.			M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication		Withdrawing/tapering advice		CR	DP
Eflornithine	No evidence of eflornithines efficacy in comparison to other treatments. Stop if no benefit within four months of starting treatment. It needs to be used indefinitely but the long-term benefits and safety have not been established (past 24 weeks). [CKS hirsutism]		No tapering needed.		M	M

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication		Withdrawing/tapering advice		CR	DP
Lidocaine plasters	NICE CG173 on neuropathic pain does not recommend the use of lidocaine plasters as a treatment option due to limited clinical evidence supporting their use. [NHSE/NHSCC 2019]		No tapering needed.		M	H

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low	
Drugs	Considerations to optimise medicines use after checking for a valid current indication		Withdrawing/tapering advice		CR	DP
Dressings	<p>Review wounds before prescribing to ensure correct dressing is chosen. Chronic wounds change/reduce in size over time – refer difficult to treat wounds to a tissue viability nurse. Address underlying problems, e.g. soiling from incontinence, wrong choice of dressing etc. Larger dressings are more expensive than the smaller sizes. Query large size dressings on repeat prescriptions. Avoid waste - prescribe the actual number of dressings needed rather than “1 x OP”. Query quantities over ten units per month, most dressings can stay in place for three to five days except on infected wounds, although some patients may have multiple wound sites. [Top Tips for Prescribing Dressings 2018] Hydrocolloid dressings for low exudate wounds can be in place for five to seven days. [Wound care guidelines and dressing formulary 2020]</p>		No tapering needed.		L	L

KEY	CR = Clinical risk level	DP = Deprescribing priority if no longer needed or indicated	H = High	M = Medium	L = Low
------------	---------------------------------	---	-----------------	-------------------	----------------

Drugs	Considerations to optimise medicines use after checking for a valid current indication	Withdrawing/tapering advice	CR	DP
Complementary therapies, herbal supplements, homeopathy	There is a limited evidence base and a lack of robust randomised controlled trials directly comparing them with standard treatments. Some are also associated with severe adverse effects; they may significantly interact with other medicines and can delay accurate diagnosis of underlying pathology. None reviewed by NICE recommend their use. [NHSE/NHSCC 2019]	No tapering needed.	M	M
Probiotics	Probiotics are food supplements, purchase OTC. [NHSE/NHSCC 2018] The Advisory Committee on Borderline Substances (ACBS) does not support use of probiotics for any indication. [Drug Tariff]	No tapering needed.	L	L

References

- All Wales Medicines Strategy Group (AWMSG). Safe use of proton pump inhibitors. February 2018. <https://awmsg.nhs.wales/files/guidelines-and-pils/safe-use-of-proton-pump-inhibitors-pdf/>
- Alzheimer's Society, January 2017. Drugs used to relieve behavioural and psychological symptoms in dementia. <https://www.alzheimers.org.uk/about-dementia/treatments/drugs/drugs-used-relieve-behavioural-and-psychological-symptoms>
- Avery T, 2011. Top tips for GPs. Strategies for safer prescribing. National Prescribing Centre. <https://bibliosjd.files.wordpress.com/2010/12/prescription.pdf>
- BMA/NHS England (BMA/NHSE). Network Contract Directed Enhanced Service. Contract Specification 2020/21. Last updated September 2020. <https://www.england.nhs.uk/wp-content/uploads/2019/03/network-contract-des-specification-2019-20-v1.pdf>
- British National Formulary (BNF) (online) London: BMJ Group and Pharmaceutical Press; accessed November 2019. <https://bnf.nice.org.uk/>
- British Thoracic Society/Scottish Intercollegiate Guidelines Network (BTS/SIGN), July 2019. British guideline on the management of asthma. <https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/>
- Clinical Knowledge Summary (CKS). Analgesia - Mild to moderate pain, last revised August 2020. <https://cks.nice.org.uk/analgesia-mild-to-moderate-pain#!scenario:4>
- Clinical Knowledge Summary (CKS). Anticoagulation – oral, last revised August 2020. <https://cks.nice.org.uk/topics/anticoagulation-oral/>
- Clinical Knowledge Summary (CKS). Benzodiazepine and Z-drug withdrawal, last revised January 2019. <http://cks.nice.org.uk/benzodiazepine-and-z-drug-withdrawal>
- Clinical Knowledge Summary (CKS). Constipation, last revised November 2020 <http://cks.nice.org.uk/constipation>
- Clinical Knowledge Summary (CKS). Dementia. Scenario: Management of end stage dementia, last revised October 2020. <https://cks.nice.org.uk/topics/dementia/>
- Clinical Knowledge Summary (CKS). Eczema – atopic, emollients section, last revised in February 2021. <https://cks.nice.org.uk/eczema-atopic#!prescribinginfosub:1>
- Clinical Knowledge Summary (CKS). Epilepsy, last updated March 2021. <https://cks.nice.org.uk/epilepsy>
- Clinical Knowledge Summary (CKS). Fungal nail infection, last revised March 2018. <https://cks.nice.org.uk/fungal-nail-infection#!scenario>
- Clinical Knowledge Summary (CKS). Gout, last revised February 2018. <https://cks.nice.org.uk/topics/gout/>
- Clinical Knowledge Summary (CKS). Hirsutism, last revised July 2020. <https://cks.nice.org.uk/hirsutism>
- Clinical Knowledge Summary (CKS). Incontinence – urinary, in women, last revised October 2019. <http://cks.nice.org.uk/incontinence-urinary-in-women>
- Clinical Knowledge Summary (CKS). Meniere's disease, last revised November 2017. <https://cks.nice.org.uk/menieres-disease#!scenario>
- Clinical Knowledge Summary (CKS). Neuropathic pain – drug treatment, last revised December 2020. <https://cks.nice.org.uk/neuropathic-pain-drug-treatment>
- Clinical Knowledge Summary (CKS). Osteoporosis - prevention of fragility fractures, last revised May 2020. <https://cks.nice.org.uk/osteoporosis-prevention-of-fragility-fractures>
- Clinical Knowledge Summary (CKS). Trigeminal neuralgia, last revised January 2018. <https://cks.nice.org.uk/trigeminal-neuralgia>

- Community Pharmacy Wales (CPW) 2010. Waste Medicines Campaign. <http://www.cpwales.org.uk/CPW-s-work/News/Your-second-news.aspx>
- Drug & Therapeutics Bulletin (DTB) 2008; 46(1): 3-8. How should fungal nail infection be treated? <https://dtb.bmj.com/content/46/1/3>
- Drug Safety Update (DSU) 2013; 7 (1): S2. Metoclopramide: risk of neurological adverse effects. <https://www.gov.uk/drug-safety-update/metoclopramide-risk-of-neurological-adverse-effects>
- Drug Safety Update (DSU) 2018; 11 (9): 1. Valproate medicines (Epilim, Depakote): contraindicated in women and girls of childbearing potential unless conditions of Pregnancy Prevention Programme are met. <https://www.gov.uk/drug-safety-update/valproate-medicines-epilim-depakote-contraindicated-in-women-and-girls-of-childbearing-potential-unless-conditions-of-pregnancy-prevention-programme-are-met>
- Drug Safety Update (DSU) 2018; 12 (3): 4. Transdermal fentanyl patches: life-threatening and fatal opioid toxicity from accidental exposure, particularly in children. <https://www.gov.uk/drug-safety-update/transdermal-fentanyl-patches-life-threatening-and-fatal-opioid-toxicity-from-accidental-exposure-particularly-in-children>
- Drug Safety Update (DSU) 2019; 13 (5): 1. Domperidone for nausea and vomiting: lack of efficacy in children; reminder of contraindications in adults and adolescents. <https://www.gov.uk/drug-safety-update/domperidone-for-nausea-and-vomiting-lack-of-efficacy-in-children-reminder-of-contraindications-in-adults-and-adolescents>
- Drug Safety Update (DSU) 2020; 13 (8): 5. Benzodiazepines and opioids: reminder of risk of potentially fatal respiratory depression. <https://www.gov.uk/drug-safety-update/benzodiazepines-and-opioids-reminder-of-risk-of-potentially-fatal-respiratory-depression>
- Drug Safety Update (DSU) 2021; 14 (7): 2. Pregabalin (Lyrica): reports of severe respiratory depression. <https://www.gov.uk/drug-safety-update/pregabalin-lyrica-reports-of-severe-respiratory-depression>
- Drugs & Therapy Perspectives 2014; 30: 218-22. Consider the factors that influence patients' decisions to stop taking potentially inappropriate medications when developing a deprescribing plan. <https://link.springer.com/article/10.1007/s40267-014-0113-9>
- Drug Tariff. NHS Business Services Authority. <https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff>
- Duerden M, Avery T et al, 2013. Polypharmacy and medicines optimisation: making it safe and sound. King's Fund Report. http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/polypharmacy-and-medicines-optimisation-kingsfund-nov13.pdf
- Fiss T, Dreier A et al, 2011. Frequency of inappropriate drugs in primary care: analysis of a sample of immobile patients who received periodic home visits. Age & Ageing; 40(1): 66-73. <https://academic.oup.com/ageing/article/40/1/66/11197>
- Garfinkel D, Mangin D, 2010. Feasibility study of a systematic approach for discontinuation of multiple medications in older adults: addressing polypharmacy. Archives of Internal Medicine; 170 (18): 1648-54. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/226051>
- Global Initiative for Chronic Obstructive Lung Disease (GOLD), 2020. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: 2020 report. <https://goldcopd.org/wp-content/uploads/2019/11/GOLD-2020-REPORT-ver1.0wms.pdf>
- Keeling D, Baglin T et al, 2011. Guidelines on oral anticoagulation with warfarin – fourth edition. British Journal of Haematology; 154: 311-324. doi:10.1111/j.1365-2141.2011.08753.x <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1365-2141.2011.08753.x>
- Kutner JS, Blatchford PJ et al, 2015. Safety and benefit of discontinuing statin therapy in the setting of advanced, life limiting illness. A randomised clinical trial. JAMA Internal Medicine; 175(5): 691-700. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2204034>

- LeBlanc TW, McNeil MJ et al, 2015. Polypharmacy in patients with advanced cancer and the role of medication discontinuation. *Lancet Oncology*; 16(7): e333-41. [https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045\(15\)00080-7/fulltext](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(15)00080-7/fulltext)
- Maudsley Prescribing Guidelines in Psychiatry, 2018. 13th ed. Taylor D, Barnes TRE, Young AH. London: Wiley-Blackwell.
- Moorfields Eye Hospital NHS Foundation Trust, Ophthalmic Formulary, updated monthly. <http://www.moorfields.nhs.uk/service/pharmacy>
- National Osteoporosis Guideline Group (NOGG), 2017. Clinical guideline for the prevention and treatment of osteoporosis. March 2017; updated July 2018. <https://www.sheffield.ac.uk/NOGG/NOGG%20Guideline%202017.pdf>
- NHS Digital, November 2020. Prescribing Costs in Hospitals and the Community 2019-2020. <https://digital.nhs.uk/data-and-information/publications/statistical/prescribing-costs-in-hospitals-and-the-community>
- NHS England and NHS Clinical Commissioners (NHSE/NHSCC), March 2018. Conditions for which over the counter items should not routinely be prescribed in primary care. Guidance for CCGs. <https://www.england.nhs.uk/wp-content/uploads/2018/03/otc-guidance-for-ccgs.pdf>
- NHS England (NHSE), June 2015. Pharmaceutical waste reduction in the NHS. Version 1. <https://www.england.nhs.uk/wp-content/uploads/2015/06/pharmaceutical-waste-reduction.pdf>
- NHS England (NHSE), 2016. Stopping over medication of people with a learning disability, autism or both (STOMP). <https://www.england.nhs.uk/learning-disabilities/improving-health/stomp/>
- NHS England (NHSE), March 2021. Network Contract Directed Enhanced Service. Contract Specification 2021/22 – PCN Requirements and Entitlements. <https://www.england.nhs.uk/wp-content/uploads/2021/03/B0431-network-contract-des-specification-pcn-requirements-and-entitlements-21-22.pdf>
- NHS England (NHSE), March 2021a. Network Contract Directed Enhanced Service. Structured medication reviews and medicines optimisation: guidance. <https://www.england.nhs.uk/wp-content/uploads/2021/03/B0431-network-contract-des-smr-and-mo-guidance->
- NHS England and NHS Clinical Commissioners (NHSE/NHSCC), June 2019. Items which should not be routinely prescribed in primary care – Guidance for CCGs. Version 2. <https://www.england.nhs.uk/wp-content/uploads/2019/08/items-which-should-not-routinely-be-prescribed-in-primary-care-v2.1.pdf>
- NICE, CG137. Epilepsies: diagnosis and management. Published January 2012, last updated February 2020. <https://www.nice.org.uk/Guidance/CG137>
- NICE, CG173. Neuropathic pain in adults: pharmacological management in non-specialist settings. Published November 2013, last updated September 2020. <https://www.nice.org.uk/guidance/cg173>
- NICE, CG180. Atrial fibrillation: management. Published June 2014, last updated August 2014. <https://www.nice.org.uk/guidance/cg180>
- NICE, KTT6. Hypnotics. Published January 2015, last updated September 2019. <https://www.nice.org.uk/advice/ktt6>
- NICE, KTT18. Multimorbidity and polypharmacy. Published January 2017, last updated September 2019. <https://www.nice.org.uk/advice/ktt18>
- NICE, KTT21. Medicines optimisation in chronic pain. Published January 2017, last updated September 2019. <https://www.nice.org.uk/advice/ktt21>
- NICE, NG5. Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes. Published March 2015. <http://www.nice.org.uk/Guidance/NG5>
- NICE, NG17. Type 1 diabetes in adults: diagnosis and management. Published August 2015, last updated July 2016. <https://www.nice.org.uk/guidance/NG17>

- NICE, NG23. Menopause: diagnosis and management. Published November 2015, last updated December 2019. <https://www.nice.org.uk/guidance/ng23>
- NICE, NG28. Type 2 diabetes in adults: management. Published December 2015, last updated: August 2019. <https://www.nice.org.uk/guidance/ng28>
- NICE, NG56. Multimorbidity: clinical assessment and management. Published September 2016. www.nice.org.uk/guidance/ng56
- NICE, NG106. Chronic heart failure in adults: diagnosis and management. Published September 2018. <https://www.nice.org.uk/guidance/ng106>
- NICE, NG115. Chronic obstructive pulmonary disease in over 16s: diagnosis and management. Published December 2018, last updated July 2019. <https://www.nice.org.uk/guidance/NG115>
- NICE, NG136. Hypertension in adults: diagnosis and management. Published August 2019. <https://www.nice.org.uk/guidance/ng136>
- NICE, NG144. Cannabis-based medicinal products. Published November 2019. <https://www.nice.org.uk/guidance/NG144>
- NICE, NG168. COVID-19 rapid guideline: community-based care of patients with chronic obstructive pulmonary disease (COPD). Published April 2020. <https://www.nice.org.uk/guidance/ng168>
- NICE, NG193. Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain. Published April 2021. <https://www.nice.org.uk/guidance/NG193>
- NICE, QS149. Osteoporosis Quality Standard. Published April 2017. <https://www.nice.org.uk/guidance/qs149>
- NICE, TA210. Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events. Published December 2010. <https://www.nice.org.uk/Guidance/TA210>
- NICE, TA217. Donepezil, galantamine, rivastigmine and memantine for Alzheimer's disease. Published March 2011, last updated June 2018. <https://www.nice.org.uk/Guidance/TA217>
- NICE, TA223. Cilostazol, naftidrofuryl oxalate, pentoxifylline and inositol nicotinate for the treatment of intermittent claudication in people with peripheral arterial disease. Published May 2011. <https://www.nice.org.uk/guidance/ta223>
- Opioids Aware: A resource for patients and healthcare professionals to support prescribing of opioid medicines for pain. Tapering and Stopping. Faculty of Pain Medicine with Public Health England. Accessed June 2020. <https://www.rcoa.ac.uk/faculty-of-pain-medicine/opioids-aware/structured-approach-to-prescribing/tapering-and-stopping>
- Parsons C, McCann L et al, 2015. Development and application of medication appropriateness indicators for persons with advanced dementia: A feasibility study. *Drugs & Aging*; 32 (1): 67-77. <https://link.springer.com/article/10.1007%2Fs40266-014-0226-9>
- Petersen LK, Christensen K et al, 2010. Lipid-lowering treatment to the end? A review of observational studies and RCTs on cholesterol and mortality in 80+ -year olds. *Age and Ageing*; 39: 674-680. <https://academic.oup.com/ageing/article/39/6/674/10228>
- Pirmohamed M, James S et al, 2004. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18,820 patients. *British Medical Journal*; 329: 15-19. <https://www.bmj.com/content/329/7456/15>
- Prescrire International 2018; 27 (192): 107-116. Towards better patient care: drugs to avoid in 2018. <http://english.prescrire.org/en/AA26644A665789B5BD5C3814F73AE19D/Download.aspx>
- Public Health England (PHE), May 2013. Updated guidance on the management and treatment of *Clostridium difficile* infection. <https://www.gov.uk/government/publications/clostridium-difficile-infection-guidance-on-management-and-treatment>

- Public Health England (PHE), last updated September 2019. Diagnosis of urinary tract infections. Quick reference tool for primary care: for consultation and local adaptation. <https://www.gov.uk/government/publications/urinary-tract-infection-diagnosis>
- Regional Medicines Optimisation Committee (RMOC), June 2019. version 2.6. Guidance – Prescribing of Liothyronine. <https://www.sps.nhs.uk/articles/updated-rmoc-guidance-prescribing-of-liothyronine/>
- Royal Pharmaceutical Society (RPS), December 2015. Professional Guidance for the procurement and supply of specials. <https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Support/toolkit/specials-professional-guidance.pdf>
- Schiff GD, Galanter WL et al, 2011. Principles of conservative prescribing. Archives of Internal Medicine; 171(16): 1433-1440. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1105913>
- Scott IA, Gray LC et al, 2013. Deciding when to stop: towards evidence-based deprescribing of drugs in older populations. Evidence Based Medicine; 18(4): 121-124. <https://ebm.bmj.com/content/18/4/121>
- Straand J, Sandvik H, 2001. Stopping long-term drug therapy in general practice. How well do physicians and patients agree? Family Practice; 18(6): 597-601. <https://academic.oup.com/fampra/article/18/6/597/516251>
- Sun G, Zhang L et al, 2019. Benzodiazepines or related drugs and risk of pneumonia: A systematic review and meta analysis. International Journal of Geriatric Psychiatry; 34(4): 4. <https://onlinelibrary.wiley.com/doi/full/10.1002/gps.5048>
- Todd A, Williamson S et al, 2013. Patients with advanced lung cancer: is there scope to discontinue inappropriate medication? International Journal of Clinical Pharmacy; 35: 181-84. https://www.researchgate.net/publication/233892429_Patients_with_advanced_lung_cancer_Is_there_scope_to_discontinue_inappropriate_medication
- Top tips for prescribing dressings, 2018. Kingston CCG & Richmond CCG. <http://www.kingstonformulary.nhs.uk/download/552/top-tips-for-prescribing-dressings>
- Van Leeuwen E, Petrovic M et al, 2018. Withdrawal versus continuation of chronic antipsychotic drugs for behavioural and psychological symptoms in older people with dementia. Cochrane Database of Systematic Reviews Issue 3. Art. No.: CD007726. DOI: 10.1002/14651858.CD007726.pub3. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007726.pub3/full>
- Welsh Government 2020. Prescriptions in Wales, 2019-20. Statistical First Release SFR 147/2020. <https://gov.wales/sites/default/files/statistics-and-research/2020-09/prescriptions-wales-april-2019-march-2020-610.pdf>
- World Health Organisation (WHO), March 2012. The pursuit of the responsible use of medicines: sharing and learning from countries experiences. https://www.who.int/medicines/areas/rational_use/en/
- World Health Organisation (WHO), May 2017. Medication Without Harm: WHO Global Patient Safety Challenge. <https://www.who.int/patientsafety/medication-safety/en/>
- Wound Care Guidelines and Dressing Formulary, August 2020. NHS Cambridgeshire and Peterborough CCG, Cambridgeshire Community Services, Cambridgeshire and Peterborough Foundation Trust. Version 5. https://www.cambridgeshireandpeterboroughccg.nhs.uk/_resources/assets/attachment/full/0/17604.pdf
- York Health Economics Consortium (YHEC) & The School of Pharmacy, University of London, November 2010. Evaluation of the Scale, Causes and Costs of Waste Medicines. http://discovery.ucl.ac.uk/1350234/1/Evaluation_of_NHS_Medicines_Waste_web_publication_version.pdf