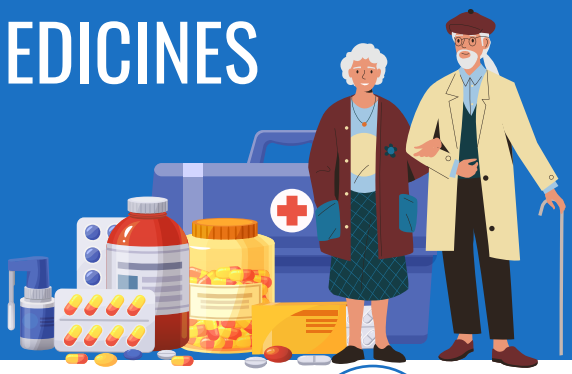
POTENTIALLY INAPPROPRIATE MEDICINES FOR OLDER AUSTRALIANS

CONSENSUS AGREEMENT FOR MEDICINES TO BE AVOIDED, CONDITIONS FOR AVOIDANCE, AND SUGGESTED ALTERNATIVES IN OLDER PEOPLE *(65 YEARS OR ABOVE)* LIVING IN AUSTRALIA



Medicine or medicine class	Avoid these drugs in older people	Avoid this medicine or medicine class in older people with these conditions		Instead of prescribing this medicine or class of medicines for older people, consider these alternatives
Alpha-adrenoreceptor antagonists (prazosin)	Prazosin	• Risk of hypotension • Taking other antihypertensive medications	• Frailty • Risk of falls • Initial dose adverse effects	• ACE inhibitors (e.g. enalapril and lisinopril) • Angiotensin II receptor blockers (e.g. candesartan and irbesartan) • Calcium channel blockers (e.g. amlodipine and diltiazem) • Tamsulosin and Silodosin
Antiemetics – dopamine antagonist (chlorpromazine, domperidone, metoclopramide and prochlorperazine)	Chlorpromazine Prochlorperazine	• Parkinson disease • Polypharmacy • Lewy body dementia • Frailty	• High risk of falls • Neurodegenerative diseases (e.g. alzheimer disease and cognitive impairment)	• Ondansetron • Domperidone
Antihypertensives, centrally acting (methyldopa, clonidine and moxonidine)	Methyldopa	• Risk of hypotension • Risk of falls • Frailty	• Taking other antihypertensive medications	• ACE inhibitors (e.g. enalapril and lisinopril) • Angiotensin II receptor blockers (e.g. candesartan and irbesartan) • Thiazide diuretics (e.g. hydrochlorothiazide)
Antipsychotics (haloperidol, zuclopenthixol, trifluoperazine, thioridazine, periciazine and flupenthixol)	Haloperidol Zuclopenthixol Trifluoperazine Thioridazine Periciazine Flupenthixol	• At risk of extrapyramidal reactions • Taking anticholinergic medications • Polypharmacy • Frailty	• Neurodegenerative diseases (e.g. delirium) • Cognitive impairment • Cardiovascular diseases • Cerebrovascular diseases • Risk of falls	• Atypical antipsychotics (e.g. quetiapine) • Risperidone • Nonpharmacological strategies (e.g. yoga)
Antipsychotics (olanzapine, quetiapine, amisulpride, ziprasidone, lurasidone, risperidone, aripiprazole and paliperidone)	Olanzapine	• Cardiometabolic syndrome (e.g. high blood pressure, high blood sugar) • Risk of falls • Polypharmacy	• When a nonpharmacological method has not been tried adequately • Neurodegenerative diseases (e.g. delirium) • Long-term use	• Quetiapine • Risperidone
Benzodiazepine, long-acting (clobazam, clonazepam, diazepam, flunitrazepam and nitrazepam)	Clonazepam Flunitrazepam	• Dependence • Other medications with sedative properties • Polypharmacy • Frailty	• Neurodegenerative diseases (e.g. delirium) • Cognitive impairment • Poor renal function • Long-term use • Risk of falls	• Short-acting benzodiazepine (e.g. oxazepam) • Melatonin (for indication of sleep) • Nonpharmacological strategies (e.g. yoga)
Benzodiazepines, medium-acting (bromazepam and lorazepam)	Bromazepam Lorazepam	• Falls • With other medications with sedative properties • Polypharmacy	• Frailty • Neurodegenerative diseases (e.g. delirium) • Cognitive impairment	• Short-acting benzodiazepine • Melatonin (for indication of sleep) • Nonpharmacological strategies (e.g. yoga)
Benzodiazepines, short-acting (alprazolam, oxazepam and temazepam)	Alprazolam	• Falls • With other medications with sedative properties • Polypharmacy • Frailty	• Neurodegenerative diseases (e.g. delirium) • Dependency • Renal impairment • Long-term use	• Oxazepam • Temazepam • Melatonin (for indication of sleep) • Nonpharmacological strategies (e.g. yoga)
Genito-urinary anticholinergics (oxybutynin, propantheline, tolterodine and solifenacin)	Oxybutynin	• With other anticholinergics • Frailty • Polypharmacy • Risk of falls	• Neurodegenerative diseases (e.g. delirium) • Constipation • Cognitive impairment	• N/A

Wang, K.N. et al. (2024), Development of a list of Australian potentially inappropriate medicines using the Delphi technique. Intern Med J. https://doi.org/10.1111/imj.16322

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Continued

Medicine or medicine class	Avoid these drugs in older people	Avoid this medicine or medicine class in older people with these conditions		Instead of prescribing this medicine or class of medicines for older people, consider these alternatives
NSAIDs, nonselective (indomethacin, diclofenac, ketorolac, piroxicam, meloxicam, ibuprofen, naproxen, ketoprofen and mefenamic acid)	Diclofenac Indomethacin Ibuprofen Ketoprofen Piroxicam Meloxicam Ketorolac	• History of gastrointestinal bleeding • Increased bleeding risks • Frailty • Poor renal function	• Peptic ulcer disease • Multimorbidity • Chronic kidney disease • Heart failure • Cardiovascular diseases	• Paracetamol
NSAIDs, selective (celecoxib and etoricoxib)	N/A	• History of gastrointestinal bleeding • Increased bleeding risks • Frailty • Poor renal function • Heart failure	• Cardiovascular disease • Chronic kidney disease • Long-term use • Taking ACE inhibitors or diuretics	• Paracetamol • Celecoxib
Opioids (morphine, pethidine, fentanyl, dextropropoxyphene, hydromorphone, buprenorphine, oxycodone and codeine)	Pethidine Fentanyl Codeine Hydromorphone Dextropropoxyphene	• Polypharmacy • Risk of falls • Frailty • Poor renal function • Neurodegenerative diseases (e.g. delirium)	• Constipation • Opioid dependency • Long-term use • Impaired cognition • Chronic pain	• Physiotherapy • Paracetamol • Oxycodone • Buprenorphine
Oral anticoagulants – direct thrombin inhibitors (dabigatran)	Dabigatran	• Increased risk of bleeding • Multimorbidity • Peptic ulcer disease • Frailty • Risk of falls	• Poor blood pressure control • Chronic kidney disease • Poor renal function	• N/A
Oral anticoagulants – Factor Xa inhibitors (apixaban and rivaroxaban)	Rivaroxaban	• Peptic ulcer disease • Increased bleeding risk • Risk of falls • Multimorbidity	• Polypharmacy • Poor renal function • Chronic kidney disease	• N/A
Sedating antihistamines (diphenhydramine, doxylamine, dexchlorpheniramine, pheniramine, promethazine, cyclizine, chlorpheniramine and cyproheptadine)	Promethazine	• Taking other medications with sedative properties • Cognitive impairment • Taking anticholinergics • Frailty	• Neurodegenerative diseases (e.g. delirium) • Risk of falls • Polypharmacy	• Nonsedating antihistamines (e.g. fexofenadine)
Sulfonylureas (glibenclamide, glipizide, gliclazide and glimepiride)	Glibenclamide Glimepiride	• With other glucose-lowering medications • High risk of falls • Frailty • Chronic kidney diseases	• Polypharmacy • Multimobidity • Renal impairment • Irregular diet • Dehydration	• Metformin • Gliclazide • Dipeptidyl peptidase-4 inhibitors (sitagliptin and saxagliptin) • Sodium-glucose transport protein 2 inhibitor (dapagliflozin)
Tramadol	N/A	• Multimorbidity • Frailty • Neurodegenerative diseases (e.g. delirium) • Risk of falls • Polypharmacy • Poor renal function	• Cognitive impairment • Long-term use • Taking antidepressant medications • Epilepsy • Risk of seizures	• Paracetamol • NSAIDs
Tricyclic antidepressants (imipramine, clomipramine, amitriptyline, nortriptyline, doxepin and dosulepin [dothiepin])	Doxepin Dosulepin (dothiepin)	• With other anticholinergics • Frailty • Polypharmacy • Risk of falls • Neurodegenerative diseases (e.g. delirium) • Constipation	• Cognitive impairment • With other medications with sedative properties • Risk of postural hypotension • Benign prostatic hyperplasia	• Selective serotonin reuptake inhibitors (e.g. citalopram and paroxetine) • Serotonin and norepinephrine reuptake inhibitors (e.g. duloxetine) • Mirtazapine
Z-drugs (zolpidem and zopiclone)	N/A	• Dependency • Taking other medications with sedative properties • Neurodegenerative diseases (e.g. delirium)	• Frailty • Risk of falls • Polypharmacy • Cognitive impairment • Long-term use	• Melatonin • Nonpharmacological strategies (e.g. sleep hygiene)

Abbreviations: ACE, angiotensin-converting enzyme; N/A, not applicable; NSAID, nonsteroidal anti-inflammatory drug; PIM, potentially inappropriate medicine.

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