

Title	Pharmacotherapy optimization in older patients by a structured clinical pharmacist assessment and intervention
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Appendix Table 1 Instances of STOPP potentially inappropriate prescribing (PIP)

Criteria	All	Exc. prns
<u>Cardiovascular System</u>		
Loop diuretic for dependent ankle oedema only i.e. no clinical signs of heart failure	8	8
Loop diuretic first line for hypertension	34	34
Use of diltiazem or verapamil with NYHA Class III or IV heart failure	2	2
Calcium channel blockers and constipation	24	24
Aspirin and history of peptic ulcer disease without H2 antagonist/PPI	1	1
Aspirin without an indication	20	20
Warfarin for first, uncomplicated deep venous thrombosis for longer than 6 months duration	1	1
<u>Central nervous system</u>		
TCA and dementia	8	8
TCA and glaucoma	3	3
TCAs and cardiac conductive abnormalities	2	2
TCAs and constipation	12	12

Criteria	All	Exc. prns
TCA's and opiate or calcium blockers	20	13
TCA and urinary retention	1	1
Long term long acting benzodiazepine or benzodiazepines with long acting metabolites	61	61
Long-term (i.e. > 1 month) neuroleptics as long-term hypnotics	22	22
Long-term neuroleptics (> 1 month) in those with Parkinsons' disease	25	25
Phenothiazines in patients with epilepsy	5	0
Anticholinergics to treat extra-pyramidal side-effects of neuroleptic medications	14	14
Selective serotonin re-uptake inhibitors (SSRI's) with a history of clinically significant hyponatraemia (non-iatrogenic hyponatraemia<130mmol/l within the previous 2 months).	4	4
>1 week first-generation antihistamines	25	25
<u>Gastrointestinal system</u>		
Diphenoxylate, loperamide or codeine phosphate for treatment of diarrhoea of unknown cause	1	1
Prochlorperazine or metoclopramide with Parkinsons disease	4	2
PPI for peptic ulcer disease at full therapeutic dosage for >8 weeks	166	166

Criteria	All	Exc. prns
Anticholinergic antispasmodic drugs with chronic constipation	5	0
<u>Respiratory system</u>		
Theophylline as monotherapy for COPD	2	2
Nebulised ipratropium with glaucoma	4	3
<u>Musculoskeletal system</u>		
NSAIDs and hypertension	60	26
NSAIDs and heart failure	12	2
Long-term continuous NSAIDs for osteoarthritis	6	6
Warfarin and NSAIDs together	9	4
NSAID with chronic renal failure	4	1
Long-term corticosteroids (>3 months) as monotherapy for rheumatoid arthritis or osterarthritis	8	8
<u>Urogenital System</u>		
Bladder antimuscarinic drugs with dementia	12	12
Antimuscarinic drugs with chronic glaucoma	2	2
Antimuscarinic drugs with chronic constipation	17	17
Antimuscarinic drugs with chronic prostatism	3	3

Criteria	All	Exc. prns
Alpha-blockers in males with frequent incontinence	12	12
Alpha-blockers with long-term urinary catheter in situ	3	3
<u>Drugs that adversely affect fallers</u>		
Benzodiazepines in individuals with a history of recurrent falls	197	115
Neuroleptic drugs in individuals with a history of recurrent falls	138	115
First generation antihistamines in individuals with a history of recurrent falls	24	16
Long-term opiates in individuals with a history of recurrent falls	71	71
<u>Analgesic Drugs</u>		
Use of long-term powerful opiates e.g. morphine or fentanyl as first line therapy for mild-moderate pain	4	4
Long-term opiates in those with dementia unless indicated for palliative care or management of moderate/severe chronic pain syndrome	22	22
<u>Duplicate class</u>	202	62
Total STOPP PIP instances	1280	955

Key: **Exc:** Excluding; **prn:** Pro Re Nata (as needed/ as required); **NYHA:** New York Heart Association; **H2 receptor antagonist:** Histamine 2 receptor antagonist; **PPI:** Proton Pump Inhibitor; **SSRIs:** Selective Serotonin Reuptake Inhibitors; **COPD:** Chronic Obstructive Pulmonary Disease; **NSAIDs:** Non-Steroidal Anti-Inflammatory Drugs; **STOPP:** Screening Tool of Older People's potentially inappropriate Prescriptions; **PIP:** Potentially Inappropriate Prescribing.

Appendix Table 2 Instances of Beers' ID potentially inappropriate prescribing (PIP)

Criteria	All	Exc. prns
Muscle relaxants and antispasmodics:oxybutynin (do not consider extended release oxybutynin)	10	10
Flurazepam	15	15
Amitriptyline, chlordiazepoxide- amitriptyline and perphenazine- amitriptyline	20	20
Doxepin	1	1
Doses of short acting benzodiazepines: doses greater than lorazepam 3mg; oxazepam 60mg; alprazolam 2mg; temazepam 15mg; triazolam0.25mg.	10	10
Chlordiazepoxide, chlordiazepoxide- amitriptyline, clidinium- chlordiazepoxide, diazepam, quazepam, halazepam and chlorazepate	70	41
Long-acting benzodiazepines	7	6
Gastrointestinal antispasmodic drugs:dicyclomide, hyoscyamine, propantheline, belladonna alkaloids and clidinium-chlordiazepoxide	27	8
Anticholinergics and antihistamines: Chlorpheniramine, diphenhydramine, hydroxyzine, cyproheptadine, promethazine, tripeleonnamine and dexchlorpheniramine	25	12

Criteria	All	Exc. prns
Daily fluoxetine	17	17
Amiodarone	15	15
Nitrofurantoin	13	13
Doxazosin	9	9
Oestrogen	1	1
Total Beers ID PIP Instances	240	178

Key: **Exc:** Excluding; **prn:** Pro Re Nata (as needed/ as required); **ID:** Independent of Diagnosis; **PIP:** Potentially Inappropriate Prescribing.

Appendix Table 3 Instances of Beers' CD potentially inappropriate prescribing (PIP)

Criteria	All	Exc. prns
Gastric or duodenal ulcers AND NSAIDs and aspirin	9	4
Seizures or epilepsy AND Clozapine, chlorpromazine, thioridazine and thiothixene	1	0
Blood clotting disorders or receiving anticoagulant therapy AND aspirin, NSAIDs, dipyridamole, ticlodipine and clopidogrel	10	7
Bladder outflow obstruction AND anticholinergics and antihistamines, GI antispasmodic drugs, muscle relaxants, oxybutynin, flavoxate, anticholinergics, antidepressants, decongestants and tolteridine.	34	29
Stress incontinence AND α -blockers, anticholinergics, tricyclic antidepressants (imipramine hydrochloride, doxepin hydrochloride and amitriptyline hydrochloride) and long-acting benzodiazepines.	77	58
Arrhythmias AND Tricyclic antidepressants (imipramine hydrochloride, doxepin hydrochloride and amitriptyline hydrochloride)	1	1
Parkinson disease AND Metoclopramide, conventional antipsychotics and tacrine	5	3
Cognitive impairment AND barbiturates, anticholinergics, antispasmodics, muscle relaxants and CNS stimulants:	68	49

Criteria	All	Exc. prns
dextroamphetamine, methylphenidate, methamphetamine and pemolin.		
Depression AND long-term benzodiazepine use. sympatholytic agents: methyldopa, reserpine and guanethidine	87	87
Syncope or falls AND short to intermediate acting benzodiazepine and tricyclic antidepressants (imipramine hydrochloride, doxepin hydrochloride and amitriptyline hydrochloride)	208	124
SIADH/hyponatraemia AND SSRIs (fluoxetine, citalopram, fluvoxamine, paroxetine and Sertraline)	2	2
Obesity AND Olanzapine	1	1
COPD AND Long-acting benzodiazepines: chlordiazepoxide, chlordiazepoxide- amitriptyline, clidinium-chlordiazepoxide, diazepam, quazepam, halazepam and chlorazepate. β -blockers: propranolol.	7	4
Constipation AND calcium channel blockers, anticholinergics, tricyclic antidepressants (imipramine hydrochloride, doxepin hydrochloride and amitriptyline hydrochloride)	81	70
Total Beers CD PIP Instances	591	439

Key: Exc: Excluding; **prn:** Pro Re Nata (as needed/ as required); **GI:** Gastro-Intestinal; **SIADH:**

Syndrome of Inappropriate Anti-Diuretic Hormone; **SSRIs:** Selective Serotonin Reuptake Inhibitors;

COPD: Chronic Obstructive Pulmonary Disease; **NSAIDs:** Non-Steroidal Anti-Inflammatory Drugs; **CD:**

Considering Diagnosis; **PIP:** Potentially Inappropriate Prescribing.