

## Appendix 1. List of unnecessary drugs [10]

	ATC-code	examples (brand names)
Allopurinol without gout history	M04AA01	Urosin, Zyloric, Gichtex
Ambroxol, ACC in long term therapy	R05CB06 R05CB01	Ambrobene, Ambrohexal, Aeromuc, ACC
Valerian preparations	N05CM09	Passedan, Passelyt
Butylscopolamine	A03BB01	Buscopan
Crataegus glycosides	C01EB04	Crataegus, Pumpan
Dimenhydrinat, Diphenhydramine	R06AA02	Vertirosan
Bioflavonoids, Rutoside, Diosmin, etc. for venous disease	C05CA01 C05CA53	Venosin, Venoruton, Daflon
Etilefrine	C01CA51	Effortil, Amphodyn
Ginkgo biloba	N06DX02	Tebonin, Tebofortan
Lactulose, Lactobacillus	A06AD11 A07FA01	Laevolac, Antibiophilus, Omniflora
Loperamide	A07DA03	Immodium, Enterbobene
Magnesium salts in long term therapy	A12CC30	Magnesium Verla, Magnosolv, Magnonorm
Metoclopramide, Domperidone in long term therapy	A03FA01 A03FA03	Paspertin, Motilium
Sodium picosulfate	A06AB08	Guttalax
Pentoxifylline, Naftidrofuryl and other drugs against vertigo	C04AD03 C04AX21	Trental, Vasonit, Vertigoheel, Dusodril
Herbal remedies against prostate diseases		Prostagutt, Kürbis
Silymarin	A05BA03	Legalon
Silicones	A03AX13	Lefaxin, Sab-Simplex, Antiflat
Trospium, Tolterodine	G04BD09 G04BD07	Inkontan, Spasmourogenin, Spasmolyt, Detrusitol
Vitamin B combinations against neuropathic pain	A11DB	Neurobion

**Appendix 2. List of inadequate drugs, modified Beers' list [11]**

Inadequate Drug	Restriction	Brand name in Austria	ATC-code	Severity rating
<b>I. SEDATIVES</b>				
Diazepam	none	Gewacalm, Psychopax	N05BA01	high
Clorazepate	none	Tranxilium	N05BA05	high
Diphenhydramine	none	Dibondrin, Noctor	R06AA02	high
Hydroxyzine	none	Atarax	N05BB01	high
Meprobamate	none	Miltaun	N05BC01	high
Lorazepam	> 3 mg	Temesta	N05BA06	high
Oxazepam	> 60 mg	Praxiten, Adumbran	N05BA04	high
Triazolam	> 0,25 mg	Halcion	N05CD05	high
Alprazolam	> 2 mg	Xanor	N05BA12	high
Short acting benzodiazepines (Prazepam, Zolpidem, Triazolam, Brotizolam, Cinolazepam, Oxazepam, Nitrazepam, Alprazolam)	in syncopes	Demetrin, Zoldem, Halcion, Lendorm, Gerodorm, Adumbran, Praxiten, Anxiolyt, Mogadon, Xanor		high
Long acting benzodiazepines (Flunitrazepam, Lorazepam, Bromazepam, Lormetazepam, Clobazam, Diazepam, Dikaliumclo- razepate)	in stress incontinence, in depression, in COPD, in falls	Rohypnol, Somnubene, Temesta, Lexotanil, Noctamid, Frisium, Gewaclam, Psychopax, Valium, Tranxilium		high
Antihistamines (Diphenhydramine, Cetirizine, Loratadine, Dimetinden)	in bladder outflow obstruction	Noctor, Dibondrin, Aeries, Cetirizin, Dibondrin, Fenistil, Telfast, Xyzall, Zyrtec	R06A	high
<b>II. ANTIDEPRESSANTS</b>				
Amitryptiline	none	Saroten, Limbitrol, Tryptizol	N06AA09	high
Chlordiazepoxide	none	Limbitrol	N06CA01	high
Fluoxetine	daily	Fluctine, Mutan	N06AB03	high
Tricyclic Antidepressants (Clomipramine, Amitryptiline, Desip- ramine, Doxepin, Opipranol)	in syncopes, in chronic obstipation, in arrhythmias	Anafranil, Insidon, Stangyl, Saroten, Sinequan	N06AA	high
Imipramine, Clomipramine	in stress incontinence	Anafranil	N06AA04	high
MAO-inhibitors (Moclobemid)	in insomnia	Aurorix	N06AG02	high
Serotonin Reuptake Inhibitors (Citalopram, Escitalopram, Sertralin, Fluoxetin, Paroxetin)	in hyponatremia	Pram, Felicium, Mutan, Fluctine, Gladem, Tresleen, Adjivin, Ennos, Allenopar	N06AB	low
Tricyclic and tetracycl. Antidepress- sants (Clomipramine, Opipranol, Maprotilin, Mianserin, Mirtazapin, Dibenzepin, Doxepin, Amitryptilin, Moclobemid)	in bladder outflow obstruction	Anafranil, Insidon, Ludiomil, Mianserin, Mirtabene, Noveril, Sinequan, Doxepin, Aurorix, Saroten, Tryptizol		high
<b>III. ANTIPSYCHOTICS</b>				
Doxepin	none	Sinequan	N06AA12	high
Clozapine	in epilepsy	Leponex	R06AX02	high
Chlorpromazine	in epilepsy	Nozinan	N05AA02	high
Olanzapine	in obesity	Zyprexa	N05AH03	low
All Antipsychotics (Melperon, Haloperidol, Olanzapine, Pimozide, Aripiprazole, Clozapine, Risperi- done, Quetiapine, Olanzapine)	in parkinson disease	Buronil, Haldol, Olanzapin, Orap, Abilify, Dogmatil, Meresa, Lanolept, Clozapin, Risperdal, Seroquel, Zyprexa, Zeldox,		high
<b>IV. VASODILATORS</b>				
Methyldopa	none	Aldometil	C02AB01	high
Clonidine	none	Catapressan	C02AC01	low
Nifedipine	none	Fedip, Adalat	C08CA05	high
Doxazosin	none	Supressin, Doxabene	C02CA04	low
Reserpine	> 0,25 mg, in depression	Brinerdin	C02LA51	low high
Prazosin, Terazosin	in stress incontinence	Minipress, Vicard	C02A01 G04CA03	high
Calcium channel blockers	in chronic obstipation	Isoptin, Dilzem, Norvasc	C08CA01	low

## Appendix 2. Continued

### V. ANALGESICS AND PLATELET INHIBITORS

Meperidine	none	Alodan (Pethidin)	N02AB02	high
Barbiturates	none	Brietal	N01AF01	high
Propoxyphene/Dextropropoxyphene	none	APA-Tabletten	N02BE51	low
Indomethacin	none	Indobene, Indocid	M01AB01	high
Orphenadrine	none	in Neodolpasse	M01AB55	high
Ticlopidine	none	Tiklyd	B01AC05	high
Piroxicam	full dose, long-term	Felden, Brexin	M01AC01	high
Naproxen	full dose, long-term	Proxen, Miranax	M01AE02	high
All NSAIDs and ASS > 325 mg/d	with OAC, in gastric/ duodenal ulcers	Diclo; Ibuprof, etc.	M01AB05	high
Clopidogrel	with OAC	Plavix	B01AC04	high

### VI. ANTISPASMODICS

Oxybutynin	none	Detrusan, Ditropan	G04BD04	high
Belladonna, Hyoscyamine	none	Bellanorm	A03BA04	high
Anticholinergics (Atropin, Hyoscyamine, Ipratropium, Oxybutynin, Tolterodine, Solifenacin, Trospium, Darifenacin, Fesoterodine)	in bladder outflow obstruction, in cognitive impairment, in chronic constipation	Bellanorm, Atrovent, Berodual, Combivent, Detrusan, Kentera, Detrusitol, Inkontan, Spasmolyt, Spasmogenin		high
GI-antispasmodics	in bladder outflow obstruction	Buscopan	A03BB01	high
Tolterodine	in bladder outflow obstruction	Detrusitol	G04BD07	high

### VII. OTHERS

Amiodarone	none	Sedacorone	C01BD01	high
Cimetidine	none	Cimetag	A02BA01	low
Cyproheptadine	none	Periactin	R06AX02	high
Dipyridamole	none	Persantin	B01AC07	low
Ergotamine	none	Venotop, Hydergin, Ergotop	C04AE01	low
Ethacrynic Acid	none	Edecrin	C03CC01	low
Ketorolac	none	Acular Augentropfen!		high
Methyltestosterone	none	Testosteron	G03BA03	high
Nitrofurantoin	none	Furadantin	J01XE01	high
Estrogens	none	Climara, EstroGel	G03CA03	low
Propranolol	none	Inderal	C07AA05	high
Amphetamines	in insomnia	Ritalin, Concerta; Amphetaminsulfat Kapseln, Modasonil, Strattera	N06BA04	high
Bisacodyl	long term	Dulcolax, Laxbene	A06AB02	high
Cascara sagrada	long term	Guttalax	A06AB08	high
Digoxin	> 0,125 mg	Lanitop	C01AA08	low
Ferrous Sulfate	> 325 mg	Aktiferrin, Ferrogradumet	B03AD03	low
Metoclopramide	in parkinson disease	Paspertin	A03FA01	high
Muscle relaxants	in bladder outflow obstruction, in cognitive impairment	Myolastan, Lysthenon	M03BX07 M03AB01	high
Theophylline	in insomnia	Euphyllin, Respicur, Theospirex	R03DA04	high

Drugs on the Beers list that are not available in Austria (alphabetical order): Carisoprodol, Chlorpheniramine, Chlorpropamide, Chlorzoxazone, Clidinium-Chlordiazepoxide, Cyclandelate, Cyclobenzaprine, Dexchlorpheniramine, Dicyclomine, Disopyramide, Flavoxate (in bladder outflow obstruction), Flurazepam, Guanadrel, Guanethidine, Halazepam, Isoxsuprine, Mesoridazine, Metaxalone, Methocarbamol, Mineral oil, Neolid (except with opiates), Oxaprozin (full dose, long term), Pentazocine, Promethazine, Propantheline, Quazepam, Tacrine (in Parkinson disease), Temazepam (>15 mg), Thioridazine, Thiothixene (in epilepsy), Trimethobenzamide. COPD Chronic obstructive pulmonary disease; OAC oral anticoagulants.

### Appendix 3. Suspect symptoms for adverse drug events

<i>Cardiovascular system:</i>	<i>Kidney/bladder function:</i>
Tachycardia	Renal failure
Bradycardia	Urinary retention
QT-Prolongation	Inkontinence
Heart failure	
Hypertensive crisis	
Hypotension, Orthostase	
Peripheral oedema	
Vertigo	
Synkope	
<i>Central nervous system:</i>	<i>Respiratory tract:</i>
Confusion	Alveolitis
Delirium	Pneumonitis
Depression	Bronchospasm
Epilepsy	Pulmonary embolism
Dyskinesias	Hyperventilation
Hyperpyrexia	Cough
Agitation	
Psychosis	
Dysgeusia	
<i>Gastrointestinal tract:</i>	<i>Blood:</i>
Bleeding	Thrombembolism
Colitis	Haemolysis
Intestinal obstruction	Thrombopenia
Elevation of liver enzymes	Leukopenia
Pankreatitis	Anemia
Meteorism	
Diarrhoea	
<i>Metabolism:</i>	<i>Immune system:</i>
Hyper/Hypokalemia	Anaphylaxis
Hyponatremia	Drug fever
Porphyria	Lupus erythematodes
Hyperkalcemia	Vasculitis
Acidosis	
<i>Muscles/bones:</i>	<i>Skin:</i>
Osteomalacia	Angioedema
Arthropathy	Drug eruption
	Itch
<i>Sexual dysfunction:</i>	<i>Eyes/Ears:</i>
Erectile dysfunction	Deafness
Lost Libido	Vertigo
Spontaneous abortion	Glaucoma
	Visual impairments