

# Medication Review

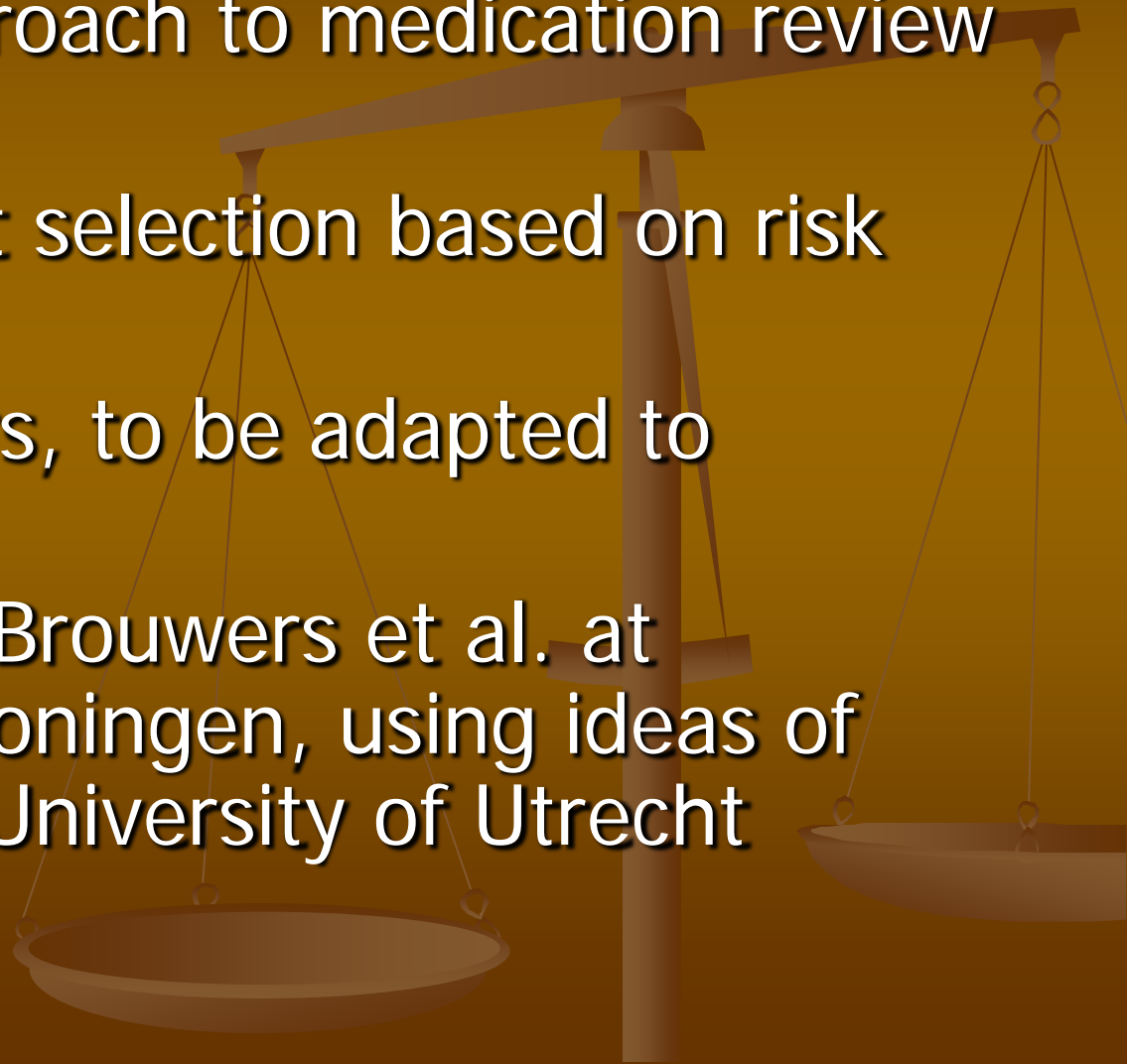
## The Dutch filter method

J.W.F. van Mil



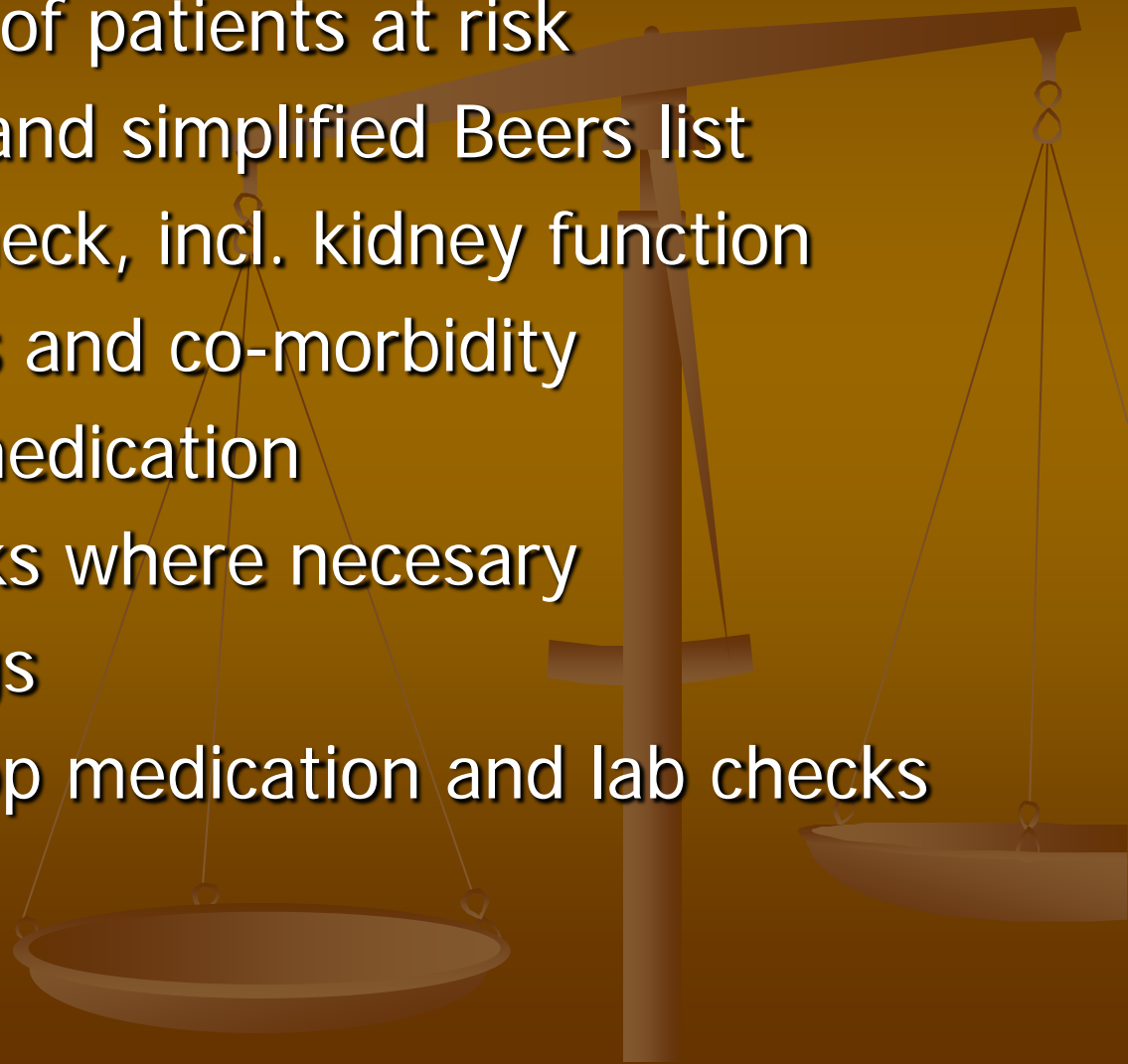
# Filter method

- A structured approach to medication review for the elderly
- Includes patient selection based on risk profiles
- 6 essential filters, to be adapted to culture/country
- Developed by Brouwers et al. at University of Groningen, using ideas of Jansen et al at University of Utrecht



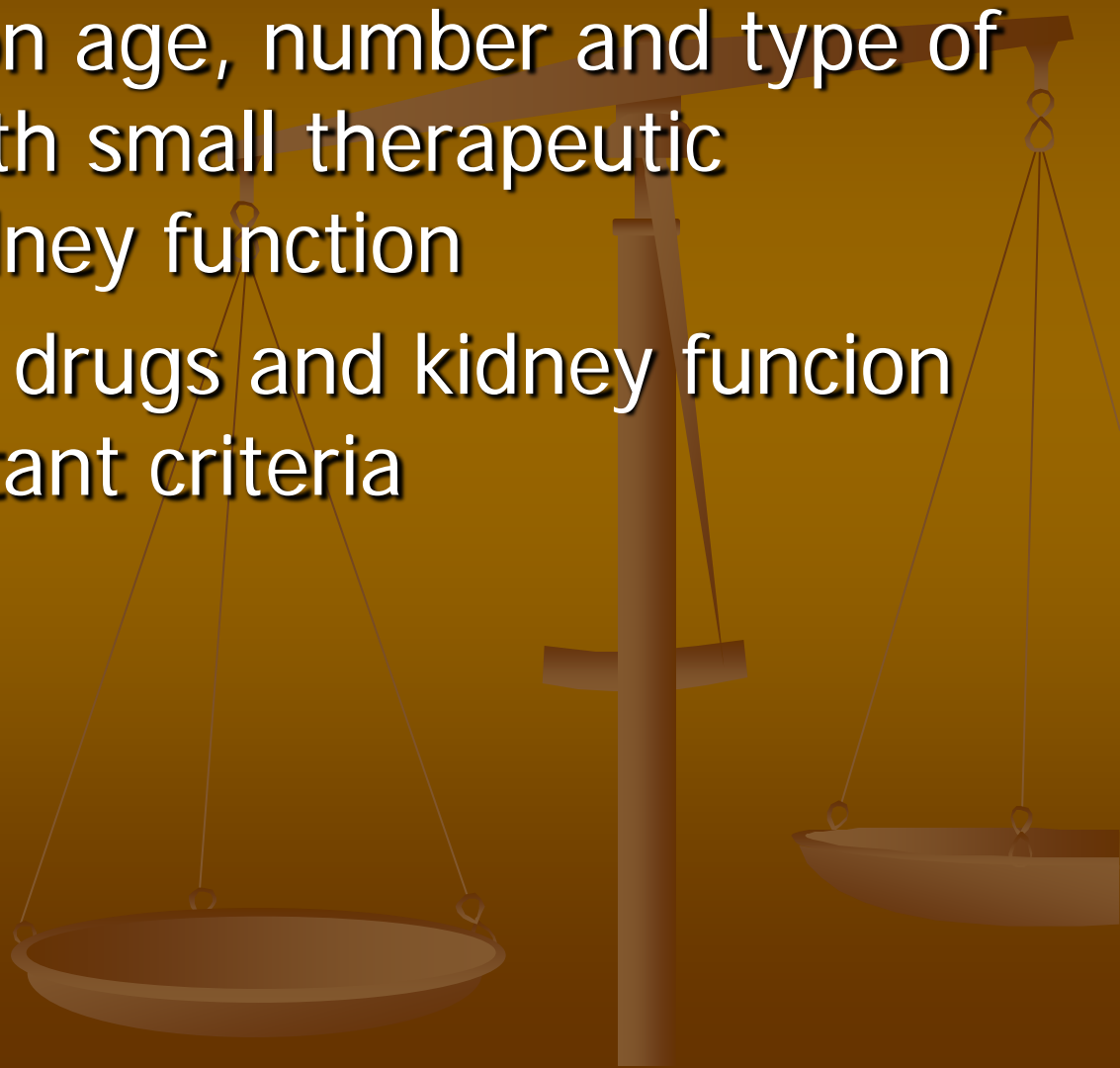
# Filters

- Filter 0: Selection of patients at risk
- Filter 1: Adapted and simplified Beers list
- Filter 2: Dosage check, incl. kidney function
- Filter 3: Medicines and co-morbidity
- Filter 4: Missing medication
- Filter 5: Lab checks where necessary
- Filter 6: Stop drugs
- Action: Start or stop medication and lab checks



# Filter 0: patient

- Scoring based on age, number and type of drugs, drugs with small therapeutic margins and kidney function
- Age, number of drugs and kidney function are most important criteria



# Filter 0: Triage

Age	<65	0
	66-75	1
	76-85	23
	>85	
No of drugs	<6	0
	6-9	2
	>9	4
No drugs small ther. Index Max 3 points	Acenocoumarol	1
	Anti-epileptics	1
	Digoxin	1
	Lithium	1
	Methotrexate etc.	1

Drug groups  Max 6 points  * = chronic	Cardiovascular	1
	Antidiabetics	1
	Anticoagulation	1
	Neurology/Psych*	1
	Astma/COPD	1
	NSAIDs	1
	Opoids	1
	Corticosteroids	1
Kidney function	GFR >50	0
	GFR 31-50	2
	GFR <31	4

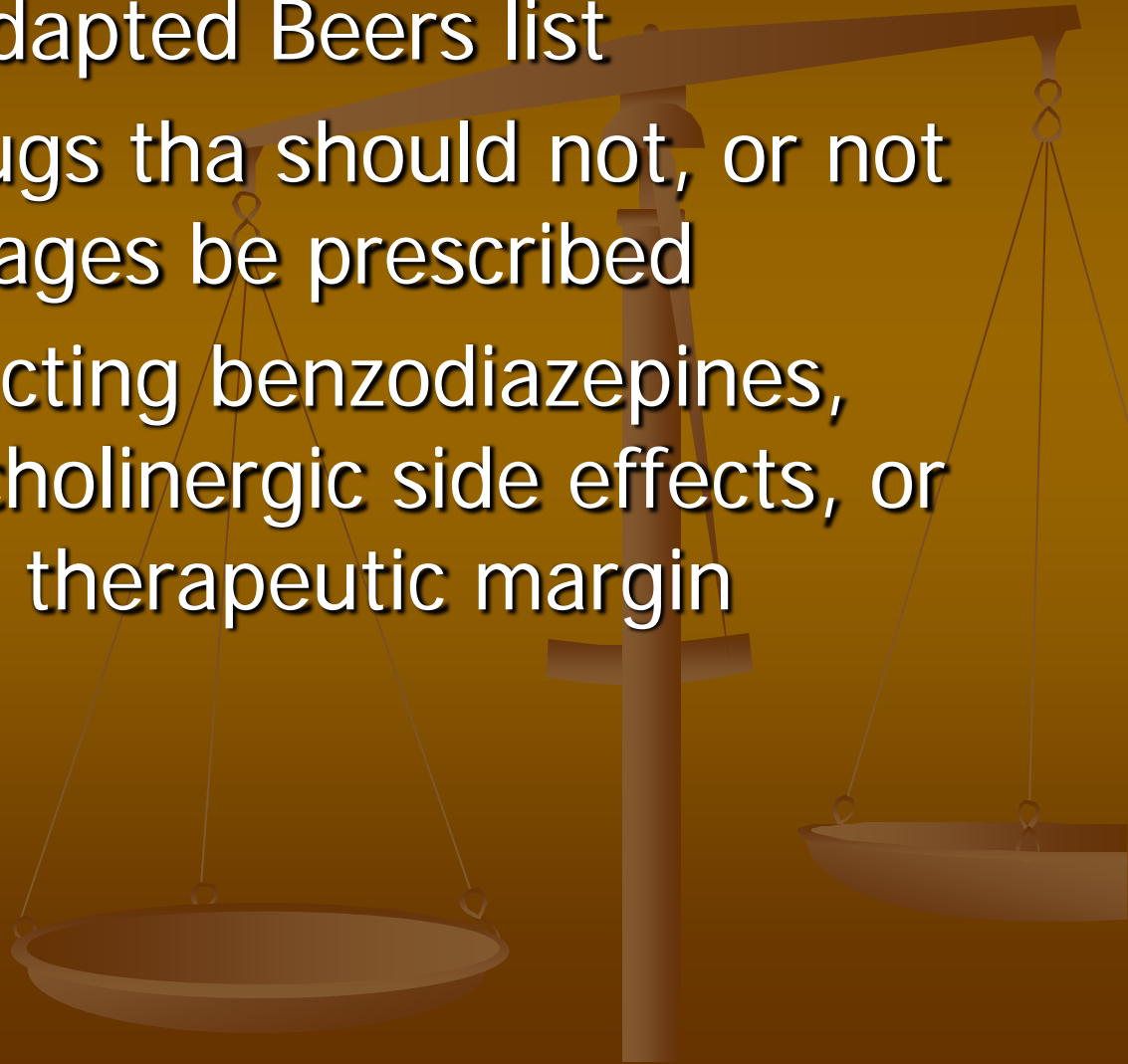
# Filter 0: added score



Group	Risk	Score
1	normal	0-5
2	Slightly elevated	6-9
3	Elevated	10-14
4	Very elevated	>14

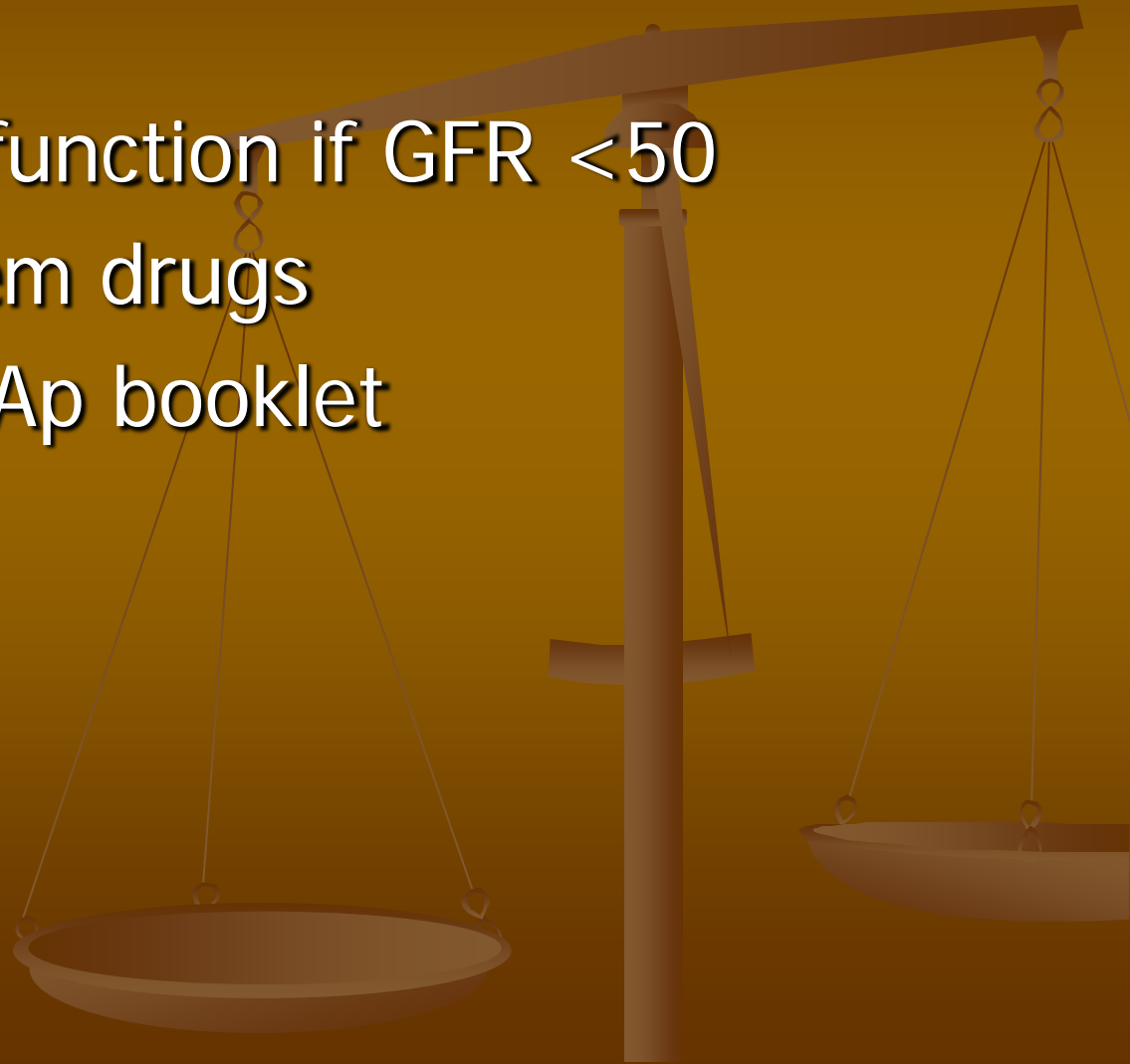
# Filter 1: Drugs

- Essentially an adapted Beers list
- Currently 43 drugs that should not, or not at specified dosages be prescribed
- Focus on long-acting benzodiazepines, drugs with anticholinergic side effects, or drugs with small therapeutic margin



# Filter 2: Kidney

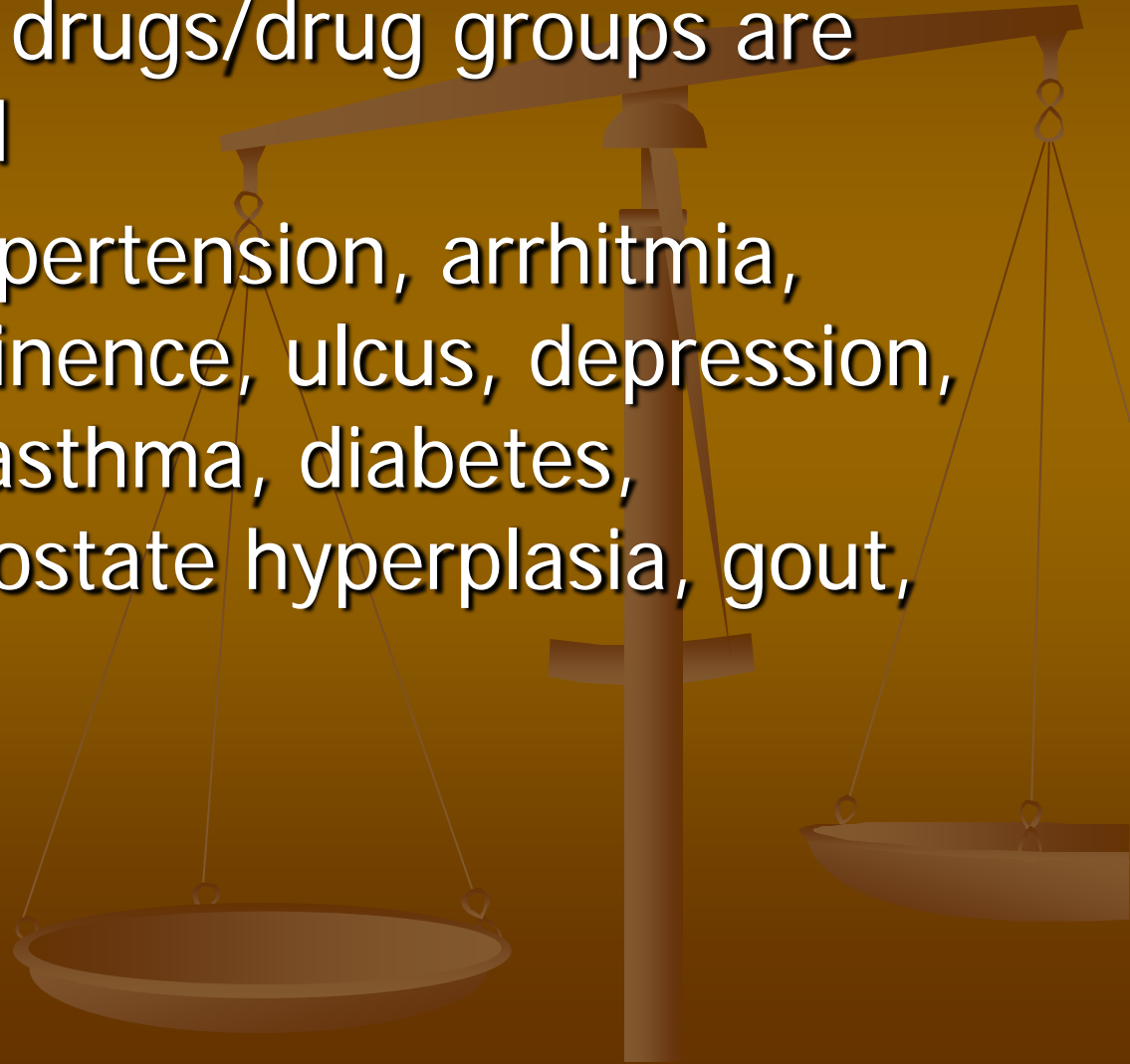
- Dosis checks
- Include kidney function if  $GFR < 50$
- Focus on problem drugs
- Use KNMP/WINAp booklet





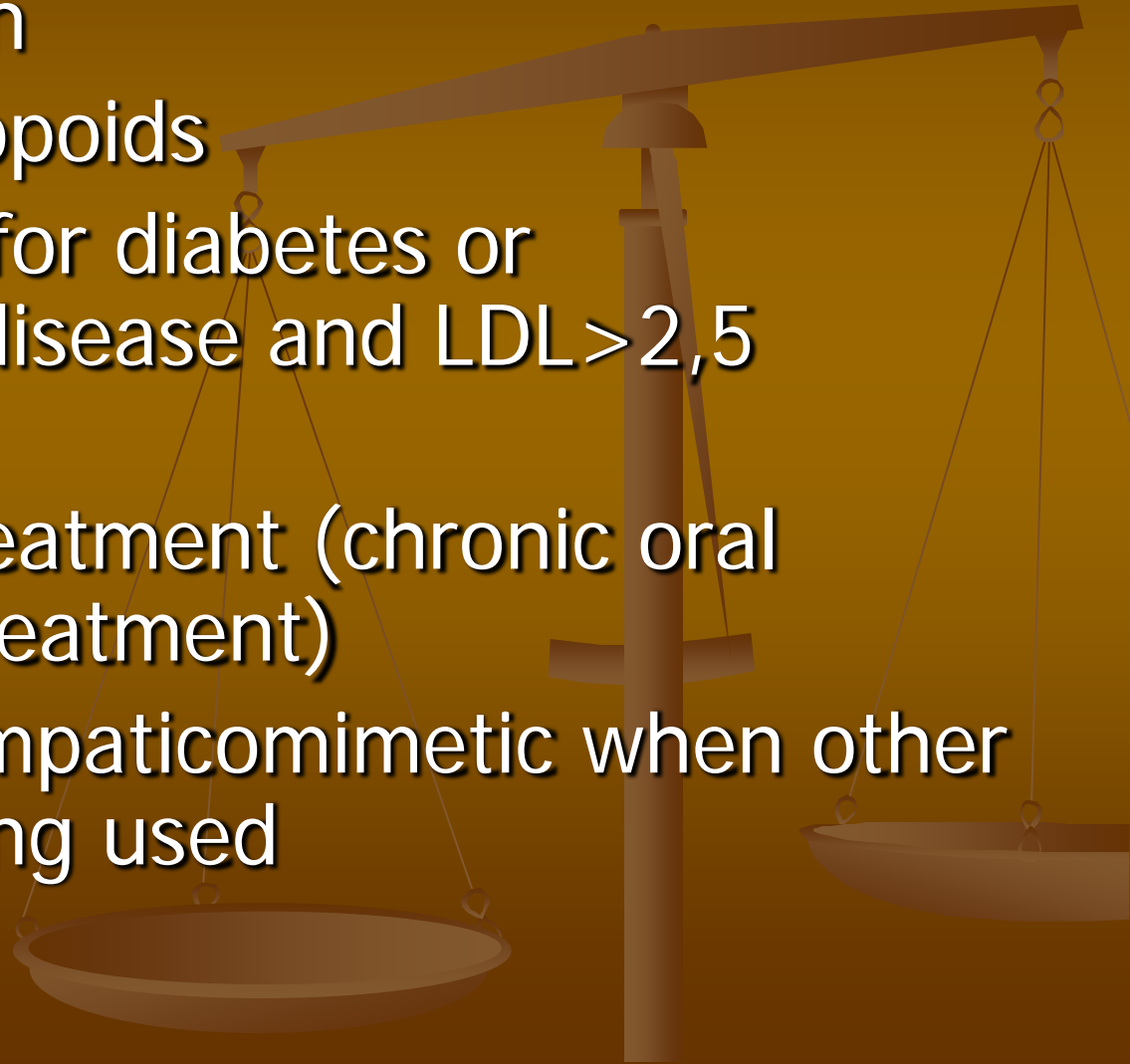
# Filter 3: Comorbidities

- Check if certain drugs/drug groups are contra-indicated
- Heart failure, hypertension, arrhythmia, epilepsy, incontinence, ulcer, depression, obesity, COPD/asthma, diabetes, constipation, prostate hyperplasia, gout, parkinsonism



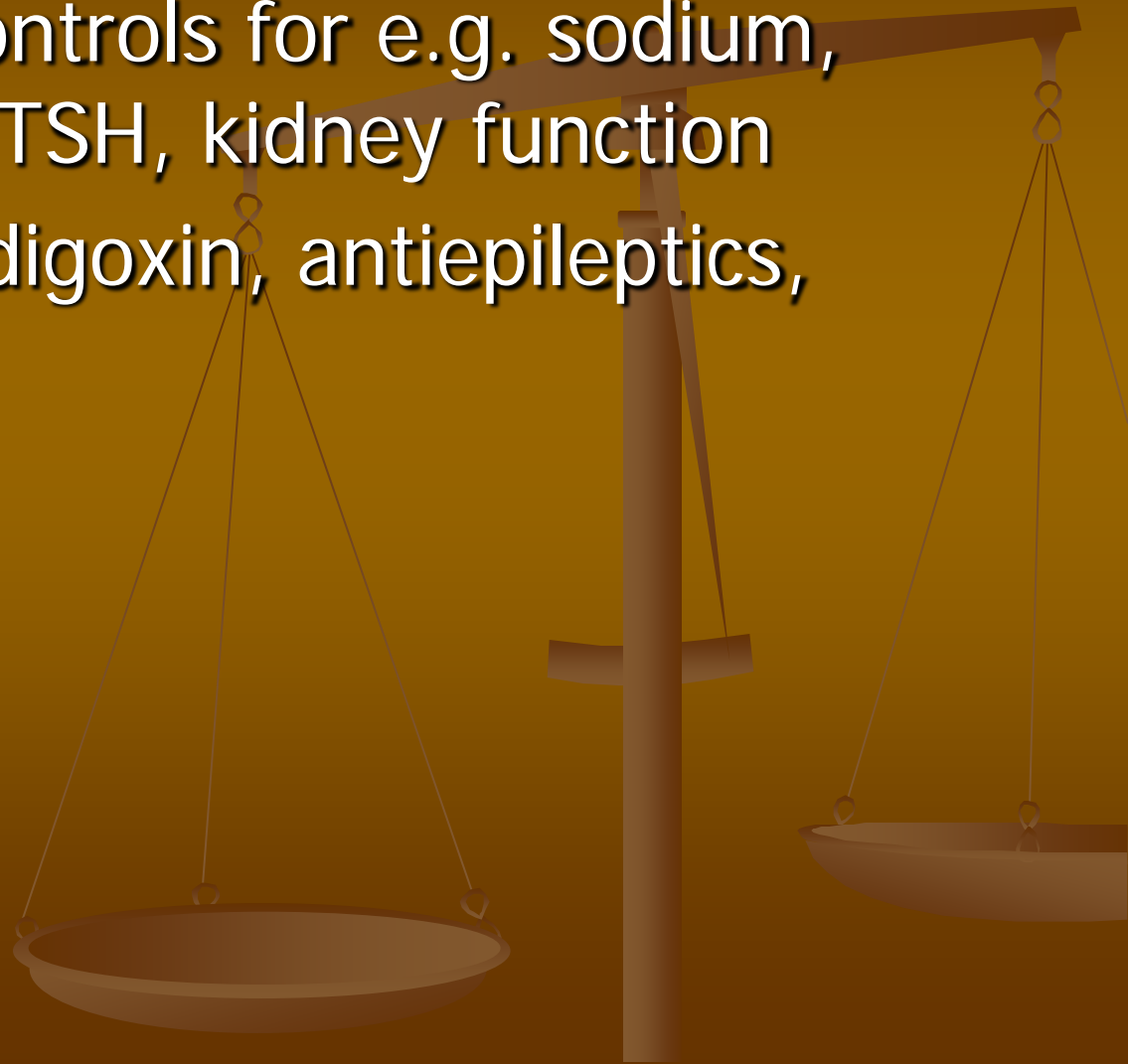
# Filter 4: Missing medication

- Gastroprotection
- Laxatives with opioids
- Missing statine for diabetes or cardiovascular disease and  $\text{LDL} > 2,5 \text{ mMol/L}$
- Osteoporosis treatment (chronic oral corticosteroid treatment)
- Short acting sympaticomimetic when other inhalers are being used



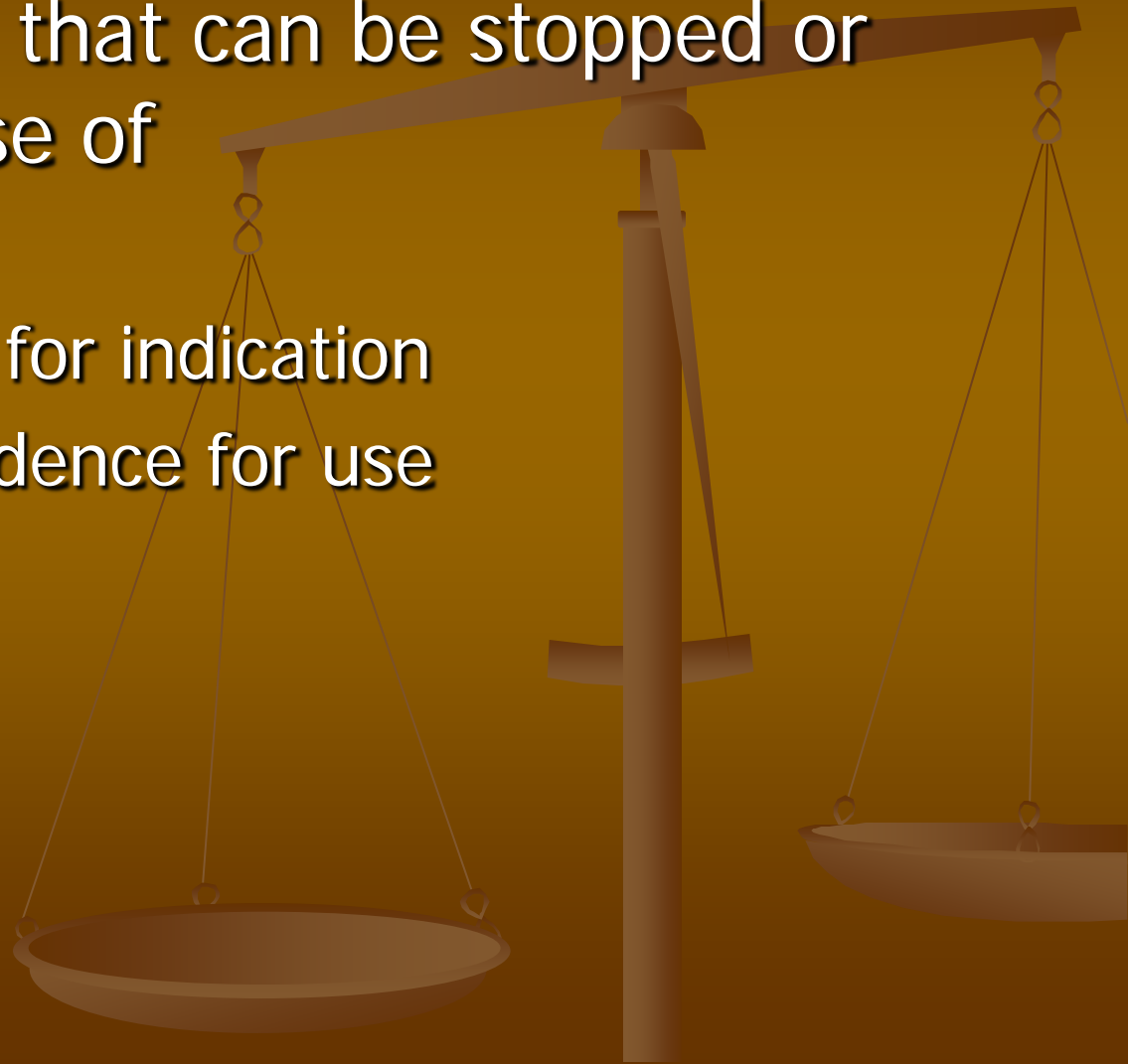
# Filter 5: Lab checks

- Adequate lab controls for e.g. sodium, potassium, Hb, TSH, kidney function
- Blood levels of digoxin, antiepileptics,



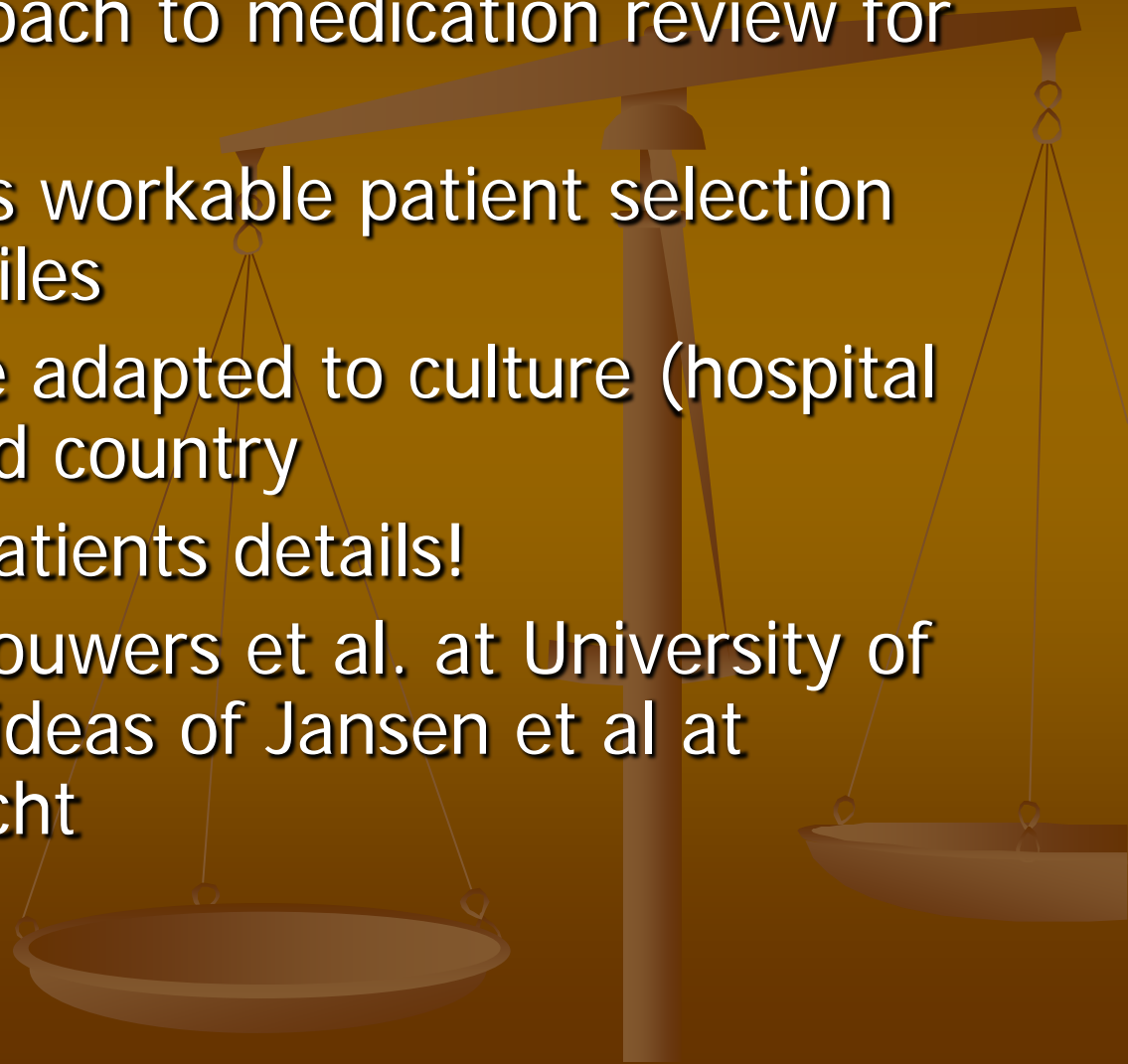
# Filter 6: Stop

- Are there drugs that can be stopped or replaced because of
  - Ineffectiveness
  - Not first choice for indication
  - Not enough evidence for use
  - Ease of use



# Filter method

- A structured approach to medication review for the elderly
- Essential: Includes workable patient selection based on risk profiles
- Some filters, to be adapted to culture (hospital or community) and country
- Don't forget the patients details!
- Developed by Brouwers et al. at University of Groningen, using ideas of Jansen et al at University of Utrecht



# Medication Review

## The filter method

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