

## Objectives:

I have no conflict of interest to declare.

Participants will be aware of approaches to reduce medication burden of elderly patients.

Participants will be aware of the evidence for safety of deprescribing for the elderly.

Participants will consider discussing this goal with their frail elderly patients.

*The first duty of the physician is  
to educate the masses not to take medication.  
Sir William Osler*

# Definition:

Deprescribing is the process of withdrawal of an inappropriate medication, supervised by a health care professional with the goal of managing polypharmacy and improving outcomes.

*taken from Reeve et al 2015 British Journal of Clinical Pharmacology 80: 1254.*

## Potentially Inappropriate Medications

### SPECIAL ARTICLES

#### American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults

*The American Geriatrics Society 2012 Beers Criteria Update Expert Panel*

*J Am Geriatr Soc 2012 (Feb 29)*

Table 9. Rate of Use of Drugs From Beers List\* Among Seniors on Public Drug Programs by Jurisdiction, Selected Jurisdictions,<sup>†</sup> 2012

Jurisdiction	Percentage of Senior Claimants With Any Beers Use	Percentage of Senior Claimants With Chronic Beers Use	Percentage of Senior Claimants Using Multiple Beers Drugs
P.E.I.	28.0%	15.0%	7.2%
N.S.	45.4%	29.0%	16.1%
N.B.	51.7%	34.2%	21.7%
Total	38.9%	22.4%	12.4%

#### Notes

\* AGS Beers Criteria 2012 Updated Version, with modifications to make the measure of potentially inappropriate use more applicable to the Canadian market (see Appendix B).

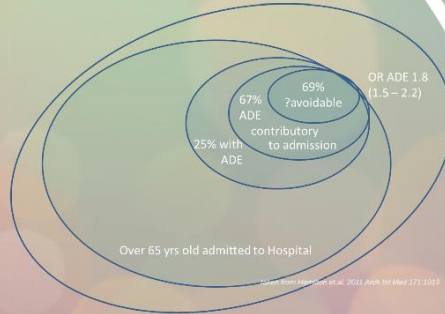
<sup>†</sup> Nine jurisdictions submitting claims data to the NPDUI Database as of March 2013: Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and First Nations and Inuit Health Branch.

Source: National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.

# Evidence for Harm

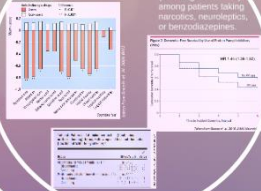


"I feel a lot better since I ran out of those pills you gave me."



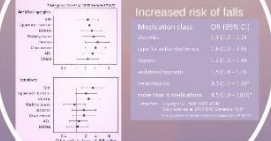
## Cognition

Increased risk of incident delirium (OR range 2.5 to 4.5) among patients taking antipsychotics, neuroleptics, or benzodiazepines.



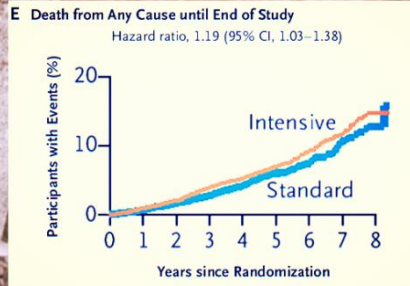
## Mobility and Function

Increased risk of falls



# ... even death?

## glycemic control



**Table 3. Adjusted Mortality Risk Differences in Death Rates During the 180-Day Observation Period Between Medication Users and Antidepressant Users\***

Medication	Risk Difference, % (95% CI)	NNH (95% CI)
Antidepressant (Reference)	Reference	NA
Haloperidol	12.3 (8.6-16.0) <sup>b</sup>	8 (6-12)
Olanzapine	7.0 (4.2-9.8) <sup>b</sup>	14 (10-24)
Quetiapine	3.2 (1.6-4.9) <sup>b</sup>	31 (21-62)
Risperidone	6.1 (4.1-8.2) <sup>b</sup>	16 (12-25)
Valproic acid	5.1 (1.8-8.4) <sup>b</sup>	20 (12-56)

## neuroleptic use

taken from Mause et al 2015 JAMA Psych 72:438

# Evidence for Benefit?

## Clinical Frailty Scale



**1 Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.



**2 Well** – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.



**3 Managing Well** – People whose medical problems are well controlled, but are not regularly active beyond routine walking.



**4 Vulnerable** – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.



**5 Mildly Frail** – These people often have more evident slowing, and need help in high order IADs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.



**6 Moderately Frail** – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.



**7 Severely Frail** – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).



**8 Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

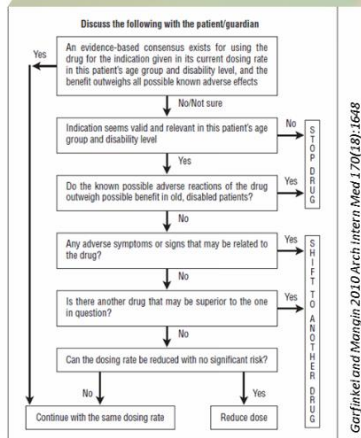


**9 Terminally Ill** – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

*Taken from from Moorhouse and Rockwood J R Coll Physicians Edinb*



# Feasibility



### Original Articles

#### The war against Polypharmacy: A New Cost-Effective Geriatric-Palliative Approach for Improving Drug Therapy in Disabled Elderly People

Doron Garfinkel MD<sup>1</sup>, Sarah Zur-Gil MD<sup>2</sup> and Iolhua Ben-Israel MD<sup>3</sup>

IMAJ 2007; 9:430

### ORIGINAL INVESTIGATION

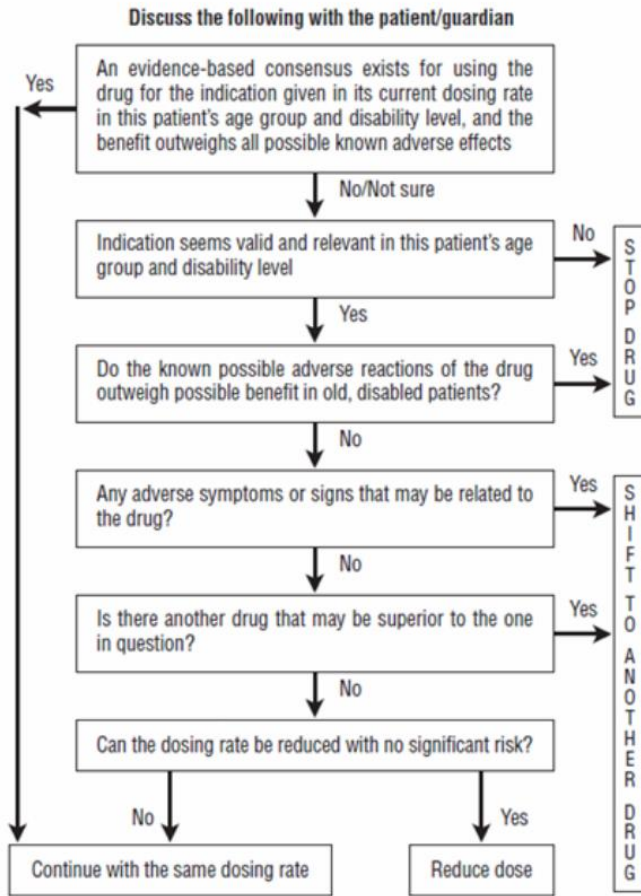
Levi S. Wang

#### Feasibility Study of a Systematic Approach for Discontinuation of Multiple Medications in Older Adults

Addressing Polypharmacy

Dora Garfinkel, MD, David Margu, MDCM

JGIM 2009; 24(12):1048-1054



Garfinkel and Mangin 2010 Arch Intern Med 170(18):1648

# Efficacy

Table 2. Success rate following 1 year of follow-up according to number of drugs discontinued

No. of drugs discontinued	No. of patients	Failure rate: re-administration	
		No. of patients	No. of drugs
7	2	2/2	3/14
6	4	2/4	5/24
5	13	5/13	13/65
4	15	5/15	5/60
3	29	4/29	5/87
2	26	1/26	1/52
1	30	2/30	2/30
Total	119	21/119	33/332
Percent	100%	18%	10%

Taken from Garfinkel et al 2007 MAJ 9:430

Table 3. Success rate after 1 year of follow-up according to types of drugs discontinued

Drug group	No. of patients with drug discontinuation	Recurrence of symptoms/signs* (failures)	Success rate (%)
Nitrates	22	0	100%
H <sub>2</sub> blockers	35	2	94%
Antihypertensives	51	9	82%
Diuretics (furosemide)	27 (25)	4 (4)	85%
Pentoxifylline	15	0	100%
Potassium supplement	20	0	100%
Iron supplement	19	1	95%
Sedatives & tranquilizers	16	2	88%
Antidepressants	19	5	74%
Antipsychotics	13	4	69%

Taken from Garfinkel et al 2007 MAJ 9:430

	Intervention group	Control group	p value
1yr Mortality	21%	45%	0.001
Referral to Acute care	12%	30%	0.002
Daily drug cost / pt			
Before intervention	1.74\$		0.02
After intervention	1.28\$		

# Efficacy

over 300 medications recommended stopped for 64 (out of 70 elderly subjects).

58 subjects stopped all or nearly all meds.

56 (88 %) subjects reported improvement in perceived general health.

3 (5 %) subjects restarted 4 medications.

10 pts hospitalized (6 discharged), 10 pts died, causes felt not secondary to stopped medications,

except DVT occurred 3 months after stopping warfarin.

Drug Group	Pts (N)	Discontinuation suggested N(%)
antihypertensives	95	58 (61)
benzodiazepines	36	36 (100)
antidepressants	45	23 (51)
statins	26	18 (69)
$\beta$ -blockers	26	15 (58)
furosemide	18	14 (78)
Ca channel blockers	22	13 (59)
thiazide	11	11 (100)
omeprazole	18	10 (56)

Taken from Garlinke and Wang, 2010 Arch Int Med 170:1648

# Conclusions

Potentially inappropriate medications for the elderly can contribute to ADE and morbidity and mortality.

Trial of withdraw of PIM is feasible and safe.

Stopping selected medications may improve general well being of older, frail patients.