



Should we use medication in the elderly?

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Should we use medication in the elderly? 

We are drowning in information - but starving of wisdom


E.O Wilson




“I have no particular talent. I am merely inquisitive”

Albert Einstein

..... curiosity killed the cat

The agenda 

- Background – what’s the problem
- Should we prescribe medicine for this aged person at all?
- If so – what? (brief reminder)
- Is it time to discontinue the medicine

Background - revision 

- Elderly are heterogeneous
 - Chronological versus physical versus mental age
 - Co-morbidities (versus genetics)
 - Life expectancy
- Drug related morbidity and mortality
 - 5 – 15% hospital admissions (up to 30%)
 - ADRs: 7 x more common in 70 – 79 yo than 20 – 29 yo
 - ADRs subtle and more likely to go unrecognised
- Minimal studies in the very aged (> 80 years)
 - Baby boomers, shared decision making

Should we treat with medicines? 

- Must follow guidelines
- Must achieve clinical indicators
- Under-treatment is ageism – look at the studies!!
- Pressure – drug company (DTCA), patient / family / H & D
- Poly-pharmacy is bad, bad, bad
- Decrease drugs in the elderly
- Inappropriate medicines in the elderly – poor performance
- Individualise therapy / QoL
- ? patient / family
- ‘Internal unease’

Damned if you do and damned if you don't

Should we treat?



- Active, 'healthy' (no Hx cardiovascular events) 86 year old male ... CV risk assessment = 19%
- What if 'unexpected' MI in a previously active, 'healthy' 78 year old
- What if a fit 81 year old with an MMSE 19 / 30 in a dementia unit (flight risk)

Should we treat – primary prevention (CV)?



- 85+ year olds with no history of cardiovascular disease - prospective cohort study
 - Classic risk factors included in Framingham risk score did not predict those at high risk of CV mortality. De Ruijter et al. BMJ. Jan 8th 2009
 - Homocysteine concentrations may be a better predictor

**Don't treat risk factors,
Don't even treat disease
Treat patients and treat them as individuals**
Professor John Campbell, Dunedin, 2005

Should we treat – blood pressure lowering?



- Evidence for treating 60 to 79 year olds with SBP \geq 160 mmHg is very robust and well established
- For 'healthy' people 80 years and older risk of stroke is reduced, but not total mortality.
 - Aim is SBP 140 to 150 mmHg (thiazide, ACE Inhibitor)
 - Does not extrapolate to sick or frail older people
- Risk is **falls**

Ref: Therapeutic Letter, Oct 2008

Should we treat – statins?



- Meta-analysis: Secondary prevention 65 to 82 year olds (Afzal J et al. J Am Coll Cardiol 2008; 51 (1):)
 - All cause mortality 15.6% for statin, 18.7% placebo
 - NNT – 33 patients per 5 years; 165 patients per year
- Meta-analysis: Intense therapy – no difference in all cause mortality (? For ACS), but reduced risk of MI, CVA (one study only) (Josan K et al. Intensive therapy – meta-analysis. CMAJ. 2008; 178(5): 576-84)
- SPARCL – Intensive therapy increased risk of haemorrhagic stroke (SPARCL Investigators. NEJM. 2006; 355: 549-59)
- Life extension – looking at months, not years
 - Gains in life expectancy decreases as age increases

Cardiovascular outcomes, all cause mortality, and cancer outcomes in the PROSPER study



Outcome

Non-fatal myocardial infarction, fatal/non-fatal stroke, or death from coronary heart disease

Non-fatal myocardial infarction or death from coronary heart disease

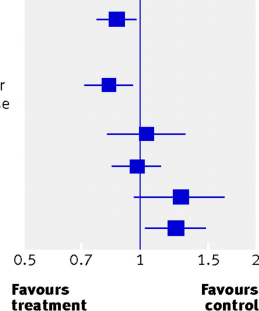
Fatal or non-fatal stroke

All cause mortality

Death from cancer

New diagnosis of cancer

Hazard ratio (95% CI)



Mangin, D. et al. BMJ 2007;335:285-287
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BMJ

Should we treat – statins?



- ADRs (**Subtle**)
 - Aches and pains (> 80 years more susceptible)¹
 - GI - nausea, abdominal pain, diarrhoea
 - Headache
 - Memory impairment, psychiatric (Prescriber Update)
- Studies like HPS, TNT had run-in periods that 'removed' those with ADRs

1. Armitage, Lancet 2007; 370: 1781-90

Should we treat – HbA1c?



- Benefits of tight glycaemic control (< 7%)
 - **Long term** microvascular complications
 - **Long term** cardiovascular complications
- Patients with < 5 year life expectancy are unlikely to benefit
- With increased co-morbidities potential life extension reduces.
- HbA1c < 7.9% adequate for many aged people

Ref: Haung E et al. Ann Intern med. 2008; 149: 11-19
CDC Diabetes cost-effectiveness Group. JAMA. 2002; 287: 2542-51

Should we treat - principles



- **Beneficence** – what is the evidence for likely benefit in this particular person? (NNT)
- **Nonmaleficence** – what are the adverse effects likely to be in this particular person, given their age, co-morbidities and other medicines? (NNH)
- **Autonomy** – what does this person want?

Ref Le Couter D et al. AustFamPhys. 2004; 33:777-81

*People may have a life expectancy that is shorter than the time needed to benefit from the drug ... or the potential life extension may be very short
The application of guidelines for specific chronic disorders is not always suited to an older person with co-morbidities, frailty etc*

If we treat – what's 'appropriate'?



- Beers, Medication Appropriateness Index, IPET
- Anticholinergics / TCAs
 - Dry mouth, dry nose, decreased mucociliary clearance
 - Reduced gut motility, gastric secretions (constipation)
 - Bladder hypotonia (urinary retention / overflow)
 - Reduced cognition (confusion, memory impairment)
 - Postural hypotension (instability, falls)
 - Blurred vision (falls, loss of independence, isolation)
 - Sedation, delirium, restlessness, irritability
- Antipsychotics
 - No evidence for restlessness, agitation, wandering, calling out, behaviours that are not a risk to self or others, anxiety, insomnia
- Benzodiazepines
- NSAID / dextropropoxyphene (tramadol)

If we treat – what's 'appropriate'?



- MAI – 15-25% in care facilities; 10 – 15% in communities
- 597 admissions – 191 on inappropriate medicine; 93 highly likely to have caused admission
 - 101 on benzodiazepines
 - 38 falls; 21 surgery; 17 impaired psychomotor function / drowsiness / cognition
- Antipsychotics – increase falls risk 71%
- Benzodiazepines – increase hip fracture risk 5 to 110%
- NSAID – gastric bleed admissions

Discontinuing medicines in the elderly



- Increasing evidence that discontinuation of medicines in certain patient populations does not worsen outcomes and reduces adverse drug events. Bain K et al. JAGS. 2008; 56: 1946-52
- BP lowering: 35 - 40% remained normotensive
- Antipsychotic: Reduced risk of falls
- 238 medicines stopped in 124 patients - no clinical consequences in ~ 75%
 - What are the patient's / family's views?
 - Is there still an indication (symptoms)?
 - What are the potential adverse effects?
 - What are the long-term benefits?
 - Is a trial discontinuation feasible - how?
- Document, plan, share. monitor

Discontinuation of medicines



- 199 'disabled' patients in residential care
- Stopped 332 medicines (mean 2.8 / patient)
- Success in 88% of patients with 90% of medicines
 - Nitrates (100%) H₂ antagonist (94%)
 - BP lowering (82%) Frusemide (85%)
 - Potassium (100%) Iron (95%)
 - Sedatives / tranquillisers (88%) Antipsychotic (69%)
- Mortality 45% (control) versus 21% (discontinued)
- Acute care referral 30% (control) versus 12% (discontinued)

Garfinkel D et al. IMAJ. 2007; 9: 430-34

Suitable medicines to consider for discontinuation / dose reduction



- Blood pressure lowering
- Hypoglycaemic medicines
- Frusemide (if not for heart failure)
- Omeprazole
- NSAID
- Statins (> 85 years)
- Bisphosphonate / alendronate
- Check calcium dosage
- Antipsychotics
- Benzodiazepines
- Iron
- Potassium
- Primary / secondary prevention

Discontinuation?



- A frail 88 year old woman in a retirement village apartment, with AF (treatment diltiazem 180 mg daily, aspirin 100 mg daily). (*LDL = 1.4 mmol/L*)
Potential TIA late one evening. Returned late next afternoon on
 - warfarin mdu
 - diltiazem 180 mg daily
 - simvastatin 40 mg nocte
 - cilazapril 2.5 mg daily
 - bendrofluazide 2.5 mg daily
 - omeprazole 20 mg daily

Discontinuation?



- 84 year old frail woman fractured her neck of femur. Discharged to a resthome on:

▪ Metoprolol	95 mg daily	
▪ Candesartan	32 mg daily	
▪ Amlodipine	5 mg daily	
▪ Simvastatin	40 mg nocte	
▪ Aspirin	100 mg daily	
▪ Omeprazole	20 mg bd	(new)
▪ Alendronate	70 mg weekly	(new)
▪ Calcium	500 mg bd	(new)
▪ Cholecalciferol	1.25 mg monthly	(new)
▪ Temazepam	20 mg nocte	(new)
▪ Laxsol	2 nocte	(new)
- No history of cardiac event ('hypertension' since 1996)
- BP after two weeks at resthome ~ 130 - 135 / 75 -80 mmHg

Discontinuation?



- 81 year old man with dementia (17/30) with atrial fibrillation, heart failure, previous CABG
- Current treatment:
 - Aspirin 100 mg daily
 - Enalapril 10 mg bd
 - Metoprolol 95 mg daily
 - Frusemide 40 mg daily
 - Simvastatin 20 mg nocte
 - Digoxin 0.125 mg daily
 - Risperidone 0.25 mg 4 pm

Discontinuation



- Is there still an indication (symptoms)?
- Expected long-term benefits?
- Potential adverse drug events?
- Patient's / family's views?
- Is a trial of discontinuation feasible?
- Develop a plan and communicate it

Some words from the aged



Lauren Cumberpatch, Dee Mangin (Christchurch School of Medicine)

The views of older adults on medicine use in treatment and prevention

Pain relief and symptom control was considered the most important quality of a 'good' death on a Likert-type scale.

In the qualitative analysis, **dignity and privacy**, and the support of friends and family were also prominent themes to emerge. Many respondents indicated a preference for **deaths that were sudden, painless, and peaceful**.

Where a preferred cause of death was indicated, respondents specified heart attack or 'die in my sleep' as their preferred cause of death, while they wished to avoid cancer.

The main issues respondents wished to avoid around the time of their death were **prolonged dying, burden on family and friends, reduced mental capacity and physical disability**. Respondents wished to have **control of their decisions** about the level and nature of intervention with medical care at the end of life and have their wishes in that area respected.

N = 97

Summary



- Shared decision making
- Advanced treatment directives - discussed annually (enduring power of attorney)
- Document decisions / discussions and **share with secondary care** when feasible
- Annual **structured, systematic** medication review
- Give patients permission to stop medicines / opt out
- Consider when geriatric care becomes palliative care
- Next time there is a patient conundrum, falls, weight loss / nausea, incontinence, cognitive impairment ... consider stopping medicines, not starting
- Discontinuation ~ 75% successful - monitor