Practical issues with deprescribing and polypharmacy
Much of our work as geriatricians is sorting out polypharmacy and adverse drug reactions.
Geriatric admissions are medication-related

- Delirium – 61% multiple psychotropics
- Hyperkalemia – 51% ACEI/ARB/spironolactone
- Acute renal failure – 40% ACEI/ARB
- Faecal impaction – 31% multiple or highly anticholinergic drugs

Figure 1: Results of previous studies assessing medication-related hospital admissions in Australia

Australian Commission on Safety and Quality in Health Care 2013
92 yr old lady living alone independently presents with life threatening illness

- Admitted via ambulance – collapsed, hypotensive (80/60 mmHg)
- Hyperkalemic (potassium 7 with ECG changes)
- Anemic (hemoglobin 70)
- Acute kidney injury (creatinine 250)

Medications - all primary prevention
- Aspirin, clopidogrel, indapamide, perindopril, telmisartan

Treatment – deprescribed all medications

Recovered fully and discharged home on no medications and no diagnoses
Reducing polypharmacy and adverse drug reactions by deprescribing
**Prepare** 
Discuss deprescribing at start of therapy

**Recognise**
Polypharmacy, adverse drug reactions (including falls in older people), lack of efficacy, and change in treatment goals, often due to the onset of terminal illness, dementia and/or frailty

**Prioritise**
One medicine at a time starting with the medicine suspected of causing the adverse drug reaction or consider using risk assessment tools

**Wean**
Always wean central nervous system-active medicines (especially benzodiazepines, opioids), beta blockers, corticosteroids, levodopa typically over weeks and months

**Monitor**
Withdrawal syndromes, discontinuation syndromes, rebound, recurrence of illness, cognition, falls and quality of life
Reconsidering diagnoses to support deprescribing: ‘undiagnose’ and ‘rediagnose’

- Systolic heart failure ➔ diastolic heart failure
- Severe hypertension ➔ mild hypertension
- Medication controlled diabetes ➔ diet controlled diabetes
- BPSD ➔ delirium
- Alzheimers disease ➔ mixed dementia
- Parkinsons disease ➔ Parkinsons plus syndrome
- Everything ➔ adverse drug reaction
Weaning and withdrawal

• Most CNS active drugs are weaned (over weeks in hospital, over months in community)

• L-DOPA and NMS
• Beta blockers, alpha agonists and rebound cardiovascular events
• PPI and rebound hyperacidity
• Steroids and hypoadrenalism
• Unmasking drug interactions
• 79yo female
• Lives in her own home
• Rash, fever, hypotension
• BP 95/35 mmHg
• T 37.2
• BSL 3 mmol/L
• Creatinine 256 (93 in 2008)
• White cell count 33.9

• Chronic lymphocytic leukemia
• Hypertension
• Hyperlipidemia
• Type 2 diabetes mellitus
• Gout
• Hypothyroidism

Diagnosis in ED – severe sepsis
Treatment – antibiotics and fluids
• Frusemide 40 mg bd
• Amitriptyline 50 mg nocte
• Candesartan 15 mg mane
• Lercanidipine 20 mg nocte
• Perindopril 5 mg / indapamide 1.25 mg
• Metoprolol 100 mg mane
• Atorvastatin 20 mg mane
• Metformin 1 gm tds
• Allopurinol 100 mg mane (recent)
• Thyroxine 50 mcg mane (recent)
- Rash ← allopurinol

- Deprescribed all but thyroxine
  - Normal blood glucose levels
  - Normal blood pressure
  - Normal Uric acid

- Numerous “Prescribing cascades”
  - Undiagnosis of disease to adverse drug reaction

- Gout ← frusemide, indapamide
Managing medications in a multimorbid older patient

Figure 3. Major factors that need to be taken into account when prescribing for older people.
Managing medications in multimorbid older patients

Diseases
- Single disease guidelines and EBM, subgroups

Patient
- Multimorbidity, frailty, life expectancy

Patient centred care
- Shared decision making, informed consent

Treatment plan
- Red flags and “top five”
- Disease-drug, drug-drug interactions

Implement and monitor
- Start vs stop, reduce, or withhold

Marketing influences on patients

Le Couteur, Hilmer, McLachlan MedicineToday 2016
• 94 year old female from LL RACF

• Admitted with falls and syncope secondary to postural hypotension, and nausea

• PMH
  – Parkinsons disease
  – Atrial fibrillation (paroxysmal)
  – Anxiety
  – Recent RXT
  – Paroxymal AF

• Medications
  – Levodopa/carbidopa (400 mg/day)
  – Sotalol (40 mg bd)
  – Citalopram (20 mg od)
  – Warfarin
  – Fludrocortisone
  – Recent Pyridostigmine

• Examination
  – 50 mmHg postural hypotension, sinus rhythm
  – Controlled Parkinsons disease
  – Limited mobility, excellent cognition
• Cardiology – continue sotalol to suppress AF and don’t reduce dose

• Neurology – don’t reduce levodopa and add midodrine to pyridostigmine for postural hypotension

• Patient – nausea, postural giddiness and poor mobility

• Me
  – Reduce sotalol for postural hypotension (and in SR)
  – Stop pyridostigmine because nausea
  – Don’t give midodrine because AF
  – Stop citalopram because nausea and tremor
  – Consider reducing levodopa (nausea, postural hypotension and PD controlled)
All drugs potentially contribute to nausea, falls and postural hypotension which are her main issues.

Managing overall patient-centred goals in a multimorbid person versus individual diseases, guidelines and specialists.
Conclusions
• Deprescribing is an intervention to improve global outcomes
• Managing polypharmacy is a key skill for geriatricians
• Guided by shared decision making with informed patient focussing on patient priorities

– “Sometimes medications that are useful when younger, become less useful or even harmful when older, or on lots of medications”
– “Trial off medications or lower doses and see if improved”
– Always ask which medicine can be stopped before considering another medicine