# Managing Medications

*The Complexity of Polypharmacy and Knowing When Less is More for the Person With Dementia*



PHC IGSI: College of Family Physicians Canada Conflict of Interest slide

# Disclosure of Commercial Support

- **This program has received financial support from** Alberta Health **in the form of** a grant.
- **This program has received in-kind support from** Alberta Health Services, Alzheimer's Society of Alberta and Northwest Territories, University of Alberta **in the form of** human resource capacity.

- **<u>Potential for conflict(s) of interest</u>:**
  - No conflicts of interest

# Mitigating Potential Bias

- The content of the presentations were reviewed by a subset of the organizing committee to mitigate any potential bias.

# Acknowledgements

Dr. Karenn Chan, Physician – University of Alberta

Mark Johnson, Patient and Family Advisor

Margie Miller, Patient and Family Advisor

Laurie Norris, Patient and Family Advisor

Brenda Lamoureux, Pharmacist – Clinical Coordinator. EWCPCN

Jordan Wasdal, Clinical Pharmacist. Red Deer Primary Care Network

Phyllis Slimmon, Geriatric Community Nurse. Alberta Health Services

Verdeen Bueckert, Practice Lead. Seniors Health SCN, Alberta Health Services

Mollie Cole, Manager. Seniors Health SCN, Alberta Health Services

Charlene Knudsen, Practice Lead. Seniors Health SCN, Alberta Health Services

# Faculty/Presenter Disclosure

- **Faculty/ Presenters:**

  Brenda Lamoureux, Pharmacist – Clinical Coordinator. EWCPCN

  Jordan Wasdal, Clinical Pharmacist. Red Deer Primary Care Network

  Phyllis Slimmon, Geriatric Community Nurse. Alberta Health Services

  Verdeen Bueckert, Practice Lead. Seniors Health SCN, Alberta Health Services

- **Relationships with commercial interests:**

  **none**

# Medications and Distress Related to Dementia

# Early stages: lasted until age 93!

**What went well for Mavis' mom?**

- Did not have dementia
- Strong community connections: church and neighbours
- Home care nurse
- Meals on Wheels
- Family hired assist with groceries, social
- Family Support: daughters, grandchildren
- Life Line Help button
- Very few medications

# What made things more difficult?

- Frequent falls
- Afraid of intruders at night (macular degeneration)
- Change in Homecare nurse with admission to Lodge
- Witnessed fall – sent to hospital for investigation
- Medication error Elavil 50 mg instead of 10 mg
- Non-therapeutic approach in hospital, threatened Haldol
- Homecare nurse labeled family and patient as “difficult”; poor care after that

***Many possible complications for older adults and care partners***

# When dementia becomes more difficult

**Early stage**

Memory loss
Language difficulties
Irritable
Withdrawn
Abusive language
Mood swings

**Middle stage**

Getting lost
Delusions
Hallucinations
Agitation
Aggression
Anxiety
Depression
May hurt self or others

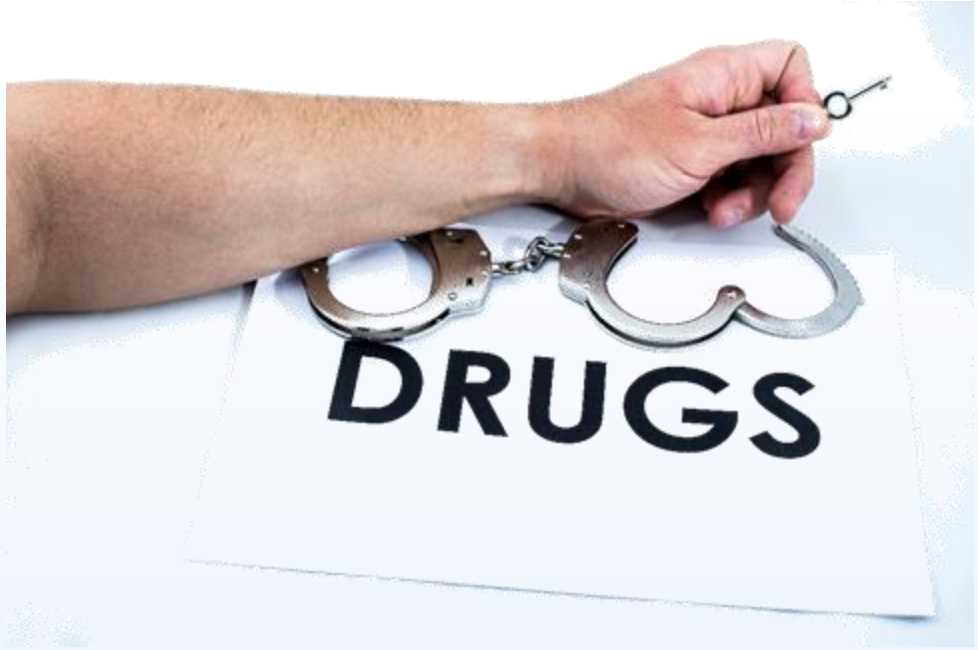
**Late stage**

Lose speech
Moving difficult
Incontinent
Swallowing issues
Need help with all care

# John’s wife Shirl

## early onset dementia

- Going for walks helped reduce anxiety
- Aricept and Cymbalta until care home
- New environment: medications increased suddenly to $1000/ month
- Parkinsons meds for Parkinsonian side-effects
- Medication review by geriatrician; many medications discontinued



# Sources of distress

**Biological**
- Delirium
- Disease process
- Medication side effects

**Psychological**
- ↓ Stress threshold
- Social isolation
- Depression

**Socio-environmental**
- Over/under stimulation
- Lack of exercise
- Provocation by others

**Physical**
- Pain
- Constipation
- Fatigue
- Hunger, thirst
- Hot or cold

# Remember Pain

RCT of assessing for pain

- 352 patients with moderate-severe dementia with behavioural disturbance
- 57% assessed as having pain (on the MOBID-2 pain scale)

Outcomes

- 68% needed only acetaminophen
- Agitation improved

Pain noises

Facial expression

Defence

Bottom-Line: Remember agitation may be from pain and as little as acetaminophen may help meaningfully

BMJ 2011;343:d4065

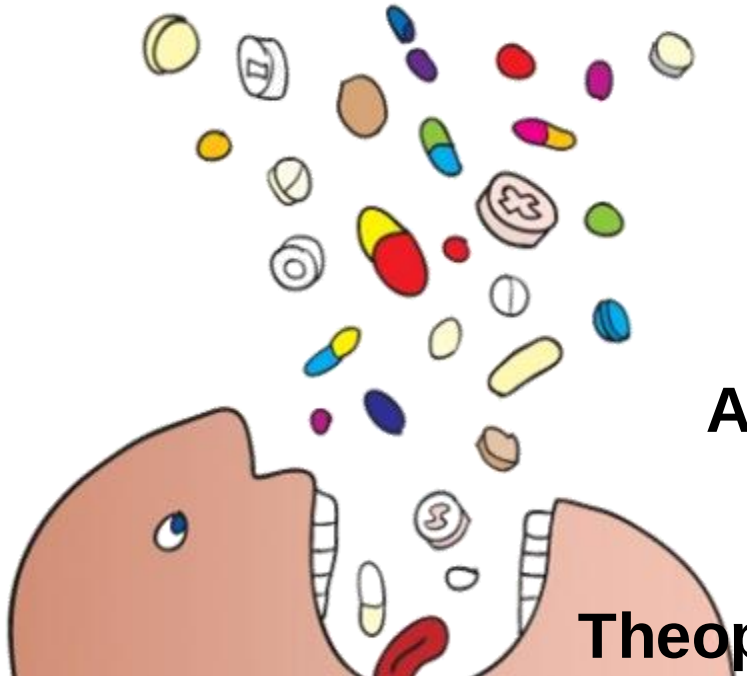
# Dementia Medications: Cholinesterase Inhibitors

Benefits: modest and temporary; not everyone responds to treatment (NNT= 10 to 12 over 12 to 52 weeks)

Adverse effects (NNH=12): nausea, loss of appetite, vomiting and diarrhea; worsening of urinary incontinence, slowing of heart rate

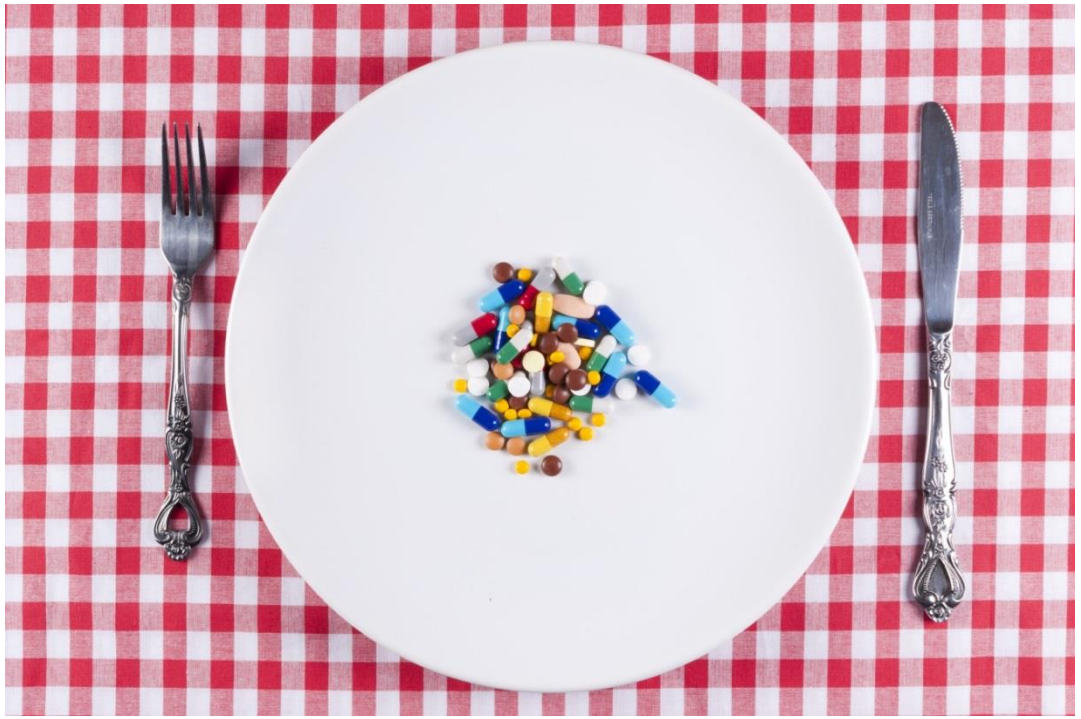
When to stop (taper): intolerable side effects, progression of dementia (no longer performing ADLs), cost. Monitor for observable decline after d/c

# Medications that May Affect Sleep



| | |
|---|---|
| **Anticholinesterase inhibitors** (memantine) | INSOMNIA, DISTURBING DREAMS |
| **Histamine H2 Blockers** (Zantac, Tagamet) | Confusion, anxiety, hallucinations |
| **Anticholinergics** (hundreds of drugs) | Daytime sedation |
| **Statins** | Muscle Pain |
| **Proton Pump Inhibitors** (Losec) | Rebound acid reflux |
| **Blood pressure** (B-Blockers) | Altered sleep physiology, nightmares |
| **Diuretics** | Nocturia – avoid late in the day |
| **Levodopa, carbidopa** | Nightmares, insomnia |
| **Antidepressants / SSRIs** | Insomnia |
| **Corticosteroids** | rigmarole |
| **Theophylline, decongestants** | STIMULANT EFFECTS |

# Malnutrition, Drugs and Delirium



**Pill Burden:** nausea, loss of appetite, feel full, agitation

**Anticholinergic burden:** sedation, decreased gastrointestinal motility

**Olfactory disturbances** with many common medications

**Impaired nutrient absorption**

# Potential Side Effects of Antipsychotics

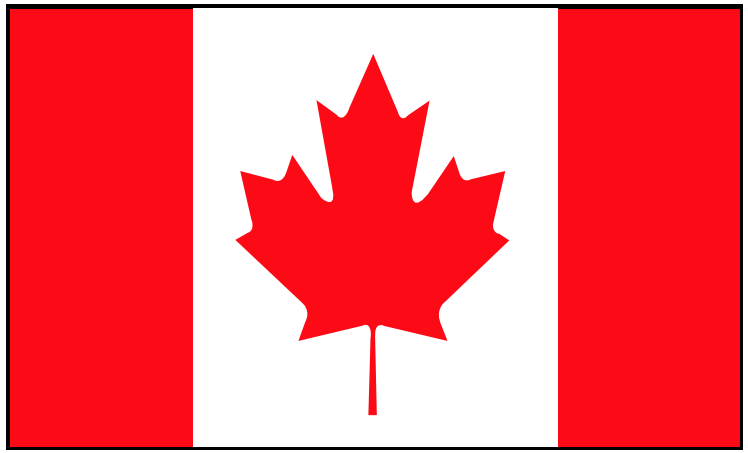
- Confusion
- Agitation, restlessness
- Sleep disturbances
- Muscle stiffness, weakness, pain
- Difficulty urinating
- Nausea
- Hyper-salivation
- Falls

# Health Canada Warnings

In 2002, 2004, 2005, 2015, 2016 Health Canada issued warnings of increased risk to elderly patients who take atypical antipsychotics

**Risks include:**

- **Heart failure**
- **Sudden cardiac death**
- **Stroke**
- **Kidney injury and urinary retention**
- **Infection**
  **(mostly pneumonia: 60% increased risk)**



# What Can Be Done?

**Assess the Client**

- ❑ Are medications appropriate?
- ❑ Are medical conditions contributing to distress?
- ❑ Other factors?

**Assess the Care Partner**

- ❑ What resources have they accessed?

**Referrals:**

- ❑ Dementia Advice: 811 Health Link
- ❑ Send a referral to First Link

# The Polypharmacy Problem

- Community dwelling older adults:
  - 40% > 5 meds
  - 12% > 10 meds
- One-third of hospitalizations in older adults are medication-related
- Each additional med (in seniors) is associated with:
  - 2–3% increase in hospitalization risk
  - 3–4% increase in risk of an ED visit

Gurwitz JH et al. JAMA. 2003;289(9): 1107-1116.
Allin, S et al. (2017), Health Serv Res, 52: 1550–1569.

# Features of Polypharmacy

- Medication not indicated
- Duplicate medications
- Concurrent interacting medications
- Contraindicated medications
- Inappropriate dosage
- Drug treatment of adverse drug reaction
- Improvement following discontinuance

# Common Prescribing Cascades

- Metoclopramide → parkinsonism → Sinemet
- Gabapentin → edema → furosemide
- Amitriptyline → decreased cognition → donepezil
- Oxybutynin ←→ cognitive decline ←→ donepezil

# Physiological Changes in Aging

| | |
|---|---|
| <u>Absorption</u><br>- changes in pH, blood flow, motility | <u>Distribution</u><br>- changes in body fat, blood flow, perfusion, albumin |
| <u>Metabolism</u><br>- changes in liver function | <u>Excretion</u><br>- changes to renal blood flow and filtration |

# Renal Dosing

- 90 year old woman, weighs 90lbs (41kg), 5’3” (157cm) and has a serum creatinine of 90 umol/L:
  - eGFR (Netcare) ~54 mL/min/1.73m2
  - using patient’s estimated BSA of 1.3
    - GFR=41 mL/min
  - Creatinine Clearance (Cockcrauft-Gault) ~24 mL/min
  - CKD-EPI ~49 mL/min/1.73m2
    - or 37mL/min (using calculated BSA)

https://academic.oup.com/ageing/article-lookup/doi/10.1093/ageing/afq091
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2756662/
https://www.mdcalc.com/mdrd-gfr-equation
https://www.mdcalc.com/body-mass-index-bmi-body-surface-area-bsa
https://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation
https://www.mdcalc.com/ckd-epi-equations-glomerular-filtration-rate-gfr

# Risk of Drug Interactions

- Study of hospitalized older adults taking 5 or more meds
  - Prevalence of cytochrome p450 interaction = 80%
- Study of community-dwelling older adults
  - 5 to 9 meds: 50% probability of interactions
  - 20 or more meds: 100%

Maher RL, et al. Expert Opin Drug Saf. January 2014

| Medication Reconciliation | Medication Review |
| --- | --- |
| Goal: Continuity | Goal: Optimization |
| Confirm list of current medications as taken by patient, assumes medication is indicated and appropriate | Systematically assess pharmacotherapy to ensure medical conditions are treated optimally |

Adapted from medicines reconciliation to medicines review. Dr. Fatma Karapinar Hospital pharmacist-epidemiologist OLVG http://www.eahp.eu/sites/default/files/1.fatma_karapinar_eahp_academy_seminar_from_medicines_reconciliation_to_medicines_review_0.pdf

# Principles of Medication Use in Older Adults

- Ask: Is the treatment warranted
- Are nonpharmacological alternatives available
- Consider risk vs benefit of drug therapy
- Establish goals of therapy
  - Quality of care
  - Quality of life
  - Functional status

# What is deprescribing?

The systematic process of **identifying and discontinuing drugs** in instances in which existing or potential **harms outweigh** existing or potential **benefits** within the context of an **individual patient**'s care goals, current level of functioning, life expectancy, values, and preferences.

Scott IA et al. JAMA Internal Medicine May 2015

# Pearls for Minimizing Polypharmacy

- Begin with an end in mind
- Ask and assess OTC and herbal products
- Consider a switch or potential dose reduction in other medications/OTCs vs simply adding a new med
- Review medication lists regularly
- Start low and go slow

| Medication | Starting Dose |
| --- | --- |
| Trazodone | 12.5mg |
| Venlafaxine | 37.5mg |
| Risperidone | 0.125mg |

# Tips

- Consider patient/family goals, physical and cognitive function, frailty
- Discuss possibility of de-prescribing or med optimization : importance of quality of life for patient and care partner/family
- Always assess non-medication and environmental factors/ triggers
- Approach medication changes gradually and one at a time
- revisit, revisit, revisit!

# Tools

Interactions:

- Micromedex, Lexicomp, Epocrates, Medscape Interaction Checker

Deprescribing:

- medstopper.org, deprescribing.org

Algorithms to identify potentially inappropriate medications:

- Beers Criteria, STOPP-START tools, anticholinergic risk scale

Frailty Assessment: Edmonton Frail Scale

# Recommended Referrals

- Pharmacist (PCN / Community)
- Geriatric Expertise
- Seniors Outreach Clinic
- Community Mental Health
- Cognitive Testing

# Resources to support Families

- **Primary Care Network** (may need physician-referral)
- First LINK (there's a form) ASANT / Alzheimers Society Community support groups/ASANT CAFE
- Dementia Advice: 811 Health Link
- **Home Care / Adult Day** Programs
- Patient Advocate
- Geriatric Outreach Community Mental Health
- Various Local Resources

*It's important to assess the care partner*

# *Questions and Discussion*