Deprescribing: Implementing “Less is More”

2017 Geriatric Education Series: Optimal Drug Therapy
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Disclosures

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- The speaker has no significant financial relationships to report.

- The use of any brand names is solely for familiarity of the audience.
Re-Cap: Optimal Drug Therapy

- Principles of Medication Use in Older Adults (Hume)
- New Drugs and Older Adults (Skenyon & Estus)
- Medication Assessment and Quality Parameters (Owens)
- Deprescribing: Implementing “Less is More” (Eisenhower)

URL: http://web.uri.edu/rigec/workshops-and-events/1540-2/
Learning Objectives

1. Discuss challenges in deprescribing medications for older adults with complex regimens.

2. Apply available algorithms and campaigns for deprescribing to clinical practice.
Reflection:
Describe your current experiences with older adults and polypharmacy.
“If you’ve met one older adult, you’ve met one older adult.”
PATIENT CASE

L.R. is a 78 year old man who will be discharged from the hospital this afternoon. He was admitted for exacerbation of chronic obstructive pulmonary disease (COPD) and heart failure with reduced ejection fraction (HFrEF).

He is up-to-date with his pneumococcal, Tdap, and zoster vaccines. He has no known drug allergies, and denies alcohol or illicit drug use.
Past Medical History:

- Angina
- Anxiety
- Atrial fibrillation
- Benign prostatic hyperplasia (BPH)
- Chronic kidney disease (CKD) stage 3
- COPD
- Chronic HFrEF
- Depression
- Edema
- Falls
- Gastroesophageal reflux disease (GERD) without esophagitis
- Hypertension
- Insomnia
- Iron-deficiency anemia
- Non-ST elevation myocardial infarction (NSTEMI) in 2012
- Osteoarthritis
- Osteoporosis
- History of tobacco use
- Vitamin D deficiency
Vital signs (1/2017-5/2017):
• BP: 80/60 to 102/62 mmHg
• HR: 64-74 beats per minute
• RR: 18 breaths per minute
• O$_2$ sat.: 99% on 4 L oxygen

Ht: 66 in.
Wt: 140 lbs
BMI: 22.6

Estimated CrCl (CG): 43 mL/min
Estimated GFR: 52 mL/min/1.73m$^2$

RBC: 3.74 million/uL (normal: 4.7-6.1)
RDW-SD: 54.6 FL (normal: 35-46)
A1c: 5.7%
Vitamin D 25-hydroxyl: 63.7 ng/mL
Vitamin B12: 417 pg/mL
Albumin 3.6 gm/dL
LFTs: within normal limits
INR: 2.2 (6/20/17)
DEXA scan (2010): T-score of -2.5
<table>
<thead>
<tr>
<th>Maintenance Medication Name</th>
<th>Dosing/Frequency</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carvedilol</td>
<td>6.25 mg twice daily</td>
<td>HFrEF; s/p NSTEMI</td>
</tr>
<tr>
<td>Spironolactone</td>
<td>25 mg daily</td>
<td>HFrEF</td>
</tr>
<tr>
<td>Sacubitril/valsartan</td>
<td>49/51 mg twice daily</td>
<td>HFrEF</td>
</tr>
<tr>
<td>Furosemide</td>
<td>40 mg twice daily</td>
<td>Edema</td>
</tr>
<tr>
<td>Warfarin</td>
<td>5 mg daily; next INR on 6/27/17</td>
<td>Atrial fibrillation</td>
</tr>
<tr>
<td>Aspirin</td>
<td>81 mg daily</td>
<td>Secondary prevention</td>
</tr>
<tr>
<td>Atorvastatin</td>
<td>80 mg daily</td>
<td>Atherosclerotic cardiovascular disease</td>
</tr>
<tr>
<td>Tiotropium/olodaterol Respimat®</td>
<td>2 puffs daily</td>
<td>COPD</td>
</tr>
<tr>
<td>Cholecalciferol</td>
<td>50,000 units monthly</td>
<td>Vitamin D deficiency</td>
</tr>
<tr>
<td>Pantoprazole</td>
<td>40 mg daily</td>
<td>GERD without esophagitis</td>
</tr>
<tr>
<td>Ranitidine</td>
<td>75 mg daily</td>
<td>GERD without esophagitis</td>
</tr>
<tr>
<td>Sertraline</td>
<td>50 mg daily</td>
<td>Depression</td>
</tr>
<tr>
<td>Tamsulosin</td>
<td>0.4 mg daily</td>
<td>BPH</td>
</tr>
<tr>
<td>Trazodone</td>
<td>50 mg daily at bedtime</td>
<td>Insomnia/depression</td>
</tr>
<tr>
<td>Bupropion</td>
<td>75 mg twice daily</td>
<td>Depression</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>1 mg three times daily</td>
<td>Anxiety</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>As-Needed Medication Name</th>
<th>Dosing/Frequency</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furosemide</td>
<td>20 mg daily as needed</td>
<td>Edema</td>
</tr>
<tr>
<td>Nitroglycerin</td>
<td>0.4 mg sublingually as needed; may repeat x 2 every 5 minutes; if no relief, call 9-1-1</td>
<td>Angina</td>
</tr>
<tr>
<td>Albuterol HFA</td>
<td>2 puffs every 4 hours as needed</td>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Ipratropium bromide/albuterol sulfate</td>
<td>1 vial via nebulizer every 6 hours as needed</td>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>650 mg three times daily as needed</td>
<td>Pain</td>
</tr>
</tbody>
</table>
Patient Interview

NURSING CARE MANAGER

1. Have you been able to pay for your medications?

2. Are you able to pick up your medications from the pharmacy on time, or are they delivered on time?

3. Are you taking any other medications that are not on this list?

4. How do you remember to take your medications every day? How many days/doses do you miss in one week’s time?

5. Can you show me how you use your inhalers and/or inject your medications?

L.R.

1. More or less; I have Part D coverage so I am doing okay.

2. Usually…I take the bus to get to the pharmacy.

3. No; I stay away from herbals.

4. I keep all of my medication on the kitchen table and usually remember to take everything...sometimes I forget the 2nd dose if something is twice a day. I always remember to take my warfarin, my doctor told me how important it is.

5. The “puffer” is easy to use, I use that or the nebulizer a few times each day. But the other one that I have to twist...that’s tough. It can be painful with my osteoarthritis, so I don’t use it that often.
MODULE #1:
Principles of Medication Use in Older Adults
• **Absorption:** pH of stomach acid increases which may affect certain medications
  - Increased further by *pantoprazole and ranitidine*

• **Renal function:** all medication doses should be checked; continue to monitor serum creatinine
  - Impairment could affect *spironolactone and ranitidine* (based on CrCl) and *sacubitril/valsartan* (based on GFR)

• **Hepatic function:** liver function tests within normal limits; continue to monitor periodically
  - Impairment could affect *acetaminophen, atorvastatin, and sacubitril/valsartan*
MODULE #2:
New Drugs in Older Adults
Sacubitril/Valsartan (Entresto™)

1. Is it effective?
   - 2016 ACC/AHA/HFSA guideline update: recommended to reduce morbidity and mortality in conjunction with beta-blocker (1A)*

2. Is it safe versus enalapril (ACE-I)?
   - Hypotension: 18% vs. 12%; L.R. has low blood pressure
   - Angioedema: 0.5% vs. 0.2%
   - Orthostasis: 2.1% vs. 1.1%; L.R. has history of falls
   - Hyperkalemia: 12% vs. 14%

3. How many patients of a similar age were included in the PARADIGM-HF trial?
   - 4187 patients ages 63.8 +/- 11.5 years received study drug
   - Slightly younger than L.R.

4. Is my patient receiving the correct dose?
   - eGFR > 30 mL/min: 49/51 mg twice daily (depending on previous ACE-I/ARB use)
   - Increase to target of 97/103 mg twice daily if tolerated

5. Can my patient afford it?
   - Average wholesale price: $430 for 30-day supply for all strengths
   - Medicare coverage but may have high co-pay or co-insurance
MODULE #3: Medication Assessment and Quality Parameters
## American Geriatrics Society (AGS) 2015 Beers Criteria

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Recommendation</th>
<th>Justification</th>
<th>Patient Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantoprazole (proton pump inhibitors)</td>
<td><strong>Avoid</strong> scheduled use for &gt; 8 weeks unless for high-risk patients*.</td>
<td>Risk of <em>C. difficile</em> infection and bone loss and fractures.</td>
<td>History of GERD <strong>without</strong> esophagitis – <strong>consider trial decrease to 20 mg daily.</strong></td>
</tr>
<tr>
<td>Ranitidine (H₂-receptor antagonists)</td>
<td><strong>Reduce dose</strong> if CrCl &lt; 50 mL/min.</td>
<td>Mental status changes.</td>
<td>Estimated CrCl is 43 mL/min and L.R. is receiving lowest dose of 75 mg daily. Delirium and dementia not listed under diagnoses but monitor for these conditions. <strong>Consider trial discontinuation.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> in older adults with or at high risk of delirium.</td>
<td>Potential of inducing or worsening delirium.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> in older adults with dementia or cognitive impairment.</td>
<td>Adverse CNS effects.</td>
<td></td>
</tr>
</tbody>
</table>

*e.g., oral corticosteroids or chronic NSAID use), erosive esophagitis, Barrett’s esophagitis, pathological hypersecretory condition, or demonstrated need for maintenance treatment (e.g., due to failure of drug discontinuation trial or H₂ blockers).
### AGS 2015 Beers Criteria - continued

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Recommendation</th>
<th>Justification</th>
<th>Patient Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sertraline (SSRI)</td>
<td><strong>Avoid</strong> in patients with history of falls/fractures, unless safer alternatives are not available. <strong>Use with caution.</strong> <strong>Avoid</strong> total of 3 or more CNS-active drugs.</td>
<td>May cause ataxia, impaired psychomotor function, syncope, and additional falls. May exacerbate or cause SIADH or hyponatremia; monitor sodium level closely when starting or changing dosages in older adults. Increased risk of falls.</td>
<td><strong>Monitor</strong> for CNS adverse effects. <strong>Continue to monitor</strong> sodium – last level normal. <strong>Reduce CNS polypharmacy.</strong></td>
</tr>
<tr>
<td>Bupropion (SNRI)</td>
<td><strong>Use with caution.</strong></td>
<td>May exacerbate or cause SIADH or hyponatremia; monitor sodium level closely when starting or changing dosages in older adults.</td>
<td><strong>Continue to monitor</strong> sodium – last level normal.</td>
</tr>
<tr>
<td>Medication Name</td>
<td>Recommendation</td>
<td>Justification</td>
<td>Patient Notes</td>
</tr>
<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>Clonazepam (benzodiazepine)</td>
<td>Avoid.</td>
<td>Older adults have increased sensitivity and decreased metabolism of long-acting agents. Increased risk of cognitive impairment, delirium, falls, fractures, motor vehicle crashes. May be appropriate for severe generalized anxiety disorder.</td>
<td>L.R. does have history of anxiety but consider reducing dose and/or frequency (long-acting agent). Monitor for CNS adverse effects.</td>
</tr>
<tr>
<td></td>
<td>Avoid in older adults with or at high risk of delirium.</td>
<td>Potential of inducing or worsening delirium.</td>
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<td></td>
<td>Avoid in older adults with dementia or cognitive impairment.</td>
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</tr>
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<td></td>
<td>Avoid total of 3 or more CNS-active drugs.</td>
<td>Increased risk of falls.</td>
<td></td>
</tr>
</tbody>
</table>
MODULE #4:
Deprescribing: Implementing “Less is More”
Domains of Deprescribing

1. Decide whether to deprescribe a medication by weighing benefits versus risks and determining patient/caregiver preference for continuing or discontinuing.

2. Develop a plan to deprescribe a medication by determining best dosing approach and developing a monitoring plan.

3. Implement the plan for deprescribing the medication by carrying out monitoring and follow-up, and determining if/when to restart the medication.
Provider Barriers

- Observed lack of awareness of prescribing potentially inappropriate medications (PIMs)
- Inertia – perception that discontinuation of PIMs is of lower value than continuing
- Fear of the unknown/negative consequences of change
- Time constraints and/or lack of resources
- Belief that medication is working with little to no adverse effects and downplaying of risks
- Inherited responsibility – may rationalize continuation of therapy and/or may result in incomplete clinical picture
- Lack of self-efficacy
- Pressure from caregivers/patients/other healthcare team members

Anderson et al 2014
Patient/Caregiver Barriers

- Ambivalence
- Resistance to change
- Fear of withdrawal symptoms or recurrence of symptoms
- Lack of education regarding risks of continuing therapy
- Poor acceptance of alternatives
- Belief that prescribing demonstrates that the provider cares/listens
- Belief that treatment validates illness
- Possibility of increased care burden

Anderson et al 2014
Reflection:
What barriers exist in your own practice setting?
Overcoming Challenges

- **Self-efficacy:** “belief that one is capable of organizing and completing actions to achieve specific results and reflects how long one will persevere when faced with challenges”

- **Objective:** determine if implementing evidence-based guidelines can increase clinician self-efficacy for reducing or stopping proton pump inhibitors (PPIs), benzodiazepines, and antipsychotics

- **Intervention:** survey administered to prescribers and pharmacists at long-term care and family medicine practices at baseline, and six months after implementation of each evidence-based guideline

- **Results:** overall self-efficacy increased for antipsychotics only (domains 1-3)
  - Domain 2 increased for PPIs and antipsychotics
  - Domain 3 increased for PPIs
EMPOWER: Eliminating Medications Through Patient Ownership of End Results (2017)

- EMPOWER brochure includes:
  - Therapeutic substitutes to sedative-hypnotic medications
  - Step-wise tapering protocol
  - Patient education regarding drug-related risk perceptions

- Use of EMPOWER brochure may lead to:
  - Increase in prescriber-pharmacist discussions about appropriateness of sedative-hypnotics
  - Increase in appropriate discontinuation of chronic benzodiazepine treatment

- Authors of the EMPOWER brochure have also confirmed that community-dwelling older adults with mild cognitive impairment can understand the information

- Available at: [http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf](http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf)
A Novel Approach to Deprescribing in Long-term Care Settings: The SMART Campaign (2016)

- SMART campaign: state, industry, and academic partnership in Indiana

- Objectives:
  1. Reduce average number of medications per resident
  2. Reduce use of antipsychotic, anxiolytic, and hypnotic medications
  3. Reduce overall medication costs within participating facilities

- Methods:
  - Collaborative care by multidisciplinary team
  - Peer-to-peer evidence-based prescribing decision discussions
  - Utilization of quality improvement experts

Abrahamson K et al 2016
Deprescribing Proton Pump Inhibitors: Evidence-Based Clinical Practice Guidelines (2017)

• Team: family physician, pharmacists, and gastroenterologist plus five non-health members

• Methods:
  – Patient or Problem, Intervention, Comparison, Outcome (PICO) approach
  – Define deprescribing as reducing dose, stopping medication (either abrupt discontinuation or tapering regimen), stepping down (introduction of H2-receptor antagonist), intermittent use (predetermined, finite period), or on-demand use (use and discontinuation, then re-initiation if symptoms recur)

• Recommendation:
  – Deprescribe (reduce dose, stop, or use “on demand”) in adults who have taken a PPI for a minimum of 4 weeks to treat heartburn and mild to moderate GERD or esophagitis if they have symptom resolution (strong recommendation with low-quality evidence)

• Evaluation by editor:
  – Systematic review of PPI deprescribing did not demonstrate important clinical harm

Farrell et al 2017
Available at: http://www.cfp.ca/content/63/5/354.long
De-prescribing algorithms and patient information for proton pump inhibitors, benzodiazepines and z-drugs, antipsychotics, and antihyperglycemics:
http://deprescribing.org/resources/deprescribing-guidelines-algorithms/
Proton Pump Inhibitors

- Deprescribing algorithm:

- Patient information:
Proton Pump Inhibitor (PPI) Deprescribing Algorithm

Indication still unknown?

Why is patient taking a PPI?
- If unsure, find out if history of endoscopy, if ever hospitalized for bleeding ulcer or if taking because of chronic NSAID use in past, if ever had heartburn or dyspepsia

- Mild to moderate esophagitis or GERD treated 4-8 weeks (esophagitis healed, symptoms controlled)
- Peptic Ulcer Disease treated x 2-12 weeks (from NSAID; H. pylori)
- Upper GI symptoms without endoscopy; asymptomatic for 3 consecutive days
- ICU stress ulcer prophylaxis treated beyond ICU admission
- Uncomplicated H. pylori treated x 2 weeks and asymptomatic
- Barrett’s esophagus
- Chronic NSAID users with bleeding risk
- Severe esophagitis
- Documented history of bleeding GI ulcer

Recommend Deprescribing

Strong Recommendation (from Systematic Review and GRADE approach)
(evidence suggests no increased risk in return of symptoms compared to continuing higher dose), or
(daily until symptoms stop) (1/10 patients may have return of symptoms)

Decrease to lower dose
Stop and use on-demand

Monitor at 4 and 12 weeks

If verbal:
- Heartburn
- Dyspepsia
- Regurgitation
- Epigastric pain

If non-verbal:
- Loss of appetite
- Weight loss
- Agitation

Use non-drug approaches
- Avoid meals 2-3 hours before bedtime; elevate head of bed; address if need for weight loss and avoid dietary triggers

Manage occasional symptoms
- Over-the-counter antacid, H2RA, PPI, alginate pm (ie, Tums®, Rolaid®, Zantac®, Omepraz®, Gaviscon®)
- H2RA daily (weak recommendation – GRADE; 1/5 patients may have symptoms return)

If symptoms relapse:
- If symptoms persist x 3 – 7 days and interfere with normal activity:
  1. Test and treat for H. pylori
  2. Consider return to previous dose

Continue PPI
or consult gastroenterologist if considering deprescribing
### PPI Availability

<table>
<thead>
<tr>
<th>PPI</th>
<th>Standard dose (healing) (once daily)*</th>
<th>Low dose (maintenance) (once daily)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omeprazole (Losec®) - Capsule</td>
<td>20 mg*</td>
<td>10 mg*</td>
</tr>
<tr>
<td>Esomeprazole (Nexium®) - Tablet</td>
<td>20 mg or 40 mg*</td>
<td>20 mg</td>
</tr>
<tr>
<td>Lansoprazole (Prevacid®) - Capsule</td>
<td>30 mg*</td>
<td>15 mg*</td>
</tr>
<tr>
<td>Dlansoprazole (Dexilant®) - Tablet</td>
<td>30 mg or 60 mg*</td>
<td>30 mg</td>
</tr>
<tr>
<td>Pantoprazole (Tecta®, Pantoloc®) - Tablet</td>
<td>40 mg</td>
<td>20 mg</td>
</tr>
<tr>
<td>Rabeprazole (Pariét®) - Tablet</td>
<td>20 mg</td>
<td>10 mg</td>
</tr>
</tbody>
</table>

### Legend

- **a** Non-erotic reflux disease
- **b** Reflux esophagitis
- **c** Symptomatic non-erotic gastroesophageal reflux disease
- **d** Healing of erosive esophagitis
- **e** Can be sprinkled on food

* Standard dose PPI taken 8ID only indicated in treatment of peptic ulcer caused by *H. pylori*; PPI should generally be stopped once eradication therapy is complete unless risk factors warrant continuing PPI (see guideline for details).

### Key

- **GERD** = Gastroesophageal reflux disease
- **NSAID** = Nonsteroidal anti-inflammatory drugs
- **H2RA** = H2 receptor antagonist
- **SR** = Systematic review
- **GRADE** = Grading of Recommendations Assessment, Development and Evaluation

### Engaging patients and caregivers

Patients and/or caregivers may be more likely to engage if they understand the rationale for deprescribing (risks of continued PPI use; long-term therapy may not be necessary), and the deprescribing process.

### PPI side effects

- When an ongoing indication is unclear, the risk of side effects may outweigh the risk of benefit.
- PPIs are associated with higher risk of fractures, *C. difficile* infections and diarrhea, community-acquired pneumonia, vitamin B12 deficiency and hypomagnesemia.
- Common side effects include headache, nausea, diarrhea and rash.

### Tapering doses

- No evidence that one tapering approach is better than another.
- Lowering the PPI dose (for example, from twice daily to once daily, or halving the dose, or taking every second day) or stopping the PPI and using it on-demand are equally recommended strong options.
- Choose what is most convenient and acceptable to the patient.

### On-demand definition

Daily intake of a PPI for a period sufficient to achieve resolution of the individual's reflux-related symptoms; following symptom resolution, the medication is discontinued until the individual's symptoms recur, at which point, medication is again taken daily until the symptoms resolve.
What are Proton Pump Inhibitors (PPIs)?
Proton Pump Inhibitors, or PPIs, are a class of drugs that are used to treat problems such as heartburn or stomach ulcers.

There are many different types of PPI drugs:
- Lansoprazole (Prevacid®)
- Omeprazole (Losec®)
- Pantoprazole (Tecta®, Pantoloc®)
- Rabeprazole (Pariet®)
- Esomeprazole (Nexium®)
- Dexlansoprazole (Dexilant®)
- Omeprazole (Olex®)

Why use less of, or stop using a Proton Pump Inhibitor?
While PPIs are effective at treating many stomach problems, such as heartburn, they are often only needed for a short period of time.

Despite this, many people take PPIs for longer than they may need.

Research shows that for some people, doses can be safely lowered or the drug used just when needed for symptom relief.

PPIs are generally a safe group of medications; however, they can cause headache, nausea, diarrhea and rash. They may also increase risk of:
- Low vitamin B12 and magnesium blood levels
- Bone fractures
- Pneumonia
- Intestinal infections such as C. difficile

Stopping a Proton Pump Inhibitor is not for everyone
Some people need to stay on a PPI for a long time. However, others only need this medication for a short period of time.

When the ongoing reason for using a PPI is unclear, the risk of side effects may outweigh the chance of benefit.

People who should continue on a PPI include those with any of the following:
- Barrett’s esophagus
- Long-term use of nonsteroidal anti-inflammatory drug (e.g. Advil)
- Severe inflammation of the esophagus
- Documented history of bleeding stomach ulcer

How to safely reduce a Proton Pump Inhibitor
People over the age of 18 who have been taking a PPI for more than 4 to 8 weeks should talk to a doctor, nurse practitioner or pharmacist about whether stopping a PPI is the right choice for them.

Doctors, nurse practitioners or pharmacists can help to decide on the best approach to using less of a PPI. They can advise on how to reduce the dose, whether to stop it altogether, or how to make lifestyle changes that can prevent heartburn symptoms from returning.

Reducing the dose might involve taking the PPI once daily instead of twice daily, lowering the number of mg (e.g. from 30mg to 15 mg, or 40mg to 20mg, or 20mg to 10mg depending on the drug), or taking the PPI every second day for some time before stopping.
What to monitor after reducing a Proton Pump Inhibitor

After reducing or stopping a PPI with the help of a physician, nurse practitioner or pharmacist, it is important to check for, and report signs of:

- Heartburn
- Reflux
- Stomach pain

If the patient is not able to speak, check for, and report signs of:

- Loss of appetite
- Weight loss
- Agitation

Other ways to reduce heartburn, reflux or stomach pain

Lifestyle changes:

- Avoid triggers (e.g. coffee, alcohol, spicy foods, chocolate)
- Avoid food 2-3 hours before bedtime
- Elevate the head of the bed
- Lose weight

Manage occasional heartburn with over the counter drugs such as:

- Tums®
- Rolaid®
- Zantac®
- Olek®
- Gaviscon®

What to do if stomach problems continue

If heartburn, reflux, or stomach pain continues after 3-7 days and interferes with normal activities, please talk to a doctor, nurse practitioner or pharmacist. They can help decide whether to return to a previous PPI dose or whether to use the PPI ‘on-demand’ (daily until your symptoms stop). They may also suggest a test for a treatable condition called *H. pylori*.

Personalized PPI dose reduction strategy:

- 
- 
- 
- 

This pamphlet accompanies a deprescribing guideline and algorithm that can be used by doctors, nurse practitioners, or pharmacists to guide deprescribing.

Visit deprescribing.org for more information.
Benzodiazepines

• Deprescribing algorithm for benzodiazepines and z-drugs:

• Patient information:
Benzodiazepine & Z-Drug (BZRA) Deprescribing Algorithm

Why is patient taking a BZRA?

If unsure, find out if history of anxiety, past psychiatrist consult, whether may have been started in hospital for sleep, or for grief reaction.

- Insomnia on its own OR insomnia where underlying comorbidities managed
  - For those ≥ 65 years of age: taking BZRA regardless of duration (avoid as first line therapy in older people)
  - For those 18-64 years of age: taking BZRA > 4 weeks

Engage patients (discuss potential risks, benefits, withdrawal plan, symptoms and duration)

Recommend Deprescribing

Taper and then stop BZRA
(taper slowly in collaboration with patient, for example ~25% every two weeks, and if possible, 12.5% reductions near end and/or planned drug-free days)

- For those ≥ 65 years of age (strong recommendation from systematic review and GRADE approach)
- For those 18-64 years of age (weak recommendation from systematic review and GRADE approach)
- Offer behavioural sleeping advice; consider CBT if available (see reverse)

Monitor every 1-2 weeks for duration of tapering

Expected benefits:
- May improve alertness, cognition, daytime sedation and reduce falls

Withdrawal symptoms:
- Insomnia, anxiety, irritability, sweating, gastrointestinal symptoms
  (usually mild and last for days to a few weeks)

Use non-drug approaches to manage insomnia

Use behavioral approaches and/or CBT (see reverse)

Continue BZRA

- Minimize use of drugs that worsen insomnia (e.g. caffeine, alcohol etc.)
- Treat underlying condition
- Consider consulting psychologist or psychiatrist or sleep specialist

If symptoms relapse:
Consider
- Maintaining current BZRA dose for 1-2 weeks, then continue to taper at slow rate

Alternate drugs
- Other medications have been used to manage insomnia. Assessment of their safety and effectiveness is beyond the scope of this algorithm.
  See BZRA deprescribing guideline for details.
**BZRA Availability**

<table>
<thead>
<tr>
<th>BZRA</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alprazolam (Xanax®)</td>
<td>0.25 mg, 0.5 mg, 1 mg, 2 mg</td>
</tr>
<tr>
<td>Bromazepam (Lectapam®</td>
<td>1.5 mg, 3 mg, 6 mg</td>
</tr>
<tr>
<td>Chlordiazepoxide (Libras®)</td>
<td>5 mg, 10 mg, 25 mg</td>
</tr>
<tr>
<td>Clonazepam (Kvlotro®)</td>
<td>0.25 mg, 0.5 mg, 1 mg, 2 mg</td>
</tr>
<tr>
<td>Clorazepate (Tranxene®)</td>
<td>3.75 mg, 7.5 mg, 15 mg</td>
</tr>
<tr>
<td>Diazepam (Valium®)</td>
<td>2 mg, 5 mg, 10 mg</td>
</tr>
<tr>
<td>Flurazepam (Dalmane®)</td>
<td>15 mg, 30 mg</td>
</tr>
<tr>
<td>Lorazepam (Ativan®)</td>
<td>0.5 mg, 1 mg, 2 mg</td>
</tr>
<tr>
<td>Nitrazepam (Mogadon®)</td>
<td>5 mg, 10 mg</td>
</tr>
<tr>
<td>Oxazepam (Serax®)</td>
<td>10 mg, 15 mg, 30 mg</td>
</tr>
<tr>
<td>Temazepam (Restoril®)</td>
<td>15 mg, 30 mg</td>
</tr>
<tr>
<td>Triazolam (Halcion®)</td>
<td>0.125 mg, 0.25 mg</td>
</tr>
<tr>
<td>Zopiclone (Imovane®, Zohane®)</td>
<td>5mg, 7.5mg</td>
</tr>
<tr>
<td>Zolpidem (Sublinox®)</td>
<td>5mg, 10mg</td>
</tr>
</tbody>
</table>

T = tablet, C = capsule, S = sublingual tablet

**Engaging patients and caregivers**

- **Patients should understand:**
  - The rationale for deprescribing (associated risks of continued BZRA use, reduced long-term efficacy)
  - Withdrawal symptoms (insomnia, anxiety) may occur but are usually mild, transient and short-term (days to a few weeks)
  - They are part of the tapering plan, and can control tapering rate and duration

**Tapering doses**

- No published evidence exists to suggest switching to long-acting BZRAs reduces incidence of withdrawal symptoms or is more effective than tapering short-acting BZRAs
- If dosage forms do not allow 25% reduction, consider 50% reduction initially using drug free days during latter part of tapering, or switch to lorazepam or oxazepam for final taper steps

**Behavioural management**

**Primary care:**
1. Go to bed only when sleepy
2. Do not use bed or bedroom for anything but sleep (or intimacy)
3. If not asleep within about 20-30 minutes at the beginning of the night or after an awakening, exit the bedroom
4. If not asleep within 20-30 mins on returning to bed, repeat #3
5. Use alarm to wake at the same time every morning
6. Do not nap
7. Avoid caffeine after noon
8. Avoid exercise, nitrates, alcohol, and big meals within 2 hrs of bedtime

**Institutional care:**
1. Pull up curtains during the day to obtain bright light exposure
2. Keep alarm noises to a minimum
3. Increase daytime activity & discourage daytime sleeping
4. Reduce number of naps (no more than 30 mins and no naps after 2pm)
5. Offer warm drink, warm milk at night
6. Restrict food, caffeine, smoking before bedtime
7. Have the resident toilet before going to bed
8. Encourage regular bedtime and rising times
9. Avoid waking at night to provide direct care
10. Offer backrub, gentle massage

**Using CBT**

- **What is cognitive behavioural therapy (CBT)?**
  - CBT includes 5–6 educational sessions about sleep/insomnia, stimulus control, sleep restriction, sleep hygiene, relaxation training and support
- **Does it work?**
  - CBT has been shown in trials to improve sleep outcomes with sustained long-term benefits
- **Who can provide it?**
  - Clinical psychologists usually deliver CBT, however, others can be trained or can provide aspects of CBT education; self-help programs are available
- **How can providers and patients find out about it?**
  - Some resources can be found here: [http://sleepwell.ca/](http://sleepwell.ca/)
What are Benzodiazepine & Z-Drugs (BZRAs)?

Benzodiazepine receptor agonists & Z-Drugs, or BZRAs, are a class of drugs that are used to treat problems such as anxiety or difficulty sleeping.

There are many different types of BZRA drugs:

- Alprazolam (Kanax®)
- Bromazepam (Lectopam®)
- Chlordiazepoxide (Librax®)
- Clonazepam (Kivotri®)
- Clozapam (Traxene®)
- Diazepam (Vallium®)
- Fluoxetine (Dalmane®)
- Lorazepam (Ativan®)
- Nitracepam (Mogadon®)
- Oksazepam (Sera®)
- Temazepam (Restori®)
- Triazolam (Halcion®)
- Zopiclone (Imovane®, Rhovane®)
- Zolpidem (Sublinox®)

Why use less of, or stop using a BZRA?

BZRAs used as sleeping pills are usually only helpful for a short period (around 4 weeks) of nightly use. After a few weeks, the brain gets used to the effects of the BZRA and it may not work as well as it did at first, but can still cause side effects.

BZRAs can cause dependence, memory problems and daytime fatigue. They are also associated with dementia and falls (sometimes resulting in broken bones). The chance of experiencing these effects may be higher as people get older. Many countries recommend against using BZRAs for sleep in older people.

Because BZRAs don’t work as well after a few weeks and because they can cause side effects, it’s reasonable for many people, especially older people, to try and stop taking them and learn to fall asleep on their own again.

Stopping a BZRA is not for everyone

Some patients may need to stay on a BZRA for a very specific reason. However, most need a BZRA for a short period of time.

People who may need to continue on a BZRA include those with any of the following:

- Unmanaged anxiety, depression, physical or mental condition that may be causing or aggravating insomnia
- Anxiety that has been specifically and effectively managed with the BZRA
- Alcohol withdrawal

How to safely reduce a BZRA

People between 18 and 64 years of age who have been taking a BZRA for insomnia more than 4 weeks, and people 65 years of age or older taking a BZRA for insomnia regardless of how long, should talk to their health care provider about whether stopping a BZRA is the right choice for them.

Doctors, nurse practitioners or pharmacists can help to decide on the best approach to using less of a BZRA. They can advise on how to reduce the dose, when to use drug-free days, and whether to stop the drug altogether. They can also give advice on how to make lifestyle changes that can manage insomnia.

Slowly reducing the dose of the BZRA helps to reduce the severity of withdrawal effects. People are more successful in stopping their BZRA if they slowly reduce the dose instead of just suddenly stopping it. Some people can reduce the dose over the course of a few weeks; others need several months.

Switching from a short-acting BZRA to a long-acting one has been recommended in the past but has not been shown to be more effective than slowly lowering the dose of a short-acting drug.
What to expect after reducing a BZRA

Some people may have difficulty sleeping when a dose is first reduced, but many will not. Difficulty sleeping tends to be worst in the first few days after reducing or stopping, and usually resolves in a few weeks.

Some people have other symptoms of withdrawal (e.g., anxiety, irritability, and sweating); these symptoms tend to be most severe in the first few days and get better within a few weeks. If anything odd happens, people should talk to a health care provider for advice.

Reducing or stopping a BZRA may improve alertness and thinking ability, and reduce daytime sedation and fall risk.

Other ways to manage insomnia

For a person who lives in the community:

- Go to bed only when sleepy
- Do not use bed or bedroom for anything but sleep (or intimacy)
- If not asleep within 20-30 min on going/returning to bed, exit the bedroom
- Use alarm to awaken at the same time every morning
- Do not nap
- Avoid caffeine after noon
- Avoid exercise, nicotine, alcohol, and big meals 2 hours before bedtime

For a patient who lives in long-term care or hospital:

- Pull up curtains during the day for light exposure
- Keep alarm noises to a minimum
- Increase daytime activity
- Reduce number of naps (no more than 30 minutes and no naps after 2 pm)
- Have warm decaf drink, warm milk at night
- Restrict food, caffeine, smoking before bedtime
- Use toilet before going to bed
- Have regular bedtime and rising times
- Avoid waking at night for direct care
- Try backrub, gentle massage

What to do if insomnia continues

Talk to a health care provider about treating underlying conditions that are affecting sleep. Avoid using other medication to treat insomnia. Most sedatives contribute to sedation and increase risk of falls. Ask about “cognitive behavioural therapy” — an educational approach that has been shown to help patients stop BZRA. Check out this resource for more information: http://sleepwellns.ca/. You can also discuss other options for managing your insomnia if it gets worse when you use a lower dose or stop your BZRA.

Personalized BZRA dose reduction strategy:

This pamphlet accompanies a deprescribing guideline and algorithm that can be used by doctors, nurse practitioners, or pharmacists to guide deprescribing.

Visit deprescribing.org for more information.
• Educate regarding risks and benefits of continuing potentially inappropriate medications

• Pantoprazole: taper/discontinue

• Ranitidine: discontinue

• Clonazepam: decrease dose/frequency

• Sertraline, trazodone, and bupropion: reduce polypharmacy

• Provide alternatives:
  – Avoidance of certain foods and spacing meals from exercise and laying down
  – Counseling for depression and anxiety
Summary

1. Challenges to deprescribing include knowledge, beliefs, time constraints, inertia, and resistance to change from providers and patients/caregivers.

2. Many resources exist to assist prescribers and pharmacists with deprescribing through education and provision of alternatives.
Reflection: What role will you play in reducing polypharmacy?
QUESTIONS?

Thank you for your attention!

Please feel free to contact me at:

ceisenhower@uri.edu
Continuing Education

Continuing education credits are available free of charge for those who 1.) attend in full, the live or recorded webinar session and 2.) complete and submit the required Program Evaluation and Self-Assessment Survey Forms.

- **Nursing:** The Northeast Multi-State Division (NE-MSD), an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation, has approved this activity for **1.0 contact hour** of continuing nursing education.

- **Social Work:** This activity was approved by the Rhode Island College, School of Social Work for **1.0 contact hour** in continuing social work education (general).

- **Pharmacy:** The University of Rhode Island, College of Pharmacy, accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education, has approved this knowledge-based learning activity for **1.0 continuing pharmacy education credit(s)**. UAN 0060-9999-15-023-L05

- **Medicine:** Healthcentric Advisors, an accredited provider by the Massachusetts Medical Society, has approved **1.0 continuing medical education** for physicians.
References


• Martin P, Tannenbaum C. Use of the EMPOWER brochure to deprescribe sedative-hypnotic drugs in older adults with mild cognitive impairment. BMC Geriatrics 2017;17:37.