



Through the Pharmacist Lens: Strategic Medication Review At End of Life

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Conflict of Interest and Disclosures of Relevant Financial Relationships

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Contact Hours - Nursing

1.0 Contact Hour

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Successful Completion Criteria

- Register for the activity
- Complete and submit the sign in sheet
- View the entire presentation
- Complete and submit the participant evaluation
- Certificate will be emailed upon completion of the criteria

True or False?

- ▶ Between 29-51% of patients with life-limiting illness are currently taking preventative medications (such as: aspirin, anti-hypertensives, statins). **TRUE**
- ▶ Preventative medications are always covered under the hospice benefit. **FALSE**
- ▶ Lack of proper medication review, at key transitions of care, leads to polypharmacy (use of multiple medications that may be unnecessary to continue) **TRUE**
- ▶ Optimizing a patient's medication regimen can lead to better symptom management at end of life. **TRUE**

Objectives

- ▶ Review the CMS Conditions of Participation requirements regarding hospice medication reviews.
- ▶ Explore different methodologies used to streamline a hospice patient's medication list.
- ▶ List the questions used to determine if a medication is appropriately controlling end of life symptoms.
- ▶ Apply the strategies for medication review to a patient case examples.

§418.54 Condition of participation: Initial and comprehensive assessment of the patient.

- ▶ (6) *Drug profile*. A review of all of the patient's prescription and over-the-counter drugs, herbal remedies and other alternative treatments that could affect drug therapy. This includes, but is not limited to, identification of the following:
 - (i) Effectiveness of drug therapy.
 - (ii) Drug side effects.
 - (iii) Actual or potential drug interactions.
 - (iv) Duplicate drug therapy.
 - (v) Drug therapy currently associated with laboratory monitoring.

- ▶ “the hospice’s interdisciplinary group, in conference with an individual who has specialized education and training in drug management, such as a pharmacist, will be required to address these issues in the patient’s individualized hospice plan of care.”

(i) Effectiveness of drug therapy.

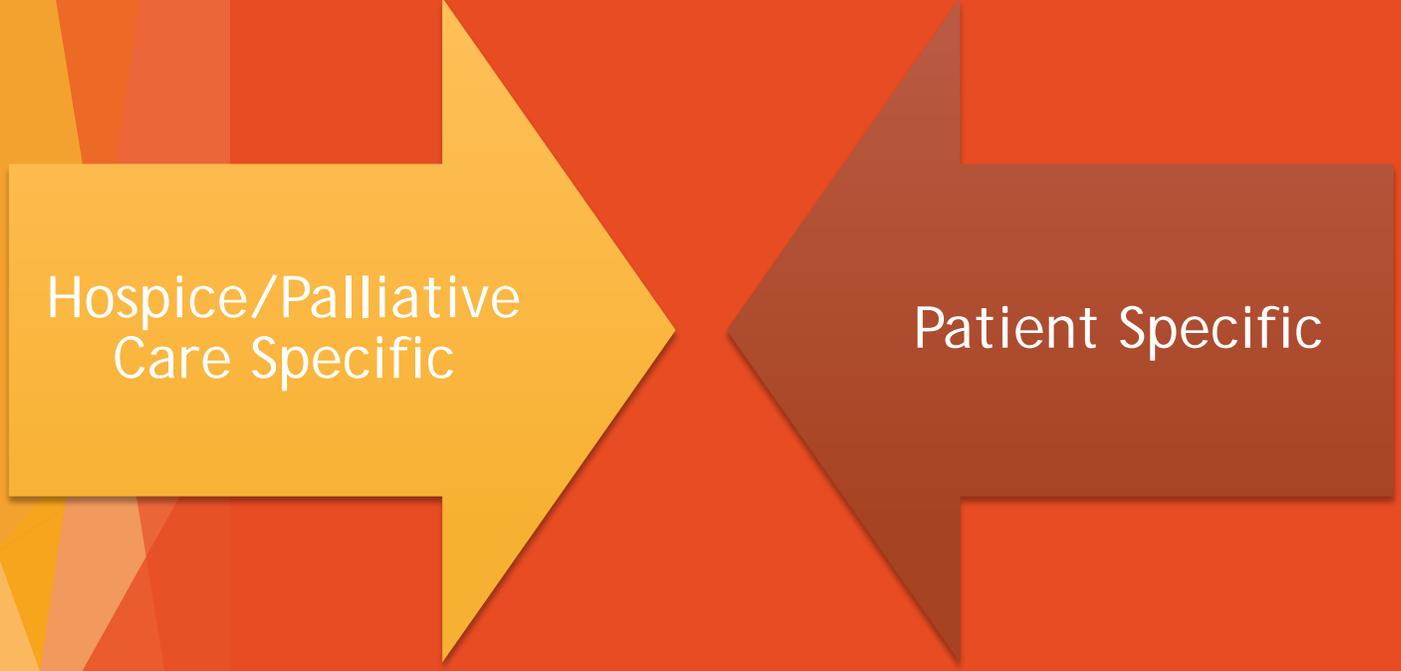


Symptom dependent

Patient/Family
goal oriented



(ii) Drug side effects.



Hospice/Palliative
Care Specific

Patient Specific

(iii) Actual or potential drug interactions.

The screenshot displays the Lexicomp website interface for drug interaction analysis. At the top, there is a search bar with the text "Enter drug, disease, NDC/UPC or other key" and a "Search" button. To the right of the search bar are links for "Contact Us", "Corporate", "User Guide", and "Logout". Below the search bar is a navigation menu with options: "Interactions", "Drug I.D.", "Calculators", "Trissel's IV Compatibility", "Drug Reports", "Patient Education", "Toxicology", "UpToDate®", and "More Clinical Tools".

The main content area is titled "Interactions" and contains a "Selected Items" sidebar on the left. The sidebar lists "Drugs" (Sertraline and TraZODone) and "Allergies" (None). There is a checkbox for "Duplicate Drug Therapy" which is checked. At the bottom of the sidebar are "Analyze" and "Clear" buttons.

The main content area has a "Search" tab and "Interaction Analysis" sub-tab. It includes a "Jump to Section" dropdown, a "-- Filter Item --" dropdown, a "-- Filter Risk Ratings --" dropdown, and "Reset Filters", "Print", and "Help" buttons. The title "Lexicomp Interaction Analysis" is prominently displayed. Below the title is a legend for risk ratings: A (No known interaction), B (No action needed), C (Monitor therapy), D (Consider therapy modification), and X (Avoid combination). A note states: "View interaction detail by clicking on link." Below this, it says "Drugs in this analysis: Sertraline; TraZODone".

There are two main sections of results, each with a blue header bar: "Drug-Drug Interactions" and "Duplicate Therapy Interactions". Under "Drug-Drug Interactions", there is one entry: "D Sertraline (Selective Serotonin Reuptake Inhibitors) - TraZODone (Serotonin Reuptake Inhibitor/Antagonists)". Under "Duplicate Therapy Interactions", there is one entry: "Sertraline - TraZODone".

At the bottom of the main content area, it says "Created on August 6, 2018 12:33:30 AM EDT". A disclaimer box at the very bottom reads: "Disclaimer: Readers are advised that decisions regarding drug therapy must be based on the independent judgment of the clinician, changing information about a drug (eg, as reflected in the literature and manufacturer's most current product information), and changing medical practices."

<http://online.lexi.com/lco/action/interact>



(iv) Duplicate drug therapy.

Two medications within the same or similar medication class(es), prescribed for the same patient

- ▶ Indicative of potential medication error
OR
- ▶ Add-on to achieve therapeutic goals



(v) Drug therapy currently associated with laboratory monitoring.

- ▶ Disclaimer: monitoring may not be an option in homebound patients
- ▶ Recommended lab monitoring for the following:
 - ▶ Anticoagulants (Warfarin, Lovenox)
 - ▶ Prescription strength supplements (Potassium Hcl)
 - ▶ Seizure medications
 - ▶ Clozapine
 - ▶ ETC



§418.200 Conditions of Participation: Requirements for coverage.

- ▶ To be covered, hospice services must meet the following requirements. They must be *reasonable and necessary* for the palliation and management of the terminal illness as well as related conditions.



End of Life Medication Strategies

- ▶ Individual patient assessment
 - ▶ Terminal Diagnosis
 - ▶ Prognosis (based on PPS or Karnofsky scale)
- ▶ Plan Ahead!- Anticipatory prescribing:
 - ▶ Comfort Care Kits
 - ▶ Standing Orders
- ▶ Monitoring of medication/dosing



End of Life Medication Strategies

- ▶ Use of Routine and PRN Orders
- ▶ Route of administration
- ▶ Minimize pill burden (polypharmacy):
 - ▶ Comprehensive medication review
 - ▶ Select Medications that treat more than one symptom



Polypharmacy

Patients who are older than 60, with multiple comorbid conditions, multiple doctors/pharmacies and have history of multiple hospitalizations may use:

- ▶ 5 or more medications on a daily basis
- ▶ Medications without a specific indication
- ▶ Medications that represent duplication of therapy
- ▶ Use medications that are ineffective for symptom/condition



Deprescribing

- ▶ Systematic process of identifying and discontinuing medications based on the patient's prognosis and specific goals of care.
- ▶ Most helpful with the following:
 - ▶ Life expectancy less than 1 year
 - ▶ Suspected adverse effect
- ▶ Primary vs. Secondary Prevention

Deprescribing: Step-wise Approach

Step One

Review of current medication list by a medication expert.

Step Two

Identify potential medications to be discontinued.

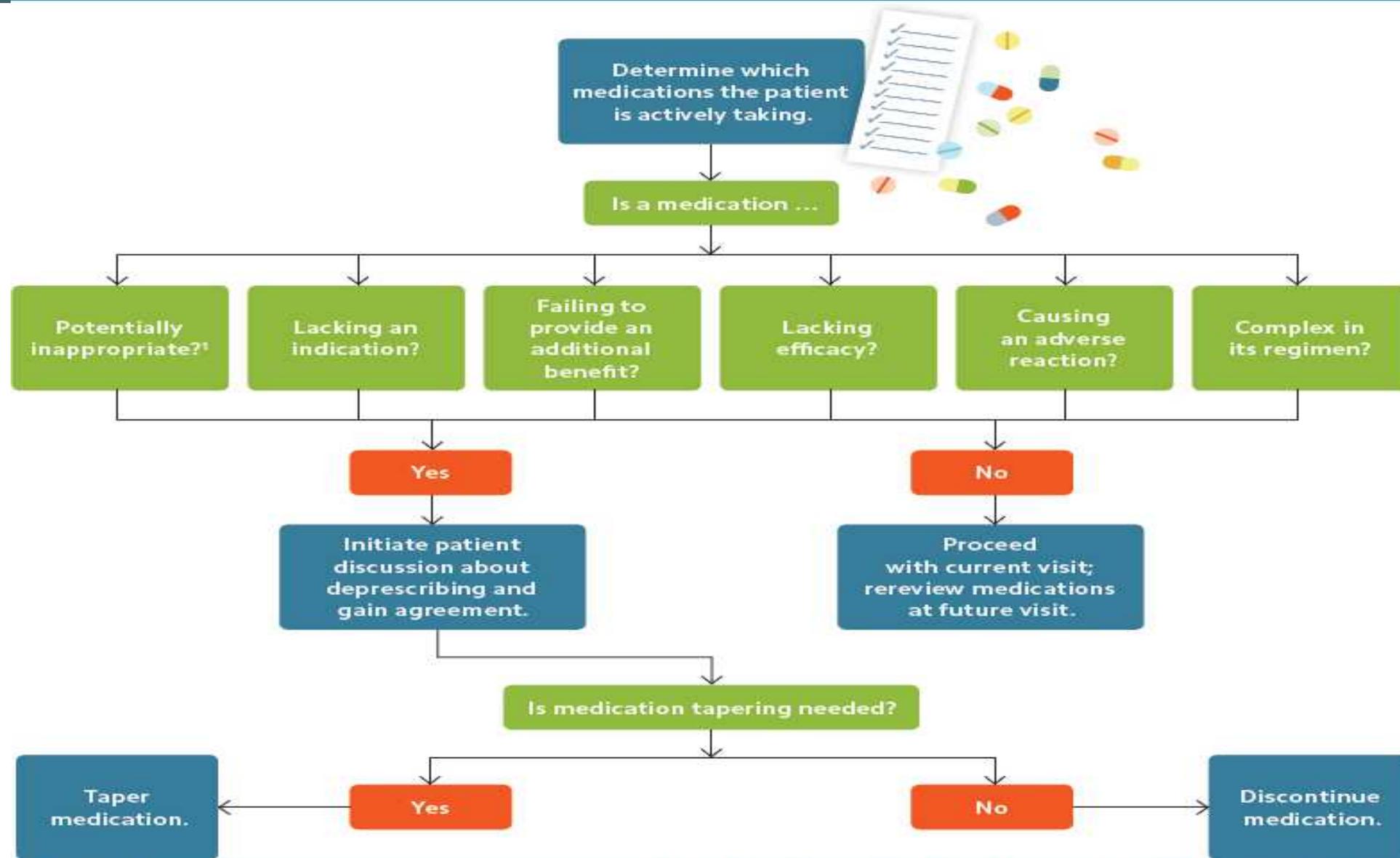
Step Three

Develop plan of attack, keeping in mind:

- Taper/titration requirements
- Risk vs. Benefit

Step Four

Monitor for adverse effects/
withdrawal symptoms





Common Medication Classes to Consider for Deprescribing

- Statins
- Multivitamins/Supplements
- Proton-Pump Inhibitors
- Thyroid medications
- Anti-hypertensives
- Anti-coagulants
- Benzodiazepines
- Anti-depressants

Potential Deprescribing Pitfalls

- ▶ Risk of Withdrawal effects
- ▶ Patient/Family Perceptions
 - ▶ Prognosis
 - ▶ Goals of Care
- ▶ Which clinician is in charge of making the changes?



Other Tools/Criteria for Medication Review

- ▶ Beers Criteria
- ▶ START/STOPP
- ▶ Medication Appropriateness Index
- ▶ Good Palliative Geriatric Practice Algorithm



Common End of Life Symptoms

- ▶ Pain
 - ▶ Delirium / agitation
 - ▶ Dyspnea
 - ▶ Respiratory secretions
 - ▶ Mouth care and skin care
 - ▶ Bladder and bowel care
 - ▶ Nausea and vomiting
-and many more

Pain Management

Painful Pete



Meet Painful Pete

- ▶ 55 year old Male
- ▶ Primary Diagnosis: Prostate Cancer with brain mets
- ▶ PMH: Depression, DM Type I, HTN, hyperlipidemia
- ▶ Allergies: PCN, Sulfa
- ▶ PPS: 40%
- ▶ Labs from 12/1/14: SCr 3.1, BUN 67,
 - ▶ CrCl ~30 ml/min
- ▶ Location: IPU for symptom management

Meet Painful Pete

- ▶ Chief Complaint: Increased Pain
 - ▶ *Described as sharp and shooting; radiating from lower back up to right shoulder blade*
 - ▶ *Rated 10/10 with movement; 5/10 at rest;*
 - ▶ *Failed trial of MS Contin 200 mg PO BID*

**Goal : To attend youngest son's
college graduation in 2 weeks**

Meet Painful Pete

- ▶ Current Medication List:
 - ▶ Lorazepam 1 mg PO/SL Q4H PRN anxiety
 - ▶ Metoprolol 25 mg PO BID
 - ▶ Centrum Multivitamin 1 tab PO daily
 - ▶ Prochlorperazine 10 mg PO/PR Q6H PRN N/V
 - ▶ Gabapentin 100 mg PO BID
 - ▶ Sertraline 50 mg PO daily
 - ▶ Hydromorphone 4 mg/hr IV and 1 mg IV Q15mins PRN pain; max of 3 bolus doses/hr

Which meds could potentially be discontinued?



Complex Symptoms: Focus on Pain

- ▶ Are we treating the correct type of pain?
 - ▶ Nociceptive: Somatic or Visceral
 - ▶ Muscle, tissue or organ pain
 - ▶ May or may not radiate
 - ▶ Dull, aching, or throbbing
 - ▶ Neuropathic:
 - ▶ Shooting, stabbing, radiating, burning, tingling, numb, electrical
 - ▶ Bone pain
 - ▶ Inflammatory process
 - ▶ Pain with movement



Complex Symptoms: Focus on Pain

- ▶ Are we utilizing the appropriate medications?
 - ▶ Nociceptive pain → Morphine, Oxycodone, Hydromorphone
 - ▶ Neuropathic pain → Methadone and Adjuvants (ex. Gabapentin)
 - ▶ Bone pain → Corticosteroids, NSAIDs



Complex Symptoms: Focus on Pain

- ▶ Are current medication doses optimized?
 - ▶ Titrate up to tolerable dose that adequately controls pain but minimizes side effects



Why Not Methadone?

One of the preferred long-acting opioids in end of life care

- Multiple routes of administration
 - PO, SL, PR, PV, SQ, IV, IM
- Unique receptor affinity
 - The most effective opioid for neuropathic pain
 - Less cognitive impairment and euphoria than other opioids
- Appropriate option for patients with renal or hepatic impairment
- Consider for patients with a morphine allergy/intolerance
- Preferred with > 7 day prognosis

Plan of Attack: Focus on Pain

- ▶ Neuropathic Pain
 - ▶ Taper off Hydromorphone IV (Decrease by 25% each day x 3 days)
 - ▶ Day 1: Hydromorphone IV 3mg/hr
 - ▶ Day 2: Hydromorphone IV 2 mg/hr
 - ▶ Day 3: Hydromorphone IV 1.5 mg/hr
 - ▶ Start and Titrate up Methadone
 - ▶ Day 1: Methadone 10 mg PO TID
 - ▶ Day 2: Methadone 20 mg PO TID
 - ▶ Day 3: Methadone 30 mg PO TID
 - ▶ For Breakthrough Pain:
 - ▶ Oxycodone IR 20 mg 1-2 tabs PO/SL Q2H PRN Pain

Monitoring Pete

- ▶ Daily Methadone Checks x 5-7 days
- ▶ We DO expect:
 - ▶ The patient to need more BTP medication in the first 1-3 days, while methadone reaches SS
 - ▶ Increased sleepiness (especially if has not had pain control in a long time!)
- ▶ We DON'T expect:
 - ▶ A pain crisis (10/10)
 - ▶ Over-sedation or lethargy

Plan of Attack: Focus on Pain

▶ Gabapentin Dosing:

- ▶ May increase Q3days until pain control/side effects occur
- ▶ Dose Adjustments required with renal impairment
 - ▶ CrCl ≥ 60 mL/minute: 300 to 1,200 mg 3 times daily
 - ▶ CrCl >30 to 59 mL/minute: 200 to 700 mg twice daily
- ▶ For Painful Pete:
 - ▶ Increase Gabapentin to 200 mg PO BID
 - ▶ Monitor closely and titrate up cautiously

Oral Corticosteroids

- ▶ Multiple indications in end of life care including:

- ▶ Breathing
- ▶ Bone pain
- ▶ Inflammation from cancer
- ▶ Mood
- ▶ Appetite



- ▶ Prednisone (Deltasone®) generally 1st Line

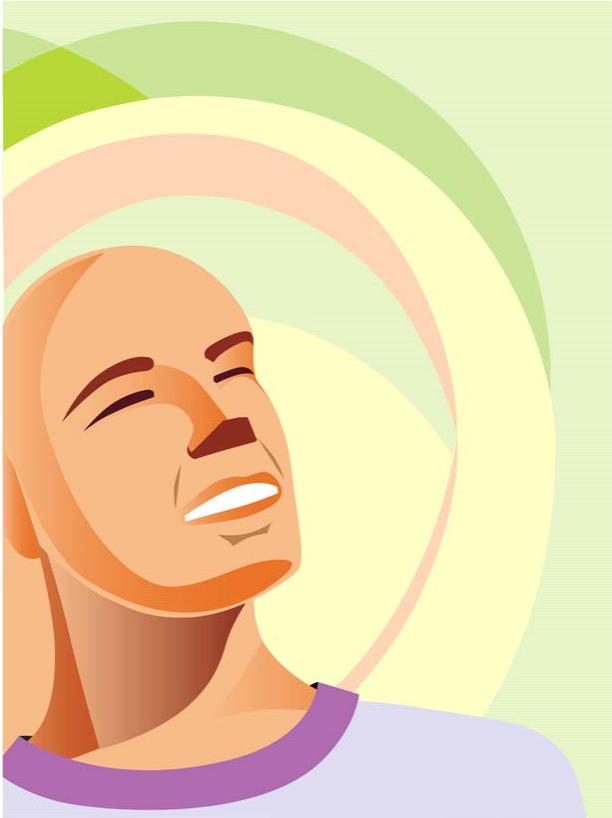
- ▶ Dexamethasone (Decadron®) preferred with:

- ▶ Brain involvement
- ▶ Patients with or at risk for clinically-significant fluid retention/edema

Plan of Attack: Focus on Pain

- ▶ Bone pain
 - ▶ Initiate Corticosteroid
 - ▶ Dexamethasone 2 mg PO QAM
- ▶ Rationale: “kill multiple birds with one stone”
 - ▶ Headache that may be related to brain mets
 - ▶ Pain related to a fracture history/bone pain.
 - ▶ Also may improve mood and overall sense of well being
- ▶ Monitor for adverse effects
- ▶ Titrate up as needed to achieve pain relief
 - ▶ If dosed BID, give 2nd dose prior to 2pm

Don't Forget the Bowel Protocol!



*Hospice
Proverb:
Happy is the
patient in the
PM,
who has a BM
in the AM*

Refractory Agitation

ANXIOUS ANNIE

Meet Anxious Annie

- ▶ 70 year old Female
- ▶ Primary Hospice Diagnosis: Parkinson's Disease
- ▶ PMH: Orthostatic Hypotension, Hypothyroidism, depression, constipation, malaise/fatigue, recurrent UTIs,

- ▶ **ALLERGIES: PCN, Sulfa, Levofloxacin - All Rash**
- ▶ PPS/K SCORE: 50-60%
- ▶ NUTRITION: Fair, able to swallow pills, Ht: 5'1" Wt: 112 lbs
- ▶ RENAL/HEPATIC IMPAIRMENT: none known
- ▶ ENVIRONMENT OF CARE: Group Home

Meet Anxious Annie

▶ Current Medication List:

- ▶ Chlordiazepoxide 10mg 1 tab PO daily
- ▶ Polyethylene glycol 17gm PO daily prn constipation
- ▶ Simethicone 125mg 1 tab PO QID prn gas and belching
- ▶ Carbidopa/Levodopa 25/100mg Give 2 tabs PO q3h between 5am and 8pm
- ▶ Calcium carbonate 500mg 1 tab PO daily prn indigestion
- ▶ Acetaminophen 650mg 1 tab PO q6h ATC
- ▶ Oxybutynin IR 5mg 1 tab PO TID
- ▶ Levothyroxine 0.025mg PO daily
- ▶ Sertraline 100mg 1 tab PO daily
- ▶ Potassium chloride 10 meq PO daily

Which meds could potentially be discontinued?

Meet Anxious Annie

▶ Chief Complaint: Agitation/restlessness

- ▶ *Patient is up all night; not able to rest*
- ▶ *Confusion; not oriented to time or place*
- ▶ *Has tried Haloperidol 1 mg PO TID and Thorazine and this seems to exacerbate symptoms*
- ▶ *Per facility, pt recently stopped Sertraline 100 mg and Carbidopa/Levodopa was increased to Q3H routine*

***Goal: To have a restful night;
using only 1 dose of medication at bedtime.***

Complex Symptoms: Focus on Agitation

- ▶ **Potential Causes of Agitation Include:**
 - ▶ *Infection* (encephalitis, meningitis, UTI, pneumonia)
 - ▶ *Medications* (Opioids, steroids, anticholinergics, phenothiazines and/or benzodiazepines)
 - ▶ *Withdrawal* (alcohol, nicotine, barbiturates, benzodiazepines, antidepressants)

Complex Symptoms: Focus on Agitation

- ▶ **Potential Causes of Agitation Include:**
 - ▶ *Metabolic disorder* (electrolyte imbalance, hepatic or renal failure, hypothyroidism)
 - ▶ *CNS pathology* (stroke, hemorrhage, tumor, seizure disorder, Parkinson's)
 - ▶ *Hypoxia* (anemia, cardiac failure, pulmonary embolus)

Complex Symptoms: Focus on Agitation

- ▶ Are we utilizing the appropriate medications?
 - ▶ Look for possible contraindications
 - ▶ Use of Haloperidol contraindicated in Parkinson's disease

Complex Symptoms: Focus on Agitation

- ▶ Are current medication doses optimized?
 - ▶ Titrate up to tolerable dose that adequately controls agitation

Plan of Attack: Focus on Agitation

▶ Discontinuation Syndrome

▶ SSRIs (Sertraline, Citalopram, etc)

▶ Taper down over 5-7 days to prevent withdrawal symptoms

▶ Gradually taper the dose to minimize the incidence of withdrawal symptoms and allow for the detection of re-emerging symptoms

▶ For Annie: Sertraline 100 mg PO daily

▶ Taper down to Sertraline 50 mg PO daily x 7 days, then re-evaluate



Plan of Attack: Focus on Agitation

- ▶ Alternatives for Agitation include:
 - ▶ Lorazepam 0.5-1 mg PO/SL Q4H PRN anxiety/restlessness (consider routine use)
 - ▶ Trazodone 25 mg PO Q4H PRN agitation
 - ▶ Phenobarbital 30 mg PO/SL/PR BID
 - ▶ Quetiapine 25-50 mg PO BID

2nd Visit with Annie

- ▶ Interventions:
 - ▶ Discontinued Haloperidol
 - ▶ Started Trazodone 50 mg PO QHS and Trazodone 25 mg PO Q4H PRN agitation
 - ▶ Tapered off Sertraline over 1 week period

*New Chief Complaint:
Now complaining of stomach pain ,
especially after eating*

Potential Drug Interactions

▶ Potassium Chloride and Oxybutynin

This interaction specifically applies to solid oral dosage forms of potassium chloride.

Risk Rating X: Avoid combination

Summary Anticholinergic Agents may enhance the ulcerogenic effect of Potassium Chloride.

Patient Management

- ▶ Solid oral dosage forms of potassium chloride are contraindicated in patients with impaired gastric emptying
- ▶ liquid or effervescent potassium preparations are possible alternatives.



Take Home Points

- ▶ Assessment is Critical to proper medication selection and discontinuation
- ▶ Utilize medications that treat multiple symptoms
- ▶ Don't forget to keep individual patient/family goals in mind
- ▶ Collaborate with your IDG team to achieve symptom management

Questions?

▶ memadison@procarerx.com

References

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Deprescribing Unnecessary Medications: A Four-Part Process

Scott Endsley, MD

Fam Pract Manag. 2018;25(3):28-32.

Abstract and Introduction

Introduction

Ms. Horatio is a 76-year-old patient who has been coming to your practice for more than 10 years. She has Type 2 diabetes with stage-3 chronic renal disease and painful diabetic neuropathy of bilateral lower extremities, chronic obstructive pulmonary disease, stable coronary artery disease, and hypertension. She has seen a cardiologist, pulmonologist, and neurologist for additional care. At today's visit with you, her family physician, she has brought a brown paper bag filled with all her medications per your request. Her medications include amitriptyline, atenolol, atorvastatin, low-dose aspirin, diphenhydramine hydrochloride, clopidogrel, conjugated estrogen tablets, ferrous sulfate, glyburide, isosorbide dinitrate, lisinopril, nifedipine extended release, omeprazole, paroxetine, pregabalin, tolterodine, tiotropium inhaler, and zolpidem. Where do you begin?

What Is Polypharmacy?

Polypharmacy is typically defined as the prescription of five or more medications. However, it also refers to the prescription of medications that do not have a specific current indication, that duplicate other medications, or that are known to be ineffective for the condition being treated. In other words, polypharmacy is the use of multiple medications that are unnecessary and have the potential to do more harm than good.

Polypharmacy is highly prevalent, especially among older adults. A 2016 study found that 36 percent of community dwelling adults age 62 to 85 were taking five or more medications.^[1] This is up from 31 percent in 2005. At this rate of increase, almost half of the older population could be affected by polypharmacy by 2030.

Patients at risk for polypharmacy are older than age 62, have comorbidities, have multiple prescribers or pharmacies, self-treat with over-the-counter medications, and have a history of hospitalizations.^[1-3] They also likely go to practices with poor medication tracking processes, including medication lists that are not updated or are inaccurate. Poor medication tracking processes are more prevalent than physicians might think. For example, an internal study at my previous organization found that only 19 percent of office visits to general internists included a medication review.

Polypharmacy has multiple adverse consequences. These include adverse drug events and other safety events such as falls, medication nonadherence, increased mortality, increased cost, and functional impairment. Polypharmacy often begins when a medication causes an adverse drug event, leading to additional treatment, which causes an additional reaction, and so on.^[4] The probability of harm increases exponentially with each medication.

All medications have potential negative consequences. For instance, delirium and worsening of dementia are common with anticholinergics, benzodiazepines, and proton-pump inhibitors; falls are more common with patients on antihypertensives, antipsychotics, benzodiazepines, and opioids; constipation is common with opioids and calcium channel blockers; and orthostasis is common with anticholinergics, antihypertensives, and sulfonylureas.

To avoid polypharmacy and the risks of medication-related harm in their patient populations, family physicians should implement effective medication management practices, including the strategy known as deprescribing.

"Deprescribing is a set of interventions to identify inappropriate or unnecessary medications and discontinue them."

The Deprescribing Process

Deprescribing is a set of interventions to identify inappropriate or unnecessary medications and discontinue them. (See "A deprescribing algorithm.") In essence, it is backing off of care for the safety of the patient, like taking your foot off the accelerator of ^[5]medical therapy. Studies have suggested that deprescribing leads to improvement in cognition, fewer falls, and improved survival.

The deprescribing process is generally described as having four key parts.^[2,6,7]

Review All Current Medications

The first step in deprescribing is medication reconciliation, often centered around a "brown bag" review. Instruct the patient to bring all of his or her medications (including prescription drugs, over-the-counter medications, and supplements such as vitamins and minerals) to a visit, and have your nurse or medical assistant take a medication history. The information collected, including which medications the patient is actively taking, what regimen is being followed, and whether the patient has experienced any side

effects, should be documented in the patient's medication list in the electronic health record (EHR). By the end of the visit, your nurse should be able to generate a patient "medication card," which can empower the patient to maintain his or her own medication list going forward and share the information with his or her providers across all settings. (For additional information on medication reconciliation, see "Resources.")

Identify Any Inappropriate, Unnecessary, or Harmful Medications

Together with the patient, review all medications listed in the updated medication list and consider which ones are offering benefit and which are causing harm. Look for medications that are potentially inappropriate (per the Beers list, discussed below), lack efficacy, lack an indication, don't provide additional benefit, or require a long duration for effect.^[7] Also consider whether the patient would like to stop any medications because of negative side effects or whether any medications have complex dosing regimens that could be avoided.^[7] Drug classes such as anti-psychotics, statins, antihypertensives, benzodiazepines, proton-pump inhibitors, and nonsteroidal anti-inflammatory drugs/COX-2 inhibitors/acetysalicylic acid are common targets of deprescribing.^[7]

To aid busy physicians in deprescribing, a number of helpful tools are available:

- The Anticholinergic Burden Calculator (<http://anticholinergicscales.es/calculate>) can help you evaluate a patient's potential for serious anticholinergic effects. In the geriatric population, this is a great tool to start with, as reducing or eliminating medications with high anticholinergic burdens can often improve patients' overall function and quality of life. Start with deprescribing those medications in the highest (level 3) category.
- The Beers List from the American Geriatric Society lists medications that pose the highest risk to older patients, along with alternatives. There are numerous versions of this list, but one of the better configured lists is found here: <https://bit.ly/2GQhM2Y>.
- Deprescribing.org, developed by a team of physicians and pharmacists, provides deprescribing guidelines and algorithms, patient decision aids, and an up-to-date resource list of evidence and research.
- MedStopper (<http://medstopper.com/>) is an online tool that allows you to enter a drug list for a specific patient and receive recommendations regarding which medications might be discontinued or switched.

Plan Deprescribing With the Patient

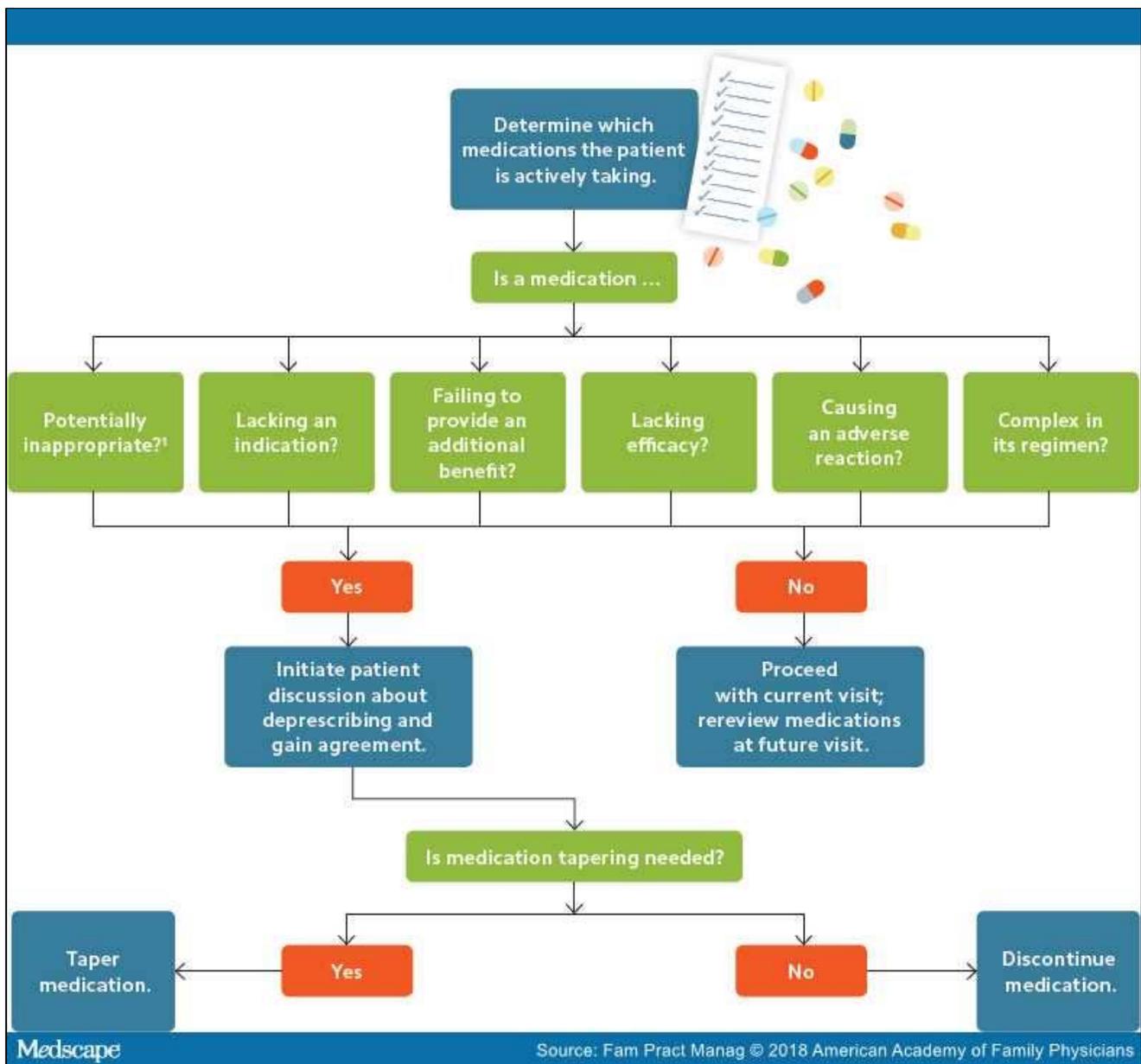
Many patients will resist stopping medications, especially those they have been taking for a long time. They may be concerned about their conditions worsening or about contradicting the original prescriber. To help patients buy into the deprescribing process, consider discontinuing one medication at a time or tapering medications if necessary, and assure your patients that you will monitor them for worsening conditions or withdrawal effects. Also, discuss the potential or real adverse effects of their medications; the potential benefits of deprescribing, such as reduced risk of hospitalization, cognitive or functional gains, and improved quality of life; and the minimal (if any) impact deprescribing would have on their conditions. This latter point is especially true for medications prescribed without a clear indication or with no significant clinical benefit. These benefits of deprescribing are also critical to consider in patients who are receiving palliative or end-of-life care.

Regularly Rereview Medications

Because deprescribing may require tapering of medications or may involve withdrawal symptoms, the process needs to be monitored closely. Additionally, on at least an annual basis (if not at every visit), look closely at all medications again. Many patients see multiple providers and can quickly accumulate medications across conditions. As much as you are able, actively engage your specialist colleagues in discussions of benefits and harms of new medications, as well as other options. One way to facilitate this is by using electronic or paper consultation reports that clearly list new or modified medications.

Collaborative arrangements with pharmacists may also be helpful.^[8] Depending on the practice setting, collaboration between pharmacists and family physicians can occur during medication history taking and medication reconciliation, drug therapy recommendation and deprescribing, or the management of adverse drug reactions. The IMPACT program in Ontario has had success with this collaborative model for some time using a variety of strategies including separate pharmacist visits, collaborative visits with the physician, and pharmacist-patient follow-up.^[9]

"The first step in deprescribing is medication reconciliation, often centered around a "brown bag" review. "



A DEPRESCRIBING ALGORITHM

1. Consider Beers list drugs, opioids, anticholinergics, NSAIDS, etc.

Case Study Continued

Before you enter the exam room to see Ms. Horatio, your nurse Lois sits with her and reviews the medications she has brought from home in a brown bag. One by one, Lois examines each medication, including the refill date. She asks Ms. Horatio if she is currently taking the medication, when her last dose was, and if she has had any bad reactions to it. For medications Ms. Horatio is not taking currently, Lois asks, "When did you stop taking this medication?" and "What was going on that made you stop taking it?" Lois records this information in the EHR. At the end of the discussion, she asks Ms. Horatio, "Are there any other medications you might be taking, such as vitamins, supplements, or over-the-counter medications?" Ms. Horatio mentions that she takes some ginseng tablets in the morning that her daughter suggested would increase her energy. Lois records that information in the EHR as well. She will later generate a "medication card" for Ms. Horatio to keep in her purse, share with other doctors at other offices or the hospital, and add to or modify when her medications are changed.

A few minutes later, when you enter the exam room, you sit with Ms. Horatio and review the updated medication list. You explain why she doesn't need to continue a number of medications, including the estrogen, iron supplements, and proton-pump inhibitor. You note that her gynecologic history and last hematogram don't indicate a need for therapy at this time and explain that her proton-pump inhibitor may be contributing to her mild cognitive impairment. You also recommend tapering and stopping the zolpidem over several weeks and, in its place, beginning a regimen for sleep hygiene. Based on the results of an anticholinergic

burden analysis (<http://anticholinergicscales.es/calculate>), you determine that Ms. Horatio has a high anticholinergic burden, and you recommend tapering and eliminating the amitriptyline and paroxetine, as well as discontinuing the diphenhydramine hydrochloride. If symptoms confirm her need for an antidepressant, you will prescribe a newer, less anticholinergic medication at that time. You make a plan to follow up with her in two weeks.

A Key Role for Family Physicians

Deprescribing is a necessary process in today's practice environment where patients often take multiple drugs prescribed by multiple physicians who are not in direct communication with one another. Primary care physicians are well positioned to manage this critical process.

Sidebar 1

Key Points

- Polypharmacy is the use of multiple medications that are unnecessary and have the potential to do more harm than good.
 - Patients at risk for polypharmacy are older than age 60, have comorbidities, have multiple prescribers or pharmacies, self-treat with over-the-counter medications, have a history of hospitalizations, and go to medical practices with poor medication tracking processes.
 - Medication reconciliation often begins with a "brown bag" review of the patient's medications.
 - To help patients buy into the deprescribing process, consider discontinuing one medication at a time or tapering medications.
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Sidebar 2

Resources

Medication reconciliation

- How-to Guide: Prevent Adverse Drug Events (Medication Reconciliation). Boston: Institute for Healthcare Improvement; 2011. <http://www.ihl.org/resources/Pages/Tools/HowtoGuidePreventAdverseDrugEvents.aspx>.
- Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for Medication Reconciliation. Rockville, MD: Agency for Healthcare Research and Quality; 2012. <https://www.nm.org/-/media/Northwestern/Resources/for-medical-professionals/northwestern-medicine-match-toolkit.pdf>.
- Ontario Primary Care Medication Reconciliation Guide. Ontario: Institute for Safe Medication Practices Canada; 2015. https://www.ismp-canada.org/download/PrimaryCareMedRecGuide_EN.pdf.

Deprescribing

- The Anticholinergic Burden Calculator: <http://anticholinergicscales.es/calculate>
- The Beers List: <https://bit.ly/2GQhM2Y>
- Deprescribing.org: <https://deprescribing.org/>
- MedStopper: <http://medstopper.com/>

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