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Déprescription: la solution à la polypharmacie irrationnelle

Deprescribing: the solution to irrational polypharmacy

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Conflict of interest slide

- CIHR grant (1.7 million \$) for stopping medications in hospitalized older adults
- Canadian Frailty Network grant (100000\$) pilot study to stop medications in hospitalized older adults
- I have a patent for: MedSafer- an electronic tool for stopping medications in older adults
- I do not receive any compensation from pharma or industry

Overview

- The lexicon: PIMs, polypharmacy, deprescribing (a new set of terms)
- Barriers to deprescribing
- MedSafer and other tools for deprescribing
- Patient attitudes towards deprescribing
- Case examples
- Concluding remarks

What's the problem with too many pills?

- Many medications are:
 - “Potentially inappropriate” (**NEW TERM:** PIMs or potentially inappropriate medications)
 - Continued beyond their original indication (a classic example is aspirin and plavix beyond 12 months following a stent or an acute coronary syndrome)
 - Contribute to excess medication-related injuries (think: falls and hip fractures and subdural hematomas)
- Adverse drug events (ADEs)



So what's the problem then?

- What are the barriers and why aren't we stopping medications?
- WELL there are several barriers, for example:
 - Physicians hesitate to bring up the topic of deprescribing as it may make their patients uncomfortable by **implying reduced life expectancy**
 - Stopping medications is a **complicated process** that is **time consuming**

Reframe patient and family perceptions

For example:

- Hesitation to deprescribe because this **implies reduced life expectancy**:

What if it is the other way around?

Deprescribing implies life is valuable.

- Stopping medications is **complicated** and **time consuming**

What if it were easier, whether by programs, incentives, or through knowledge and empowerment?

Challenges related to *overuse* that apply to *overprescribing*:

- **Real and perceived patient expectations**
- Fear of missing a possible diagnosis
- **Malpractice concerns**
- **Reimbursement incentives**
- **The way physicians are taught**
- **Avoiding challenging conversations of telling patients why they do not need specific (medications)**

Prescriber barriers

- Limited knowledge of how to stop medications
- Fear of withdrawal side effects
- A time-tested regimen
- “Why rock the boat?”
- The original indications for the medication regimen are obscure but the patient is well and “if it ain’t broke why fix it?”
- Limited consulting time

Lessons brought to us by pharma

- Physicians are taught to prescribe in medical school/residency
- A Pill for Every Ill
- The pain epidemic (vs. the opioid epidemic)
- The pain scale
- Annihilating pain and obliterating pain vs. managing pain

Appropriate prescribing vs deprescribing (starting good habits early)

- Recently gave this presentation to the Choosing Wisely STARS
- These are a group of Canadian medical students who have developed recommendations to address overuse in medicine
- For their presentation we adapted their own tenets against overuse but for deprescribing
- These ideas could be taught in undergraduate medicine to encourage *appropriate prescribing which should, in fact, precede deprescribing.*



If STARS can deprescribe...

-
- Don't suggest **prescribing a medication** before considering **non-pharmacologic treatment options**.
 - Don't suggest **a medication** that will not change the patient's clinical course.
 - Don't miss the opportunity to initiate conversations with patients about whether **a potentially inappropriate medication** they are taking is necessary
 - Don't hesitate to ask for clarification **on medications** that you believe are unnecessary.
 - Don't suggest **prescribing a medication** for the sole purpose of gaining personal clinical experience.
 - Don't suggest **prescribing a medication** pre-emptively for the sole purpose of anticipating what your supervisor would want.

“Consumer” barriers

- Patient/family barriers:
 - Feeling of abandonment
 - Medications represent hope
 - Fear of causing patient death

How to address consumer barriers (1):

- Respect for patient autonomy
- Assess patient attitudes towards deprescribing
- Patient attitudes towards deprescribing questionnaire (validated)

REF: Reeve et al; International Journal of Clinical Pharmacy 2013



Name:

Date:

Please indicate whether or not you agree with the following statements by ticking the appropriate box.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. I feel that I am taking a large number of medications					
2. I am comfortable with the number of medications that I am taking					
3. I believe that all my medications are necessary					
4. If my doctor said it was possible I would be willing to stop one or more of my regular medications					
5. I would like to reduce the number of medications that I am taking					
6. I feel that I may be taking one or more medications that I no longer need					
7. I would accept taking more medications for my health conditions					

13. What is the **MAXIMUM** number of tablets/capsules that you would be comfortable taking per day- *circle one of the below pictures*



14. How comfortable would you be if a pharmacist was involved in stopping one or more of your regular medications and provided the follow-up (informing your doctor of the progress)?

Uncomfortable

Unsure

Comfortable

How to address consumer barriers (2):

- Patient and family friendly language
- Patient empowerment
- Canadian Deprescribing Network (CaDeN)
 - <http://deprescribing.org/resources/>
 - <http://deprescribing.org/resources/helpful-links/>



You May Be at Risk

You are taking one of the following sedative-hypnotic medications:

- | | | |
|--|---|---|
| <input type="checkbox"/> Alprazolam (Xanax®) | <input type="checkbox"/> Diazepam (Valium®) | <input type="checkbox"/> Temazepam (Restoril®) |
| <input type="checkbox"/> Chlorazepate | <input type="checkbox"/> Estazolam | <input type="checkbox"/> Triazolam (Halcion®) |
| <input type="checkbox"/> Chlordiazepoxide | <input type="checkbox"/> Flurazepam | <input type="checkbox"/> Eszopiclone (Lunesta®) |
| <input type="checkbox"/> Chlordiazepoxide | <input type="checkbox"/> Lorazepam | <input type="checkbox"/> Zolpidem (Ambien®) |





























AS YOU AGE

Age-related changes take place in your body and modify the way you process medications. Your chances of taking more than one medication increase as you age, as well as the possibility of a history of illness. Drugs stay in your body longer and diminished liver function and poor blood flow to your kidneys may increase side effects.

Unfortunately this is important information that is often not passed on to patients who are taking this drug. Please consult your physician or pharmacist to discuss this further. Alternative therapies could relieve your anxiety or improve your sleep with less side effects on your quality of life.

TAPERING-OFF PROGRAM

We recommend that you follow this schedule under the supervision of your doctor or pharmacist to taper off your sedative-hypnotic medication.

WEEKS	TAPERING SCHEDULE							✓
	MO	TU	WE	TH	FR	SA	SU	
1 and 2								
3 and 4								
5 and 6								
7 and 8								

Guidance from lists

- Lists of potentially inappropriate medications exist
 - Beers criteria
 - STOPP/START criteria
 - Choosing Wisely and Choosing Wisely Canada



Choosing Wisely Canada

- Has some great examples that relate to deprescribing
 - Don't use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.
 - Don't use antipsychotics as first choice to treat behavioural and psychological symptoms of dementia.
 - Avoid using medications known to cause hypoglycemia to achieve hemoglobin A1c <7.5% in many adults age 65 and older; moderate control is generally better.

Moving beyond the lists: how to systematically address the problem

- Interventions are needed to bring the overall level of knowledge on the issues to a more standardized level to facilitate thinking about these issues through for example: computerized decision support
- Some early applications are being developed
 - ex. MedSafer (Canadian Frailty Network and Canadian Institute for Health Research funded clinical trial)
 - An electronic application that cross-references the patient's past medical history with their community drug list and provides a prioritized list of deprecating opportunities

MedSafer




- 1000 patient study has just completed enrolment across four Canadian hospitals
- Will now be trialed across ten hospitals in Canada and 8500 patients in a trial powered for a reduction in adverse drug events
- Builds off of the original concept of an application called MedStopper

MedSafer:

Patient Information PMH Medications **Recommendations** Outcome Outcome Medications Frailty/Sleep questionnaire





GENERATE A REPORT ▾

DISCHARGE THIS PATIENT

MEDICATION	CONDITION/SECOND MEDICATION	RATIONALE	STOPPING PRIORITY ↑	RULE ID
citalopram (Celexa)	Recurrent Falls	SSRIs may contribute to ataxia, impaired psychomotor function, syncope, and additional falls.		10148
memantine (Ebixa)	Recurrent Falls	Increased risk of orthostatic hypotension or bradycardia		10185
dexlansoprazole (Dexilant)	Any	Chronic PPI therapy should be reevaluated regularly. For patients aged 60 years and older along with two or more of the following, ongoing therapy may be beneficial: antiplatelet, NSAID, systemic steroids, anticoagulation, prior upper gastrointestinal bleed. Other scenarios requiring ongoing therapy include: hypersecretory conditions, dual antiplatelet therapy, variceal banding within 14 days, and H. Pylori treatment.		10267

MedSafer:

[Patient Information](#)[PMH](#)[Medications](#)[Recommendations](#)[Outcome](#)[Outcome Medications](#)[Frailty/Sleep questionnaire](#)[GENERATE A REPORT](#)[DISCHARGE THIS PATIENT](#)

MEDICATION	CONDITION/SECOND MEDICATION	RATIONALE	STOPPING PRIORITY	RULE ID
metformin (Glucophage)	Chronic Kidney Disease	Risk of lactic acidosis with metformin at lower eGFR.		10228
lorazepam (Ativan)	Any	In general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures, and motor vehicle accidents in older adults		10264
metformin (Glucophage)	Diabetes	Your patient had a recent hemoglobin A1c measurement of less than 7.5%. Consider tapering in patients with a heavy pill burden, who are frail, or have a reduced life expectancy.		10227
docusate-sodium (Colace)		Don't use stool softeners to prevent or treat constipation		26

A deprescribing protocol

- (1) ascertain all drugs the patient is currently taking and the reasons for each one
- (2) consider overall risk of drug-induced harm in individual patients in determining the required intensity of deprescribing intervention

REF: Scott JAMA int med 2015

A deprescribing protocol

- (3) assess each drug in regard to its current or future benefit potential compared with current or future harm or burden potential;
- (4) prioritize drugs for discontinuation that have the lowest benefit-harm ratio and lowest likelihood of adverse withdrawal reactions or disease rebound syndromes; and
- (5) implement a discontinuation regimen and **monitor patients closely** for improvement in outcomes or onset of adverse effects.

When re-examining each medication:

- What is the current indication for the drug?
- Is the patient actually taking the drug?
- Does the drug fit with the patient's circumstances?
- **Does the likely benefit of the drug outweigh the potential harms?**

Put the drug into one of two categories

- Disease or symptom control drug → controlling active disease or symptoms (anti-anginals, levothyroxine, heart failure medication etc...)
 - Stopping these drugs may result in uncontrolled symptoms
- Preventive drug (statin, warfarin, bisphosphonates etc...)
 - Stopping these drugs requires considering the absolute risks and benefits

At each patient encounter

- Care provider should ask if any new symptoms at each visit
- Any problems taking your medications?
- Prediction tools and evidence tables
- Decision aids that estimate absolute risk of disease

And now for some sample cases

PRACTICE
makes
PROGRESS,
NOT
PERFECT.

Example case: harm to benefit balance **shifts with time**

- Donepezil to slow progression of mild Alzheimer's in a patient living in the community autonomously or semi-autonomously vs.
- Donepezil which has not been stopped in a patient residing in a nursing home with advanced dementia and limited life expectancy
- What are the harms?

(Cardiac conduction, anorexia and weight loss, diarrhea, nausea, vomiting, worsening of symptoms of benign prostatic hypertrophy.)

REF: Tija Clinics in Geriatric Medicine 2012



Case of an adverse drug event

- 76 year old man who presents to the ER with a dizziness and an episode of syncope after passing bright red blood per rectum
- His hemoglobin is found to 45 g/L
- He has acute kidney injury with a creatinine of 200

Medications include:

- Metformin 850 mg po BI
 - Nifedipine ER 60 mg po daily
 - Quinine 200 mg po daily
 - Isosorbide 60 mg po daily
 - Asa 80 mg po daily
 - Tamsulosin 0.4 mg po daily
 - Simvastatin 40 mg po daily
 - Pantoprazole 40 mg po daily
- Canagliflozin 300 po daily
 - Amlodipine 2.5 mg po daily
 - Azithromycin 250 mg po daily x 5 days
 - Furosemide 80 mg po BID
 - Clopidogrel 75 mg po daily
 - Dutasteride 0.5 mg po daily

Additional information?

- Regarding metformin and canagliflozin
- Hemoglobin a1c
- History of hypoglycemia?
- Risks with canagliflozin?
- AKI, euglycemic DKA, genitourinary infections

Additional information

- Aspirin and plavix
- Indication?
- Timing?
- DES in the right coronary artery 5 years ago
- (new risk calculators → DAPT score calculator)

REF: Mauri et al NEJM 2014 and Yeh et al JAMA 2016

Deprescribing cascade

- Had his plavix been stopped the pantoprazole could have been stopped
- Other examples include patients who are on magnesium supplements and a proton pump inhibitor

Patient Characteristics

Age

Diabetes Mellitus

Cigarette Smoking Within Last Two Years

Prior Myocardial Infarction or Percutaneous Coronary Intervention

History of Congestive Heart Failure or Left Ventricular Ejection Fraction < 30%

Index Procedure Characteristics

Myocardial Infarction at Presentation

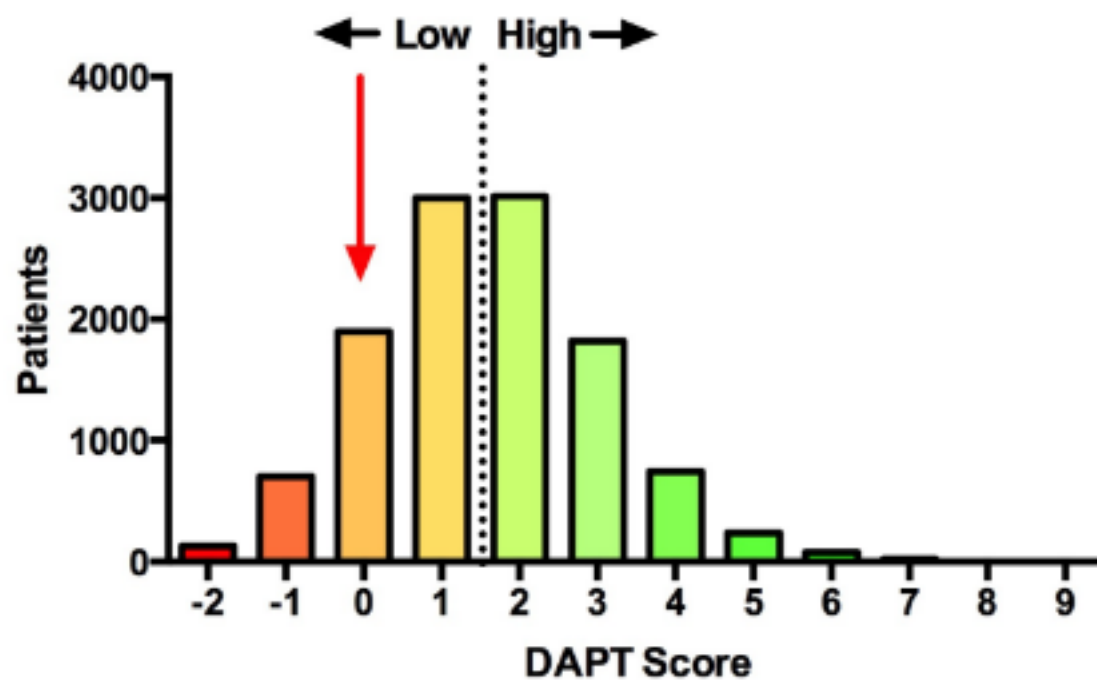
Stenting of Vein of Graft

Stent Diameter < 3mm

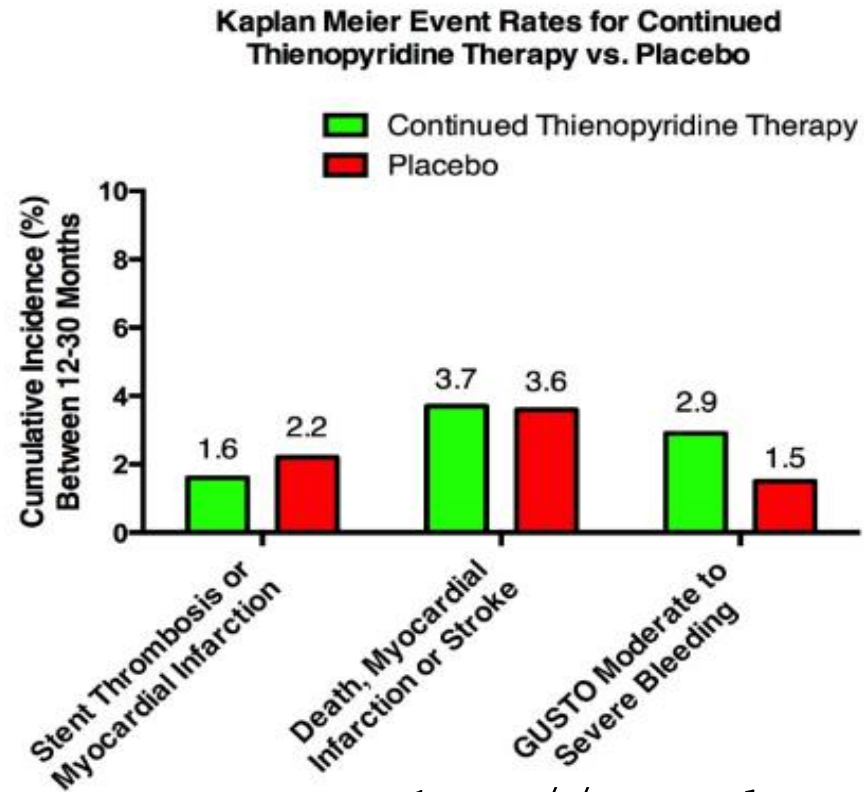
DAPT Score = 0: LOW

Calculated DAPT Score Shown by Red Arrow

Distribution of DAPT Scores in the DAPT Study



Results Observed in the DAPT Study for Patients with Low (<2) DAPT Scores Are Shown:



http://www.daptstudy.org/for-clinicians/score_calculator.htm

The DAPT Score was developed to predict combined ischemic and bleeding risk for patients being considered for continued thienopyridine therapy in addition to aspirin beyond 1 year after coronary stent treatment. The Score was developed from the DAPT Study randomized trial data, in which patients were randomized to continued thienopyridine therapy (clopidogrel or prasugrel) vs. placebo. Patients were randomized only if they had not sustained a heart attack, stent thrombosis, stroke, repeat revascularization, or bleed, and had been adherent with medications during the first year. Patients receiving oral anticoagulation or with limited life expectancy were excluded.* Outcomes are shown according to DAPT Score limited to patients not receiving a paclitaxel-eluting stent, since such stents are no longer commonly used in clinical practice.

Other drugs to consider stopping

- Long acting nitrates in heart failure with preserved ejection fraction



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ORIGINAL ARTICLE

Isosorbide Mononitrate in Heart Failure with Preserved Ejection Fraction

Margaret M. Redfield, M.D., Kevin J. Anstrom, Ph.D., James A. Levine, M.D., Gabe A. Koepp, M.H.A., Barry A. Borlaug,

Other drugs to consider stopping

- ISMN

In conclusion, in patients with heart failure with a preserved ejection fraction, the receipt of isosorbide mononitrate, as compared with placebo, decreased daily activity levels. In addition, receipt of isosorbide mononitrate did not improve submaximal exercise capacity, quality-of-life scores, or NT-proBNP levels in these patients.

Was this patient taking a “Never Drug”?

- Some examples of what we call “Never Drugs” (colloquially)
 - Quinine
 - Meperidine and Codeine
 - Chloral hydrate

- Docusate

Age Ageing. 2016 Nov;45(6):776-782. Epub 2016 Aug 11.

A review of nocturnal leg cramps in older people.

Rabbitt L¹, Mulkerrin EC¹, O'Keeffe ST².

+ Author information

Abstract

Nocturnal leg cramps are common and troublesome, especially in later life, and have a significant impact on quality of life, particularly sleep quality. This article reviews the current state of knowledge regarding the diagnosis, frequency, pathophysiology and management of cramps. Recent evidence suggests that diuretic and long-acting beta-agonist therapy predispose to leg cramps. There is conflicting evidence regarding the efficacy of prophylactic stretching exercises in preventing cramps. Quinine remains the only medication proven to reduce the frequency and intensity of leg cramps. However, the degree of benefit from quinine is modest and the risks include rare but serious immune-mediated reactions and, especially in older people, dose-related side effects. Quinine treatment should be restricted to those with severe symptoms, should be subject to regular review and requires discussion of the risks and benefits with patients.

Gabapentinoids- keeping me up at night

“Gabapentin and Pregabalin for Pain- Is increased Prescribing a Cause for Concern?”

Perspective: Goodman and Brett; NEJM, Aug 3, 2017.

CDC: consider other medications before turning to opioids for chronic noncancer pain

Gabapentinoids for neuropathic pain ...and EVERY OTHER pain too??

Gabapentinoids: prescribed out of desperation?

- Approved for postherpetic neuralgia (gabapentin and pregabalin)
- Fibromyalgia (pregabalin)
- Neuropathic pain from diabetes and spinal cord injuries (pregabalin)

- Noted: increased prescribing for almost ANY type of pain
- Gabapentin was the 10th most commonly prescribed medication in the US in 2016 (64 million prescriptions) and pregabalin (4.4 billion dollars spent)

Gabapentinoids- an absence of robust evidence to support their off-label use

- There is a recent placebo-controlled trial pregabalin was ineffective for patients with painful sciatica
- Sedation, dizziness, cognitive side effects, peripheral edema
- Misuse, abuse, diversion

Avoid reinforcing the treatment of pain through a pharmacologic lens

- Examine how pain affects activity and function
- Set realistic goals
- Manage but not eliminate pain
- Requires expertise in the management of a difficult and emotional symptom
- Requires time, empathy, understanding, and attention

End on a quote

- “...rarely is it a good idea to substitute a big word, (like) deprescribe, when a small one, like stop, would do. But deprescribing is more than just stopping a therapy. It’s more than just an action; it’s a way of thinking, a mindset. It brings to the fore another important verb (and noun)...need. The act of deprescribing offers an opportunity to inject care back into healthcare. Let’s embrace the idea together. Please help me add the new verb to our language.”

Dr. John Mandrola from his editorial on deprescribing in 2014

Questions?

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