



UNIVERSITY
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Rady Faculty of
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Deprescribing: The Solution to Irrational Polypharmacy

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Faculty/Presenter Disclosure

Thomas L. Perry MD, FRCPC

No relationships with commercial interests

I have consulted to plaintiffs in class action and multi-district litigation against pharmaceutical manufacturers for fraudulent, illegal or inappropriate marketing

Mitigating Potential Bias

I try to seek truth and be sure that what I say could withstand cross-examination.

Today's objectives

1. Push us all to move from talk to action in:

- Clinical deprescribing
- Teaching others how to do it
- Identifying barriers to inertia

2. Think harder about what works (or doesn't) to:

- Help young professionals resist irrational polypharmacy
- Encourage sensible deprescribing
- Help patients and families resist Tomfoolery

Practical tricks of the trade

1. Rank medication list quickly by priority:

- **probably useful**
- Irrelevant or uncertain
- **probably/potentially harmful**

2. **Recognize likely drug interactions** (kinetic or dynamic); avoid potentially dangerous ones – e.g. multiple drugs that slow heart rate or impair K⁺ excretion or GFR

3. **Use T ½ elim** to plan safe deprescribing – see examples

4. **Develop strong reflexes to:** unsupported, impractical, or potentially dangerous prescriptions originated by specialists.


How?

3 cases to prove that anyone can:

1. organize a drug list logically, for easier review.
2. consider independently a deprescribing strategy.
3. Cope with uncertainty and user/family objections to discontinuing drugs and to 'Tomfoolery'

DESPITE pressures we all face that encourage **inertia or worse**, including **guideline-based medicine** (evidence for most chronic drug treatments is **often not relevant** to many individuals) and **may even be worsened by EMR.**

Case 1: Consider this woman

- Age 67 with “DM2”
- Chronic rotator cuff injuries
- Started morphine SR and IR 2002 at Work Safe rehab program
- Referred 2016 re “appropriateness” of morphine 70 mg/d (stable dose)  ???
- Also treated for “depression” & “insomnia”

Medication list (alphabetical)

1. Canagliflozin 300 mg/d
2. Celecoxib 200 mg/d
3. Compounded cream (amitriptyline, ketamine, etc.)
4. Cyclobenzaprine 10 mg/d
5. Gliclazide MR 30 mg/d
6. Insulin glargine 30 units bid
7. Metformin 500 mg bid
8. Mirtazapine 30 mg/d
9. Morphine SR 10 mg a.m., 20 mg p.m. (was 70 mg/d)
10. Nabilone 2 mg/d (as 1 mg)
11. Quinine sulfate 300 mg hs
12. Venlafaxine XR 150 mg/d

Medication list - can you rearrange it logically?

For ...

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

For ...

1. _____
2. _____

For ...

1. _____
2. _____
3. _____
4. _____

For ...

1. _____
2. _____
3. _____
4. _____

Her main concerns:

- Morphine SR 20 mg bid + IR 10 mg tid (70 mg/d) “worked really well” for right shoulder pain from “nerve injury”, but cut to 30 mg/d due to CPSBC rule
- Physiotherapy made shoulder worse
- Zopiclone 3.75 mg worked “really well” for sleep, but d/c
- A1C 10.4% last year, but CBG twice/d usually 5-7, almost always < 11, max ever was 17 mM
- Afraid of diabetes – one orthopedic surgeon refused to operate on her foot (“it won’t heal”)
- Drugs expensive: \$4,000/y out of pocket!

Husband's concerns:

- She stays up late at night, writing the story of their foster children
- She then has trouble getting to sleep, but sleeps in - long after he's awake*

Case 1 video(s) will be shown live

What would **YOU** suggest for **this** woman?

Drug	Indication?	Toxicity?	Continue/ adjust?	Stop?
Morphine SR 30 mg/d	Shoulder pain			
Nabilone 2 mg/d				
Celecoxib 200 mg/d	Post foot Sx			Autostop
Cyclobenzaprine 10 mg/d				
Venlafaxine XR 150 mg/d				
Mirtazapine 30 mg/d				
Quinine 300 mg/d				
Canagliflozin 300 mg/d				
Gliclazide MR 30 mg/d				
Insulin glargine 30 units bid				
Metformin 500 mg bid				

Did YOU learn anything from this case?

- Can you trust your own clinical logic?
- More caution about starting any long term drug?
- How to decide about rate of taper?
- Nothing?

Notes: _____

why did she end up getting quetiapine 25 mg and then mirtazapine 30 mg again?

Old doctor's approach: Pontification 2014: probably ineffective – can't compete with guidelines

1. Re-evaluate goals of therapy
2. Apply absolute risk differences
3. Consider simple pharmacology & physiology
4. Avoid unnecessary costs
5. Reassess ongoing value
6. Common sense & Golden Rule
7. Always stop at least 1 drug

therapeutics letter
June - July 2014

THERAPEUTICS INITIATIVE Evidence Based Drug Therapy

Reducing polypharmacy
A logical approach

Polypharmacy is the use of multiple medications by a patient. It is rapidly increasing in affluent populations worldwide, posing an increasing challenge for patients, their families and care providers.^{1,2} From 1998-2008, Canadian seniors taking more than 5 prescription drugs doubled from 13% to 27-30%.^{3,4} A patient taking more than 10 drugs was once an anomaly. Now this applies to 4% of British Columbians age 65 or older and 31% take at least 5 drugs. Percentages are much higher in long term care. See graphs at our website. British Columbia has the lowest per capita drug costs in Canada, 27% below the national average, due in part to lower polypharmacy.⁵ The difference was estimated to be about \$341 million/year in 2013. However, current data suggest that there is ample room to improve.^{6,8} Exuberant prescribing is driven partly by population aging, but also by aggressive marketing and application of chronic disease management guidelines that do not account for the complexities of multi-morbidity.⁹ This affects costs, can worsen health status and often is not genuinely evidence-based.^{8,14} Randomized controlled trials (RCT) mostly study idealized populations and can not reliably detect less common or long term harms, thus underestimating adverse effects of drugs.¹⁵ Potential serious or even life-threatening adverse drug reactions (ADR) are not always considered in routine prescribing. ADR increase with age and the number of prescribed drugs. Even in the Emergency Department, many are not identified^{8,11} and feedback to the prescriber(s) may be ineffectual. Complex medication regimens make it more difficult to prevent acute ADR, assess potential drug interactions, and to recognize chronic but subtle drug toxicity even during professional encounters, let alone for the patient at home. Some advocate multi-disciplinary team approaches or even hospitalization to address this challenge.^{14,16} A Cochrane review of formal interventions in care homes did not find evidence for real world benefits²⁰, whereas another in people > 65 concluded that at least "inappropriate prescribing" and ADR can be reduced.²¹ Using a simple approach based on a formal algorithm, an experiential Israeli geriatrician achieved a 58% reduction in polypharmacy in very-elderly people, a mean reduction of 4.4 drugs per patient.²² A similar approach has also been advocated in Australia.²³

1. Re-evaluate the goals of therapy
"Guideline-based medicine" drives much modern prescribing, but is often based on surrogate outcomes (e.g. A1C, bone density, blood pressure).²⁴ This may relate poorly or not at all to patient values and aspirations. For example, when quality of life clearly trumps longevity, using drugs intended to prevent death can be irrational. Conversely, when survival is paramount, drugs that increase mortality are inappropriate (e.g. antipsychotics in elderly people with dementia). A good starting point is to re-evaluate the goals of therapy. Symptomatic treatments should meet a test of common sense: do this medicine's benefits meaningfully outweigh its harms? Drugs which slightly reduce symptom scores in a population are only worthwhile to the individual if their effect improves the quality of that person's life. If this cannot be demonstrated by a short therapeutic trial, there is no point in persisting.²⁵⁻²⁷ Since all drugs cause significant problems for some people, especially frail elders, symptomatic benefits should clearly outweigh the associated harms. Preventive treatments also warrant reappraisal, in the face of multiple or serious degenerative conditions expected to reduce longevity, are long term preventive strategies still relevant?²⁸

therapeutics letter
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Is a much simpler message better?

**They didn't
know what
was keeping
me alive then**



**But I feel
much more
alive now!**

Deconstructing language can help!

“She **will definitely benefit** from an antidepressant”

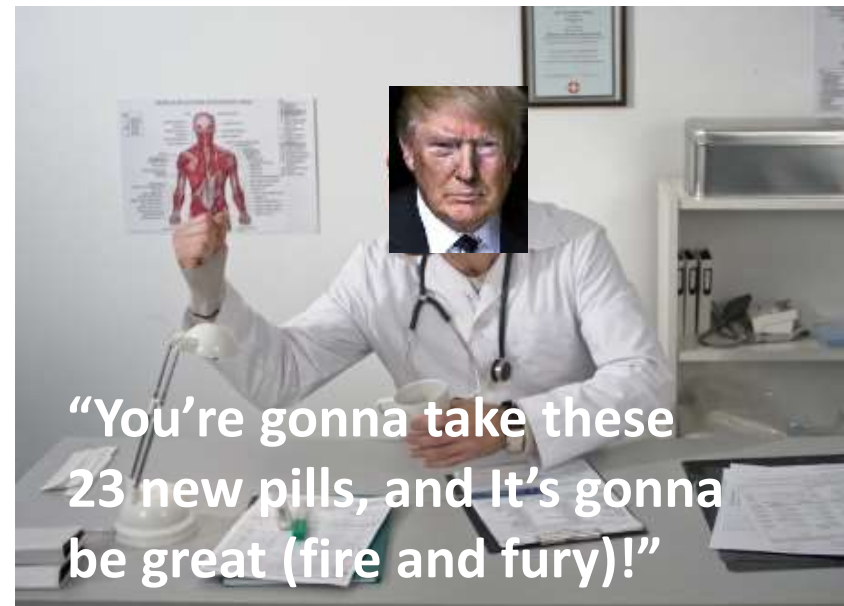
- ??? (probability from RCT \approx 10%)

“His diabetes **should be treated aggressively.**”

- Should we be “aggressive” in health care?

“**YOU** should increase her gabapentin to \geq 2400 mg/d!”

- Why? Probability of benefit is near zero, toxicity \approx certain



Case 2 video(s) will be shown live

Practical tricks of the trade

1. Rank medication list **quickly** by priority:

- **probably useful**
- Irrelevant or uncertain
- **probably/potentially harmful**

2. **Recognize likely drug interactions** (kinetic or dynamic); avoid potentially dangerous ones – e.g. multiple drugs that slow heart rate or impair K⁺ excretion or GFR

3. **Use T $\frac{1}{2}$ elim** to plan safe deprescribing – see example

4. **Challenge rather than worship** unsupported, impractical, or potentially dangerous prescriptions originated by specialists.

Knowing the reason for a drug helps!

Discharging Facility: Winch Memorial Hospital
Facility Address: Bag 999, Hazelton, V0J 1Y0
Facility Phone Number: (250) 842-5211

Additional Discharge Medications	
Details (Drug Name, Dose, Route, Frequency, Reason)	Comments
Lorsartan 25mg PO BID for HTN	Quantity: 30d Refill: <input checked="" type="checkbox"/>
Lorsartan 50mg PO BID (total daily dose 150) for HTN	Quantity: 30d Refill: <input checked="" type="checkbox"/>
(Metformin 500mg PO BID for DMT2	Quantity: ___ Refill: ___
	Quantity: ___ Refill: ___

Reason

Indication-based discharge prescription by FAX – northern BC, 2017
If a tiny hospital can do this – why can't we?

Ranking drugs for symptoms by benefit

It should be easy **for symptoms** if we probe for straightforward answers and **listen**, e.g.:

- **“That one really helps me”**
- “They started them all at once, so I can’t tell!”
- **“I never liked that one, but I really like my ...”**

WHY DON'T WE ASK MORE OFTEN?

Case 3: How would YOU respond to this situation?

85 y/o hospitalized for “alcohol w/d” has “high BP”, osteoporosis, “colitis”, insomnia, chronic pain, etc.

Regular psychotropics:

1. mirtazapine 45 mg/d (h.s.)
2. quetiapine 300 mg/d (h.s.)
3. zopiclone 15 mg/d (h.s.)
4. pregabalin 225 mg/d
(divided doses)

Other drugs:

1. felodipine 2.5 mg/d
2. telmisartan 80 mg/d
3. T4 25 mcg/d
4. rabeprazole 20 mg/d
5. CaCO₃ twice/d
6. Vit D 800 units/d
7. risedronate 35 mg/week
8. KCL 8 mEq twice/d
9. 5'-ASA 6 tablets/d

Practical tricks of the trade

1. Rank medication list quickly by priority:

- probably useful
- Irrelevant or uncertain
- probably/potentially harmful

2. Recognize likely drug interactions (kinetic or dynamic); avoid potentially dangerous ones – e.g. multiple drugs that slow heart rate or impair K⁺ excretion or GFR – or impair the brain!

3. Use $T_{1/2}$ elim to plan safe deprescribing – see example

4. Challenge rather than worship unsupported, impractical, or potentially dangerous prescriptions originated by specialists.

How would YOU respond to this situation?

LOOK AGAIN on the right

Regular psychotropics:

1. mirtazapine 45 mg/d
2. quetiapine 300 mg/d
3. zopiclone 15 mg/d
4. pregabalin 225 mg/d

1. felodipine 2.5 mg/d
2. telmisartan 80 mg/d
3. T4 25 mcg/d
4. **rabeprazole 20 mg/d**
5. **CaCO3 twice/d**
6. **Vit D 800 units/d**
7. **risedronate 35 mg/wk**
8. KCL 8 mEq twice/d
9. 5'-ASA 6 tablets/d

Considering only her psychotropic drugs,
would YOU change anything?

DRUG	STOP	REDUCE	CONTINUE
Mirtazepine 45 mg/d			
Quetiapine 300 mg/d			
Zopiclone 15 mg/d			
Pregabalin 225 mg/d			

Case 3 video(s) will be shown live

Practical tricks of the trade

1. Rank medication list quickly by priority:

- **probably useful**
- Irrelevant or uncertain
- **probably/potentially harmful**

2. **Recognize likely drug interactions** (kinetic or dynamic); avoid potentially dangerous ones – e.g. multiple drugs that slow heart rate or impair K⁺ excretion or GFR

3. Use $T_{1/2}$ elim to plan safe deprescribing – see example

4. **Challenge rather than worship** unsupported, impractical, or potentially dangerous prescriptions originated by specialists.

You think YOUR life is complicated?

Polypharmacy after MVA (frighteningly common)

Young woman after car crash (pain):

1. Lansoprazole 20mg/d
2. Atorvastatin 40mg/d
3. Pregabalin 225mg at bedtime
4. Solifenacin 5mg/d
5. Topiramate 100mg at bedtime
6. Aripiprazole 5mg/d
7. Sertraline 250mg/d
8. Nortriptyline 40mg at bedtime
9. Vortioxetine 20mg at bedtime
10. Trazodone (100mg at bedtime)
11. Zopiclone (7.5mg at bedtime)
12. "prn" Cyclobenzaprine at bedtime
13. "prn: Ketorolac Injectable IM
14. "prn" hydromorphone 1-2 mg
15. "prn" Acetaminophen (paracetamol)
16. "'prn" methocarbamol, THC pills, marijuana

**If this list doesn't
frighten you,
it should!**

**But what to do
about it?**

Hopeless situation???

Maybe not - if we challenge EVERYTHING!

But if we're not the prescriber, it will require some kind of logic and plan ...

So how much time is one human life worth?

Practical tricks of the trade

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4. Challenge rather than worship unsupported, impractical, or potentially dangerous prescriptions originated by specialists.

Let's **try** ranking by priority – quickly!

can anyone **SHOUT OUT** at least 1 to **STOP**?

Psychotropic drugs:

For pain?

- Pregabalin 225mg (? pain)
- Topiramate 100mg (? pain)
- Nortriptyline 40mg bedtime
- Cyclobenzaprine bedtime
- Ketorolac Injectable
- Hydromorphone 1-2mg
- Acetaminophen
- methocarbamol, THC, MJ

For depression?

- Aripiprazole 5mg/d
- Sertraline 250mg/d
- Vortioxetine 20mg/d

More psychotropics:

For insomnia?

- Trazodone 100mg at bedtime
- Zopiclone 7.5mg at bedtime
- ? Nortriptyline 40mg bedtime

Drugs ? to counter AE:

- Lansoprazole 20 mg/d
- Solifenacin 5mg/d

Preventive drugs:

- Atorvastatin

#4 : develop strong reflex responses to “dogma/ignorance alerts”

- “Adding a **third-generation** (...) will improve his (...)”
- “She **needs** to start ... bid”
- “I **strongly recommend** ... to prevent early death.”
- “Dual agent ... is **indicated**.”
- “**Guidelines strongly recommend** ... (Grade A recommendation, weak evidence)”



Do you consider $T_{1/2}$ elimination or likely adverse effects to help you decide?

We may review **briefly** using a video:

- $T_{1/2}$ elim easy to find by internet or drug monograph
- Helps you know whether it's safe to stop something ...
long $T_{1/2}$ elim should not need taper!
- Kidneys more important than liver (except liver failure)

A video may be shown
IF we work fast up to this point ...

Thank you for inviting me

Many members of UBC TI and our students help me think about drugs.

I also acknowledge old-fashioned teachers at McGill and UBC who encouraged me to observe drug effects with my eyes and ears and to think about what I was observing, and why.

**Visitors welcome online and in person:
www.ti.ubc.ca**