LESS IS MORE

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MORE OR LESS

therapeuticseducation.org
medicationmythbusters.com

TO GET A HANDOUT GO HERE
http://therapeuticseducation.org/handouts
I have received no honorarium or research money from the drug industry in the last 23 or so years.

Salary comes through the UBC Faculty of Pharmaceutical Sciences- (legal work)

Premium podcast subscription Best Science (BS) Medicine podcast - therapeuticseducation.org

iOS apps (iPad/iPhone) KidneyCalc and MyStudies - mystudies.org
ME

Mike Allan

BS without the BS
The Agenda

Start by making you the patient

Cardiovascular risk reduction, diabetes, infectious diseases, a variety of symptomatic conditions including heartburn, acute pain etc.

best available evidence, choosing low doses, shared decision making, how to stop medications etc.

PHILOSOPHY - once you “know” the evidence - decision making/doing the right thing/choosing wisely/less is more

The 10 “New” Therapeutic Commandments - evidence, tools, myths

Polypharmacy case

Have fun, engage, ask questions, debate, be open-minded
The Concept for the Concept

**NEVER** use what I’m going to say/recommend on your exams

**ALWAYS** consider these concepts when you are face-to-face with a real live patient
What Will You Do?

You are approximately 45 y/o

You have been diagnosed “properly” with elevated blood pressure

You have tried non-drug measures for 6 months and still your blood pressure remains elevated

QUESTION

ABOVE what blood pressure would YOU take a drug every day for the next 5 years?

What drug and dose would you start with?
What Will You Do?

You are approximately how old you are

You have been diagnosed “properly” with community acquired pneumonia

QUESTION

What drug, dose and duration would you take?
We need minimally disruptive medicine

The burden of treatment for many people with complex, chronic, comorbidities reduces their capacity to collaborate in their care. Carl May, Victor Montori, and Frances Mair argue that to be effective, care must be less disruptive.
antibiotics
thiazides
many vaccines
ACE inhibitors
proton pump inhibitors
H2 receptor antagonists
contraceptives
corticosteroids
beta-agonists
insulin
anesthetics
adrenalin
narcotics
chemotherapy
warfarin

300+ medications

The Selection and Use of Essential Medicines

(including the 17th WHO Model List of Essential Medicines and the 3rd WHO Model List of Essential Medicines for Children)
The BMJ Today: Choosing Wisely makes me happy

7 Jul, 14 | by BMJ

Sometimes we all need cheering up on a Monday morning, and today I couldn’t recommend more highly this parody of “Happy” by Pharrell Williams, which sings the virtues of the Choosing Wisely campaign.

Featuring some very sprightly OAPs and lyrics such as “antibiotics for a cold will do nothing but make you ill, a routine screen for many things is often overkill,” the song perfectly encapsulates the Choosing Wisely campaign, which is building up steam in the USA and Canada.
The Bullshit Asymmetry

the amount of energy needed to refute bullshit is an order of magnitude bigger than to produce it.
“Medical science has made such tremendous progress that there is hardly a healthy human left.”

Aldous Huxley
Thou shalt...

I. Have no bias, except to help patients according to their goals.

II. Always seek knowledge of the benefits, harms, and costs of treatment.

III. Honour balanced sources of knowledge.

IV. Not bow down to treatment targets.

V. Treat according to level of risk not to level of risk factor.

VI. If all else fail, consider watchful waiting.

VII. Not pile one treatment upon another.

VIII. Diligently try to find the best treatment for the individual.

IX. Honour thy elderly patient.

X. Start with the lowest dose possible.

The New Therapeutics

Written by R Lehman, J McCormack, T Perry, A Tejani, J Yudkin
The 10 New Therapeutic Commandments

Have no aim except to help patients according to their goals
Always seek knowledge of the benefits, harms, and costs of treatment
If all else fails consider watchful waiting
Honour balanced sources of knowledge
Treat according to level of risk and not to level of risk factor
Not bow down to treatment targets
Honour thy elderly patient
Not pile one treatment upon another
Diligently try to find the best treatment for the individual
Start with the lowest dose possible
 Thou shalt...

1. Have no aim except to help patients according to their goals

The New Therapeutics

1. Have no aim except to help patients according to their goals

Always seek knowledge of the benefits, harms, and costs of treatment

III. Honour balanced sources of knowledge
IV. Not bow down to treatment targets
V. Treat according to level of risk, not to level of risk factor

VI. Diligently try to find the best treatment for the individual
VII. Honour thy elderly patient
VIII. Start with the lowest dose possible
World of Optimal Therapy

Patient-Centered

Evidence-Based

Interprofessional
“Choice is a gift from the patient to the doctor, not the other way around”
Loss Of The Individual

“This kind of utilitarian medicine that treats every individual as identical can easily erode the stature and autonomy of patients”
What this involves

Listening and not interrupting

Eliciting facts and experiences without selective bias

The sharing of knowledge

Ultimately a joint process of decision-making
“a physician should order a test only if he or she plans to change therapy as a result”

Susan Ott, MD
Professor
Department of Medicine
University of Washington
II. Always seek knowledge of the benefits, harms, and costs of treatment
We are knowledge brokers
Knowing the evidence = Empowerment

Memorise how to do things - difficult and doesn’t require you to think
Have an awareness of the evidence - much easier AND requires you to think
Know what isn’t known
Patient choice - not wrong or right thing
Approach to prevention is very different than it is to symptom control
Knowing the evidence leads to a far more satisfying practice
Top 10 reasons for MD visits

Skin disorders, including cysts, acne and dermatitis
Joint disorders, including osteoarthritis
Back problems
Cholesterol problems
Upper respiratory conditions
Anxiety, bipolar disorder and depression
Chronic neurologic disorders
High blood pressure
Headaches and migraines
Diabetes

Mayo Clinic Proceedings 2013;88:56-67
Top 10 reasons for MD visits

RISK REDUCTION
Cholesterol problems
High blood pressure
Diabetes

SKIN DISORDERS
Cysts, acne and dermatitis

PAIN CONTROL
Joint disorders, including osteoarthritis
Back problems
Headaches and migraines

PSYCH/NEURO
Anxiety, bipolar disorder and depression
Chronic neurologic disorders

INFECTIOUS DISEASES
Upper respiratory conditions
Describing Benefits

The chance of “X”
WITH NO TREATMENT

The chance of “X”
WITH TREATMENT
# Numbers

<table>
<thead>
<tr>
<th></th>
<th>Major coronary events (%)</th>
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<tbody>
<tr>
<td></td>
<td>Primary</td>
</tr>
<tr>
<td>Placebo</td>
<td>5</td>
</tr>
<tr>
<td>Statin</td>
<td>4</td>
</tr>
<tr>
<td>RRR</td>
<td>20</td>
</tr>
<tr>
<td>ARR</td>
<td>1</td>
</tr>
<tr>
<td>NNT</td>
<td>100</td>
</tr>
</tbody>
</table>

Baseline risk

RRR, ARR, NNT

Difference between groups
Penicillin for sore throat

NNT for sore throat at 3 days ~ 6
more effective if Strep + throat swab (RR 0.58 vs 0.78)
NNT for sore throat at 1 week ~ 20
more effective if Strep + throat swab (RR 0.29 vs 0.73)
Symptoms are shortened by ~ 16 hours
NNH for rash or diarrhoea ~10
~1/40,000 severe allergic reaction

Antibiotics for otitis media

NNT for pain at 24 hours ~ ∞? 20?
NNT for pain at 2-3+4-7 days ~ 20
NNT for tympanic membrane perforation ~ 33
NNH for rash/diarrhoea/skin rash ~15
Delayed ABX no difference
Flu Shot

~ 70-90% effective - using antibodies as the diagnosis
~ 60% effective - if use culture endpoints
~ 85% effective - nasal spray in children 6 months to 6 years old

Every year 1-10% adults get the flu

~ 5% - therefore reduced to 1% - less if unmatched

5-20% per year in children

~10% - therefore reduced to 2%

5% down to 2% (1%) in adults

10% down to 4% (2%) in children
## Heartburn

<table>
<thead>
<tr>
<th>Indication</th>
<th>Outcome</th>
<th>Placebo/no treatment (%)</th>
<th>H2RA (%)</th>
<th>PPI (%)</th>
<th>NNT (PPI vs placebo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GERD-like symptoms (CD002095)</td>
<td>Heartburn remission</td>
<td>25-40</td>
<td>55</td>
<td>70*</td>
<td>2-3</td>
</tr>
<tr>
<td>NSAID ulcer prevention (CD002296)</td>
<td>Clinical ulcers over 6-12 months</td>
<td>0.5-2</td>
<td>No studies</td>
<td>No studies</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Endoscopic ulcers at 12 weeks or longer</td>
<td>35</td>
<td>15 high dose H2RA</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>

*high dose provides approximately a 5% absolute increase in benefit*
Pain

The best non-narcotic acute pain killer - dental pain, headache etc

NSAID plus acetaminophen 1000 mg

Naproxen 250 mg / Ibuprofen 400 mg

FULL glass of water - lie on right side
Neuropathic pain
post herpetic neuralgia/diabetic neuropathy

Gabapentin

Moderate improvement 43% (G) vs 26% (P) - NNT~6
Substantial improvement 31% (G) vs 17% (P) - NNT~7

dizziness, sedation, confusion, ataxia, peripheral edema - NNH ~8

CD007938

A test of benefit/harm can be made after 1-2 days at a low dose (100-900 mg/day)

Benefit is unlikely to increase with higher doses or longer treatment
Erectile dysfunction

“Successful” attempts in the sildenafil group ≈ 70%

“Patients” who “responded” in the placebo group ≈ 20%

7/10 “patients” will “respond” each time to sildenafil

2 of these 7 “responded” not because of the drug - NNB of 2

10% headache, 15% flushing, 10% dyspepsia - <1% stopped drug due to side effects

Depression

Patients who respond in the SSRI group ≈ 60%


Patients who respond in the placebo group ≈ 45%

6/10 patients will respond to an antidepressant

4-5 of these 6 improved not because of the drug - NNT of 6-7
Accutane/Epuris
10, 20 and 40 mg capsules

Therapeutic Choices - 0.5-2 mg/kg/day for 12-16 weeks
60 kg = 30 to 120 mg/day
“Low dose” was considered 0.5 mg/kg/day and there was a cumulative dose of 120-150 mg/kg

Start with 10 mg a day and continue until all lesions are gone and then continue for 2-4 months at 5 mg/day or 10 mg every other day

Indian J Dermatol Venereol Leprol 2010;76:7-13

ORIGINAL ARTICLE

Isotretinoin 5 mg daily for low-grade adult acne vulgaris – a placebo-controlled, randomized double-blind study

Journal of the European Academy of Dermatology and Venereology 2013
Misleading Terminology

“Significant”
“Use with caution”
“Use with extreme caution”
“Monitor closely”
“High risk”
“Very high risk”
“Really !@#$% high risk”
Beware of “qualitative quantification”

<table>
<thead>
<tr>
<th>Qualitative descriptor</th>
<th>EU assigned frequency</th>
<th>Mean frequency estimated by participants (n=200)</th>
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<tbody>
<tr>
<td>Very common</td>
<td>&gt;10%</td>
<td>65% (24·2)</td>
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<tr>
<td>Common</td>
<td>1–10%</td>
<td>45% (22·3)</td>
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<tr>
<td>Uncommon</td>
<td>0·1–1%</td>
<td>18% (13·3)</td>
</tr>
<tr>
<td>Rare</td>
<td>0·01–0·1%</td>
<td>8% (7·5)</td>
</tr>
<tr>
<td>Very rare</td>
<td>&lt;0·01%</td>
<td>4% (6·7)</td>
</tr>
</tbody>
</table>

Values are mean (SD).

Lancet 2002;359:853–54
III. HONOUR BALANCED SOURCES OF KNOWLEDGE
LOVE THEM!
They are my BFF
Trip Database - a clinical search tool designed to allow health professionals to rapidly identify the highest quality clinical evidence for clinical practice.

Cochrane Library - full-text access, regularly updated systematic reviews by the Cochrane Collaboration. Includes completed systematic reviews and review protocols in development.

OvidSP-Embase - indexes biomedical literature, with strengths in pharmaceutical information and the European and Japanese literature.
Tools for Practice

Sponsored by: Alberta College of Family Physicians
http://www.acfp.ca/tpf_original.php
Every two weeks: <350 words Evidence-based review of a focused clinical question
Selected articles in: Canadian Family Physician and on PubMed
How to Critically Appraise an RCT in 10 minutes - free iBook

How to Critically Appraise an RCT In 10 Minutes

Description

If the thought of reviewing a clinical study seems like an insurmountable task, this book was developed to show you how to critically evaluate a randomized controlled trial in around 10 minutes.
IV. NOT BOW DOWN TO TREATMENT TARGETS
Outcomes Are Not Created EQUAL

Surrogate Markers

Ask yourself: Can a patient feel the outcome?
If No - it is a surrogate marker
20 “NEGATIVE” STUDIES IN A ROW

LIPIDS
AIM-HIGH, HPS2-THRIVE (niacin)
ACCORD (fibrates)
dalOUTCOMES (dalcetrapib)
STABILITY (darapladib)

DIABETES
ACCORD, ADVANCE, VADT
(aggressive A1c lowering)
ROADMAP (olmesartan)
ORIGIN (insulin)
SAVOR-TIMI 53 (saxagliptin)
EXAMINE (alogliptin)
ALECARDIO (aleglitazar)

BLOOD PRESSURE
ALTITUDE (aliskiren)
VALISH, AASK, ACCORD
(aggressive BP lowering)

GENERAL
ACTIVE (irbesartan/afib)
CRESCEPDO (rimonabant)
VISTA-16 (varespladib)

182,000+ patients
FINALLY!!!!

EMPA-REG OUTCOME (empagliflozin) -1.6% ARR over 3.1 years
SPRINT (120mmHg vs 140mmHg), but no data
Risk of future illness
CVD risk/benefit
(most people don’t benefit despite a lifetime of treatment)

Assume a person’s lifetime risk of CVD is that of a male with two CVD risk factors - roughly 50% (NEJM 2012;366:321-9)

Assume that with multiple risk factor modification we can reduce that risk relatively by 60% (VERY optimistic)

Risk goes from 50% ➔ 20%

30% of individuals BENEFIT

70% DO NOT despite a LIFETIME of treatment
Risk MARKERS - lots
(risk assessment)

VS

Risk FACTORS - few
(treat)
Lower BP in patients with average DBP of 121 mmHg - 19 months

Placebo - 70 patients - 27 CVD events - 4 deaths

Drug - 73 patients - 2 events - 0 deaths
Level A = recommendation based on evidence from multiple randomized trials or meta-analyses

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

“The Expert Panel was unable to find RCT evidence to support titrating cholesterol-lowering drug therapy to achieve target LDL–C or non-HDL-C levels, as recommended by ATP III”
Effectiveness of Estrogens for Therapy of Myocardial Infarction in Middle-Age Men

10 mg versus placebo - over 5 years
Cardio/renal event - first 3 months - 22% vs 5% - but mortality lower at 5 years therefore a new trial suggested “Feminizing effect” - 40% vs 30%

The Coronary Drug Project
Initial Findings Leading to Modifications of Its Research Protocol
The Coronary Drug Project Research Group

5 mg versus placebo - over 18 months
Definite non-fatal MI - 6.2% vs 3.2%
Pulmonary embolism - 1.5% vs 0.4%
Excessive shopping - 80% vs 3%
Overdiagnosis/overtreatment =
the diagnosis/treatment of a condition
which a person fully informed by the
best available evidence would not want.
Real “Targets”

FOR RISK REDUCTION
Patient has had the benefits and risks of therapy explained to them and they have made a shared-decision

FOR SYMPTOM CONTROL
Patient has received the least expensive therapy at the lowest dose that effectively controls their symptoms
# T2DM - Lifetime Treatment Benefits - absolute risk reduction

<table>
<thead>
<tr>
<th>Age</th>
<th>ESRD</th>
<th>Vision Loss</th>
<th>Amputation</th>
<th>First MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>6.5</td>
<td>2.1</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>55</td>
<td>4.2</td>
<td>1.6</td>
<td>2.2</td>
<td>4.0</td>
</tr>
<tr>
<td>65</td>
<td>2.1</td>
<td>1.0</td>
<td>1.5</td>
<td>3.7</td>
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<tr>
<td>75</td>
<td>0.7</td>
<td>0.5</td>
<td>0.8</td>
<td>2.7</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>ESRD</th>
<th>Vision Loss</th>
<th>Amputation</th>
<th>First MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>1.3</td>
<td>0.4</td>
<td>0.4</td>
<td>1.0</td>
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<tr>
<td>55</td>
<td>0.7</td>
<td>0.2</td>
<td>0.3</td>
<td>0.8</td>
</tr>
<tr>
<td>65</td>
<td>0.3</td>
<td>0.1</td>
<td>0.2</td>
<td>0.6</td>
</tr>
<tr>
<td>75</td>
<td>0.1</td>
<td>0</td>
<td>0.1</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**UKPDS - most optimistic**

Figure 2. Sensitivity Analysis: Changes in Quality-Adjusted Life Years (QALYs) per 100 Treatment Years

Dysutility Estimate
- Pill daily: 0.001
- Insulin: 0.02-0.12
- Weight gain: 0.04
- GI adv effe: 0.04

Variability in gains in QALYs from 1% reduction in hemoglobin A1c (HbA1c) level for various age, utility, and starting HbA1c values.
“Pre-diabetes could be defined as a risk factor for developing a risk factor.”

Yudkin J, Montori V
Risk estimation

no mention or discussion of the magnitude, in
relative or absolute terms, of any adverse clinical endpoints associated with elevated glucose
Impact of treatment

no mention of the magnitude with regards to retinopathy/kidney disease/neuropathies

CVD - “16% reduction in events” and “reductions in MI” (15% sulfonyl/insulin, 33% met) and “in all-cause mortality (13% and 27%, respectively) from the UKPDS/10 year follow-up

“every HbA1c reduction of 1% may be associated with a 15% relative risk reduction in nonfatal myocardial infarction, but without benefits on stroke or all-cause mortality” and a 9% “reduction in major CVD outcomes”
Potential Harms

12 classes of medications mentioned

~50 disadvantages/harms are listed in tables

nowhere in the tables, and only twice in the documents, are absolute numbers for side effects provided (SGLT2 inhibitors/mycotic infections and DPP-4/heart failure)
Their response

“would like to thank McCormack et al for their thoughtful letter regarding the American Diabetes Association’s Standards of Medical Care in Diabetes”

“agrees that shared decision making is a valuable aspect of diabetes care … that process would be incredibly labor intensive and would make the Standards long and unwieldy”

“Clinical guidelines are the foundation for evidence-based medicine”
V. Treat according to level of risk and not to level of risk factor
Evidence-based risk communication

“There is likely no single best method of communicating probabilities to patients but rather several good options with some better suited to certain risk scenarios.”

Ann Intern Med 2014;161:270-80
Recommended approaches

GENERAL SUGGESTIONS - these are “relative”
use percentages or natural frequencies(numerator/denominator)
use absolute terms
add bar graphs or icon arrays
use incremental risk format with icon arrays in the same array

- avoid use of NNTs
  if use relative risks add baseline risks

Ann Intern Med 2014;161:270-80
## Cardiovascular Risk/Benefit Calculator

Please provide feedback and suggestions to james.mccormack@ubc.ca. For more detailed information and acronym definitions etc see the FAQ. For important calculator caveats click here.

### Risk Time Period
- **10 years**

### Age
- **50 years**

### Gender
- Male
- Female

### Smoker
- Yes
- No

CVD risk is reversed after 5-10 years of no smoking

### Diabetes
- Yes
- No

### Systolic Blood Pressure
- **120 mmHg**
  - 120 mmHg is used for baseline risk

### Total Cholesterol
- **3 mmol/L**
  - 3 mmol/L is used for baseline risk.
  - Click to change to mg/dL

### HDL Cholesterol
- **1.3 mmol/L**
  - 1.3 mmol/L is used for baseline risk.

### Relative Benefit: 0%**
Benefit often has nothing to do with the effect on the surrogate marker. At present, you can only select one intervention at a time.

- **Physical Activity**
- Mediterranean Diet vs Low fat
- BP meds (not atenolol/doxazosin)
- Statins, Fibrates, Niacin
- Ezetimibe, Metformin
- Sulfonylureas, Insulins, Glitazones
- GLPs, DPP-4i, Meglitinides

### Benefit Estimate Details

#### Family History of Early CHD
- If CHD in men < 55 years, women < 65 years - increase risk by 50%. If no family history - decrease estimates by 33%.

#### Adjust Overall Risk
- **100%**
  - Use to adjust risk based on family history or if patient is at a lower/higher risk than the Framingham cohort. See the FAQ for guidance.

### ASCVD

#### Event Rates
- **97.6%** No events
- **2.4%** Baseline events using baseline factors
- **0.0%** Additional events - "caused" by risk factors over baseline
- **0.0%** Benefits - will not have an event because of "treatment"

#### NNT
- **∞** Number needed to treat

As with all risk calculators, calculated risk numbers are +/- 5% at best. More information.

---

[http://cvdcalculator.com](http://cvdcalculator.com)
SPARC - Stroke Prevention in Atrial Fibrillation Risk Tool
for estimating risk of stroke and benefits & risks of antithrombotic therapy in patients with chronic atrial fibrillation

references/notes
version 6.21, March 2013
Developed by Peter Loewen, ACPR, Pharm.D., FCSHP
peter.loewen@ubc.ca

In your patient with atrial fibrillation, which of the following stroke or bleeding risk factors are present?

CHADS2 CRITERIA
- CHF/LV dysfunction (diagnosed at any time in the past)
- Hypertension (controlled or uncontrolled)
- Age > 75
- Diabetes (Type I or II) controlled or uncontrolled
- TIA or stroke at any time in the past

CHADS2 SCORE (0-6): 0

CHA2DS2-VASc CRITERIA
- Prior MI, peripheral artery disease, or aortic plaque
- Age 65-75
- Female

CHA2DS2-VASc SCORE (0-9): 0

HAS-BLED CRITERIA*
- Abnormal renal function
- Abnormal liver function
- History of major bleeding (any cause)
- History of labile INR (time in therapeutic range <60%)
- Current “excess” use of alcohol
- Currently taking antiplatelet drug(s) or NSAID(s)

HAS-BLED SCORE (0-9)*: 0

*no studies have observed major bleeding in patients with score>5, so these must be interpreted as “risk probably >10%”.

---

PERCENT PER YEAR

<table>
<thead>
<tr>
<th>THERAPY</th>
<th>Stroke / Embolism</th>
<th>Major Bleeding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHADS2</td>
<td>CHA2DS2-VASc</td>
</tr>
<tr>
<td>NO THERAPY</td>
<td>1.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>ASPIRIN</td>
<td>0.9%</td>
<td>0.5%</td>
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<tr>
<td>ASPIRIN+CLOP</td>
<td>0.7%</td>
<td>0.4%</td>
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<tr>
<td>WARFARIN</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>DABIGATRAN 110</td>
<td>0.4%</td>
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<tr>
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<tr>
<td>RIVAROXABAN</td>
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<tr>
<td>APIXABAN</td>
<td>0.3%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

http://www.sparctool.com
VI. If all else fails consider watchful waiting
Watchful Waiting

Many patients want advice and reassurance
Repeat blood pressures, cholesterols, glucose, bone densities - TRICKY but…
“Watchful waiting” - for BPH/prostate related symptoms

Alpha blockers change symptoms
irritative (frequency, nocturia, burning, urgency, or urge incontinence) or
obstructive (hesitancy, weak stream, dribbling, incomplete voiding, or retention)
by 3 point on a 35 point scale - considered slightly improved

Upper respiratory tract infections
## Scandinavian Prostate Cancer Group Study Number 4 (SPCG-4)

<table>
<thead>
<tr>
<th></th>
<th>Radical prostatectomy</th>
<th>Watchful waiting</th>
<th>Control group</th>
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<tbody>
<tr>
<td>Death at 18 years &lt;65</td>
<td>40</td>
<td>66</td>
<td>N/A</td>
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<tr>
<td>Androgen deprivation &lt;65</td>
<td>44</td>
<td>73</td>
<td>N/A</td>
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<td>Death at 18 years &gt;65</td>
<td>70</td>
<td>72</td>
<td>N/A</td>
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<tr>
<td>Androgen deprivation &gt;65</td>
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<tr>
<td>Distress from erectile dysfunction</td>
<td>48</td>
<td>36</td>
<td>37</td>
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<tr>
<td>Urinary leakage once a day or more</td>
<td>41</td>
<td>11</td>
<td>3</td>
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<td>Regular use of protective aid</td>
<td>54</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>Nocturia</td>
<td>49</td>
<td>63</td>
<td>42</td>
</tr>
</tbody>
</table>

Delayed prescriptions for sore throats and otitis media reduces the use of antibiotics far more than education about inappropriate antibiotic use.

Upper respiratory tract infections
93% down to 32% - 14% still get them if you don’t initially prescribe an antibiotic

Urinary tract infections
97% down to 77%

“Most community acquired infections still respond to the same antibiotics that have been used for decades and many guidelines still support their use”
VII. NOT PILE ONE TREATMENT UPON ANOTHER
L.R. (a Family MD)
Mid-Feb

Her Grandmother - 90 year old very frail female

History of a. fib, hypertension, angina, congestive heart failure, familial tremor, macular degeneration and recently diagnosed with diabetes.

Blood sugars running 8-15 prior to treatment

Hb A1C - 8.3

Never smoked

Suffered a compression fracture of a thoracic vertebrae in the fall

A lung mass not yet diagnosed - elected not to proceed with the bronchoscopy

Echocardiogram from the fall - not much of anything

Clinically she gets tachycardia and short of breath walking 15 feet

HR 81

BP sitting 139/65

BP standing after 1 minute 154/73 and heart rate 73

---

<table>
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<th>20 regular meds/4 PRNs</th>
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<tr>
<td>Gliclazide 30mg daily</td>
</tr>
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<td>Potassium chloride 600mg daily</td>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Zopiclone 3.75mg daily</td>
</tr>
<tr>
<td>Sennoside 12mg daily</td>
</tr>
<tr>
<td>Nitro patch 0.4mg qhs</td>
</tr>
<tr>
<td>Atrovent</td>
</tr>
<tr>
<td>Flovent</td>
</tr>
<tr>
<td>PRN Ativan 0.5 mg sl for anxiety/SOB</td>
</tr>
<tr>
<td>PRN Nitro spray</td>
</tr>
<tr>
<td>PRN Hydromorphone 1mg</td>
</tr>
<tr>
<td>PRN Gravol</td>
</tr>
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Suffered a compression fracture of a thoracic vertebrae in the fall.

A lung mass not yet diagnosed - elected not to proceed with the bronchoscopy.

Echocardiogram from the fall - not much of anything

Clinically she gets tachycardia and short of breath walking 15 feet

HR 81
BP sitting 139/65
BP standing after 1 minute 154/73 and heart rate 73
Apart from her family doctor cutting her hydromorphone by 1/3 and putting her into opioid withdrawal 2 weeks ago, she is feeling much better (after analgesics returned to normal).

She feels less tired and her heart races less when she has to walk anywhere. She is definitely more alert and less confused.

In 4 weeks they are going to re-evaluate her BP and consider decreasing valsartan or trying to decrease metoprolol.

---

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- Flovent
- PRN Ativan 0.5 mg sl for anxiety/SOB
- PRN Nitro spray
- PRN Hydromorphone 1mg
- PRN Gravol

**5 regular meds/5 PRNs**
- Metoprolol 100mg twice daily
- Furosemide 40mg daily
- Valsartan 80mg daily
- Hydromorphone 3mg twice daily
- Warfarin 3mg daily
- PRN Senosside 12mg daily
- PRN Nitro patch 0.4mg qhs
- PRN Ativan 0.5 mg sl for anxiety/SOB
- PRN Hydromorphone 1mg
- PRN Zopiclone 1/4 of 7.5mg

March 7

April 1
## Quality of life comparisons

<table>
<thead>
<tr>
<th>Condition</th>
<th>QOL utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild stroke</td>
<td>0.7</td>
</tr>
<tr>
<td>Angina</td>
<td>0.64</td>
</tr>
<tr>
<td>Diabetic neuropathy</td>
<td>0.66</td>
</tr>
<tr>
<td>Comprehensive diabetes care</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Diabetes Care 2007;30:2478-83
Guidelines and the Law

“As per the Canadian Medical Association Handbook on Clinical Practice Guidelines, guidelines should NOT be used as a legal resource in malpractice cases as “their more general nature renders them insensitive to the particular circumstances of the individual cases.”
“Despite any other enactment, evidence of an apology made by or on behalf of a person in connection with any matter is not admissible in any court as evidence of the fault or liability of the person in connection with that matter”
How to decrease chance of lawsuits

1. BC has an apology law - So apologise!!!
2. Put in place something that will prevent the error in the future
3. Don’t be a JERK
4. If there is negligence - $$$$$$$$$$$
VIII. DILIGENTLY TRY TO FIND THE BEST TREATMENT FOR THE INDIVIDUAL
We Are All Individuals

Every patient is an “n of 1” study
Every treatment is an experiment
IX. HONOUR THY ELDERLY PATIENT
The Elderly

Consider that renal and liver function are 50% at best

Symptoms key!!!

Life expectancy
  Statins
  Aspirin
  Warfarin

Heart failure

Inhalers for COPD
X. START WITH THE LOWEST DOSE POSSIBLE
Size really does matter

Your patient
Is bigger better? An argument for very low starting doses

James P. McCormack PharmD, G. Michael Allan MD, Adil S. Virani PharmD

CMAJ, January 11, 2011
A sample of RCT Evidence

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.25 mg hydrochlorothiazide</td>
<td>first marketed at 50 to 200 mg daily</td>
</tr>
<tr>
<td>6.25 mg captopril</td>
<td>25 mg PO TID is still a commonly recommended initial starting dose for hypertension</td>
</tr>
<tr>
<td>25 mg sildenafil (Viagra)</td>
<td>effective dose for erectile dysfunction</td>
</tr>
<tr>
<td>25 mg sumatriptan (Imitrex)</td>
<td>works as well as 100 mg</td>
</tr>
<tr>
<td>25 mg daily fluoxetine (Prozac)</td>
<td>similar effects to those seen at 20 mg and 40 mg daily</td>
</tr>
<tr>
<td>5 mg daily fluoxetine (Prozac)</td>
<td></td>
</tr>
<tr>
<td>0.25 mg ezetimibe (Ezetrol)</td>
<td>1/40th of the recommended initial starting dose provides 50% of the LDL lowering effect</td>
</tr>
<tr>
<td>15 mg elemental iron daily</td>
<td>as effective for anemia in the elderly as 50 mg and 150 mg with a lower incidence of side effects</td>
</tr>
<tr>
<td>150 mg daily bupropion (Zyban)</td>
<td>produces the same rate of smoking cessation at one year as 300 mg daily (1.0 mg BID)</td>
</tr>
<tr>
<td>0.5 mg BID varenicline (Champix)</td>
<td></td>
</tr>
<tr>
<td>10 mg atorvastatin</td>
<td>produces 2/3 of the effect on cholesterol as that seen with an 80 mg (8-fold increase) dose</td>
</tr>
<tr>
<td>200 mg ibuprofen (Motrin)</td>
<td>as effective as 400 mg for migraine headache</td>
</tr>
<tr>
<td>25 mg ranitidine (Zantac)</td>
<td>as effective as 125 mg for heartburn relief</td>
</tr>
<tr>
<td>1.8 mg colchicine</td>
<td>as effective as 4.8mg for acute gout with less adverse events</td>
</tr>
</tbody>
</table>
Doxepin (Sinequan)

Depression - start 25-50 mg - optimal 75mg -150mg up to 300mg

Doxepin in the Treatment of Primary Insomnia: A Placebo-Controlled, Double-Blind, Polysomnographic Study

“The results support the effectiveness of low doses (25-50 mg) of doxepin to improve sleep”

Efficacy and Safety of Three Different Doses of Doxepin in Adults with Primary Insomnia

All three doses worked better than placebo

AND

NO side effects over placebo

A recommended low dose was still 25-50 times TOO HIGH
Thou shalt...

The New Therapeutics

I have no aim except to help patients according to their goals.
II Always seek knowledge of the benefits, harms, and costs of treatment.
III Honour balanced sources of knowledge.
IV Not bow down to treatment targets.
V Treat according to level of risk not to level of risk factor.
VI If ill, consider watchful waiting.
VII Not pile one treatment upon another.
VIII Diligently try to find the best treatment for the individual.
IX Honour thy elderly patient.
X Start with the lowest dose possible.
Shared Decision Evidence
Common Sense
Less Is More
Low Dose
Happy
BS Medicine
GET ABOARD THE BAND WAGON
Happy Skepticism Choice
Skepticism Wise
Less More
Low Dose Shared Decision Evidence