“Choice is a gift from the patient to the doctor, not the other way around”

BMJ 2000;320:874

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”
Quality of life comparisons

<table>
<thead>
<tr>
<th></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

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

**RISK REDUCTION**
- Cholesterol problems
- High blood pressure
- Diabetes

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

**SKIN DISORDERS**
- Cysts, acne and dermatitis

**PSYCH/NEURO**
- Anxiety, bipolar disorder
- 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>
</tr>
</thead>
<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
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/skinrash ~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%
40% in primary care

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

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>
</tr>
</thead>
<tbody>
<tr>
<td>Very common</td>
<td>&gt;10%</td>
<td>65% (24-2)</td>
</tr>
<tr>
<td>Common</td>
<td>1–10%</td>
<td>45% (22-3)</td>
</tr>
<tr>
<td>Uncommon</td>
<td>0.1–1.1%</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

LOVE THEM!
They are my BFF

Google

Google scholar

Tools for Practice

Sponsored by: Alberta College of Family Physicians
http://www.acfp.ca/tfp_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

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

Trip Database - a clinical search tool designed to allow health professionals to rapidly identify the highest quality clinical evidence for clinical practice
Outcomes Are Not Created EQUAL Surrogate Markers

Ask yourself: Can a patient feel the outcome?
If No - it is a surrogate marker

Overdiagnosis/overtreatment = the diagnosis/treatment of a condition which a person fully informed by the best available evidence would not want.

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"

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

http://cvdcalculator.com
http://www.sparctool.com
Watchful Waiting

Many patients want advice and reassurance
Repeat blood pressures, cholesterol, glucose, bone densities
“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

Minimally Disruptive Medicine

Establish burden of therapy
Encourage coordination in clinical practice
Acknowledge comorbidity in clinical evidence
Prioritize from the patient perspective

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.”

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>
</tr>
</thead>
<tbody>
<tr>
<td>Death at 18 years &lt;65</td>
<td>40</td>
<td>66</td>
<td>N/A</td>
</tr>
<tr>
<td>Androgen deprivation &lt;65</td>
<td>44</td>
<td>73</td>
<td>N/A</td>
</tr>
<tr>
<td>Death at 18 years &gt;65</td>
<td>70</td>
<td>72</td>
<td>N/A</td>
</tr>
<tr>
<td>Androgen deprivation &gt;65</td>
<td>41</td>
<td>63</td>
<td>N/A</td>
</tr>
<tr>
<td>Distress from erectile dysfunction</td>
<td>48</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>Urinary leakage once a day or more</td>
<td>41</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<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>


“Most community acquired infections still respond to the same antibiotics that have been used for decades and many guidelines still support their use”

Delayed prescriptions
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”

“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”

“Most community acquired infections still respond to the same antibiotics that have been used for decades and many guidelines still support their use”

Most community acquired infections still respond to the same antibiotics that have been used for decades and many guidelines still support their use

“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”
We Are All Individuals

Every patient is an “n of 1” study
Every treatment is an experiment

The Elderly

Consider that renal and liver function are 50% at best
Symptoms key!!!
Life expectancy

Statins
Aspirin
Warfarin
Heart failure
Inhalers for COPD

A sample of RCT Evidence

<table>
<thead>
<tr>
<th>Drug</th>
<th>Effect</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>5 mg daily fluoxetine (Prozac)</td>
<td>similar effects to those seen at 20 mg and 40 mg daily</td>
</tr>
<tr>
<td>0.25 mg ezetimibe (Ezalor)</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>as effective as 400 mg for migraine headache</td>
</tr>
<tr>
<td>10 mg atorvastatin</td>
<td>as effective as 125 mg for heartburn relief</td>
</tr>
<tr>
<td>200 mg ibuprofen (Motrin)</td>
<td>as effective as 4.8 mg for acute gout with less adverse events</td>
</tr>
<tr>
<td>25 mg ranitidine (Zantac)</td>
<td>as effective as 150 mg daily</td>
</tr>
<tr>
<td>1.8 mg colchicine</td>
<td>as effective as 4.8 mg for acute gout with less adverse events</td>
</tr>
</tbody>
</table>

Doxepin (Sinequan)

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

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

"Start 25-50 mg - optimal 75mg - 150mg up to 300mg"

Doxepin in the Treatment of Primary Insomnia: A Placebo-Controlled, Double-Blind, Polysonographic Study
J Clin Psychiatry
2001;62:453-63

Sleep 2007; 30: 1555–61

Efficiency and Safety of Doxepin in the Management of 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