CEBM

www.cebm.net

1-day workshop on Evidence-Based Practice November 26th 2010

Dr Carl Heneghan

Clinical Reader, University of Oxford

Director CEBM

UNIVERSITY OF OXFORD

Developing Evidence-Based Practice?

Carl Heneghan MA, MRCGP
Centre for Evidence Based Medicine
University of Oxford

Start	Topic
9:15	**Plenary**: What is Evidence-based practice (Carl Heneghan)
10:00	**Group Tutorial**: Asking well-formulated questions
10:55	***Morning Tea***
11:15	**Plenary**: Finding the best evidence (searching basics) - **Nia Roberts**
11:30	**Lab Tutorial**: Cochrane and PubMed Searching (hands-on)
1.00	*Lunch*
1:45	**Plenary**: Rapid Critical Appraisal of intervention studies (Carl Heneghan)
2:30	**Small Group Tutorial**: Followed by group work critical Appraisal of intervention studies (Ami Banerjee and Carl Heneghan)
3:30	*Afternoon Tea*
3:45	**Small Group Tutorial**: Critical Appraisal of intervention studies (Ami Banerjee and Carl Heneghan)
4:30	Where to from here? / Evaluation / Close

dit View History Bookmarks Tools Help

http://www.cebm.net/index.aspx?o=1021

Google

Player PubMed Home CEBM > Home TrustTheEvidence.net... Evidence-based Twibe... NIHR - National Instit... CATbank | Evidence B...

stTheEvidence.net (cebmblog) on T... CEBM > Resource Centre > Over...

Home About the CEBM Publications Training & Education EBM Tools Resource Centre Blog Contact Search

CEBM
CENTRE FOR EVIDENCE BASED MEDICINE

UNIVERSITY OF OXFORD

Quickfinder Go

CEBM > Resource Centre > Overview

- Powerpoint Presentations
- Commissioned Workshops
- EBM Directory
- EBM Library
- Discussion Group
- Glossary

Welcome to the CEBM Resource Centre

Our resource centre contains information and practical resources to help you practice and teach evidence-based medicine including FREE CEBM powerpoint presentations from our workshops and courses, online resources and the EBM discussion group where you can exchange information with others working with evidence-based medicine.

PowerPoint Presentations

The CEBM offers **free** copies of powerpoint slides from past workshops, training courses and conferences. We just ask that you credit us at the CEBM when you use them! Choose one of these favourites or click here to see our complete archive.

How do we nurture Evidence-Based Practice (3MB) **Paul Glasziou**
Interpreting diagnostic tests (1.2MB) **Carl Heneghan**
Introduction to teaching evidence-based health care (380kB) **Sharon Straus**
Evidence in Practice Projects (3.5MB) **Carl Heneghan**
Making Evidence More Accessible Using Pictures (1.8MB) **Rod Jackson**

More Powerpoint Presentations

EBM Directory

This is a list of useful sites with an EBM focus. They are grouped into the following categories:

Evidence-based health care
Email discussion lists
Non-english language EBHC sites
Journal clubs and CAT banks online

EBM Discussion Group

Join the evidence-based healthcare discussion group, an important forum for exchange of ideas, advice and resources.

JISCmail
National Academic Mailing List Service

What's New

The PAUL GLASZIOU FILES
a series of interviews with proponents of evidence-based medicine and evidence-based practice from around the world
More Information

Workshop on Evidence-Based Practice 1 day Workshop
27th November 2009
More Information

CEBM Workshop Videos

Paul Glasziou
EBM in Practice

Carl Heneghan
Diagnostic Tests

I am here because?
•I wanted 3 days of work
•Formulate an answerable questions

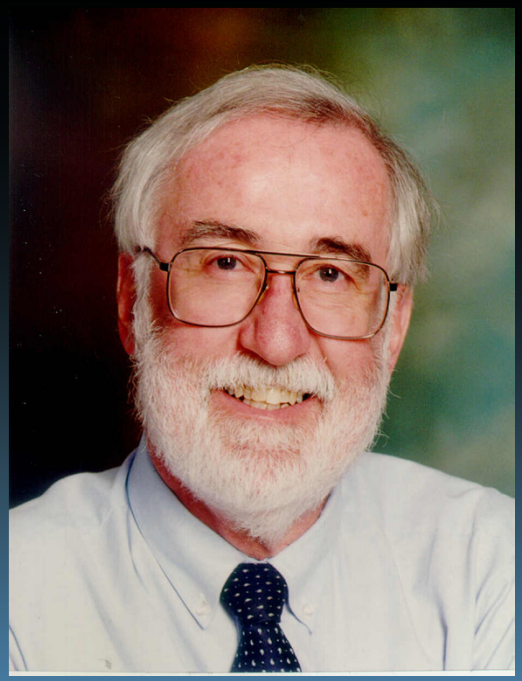
The aim of today

1. To understand what is EBP
2. To recognize questions
3. To develop focussed clinical questions
4. To find answers to your clinical questions
5. To assess the validity of an RCT
6. To assess the benefits and harms

What is Evidence-Based Medicine?

www.cebm.net

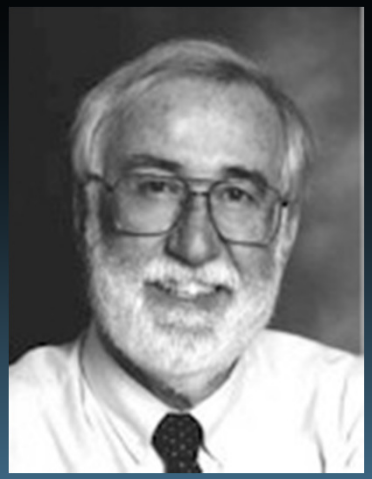
"Evidence-based medicine is the integration of best research evidence with clinical expertise and patient values"



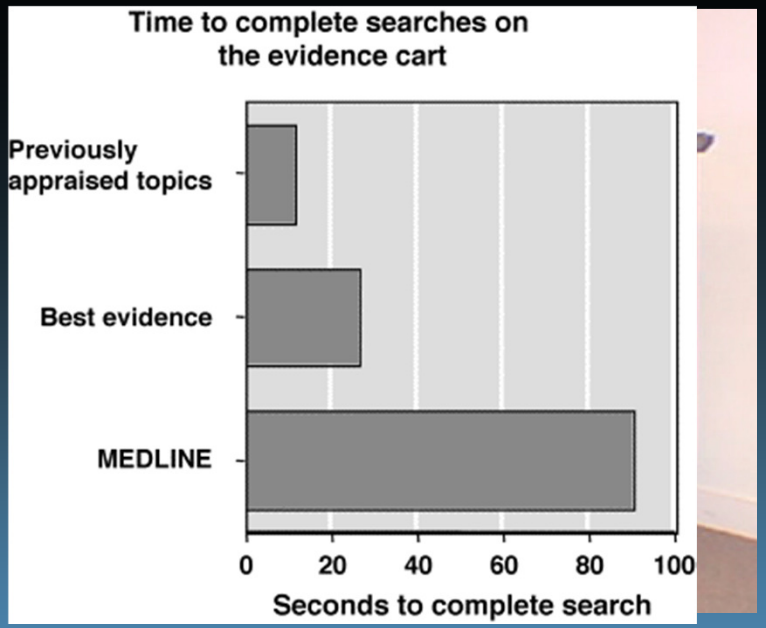
"Just in Time" learning
The EBM Alternative Approach

www.cebm.net

- Shift focus to current patient problems ("just in time" education)
  - Relevant to YOUR practice
  - Memorable
  - Up to date
- Learn to obtain best current answers



Dave Sackett



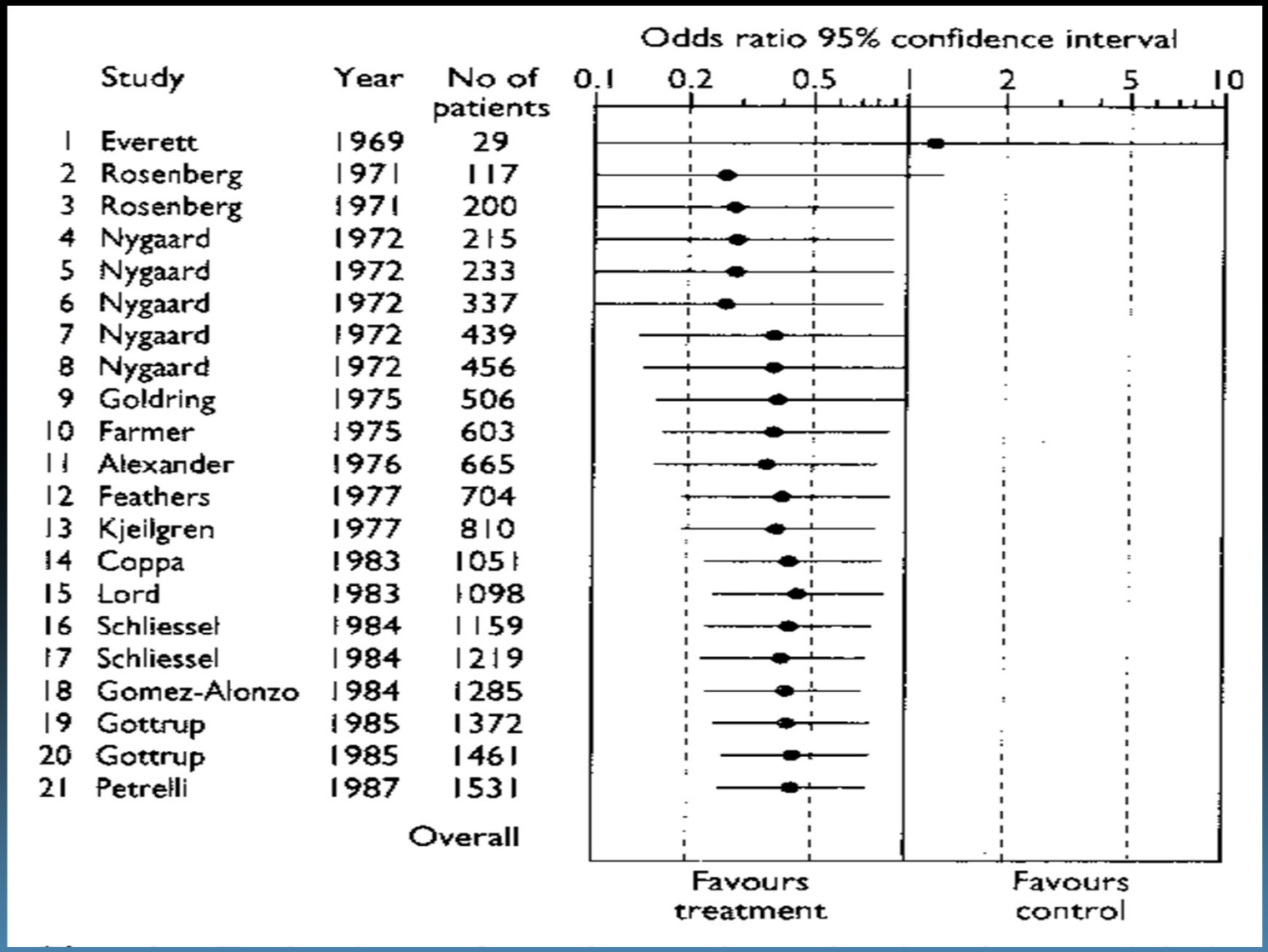
www.cebm.net

centre for evidence based medicine
cebm.net

Would any of you have agreed to participate in a placebo controlled trial of prophylactic antibiotics for colorectal surgery after 1975?

THE COCHRANE COLLABORATION®

www.cebm.net

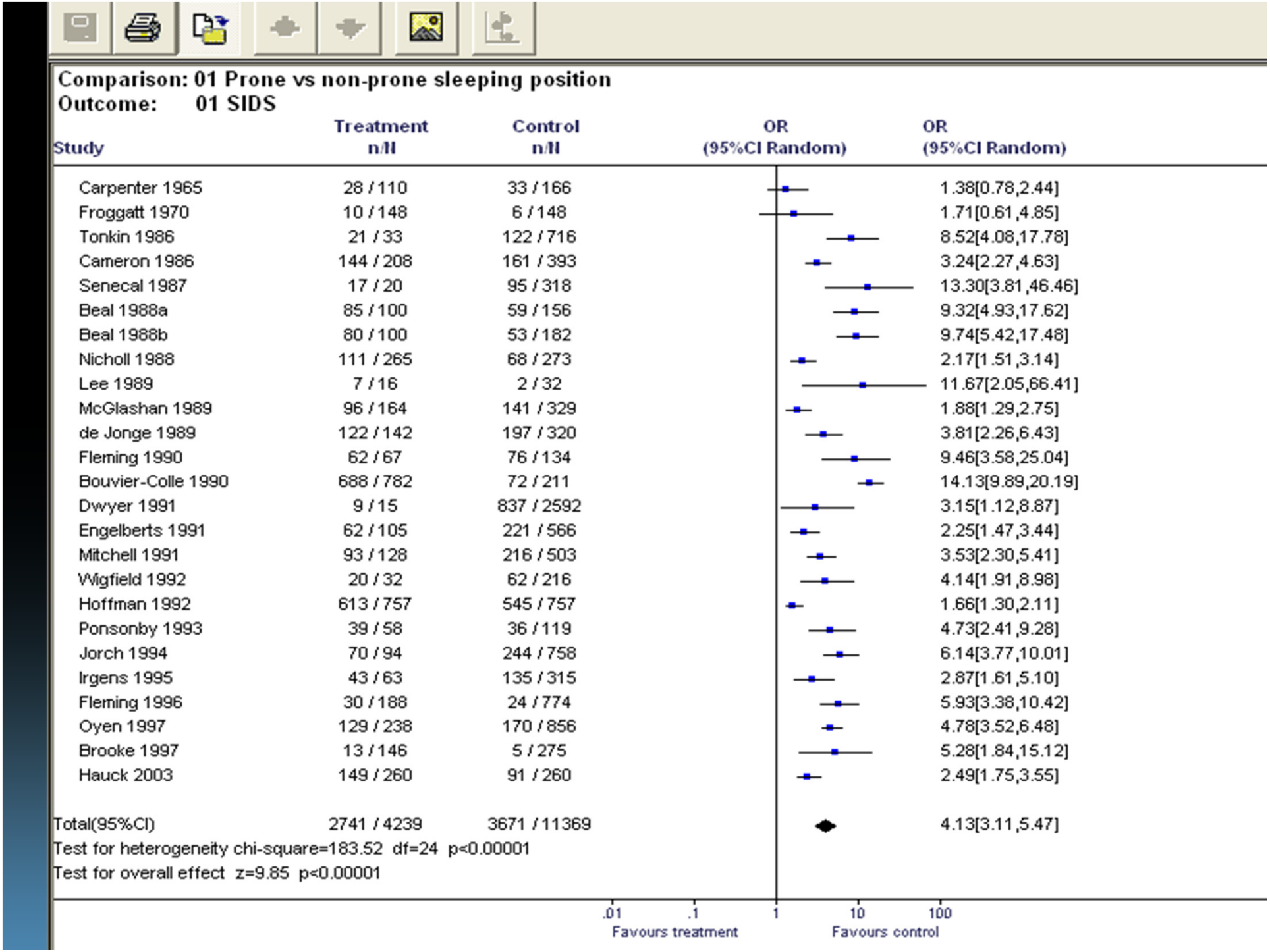


	Study	Year	No of patients
1	Everett	1969	29
2	Rosenberg	1971	117
3	Rosenberg	1971	200
4	Nygaard	1972	215
5	Nygaard	1972	233
6	Nygaard	1972	337
7	Nygaard	1972	439
8	Nygaard	1972	456
9	Goldring	1975	506
10	Farmer	1975	603
11	Alexander	1976	665
12	Feathers	1977	704
13	Kjellgren	1977	810
14	Coppa	1983	1051
15	Lord	1983	1098
16	Schliessel	1984	1159
17	Schliessel	1984	1219
18	Gomez-Alonzo	1984	1285
19	Gottrup	1985	1372
20	Gottrup	1985	1461
21	Petrelli	1987	1531
	Overall		

www.cebm.net

Would you ever have put babies to sleep on their tummies?

centre for evidence based medicine
www.cebm.net


Comparison: 01 Prone vs non-prone sleeping position
Outcome: 01 SIDS
Study
Treatment n/N
Control n/N
OR (95%CI Random)
OR (95%CI Random)
Carpenter 1965 28 / 110 33 / 166 1.38[0.78,2.44]
Froggatt 1970 10 / 148 6 / 148 1.71[0.61,4.85]
Tonkin 1986 21 / 33 122 / 716 8.52[4.08,17.78]
Cameron 1986 144 / 208 161 / 393 3.24[2.27,4.63]
Senecal 1987 17 / 20 95 / 318 13.30[3.81,46.46]
Beal 1988a 85 / 100 59 / 156 9.32[4.93,17.62]
Beal 1988b 80 / 100 53 / 182 9.74[5.42,17.48]
Nicholl 1988 111 / 265 68 / 273 2.17[1.51,3.14]
Lee 1989 7 / 16 2 / 32 11.67[2.05,66.41]
McGlashan 1989 96 / 164 141 / 329 1.88[1.29,2.75]
de Jonge 1989 122 / 142 197 / 320 3.81[2.26,6.43]
Fleming 1990 62 / 67 76 / 134 9.46[3.58,25.04]
Bouvier-Colle 1990 688 / 782 72 / 211 14.13[9.89,20.19]
Dwyer 1991 9 / 15 837 / 2592 3.15[1.12,8.87]
Engelberts 1991 62 / 105 221 / 566 2.25[1.47,3.44]
Mitchell 1991 93 / 128 216 / 503 3.53[2.30,5.41]
Wigfield 1992 20 / 32 62 / 216 4.14[1.91,8.98]
Hoffman 1992 613 / 757 545 / 757 1.66[1.30,2.11]
Ponsonby 1993 39 / 58 36 / 119 4.73[2.41,9.28]
Jorch 1994 70 / 94 244 / 758 6.14[3.77,10.01]
Irgens 1995 43 / 63 135 / 315 2.87[1.61,5.10]
Fleming 1996 30 / 188 24 / 774 5.93[3.38,10.42]
Oyen 1997 129 / 238 170 / 856 4.78[3.52,6.48]
Brooke 1997 13 / 146 5 / 275 5.28[1.84,15.12]
Hauck 2003 149 / 260 91 / 260 2.49[1.75,3.55]
Total(95%CI) 2741 / 4239 3671 / 11369 4.13[3.11,5.47]
Test for heterogeneity chi-square=183.52 df=24 p<0.00001
Test for overall effect z=9.85 p<0.00001
.01
.1
1
10
100
Favours treatment
Favours control

ed Central | Full text | Sicily statement on evidence-based practice - Mozilla Firefox
t View History Bookmarks Tools Help
http://www.biomedcentral.com/1472-6920/5/1
Google
| TrustTheEvide...
ed Central | Full text | Sicily...
Mozilla Firefox Start Page

BioMed Central now has over 1,000,000 registered users
To celebrate we are running a Monthly Registrant Prize Draw
BioMed Central The Open Access Publisher
Advertise here

BMC Medical Education

Top
Abstract
Background
Discussion
Summary
Competing interests
Authors contr...
Acknowledgements
References
Pre-publication history

Debate

Highly accessed | Open Access

Sicily statement on evidence-based practice

Martin Dawes[1], **William Summerskill**[2], **Paul Glasziou**[3], **Antonino Cartabellotta**[4], **Janet Martin**[5], **Kevork Hopayian**[6], **Franz Porzsolt**[7], **Amanda Burls**[8] and **James Osborne**[9]

1 Department of Family Medicine. McGill University, Montreal, Canada
2 The Lancet, Jamestown Road, London, UK
3 Department of Primary Health Care, Centre for Evidence-Based Practice, Oxford University, Oxford, UK
4 Gruppo Italiano per la Medicina Basata sulle Evidenze (GIMBE), Passaggio L. da Vinci, 16 – 90145 Palermo, Italy
5 London Health Sciences Centre, Department of Physiology & Pharmacology, University of Western Ontario, London, Ontario, Canada
6 School of Medicine, Health Policy and Practice, University of East Anglia Norwich, UK
7 University Hospital Ulm, Clinical Economics, Ulm, Germany
8 Department Public Health and Epidemiology, University of Birmingham, Birmingham UK
9 United Bristol Healthcare Trust, Bristol, UK

author email corresponding author email

BMC Medical Education 2005, **5**:1 doi:10.1186/1472-6920-5-1

The electronic version of this article is the complete one and can be found online at: http://www.biomedcentral.com/1472-6920/5/1

Received: 3 October 2004
Accepted: 5 January 2005
Published: 5 January 2005

© 2005 Dawes et al; licensee BioMed Central Ltd.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License

BMC Medical Education
Volume 5

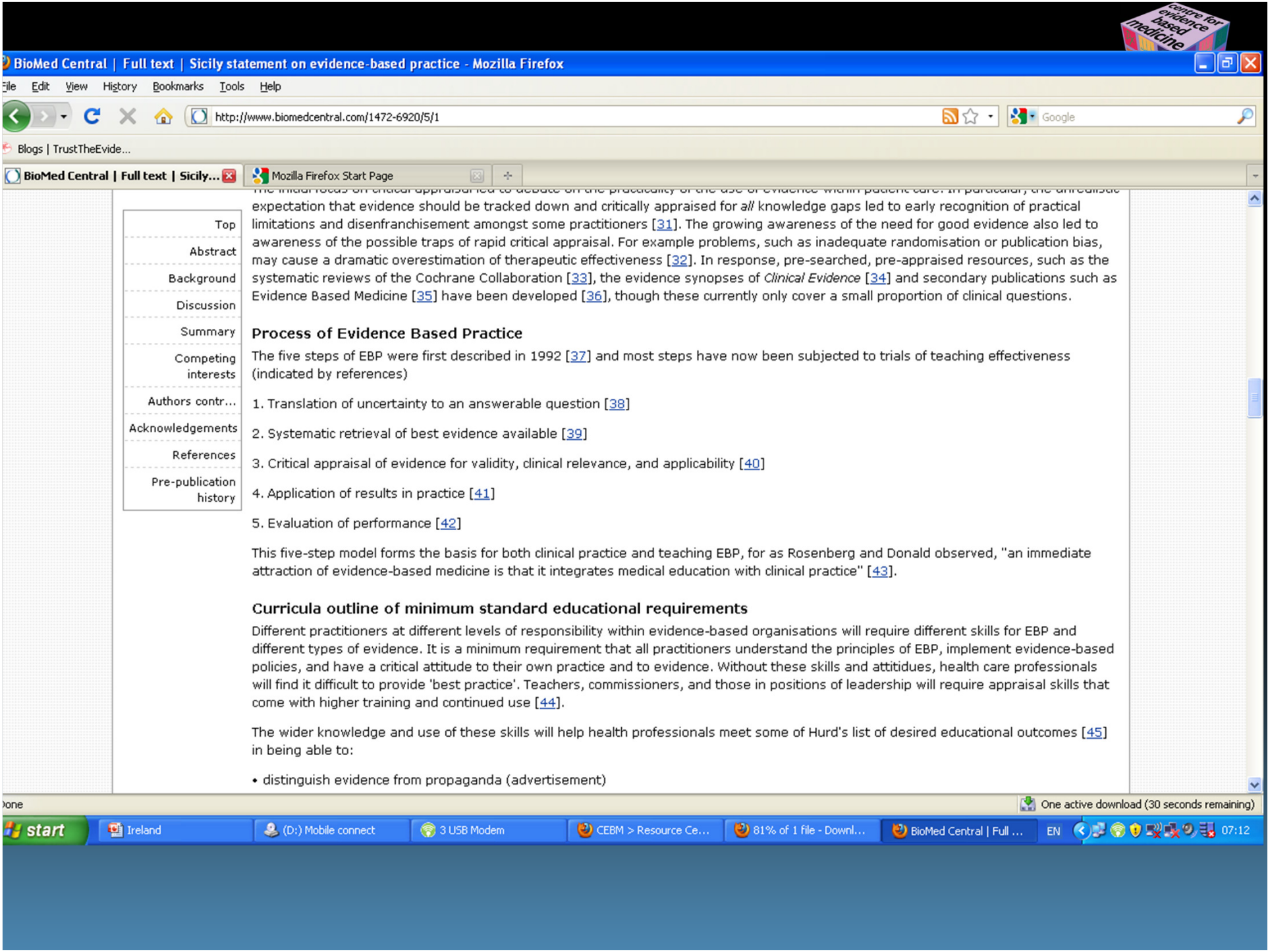
Viewing options:
- Abstract
- **Full text**
- PDF (268KB)

Associated material:
- Readers' comments
- Pre-publication history
- PubMed record

Related literature:
- Articles citing this article
  on BioMed Central
  on Google Scholar
  on PubMed Central
- Other articles by authors
  on Google Scholar
  on PubMed
- Related articles/pages
  on Google
  on Google Scholar
  on PubMed

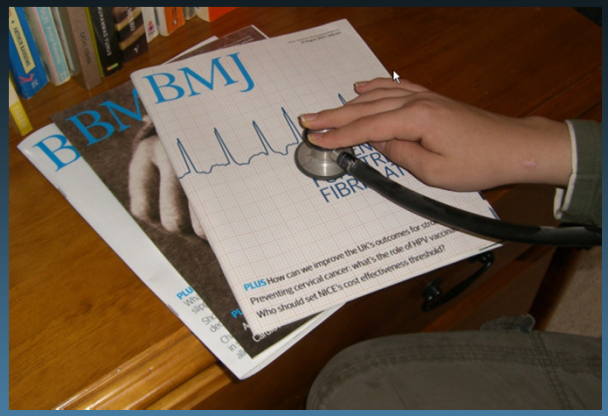
Tools:
- Download citation(s)
- Download XML

One active download (1 minute remain
art | Ireland | (D:) Mobile connect | 3 USB Modem | CEBM > Resource Ce... | 57% of 1 file - Downl... | BioMed Central | Full ... | EN 07:


BioMed Central | Full text | Sicily statement on evidence-based practice - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://www.biomedcentral.com/1472-6920/5/1
Google
Blogs | TrustTheEvide...
BioMed Central | Full text | Sicily...
Mozilla Firefox Start Page
Top
Abstract
Background
Discussion
Summary
Competing interests
Authors contr...
Acknowledgements
References
Pre-publication history
expectation that evidence should be tracked down and critically appraised for all knowledge gaps led to early recognition of practical limitations and disenfranchisement amongst some practitioners [31]. The growing awareness of the need for good evidence also led to awareness of the possible traps of rapid critical appraisal. For example problems, such as inadequate randomisation or publication bias, may cause a dramatic overestimation of therapeutic effectiveness [32]. In response, pre-searched, pre-appraised resources, such as the systematic reviews of the Cochrane Collaboration [33], the evidence synopses of Clinical Evidence [34] and secondary publications such as Evidence Based Medicine [35] have been developed [36], though these currently only cover a small proportion of clinical questions.
Process of Evidence Based Practice
The five steps of EBP were first described in 1992 [37] and most steps have now been subjected to trials of teaching effectiveness (indicated by references)
1. Translation of uncertainty to an answerable question [38]
2. Systematic retrieval of best evidence available [39]
3. Critical appraisal of evidence for validity, clinical relevance, and applicability [40]
4. Application of results in practice [41]
5. Evaluation of performance [42]
This five-step model forms the basis for both clinical practice and teaching EBP, for as Rosenberg and Donald observed, "an immediate attraction of evidence-based medicine is that it integrates medical education with clinical practice" [43].
Curricula outline of minimum standard educational requirements
Different practitioners at different levels of responsibility within evidence-based organisations will require different skills for EBP and different types of evidence. It is a minimum requirement that all practitioners understand the principles of EBP, implement evidence-based policies, and have a critical attitude to their own practice and to evidence. Without these skills and attitidues, health care professionals will find it difficult to provide 'best practice'. Teachers, commissioners, and those in positions of leadership will require appraisal skills that come with higher training and continued use [44].
The wider knowledge and use of these skills will help health professionals meet some of Hurd's list of desired educational outcomes [45] in being able to:
• distinguish evidence from propaganda (advertisement)
One active download (30 seconds remaining)
start
Ireland
(D:) Mobile connect
3 USB Modem
CEBM > Resource Ce...
81% of 1 file - Downl...
BioMed Central | Full ...
EN
07:12

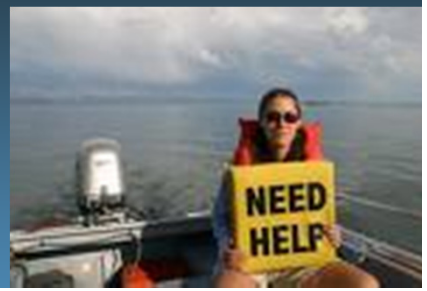
The 5 steps of EBM

1. Formulate an answerable question
2. Track down the best evidence
3. Critically appraise the evidence for validity, clinical relevance and applicability
4. Individualize, based clinical expertise and patient concerns
5. Evaluate your own performance



Getting Evidence in to Practice
How do you "do" EBP?

- What Evidence based practice do you do/help with?
- What other EBP do you know of?



JASPA*

(Journal associated score of personal angst)

www.cebm.net

J: Are you ambivalent about renewing your **JOURNAL** subscriptions?

A: Do you feel **ANGER** towards prolific authors?

S: Do you ever use journals to help you **SLEEP**?

P: Are you surrounded by **PILES of PERIODICALS**?

A: Do you feel **ANXIOUS** when journals arrive?

YOUR SCORE? (0 TO 5)

0 (?liar)
1-3 (normal range)
>3 (sick; at risk for polythenia gravis and related conditions)

* Modified from: BMJ 1995;311:1666-1668

Median minutes/week spent reading about my patients:

Self-reports at 17 Grand Rounds:

- Medical Students: 90 minutes
- House Officers (PGY1): 0 (up to 70%=none)
- SHOs (PGY2-4): 20 (up to 15%=none)
- Registrars: 45 (up to 40%=none)
- Sr. Registrars 30 (up to 15%=none)
- Consultants:
  - Grad. Post 1975: 45 (up to 30%=none)
  - Grad. Pre 1975: 30 (up to 40%=none)

Size of Medical Knowledge

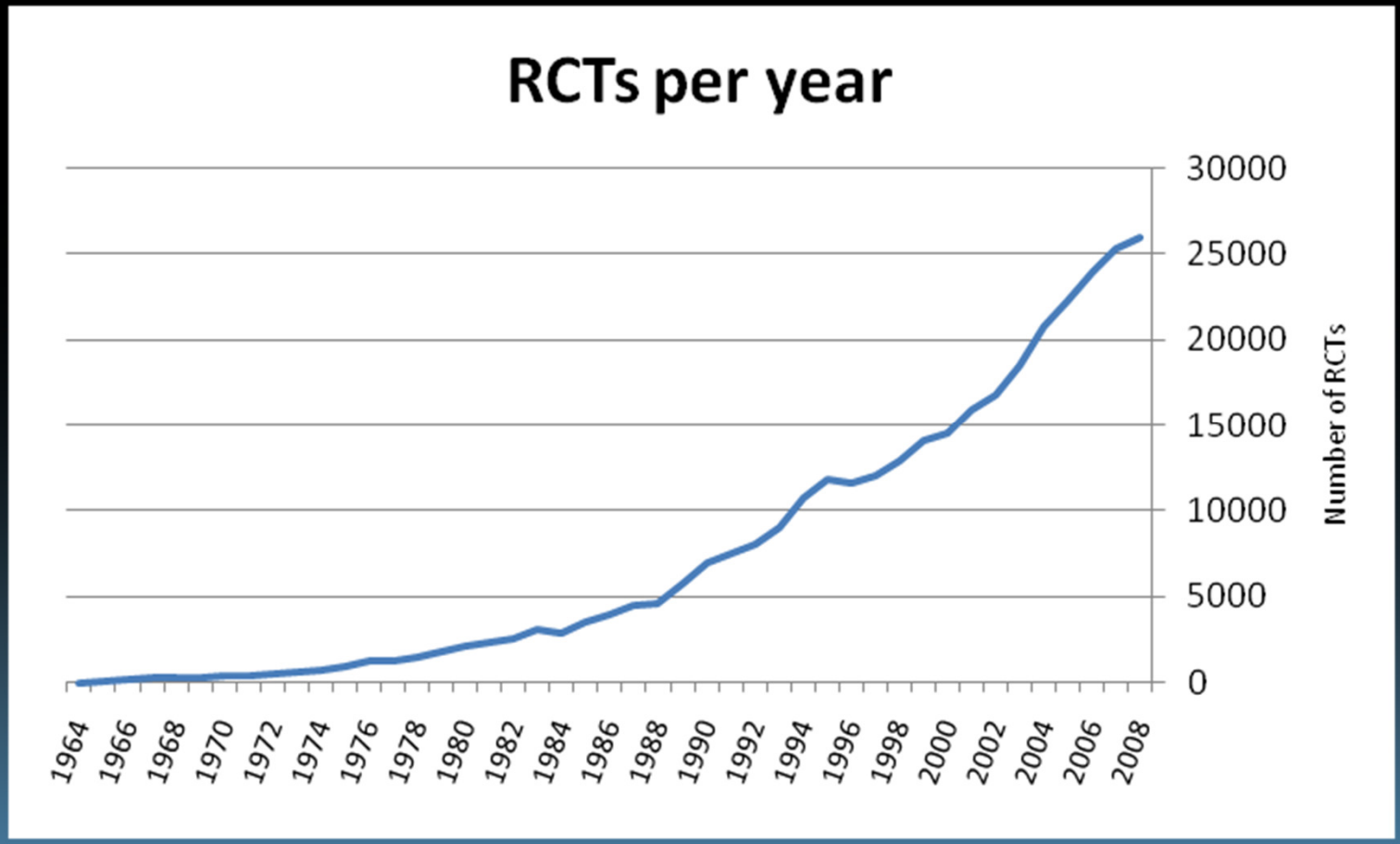
- NLM MetaThesaurus
  - 875,255 concepts
  - 2.14 million concept names
- Diagnosis Pro
  - 11,000 diseases
  - 30,000 abnormalities (symptoms, signs, lab, X-ray,)
  - 3,200 drugs (cf FDAs 18,283 products)

1 disease per day for 30 years

To cover the vast field of medicine in four years is an impossible task.
- William Olser

How many randomized trials are published each year

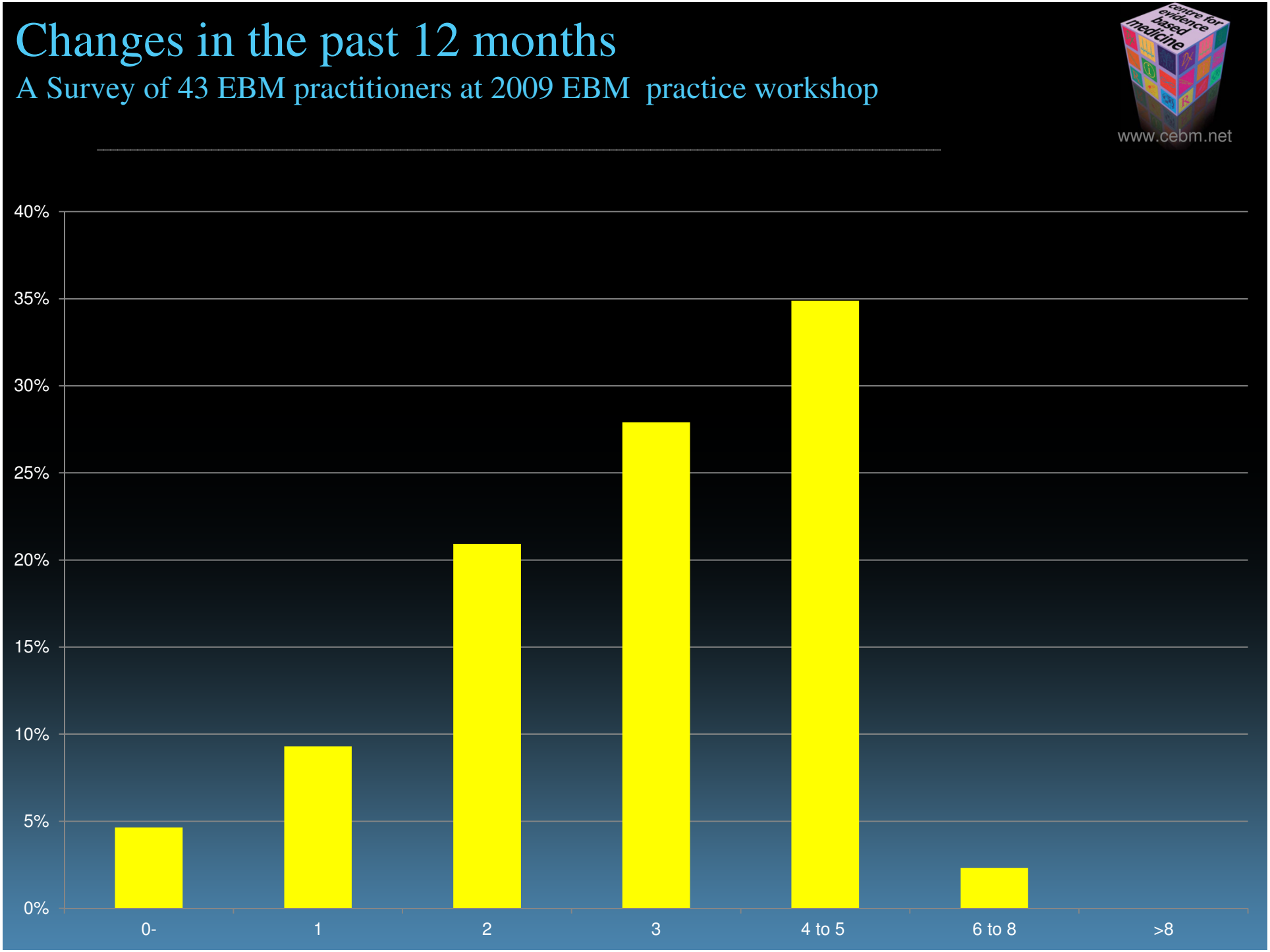
www.cebm.net



Changes in the past 12 months

A Survey of 43 EBM practitioners at 2009 EBM practice workshop

www.cebm.net



Most "interesting" research is wrong, but clinicians not skilled in appraisal

- Flawed studies
  - Hormone Replacement Therapy
  - Beta-carotene and cancer
  - MMR and autism
  - Folate and CHD
- Data mining
  - Genes for anything
- Small early studies

Ioannidis J. Why Most Published Research Findings Are False. PLoS 2005

But we are (currently) poorly equipped to tell good from bad research

- BMJ study of 607 reviewers
  - 14 deliberate errors inserted

- Detection rates
  - On average <3 of 9 major errors detected
  - Poor Randomisation (by name or day) - 47%
  - Not intention-to-treat analysis - 22%
  - Poor response rate - 41%

Schroter S et al, accepted for Clinical Trials

How do you currently keep up to date?

www.cebm.net

- What resources do you use
- What educational activities do you take part in

Managing Information
"Push" and "Pull" methods

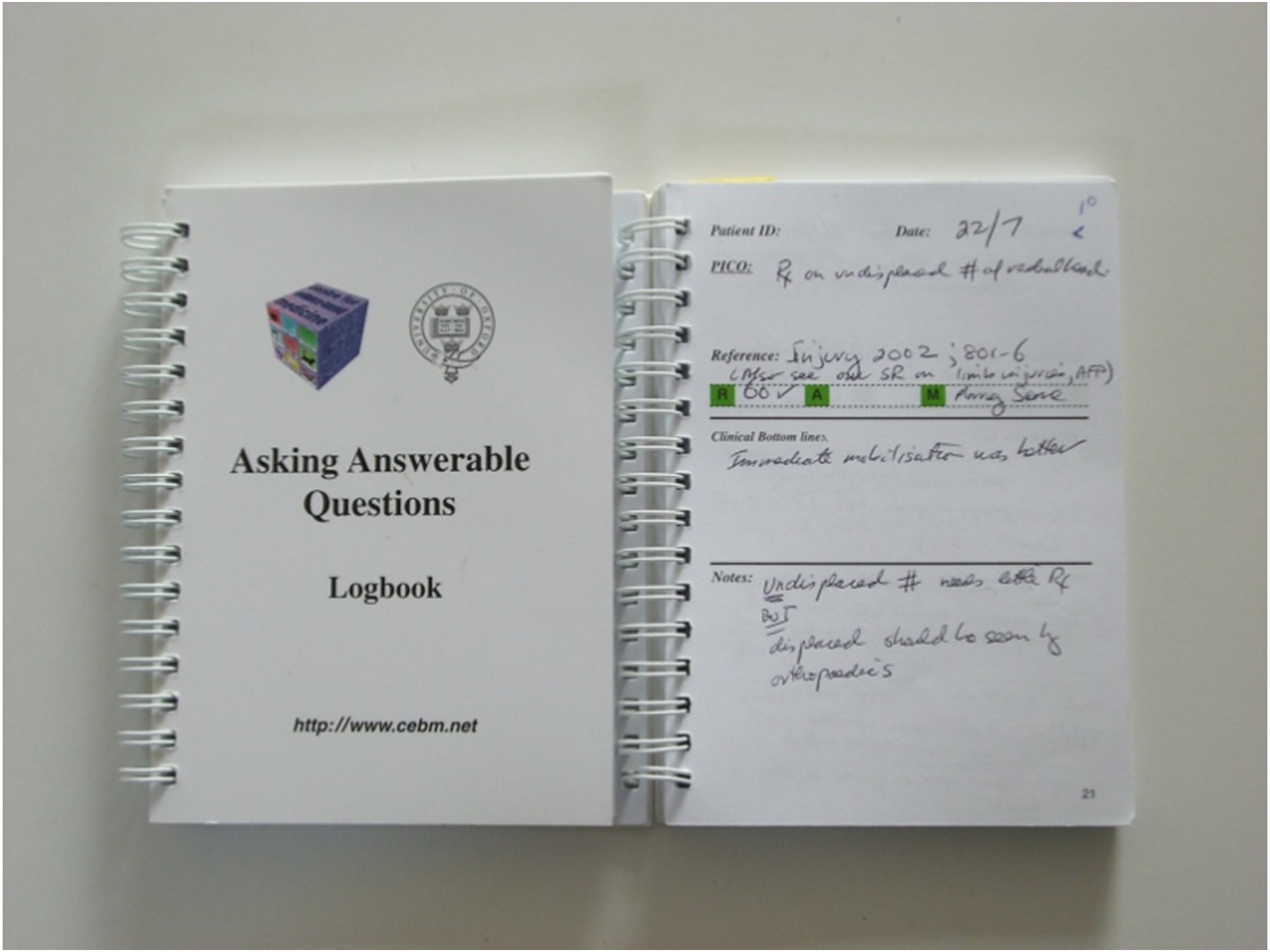
- "Push" - alerts us to new information
  - "Just in Case" learning
    - Use ONLY for important, new, valid research
- "Pull" – access information when needed
  - "Just in Time" learning
    - Use whenever questions arise
    - EBM Steps: Question; search; appraise; apply

"Just in Time" learning: Intern's information needs

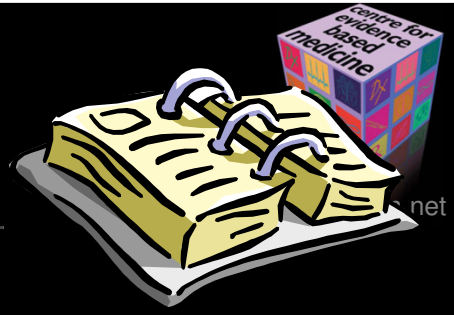
- Setting: 64 residents at 2 New Haven hospitals
- Method: Interviewed after 401 consultations
- Questions
  - Asked 280 questions (2 per 3 patients)
  - Pursued an answer for 80 questions (29%)
  - Not pursued because
    - Lack of time
    - Forgot the question

- Sources of answers
  - Textbooks (31%), articles (21%), consultants (17%)

Green, Am J Med 2000

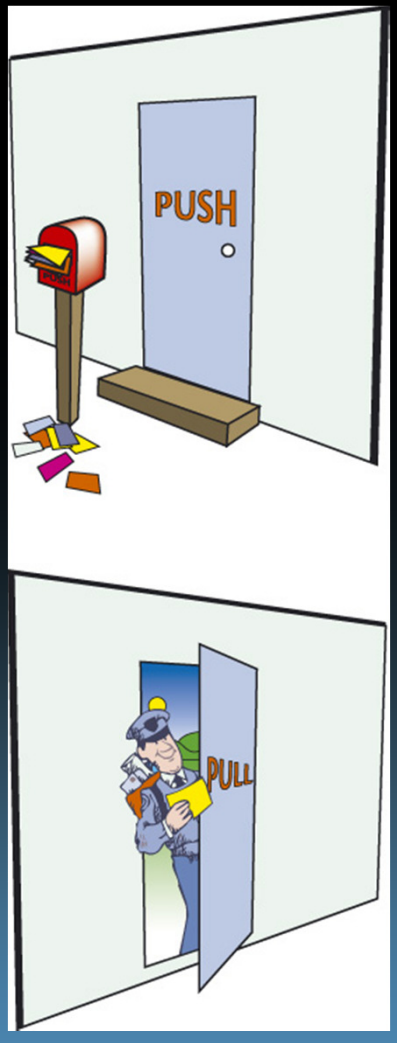

Asking Answerable Questions
Logbook
http://www.cebm.net
Patient ID:
Date: 22/7
PICO: Rx on undisplaced # of radial head.
Reference: Injury 2002; 801-6
(Also see our SR on limb injuries, AFP)
R 60 ✓
A
M Porrey Serre
Clinical Bottom lines.
Immediate mobilisation was better
Notes: Undisplaced # needs little Rx
BUT
displaced should be seen by
orthopaedics
21

Keeping up to Date by "Just in Time" Education



- Shift focus to your current problems
  - Relevant to YOUR practice
  - More memorable (and practice changed)
  - Up to date
- But Four Barriers
  - Admitting we don't know
  - Skills in obtaining current best evidence
  - Evidence Resources at the point of care
  - Time

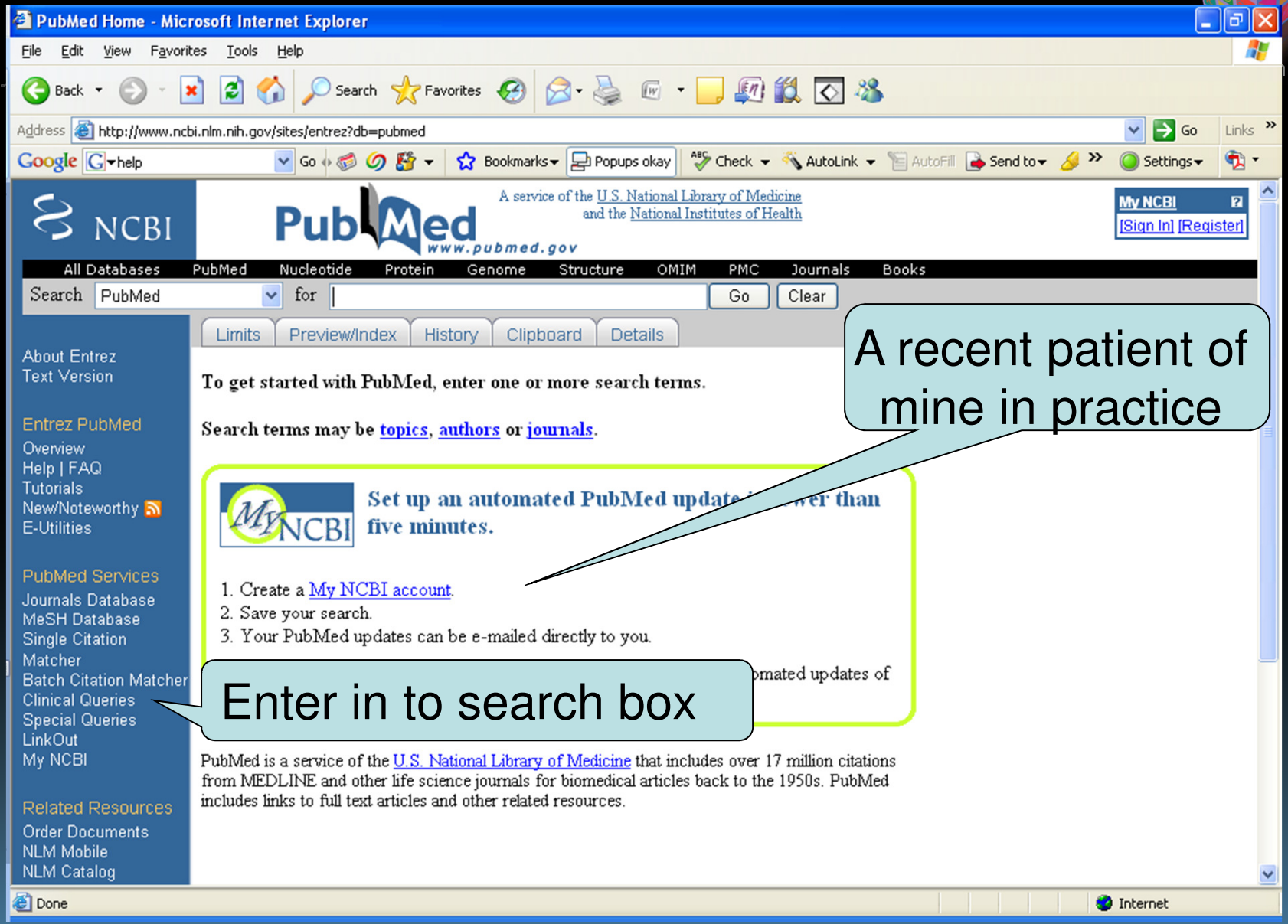
Coping with the overload: things you might consider

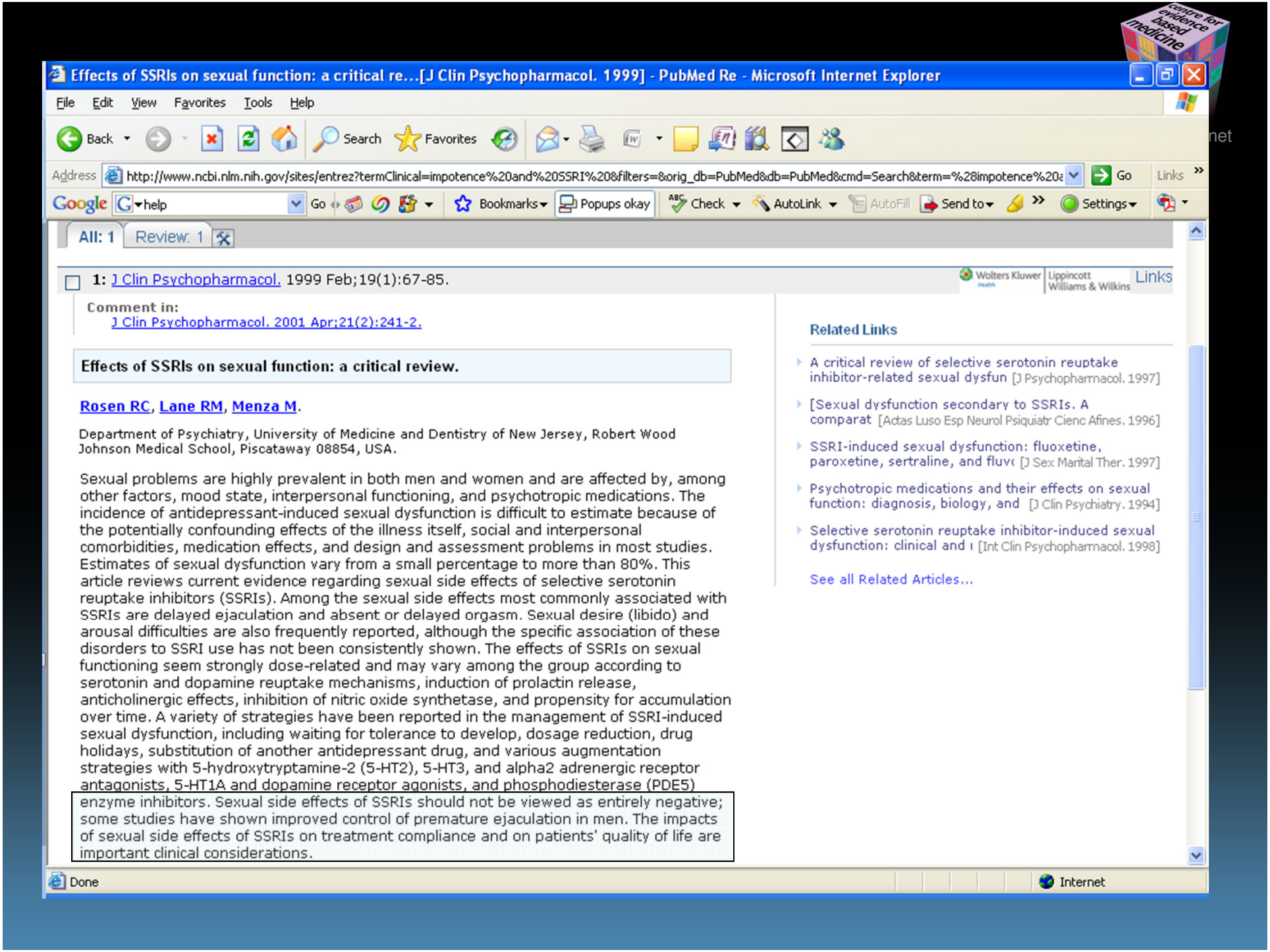


Your Clinical Questions

www.cebm.net

- Write down one recent patient problem
- What was the critical question?
- Did you answer it? If so, how?


PubMed Home - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed
Go Links
Google help Go Bookmarks Popups okay Check AutoLink AutoFill Send to Settings
NCBI
PubMed
www.pubmed.gov
A service of the U.S. National Library of Medicine and the National Institutes of Health
My NCBI
[Sign In] [Register]
All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books
Search PubMed for Go Clear
Limits Preview/Index History Clipboard Details
About Entrez
Text Version
Entrez PubMed
Overview
Help | FAQ
Tutorials
New/Noteworthy
E-Utilities
PubMed Services
Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI
Related Resources
Order Documents
NLM Mobile
NLM Catalog
To get started with PubMed, enter one or more search terms.
Search terms may be topics, authors or journals.
Set up an automated PubMed update
five minutes.
1. Create a My NCBI account.
2. Save your search.
3. Your PubMed updates can be e-mailed directly to you.
PubMed is a service of the U.S. National Library of Medicine that includes over 17 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources.
Done
Internet
A recent patient of mine in practice
Enter in to search box


Effects of SSRIs on sexual function: a critical re...[J Clin Psychopharmacol. 1999] - PubMed Re - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.ncbi.nlm.nih.gov/sites/entrez?termClinical=impotence%20and%20SSRI%20&filters=&orig_db=PubMed&db=PubMed&cmd=Search&term=%28impotence%20
Go Links
Google help Go Bookmarks Popups okay Check AutoLink AutoFill Send to Settings
All: 1 Review: 1
1: J Clin Psychopharmacol. 1999 Feb;19(1):67-85.
Wolters Kluwer Lippincott Williams & Wilkins Links
Comment in:
J Clin Psychopharmacol. 2001 Apr;21(2):241-2.
Effects of SSRIs on sexual function: a critical review.
Rosen RC, Lane RM, Menza M.
Department of Psychiatry, University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School, Piscataway 08854, USA.
Sexual problems are highly prevalent in both men and women and are affected by, among other factors, mood state, interpersonal functioning, and psychotropic medications. The incidence of antidepressant-induced sexual dysfunction is difficult to estimate because of the potentially confounding effects of the illness itself, social and interpersonal comorbidities, medication effects, and design and assessment problems in most studies. Estimates of sexual dysfunction vary from a small percentage to more than 80%. This article reviews current evidence regarding sexual side effects of selective serotonin reuptake inhibitors (SSRIs). Among the sexual side effects most commonly associated with SSRIs are delayed ejaculation and absent or delayed orgasm. Sexual desire (libido) and arousal difficulties are also frequently reported, although the specific association of these disorders to SSRI use has not been consistently shown. The effects of SSRIs on sexual functioning seem strongly dose-related and may vary among the group according to serotonin and dopamine reuptake mechanisms, induction of prolactin release, anticholinergic effects, inhibition of nitric oxide synthetase, and propensity for accumulation over time. A variety of strategies have been reported in the management of SSRI-induced sexual dysfunction, including waiting for tolerance to develop, dosage reduction, drug holidays, substitution of another antidepressant drug, and various augmentation strategies with 5-hydroxytryptamine-2 (5-HT2), 5-HT3, and alpha2 adrenergic receptor antagonists, 5-HT1A and dopamine receptor agonists, and phosphodiesterase (PDE5) enzyme inhibitors. Sexual side effects of SSRIs should not be viewed as entirely negative; some studies have shown improved control of premature ejaculation in men. The impacts of sexual side effects of SSRIs on treatment compliance and on patients' quality of life are important clinical considerations.
Related Links
A critical review of selective serotonin reuptake inhibitor-related sexual dysfun [J Psychopharmacol. 1997]
[Sexual dysfunction secondary to SSRIs. A comparat [Actas Luso Esp Neurol Psiquiatr Cienc Afines. 1996]
SSRI-induced sexual dysfunction: fluoxetine, paroxetine, sertraline, and fluv [J Sex Marital Ther. 1997]
Psychotropic medications and their effects on sexual function: diagnosis, biology, and [J Clin Psychiatry. 1994]
Selective serotonin reuptake inhibitor-induced sexual dysfunction: clinical and [Int Clin Psychopharmacol. 1998]
See all Related Articles...
Done
Internet

Remaining API: 130/150 Resets: 1:23
Mentions
@cebmblog What's "best"C-section r
10% 15%? Any evidence? @atuteur's
concludes: 22% & 36% assoc w least
mum/baby deaths
doctorblogs, [+] Sat 07 Nov 01:07 via web
RT @cebmblog: Dutch pull Pfizer vac
batch after infants die http://bit.ly/1C
laikas, [+] Thu 05 Nov 21:51 via TweetDeck
@cebmblog Were you at TEDMED? T
loaded, and frankly disingenuous
statement. The gains are absolutely
tangible, if not widespread.
Hamlet, [+] Thu 05 Nov 14:44 via TweetDeck in reply t
RT @cebmblog: Some neat talks at
TEDMED http://bit.ly/10jVK however
of blue skies promise and few gains
CharlieNeck, [+] Thu 05 Nov 12:12 via Tweetie
@giordanopg RT @cebmblog Low
Cholesterol More a sign of Undiagnosed
Cancer than cause http://bit.ly/eBEt1 / Ur
pblts of cancer are low :)
CharlieNeck, [+] Wed 04 Nov 14:33 via web
RT @cebmblog: Swine Flu Mask N-95
respirator based On Faulty Science
http://bit.ly/3xBxYr authors retract findings -
US 104million stockpiled
mgfamiliarnet, [+] Tue 03 Nov 17:05 via TweetDeck
RT @cebmblog: The Royal College of GPs
(among others) say aspirin is no good for
Direct Messages
bengoldacre: 9th to 11th only 3 days not
available in Ox otherwise free for others in
Nov or Dec
cebmblog, [+] Mon 26 Oct 19:41 via Direct Message
thatd be ace, 10th nov?
bengoldacre, [+] Mon 26 Oct 17:55 via Direct Message
Thanks for the follow! Want 20K followers in
3 months? Then get
Profile: TrustTheEvidence.net (cebmblog)
Followers: 325
Updates: 345
Favorites: 1
Friend: No
Notifications: No
Protected: No
Web: http://trusttheevidence.net
Twitter: twitter.com/cebmblog
WEIRD people proposal http://bit.ly/3YIcts
I know loads of people I could propose
but better keep my mouth shut
Mentions
@cebmblog What's "best"C-section rate:5%
10% 15%? Any evidence? @atuteur's blog
concludes: 22% & 36% assoc w least
mum/baby deaths
doctorblogs, [+] Sat 07 Nov 01:07 via web

The Barriers to EBP

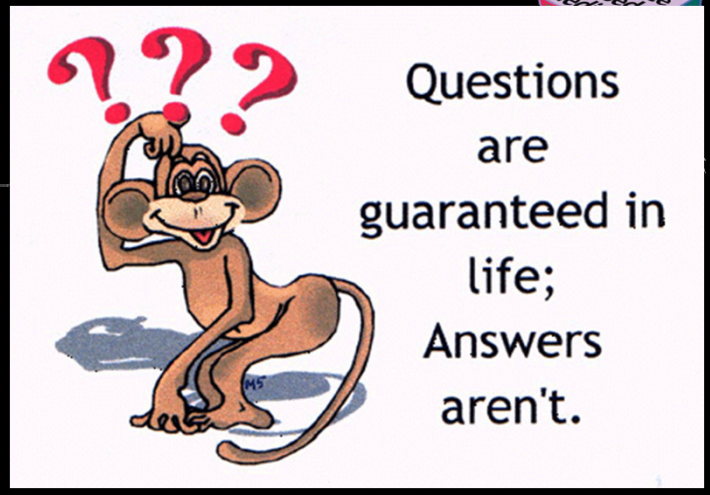
- Attitude of question & inquiry
- Know-how in finding, appraising, and applying evidence
- Information Resources on tap
- Lack of Time

Conclusions

1. The information problem is bad and getting worse
2. All health care workers should be equipped to deal with the information problem
3. The mission is difficult but not impossible!

www.cebm.net

Take a break for two minutes



: Asking well-formulated questions

Page 21 in your books

Angela is a new patient who recently moved to the area to be closer to her son and his family

She is 69 years old and has a history of congestive heart failure brought on by a recent myocardial infarctions.

She has been hospitalized twice within the last 6 months for worsening of heart failure and has a venous leg ulcer.

At the present time she reports she is extremely diligent about taking her medications (lisinopril and aspirin) and wants desperately to stay out of the hospital. She is mobile and lives alone with several cats but reprots sometimes she forgets certain things.

She also tells you she is a bit hard of hearing, has a slight cough, is an ex-smoker of 20 cigs a day for 40 years. Her BP today is 170/90, her ankles are slightly swollen and her ulcer is painful and her pulse is 80 and slightly irregular.

What are your questions?

‘Background’ Questions

- **About the disorder, test, treatment, etc.**

a. Root* + Verb: “What causes …”

b. Condition: “… SARS?”

- *** Who, What, Where, When, Why, How**

‘Foreground’ Questions

- About patient care decisions and actions

4 (or 3) components:

a. **P**atient, problem, or population

b. **I**ntervention, exposure, or maneuver

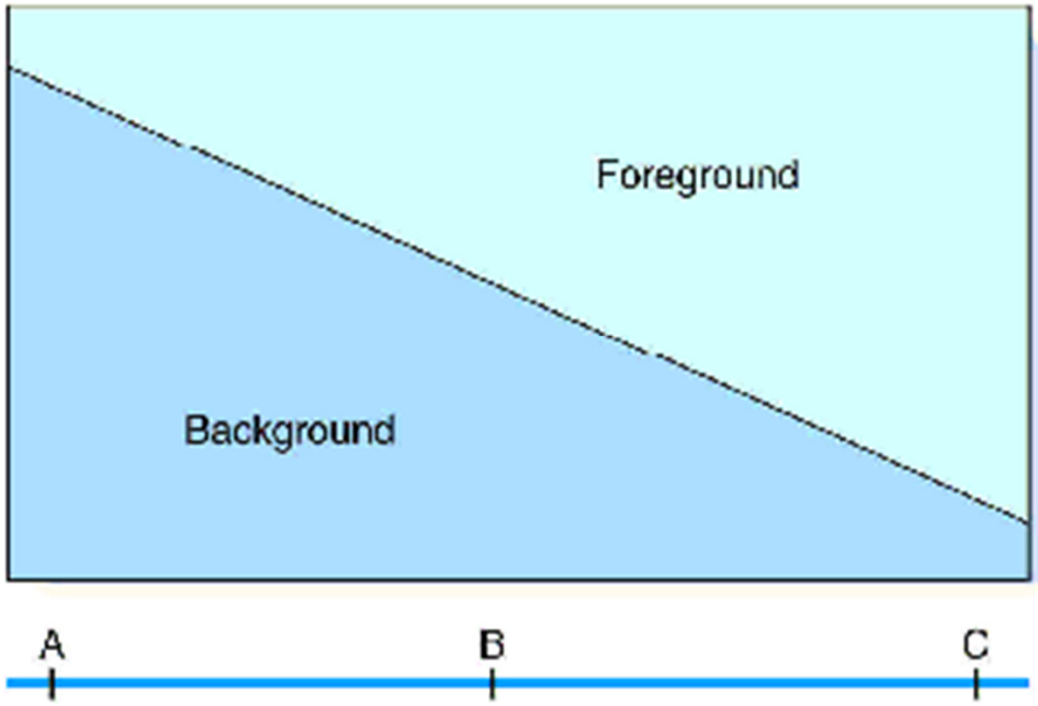
c. **C**omparison (if relevant)

d. Clinical **O**utcomes (including time horizon)

Background & Foreground

www.cebm.net

Figure 1.1 Background and foreground questions.



	Patient or Problem	Intervention	Comparison intervention	Outcomes
	Describe a group of patients similar to your own	What intervention are you considering	What is the main alternative to the intervention	What do you hope to accomplish with the intervention
	"In elderly patients with congestive heart failure …	…does treatment with spirinolactone…	…when compared with standard therapy alone…	…lead to a decrease in hospitalization "

Example 1 page 26

Jean is a 55 year old woman who quite often crosses the Atlantic to visit her elderly mother. She tends to get swollen legs on these flights and is worried about her risk of developing deep vein thrombosis (DVT), because she has read quite a bit about this in the newspapers lately. She asks you if she would wear elastic stockings on her next trip to reduce her risk of this.

P

I

C

O

Example 2, page 26

Jeff, a smoker of more than 30 years, has come to see you about something unrelated . You ask him if he is interested in stopping smoking. He tells you he has tried to quit smoking unsuccessfully in the past. A friend if his , however, successfully quit with acupuncture. Should he try it? Other interventions you know about are nicotine replacement therapy and antidepressants

P

I

C

O

Example 3 page 27

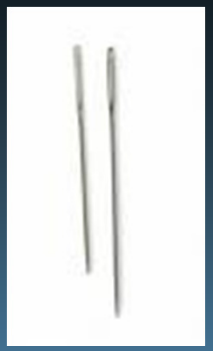
At a routine immunisation visit, Lisa, the mother of a six-month-old tells you that her baby suffered a nasty local reaction after her previous immunisation. Lisa is very concerned that the same thing may happen again this time. Recently, a colleague told you that needle length can affect local reactions to immunisation in young children but you can't remember the precise details

P

I

C

O



Example 2, page 28

Susan is expecting her first baby in two months. She has been reading about the potential benefits and harms of giving newborn babies vitamin K injections. She is alarmed by reports that vitamin K injections in newborn babies may cause childhood leukaemia. She asks you if this is true and, if so, what the risk for her baby will be.

P

I

C

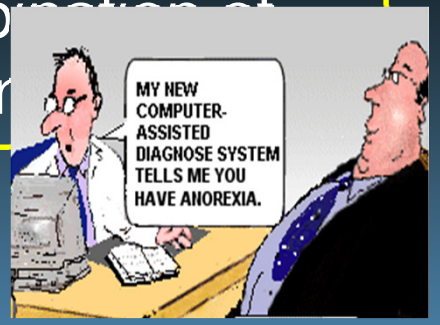
O

Aetiology and risk factors

Example 1, page 29

Julie is pregnant for the second time. She had her first baby when she was 33 and had amniocentesis to find out if the baby had Down Syndrome. The test was negative but it was not a good experience, because she did not get the result until she was 18 weeks pregnant. She is now 35 and 1 month pregnant, and asks if she can have a test that would give her an earlier result. The local hospital offers serum biochemistry plus nuchal translucency ultrasound screening as a first trimester test for Down syndrome. You winder if this combination of tests is as reliable as a conventional amn

P
I
C
O



Diagnosis

Example 2, page 32

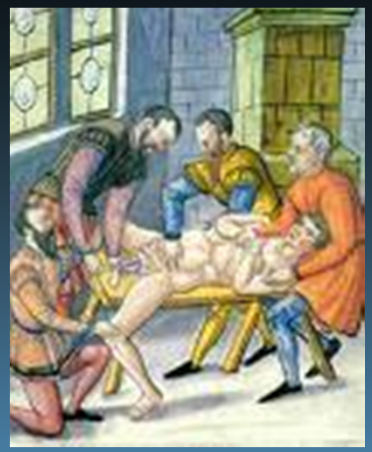
Mr Thomas, who is 58 years old, has correctly diagnosed his inguinal lump as a hernia. He visits you for confirmation of his diagnosis and information about the consequences. You mention the possibility of strangulation, and the man asks ‘How likely is that?’ You reply ‘pretty unlikely’ (which is as much as you know at the time) but say that you will try to find out more precisely.

P

I

C

O



Prognosis

Your Clinical Questions

www.cebm.net

- Write down one recent patient problem
- What is the PICO of the problem?

Questions

- Recognize: your questions
- Select: which questions to pursue
- Guide: how to ask and answer
- Assess: how well & what to improve

What Pushes Us … ?

Toward

- curiosity
- Prove colleagues wrong
- Keeps coming up
- Risk of patient harm
- Want to do better
- Anxiety
- Avoid litigation
- Internet informed patient

Away

Time
We already know the answer
Fatigue
Access
Inferiority complex-anxiety-afraid of admitting knowledge gaps
Cynical
Laziness
Lack of support
Previous failure at searching
Lack of resources
Noone else does it
Fear of change

The *Real* 'Three R's' of Learning

- **R**esilient
- **R**eflective
- **R**esourceful

www.cebm.net

FAQ: How Long … ?

- **Proficient? Quickly**
- **Mastery? Lifetime**

- **Human expertise takes >10,000 hours, >10 years**

→Deliberate practice