

Finding relevant evidence

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Finding a needle in a haystack!



- The amount of information available vs. The relevant information



- Limited time



Mission impossible!



- Read 17-19 articles every single day of each year to remain current!

Pull and Push methods

- Pull/Just in time



- Push/Just in case



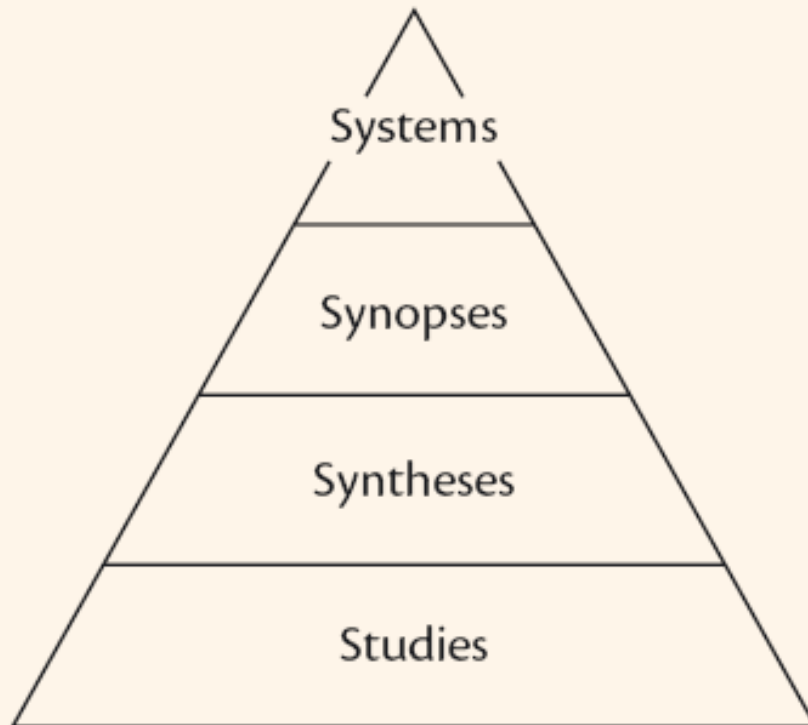
You must have successfully
completed the task of:

Formulating a clinical question

Then the next step would be:

Organisation of evidence

'4S' evolution of services



Examples

Computerised decision support systems (CDSS)


Evidence-based journal abstracts

Cochrane reviews

Original published articles in journals

Where to search?

- PubMed: <http://www.ncbi.nlm.nih.gov>



The screenshot displays the PubMed website interface. At the top, the browser address bar shows the URL <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>. The main header features the NCBI logo, the PubMed logo, and the text "A service of the National Library of Medicine and the National Institutes of Health". A search bar is prominently displayed with the text "Search PubMed for" and "Go" and "Clear" buttons. Below the search bar, there are tabs for "Limits", "Preview/Index", "History", "Clipboard", and "Details".

On the left side, there is a vertical navigation menu with the following items: "About Entrez", "Text Version", "Entrez PubMed Overview", "Help | FAQ", "Tutorials", "New/Noteworthy E-Utilities", "PubMed Services" (including Journals Database, MeSH Database, Single Citation Matcher, Batch Citation Matcher, Clinical Queries, Special Queries, LinkOut, and My NCBI), and "Related Resources" (including Order Documents, NLM Mobile, NLM Catalog, NLM Gateway, TOXNET, Consumer Health, Clinical Alerts, ClinicalTrials.gov, and PubMed Central).

In the center, there is a promotional banner for MyNCBI with the text "Set up an automated PubMed update in less than 5 minutes." and a list of steps: "(1) Get a My NCBI account. (2) Save your search. (3) Your PubMed updates can be e-mailed directly to you." Below this banner, there is a paragraph of text: "PubMed is a service of the U.S. National Library of Medicine that includes over 16 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."

At the bottom, there are links for "Write to the Help Desk", "NCBI | NLM | NIH", "Department of Health & Human Services", "Privacy Statement | Freedom of Information Act | Disclaimer", and a small timestamp "Thu 17 Dec 09 13:00".

- Cochrane library: <http://www.cochrane.org>

Wiley InterScience: Reference Work: The Cochrane Library 2006, Issue 3

http://www3.interscience.wiley.com/cgi-bin/mnwhome/106568753/HOME/CRETRY=1&SRETR=

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The Cochrane Library

Evidence for healthcare decision-making

WILEY InterScience

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Welcome to The Cochrane Library
 The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world's best medical research studies, and are recognised as the gold standard in evidence-based healthcare.

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[Exercise for type 2 diabetes mellitus](#)
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 21 June Cochrane Search Enhancements - Revised launch date... [More](#)
 12 June: Cochrane Search Enhancements on Wiley InterScience... [More](#)
 24 April: Cochrane Library website updated... [More](#)
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- *Evidence-Based Medicine*

<http://www.evidence-basedmedicine.com>

Bi-monthly journal which summarises important recent articles from major clinical fields (family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry, public health, surgery). (Note: Best Evidence is the cumulated contents of ACP Journal Club (since 1991) and Evidence-Based Medicine (since 1995) in an annual CD.

- *BestBETS*

<http://www.bestbets.org>

Provides rapid evidence-based answers to real-life clinical questions in emergency medicine, using a systematic approach to reviewing the literature.

BETs take into account the shortcomings of much current evidence, allowing physicians to make the best of what there is. Developed in the Emergency Department of Manchester Royal Infirmary, UK.

- *Clinical Evidence*

<http://www.clinicalevidence.com>

Clinical Evidence is an updated directory of evidence on the effects of clinical interventions. It summarises the current state of knowledge, ignorance, and uncertainty about the prevention and treatment of clinical conditions, based on thorough searches and appraisal of the literature. It covers 20 specialties and includes 134 conditions. Updated/expanded coverage every six months in print and CD.

- *TRIP Database*

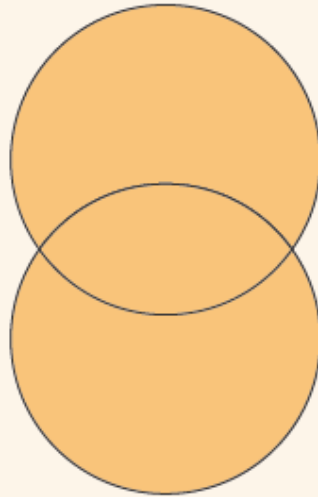
<http://www.tripdatabase.com>

Searches several different evidence-based resources including PubMed, Bandolier, and the ATTRACT question-answering service. Only allows title searches, but does allow AND, OR, NOT

Use the components of the PICO to direct your search

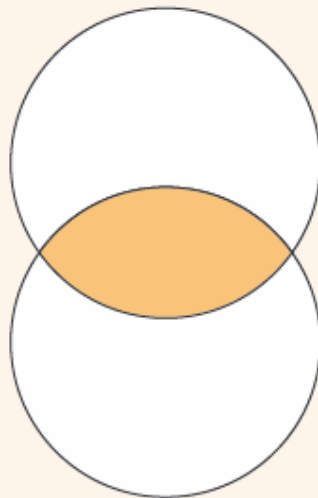
- (Population OR synonym1 OR synonym2...) AND
- (Intervention OR synonym1 OR synonym2...) AND
- (Comparator OR synonym1 OR synonym2...) AND
- (Outcome OR synonym1 OR synonym2...)

OR



Retrieves all articles
with *either* word

AND



Retrieves only articles
with *both* words

Searching tips and tactics

Searching tips and tactics

truncation and wildcard (*)

NEAR = AND plus words close together

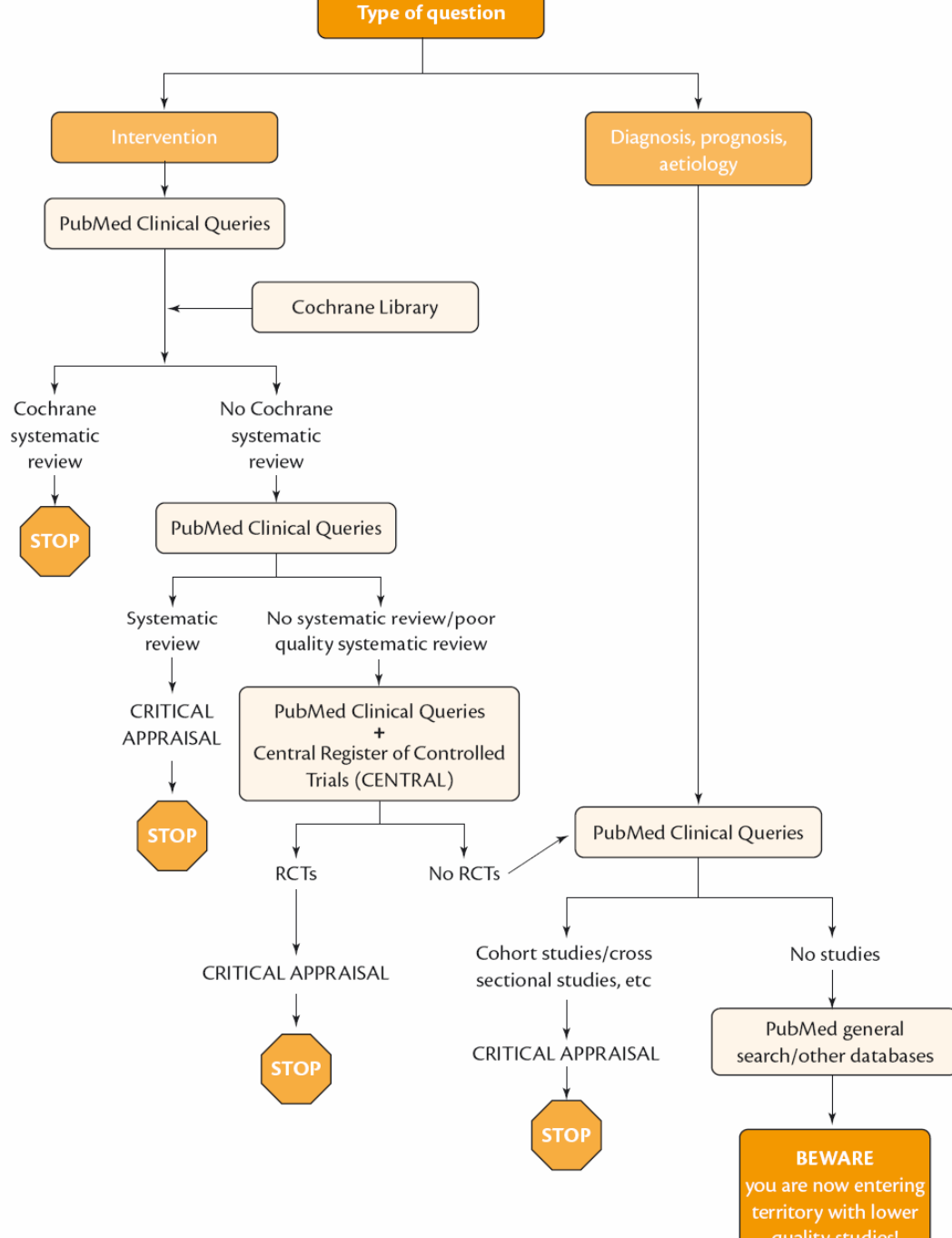
(furunc* OR (staphylococc* NEAR skin)) AND recur*: ti

BOOLEANS IN CAPITALS

Word must be in TITLE

Group words with ()

PubMed command	What it does	Some synonyms (eg OVID)
OR	Finds studies containing either of the specified words or phrases. For example, child OR adolescent finds articles with either the word 'child' or the word 'adolescent'.	
AND	Finds studies containing both specified words or phrases. For example, child AND adolescent finds articles with both the word 'child' and the word 'adolescent'.	+
NEAR	Like AND , NEAR requires both words but the specified words must also be within about 5 words of each other. It is not available in PubMed but is in other MEDLINE interfaces.	ADJ
NOT	Excludes studies containing the specified word or phrase. For example, child NOT adolescent means studies with the word 'child' but not the word 'adolescent'. Use sparingly.	-
Limits	Articles retrieved may be restricted in several ways. For example, by date, by language, by whether there is an abstract, etc.	
()	Use parentheses to group words. For example, (child OR adolescent) AND (hearing OR auditory) finds articles with one or both 'child' and 'adolescent' and one or both of the words 'hearing' or 'auditory'.	
*	Truncation: the * acts as a wildcard indicating any further letters. For example, child* is child plus any further letters and is equivalent to (child OR childs OR children OR childhood) . Note that wildcards turn off automatic MeSH mapping in PubMed.	\$
[ti] or:ti	Finds studies with the word in the title. For example, hearing[ti] finds studies with the word hearing in the title.	:ti (Cochrane)
so or [so]	Retrieves studies from a specific source. For example, hearing AND BMJ[so] finds articles on hearing in the BMJ.	
MeSH	MeSH is the Medical Subject Headings, a controlled vocabulary of keywords that may be used in PubMed or Cochrane. It is often useful to use both MeSH heading and text words (see section on 'How to use PubMed, below').	
" "	Use of quote marks will ask the database to search the phrase dictionary for that phrase. If none is found the words are simply joined by AND.	



Searching warm up

Scenario: A 64-year-old obese male who has tried many ways to lose weight presents with a newspaper article about 'fat-blazer' (chitosan). He asks for your advice.

P *Population/problem*

I *Intervention*

C *Comparator/control*

O *Outcome*

P *Population/problem*

I *Intervention*

C *Comparator/control*

O *Outcome*

Following steps for PubMed Clinical Queries:

Go to <http://www.pubmed.gov> and select Clinical Queries (left-hand menu)

1. Select the appropriate category (usually 'therapy', which is the default)

2. Type in the most crucial element of your PICO search (usually the I or the P)

3. If your search returns no articles then click the 'Broad' scope

4. If your search returns more than 30 articles then try adding more terms, eg if you used only the 'I' now try searching the I AND P (use capitals for the AND)

5. Select the best single article (eg the largest or longest trial NOT necessarily the most recent). Please record why you chose the article you did.

Exercise:

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 should wear elastic stockings on her next trip to reduce her risk of this.

To convert this to an answerable question, use the P I C O method.

P *Population/problem*

I *Intervention*

C *Comparator/control*

O *Outcome*

Thanks for your
attention

and hope you
always look for the
best evidence
available in your
daily practice!



