

CDHM Evidence-Based Searching

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Objectives

- What is Evidence-Based searching?
- Where can I search?
- Formulating a PICO question
- Translating PICO into a search strategy
- Basic Tips for searching
- Sample search

Evidence-based searching

Evidence-Based Medicine is the integration of current best research evidence with clinical expertise and patient values in making decisions about the care of individual patients. Sackett DL, Straus SE, Richardson WS, et al. Evidence-based medicine: how to practice and teach EBM. 2d ed. Edinburgh: Churchill Livingstone, 2000.

Evidence-based searching

When searching for Evidence-based information, pay attention to -

- the type of literature you are reading
- the methodology of the research carried out,
- the age of the research, and
- the appropriateness of this research to your clinical case.

Where can I search?

If you are an Alumni of University of Manitoba, you can get a FREE alumni library card

- Need your alumni number (call Alumni office or look on your copy of OnManitoba)
- Access to electronic material *within the library only*
- Includes databases such as PubMed, Cochrane Library and CINAHL and many journals

Searching in PubMed is free for everyone at pubmed.gov: some articles are free to read, some are not.

Other places to search:

- ADA's Center for Evidence-Based Dentistry
- Google Scholar – some articles are free online
- CDHA Cochrane Corner collects Systematic Reviews that are relevant to Dental Hygienists (requires a CDHA membership)

Dental Hygiene Toolkit

libguides.lib.umanitoba.ca/dentalhygiene

The screenshot shows the University of Manitoba Libraries website for the Dental Hygiene Toolkit. The header includes the university logo, navigation links (U of M Home, A-Z Index, Maps, JUMP, Webmail), a search bar, and user options (U of M Website, People, Research Experts). The main navigation bar lists Subjects, Find Books, Find Articles, My Library Account, Hours, Services, and Help. The breadcrumb trail is Libraries » Subjects » Health Sciences » Dental Hygiene Toolkit. The page title is 'Dental Hygiene Toolkit' with tags: dental, dentalhygiene, toolkit. A secondary navigation bar includes Home, Books|Journals|Articles, Clinical, EBD, Store|Write|Cite, Professional, Patient Info, Mobile, and Ke. Below this is a 'How do I?' section with a 'Home' link and a 'Print Page' icon. A search bar is also present. The main content area features a 'Welcome to the Dental Hygiene Toolkit' section with a description: 'Resources for course work, clinic work, exam preparation and keeping current within your profession.' Below this are three sections: 'Key Databases for Dental Hygiene' (listing PubMed, Cochrane Library, Scopus, CINAHL, and more), 'Drug Information' (listing LexiComp Online for Dentistry, e-CPS, LexiComp Online, and more), and 'Find'. The left sidebar contains 'About the NJMHS Library' with a photo and text, 'Library Information', 'Services', and 'Resources'. The right sidebar includes 'Contact' information for Neil John Mac... Library - Room 229, 'Links' (Website / Blog, Profile & Guides), and 'Subjects' (Dentistry, Dental Hygiene).

Use this toolkit to search for material in the library, and to plan your research before you arrive at the library.

Case

Your patient has chronic periodontitis. He has heard about antimicrobial treatment, and is wondering if this treatment would be beneficial for him, in addition to the scaling and root planing he already receives.

Based on his clinical presentation and the best evidence available, would you advocate for adding an antimicrobial to his current treatment plan?

Use the PICO model to transform your case into a question

Population or problem

Intervention

Comparison intervention

Specific **o**utcome of interest

Among {population} does {intervention} versus
{comparison} result in {outcome}?

- Translate PICO into a search strategy by:
 - Identifying key concepts
 - Listing possible synonyms for concepts

Concept 1 Population or Problem	Concept 2 Intervention	Concept 3 Comparison	Concept 4 Outcome
Patients with periodontitis	Antimicrobial treatment	Scaling and root planing	Reductions in probing depths, improved clinical attachment levels
?	doxycycline	debridement	

PubMed

- Access PubMed *in the Library* (from the library home page) to easily see full-text articles online
- Access PubMed from home (pubmed.gov) and limit to free articles



Filter your results:

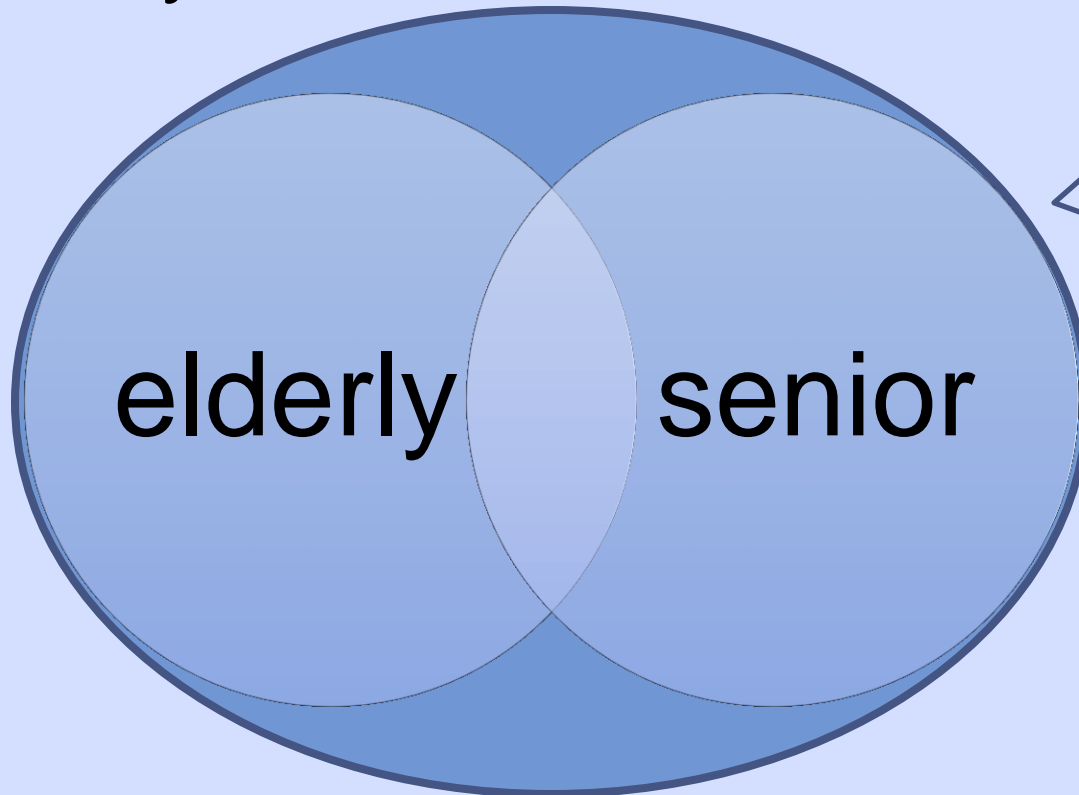
[All \(110\)](#)

Free Full Text (6)

[Review \(8\)](#)

Search tips

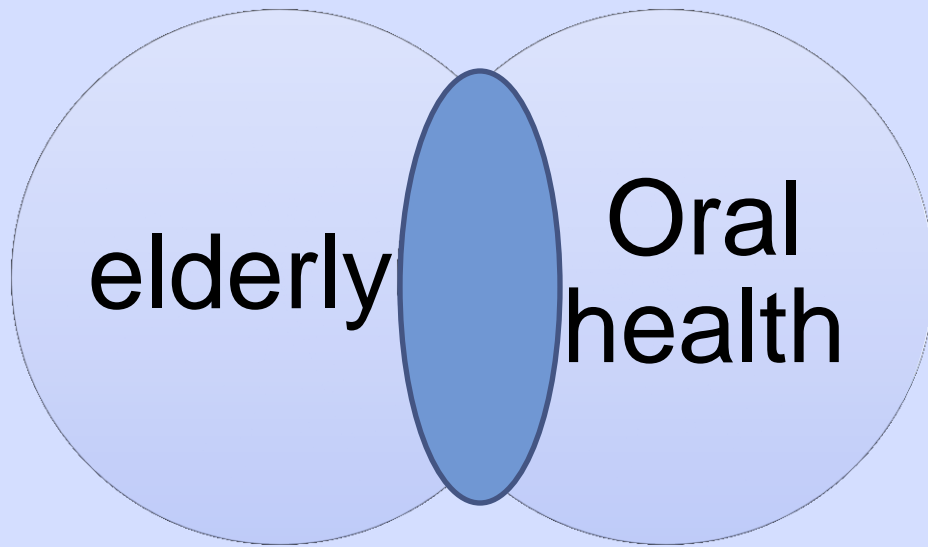
- Use OR to gather LIKE concepts together
eg. elderly OR senior



This
makes
your
search
BIGGER.

Search tips

- Use AND to gather DIFFERENT concepts together
- eg. Elderly AND oral health



This makes
your search
SMALLER.

More search tips

- Too many results?
 - Consider adding additional concepts
- Too few results?
 - Consider removing concepts
- Narrow results by adding Limits such as:
 - Year (last 10 years for Evidence-Based practice)
 - Language
 - Type of Article
 - Systematic Review
 - Clinical Trials

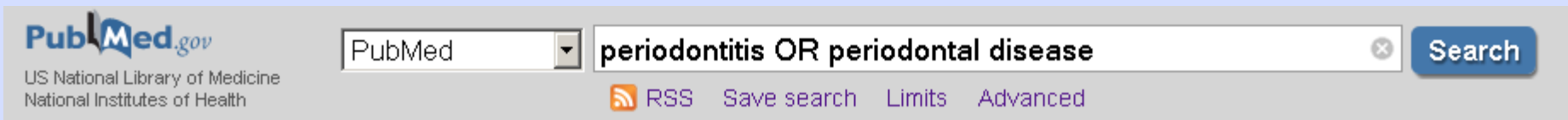
REMEMBER -

For EBP, it is important to read more than one article to confirm the validity of that research

Sample search

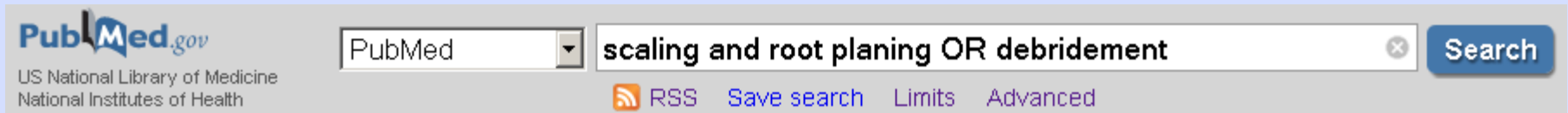
To start our search, we'll enter the terms from our PICO into PubMed

- search one part of PICO at a time
- ie. All terms for P



The screenshot shows the PubMed search interface. On the left is the PubMed.gov logo and the text "US National Library of Medicine National Institutes of Health". In the center is a dropdown menu set to "PubMed". To the right of the dropdown is a search input field containing the text "periodontitis OR periodontal disease" with a clear button (X) on the right. Further right are links for "RSS", "Save search", "Limits", and "Advanced". On the far right is a blue "Search" button.

- Then all terms for I, etc.

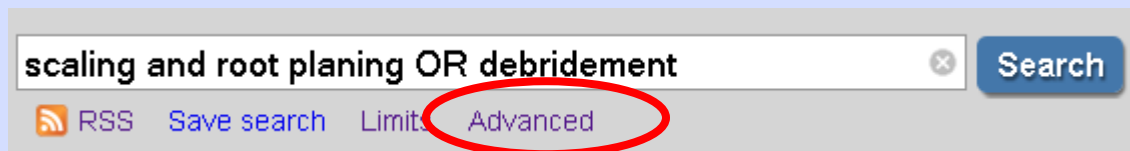


The screenshot shows the PubMed search interface. On the left is the PubMed.gov logo and the text "US National Library of Medicine National Institutes of Health". In the center is a dropdown menu set to "PubMed". To the right of the dropdown is a search input field containing the text "scaling and root planing OR debridement" with a clear button (X) on the right. Further right are links for "RSS", "Save search", "Limits", and "Advanced". On the far right is a blue "Search" button.

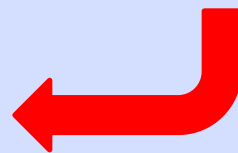
- Note that search terms are connected using OR

Sample search continued...

Once you have entered searches for each of the four PICO concepts, combine the four concepts in the PubMed Advanced area:



PubMed Advanced Search

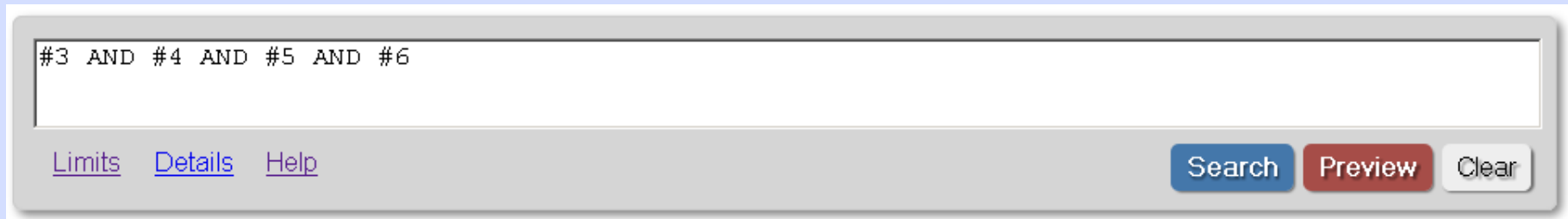


Search History

Search	Most Recent Queries	Time	Result
#6 Search probing depths OR clinical attachment levels OR clinical attachment loss		10:46:25	4569
#5 Search scaling and root planing OR debridement		10:45:54	20253
#4 Search antimicrobial OR doxycycline OR periostat		10:45:45	1198662
#3 Search periodontitis OR periodontal disease		10:45:35	69934

Sample search continued...

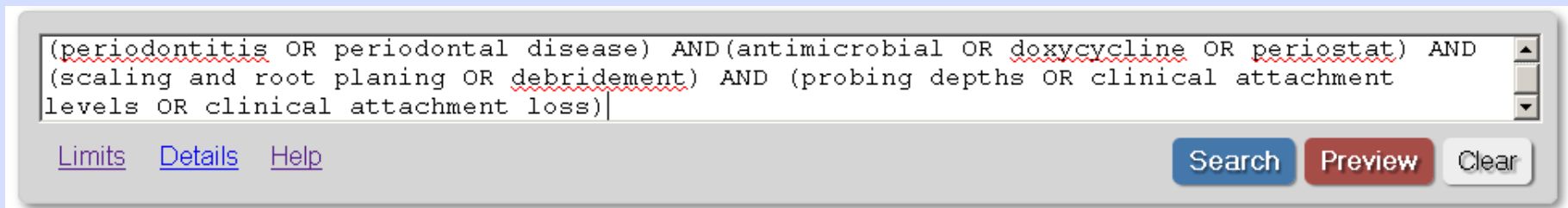
- Combine searches using either the search numbers assigned to each search, or by using brackets:



#3 AND #4 AND #5 AND #6

[Limits](#) [Details](#) [Help](#)

- Note that searches are connected using AND in both cases



```
(periodontitis OR periodontal disease) AND (antimicrobial OR doxycycline OR periostat) AND (scaling and root planing OR debridement) AND (probing depths OR clinical attachment levels OR clinical attachment loss)
```

[Limits](#) [Details](#) [Help](#)

Sample search continued...

- This search produces 289 results, 12 of which are free to the public.

[Display Settings:](#) Summary, 20 per page, Sorted by Recently Added [Send to:](#) **Filter your results:**

Results: 1 to 20 of 289 << First < Prev Page of 15 Next > Last >>

[Benefits of additional courses of systemic azithromycin in **periodontal** therapy.](#) [All \(289\)](#)
[Free Full Text \(12\)](#)
[Review \(22\)](#)

- You may choose to limit your search further, or to read the abstracts of some of these articles to choose the most appropriate research for your clinical case.

Thank you!

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