

# Beyond Google: Creating an Effective Strategy for Conducting Literature Searches

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SNRC | January 30, 2012

## Plan of the Hour

- Review evidence-based practice steps
- Focus on practical techniques for searching
- Review quick methods of evaluation
- Provide ideas for managing your research

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Part I

## EVIDENCE-BASED PRACTICE REVIEW

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## Evidence-Based Practice Defined

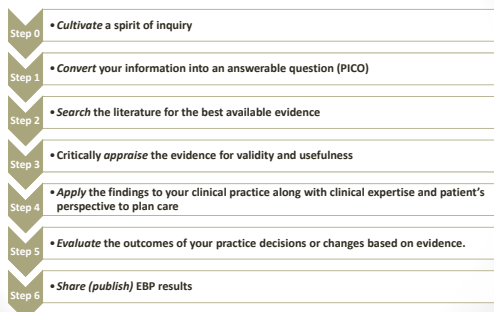
EBP is a problem-solving approach to the delivery of health care that:

- integrates the *best evidence* from well-designed studies and patient care data
- combines it with *patient preferences and values* and
- *nurse expertise*

Melnik BM, et al., Evidence-based practice: step-by-step: the seven steps of evidence-based practice. *Am J Nurs* 2010 Jan; 110(1): 51-3.

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## EBP Steps



Melnik BM, et al., *Am J Nurs* 2010 Jan; 110(1): 51-3.

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## Searching the Literature

- Where to begin?
- What terms do I use?
- What question am I asking?
- Is the source reliable?
- I have too many results.
- I have too few results.
- How do I find research articles?
- How do I keep track of my articles now that I've found them?
- My results are not relevant.
- How do I find similar articles?

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## Where to Begin...?

- PubMed
- CINAHL
- Google
- Google Scholar
- and others...

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Part II

## DEMOS & TIPS

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## Clinical Question:

Chlorhexidine bathing: What is the effectiveness in the prevention of hospital acquired infections?

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## Google Tips for Better Searches

- Keep it simple.
- Use words that are most likely to appear on the page.
- Describe what you need in as few terms as possible. All words you type are used in the query—each additional word limits your results.
- Choose descriptive words.

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Try this...	Tell Google...
<b>Phrase search ("")</b>	To search for words as an exact phrase. Ex: "chlorhexidine bathing"
<b>Search within a specific website</b>	To return results from a specific website. Ex: flu site:cdc.gov returns pages about flu only from cdc.gov
<b>Search within a specific domain</b>	To return results only within a certain domain. Ex: flu site:.edu returns pages about flu from sites ending in .edu
<b>Exclude terms (-)</b>	Exclude pages containing certain words from appearing in your results. Ex: antiviral -software will search for antiviral and exclude references to software
<b>Fill in the blanks (*)</b>	To treat the * as a placeholder and then find the best matches. Ex: chlorhexidine * prevents * gives results on chlorhexidine bathing, brushing, varnishes, gluconate...
<b>OR operator</b>	To search for either word. Ex: flu OR influenza 2011 OR 2012

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## Google: Evaluate Your Results

- Authority
- Accuracy
- Objectivity
- Coverage
- Currency
- Source

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## Demo



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## Google Scholar

- <http://scholar.google.com/>
- Searches across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.
- “Google Scholar aims to rank documents the way researchers do, weighing the full text of each document, where it was published, who it was written by, as well as how often and how recently it has been cited in other scholarly literature.”

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## Google Scholar Tips

- Set Google Scholar Preferences:
  - [http://scholar.google.com/scholar\\_setprefs](http://scholar.google.com/scholar_setprefs)
    - > Link to your library's resources
- Google Scholar Advanced Search Page:
  - [http://scholar.google.com/advanced\\_scholar\\_search](http://scholar.google.com/advanced_scholar_search)
    - > Search for words in Titles
    - > Return articles written by a specific Author
    - > Return articles published in a specific Journal
    - > Return articles published between a specific Date Range

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## Demo



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	Google	Google Scholar	PubMed
<b>Controlled By:</b>	Google engineers control the search algorithm, but have no control over World Wide Web contents.	Content is selected by Google Scholar staff, are very secretive about the sources included. Some publishers refuse to let Google Scholar search their web content.	PubMed is controlled by human experts who systematically select data for inclusion in the database, and then describe and organize it.
<b>Best Used For:</b>	General web searching; finding recent medical news and announcements.	A quick, easy start on a search, especially in a multidisciplinary field. Can help identify some core papers in a field.	The most current and comprehensive source for searching the biomedical literature.

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### PubMed Tips

Try this...	Tell PubMed...
<b>Start with a keyword search</b>	Enter keywords (and synonyms for these terms) you would expect to find in an <i>article title</i> or <i>abstract</i> [PubMed does not search the full text of articles.]
<b>Search by phrase ("")</b>	Add quotations around words to tell PubMed to find an <i>exact phrase</i>
<b>Search for words in the title [ti]</b>	PubMed to search for words in article titles [Do not use this for comprehensive searches.] Ex: <b>chlorhexidine[ti] AND bathing[ti]</b> .
<b>Use Limits</b>	Limit your results by <i>type of article, date range, age group, journal sets</i> , and more.
<b>Search by Author [au]</b>	Search PubMed for a particular author Ex: <b>Flum DR[au]</b>
<b>Find Related Citations</b>	In the <i>abstract view</i> , take a look at the <i>related citations</i> generated for a particular article (right hand side of page)

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### PubMed Tips (cont.)

Try This...	Tell PubMed...
<b>Construct a search using MeSH terms</b>	Once you've identified an article that looks relevant, take a look at the article's MeSH terms. <ul style="list-style-type: none"> <li>In the abstract view, click on the + next to Publication Types, MeSH terms.</li> <li>Click on a term to send it to the PubMed search box.</li> <li>You may combine terms, but you may receive better results by starting with two or three terms.</li> <li>You may add keywords to your search to narrow your results.</li> </ul>
MeSH terms are Medical Subject Headings and are assigned to all indexed articles in PubMed	
MeSH terms describe what the article is about and are a key in constructing <i>targeted searches</i> .	

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### CINAHL Tips

Try This...	Tell CINAHL...
<b>Limit to Research Articles</b>	Check the <i>Research Article</i> box to show only research articles in your results
<b>Limit to Peer Reviewed Articles</b>	Check the <i>Peer Reviewed</i> box to show only results from peer reviewed journals in your results
<b>Exclude PubMed Results</b>	Check the <i>Exclude MEDLINE Records</i> box to show only results unique to CINAHL
<b>Limit to Evidence-Based Practice</b>	Check the <i>Evidence-Based Practice</i> box to retrieve articles from evidence-based practice journals
<b>Find Similar Results</b>	View a citation of interest and click the title to see the Detailed Record. Click on <i>Find Similar Results</i> on the left side of the screen.
<b>Search by CINAHL Heading</b>	Select a citation of interest and click the title to see the Detailed Display. Inspect the <i>Major Subjects</i> and <i>Minor Subjects</i> fields in the citation record. Click on an individual term to run a search on that subject heading or copy desired terms into individual search boxes to create a new search.

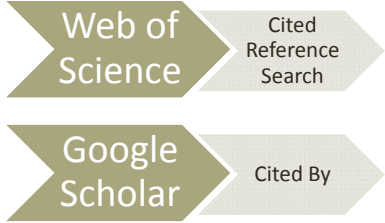
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### Demo



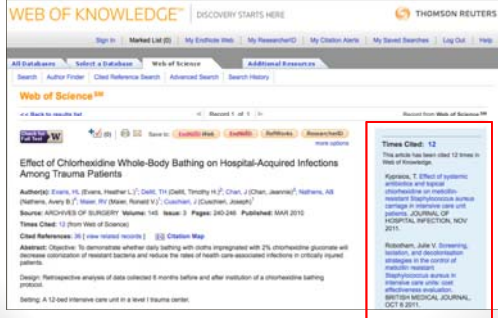
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### Cited Reference Search




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### Web of Science: Cited Reference Search



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### Google Scholar: Cited By



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### Part III

## EVALUATE THE EVIDENCE

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### Rapid Appraisal – Parts of a Research Article

Parts of an article	Should...
<b>Title</b>	Describe the article
<b>Abstract</b>	Represent the article concisely; indicate the type of study
<b>Introduction</b>	State the purpose of the article
<b>Purpose of the Study</b>	Explain the reason for conducting the research; should state the problem
<b>Research Question</b>	Define the research question(s)
<b>Literature Review</b>	Was one done? How comprehensive?
<b>Methods</b>	Explicitly describe the type of study. Is the design appropriate for the study? Is the design explained?
<b>Analysis</b>	Is the analytical approach consistent with the study question and design?

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### Rapid Appraisal – Parts of a Research Article

Parts of an article	Should...
<b>Results</b>	Presented clearly in the text, tables, and figures? Statistics are explained?
<b>Discussion</b>	Are results explained in relationship to the research question? What's the significance to nursing?
<b>Limitations</b>	Are limitations presented? What are their implications? Any potential bias disclosed?
<b>Conclusion</b>	Are there recommendations for nursing practice or future research?

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- ### Evaluate the Evidence
- Are the results of the study valid?**
    - Were patients randomized?
    - Were all patients who entered the trial properly accounted for?
    - Were study personnel blinded to tx?
    - Were the study groups similar at the start of the trial?
  - What were the results?**
    - How large was the tx effect?
  - Will the results help me in caring for my patients?**
    - Can the results be applied to my patient care?
    - Were all clinically important outcomes considered?
    - Are the tx benefits worth the potential harms and costs?

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Part IV  
**MANAGE YOUR RESEARCH**

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- ### Manage Your Research
- Use a citation manager.**
- RefWorks
  - EndNote
  - EndNote Web
  - Zotero – Free (FireFox)
  - Mendeley – Free

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### RefWorks

The screenshot shows the RefWorks web interface. At the top, it says 'University of Washington Libraries'. Below that, there are navigation tabs for 'References', 'New', 'Search', 'Bibliography', 'Tools', and 'Help'. A search bar is present with the text 'Search your RefWorks database'. The main area displays a list of references. Two references are visible:

- Ref ID: 15**  
 Journal Article Reference 1 of 20  
 Authors: [Hesseler, J.C.](#), [Tink, J.E.](#), [Gonzalez, J.R.](#), [Lopez, S.C.](#), [Shelton, A.G.](#), [Wheeler, J.A.](#)  
 Title: Effectiveness of chlorhexidine bathing to reduce central-associated bloodstream infections in medical intensive care unit patients  
 Source: *Antonie van Leeuwenhoek*, 2005, 88, 2, 207-214, United States  
 Folders: [antibiotics](#), [inhibits](#), [last](#), [sourced](#)  
[View PDF](#)
- Ref ID: 26**  
 Journal Article Reference 2 of 20  
 Authors: [Carmel, C.](#), [Schwartz, G.L.](#), [Sessler, T.](#), [Petrovic, G.](#), [Gent, M.](#), [Lopez, A.](#), [Renaud, A.](#), [Le Comte, P.](#)  
 Title: Prevention of acquired infections in intubated patients with the combination of two decontamination regimens  
 Source: *Crit Care Med*, 2008, 36, 2, 207-214, United States  
 Folders: [antibiotics](#), [inhibits](#), [last](#), [sourced](#)  
[View PDF](#)

On the right side, there is a 'Folders' panel with 'antibiotics' and 'inhibits' listed. Below that is a 'Quick Access' panel with links for 'My List', 'Advanced Search', 'Import', 'Export', 'Customize', 'Print/Output Style', and 'Output Style Manager'.

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## RefWorks

[1] Bressdale SC, Trick WE, Gonzalez JM, Lyles RD, Hayden HK, Weinstein RA. Effectiveness of chlorhexidine bathing to reduce catheter-associated bloodstream infections in medical intensive care unit patients. *Arch Intern Med* 2007 Oct 22;167(19):2077-2079.

[2] Camus C, Bellissant E, Sebille V, Perrin D, Garo B, Legras A, et al. Prevention of acquired infections in intubated patients with the combination of two decontamination regimens. *Crit Care Med* 2005 Feb;33(2):307-314.

[3] Climo M, Sepkowitz KA, Zuccotti G, Fraser VJ, Warren DK, Pert TM, et al. The effect of daily bathing with chlorhexidine on the reduction of methicillin-resistant Staphylococcus aureus in intensive care units: a double-blind placebo-controlled multicenter study. *Crit Care Med* 2009 Jun;37(6):2088-2094.

[4] Evans HL, Dellit TH, Chen J, Nathans AB, Maise RV, Cuschieri J. Effect of chlorhexidine whole-body bathing on hospital-acquired infections among trauma patients. *Arch Surg* 2010 Mar;145(3):240-246.

[5] Roumier F, Dubois O, Pironne B, Herbelecq F, Leroy O, Desmetre T, et al. Effect of oral and dental plaque antiseptic: the reduction of methicillin-resistant Staphylococcus aureus in the intensive care unit: a double-blind placebo-controlled multicenter study. *Crit Care Med* 2009 Aug;37(8):2726-2731.

[6] Garnouste-Orgeas H, Timsit JF, Kallel H, Ben Ali A, Dumay MF, Paoli B, et al. Colonization with methicillin-resistant Staphylococcus aureus in ICU patients: morbidity, mortality, and glycopeptide use. *Infect Control Hosp Epidemiol* 2001 Nov;22(11):687-692.

[7] Kasasian SZ, Hermal LA, Jefferson SA, Riventau SJ, Machin FF. Impact of chlorhexidine bathing on hospital-acquired infections among general medical patients. *Infect Control Hosp Epidemiol* 2011 Mar;32(3):238-243.

[8] Maki DG, Stoltz SM, Wheeler S, Hermal LA. Prevention of central venous catheter-related bloodstream infection by use of an antiseptic-impregnated catheter: A randomized, controlled trial. *Ann Intern Med* 1997 Aug 15;127(4):337-346.

[9] Mimoz O, Pieroni L, Lawrence C, Edouard A, Costa Y, Sami K, et al. Prospective, randomized trial of two antiseptic solutions for prevention of central venous or arterial catheter colonization and infection in intensive care unit patients. *Crit Care Med* 1996 Nov;24(11):1818-1823.

[10] Munoz-Price LS, Hota B, Sklarer A, Weinstein RA. Prevention of bloodstream infections by use of daily chlorhexidine baths for patients at a long-term acute care hospital. *Infect Control Hosp Epidemiol* 2009 Nov;30(11):1033-1035.

[11] Popovich KJ, Hota B, Hayes B, Weinstein RA, Hayden HK. Daily skin cleansing with chlorhexidine did not reduce the rate of central-line associated bloodstream infection in a surgical intensive care unit. *Intensive Care Med* 2010 May;35(5):634-638.

[12] Popovich KJ, Hota B, Hayes B, Weinstein RA, Hayden HK. Effectiveness of routine patient cleansing with chlorhexidine gluconate for infection prevention in the medical intensive care unit. *Infect Control Hosp Epidemiol* 2009 Oct;30(10):949-953.

[13] Ridonour G, Lampan A, Federspiel J, Kirshovsky S, Wang E, Climo M. Selective use of intranasal mupirocin and chlorhexidine bathing

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## EBP Resources

- [Basic Introduction to EBP](http://libguides.hsl.washington.edu/ebpintro). University of WA. [http://libguides.hsl.washington.edu/ebpintro]
- American Nurses Association. [Research Toolkit](http://nursingworld.org/Research-Toolkit). [http://nursingworld.org/Research-Toolkit] Introduction to research and evidence-based practice. Provides access to numerous resources to translate evidence into practice and to support nurse researchers.
- [Evidence-Based Medicine Glossary](http://www.cebm.net/index.aspx?o=1116) [http://www.cebm.net/index.aspx?o=1116] from the Centre for Evidence-Based Medicine, Oxford, United Kingdom.
- Melnyk BM, Fineout-Overholt E, et al. [Evidence-based practice: step-by-step](http://bit.ly/zixv2X) [http://bit.ly/zixv2X] 12 article series in *American Journal of Nursing* which overviews EBP for nurses.
- [User Guides to Evidence-Based Practice](http://www.cche.net/text/usersguides/therapy.asp) [http://www.cche.net/text/usersguides/therapy.asp] developed by McMaster University's Evidence-Based Medicine Working Group, are disseminated on the Internet by the Canadian Centre for Health Evidence.

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Thank you!  
Questions?

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