Virginia Commonwealth University

VCU Scholars Compass

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The Basic Rules of Doing a Good Search and Search Tips - Revised

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The Basic Rules of Doing a Good Search and Search Tips

Keep in Mind: Search comprehensiveness is determined by information need.
(*Patient Care v. School Assignment v. Personal Need*)

1) Break Search into Concepts
- Easier to manipulate your search to get desired results.
- Start with two most important concepts from your question.
- Combine with Boolean operators - *AND, OR, NOT*

Concept 1: Handwashing OR Handwashing OR Hand Hygiene	AND	Concept 2: Hospital Acquired Infections OR Hospital Acquired Infections OR Nosocomial Infections	AND	Concept 3: Nurse OR Nurse OR Nurses OR Nursing
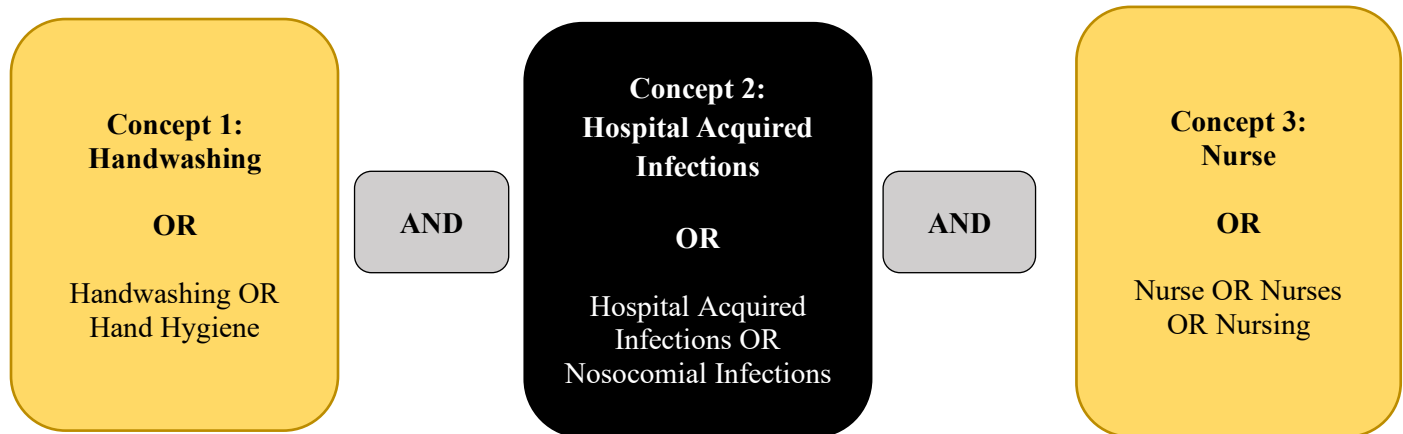
2) Come up with Alternative Terms or Concepts for Your Topic
- Databases = Different Audiences
- Remember: Terms people use are based on background / perspective / education/ profession
- Sources for alternative terms:
    - Index/Entry Terms of Subject Headings
    - Terms from Related Articles
    - Google Scholar

	Concept/ Term	Synonyms/ Related Concepts (Other Ways to Describe)
Concept/ Term #1		OR
Concept/ Term #2		OR
Concept/ Term #3		OR

AND (between #1 and #2)
AND (between #2 and #3)

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Nursing Research Guide:
https://guides.library.vcu.edu/nursing

3) Use Subject Heading When Possible *(Advanced Searching Skill)*

- PubMed – Medical Subject Headings (MeSH)
- Embase – Emtree (Embase Subject Headings)
- CINAHL – CINAHL Headings
- Useful Tools:
    - *MeSH on Demand:* https://www.nlm.nih.gov/mesh/MeSHonDemand.html
    - *Yale MeSH Analyzer:* http://mesh.med.yale.edu/

	Advantages	Disadvantages
Controlled Vocabulary (Subject Heading)	• May provide terms that can broaden or narrow search • Accounts for most common synonyms • Retrieve all items in database indexed under the topic	• Recently coined terms may not have a subject term assigned • Can be difficult to find if no list of subject terms is included in the database
Keyword	• Retrieve synonyms, jargon, new or distinctive words • Identify relevant articles quickly to find appropriate controlled vocabulary	• May retrieve irrelevant articles • Your search must account for synonyms and alternative terms

4) Start Your Search Broad and Then Focus

- Use Limits/Filter of the Database *(Publication/Study Types, Language, Gender/Sex, Etc.)*
    - Start at the Top of the Evidence Pyramid and Work Down
- Add an Additional Concept or Term

Finding Too Many Articles? Ways to *Decrease/Focus* Your Results	Not Finding Enough? Ways to *Expand/ Increase* Your Results
• Utilize limits to English language, human subjects, review articles, time period searched (*last 5 years*), etc. • Add an additional term or concept • Do not explode • Restrict subject heading to major focus or major heading • Choose any relevant subheadings	• Add additional synonyms • Explode subject headings whenever possible • Do not restrict subject headings to major focus/heading • Do not choose subheadings • Consider searching back in time, look at citations of relevant article found.

5) Always Search at Least Two Databases – *Unique Articles in Each Database*

Provide different ways to access existing literature on a topic and may find evidence in one database using terminology that would not be found in another database.

PubMed	**PubMed:** Contains biomedical literature. Good place to search when the question is medical in nature or when you are not sure where to start.
EMBASE	**Embase:** Contains biomedical and pharmacological literature. Good place to search when it comes to medical, pharmacology and toxicology topics or questions.
CINAHL	**CINAHL (Cumulative Index of Nursing and Allied Health):** Contains nursing and allied health literature. Good place to search when questions fall within the scope of nursing and allied health practice.
PsycINFO	**PsycInfo:** Contains psychological literature. Good to search when the question addresses psychology or psychiatry topics.
Cochrane Library	**Cochrane Library:** Resource that contains several different databases, one of those being the database of systematic reviews. Good place to search when searching for systematic reviews, economic evaluations and randomized controlled trials.
ERIC / Education Research Complete	**Education Resource Information Center or Education Research Complete:** Contain educational research. Good places to search when your question addresses educational topics.
Business Source Complete / ABI/INFORM	**Business Source Complete or ABI/Inform:** Contain business, management and economic research. Good places to search when your search address management, economic or business topics.
Academic Search Complete	**Academic Search Complete:** Contains publications covering social science, education, psychology, and other subjects. Contains academic journals, magazines, and publication formats. A good place to search for general topics on an assortment of subjects.
Web of Science	**Web of Science:** Contains information about the basic sciences, social sciences, the arts and humanities. Contains journal articles, reviews, meeting/conference abstracts, books chapters and other types of publications.

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Google Scholar: Indexes the full text of scholarly literature across an array of publishing formats like journal articles, theses, and preprints from various disciplines. The publications come from:

- Selected Academic Publishers
- Selected Professional Society Publishers
- Preprint Repositories
- Universities / University Repositories
- Scholarly Articles Available Across the Open Web / Open Access Articles

- **Should never be sole resource searched.**
- **Good place to start to get an idea of what may be out there on a topic and identify some potential useful articles.**
- **Always Best to Use a Discipline Specific Database (PubMed, CINAHL, etc.)**

Advantages	Disadvantages

• **Easy to Use:** Interface similar to Google and can provide many relevant articles
 	
• **Find Related Articles:** "Cited By" feature allows one to find a list of related articles in Google Scholar that have cited the identified article.
 	
• **Strongest in Science & Technology Articles:** This is a result of pulling citations from or partnerships with:
 	
   o **PubMed:**
   o **Cambridge Scientific Abstracts**
   o **IEEE**
   o **OCLC's (Online Computer Library Center) Open WorldCat**
 	
• **Patents and Legal Documents:** Can find patents and legal documents but is not exhaustive for either.
 	
• **Citation Format:** Can click on (🔖) under the title of the article to get citations in MLA, APA, or Chicago style.
	• **Not Able to Search Comprehensively:** Resource lacks the ability to easily focus your search. Can only limit by date with no ability to limit by publication type, language, sex or other useful filters found in discipline specific databases.
	
	• **Current Articles Don't Always Appear First:** The resource uses an algorithm that considers *relevancy*, *recency* and *citation counts* when returning search results. This results in the most recent articles not being displayed first. Can be addressed some by limiting by year.
	
	• **Does not Define Scholarly Sources:** Google does not release the parameters considered when a source is determined to be scholarly or not. Individual evaluation of sources found will be key.
	
	• **No Alert When Changes are Made:** When changes are made to the resource there is no alert or information as to what resources or features have been added or taken away. This prevents one from being able to replicate searches over time.

Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, scopus, web of science, and google scholar: Strengths and weaknesses TheFASEB Journal : Official Publication of the Federation of American Societies for Experimental Biology, 22(2), 338-342. doi:10.1096/fj.07-9492LSF

Vine & Rita. (2006). Google scholar Journal of the Medical Library Association, 94(1), 97–9.

Google Scholar – Wikipedia - https://en.wikipedia.org/wiki/Google_Scholar

What is Google Scholar? · University of Minnesota Libraries - https://www.lib.umn.edu/faq/5341

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Reasons for Differences in Searches

Word Choice

Background / Education / Perspective / Profession

How Terms are Combined

Boolean Operators - AND / OR / NOT
- OR: More; ANY of your search terms can be present in the resulting records.
- AND: Less; ALL search terms must be present in the resulting records.
- NOT: Narrow; Exclude words/concepts from your search.

Databases Searched

PubMed/MEDLINE or OVID MEDLINE
Biomedical/Medical Topics

Embase
Biomedical/Medical and Pharmacological Topics

CINAHL
Nursing and Allied Health Topics

Different Word or Term Options

Use of Quotation Marks = Exact Phrase Searching

Singular or Plural
Nurses v. Nurse

Truncation (*)
Nurs* = Nurse, Nurses, Nursing
Be Cautious When Using!

Compound Words
Together or Separate
"Handwashing" or "Hand washing"

Use of Limits / Filters
Put on After Combining Terms

Field of Citation Searched
Title, Abstract, etc.

Subject Headings
MeSH, Emtree, CINAHL Headings, etc.

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