Literature Searching for Healthcare Professionals

The Shimberg Health Sciences Library Welcomes you
Literature is for:

- writing
- patient care
- homework
- presentations
- class discussions
Literature is deliverable as:

- printed text as in a [physical] book or journal
- online version [digitized] of printed text
- cd/dvd
- audio (e.g., ipod)
- Internet (W.H.O. report, YouTube)
- broadcasted, on tv...live, even!
- where and however someone is delivering information [hard copy, digitized, or tape]
Objectives

- gain insight into structure and organization of medical literature
- recognize literature by its “origin”
- identify main literature search tools
  - select appropriate search tool
Help (at the Shimberg Library)

- reference librarians 9-5pm M-F
- front desk 8-10pm everyday
- me (John Orriola) often
- passwords and such (HSIS)
- jorriola@healthlib.usf.edu
- 974-2288
- 974-2243
- 974-2990
- 974-6288
About this module

- orientation to medical literature resources
- see Help for contacting librarians
- see Help for connection/password problems
- an introduction to practical concepts of medical literature structure and organization. See Modules Menu for individual resource instruction
**Instructional modules**

- OR_AND_NOT and other database controls
- PubMed
- CINAHL
- Point of Care databases
- Cochrane library
- USF Catalog
- Google
- Web of Science

Very important resources
Other services

- ILL
- Endnote (bibliography software)
- PDAs (handheld computers)
- support, support, support
“Origin” of literature

not where you find it but where it came from

- report of research(er’s) findings, *published* as journal article
  - *Primary literature*
- synthesis of comparable or similar published research articles
  - *Secondary literature (synthesized from similar primary literature articles into Review Articles)*
    - Digested into a quick-format for bedside/ *Point of Care literature*
- books (most notably, textbooks), websites, etc.
  - *Tertiary literature*
Review

- Primary literature (is the research)
- Secondary literature (synthesizes similar primary literature articles into review articles)
  - Point of Care literature (secondary literature with special formatting)
- Tertiary literature

All references fall into one of these categories. What kind of reference do you need?
Use primary literature when

- need actual, most current research on a specific therapeutic, diagnostic, prognostic, etiological issue
- sample therapeutic efficacy question:
  - e.g.: How effective is atorvastatin for lowering LDL cholesterol after coronary bypass surgery?
Primary literature example


Intensive lipid-lowering with atorvastatin for secondary prevention in patients after coronary artery by


Division of Cardiology, San Francisco General Hospital, University of California, San Francisco, California 94110, USA.

OBJECTIVES: The aim of this post hoc analysis from the TNT (Treating to New Targets) trial is to determine whether patients with (CABG) surgery achieved clinical benefit from intensive low-density lipoprotein (LDL) cholesterol lowering. BACKGROUND: The atherosclerosis is accelerated in coronary venous bypass grafts. METHODS: A total of 10,001 patients with documented coronary CABG, were randomized to atorvastatin 80 or 10 mg/day and were followed for a median of 4.9 years. The primary end point was cardiovascular event (cardiac death, nonfatal myocardial infarction, resuscitated cardiac arrest, or stroke). RESULTS: A first major the patients with prior CABG and 8.5% of those without prior CABG (p < 0.001). In CABG patients, mean LDL-cholesterol level arm and 101 mg/dl in the 10-mg arm, and the primary event rate was 9.7% in the 80-mg arm and 13.0% in the 10-mg arm (hazard ratio 0.71, 95% confidence interval 0.54 to 0.91, p = 0.0015). Repeat revascularization during follow-up, either CABG or percutaneous coronary intervention, was performed 79 mg/dl with atorvastatin 80 mg/day in patients with previous CABG reduces major cardiovascular events by 27% and the need compared with less intensive cholesterol-lowering to a mean of 101 mg/dl with atorvastatin 10 mg/day. (A Study to Determine the Lowering LDL Below Minimum Target Levels [TNT]; NCT00327691).
Primary literature

- found in
  - journals
  - not books (will find references to primary literature)
- principal finding tool for journal literature is...
  - the index (more commonly known as journal database)
  - thumbing through 1000s of journal tables of contents is tedious
Use secondary literature when

- one article isn’t enough-consensus
- quality of a study is suspect
- read about numerous studies and their combined data on the same topic at once
- view bibliography on a subject
Secondary literature example

Cumulative clinical trial data on atorvastatin for reducing cardiovascular events: the clinical impact of atorvastatin.

Bybee KA, Lee JH, O'Keefe JH

St. Luke's Mid America Heart Institute and University of Missouri-Kansas City, Kansas City, MO, USA.

BACKGROUND. Since the 1990s, a multitude of statin trials have definitively demonstrated the benefits of statin therapy to reduce the risk of adverse coronary heart disease (CHD) events. Among these, the Atorvastatin Landmark program—a group of 32 atorvastatin trials—has assessed the efficacy and safety of atorvastatin across its full dose range and has helped illustrate its effectiveness in treatment of cardiovascular disease and other disorders and also in non-cardiovascular outcomes. SCOPE: This paper will review the major atorvastatin clinical trials and report relevant findings with statistical significance. FINDINGS: Clinical trials with atorvastatin have established significant reductions in cardiovascular events in patients treated with CHD. It is clear that high-dose atorvastatin will reduce LDL to approximately 70 mg/dL in many patients and improve cardiac outcomes. Conclusions: The evidence supports the use of atorvastatin to treat and, in some cases, reverse atherosclerotic progression. A study of diabetic patients showed atorvastatin reduced the occurrence of acute CHD events, coronary revascularizations, and stroke. Atorvastatin has been found to be effective for reducing nonfatal myocardial infarctions and fatal arrhythmias, even in patients with three or more additional risk factors. High-dose atorvastatin was found to be effective in reducing risk of recurrent stroke in patients with prior cerebrovascular events; it has also been shown to benefit patients suffering a recent acute coronary syndrome, and to slow cognitive decline in preliminary studies of patients with Alzheimer’s disease. Atorvastatin has been associated with reduced progression of mild chronic kidney disease; however, in a randomized trial of patients with end stage renal disease on dialysis, atorvastatin showed no statistically significant benefit. Limitations of this review include lack of generalizability of the atorvastatin trial data to other settings, lack of head-to-head outcomes trials involving the newer, more potent statins, and the relatively short study durations (none exceeded 5 years) when atherosclerosis is typically a decades-long disease. CONCLUSION: A compelling body of evidence documents that atorvastatin reduces major cardiovascular events in both secondary and primary prevention of CHD and in a broad range of patients and disease conditions. Furthermore, throughout its dose range, atorvastatin is safe and well tolerated.
Secondary literature

- found in
  - journals
  - specialized secondary literature databases

- principal source of journal literature is...
  - the index (more commonly known as journal database) (same as primary)
    - known as review articles

- and...specialized sources of secondary literature
  - Cochrane database of systematic reviews
  - National Guidelines Clearinghouse
  - PeDRO (Physiotherapy evidence database)
**Point of Care**

- special kind of secondary literature
  - highly structured format for point of care/bedside use
  - evidence-based, current, well referenced
  - available for handheld computers (pda)
  - focused on therapy, diagnostics, harm, prognosis

- principal databases
  - DynaMed
  - Essential Evidence
  - UpToDate-available ONLY at the library

*Readily available on the library home page*
Point of care (POC) literature example

DynaMed database

Pressure ulcer: updated 2009 August 11, 08:46 AM

Treatment section

Treatment overview:

- methods of pressure relief (support surfaces) with evidence for reducing risk of new pressure ulcers
  - higher specification foam mattresses compared to standard hospital foam mattresses (level 1 [likely reliable] evidence)
  - Australian medical sheepskin (level 2 [mid-level] evidence)
  - low air loss bed compared to standard intensive care beds (level 2 [mid-level] evidence)
  - double-layer air-cell overlay compared to single-layer air-cell overlay or standard hospital mattress (level 2 [mid-level] evidence)
  - air-fluidized supports (level 2 [mid-level] evidence)

- dressings
  - hydrocolloid dressings may improve pressure ulcer healing rate (level 2 [mid-level] evidence)
  - insufficient evidence for specific over other types of hydrocolloid dressings

- debridement has been recommended (grade C recommendation [lacking direct evidence]), but insufficient evidence to support any specific debriding agent
- insufficient evidence to support or refute use of wound cleansing for pressure ulcers
- topical phentoin might be more effective than DuoDerm dressings, topical antibiotics or saline dressing (level 2 [mid-level] evidence)
- insufficient evidence to guide nutritional therapy for treatment of pressure ulcers, but adequate nutritional support associated with healing for Stage III and IV ulcers (level 2 [mid-level] evidence)
Tertiary literature questions

- simple questions usually beginning with what, who, where when and an object, e.g., What class of drugs is used for…?
- do not require [new] research literature to answer
- structure, general knowledge, definitions, foundation, characteristics, fundamentals, components, statistics, instruments or tests
Tertiary literature questions

- textbooks, dictionaries, directories, glossaries, web sites, drug compendiums, etc.
- no journal literature
- principal source is the catalog and Google coming up close behind it
- also known as background literature
- most used
Main literature search tools

- Use the Shimberg Library home page to find these tools…

<table>
<thead>
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<tr>
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<tr>
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[brackets] indicate name of entity which develops or markets index
Journal literature indexes

- index (journal article database) is the only tool for searching journal literature references
  - but what about Google?
- only the subject matter changes, i.e., each discipline has its own index(es)
- gather and organize world’s journal literature
- retrieve lists of articles that address your question
- retrieve references of existing journal articles, though, *not necessarily the articles themselves*
### Main literature search tools

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**Specialty databases**

- secondary literature
  - Cochrane
  - National Guidelines Clearinghouse
  - PeDRO (physical therapy and orthopedics)
- point of care databases
  - DynaMed
  - Essential Evidence
  - UpToDate
**All together now…**

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Dude, what about the Internet?

- non-published, non-specific, not otherwise found
- demographic, statistical (source) data, produced by government(s)
- you are responsible for determining authority, current-ness and source unlike with library catalogs and academic journal literature indexes
The Internet

- Google, the flavors
  - Advanced Search for controlled searches
  - Scholar for additional scholarly material
  - Google Images for pictures
## All together now...

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<td>Google</td>
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Summary

- use index for article references; catalog for journal containing your article(s), books, etc.; specialized databases as necessary and Google for everything else
- finding the principal resources is easy because the Shimberg homepage offers direct links to all of the databases you’ll use without much fumbling around
- make a note of this: You cannot find references to journal *articles* in the catalog, you must use the indexes
- the catalog inventories the journals to which we and by extension you, subscribe
Summary

- to read a journal article referenced in Medline or CINAHL, search library catalog by journal name to determine if we subscribe to it, in order to read the article
- literature searching begins with establishing and classifying the question
- this process is repeated constantly for each new information need, sometimes for the same one, i.e., a very complex question could have a number of foundational, structural or definition questions within it, i.e., reading a journal article may require a dictionary
Summary

- most journal literature searching in clinical matters is done in Medline
- social sciences such as nursing and psychology have their own journal literature indexes (CINAHL; PsycInfo)
- whenever you need anything other than a journal article, use the (a) library catalog