Clinical Resources
There is no ultimate database that will answer all of your clinical questions. Different sources can also produce different answers. It is therefore important to have an understanding of the resources available to you in order to decide which are best to use in different scenarios.

EBM Research
Regardless of the database used, it is important to evaluate study design and the level of evidence when critically appraising medical information.

The top level of evidence is the systematic review. A systematic review summarizes two or more Randomized Controlled Clinical Trials (RCCT). It can help clinicians get a broader view of a particular topic. A high quality systematic review starts with a clear clinical question and involves a comprehensive search of primary studies (RCCTs) and a thorough assessment of the methodological quality of the primary studies and reproducible decisions.

The second level of evidence is a Randomized Controlled Trial (RCCT). RCCTs are considered the Gold Standard because they are susceptible to less bias than nonrandomized trials. However, individual RCCTs are often limited by inadequate sample size.

For more detailed information on EBM Research, refer to the "Searching for Evidence Based Medicine 2010" E-Learning Module.
The Hierarchy of Information Resources

Both synthesized resources and literature searches are a high level research, but choosing between the two depends on what kind of information you need.

**Literature Searches:** These are helpful when you need a study/article on a specific topic. These are also best for research on the full breadth of information published on a particular topic, e.g. when you are doing a publication/study or when you need the most current information on something. Note that when you need this type of breadth and currency it is best to do a literature search instead of using databases like UptoDate or DynaMed because the research listed in these databases will only be as reliable as the authors’ ability to find research.

**Synthesized Clinical:** These resources aggregate clinical information from multiple references so that you can learn something quickly. It is important to note what level of evidence different suggestions from these resources have; not everything in UptoDate, DynaMed etc can be instantly regarded as a high level (refer to the EBM levels of evidence pyramid above).

**General Clinical:** These are general references that are intended to be used by clinicians. These resources are usually books and websites with general information on a topic. Language and communication will be in the context of physicians working with patients, which is helpful in considering recommendations.

**General Patient Centered:** These are resources geared for patient education on a medical topic. These should only be consulted for patient education materials or when you have no idea what something is and you need to realize the “aboutness” of the topic, test etc. As soon as you need more specific information you should refer to a clinical resource.

**Recommended Databases:**

- Ovid Medline
- Pubmed
- PsycINFO
- UptoDate
- DynaMed
- Micromedex
- Clinical Evidence
- Books
- Medscape
- Clinical Organization Websites
- Books
- Micromedex Care Notes
- Nursing Reference Center (patient ed tab)
- MayoClinic
- MedlinePlus
Searching Medline: Medline is the National Library of Medicine's database containing millions of medical references. Search Engines such as PubMed and Ovid search within Medline with more advanced searching techniques. For more information on Medline visit http://www.nlm.nih.gov/services/usemedline.html

Ovid

While you can search with medical subject headings through PubMed, Ovid Medline makes searching with them much simpler. Every article indexed in Medline is given a number of subject headings to signify its "aboutness." This is very useful for searching when different authors may use different terms for the same topic. It is also helpful when the word/phrase for the main topic of an article is not actually used often in the article.

An example search on exposure to silica:

1. Make sure the "Map Term to Subject Heading" is checked. Then to find subject headings related to your topic, type in one aspect of your topic at a time.

![Search interface for Ovid Medline]

2. Choose the appropriate terms to your aspect. If your term does not appear in the list, try typing in a different but related term. In this example, there are a few that are relevant. Checking more than one will search for articles that have one or more of these subject headings.
3. To see if you should "explode" your subject headings, click on the subject heading to view its hierarchy. Any terms that are indented below it will also be searched if you choose to "explode" the term. **It is a good idea to explode everything to keep your search broad.**

![Subject hierarchy example](image)

4. Once you have chosen all of your terms, combine them with AND or OR. Using AND will list reference that have all of the terms combined. Using Or will list references that have one or more of the combined terms.

![Search history example](image)

5. More often than not, there will be too many results to weed through, so take advantage of the large number of limits available through Ovid. Not all limits are listed on the initial search page, but you can access more by clicking "Additional Limits." Note that a helpful way to limit a large number of results is by choosing limits in order of level of evidence: EBM reviews, randomized controlled trials etc. The limit to randomized controlled trials is listed after you click "Additional Limits" under the Publication Type option on the right.

![Search tools example](image)
If you find an article you're interested in that is not directly linked through Ovid, use the Find a Journal link on the library's website to search for your article's journal. If you need help accessing an article, contact a librarian (we're here to make things easier for you!).

Also note that Ovid can be used to search a number of other databases. Another popular database to search with Ovid is PsycINFO, which indexes psychological literature. To access this database, click on the "Databases" link on the library website under E-Resources. Then choose PsycINFO from the list of databases.

**PubMed**

Although PubMed is freely accessible for searching, most of the articles referenced are not. This is why it is best to link to PubMed through the library's website proxy server when you are off campus. Articles available through library subscription will be linked.

A nice feature of PubMed is its LinkSolver. To see if the library has electronic access to an article, click on the Link Out option at the bottom of the article's record and click on the database links below. If the library has access through any of the databases listed, clicking on the links will take you directly to the article. However, note that this option does not indicate if the library has the article in print.

**CONCLUSION:** Recommended measures of stress levels do not necessarily reflect the demands of an operating room. This understanding will help inform the development of training programs.

Copyright © 2011 Mosby, Inc. All rights reserved.
It's helpful to be familiar with the Limits and Advanced search options within PubMed as well. You are able to limit to type of study, age and gender of participant, and more with the Limit options. Using the Advanced search you can search within specific fields of a reference such as title, journal, author, subject heading etc.

If you are interested in using PubMed's mobile database, go through the library's website or go to [http://www.ncbi.nlm.nih.gov.archer.luhs.org/m/pubmed/](http://www.ncbi.nlm.nih.gov.archer.luhs.org/m/pubmed/) to gain access to the library's subscriptions to articles. It's a good idea to save this link as a book mark or an icon to easily access the database on your phone or tablet.
A Word About Google

It’s tough getting over the Google kick of using it for everything, but when doing a literature search Google only seems easier to use when looking for relevant articles. There are a number of reasons why it doesn’t actually make the job easier. A major reason is because Google’s algorithm puts preference on links that have been clicked more over links that go to a more current or relevant article. Another major reason Google is deceptively easier to use is its lack of subject headings or medical limits. Google will simply look for articles with the exact search word/phrase in the article instead of focusing on what the article is about. There are some limits, but Google has yet to provide more clinically useful ones for searching; for example there is no limit to review articles or controlled trials. Furthermore, Google will not link to the library’s electronic holdings when you are off campus. Google will also NEVER give you a complete search in terms of breadth of coverage on a topic.

While the library does not recommend using Google for a literature search, if your urge is too strong to avoid using Google for a quick look at something, there are a few things you can do to make your search more effective:

1. Use the Advanced Search option:

   ![Google Advanced Search](image)

   * silica *[Search]*

   About 21,300,000 results (0.12 seconds)

2. Some of the most helpful limits are language, date, and file type. The file type limit is especially helpful, because you can limit to pdf. This will ensure that you only find full-access pdf files.

   ![Google Advanced Search](image)
DynaMed

DynaMed is a great database for quick and pointed clinical information.

When using DynaMed, note that the upper right corner of the screen has a link for medical calculators. Also note that the topics are organized by subtopics on the left. The top of an entry's page will always note when the last update was made to the topic. Throughout entries there are references to levels of evidence. These are helpful in deciding how strong the suggestions made in the entry are. References also link out to the actual article if the library has access to it.

The library's subscription includes access to the DynaMed app. This is very handy because once you install the app to your phone or tablet you don't have to be online or login to access the information. If you are interested in getting the app, email Liz Novak at elnovak@lumc.edu with information on what type of phone/tablet you use.
UptoDate

UptoDate is another database with quick clinical information, but many entries have more extensive information. While DynaMed is more compact, UptoDate is more like a book.

It’s helpful to be familiar with using UptoDate’s calculators located in the navigation bar. Also note the “Find” button at the top right corner of the screen when an entry is open. This can be extremely helpful with finding a word or phrase when you are scanning a long and detailed entry. Also become familiar with the different sections of an entry on the left side bar; many graphics and tables go unnoticed.

Meralgia paresthetica (lateral femoral cutaneous nerve entrapment)

- Neurologic examination
- Radiography
- Electrodiagnostic studies
- Nerve blockade
- Differential diagnosis

UptoDate has a mobile version of the database, but you need to login through the Loyola Portal every time you use it. To make accessing it easier, it’s a good idea to save https://vault.lumc.edu/extranet/ssom/uptodate/frames.cfm as a bookmark or icon on your phone/tablet.
DynaMed Vs UptoDate

Mostly it all comes down to preference, but there are a few differences between the two databases. With these differences in mind, it’s a good idea to use DynaMed when you need more pointed information, and it’s a good idea to use UptoDate when you need more extensive textbook-like information.

<table>
<thead>
<tr>
<th>DynaMed</th>
<th>UptoDate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Updated Daily</td>
<td>Updated every 4 months</td>
</tr>
<tr>
<td>3200 topics</td>
<td>8500 topics</td>
</tr>
<tr>
<td>Links out to cited studies</td>
<td>Does not link out</td>
</tr>
<tr>
<td>EBM rating system</td>
<td>Not all entries using a rating system</td>
</tr>
<tr>
<td>Peer-reviewed</td>
<td>Peer-reviewed</td>
</tr>
<tr>
<td>Authors not identified</td>
<td>Author identified</td>
</tr>
</tbody>
</table>

Clinical Evidence

Clinical evidence is similar to UptoDate and DynaMed, and it is managed by the BMJ. One big difference between it and the other databases is that Clinical Evidence makes it evident when there is not enough evidence for a certain treatment/clinical suggestion. For this reason, it is helpful to use Clinical Evidence when you are unsure if there is any research on a particular topic.

Information from Cochrane and other EBM sources are pulled together and organized concisely within these tabs.

Interventions are organized into clinical questions.

When there is unknown effectiveness or when there isn’t good evidence, Clinical Evidence makes this clear.
Micromedex
Micromedex is great for finding pharmaceutical information. Epocrates is similarly great resource, but because the library subscribes to Micromedex, you are able to find more detailed information without purchasing a better personal subscription to Epocrates. Besides using the main search bar in Micromedex you can also take advantage of these features linked from the site’s header:

Micromedex also has a free app, but it is currently only available through itunes for itouch/iphone/ipad devices.

Books
If you do not know the exact book you are interested in using, the first place to look for a book is Pegasus, the library’s online catalog. This catalog includes both electronic and print holdings.

When you search in Pegasus, note that you can search by topic, title, author etc, but your search terms will not be used to search within the entire text of the books. One very useful option while searching in Pegasus is to limit to the Health Sciences holdings:
If you are only interested in electronic books, click on the library’s link to Books and Ebooks. From here you can browse through Ebooks by subject or title. If you have absolutely no idea what book would be helpful to you, click on one of the portals to search by keyword throughout multiple books simultaneously. This type of search will look through the entire text of the book instead of just the title and abstract.

However, note that searching through the different Ebook databases will not search through all of the electronic books available, because an Ebook will only be available in one database. Some Ebooks, such as Harrisons, are a separate entity altogether. For this reason, you may have to take a look in more than one of these databases to find what you need.
Take Advantage of the Library!

**Get research help from friendly librarians.** Feel free to email researchservices@lumc.edu to set up an appointment if you’d like help with any of your research. If you’re in the library, feel free to ask the librarian at the reference desk for help as well. This person is sitting there to be ready to help you! We also have a new chat feature on the website if you would like help from off campus.

**Request a Literature Search.** Crunched for time or having trouble finding research on a topic? We will do the research for you! Just click on the “Literature Searches” link on the library website to fill out a form on what you’re looking for and we will email you a list of relevant citations back.

**Take advantage of Interlibrary Loan.** If we do not have access to an article, we will order it from another library and email you a pdf. Usually it only takes a day or two to get an article. If you need one ASAP, say so on the comments section of the interlibrary loan form. We also can borrow books from other libraries and have them sent here (this can take up to 2 weeks depending on where the book is being sent from).