



For people with interests within the medical field:

# A RESEARCH GUIDE FOR FELLOW PREMED STUDENTS

Fairweather, Ayana

University of Louisville



## Table of Contents

<b>1. Using the Guide</b> .....	<b>2</b>
1.1 What is in the Guide? .....	2
1.2 Who is this Guide for? .....	2
1.3 What does this Guide Assume?.....	2
1.4 How is this Guide Organized?.....	2
1.5 Tips for Using this Guide .....	3
<b>2. Research Information</b> .....	<b>3</b>
<b>2.1 PubMed</b> .....	<b>3</b>
Overview.....	3
1. Basic Search .....	3
2. Advanced Search.....	3
How to access it.....	4
<b>2.2 Cochrane Library</b> .....	<b>4</b>
Overview.....	4
How to access it.....	5
<b>2.3 The American Journal of Medicine</b> .....	<b>6</b>
Overview.....	6
How to access it.....	7
<b>3. Handy Websites</b> .....	<b>7</b>
<b>3.1 Arthrex</b> .....	<b>7</b>
Overview.....	7
How to access it.....	8
<b>3.2 Medical News Today</b> .....	<b>8</b>
Overview.....	8
How to access it.....	8
<b>3.3 Patient</b> .....	<b>8</b>
Overview.....	8
How to access it.....	8
<b>3.4 Medline Plus</b> .....	<b>8</b>
Overview.....	8
How to access .....	9
<b>4. Need to Know</b> .....	<b>9</b>
4.1 Credibility Is a Must.....	9
4.2 Use Multiple Sources .....	9
4.3 Basic Vs. Advanced Search.....	9
4.4 Cite Your Sources .....	9
<b>5. Conclusion</b> .....	<b>10</b>

## 1. Using the Guide

The purpose of the guide is to provide aid for students with interests in pursuing medical topics and research. It can also be used to further your knowledge on scientific topics and conducting research within the discipline.

### 1.1 What is in the Guide?

This guide provides access to useful tool and references for completing research regarding the medical field for people with diverse interests within different aspects of healthcare.

Throughout this guide, you will find information on different databases and journals that provide reliable scholarly articles and resources. You can also find a variety of websites that aren't as in depth or formal as the journal or databases.

### 1.2 Who is this Guide for?

The intended audience of this guide are premed and STEM majored individuals. Ranging from anyone wanting to brush up their knowledge on medical topics to students hoping to pursue in depth research pertaining to the medical field and sciences. The idea of this guide is to help present possible resources to people with interests in medical/scientific topics.

### 1.3 What does this Guide Assume?

With this guide there is an assumption that you have some background within a science field and have dabbled with completing research that deals with this area. Many of these resources present wordy and scientific explanations on topics. These can become quite confusing when read by someone with no prior background within the field. This guide also assumes you have interests in medical research and a topic that falls within that specific area of study.

### 1.4 How is this Guide Organized?

This guide is organized into three main categories: Research Information, Handy Websites, and some other need to know points. The research information section focuses on the databases and journal resources. This is typically filled with scholarly articles that can become quite wordy but are pretty in depth on specific topics. This provides reliable and credible resources about a variety of topics that can aid with furthering your knowledge and understanding on your topic of interests. Furthermore, the handy websites are some websites that mention different topics that fall within the medical field. These provide good reads on different topics and can be much easier to understand. Some of the websites provide different articles as well to help in your studies and understanding. Lastly, the need to know serves as some reminders needed when conducting your own research.

## 1.5 Tips for Using this Guide

To use this guide most efficiently, I recommend making use of the table of contents and reading the overviews before following the links. Though, I think this guide is pretty generalized, it can be overwhelming to have a lot of resources thrown at you. Read through each section and see what best fits your interests or what you're trying to learn before following the links. Also beware that over time, sites may change and look slightly different.

## 2. Research Information

This section presents information about some databases and journals that can be useful when conducting research within the medical field. Many premeds end up getting a taste of the rigorous demands when conducting scientific research. This can be useful in wanting to further knowledge on medical topics while also providing quality, reliable sources, and information.

### 2.1 PubMed

#### Overview

PubMed is the national library of medicine. This provides scholarly journal and articles to people looking to delve deeper in their research or further their understanding on a medical topic. PubMed has access to a variety of reputable medical journals on various topics that can be associated with healthcare. On the homepage, there is a search bar that works similarly to google. On your preferred topic, you can decide whether to complete a basic or advanced search.

#### 1. Basic Search

To complete a basic search, you can enter your keyword or phrase into the search bar on the front homepage upon entering the site. A basic search should be used when:

- You don't have a specific idea in mind
- You would like to do a broad search on the topic
- Want to know more about the topic in general
- Looking for any database with not many keywords in mind

An example of a good time to complete a basic search would be if you're looking up general information on cancer.

#### 2. Advanced Search

To complete an advanced search, you can begin by clicking on 'advanced' which can be found under the search bar on the homepage (depicted in the picture below). Once you have accessed the advanced search, you are able to access a more narrowed search on a field of your interests.

An advanced search should be used when you:

- Would like to narrow your search
- Have a specific topic in mind
- Get overwhelmed with too many sources being presented
- Are looking for a specific journal, author, or article

An example of when to use the advanced search would be if you're looking for lung cancer regarding smoking in middle aged people. This topic is much more narrowed than wanting to learn about cancer in general. You've narrowed your search to lung cancer, middle aged people, and smoking as the cause lessening the number of resources that will be presented by the database.

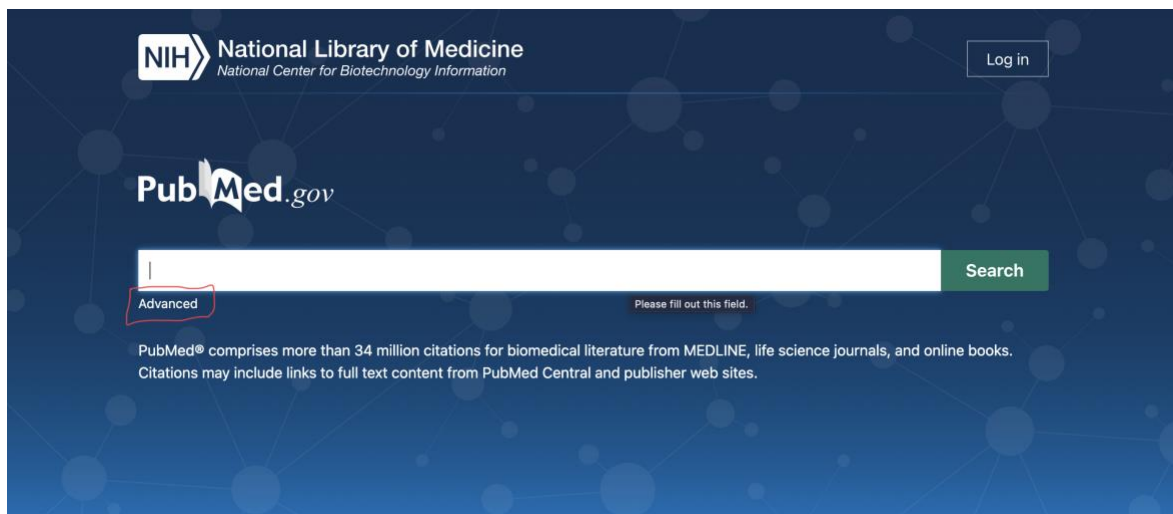


Figure 1: This is the PubMed database homepage. Circled in red is the advanced search button.

How to access it

There are a couple of different ways to access this page:

1. You can access PubMed by clicking on the link that follows:  
<https://pubmed.ncbi.nlm.nih.gov/?myncbshare=nynyumlib&otool=nynyumlib>
2. You can also access this through your school library databases.

## 2.2 Cochrane Library

### Overview

Cochrane Library is another database similar to PubMed or those presented for your universities library. To use this resource when conducting research is not vastly different than PubMed. On the homepage for Cochrane Library, we will find a couple of prominent articles at the top, special highlights of different reviews and editorials, as well some general, well-known topics within the database. This site also allows you to search by typing in keywords into the search bar located in the top right corner of the site. The information is presented for easy

usability and is well organized. Cochrane Library presents credible and reliable information for a wide range of possible interests you could be looking into and allows you to refine your search.

The screenshot shows the Cochrane Library homepage. At the top left is the Cochrane Library logo with the tagline "Trusted evidence. Informed decisions. Better health." To the right is a search bar with "Title Abstract Keyword" and a search icon. Below the search bar are "Browse" and "Advanced search" buttons. A navigation menu contains "Cochrane Reviews", "Trials", "Clinical Answers", "About", and "Help". Below the menu are three featured review cards: "Support for breastfeeding", "Antidepressants for arthritis", and "Point-of-care biomarker tests". A "Highlighted Reviews" section lists "Immediate versus delayed postpartum insertion of contraceptive implant and IUD for contraception" and "Antidepressants for hip and knee osteoarthritis". A "Set email alerts" button is visible in the top right.

Figure 2: This is the homepage of the Cochrane Library database.

## Browse by Topic

Browse the Cochrane Reviews, Protocols and Clinical Answers.

[Set email alerts](#)

<b>a</b>	<b>g</b>	<b>n</b>
Allergy & intolerance	Gastroenterology & hepatology	Neonatal care
<b>b</b>	Genetic disorders	Neurology
Blood disorders	Gynaecology	<b>o</b>
<b>c</b>	<b>h</b>	Orthopaedics & trauma
Cancer	Health & safety at work	<b>p</b>
Child health	Health professional education	Pain & anaesthesia
Complementary & alternative medicine	Heart & circulation	Pregnancy & childbirth
Consumer & communication strategies	<b>i</b>	Public health
<b>d</b>	Infectious disease	<b>r</b>
Dentistry & oral health	Insurance medicine	Reproductive & sexual health
Developmental, psychosocial & learning problems	<b>k</b>	Rheumatology
Diagnosis	Kidney disease	<b>s</b>
<b>e</b>	<b>l</b>	Skin disorders
Ear, nose & throat	Lungs & airways	<b>t</b>
Effective practice & health systems	<b>m</b>	Tobacco, drugs & alcohol
Endocrine & metabolic	Mental health	<b>u</b>
Eyes & vision	Methodology	Urology
		<b>w</b>
		Wounds
		...or <a href="#">Browse by Cochrane Review Group</a>

Figure 3: This is an example of some of the topics that can be found and are suggested just below the original homepage when you scroll down.

How to access it

Like many resources today, the Cochrane Library site can be accessed in a variety of different ways. You can either follow the link by clicking on it or pasting it into your search engine or find it on the CDC page under databases for public health research.

<https://www.cochranelibrary.com/>

## 2.3 The American Journal of Medicine

### Overview

Unlike a database that can use a variety of different journals. When using a specific journal resource, it'll only provide information regarding the topic you're research from within its certain journal. This provides less resources overall than that of a database but can still be very efficient when conducting research by providing credible articles and authors. This journal's homepage provides a variety of interesting information regarding medical research that being conducted around the world. It organizes it's information by highlights, most reads, prominent studies, a variety of videos, as well as mentioning the most current issue of the journal that can be found. You can also use the journal to try and search information regarding medicine you may be curious about by simply typing your topic into the search bar.

This article allows for easy search and usability by adding tabs with key section off to the side. Here you can find information about the journal itself, which adds to its credibility, and some information regarding authors. There's also information mentioned if you're interested in getting your research possibly added to the journal and how to embark on that process.

The screenshot shows the homepage of The American Journal of Medicine. The header is dark green with navigation links: Submit, Log in, Register, Subscribe, Claim, and a hamburger menu icon. The main title is 'THE AMERICAN JOURNAL of MEDICINE' with the subtitle 'Official Journal of the Alliance for Academic Internal Medicine'. Below the title is a search bar and the text 'Supports Open Access'. The main content area is divided into four columns: 'Current Issue' (November 2022, Volume 135, Issue 11), 'Explore' (AJM in the News, Career Opportunities, Resource Center, Info for Advertisers), 'Publish' (Submit Article, Aims and Scope, For Authors, Supports Open Access), and 'Connect' (Alerts, Twitter, Facebook, AAIM). Below this is a section titled 'Articles in Press' with four featured articles: 'AAIM Perspectives AAIM Changing the', 'Diagnostic Dilemma Snap, crackle and pop: From a', 'Clinical Research Study The Effects of', and 'Clinical Communication to the Editor'.

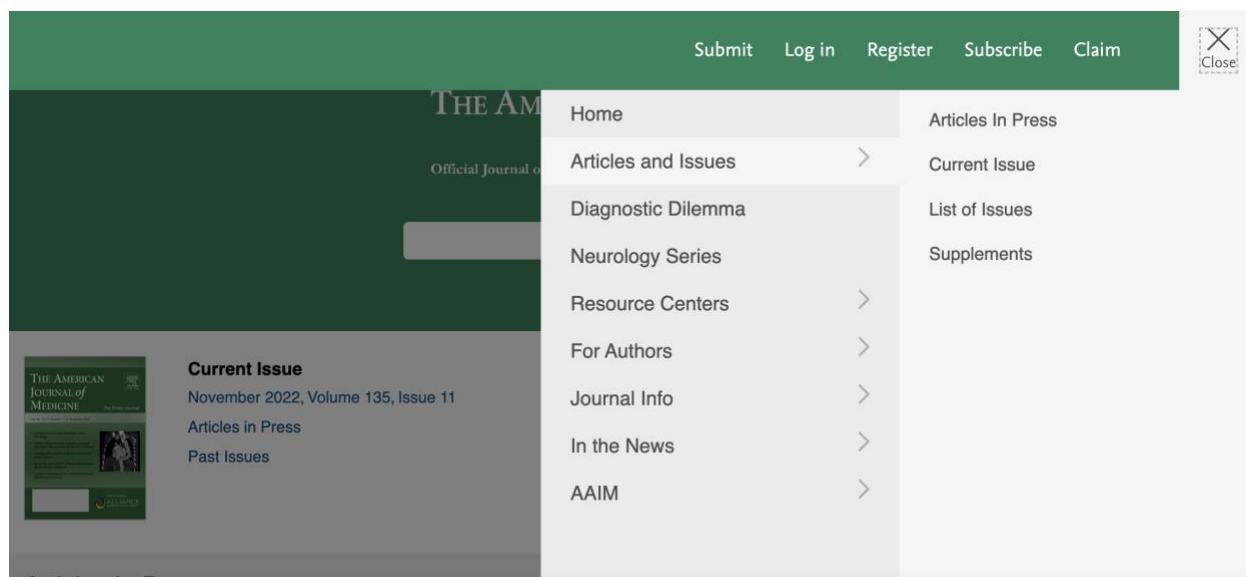


Figure 4: This is the homepage for another database that could be beneficial when conducting research within the medical field. The database is called the American Journal of Medicine and offers a variety of scholarly sources. There is also an overview of what the side tab also looks like if you clicked on the three bars located in the top right corner.

How to access it

To find this site, you can simply click on the link or copy and paste it into your preferred search engine <https://www.amjmed.com/>. Often times, this journal will come up when using certain databases like PubMed or others that can usually be found within the library homepage.

### 3. Handy Websites

#### 3.1 Arthrex

##### Overview

Arthrex.com presents information on different surgical procedures and equipment. It offers research findings on procedures completed by surgeons and many different articles on different operations. It typically focuses on orthopedic procedures, but is relatively easy to navigate and further your knowledge if you have some interest in that field. The usability and understandability appear to be efficient, though a lot of the information seems to be thrown at you on the homepage which can be overwhelming for some. It also offers a search bar if you'd like to investigate specific techniques and allows you to sign up for daily articles of new information. The information seems reliable and appears to be intended for people who practice in the surgical field. Without some background knowledge or extra research, the information may be harder to understand for premeds just beginning. It can provide a great foundation for someone who would like a taste of the idea of surgical practice in orthopedics.



How to access it

You can find the website by clicking on the link or pasting into your search engine.

<https://www.arthrex.com/>

### 3.2 Medical News Today

Overview

This website offers different articles written by a variety of authors regarding relevant medical topics. This is a news site that specifically focuses on topics within the healthcare. Its usability is relatively easy and allows for painless access towards prominent issues. It organizes articles in a listed format, separated into possible categories of interest. Its font is easy to read and well organized, aiding in the overall usability of the site. It also presents the authors background to add to the credibility of some the articles. Be mindful though, it appears you don't need a special certification like a PhD to submit an article, but most articles seemed to be fact checked by an accredited individual.

How to access it

This site can be found at: <https://www.medicalnewstoday.com/>.

### 3.3 Patient

Overview

Patient is a discussion forum. This site allows you to interact with other members within the medical community and discuss various topics. This appears to not be as regulated, but usability and organization is efficient. Through this site, you can start your own discussion on pressing issues or ideas you may have or add to another featured discussion already started. It also provides some information on different medical conditions and categories you could possibly be intrigued by to further your reading on.

How to access it

This site can be found at: <https://patient.info/forums>.

### 3.4 Medline Plus

Overview

This site is basically a medical encyclopedia. It provides a variety of different articles on medical topics like: injuries, symptoms, diseases, procedures, etc. It's relatively easy to use and articles

are organized and easy to understand. The site makes great use of its space but lacks images. Topics are listed in categories from A to Z or you can type your specific topic into the search bar located in the top right corner. The information is relatively concise and provides minimal information on some topics. Medline Plus serves as a great introduction into a variety of medical topics, but you may have to do some added research if you're seeking a more in-depth version of the topics.

How to access

This site can be found at: <https://medlineplus.gov/encyclopedia.html>. It can also be found within the National Library of Medicine homepage since it is an extension of its site.

## 4. Need to Know

### 4.1 Credibility Is a Must

When trying to further your own understanding, always take into consideration the credibility of your source. Something like the discussion board, could potentially provide less credible information since you risk reading a lot of opinions. The information provided may have come from an individual without any credentials or a background within the topic. Not everything you see online is always true and can be trusted to be accurate and reliable.

### 4.2 Use Multiple Sources

Using multiple reliable resources can not only further your understanding, but also be sure you're receiving the most accurate form of information. When you use multiple resources, you can cross reference and see if they're getting to the same conclusion on the topic.

### 4.3 Basic Vs. Advanced Search

Sometimes when conducting research information can be overwhelming. If you have a specific topic in mind, try completing more advanced searches with more specific keywords. This can lessen the number of articles thrown at you and potentially enhance your understandability and usability of the resources.

### 4.4 Cite Your Sources

Whether you're conducting your own research or just reading to improve your understanding make sure outside sources are cited on your end and being cited from your choice of resources. When articles aren't citing their sources, it can take away from their credibility mentioned above. It should raise red flags when scientific articles aren't citing the sources they're presenting since these sources often piggyback off of someone else's research.

## 5. Conclusion

All in all, this guide provides the basis in order to begin your journey into research. Throughout this guide, you will find multiple databases and general websites for beginner's who aren't sure where to start or how to find credible resources. The sources listed on this guide are just suggestions. There are a wide variety of other sources that can be used to aid you research, as well, on many different topics.