

Ortho Boot Camp: Welch Library for Comprehensive Searching

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September 15, 2025

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JOHNS HOPKINS
UNIVERSITY & MEDICINE

Welch Medical Library

Agenda

- ▶ Search Process
- ▶ Selecting a Database
 - ▶ Database overviews
- ▶ Beyond Databases
- ▶ Managing Your Citations
- ▶ Publication Considerations

What will NOT be covered:

- ▶ Advanced database searching
- ▶ Finding Full Text
- ▶ Protocol development
- ▶ Selection/evaluation of evidence

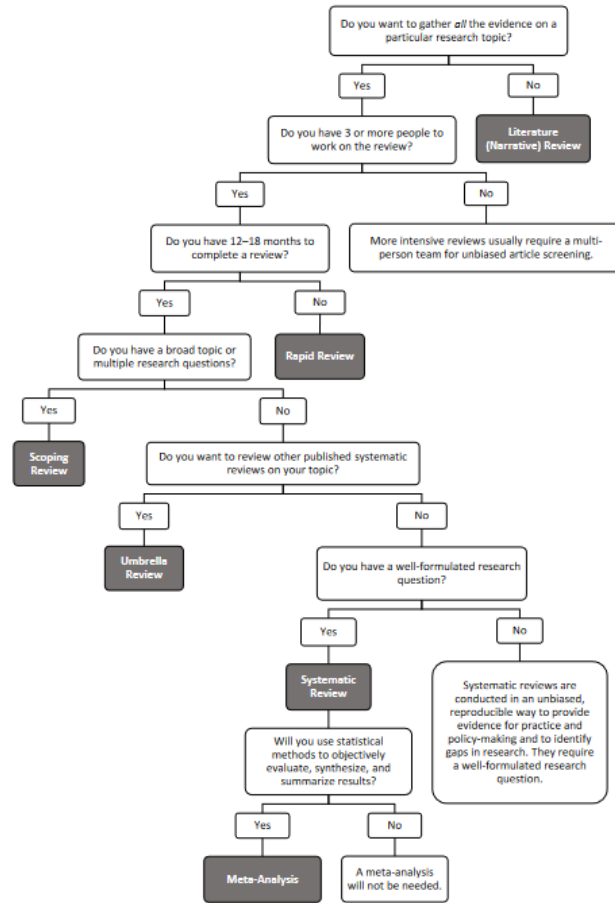
The Search Process

Systematic Search Process

- 1) Define the need & develop the question
 - 1) Identify key terms, synonyms, scientific terms
- 2) Select databases
- 3) Translate question into database query (iterative process; synonyms, controlled vocabulary)
- 4) Download citations and de-duplicate citations
- 5) Hand Search journals/Search for unpublished literature
- 6) Review and evaluate search results (when to stop searching)

Define the Need, Develop the Question

What Type of Review is Right for You?



Prior to starting your review:

- Has a review recently been published on your topic?
- Would the review you are planning add value through improved currency or quality?
- Would a review on a different, related topic better contribute to the existing literature?

Develop the Question

- ▶ Select a framework for the question
- ▶ Common frameworks include:
 - ▶ PICO – Population or Problem, Intervention or Exposure, Comparison or Control, Outcome
 - ▶ PICOS – PICO as above with Study Type
 - ▶ PICOT – PICO with Time
 - ▶ PEO – Population, Exposure of Interest, Outcome or Response
 - ▶ COCOPop – Condition, Context, Population
 - ▶ SPIDER – Sample, Phenomenon of Interest, Design, Evaluation, Research Type
 - ▶ SPICE – Setting, Perspective, Intervention, Comparison, Evaluation
 - ▶ ECLIPSE – Expectation, Client Group, Location, Impact, Professionals, Service

Where to check for similar studies

- ▶ Do a quick search in PubMed on your topic, filter to systematic reviews and look at the results
- ▶ Search protocol data sources for protocols of reviews in development
 - [Cochrane Library](#)
 - [Prospero](#)
 - [OSF](#)

Database Selection & Overview

Selecting a Database

- ▶ Go from the general to the specific
- ▶ Selection of databases to search needs to be as transparent, rigorous, and free of bias as the rest of the review
- ▶ Consider costs, language challenges, and geographic considerations

Generic Database Features

- ▶ “Controlled vocabulary” or “subject headings” or “keywords” or “thesaurus”
- ▶ Boolean searching (AND, OR, NOT), wildcards, proximity, or adjacency searching
- ▶ Search history and combine searches
- ▶ View Search/manual field searching
- ▶ “Clipboard” or “Folder” etc.
- ▶ Filters or ‘limits’ to refine searches by year, age, sex, species, or article type

Why Use Controlled Vocabulary?

- ▶ Controlled vocabulary behaves like a standardized #hashtag
 - ▶ Is assigned to records based on major topics
 - ▶ Makes literature discoverable
- ▶ Controlled vocabulary provides a consistent, precise way to retrieve information when:
 - ▶ Different words are used for the same concept
 - ▶ Words have variations in spelling (behavioral vs behavioural)
 - ▶ There is ambiguity in meaning (staff retention vs urinary retention)
 - ▶ Search for concepts not expressed in title or abstract
 - ▶ Refinements such as subheadings, major focus available
- ▶ Known as MeSH in Pubmed/MEDLINE, CINAHL headings in CINAHL, Emtree in Embase, Thesaurus in APA PsycInfo

Databases to consider

- ▶ *MEDLINE® via PubMed*
- ▶ *Embase*
- ▶ *Cochrane Central (RCTs)*

Multi disciplinary

- ▶ Web of Science
- ▶ Scopus

Specialized

- ▶ CINAHL
- ▶ APA PsycINFO
- ▶ ERIC
- ▶ PEDro
- ▶ Over 400 databases available, consult your informationist

Where to find databases

Select the Databases Tab to search for a database by title

The screenshot displays the Johns Hopkins University & Medicine website. At the top, the header includes 'JOHNS HOPKINS UNIVERSITY & MEDICINE' and 'Welch Medical Library'. A navigation menu on the left lists 'Articles', 'Journals', 'Databases', 'Library and Research Guides', and 'Books, Journals and Media'. The 'Databases' tab is selected, leading to the 'BROWSE DATABASES' section. This section contains two search boxes: 'Health Sciences Databases by Title...' and 'All JHU Databases by Title...'. Below the search boxes, there are three main columns of content. The first column, 'Key Resources', lists 'New Resources' (New eBook Editions, Policy Commons, Updated Johns Hopkins POC-IT Guides), 'Clinical Tools' (AccessMedicine, DynaMedex, Clinical Key, UpToDate, Clinical Key for Nursing, VisualDx), 'Literature Databases' (PubMed, Embase, CINAHL Plus, PsycINFO, Cochrane, Web of Science), and 'Research Tools' (Citation Management, JH ORCID Registry, JH Research Expert Profiles, Covidence, Pivot-RP, Dimensions, Research Guides, DMPTool). The second column, 'Welch Classes', features a 'Search Smarter: Tools and Techniques for Comprehensive Reviews' (Online, Jul 30, 2025, 11:00am-12:00pm), a '20-Minute Update: Complying with the July 1st, 2025 Start of the 2024 NIH Public Access Policy' (Online, Aug 1, 2025, 12:30pm-12:50pm), an 'Overview of Literature Databases Beyond PubMed' (Online, Aug 5, 2025, 12:00pm-1:00pm), 'Scholarly Journal Publishing and YOU!' (Online, Aug 13, 2025, 12:00pm-1:00pm), and 'RefWorks Basics' (Online, Aug 13, 2025, 2:00pm-3:00pm). A 'VIEW ALL WELCH CLASSES' button is at the bottom of this column. The third column, 'Services', includes a 'Find Your Informationist' section with a search box 'by Name or Department...' and a 'REQUEST AN ARTICLE?' button.

Most commonly used databases are linked here

- ▶ Use “Advanced” to
 - ▶ Combine search sets (population, health topic(s), interventions and study designs)
 - ▶ Search specific fields
- ▶ Use “Details” (found on the “Advanced” page) to view and edit search
- ▶ Login to save search strategies, set up search alerts

The screenshot shows the PubMed search results page for the query "panniclectomy AND CT scans". The page is from the National Library of Medicine (NIH) National Center for Biotechnology Information. The search bar at the top contains the query, and the results are sorted by "Best match". There are 36 results displayed. The first result is titled "Appreciation of Postpartum Changes of the Rectus Muscles in Primary and Repeated Abdominoplasty" by James LE, Fracol ME, Dumanian GA. The second result is titled "Three-dimensional hernia analysis: the impact of size on surgical outcomes" by Schlosser KA, Maloney SR, Prasad T, Colavita PD, Augenstein VA, Heniford BT. The third result is titled "The impact of preoperative anxiety, depression, and chronic pain on outcomes in abdominal wall reconstruction". The page also includes a "RESULTS BY YEAR" bar chart showing a significant increase in publications starting around 2015, and a "TEXT AVAILABILITY" section with checkboxes for "Abstract", "Free full text", and "Full text".

PubMed Search hints

- ▶ Text word searching
 - ▶ Titles since 1966, abstracts since 1975
 - Use [tiab] to search titles & abstracts, [tw] to search text word fields
 - Proximity searching available, use “phrase to search” [tiab:~#] to search terms near each other
 - ▶ Truncation invaluable – use the * to truncate
 - Infect* [tiab] searches infect, infects, infected, infecting, infectious, etc. appearing in the title or abstract
 - Can truncate multiple terms in a phrase - "fractur* fixat*" [tiab]
 - Not available when doing proximity searching
- ▶ Boolean logic for combining concepts (AND, OR, NOT)

- ▶ European counterpart to Medline
- ▶ More than 45 million citations from 1947
 - ▶ Includes MEDLINE as well as 3,300 journals and 12 million citations not found in MEDLINE
 - ▶ Includes over 5.1 million conference abstracts since 2009
- ▶ Controlled vocabulary is EMTREE
- ▶ Specialized search interfaces for PICO, drugs, medical devices
- ▶ Various studies demonstrate need to search Embase as well as PubMed (e.g. Wong 2006 JMLA)

Searching Embase

The screenshot displays the Embase website's search interface. At the top, the 'Embase' logo is on the left, and navigation links for 'Search', 'Emtree', 'Journals', 'Results', and 'My tools' are in the center. A user profile icon for 'Stella Seal' is on the right. Below this is a blue 'Quick search' bar. Underneath the bar, a row of tabs includes 'Quick', 'PICO', 'PV Wizard', 'Medical device', 'Advanced', 'Drug', 'Disease', 'Device', 'Citation information', and 'Query translator'. The main search area contains the text 'Find articles by simple keyword search or build more complex queries' and a 'Search tips' link. A search input field contains the text 'Broad search e.g. 'heart attack' AND stress'. Below the input field are links for '+ Add field', 'Limit to', and 'Reset form'. A 'Show results' button is positioned below the input field, and a 'Display full query' link is at the bottom.

- ▶ Use **Advanced Search** to map to and explode preferred terms, along with synonyms (keywords)
- ▶ Defaults to citation retrieval from Embase **and** MEDLINE
- ▶ Proximity searching is available, use NEAR/# or NEXT/#
- ▶ Query translator will convert a PubMed strategy to Embase syntax

Cochrane's Central Register of Controlled Trials

- ▶ Reports of randomized & quasi-randomized controlled trials
- ▶ Controlled vocabulary is MeSH
- ▶ Over 2 million records
- ▶ Citations come from MEDLINE, Embase, CINAHL, clinicaltrials.gov, WHO International Clinical Trials Registry Platform
- ▶ Mouse over Trials to search Central
- ▶ Proximity searching available use Near/#



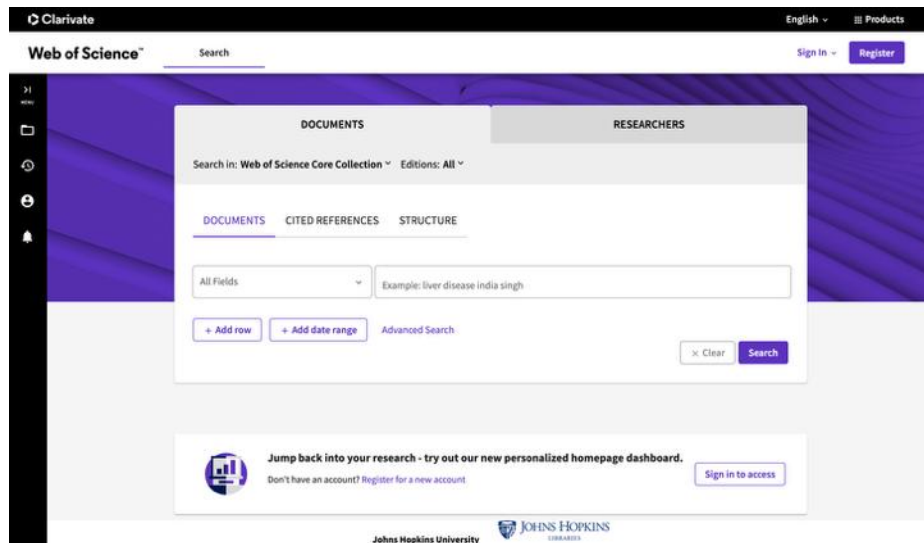
CINAHL (Cumulative Index of Nursing & Allied Health Literature)

The screenshot displays the CINAHL search interface. At the top, there is a navigation bar with links: New Search, Publications, CINAHL Subject Headings, Evidence-Based Care Sheets, Quick Lessons, More, Sign In, Folder, Preferences, Languages, and Help. Below this, the search bar is active with the text "Searching: CINAHL Plus with Full Text" and a "Choose Databases" link. To the left of the search bar is the EBSCOhost logo, and to the right is the Johns Hopkins Libraries logo. Below the search bar, there are three input fields for search terms, each with a "Select a Field (optional)" dropdown menu. A "Search" button is located to the right of the first input field. Below the search bar, there are links for "Basic Search", "Advanced Search", and "Search History". Below the search bar, there is a "Search Options" section with a "Reset" button. The "Search Options" section includes "Search Modes and Expanders" with radio buttons for "Boolean/Phrase", "Find all my search terms", "Find any of my search terms", and "SmartText Searching". There are also checkboxes for "Apply related words", "Also search within the full text of the articles", and "Apply equivalent subjects". The "Limit your results" section includes checkboxes for "Full Text", "References Available", and "Published Date".

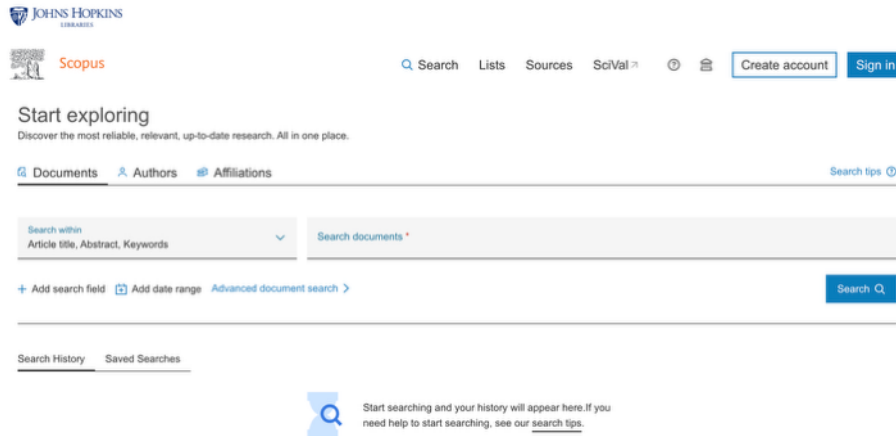
- 1937-present coverage
- Over 3,600 nursing and allied health journal titles
- 4 mil + citations
- Uses CINAHL Subject Headings – nursing and allied health terms including nursing classifications
- Proximity operators are N# or W#

Web of Science

- ▶ Multidisciplinary research database including:
 - ▶ Science Citation Index(1900)
 - ▶ Social Sciences Citation Index(1900)
 - ▶ Arts and Humanities Citation Index (1975)
 - ▶ Emerging Sources Citation Index (2005)
 - ▶ Conference Proceedings Citation Index (1990)
- ▶ No controlled vocabulary
- ▶ Wildcards: **enzym*** to find enzyme, enzymes, enzymatic, enzymology. **wom?n** to search for records that contain woman, women, or womyn; **vapo\$r**
- ▶ Proximity operator Near/# available (bariatric NEAR/3 surgery)



Scopus



- ▶ Multidisciplinary abstract and citation database covering the following disciplines: health sciences, life sciences, physical sciences, social sciences
- ▶ Content includes:
 - ▶ 97+ million records, including references
 - ▶ 2.3+ million preprints
 - ▶ 19+ million author profiles
 - ▶ 28,000+ active journal titles
 - ▶ 368,000+ books
- ▶ No controlled vocabulary
- ▶ Proximity operator is W/#

Additional Databases to Consider

- ▶ PEDRO – search for randomised controlled trials, systematic reviews and evidence-based clinical practice guidelines in physiotherapy
- ▶ TRIP Pro – use to find quality research evidence in support of practice and/or patient care
- ▶ PsycINFO – articles, book chapters, books, dissertations, and technical reports in the field of psychology
- ▶ ClinicalTrials.gov – information about federally and privately supported clinical research in human volunteers

Beyond Database Searching

Hand Searching

- ▶ Not all trial reports are included in databases and may not be indexed to identify them as trials
- ▶ Use Journal Citation Reports (within Web of Science) or Scopus Sources to locate journals by topic
- ▶ Consider searching for policy documents
- ▶ Google Scholar should also be searched, first 100 to 200 references are most valuable
- ▶ Depending on the topic 5-15% of studies can be added by hand searching and searching the grey literature (Hopewell, 2002)

Finding Unpublished Studies

- ▶ Identify ongoing trial studies through
 - ▶ TrialsCentral - <https://www.trialscentral.org/>
 - ▶ Current Controlled Trials - <http://www.isrctn.com/>
 - ▶ ClinicalTrials.gov - <https://clinicaltrials.gov/>
 - ▶ WHO International Clinical Trials Registry Platform (ICTRP) - <https://www.who.int/clinical-trials-registry-platform/>
- ▶ Institutional Repositories: [Oaister](#)
- ▶ [Dimensions](#) or [Policy Commons](#) for research produced by IGOs, NGOs, and think tanks
- ▶ Deep web engines ([Mednar](#))
- ▶ Requests from colleagues, experts and pharmaceutical companies
- ▶ Welch video on searching for [Grey Literature](#)

Also worth mentioning

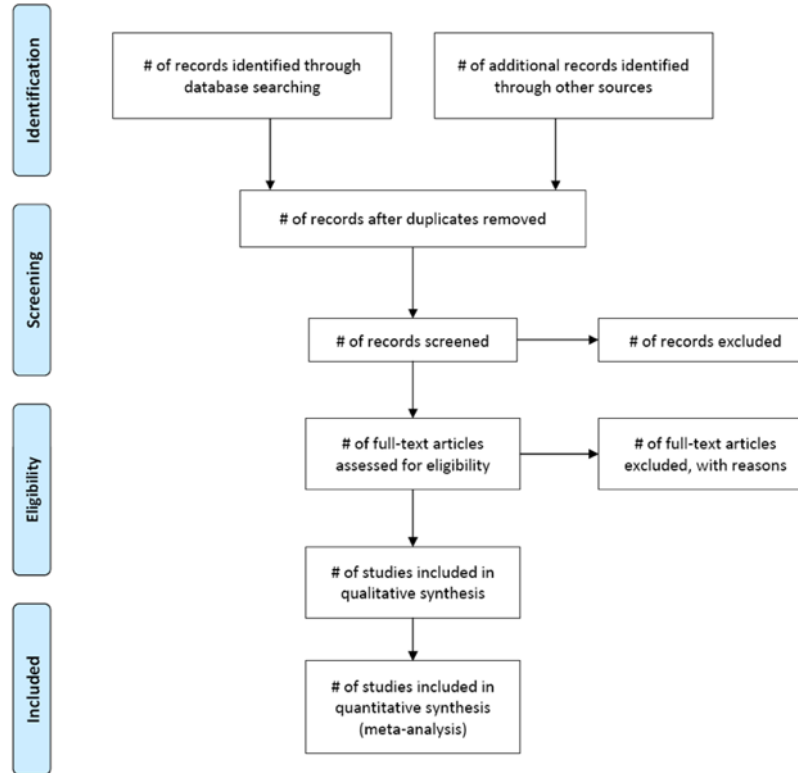
- ▶ Checking reference lists
- ▶ Checking other (existing) reviews
- ▶ Using Scopus or Web of Science for electronic reference list checks

Presenting Findings

- ▶ Standards for Reporting
 - ▶ [Preferred Reporting Items for Systematic Reviews and Meta-Analyses \(PRISMA\)](#) – evidence-based minimum set of items in reporting systematic reviews and meta-analyses
 - ▶ [EQUATOR \(Enhancing the QUALity and Transparency Of health Research\) Network](#) – international initiative to improve reliability and value of published health research literature – searchable database of reporting guidelines for main study types
 - ▶ [Finding What Works in Healthcare: Standards for Systematic Reviews](#) – standards for systematic review of comparative effectiveness of medical or surgical interventions
 - ▶ [JB I Reviewer's Manual](#) – guide to conducting JBI systematic reviews, includes mixed methods reviews, umbrella reviews, and scoping reviews



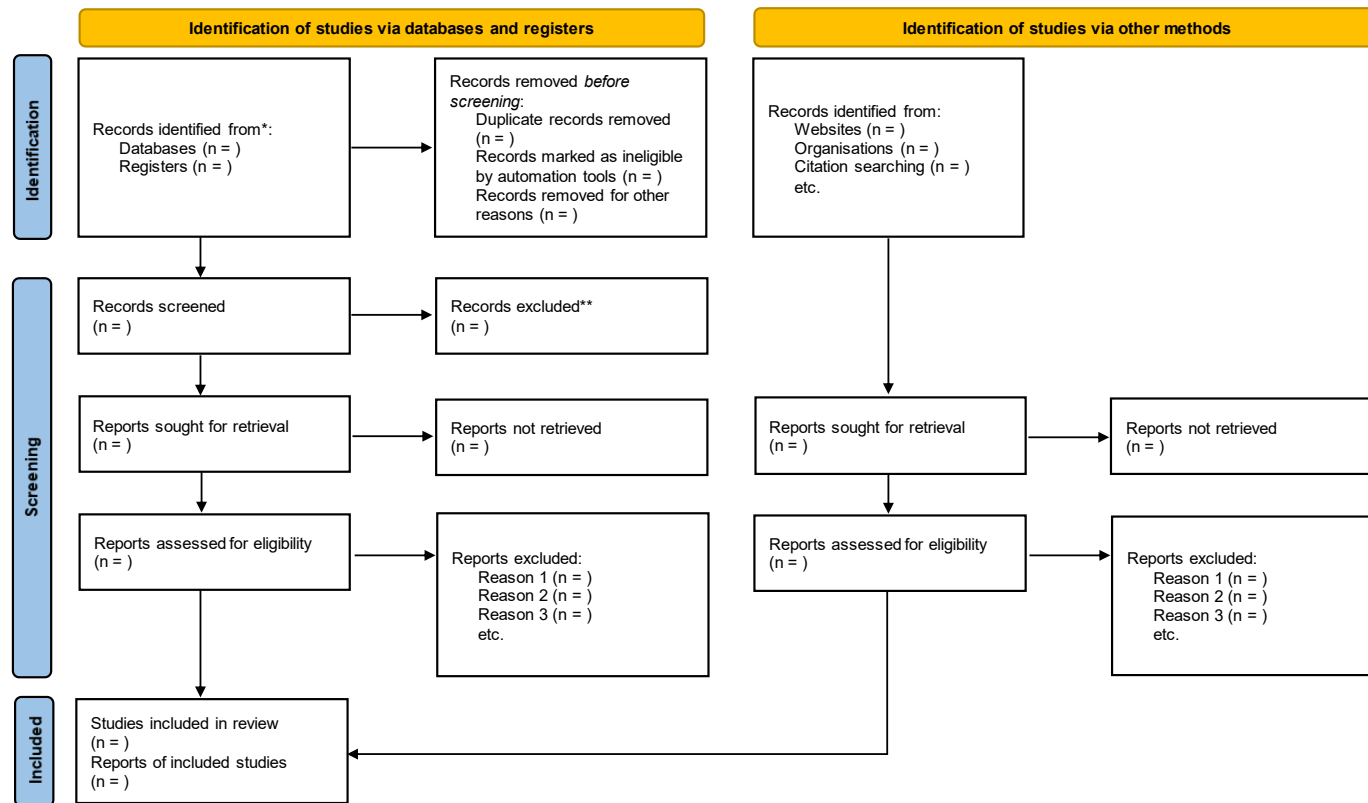
PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/>

Managing Your Citations

Bibliographic Management Software

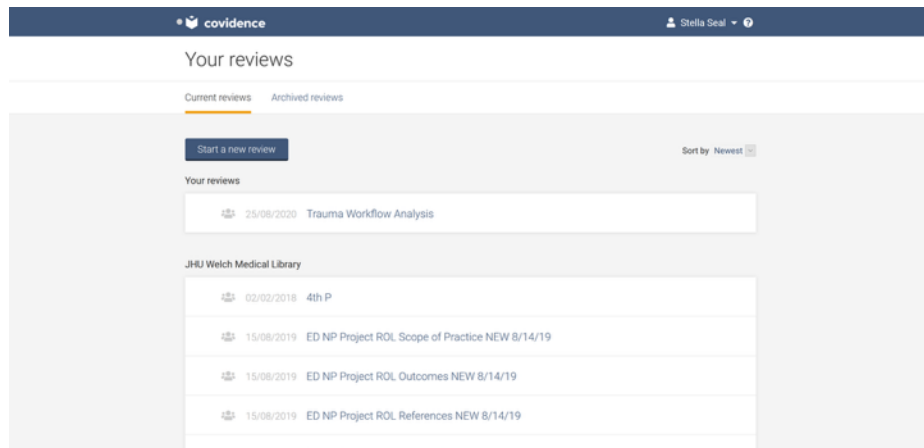


Why Use Bibliographic Management Tools?

- ▶ Efficient
 - ▶ duplicate citations from multiple databases can be deleted, saving time on review
- ▶ Convenient
 - ▶ citations collected in one place
 - ▶ can format citations in appropriate style
- ▶ Collaborative

Covidence

- ▶ Covidence allows your team
 - ▶ to upload search results, screen abstracts and full text
 - ▶ complete data collection
 - ▶ conduct risk of bias assessment
 - ▶ resolve disagreements
 - ▶ and export data into RevMan or Excel.



Publication Considerations

Tools to help

- ▶ Finding a journal
 - ▶ JANE (journal/author name estimator) - <https://jane.biosemantics.org/>
 - ▶ Clarivate Manuscript Matcher - <https://mjl-clarivate-com.proxy1.library.jhu.edu/home>
 - ▶ Elsevier Journal Finder - <https://journalfinder.elsevier.com/>
- ▶ Think, Check, Submit checklist - (<https://thinkchecksubmit.org/journals/>)

Predatory Journals & Publishers

- ▶ What are they?
 - ▶ *“Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.”*
(Grudniewicz, 2019)
- ▶ False/misleading information
 - ▶ Fake impact factors, incorrect addresses, misrepresentation of editorial board
- ▶ Deviation from best editorial practice
 - ▶ No retraction policy, requesting transfer of copyright when publishing an open access article
- ▶ Lack of transparency
 - ▶ Failure to provide contact information, details about article processing charges, unable to verify details of editors/members of editorial board
- ▶ Aggressive, indiscriminate solicitation
 - ▶ Repeated emails requesting submission, unsolicited requests for submission, journal's scope is outside author's area of expertise

Additional Resources

Library Guides

Welch Medical Library Home / Welch Medical Library Guides / Overview / Library Guides and Resources

Overview: Library Guides and Resources

Enter Search Words

Explore Welch Medical Library Guides and Resources

A collection of comprehensive guides and resources curated by Informationists for the research and learning needs of students, faculty, and researchers from Johns Hopkins Medicine, Nursing, and Public Health

Q Research Guides A-Z

Citation Management	Finding Health Statistics	Nursing Resources
Content Permissions for Text & Data Mining (TDM)	Finding Sequence Using NCBI Nucleotide	Open Access
COVID-19 Resources	Global Health Resources	ORCID
Data Resources for Research	Grants and Funding	Physical Medicine and Rehabilitation
DNP Nursing Inquiry Search	Grey Literature	Public Health Resources
Early Mobility	Medical Education	Research Metrics
Evidence-Based Medicine	Neurology and Neurosurgery	Scholarly Publishing
Expert Searching	NIH Data Management and Sharing	Systematic Reviews and Other Expert Reviews
Finding and Using Images	Policy	Teaching and Learning Resources
Finding Datasets for Secondary Analysis	NIH Public Access Policy	
Finding Gene Attributes Using NCBI Gene		

Searching Guides

These guides offer:

- ▶ Strategies for improving your searching skills
- ▶ Guidance for collaborating and partnering with informationists

Welch Medical Library Home / Welch Medical Library Guides / Systematic Reviews and Other Expert Reviews / Welch Systematic Review Collaboration

Systematic Reviews and Other Expert Reviews

#systematicreviews #sysrev

Enter Search Words

Welch Systematic Review Collaboration

- Welch Systematic Review Collaboration
- Selected Reviews with Welch Informationist Co-Authorship
- Image Attributions and Copyright

The Systematic Review Process

- Standards and Guidelines
- Types of Expert Reviews
- Expert Searching Tips
- Covidence
- More Welch Guides

- Find Your Informationist
- Chat with Us
- Call Us (410) 955-3410
- E-mail Us
- Report a Problem
- Locations and Hours
- JH Databases
- Search the Catalog
- Find It

Expert Searching

Enter Search Words

Literature Searching Services

- How Can the Library Help?
- Before You Meet With Your Informationist
- Image Attributions and Copyright

Literature Review Process

- Formulating Your Research Question
- Which Databases to Use
- Choosing Search Terms
- Combining Search Terms
- Finding Spelling Variations
- Search by Parts of a Citation
- Limiting a Search with Filters
- Saving Your Search
- Finding Related Articles
- Systematic Reviews
- Searching with Google

How Can the Library Help?

The Welch Medical Library has a number of informationists who can assist with a literature search.

A literature search consultation might include one or more of the following:

- Refining the research topic to an answerable question
- Recommending information sources or databases for the search topic
- Identifying relevant search terms
- Creating and executing search strategies
- Suggesting reference management software and strategies

An informationist can also provide you with an expert search, which may include:

- Refinement of the search question
- Search term identification
- Identification of sources and databases to be searched
- Search strategy formulation and documentation
- Execution of searches

Are you interested in performing a systematic review? These types of reviews are more complex than a general literature review. See our Systematic Review Methods guide to learn more.

Do you want to meet with an informationist? Complete our Literature Review Request Form (BETA):

[Literature Review Request Form](#)

[Literature Review Request Form in PDF Format](#)

Scholarly Publishing and Open Access

These guides offers:

- ▶ Tools for deciding where to publish
- ▶ Tools for assessing journal quality
- ▶ Guidance on retaining your author rights
- ▶ Open access journals

Open Access

This guide provides tips and resources for navigating the Open Access landscape.

Scholarly Publishing

This LibGuide on Scholarly Publishing shows you how to select and vet credible journals as well as informs you about your author rights.

Scholarly Publishing Overview

Welcome to the Scholarly Publishing LibGuide - your guide to all things scholarly publishing at Johns Hopkins University. This highlights page is for you to get a quick overview of tools and information that are important to JHU researchers for scholarly publishing.

For additional guidance, please do not hesitate to reach out to Nancy Shin, Scholarly Communications Librarian, at nshin4@jhu.edu.

Scholarly Publishing LibGuide Quick Highlights:

1. **Publishing Options** - if you need clarity of the different versions of research output, this resource explains that for you.
2. **Choosing a Journal** - if you are thinking of writing a paper or if you are ready to choose a journal for your paper, this resource walks you step-by-step through the process.
3. **Publisher Contracts** - if you are curious by the publishing process, more specifically publisher contracts, this resource simplifies the complex process.

Additional resources on Scholarly Publishing can be found here:

- **Writing Resources** - if you need guidance on any part of the writing process, this resource provides more resources on writing in general and at JHU.
- **Scholarly Publishing Explained** - if you need more definition and explanation about scholarly publishing, this resource defines and explains them for you.

For information on open access, check out our ["Open Access" LibGuide](#).

Contact Me

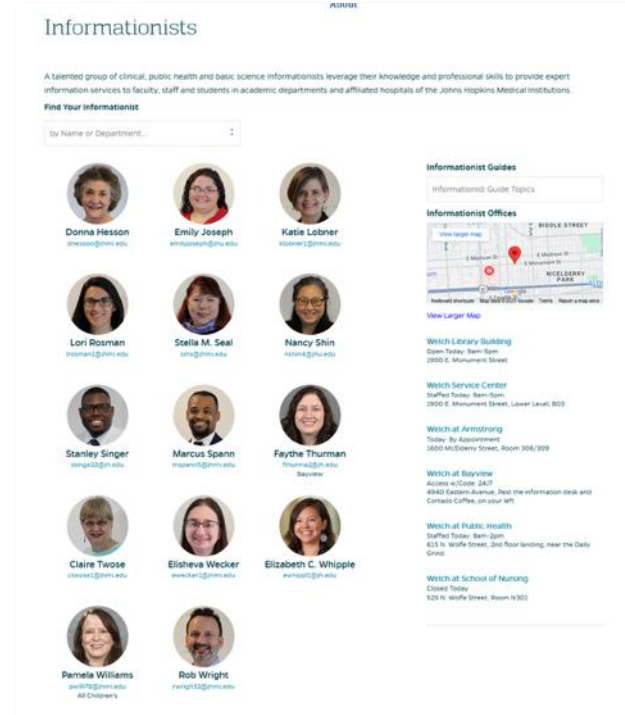
Nancy Shin
she/her/
[Email Me](#)

Contact Me

Nancy Shin
she/her/
[Email Me](#)

Find Your Informationist

- ▶ Personalized services to support your clinical work, research projects, and publications
- ▶ Provide one-on-one and small group instruction
- ▶ Consultations to discuss finding relevant data and literature for research and publications
- ▶ Collaborate on complex literature reviews such as systematic and scoping reviews.



Informationists

<https://welch.jhmi.edu/about/informationists>

Research Guides

<https://browse.welch.jhmi.edu/>

Get Help

<https://welch.jhmi.edu/get-help>

Welch Service Center

wsc@jhmi.edu | 410-955-3410