DRUG INFORMATION: SEARCHING MEDICAL LITERATURE

A presentation for HealthTrust Members
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PGY-1 Drug Information Resident

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Speaker Disclosures

- The presenter has no real or perceived conflicts of interest related to this presentation.

- Note: This program may contain the mention of suppliers, brands, products, services or drugs presented in a case study or comparative format using evidence-based research. Such examples are intended for educational and informational purposes and should not be perceived as an endorsement of any particular supplier, brand, product, service or drug.

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Learning Objectives: Nurses & Pharmacists

Differentiate between indexing and abstracting services

Explain the differences between MEDLINE and PubMed

Design an effective search strategy in response to a drug information question

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Learning Objectives: Pharmacy Technicians

Explain the organization and categorization of medical literature in PubMed and MEDLINE

Develop an effective search strategy in order to locate a specific article

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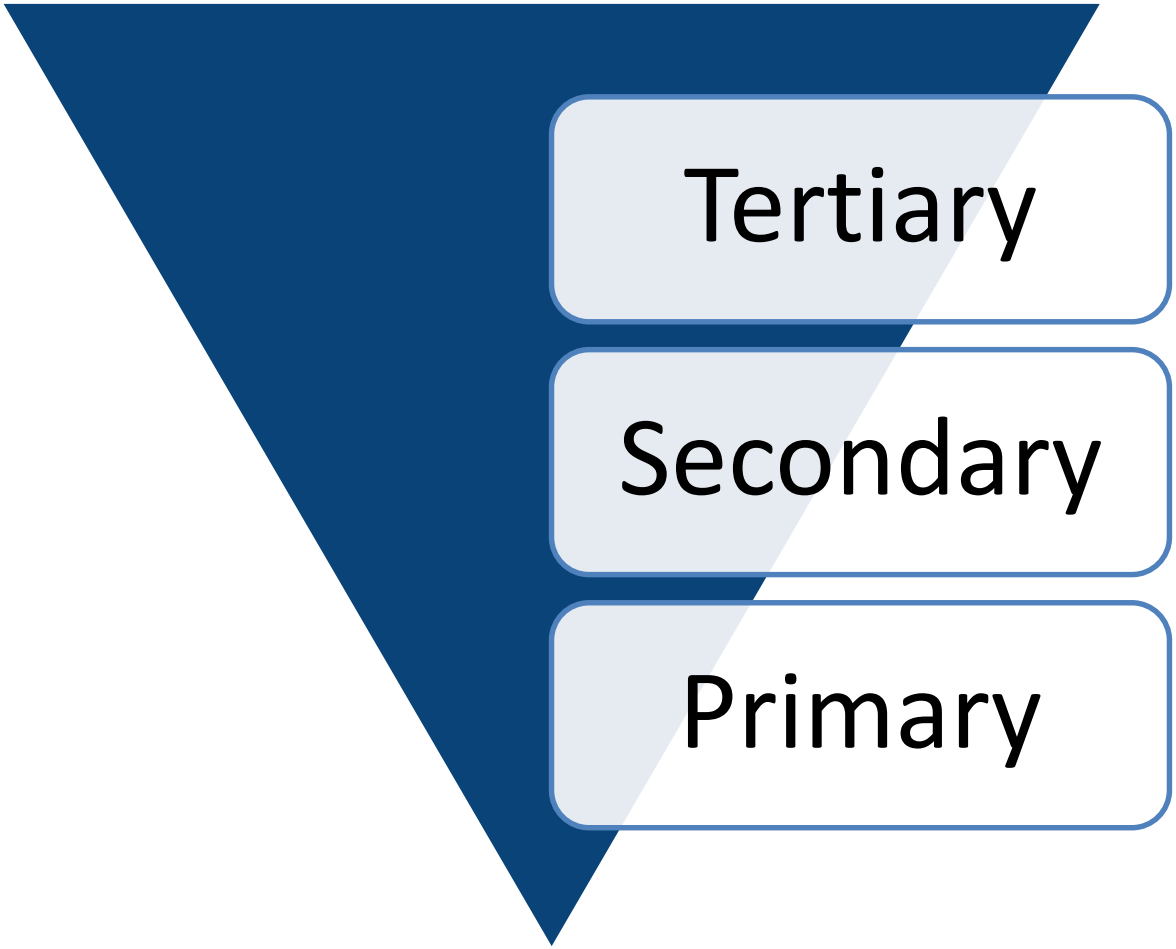
Types of Resources



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Secondary Resources

Directs the user to primary literature

Compiled by indexing and abstracting services

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Indexing & Abstracting Services

- Facilitate searches for literature from clinical meetings, abstracts, publications, etc.
- Indexing Services
  - Include the citation with or without access to the abstract
- Abstracting Services
  - Include both the citation and abstract

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Types of Search Terms

Closed Vocabulary

- Set terms by which articles are indexed
- Examples: MeSH terms, Emtree

Open Vocabulary

- Any word that appears in the title, abstract, author listing, etc.

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Indexing Services

Clin – Alert

Cumulative Index for Nursing Literature

Cochrane Database of Systematic Reviews

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Clin-Alert

Indexes literature on adverse events, drug interactions, medication errors and market withdrawals

Published every other week

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Cumulative Index for Nursing & Allied Health Literature (CINAHL)

Indexes nursing and allied health journal literature

Updated weekly

Subscription required

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Cochrane Database of Systematic Reviews

- Focused on providing high quality evidence to support clinical decision making
- Indexes more than 4,650 evidence-based reviews and 2,015 protocols
- Updated quarterly

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Abstracting Services

MEDLINE

PubMed

Google Scholar

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MEDLINE

- Developed by the U.S. Library of National Medicine
- Includes articles 5,600+ biomedical journals
- Vendors:
  - Ovid (subscription)
  - EBSCO (subscription)
  - PubMed (free access)

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PubMed

- Free abstracting service
- Searches the same database as MEDLINE
- Provides timely access to medical literature
- Accesses many full text articles

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Google Scholar

- Information is ranked by relevancy
  - Author, publication, number of times the article has been cited

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MEDLINE TUTORIAL

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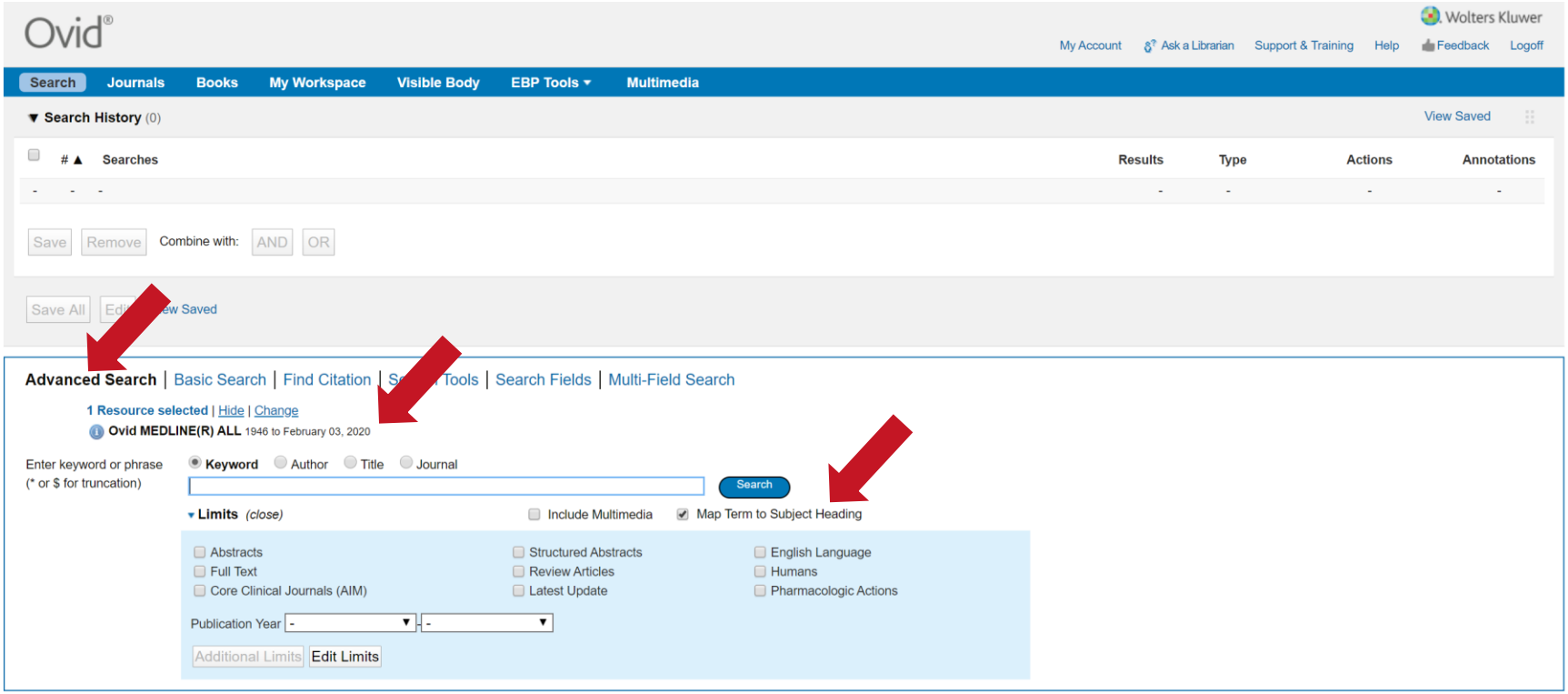
MEDLINE Home Screen



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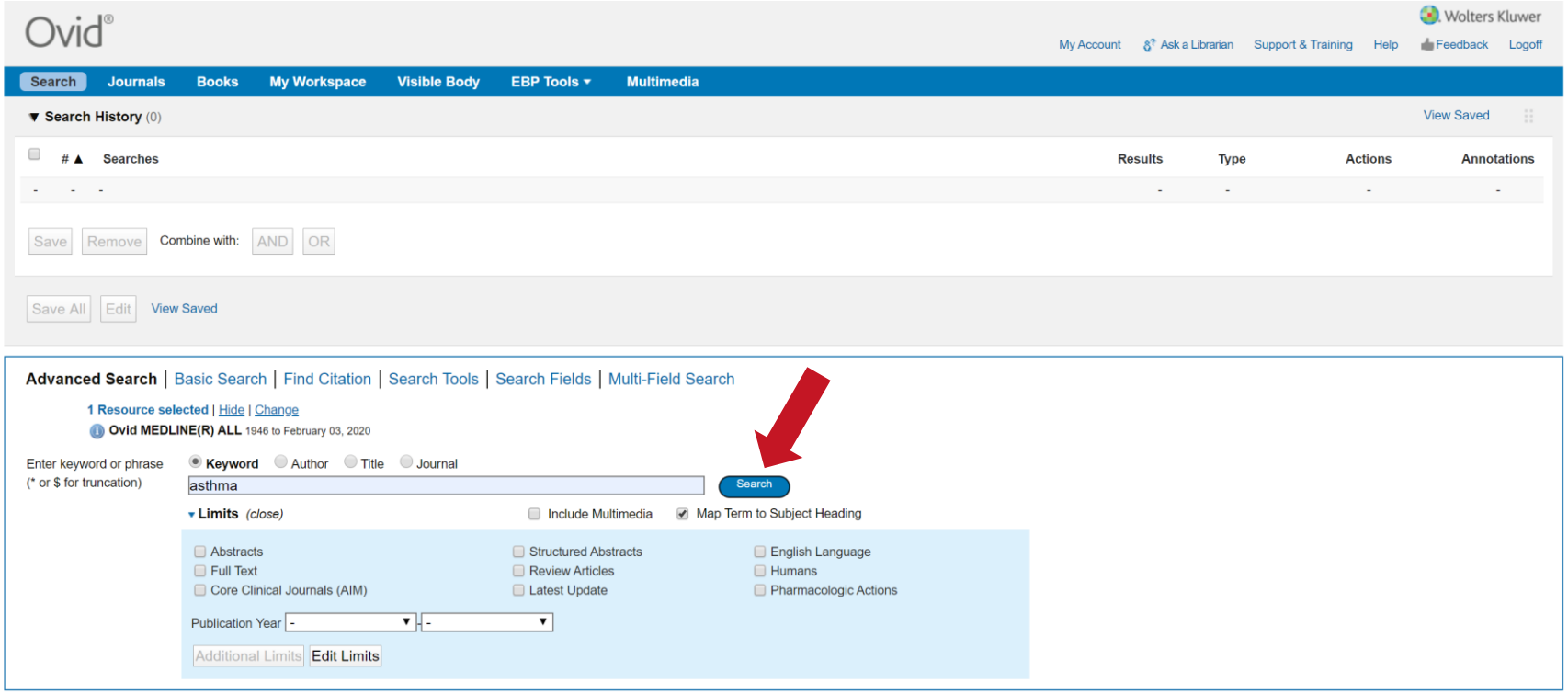
Mapping to a MeSH Term



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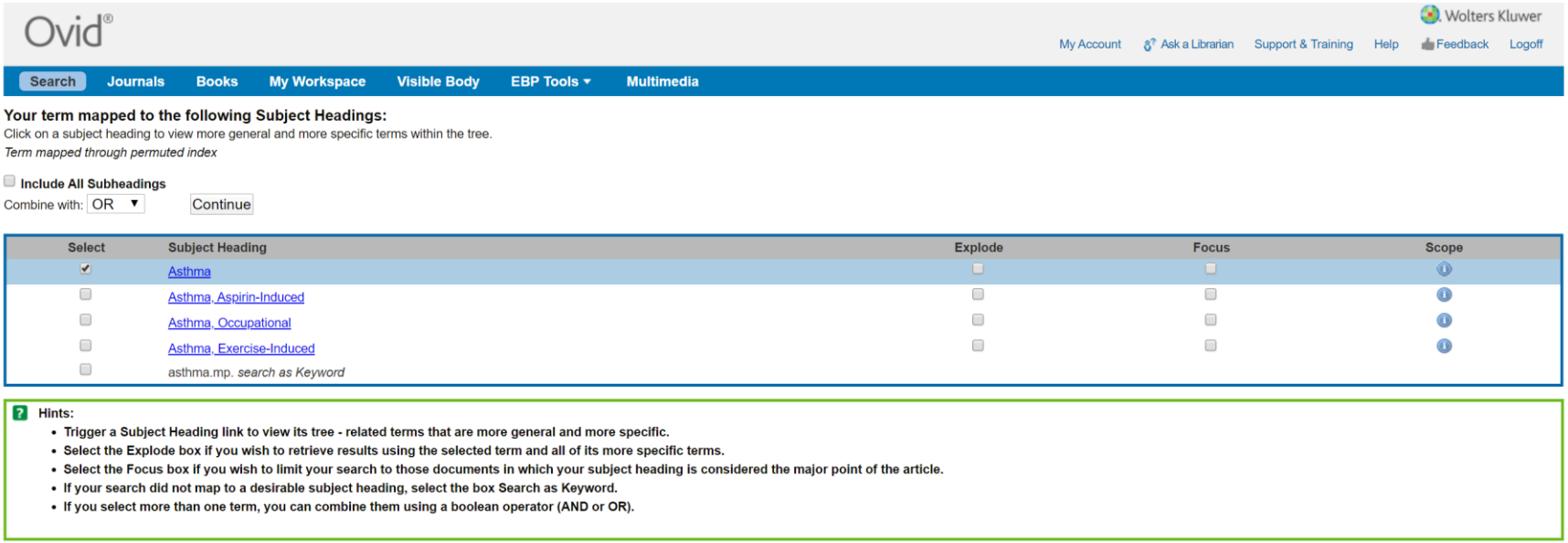
Mapping to a MeSH Term



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MeSH Terms

- MeSH = Medical Subject Heading
  - A set of terms naming descriptions in a hierarchical structure tree that enables the user to search at varying levels of specificity
- Closed vocabulary of the US National Institute for Health (NIH)
- Utilized to index articles in MEDLINE

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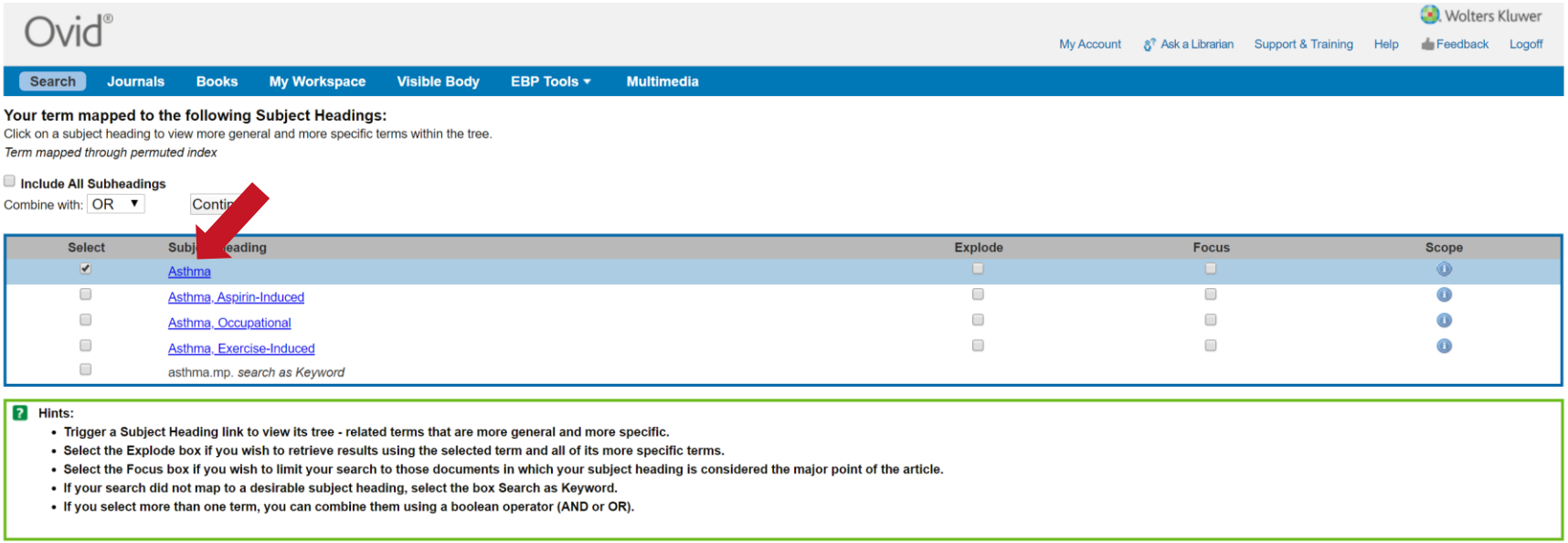
Accessing the MeSH Tree



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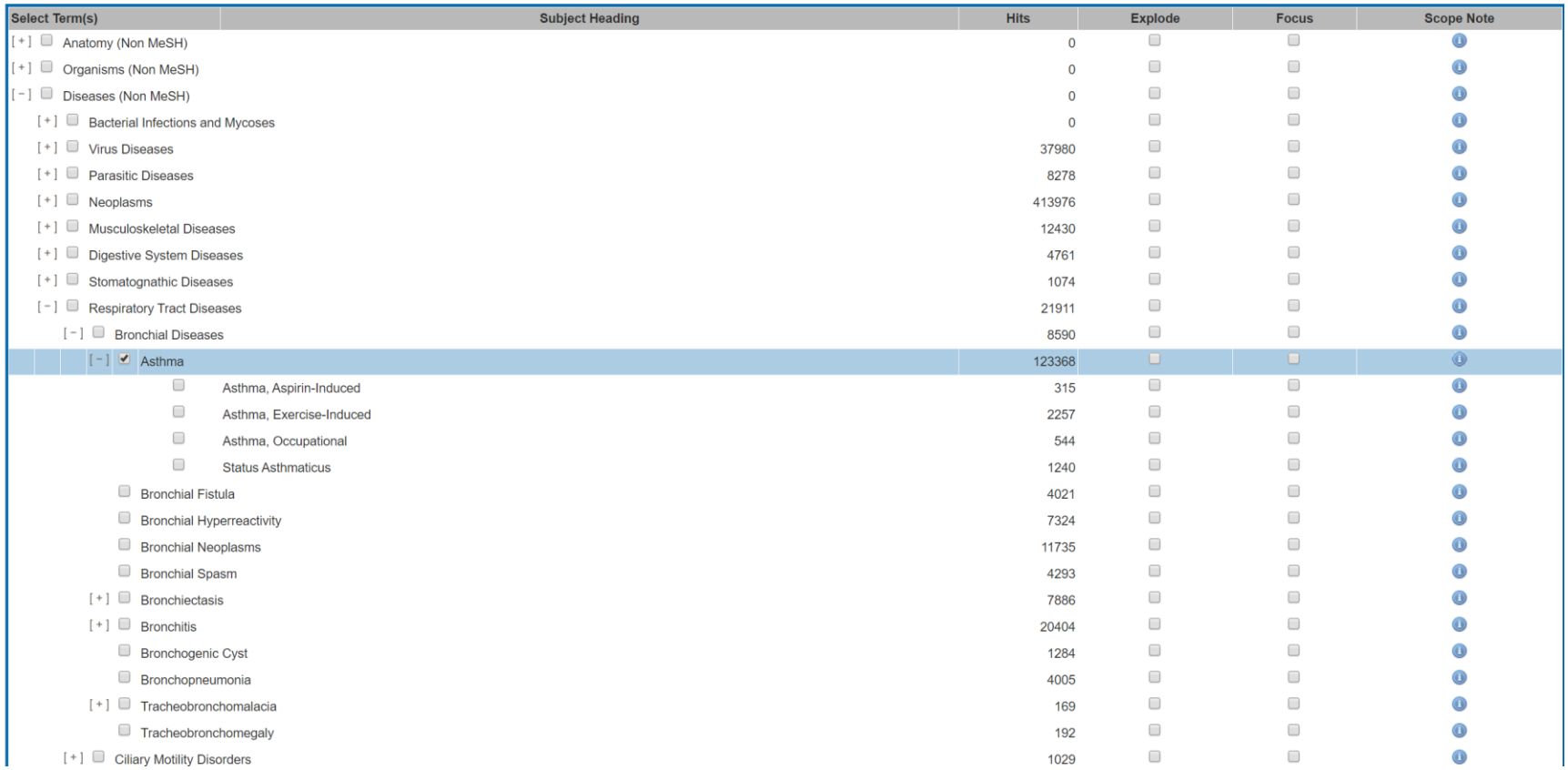
MeSH Tree



Select Term(s)	Subject Heading	Hits	Explode	Focus	Scope Note
[+]	Anatomy (Non MeSH)	0			
[+]	Organisms (Non MeSH)	0			
[−]	Diseases (Non MeSH)	0			
[+]	Bacterial Infections and Mycoses	0			
[+]	Virus Diseases	37980			
[+]	Parasitic Diseases	8278			
[+]	Neoplasms	413976			
[+]	Musculoskeletal Diseases	12430			
[+]	Digestive System Diseases	4761			
[+]	Stomatognathic Diseases	1074			
[−]	Respiratory Tract Diseases	21911			
[−]	Bronchial Diseases	8590			
[−] ☑	Asthma	123368			
	Asthma, Aspirin-Induced	315			
	Asthma, Exercise-Induced	2257			
	Asthma, Occupational	544			
	Status Asthmaticus	1240			
	Bronchial Fistula	4021			
	Bronchial Hyperreactivity	7324			
	Bronchial Neoplasms	11735			
	Bronchial Spasm	4293			
[+]	Bronchiectasis	7886			
[+]	Bronchitis	20404			
	Bronchogenic Cyst	1284			
	Bronchopneumonia	4005			
[+]	Tracheobronchomalacia	169			
	Tracheobronchomegaly	192			
[+]	Ciliary Motility Disorders	1029			

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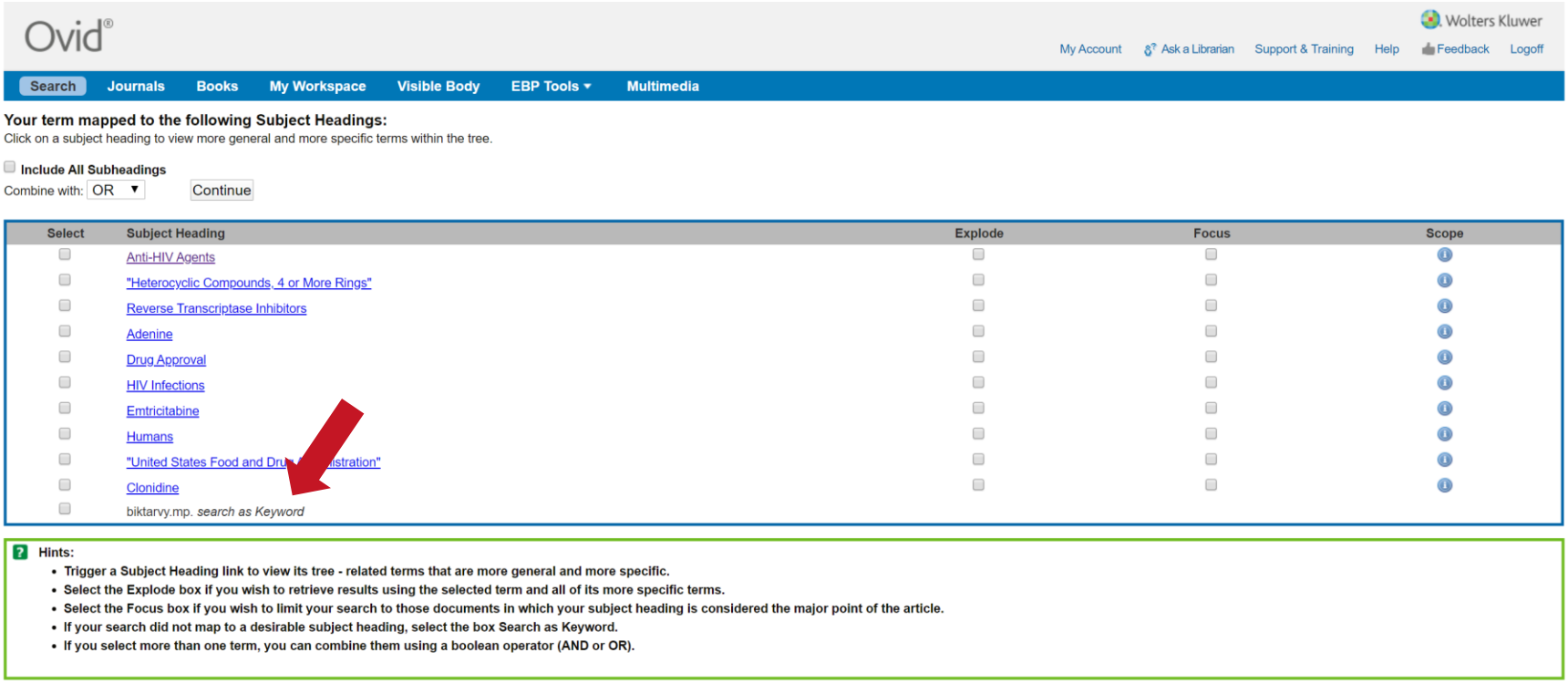
Searching by Keyword



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When to Keyword Search

Researching new drugs or disease states that do not have a MeSH term

Articles cannot be found using MeSH terms

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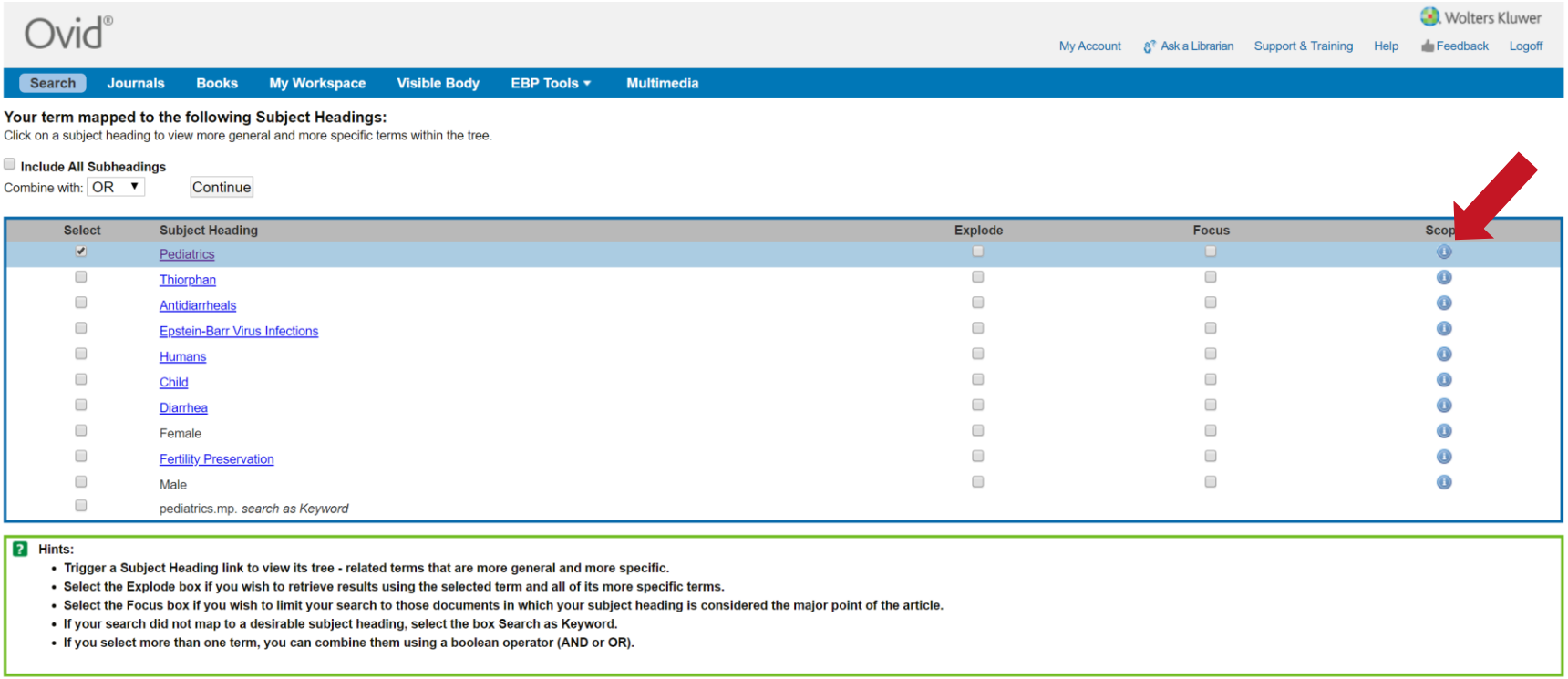
Accessing the Scope Note



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Scope Note

- Utilized to define MeSH terms and obtain additional information

Category	Explanation
Scope	Defines the MeSH term
Note	Provides additional information about the topic
Year of Entry	Year the MeSH term was added
Previous Indexing	Details the categories the search tems was under before the MeSH term was added
Use	Keywords that will trigger the use of the MeSH term

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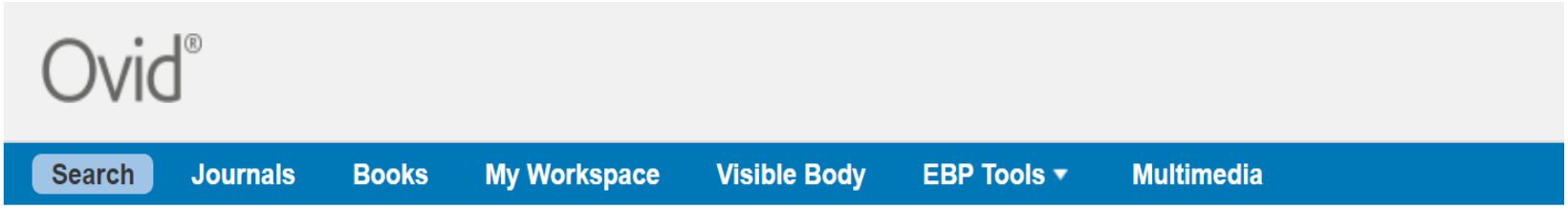
Scope Note



Scope Note for: *Pediatrics*

MeSH HEADING: PEDIATRICS

SCOPE: A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence.

NOTE: SPEC; when permitted for "pediatric dis": Manual 28.10.1

REFERENCES:

Used For:

pediatrics

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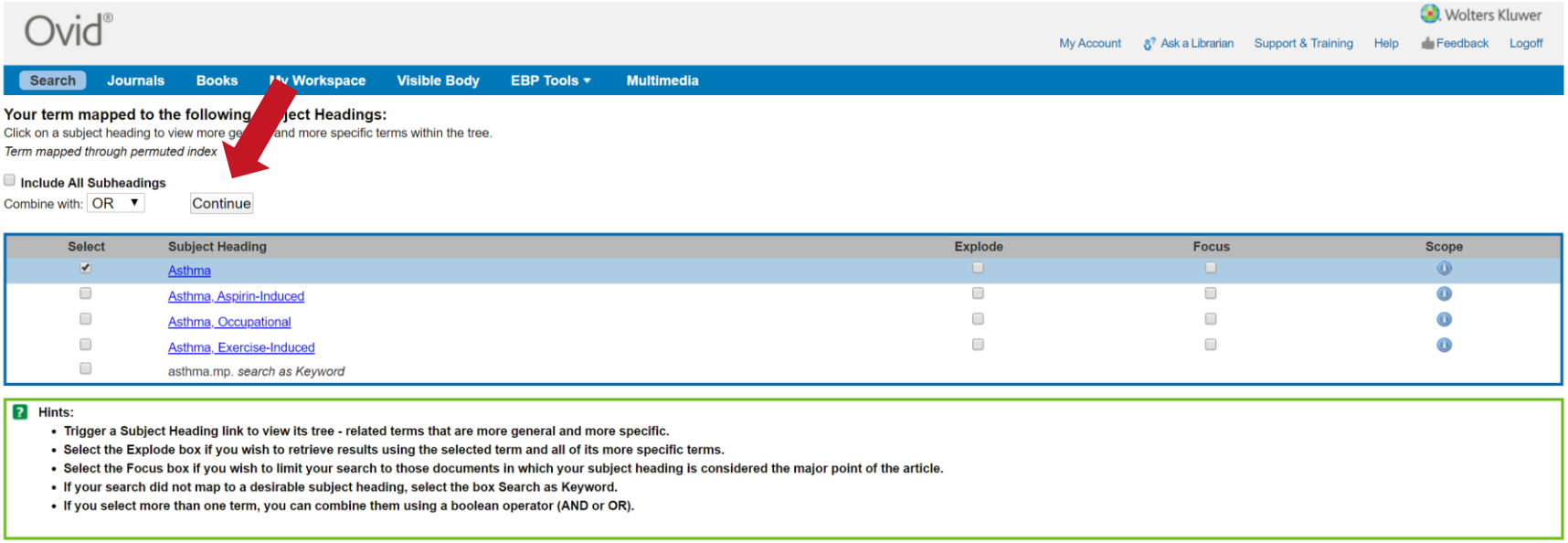
Subheadings



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Subheadings

Assist in narrowing a search

Subheadings are standard for different fields

- Allows searching within a specific area

Cannot be used with keyword searches

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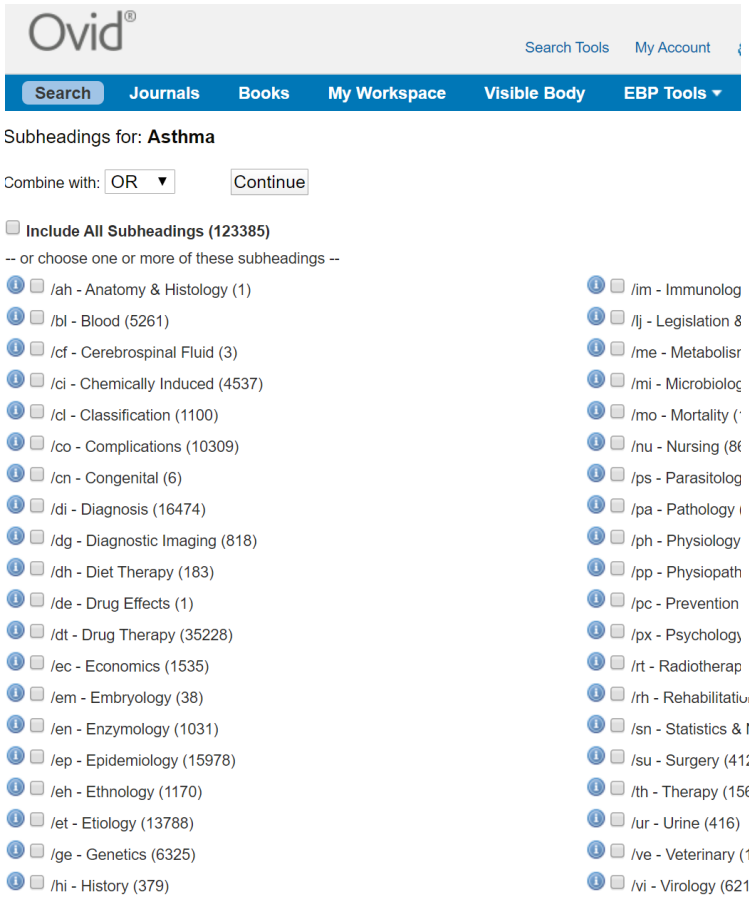
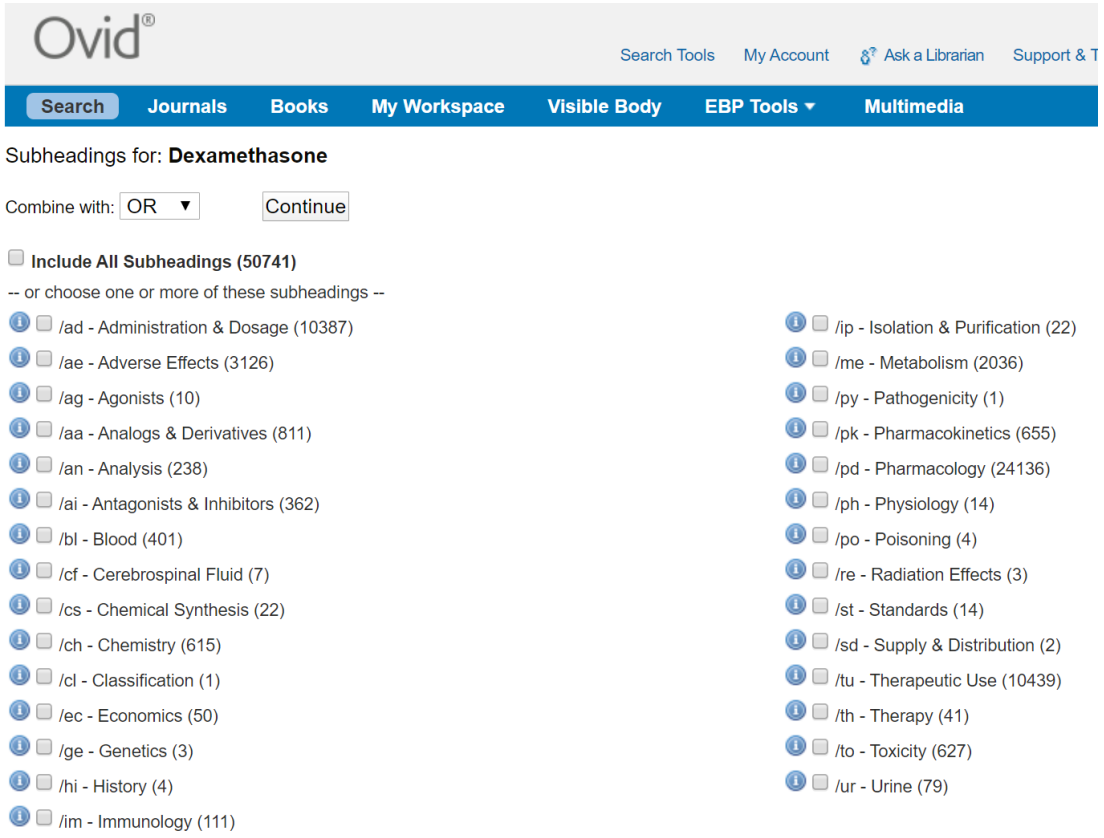
Subheadings





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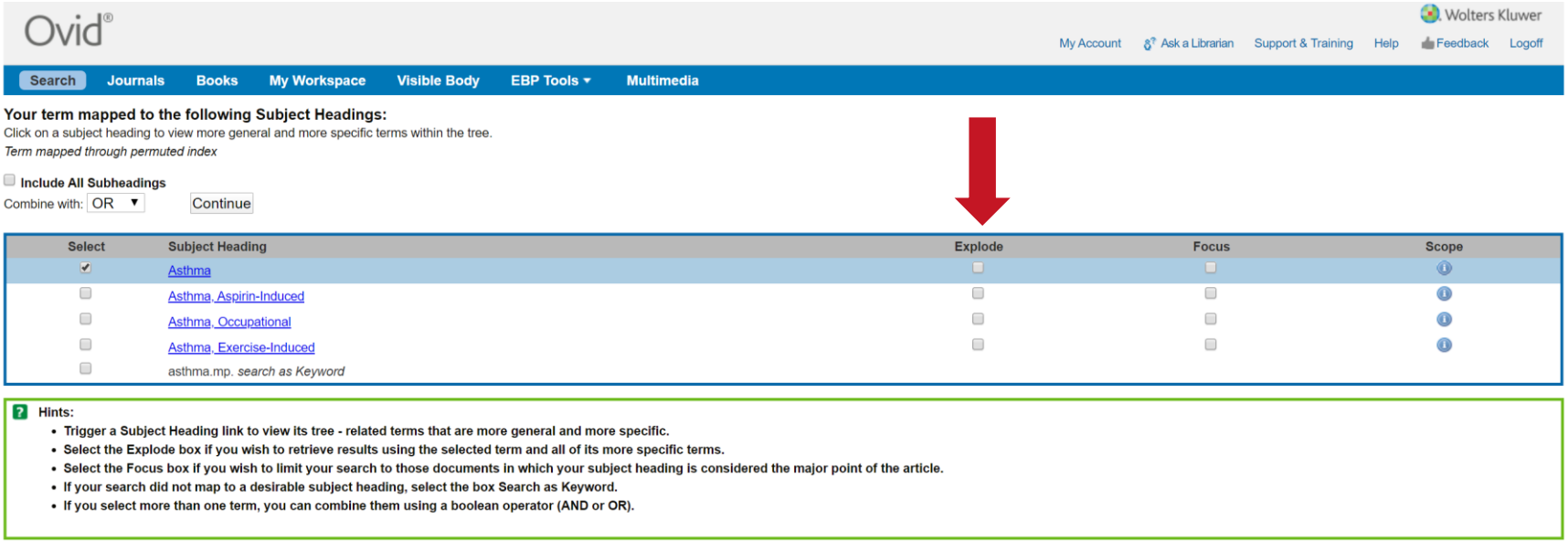
Explode the Search



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Exploding the Search

Tree for **Asthma**

Combine with: OR ▼ Continue Contexts

Scroll down for highlighted search term.

Select Term(s)	Subject Heading	Hits	Explode
[+]	Anatomy (Non MeSH)	0	
[+]	Organisms (Non MeSH)	0	
[−]	Diseases (Non MeSH)	0	
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	Asthma, Occupational	544	
	Status Asthmaticus	1240	
	Bronchial Fistula	4021	

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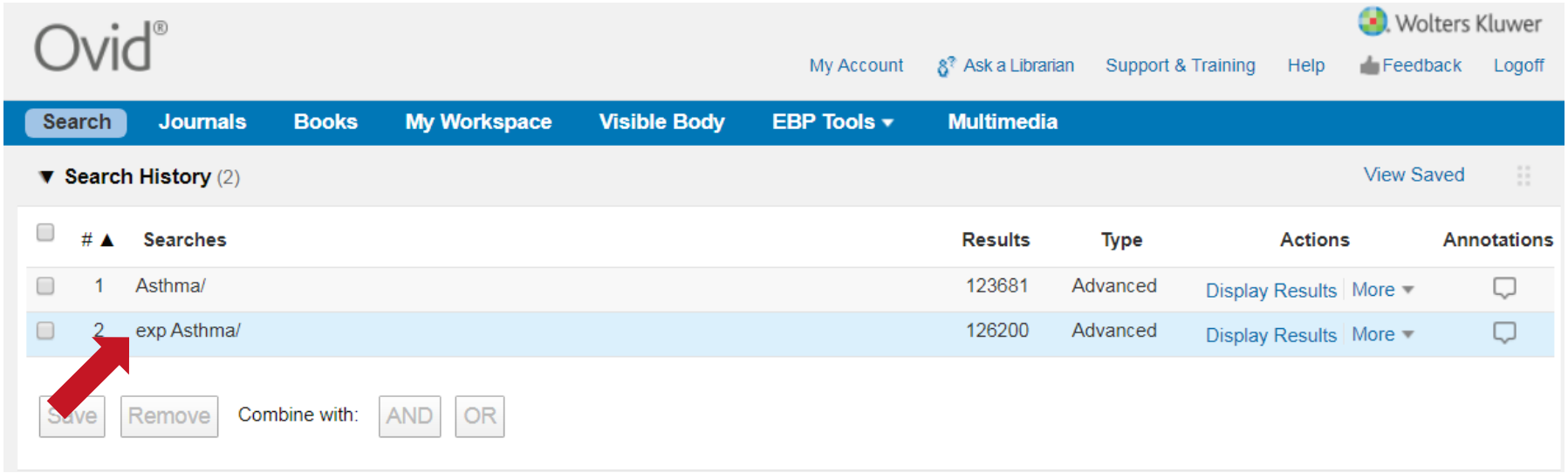
Exploding the Search



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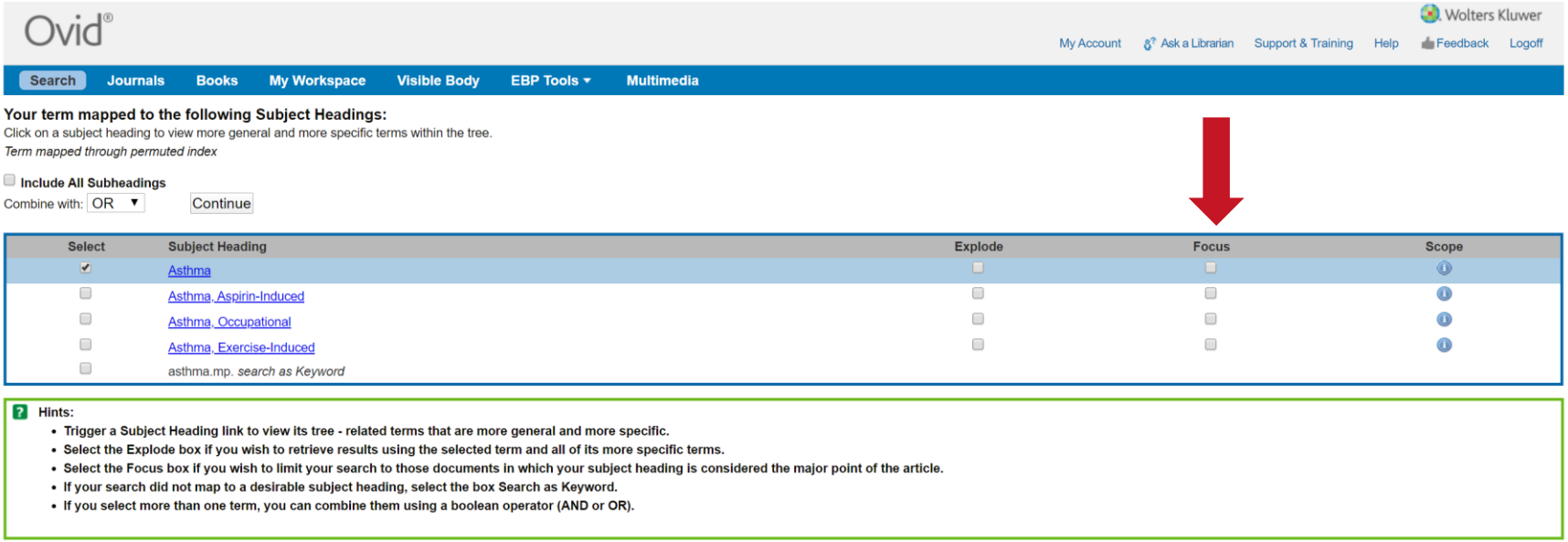
Focus the Search



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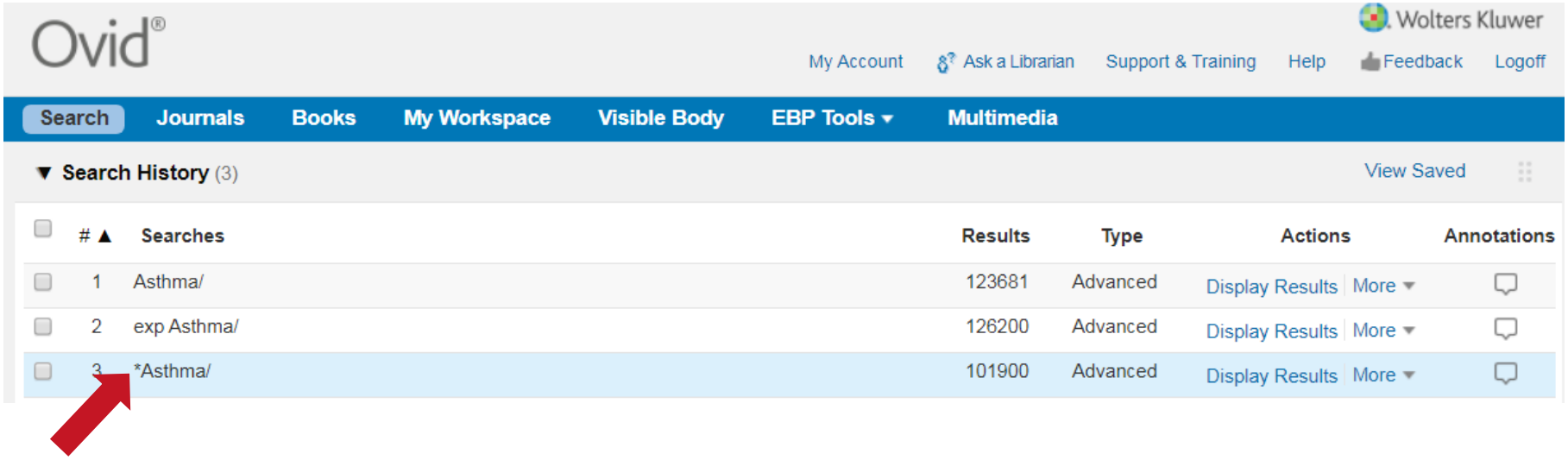
Focusing the Search



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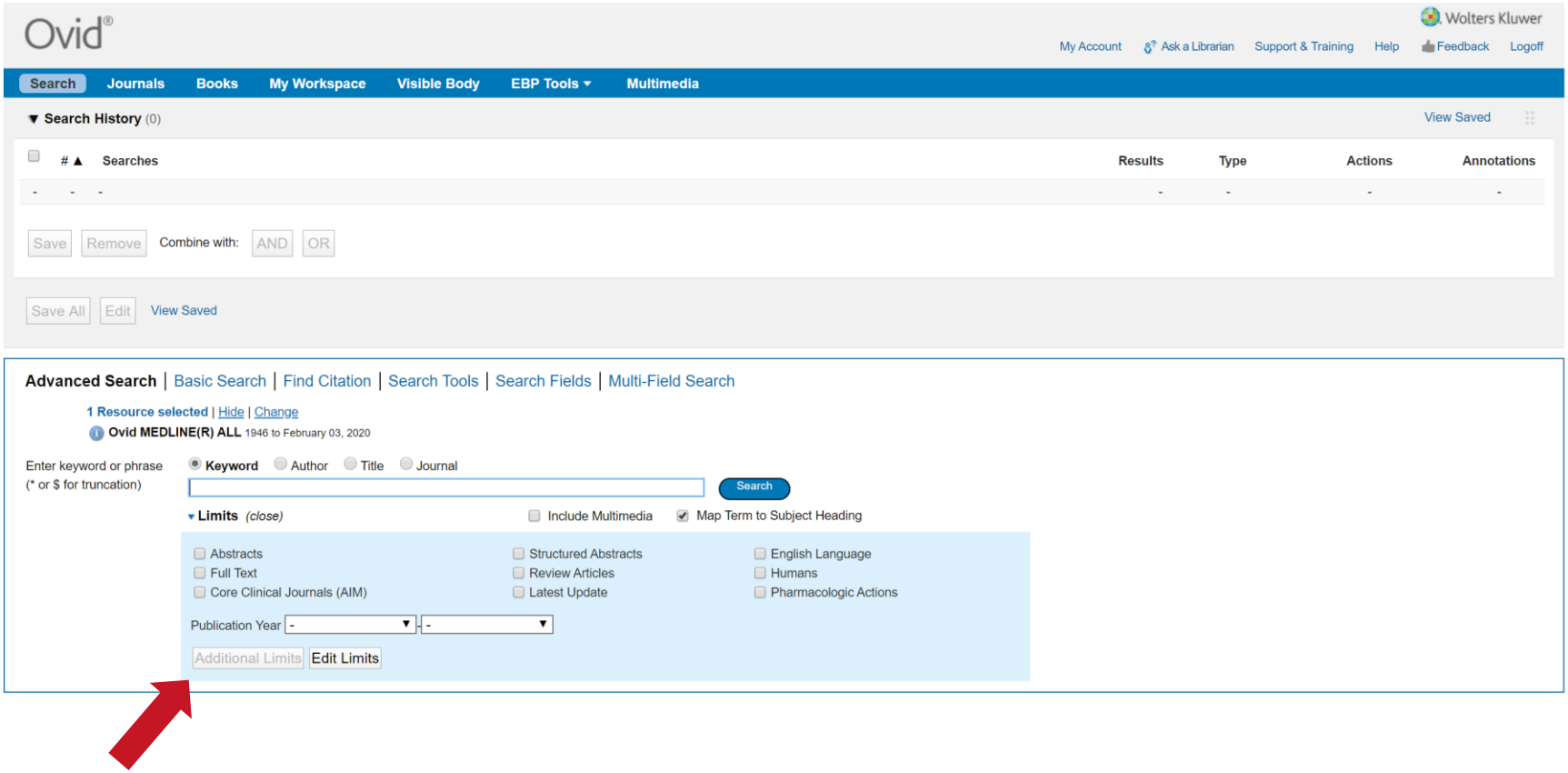
Limiting a Search



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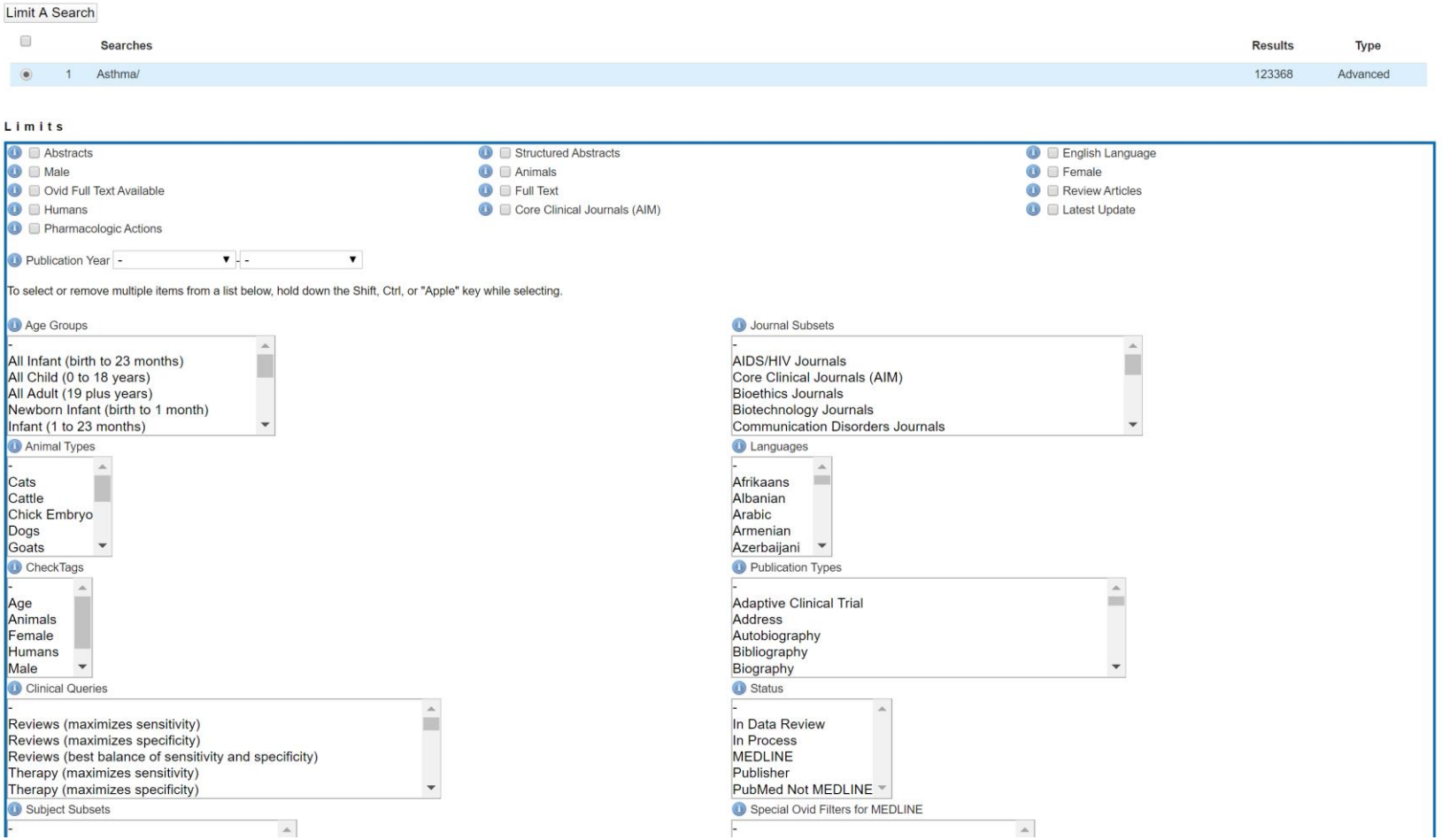
Additional Limits



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PUBMED TUTORIAL

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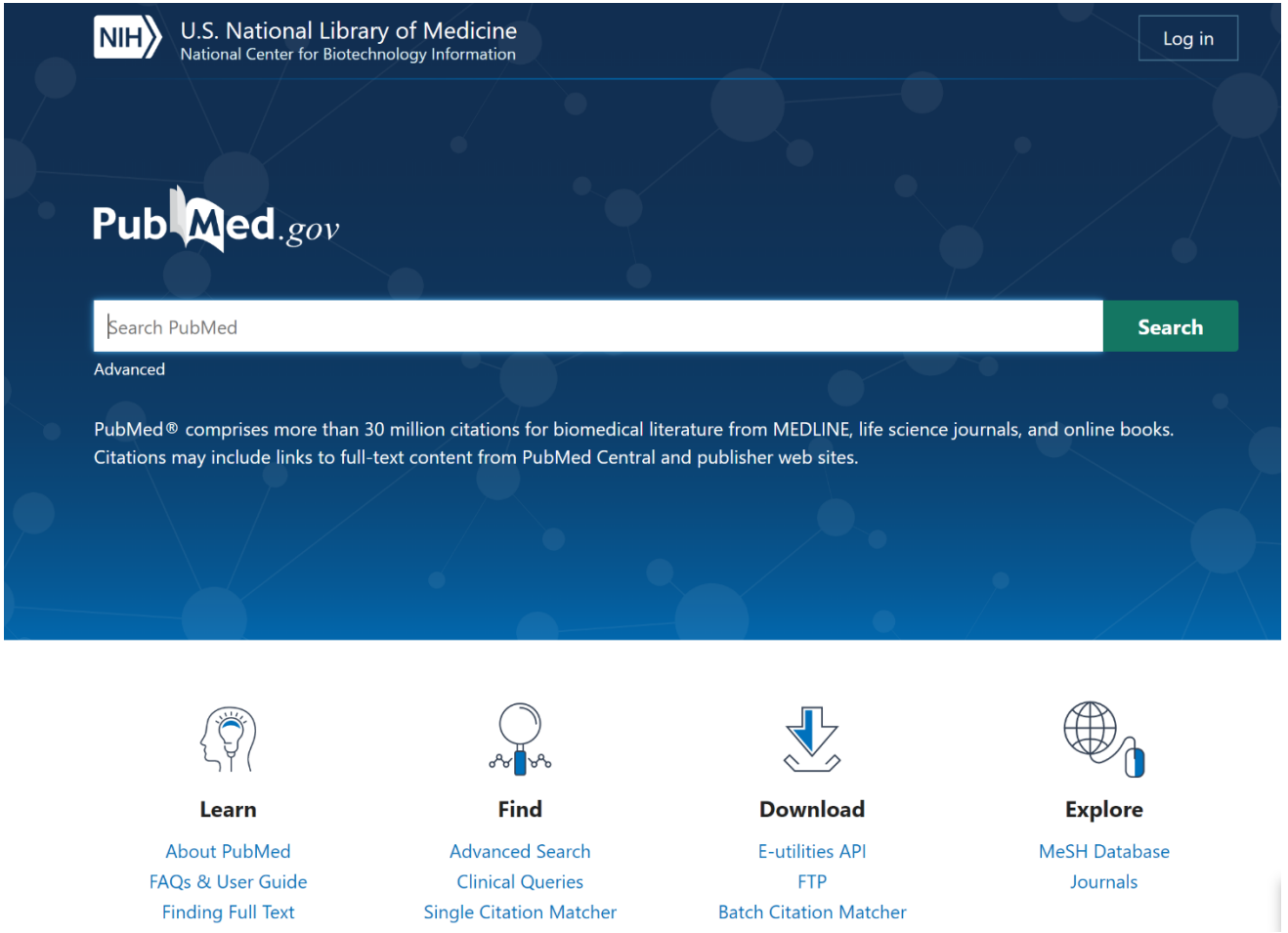
PubMed Homepage



https://pubmed.ncbi.nlm.nih.gov/

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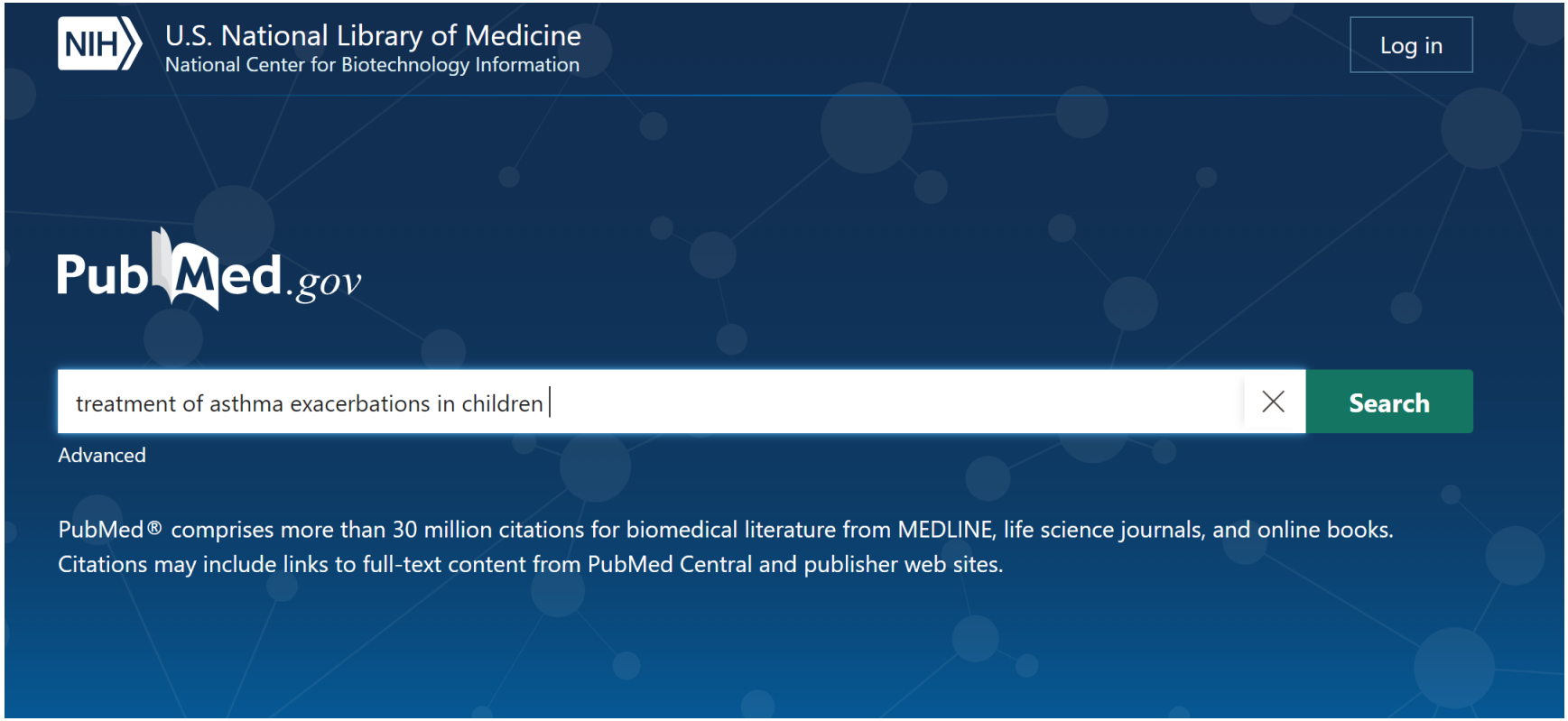
Searching by Phrase



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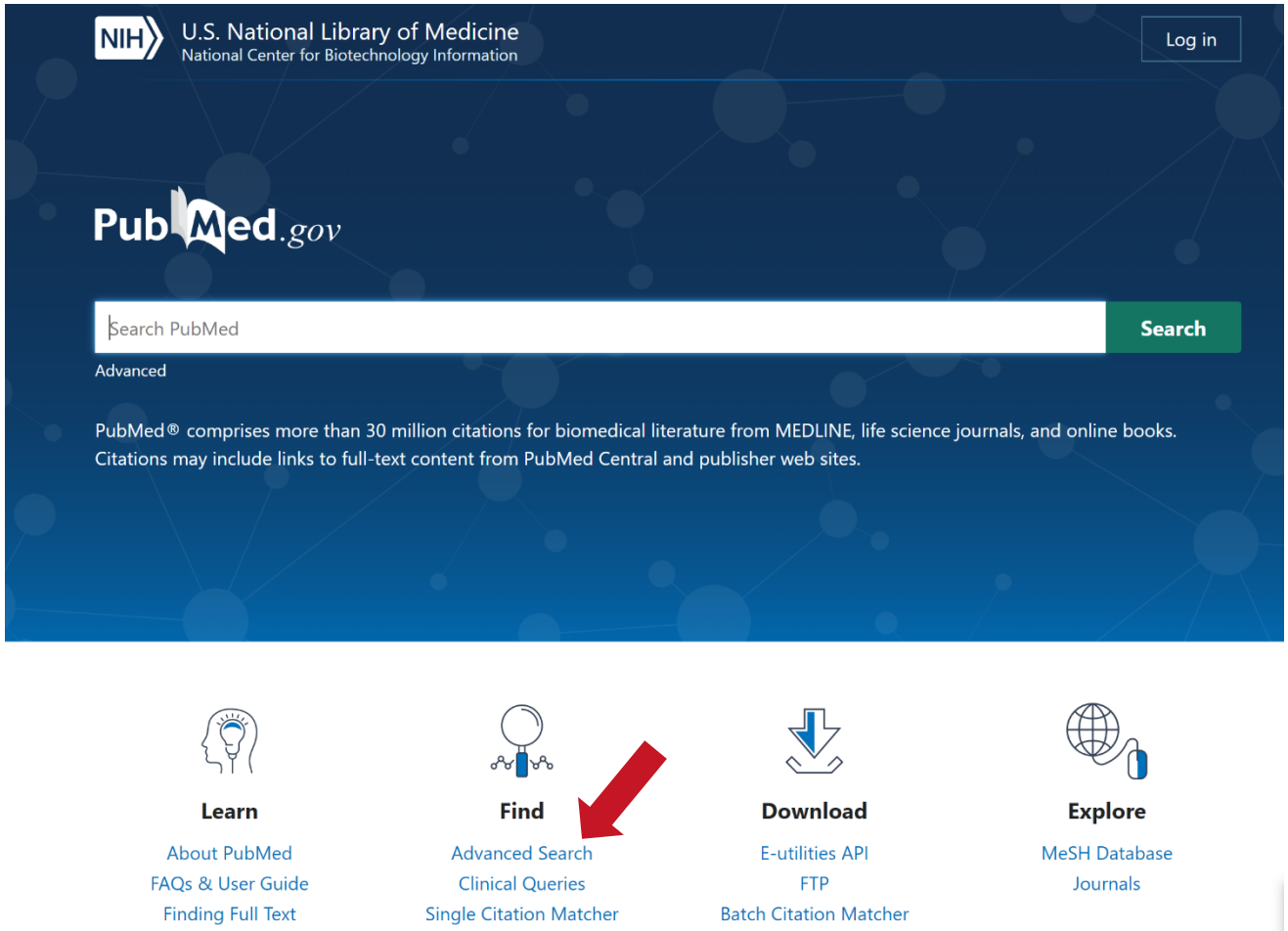
Advanced Search



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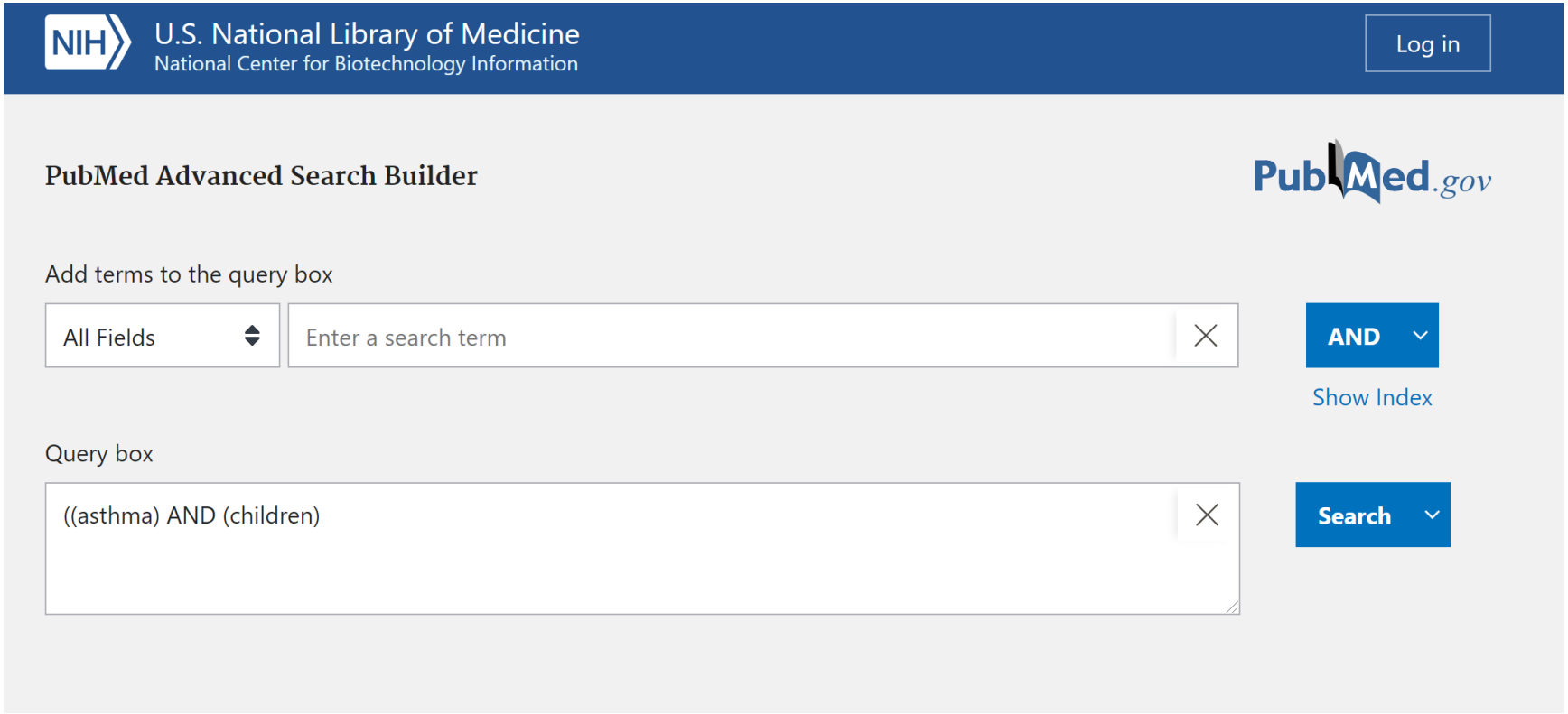
Advanced Search



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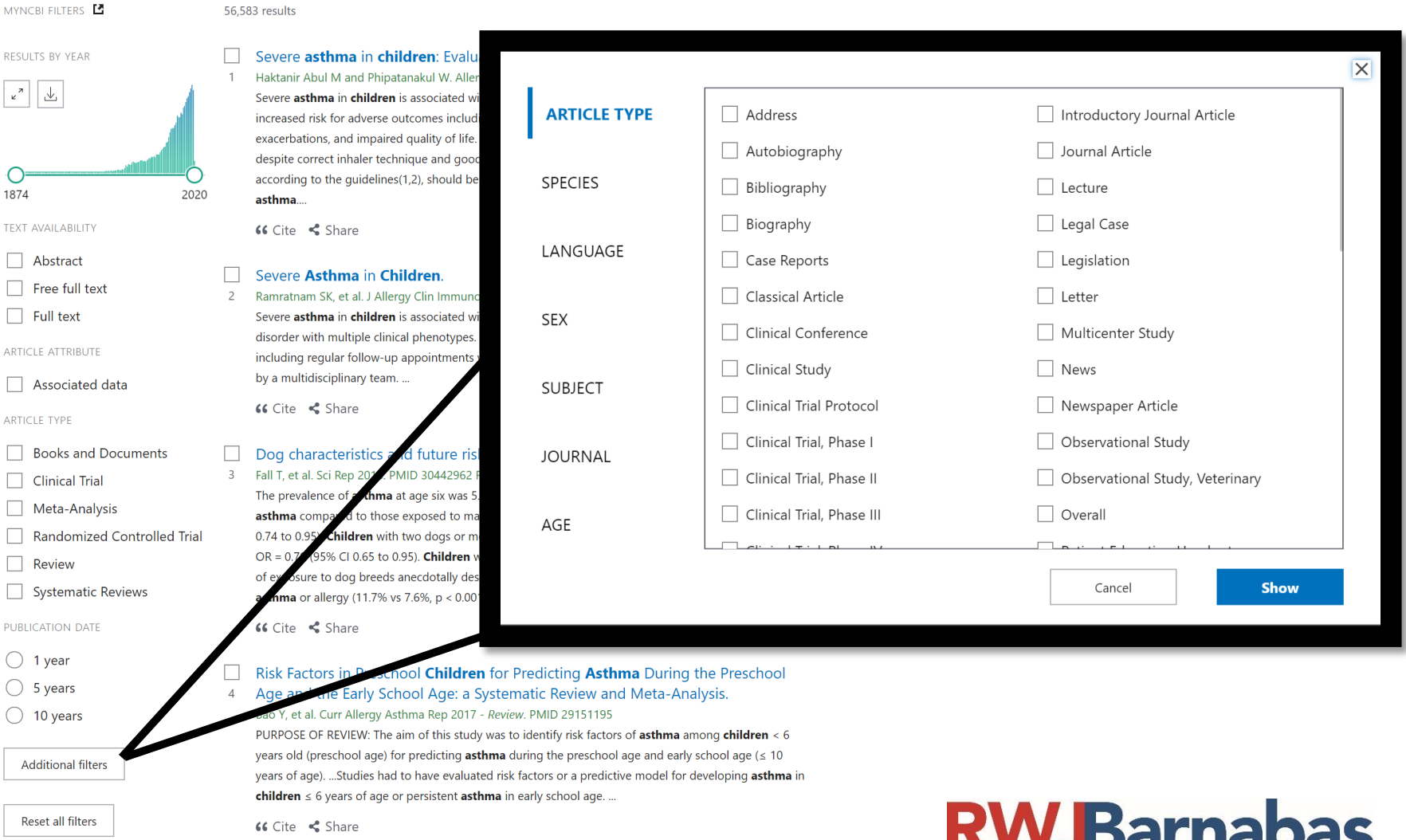
Filtering a Search



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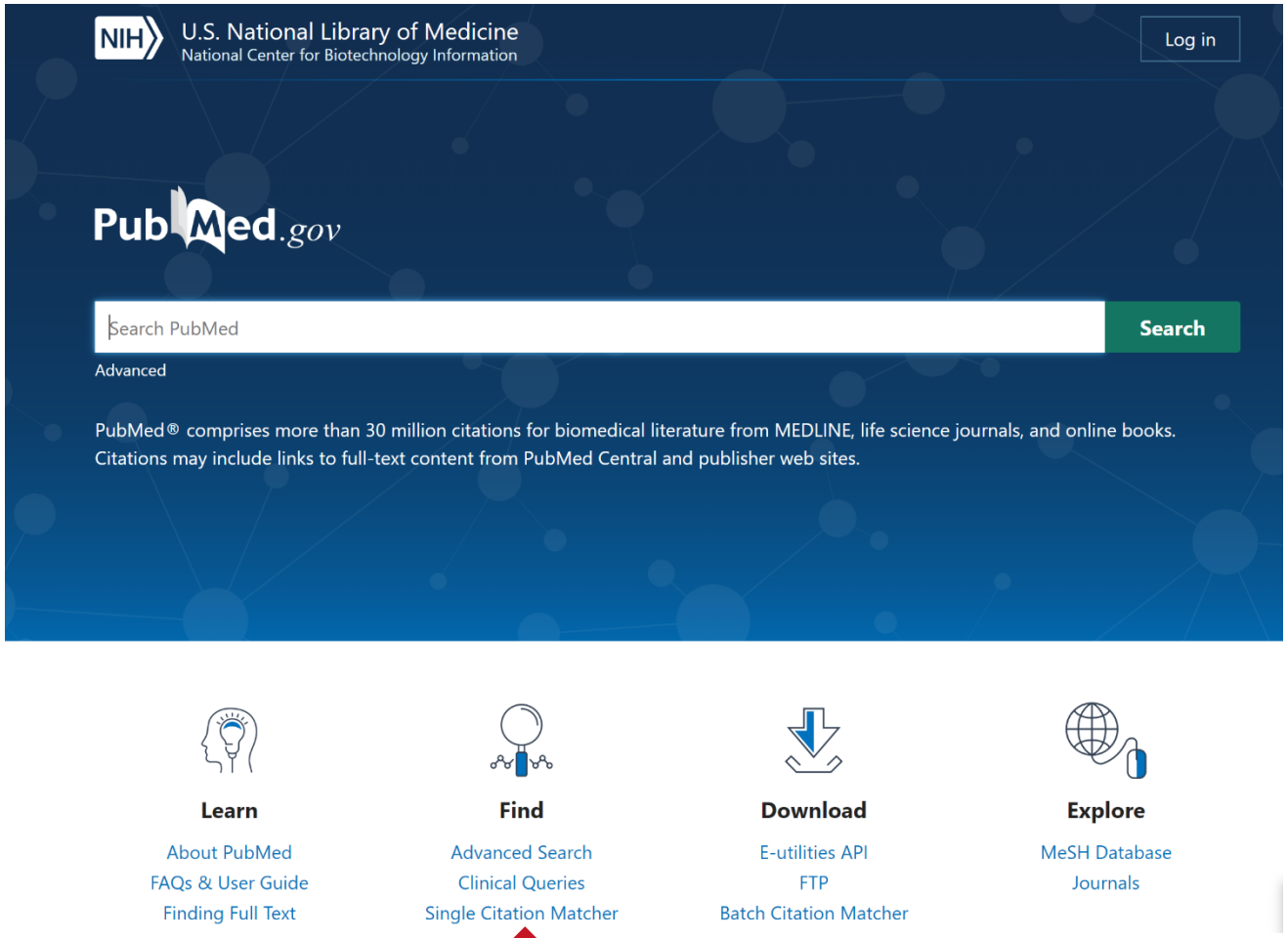
Single Citation Finder



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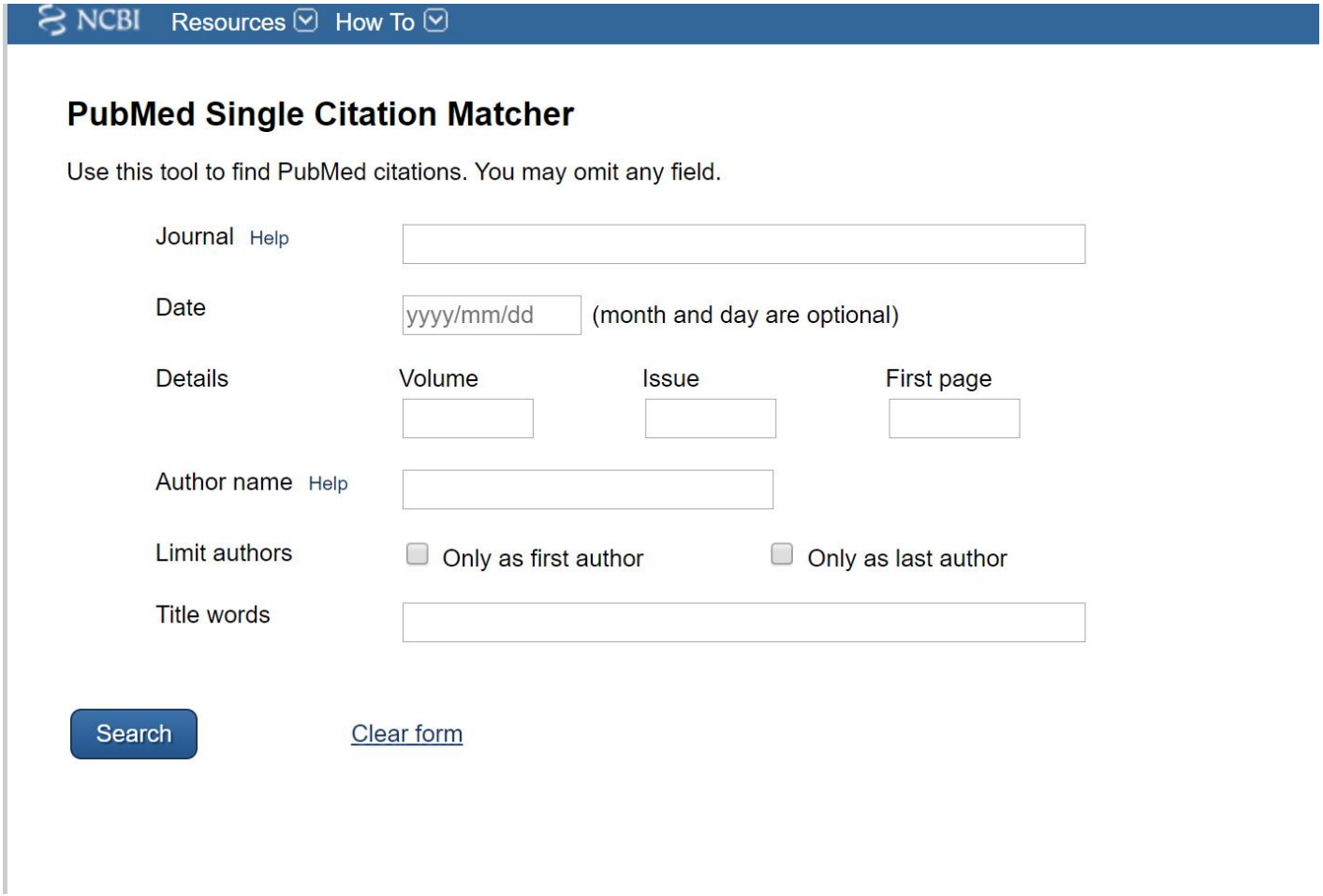
Single Citation Search



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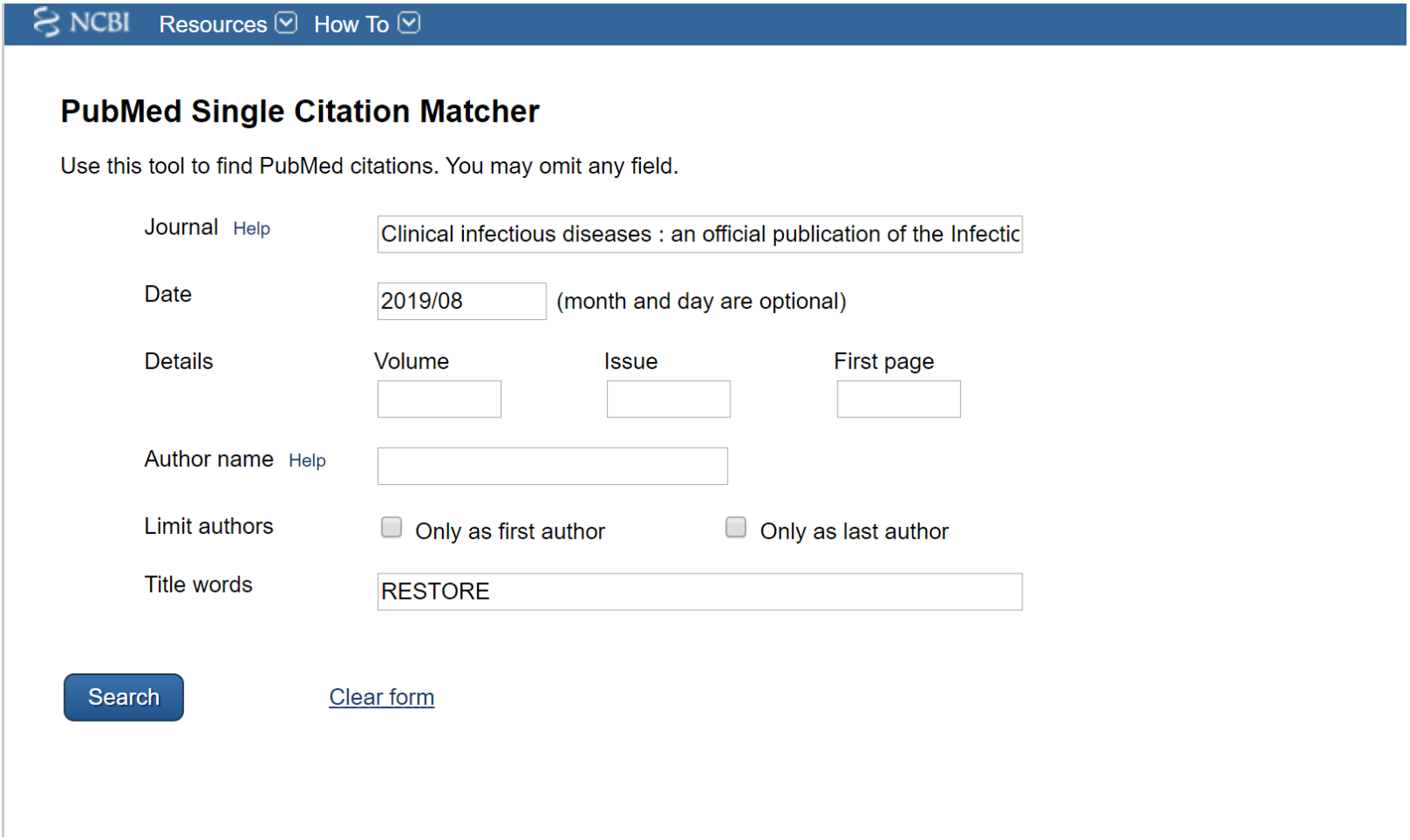
Searching for A Specific Article



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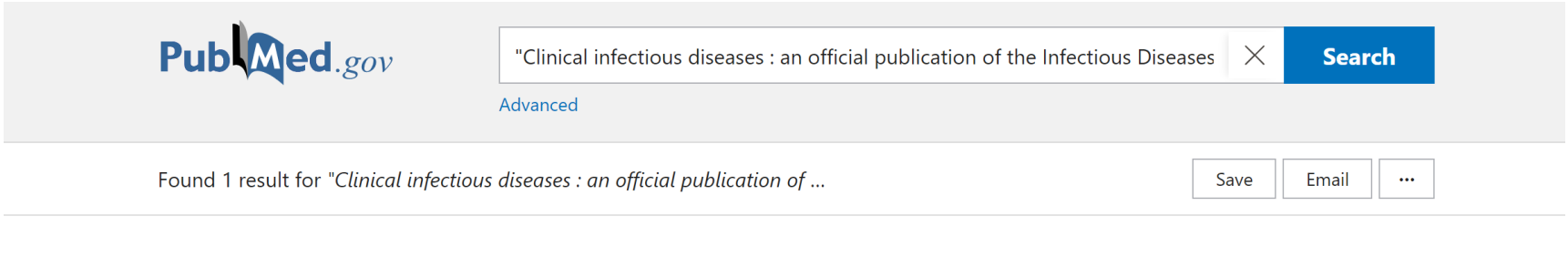
Searching for A Specific Article



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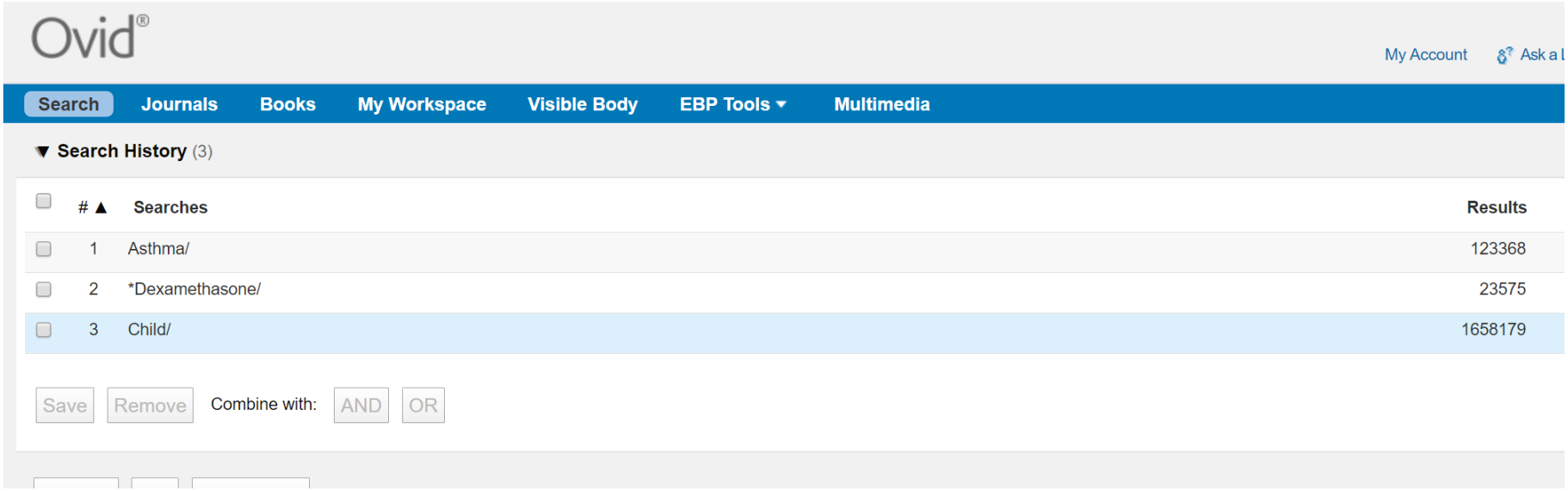
Sample Search

What clinical trials are available regarding the use of dexamethasone for asthma exacerbations in children?

MEDLINE Sample Search



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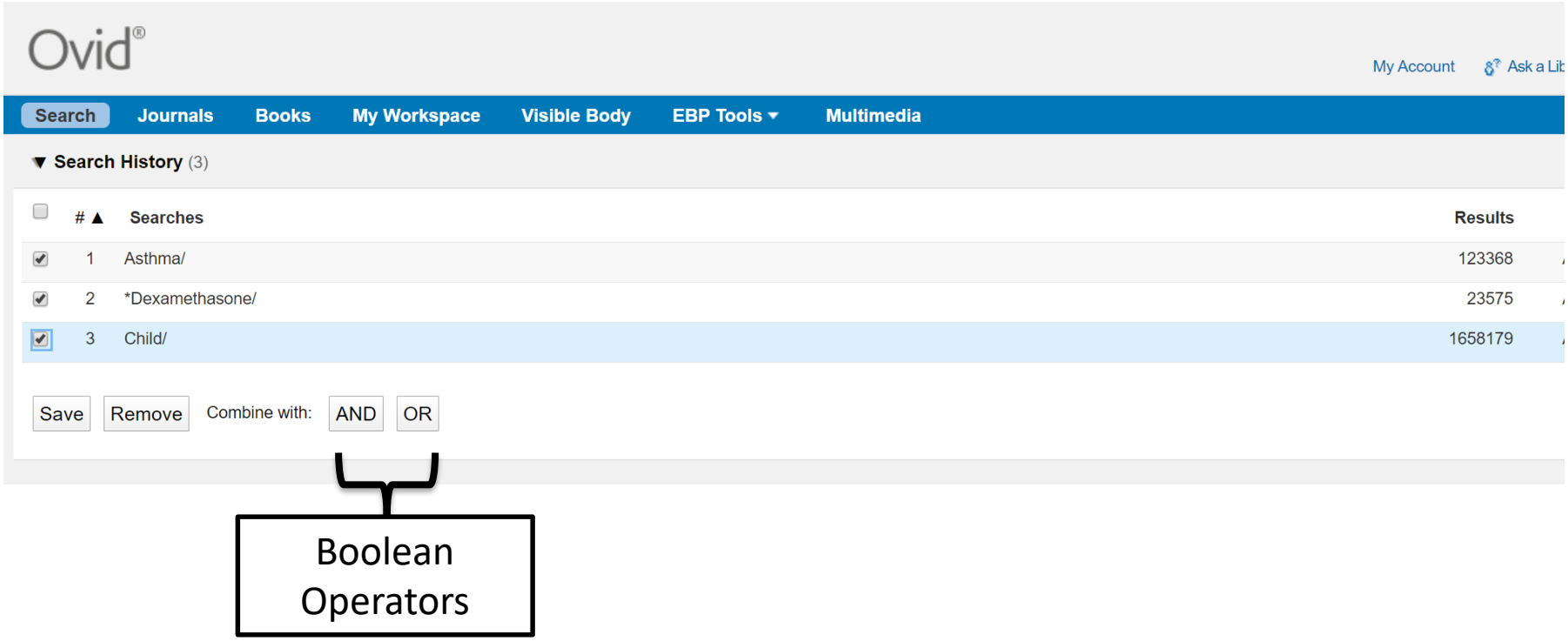
Combing Terms



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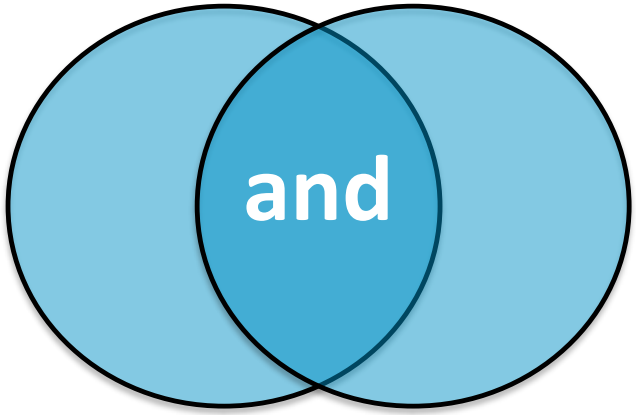
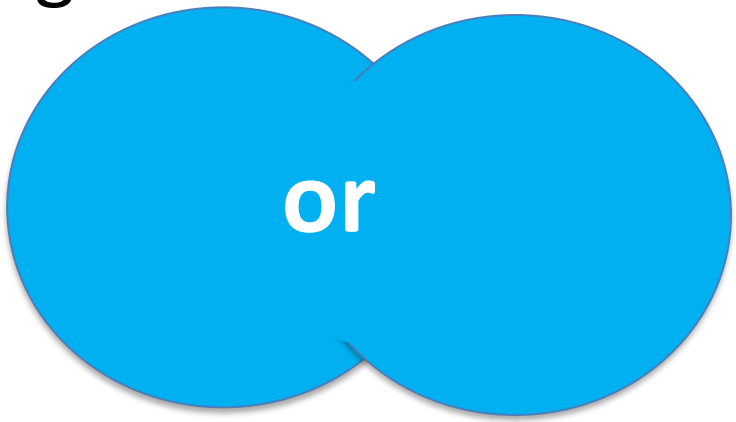
Boolean Operators

- Combining with “AND” will narrow to search



- Combining with “OR” will broaden the search



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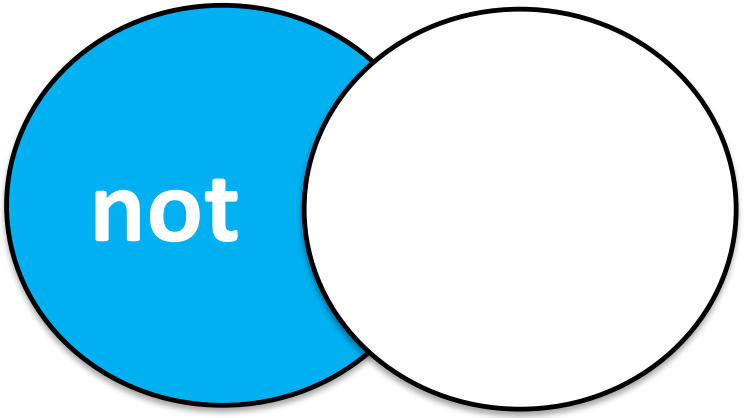
The Hidden Boolean Operator

- Combining with “NOT” will narrow the search



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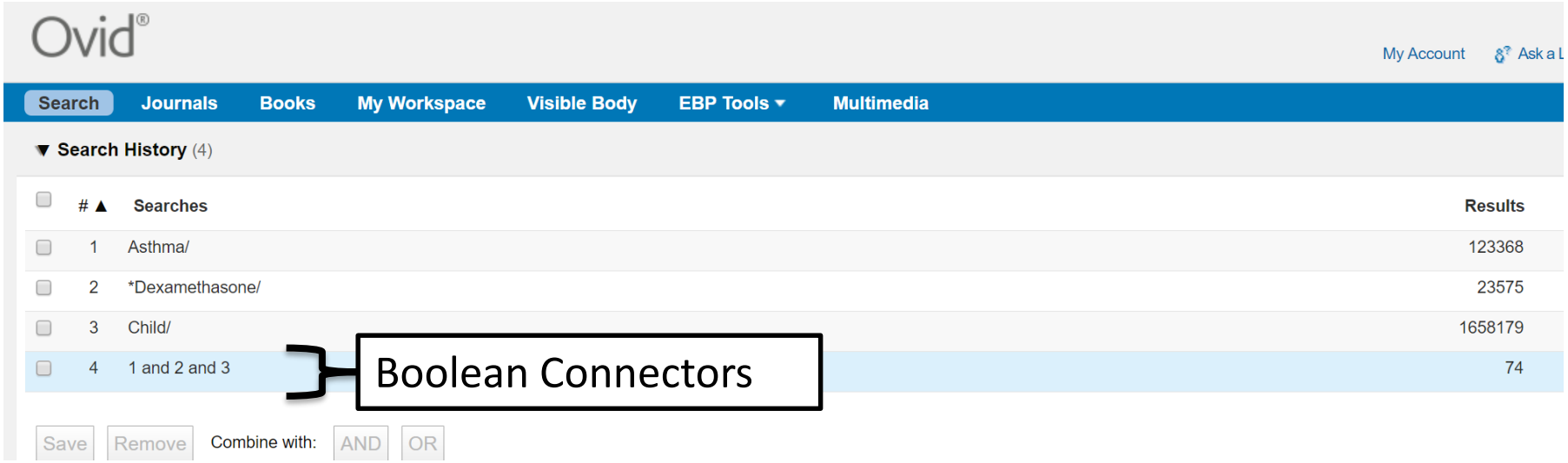
Utilizing Boolean Operators



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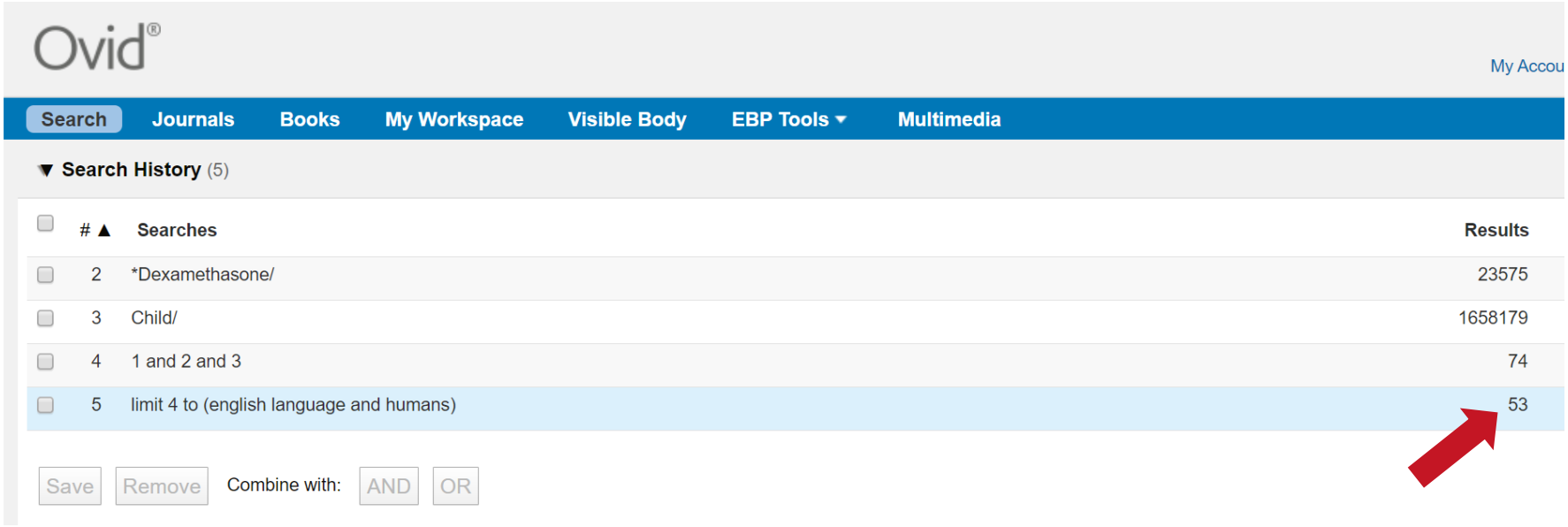
Limiting a Search



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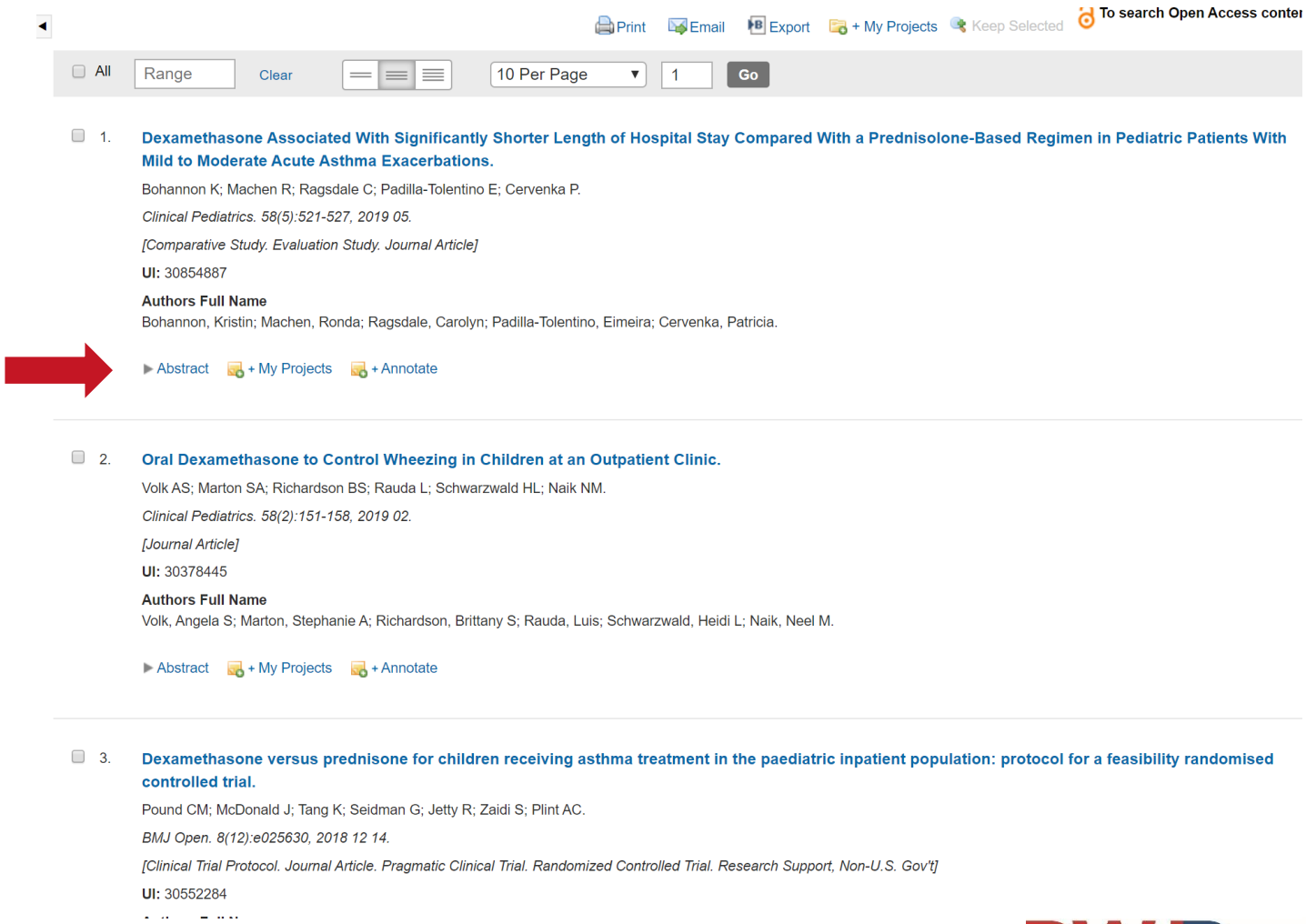
Viewing Search Results



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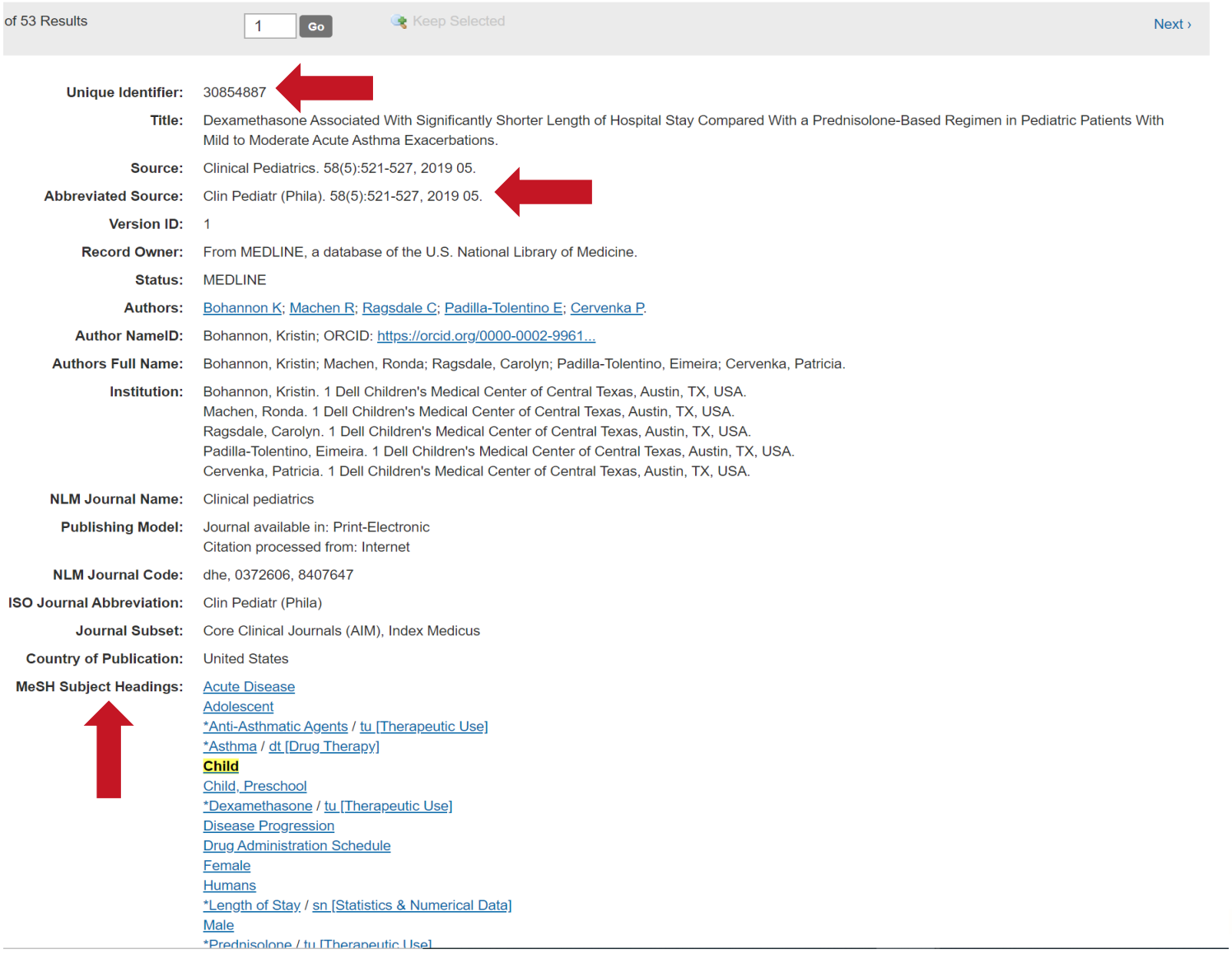
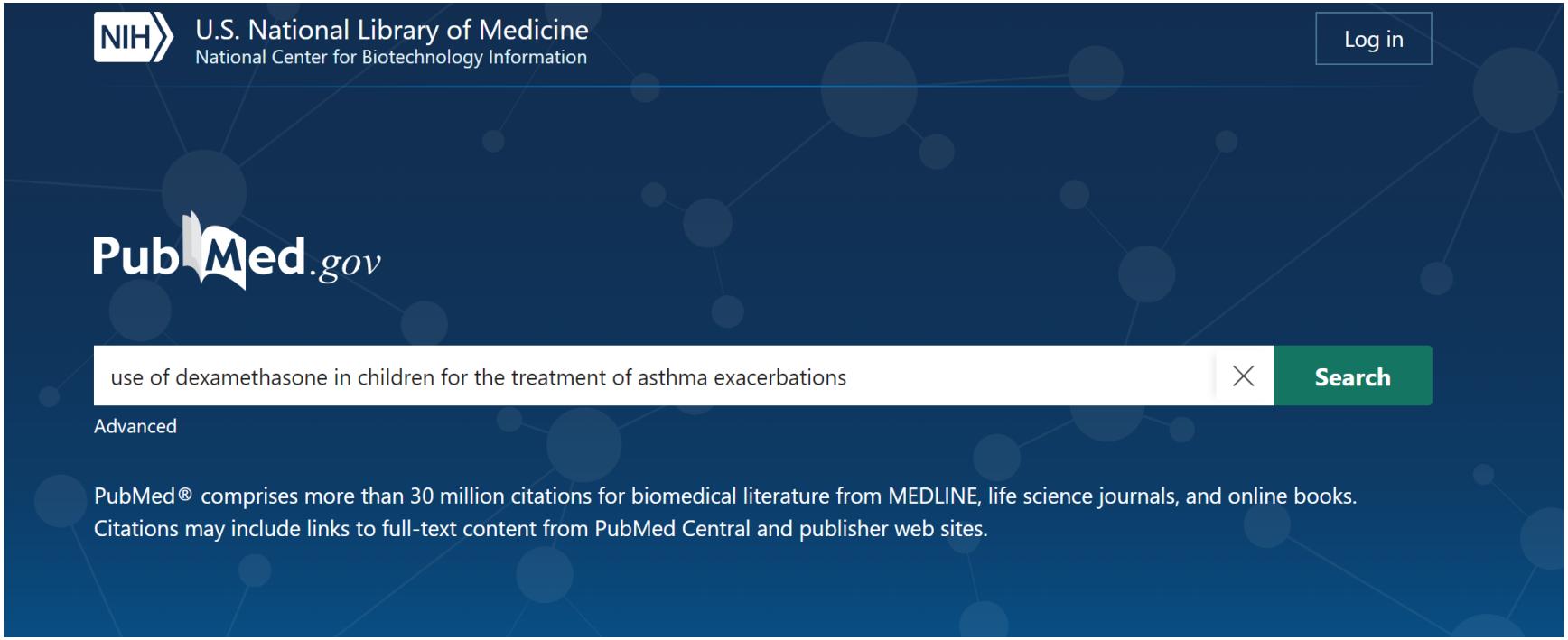
Viewing the Abstract



PubMed Sample Search



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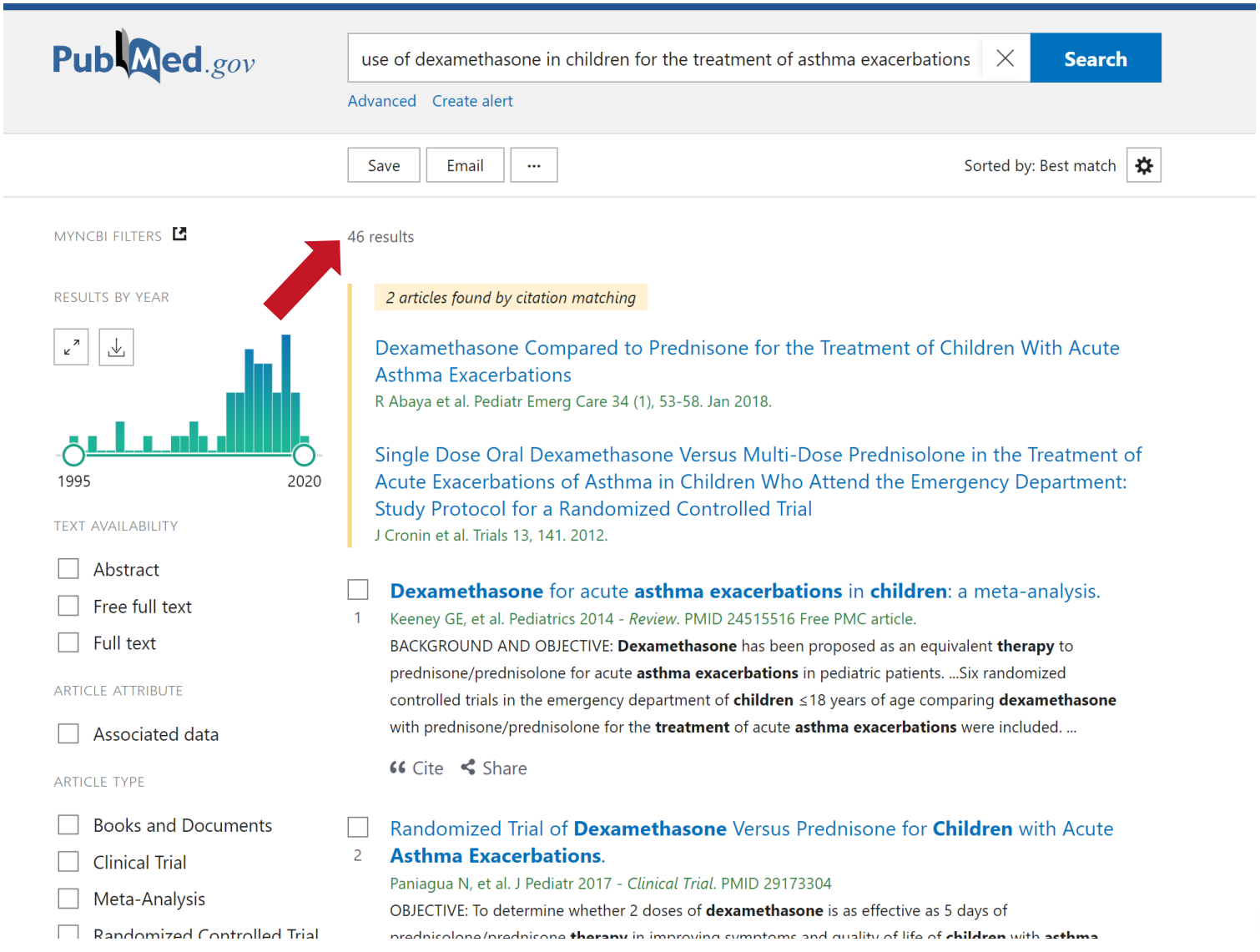
Viewing Results



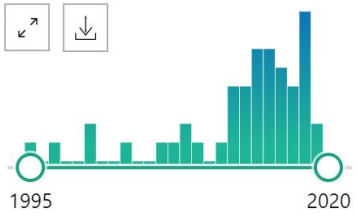
Filtered Results

Save | Email | ... Sorted by: Best match

MYNCBI FILTERS

41 results

RESULTS BY YEAR



TEXT AVAILABILITY

- [ ] Abstract
- [ ] Free full text
- [ ] Full text

ARTICLE ATTRIBUTE

- [ ] Associated data

ARTICLE TYPE

- [ ] Books and Documents
- [ ] Clinical Trial
- [ ] Meta-Analysis
- [ ] Randomized Controlled Trial
- [ ] Review

2 articles found by citation matching

Dexamethasone Compared to Prednisone for the Treatment of Children With Acute Asthma Exacerbations
R Abaya et al. Pediatr Emerg Care 34 (1), 53-58. Jan 2018.

Single Dose Oral Dexamethasone Versus Multi-Dose Prednisolone in the Treatment of Acute Exacerbations of Asthma in Children Who Attend the Emergency Department: Study Protocol for a Randomized Controlled Trial
J Cronin et al. Trials 13, 141. 2012.

Filters applied: Humans, English. Clear all

1 **Dexamethasone** for acute **asthma exacerbations** in **children**: a meta-analysis.
Keeney GE, et al. Pediatrics 2014 - *Review*. PMID 24515516 Free PMC article.
BACKGROUND AND OBJECTIVE: **Dexamethasone** has been proposed as an equivalent **therapy** to prednisone/prednisolone for acute **asthma exacerbations** in pediatric patients. ...Six randomized controlled trials in the emergency department of **children** ≤18 years of age comparing **dexamethasone** with prednisone/prednisolone for the **treatment** of acute **asthma exacerbations** were included. ...

Cite Share

2 Randomized Trial of **Dexamethasone** Versus Prednisone for **Children** with Acute **Asthma Exacerbations**.
Paniagua N, et al. J Pediatr 2017 - *Clinical Trial*. PMID 29173304
OBJECTIVE: To determine whether 2 doses of **dexamethasone** is as effective as 5 days of

Abstract Page

Review › Pediatr Emerg Care, 34 (1), 53-58 Jan 2018

Dexamethasone Compared to Prednisone for the Treatment of Children With Acute Asthma Exacerbations

Ruth Abaya, Laura Jones, Joseph J Zorc

PMID: 29293202 DOI: 10.1097/PEC.0000000000001371

Abstract

Systemic corticosteroids are recommended in clinical practice guidelines for the treatment of acute asthma exacerbation based on evidence demonstrating reduced hospitalizations and improved outcomes after administration in the emergency department. Although prednisone and related oral preparations have been recommended previously, researchers have assessed dexamethasone as an alternative based on its longer biologic half-life and improved palatability. Systematic reviews of multiple small trials and 2 larger trials have found no difference in revisits to the emergency department compared to prednisone for dexamethasone given either as an intramuscular injection or orally. Studies of oral administration have found reduced emesis for dexamethasone compared to prednisone both in the emergency department and for a second oral dose, typically given 24 to 48 hours later. Studies assessing a single dose of dexamethasone have found equivalent improvement at follow-up but with some evidence of increased symptoms and increased need for additional corticosteroids compared to multiple doses of prednisone. Future research could further assess dexamethasone dose, formulation, and frequency and measure other related adverse effects such as behavior change. Consideration of baseline differences within the heterogeneous population of children requiring acute care for asthma may also guide the design of an optimal dexamethasone regimen.

Similar articles

Is Dexamethasone an Effective Alternative to Oral Prednisone in the Treatment of Pediatric Asthma Exacerbations?

JS Meyer et al. Hosp Pediatr 4 (3), 172-80, May 2014. PMID 24785562 Meta-Analysis

MEDLINE VS. PUBMED

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	MEDLINE	PubMed
Control of the Search	Searcher has a great deal of control • Does not automatically select anything	Searcher has limited control • Automatically uses: - Boolean Operators - Explode - MeSH Terms
Free Text Search	Cannot search by phrases	Can search utilizing phrases or questions
Access	Subscription required	No subscription required

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ASSESSMENT QUESTIONS

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Q1: How is an abstracting service different from an indexing service?

A. An indexing service provides a short summary of the trial with a citation while abstracting services provide only a citation

B. Both abstracting and indexing services provide a full citation and full text articles

C. Abstracting services provide a short summary of the trial with a citation while indexing services provide a citation with or without a short summary of the trial

D. Both abstracting and indexing services provide only the citation of the article

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R1: How is an abstracting service different from an indexing service?

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D. Both abstracting and indexing services provide only the citation of the article

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Q2: PubMed and MEDLINE search a database that is available through Elsevier.

TRUE

FALSE

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R2: PubMed and MEDLINE search a database that is available through Elsevier.

FALSE

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Q3: Which of the following Boolean Operators can be used to broaden a search?

- And
- Not
- Neither
- Or
- Either

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R3: Which of the following Boolean Operators can be used to broaden a search?

Or

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Q4: Which of the following is a characteristic of PubMed, not MEDLINE?

A. PubMed does not search by MeSH term
B. PubMed automatically explodes each term in the search
C. PubMed requires a subscription
D. PubMed cannot search by using phrases
E. PubMed does not automatically use Boolean Operators

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R4: Which of the following is a characteristic of PubMed, not MEDLINE?

A. PubMed does not search by MeSH term
B. PubMed automatically explodes each term in the search
C. PubMed requires a subscription
D. PubMed cannot search by using phrases
E. PubMed does not automatically use Boolean Operators

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Summary

When tertiary literature is not enough, healthcare professionals turn to primary literature for answers

Secondary resources are a fast and effective way for healthcare professionals to find primary medical literature

PubMed and MEDLINE offer many features that allow users to tailor searches to find the most relevant primary literature

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