

Search Strategy

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November 2016

Goals & Objectives

- Improve students' ability to construct strong search strategies in PubMed:
 - Basic terminology is explained
 - Appropriate usage examples are presented
 - Questions are supplied for practice

Introduction

- The old saying “Garbage in, garbage out” holds true for developing strong searching skills.
- If you “Ask” the right question, you will “Acquire” the information you are seeking.

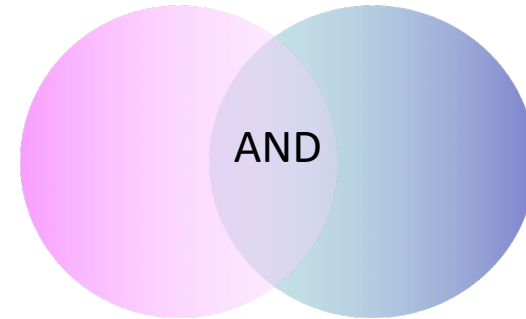
Database Used — PubMed

- Examples are based on the PubMed database
 - PubMed is:
 - is Free
 - is available to anyone 24/7 on the Internet
 - has 26+ million records from over 5,500 publications
 - is updated daily
 - covers fields of:
 - medicine, nursing, dentistry, veterinary medicine, pharmacology, health care system, and allied health
 - is international in scope

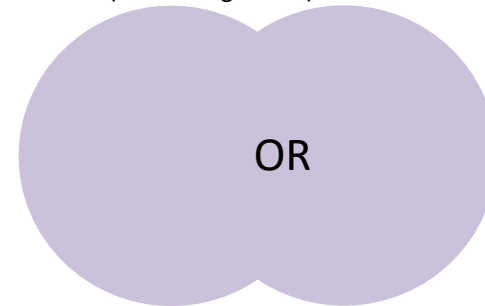
Boolean Operators—Glossary

- [Boolean Operators](#) —
logic system used to
combine search terms
 - AND
 - OR
 - NOT

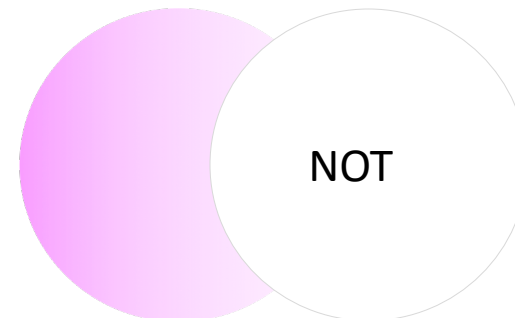
AND: retrieves **only** the middle section (intersection)



OR: retrieves **all** (left and right side)



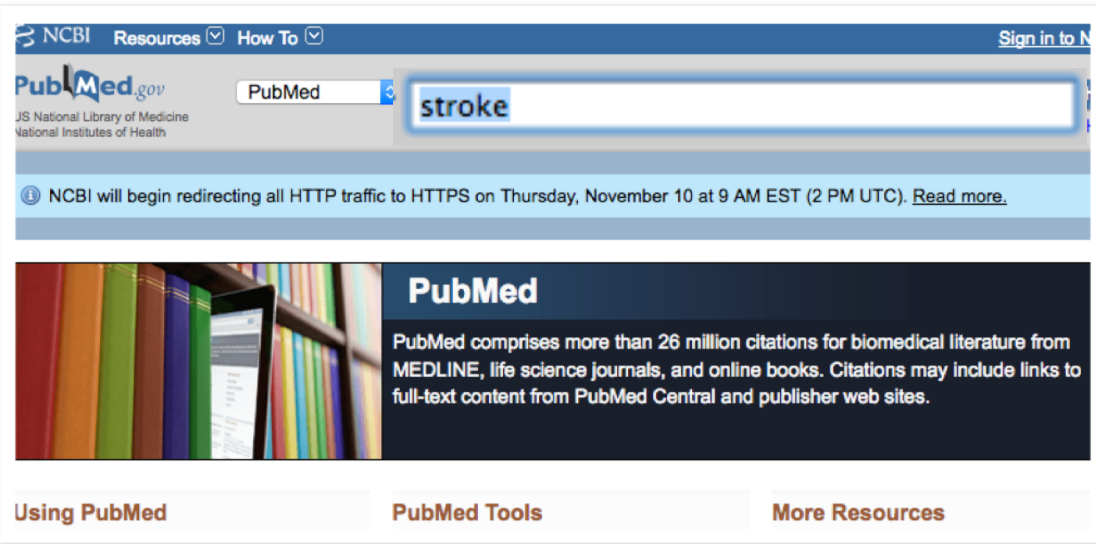
NOT: **excludes**, only pink section is retrieved. Should use sparingly.



Less is More!

If you focus on your topic,
even though you have fewer numbers,
your results will be more relevant!

Keywords



- Stroke (Keyword)
 - retrieves 224,000+ records
- Keyword searching locates the term anywhere in the electronic record, *even when the article's focus is on another topic.*
- “Swimming strokes” will also appear in the results of this search on “stroke.”

Keyword searching *also* locates very recent articles that have not yet been indexed or tagged with *Subject Headings*.

NOTE: Results numbers were valid on the day the PPT was created. The database is updated daily so the numbers may change.



Medical Subject Headings (MeSH)

The screenshot shows the MeSH (Medical Subject Headings) website. At the top, there's a search bar with 'MeSH' in the dropdown and 'Stroke'[Mesh] in the input field. Below the search bar, there's a section for 'Stroke' with a description: 'A group of pathological conditions characterized by sudden, non-convulsive loss of neurological function due to BRAIN ISCHEMIA or INTRACRANIAL HEMORRHAGES. Stroke is classified by the type of tissue NECROSIS, such as the anatomic location, vasculature involved, etiology, age of the affected individual, and hemorrhagic vs. non-hemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810)'. Below this, there's a 'PubMed search builder' section with buttons for 'Add to search builder' and 'Search PubMed'. An orange arrow points from the 'Add to search builder' button to a red box at the bottom right. The 'Add to search builder' button is highlighted with a red border. Below the 'PubMed search builder' section, there's a list of 'Subheadings' with checkboxes for various categories: blood, cerebrospinal fluid, chemically induced, classification, complications, congenital, diagnosis, diet therapy, drug therapy, economics, embryology, enzymology, epidemiology, ethnology, etiology, genetics, history, immunology, metabolism, microbiology, mortality, nursing, parasitology, pathology, physiopathology, prevention and control, psychology, radiography, radionuclide, imaging, radiotherapy, rehabilitation, surgery, therapy, ultrasonography, urine, veterinary, and virology. At the bottom, there are two checkboxes: 'Restrict to MeSH Major Topic.' and 'Do not include MeSH terms found below this term in the MeSH hierarchy.'

MeSH
NLM Controlled Vocabulary

Search: MeSH Limits Advanced search Help

"Stroke"[Mesh] Search Clear

Display Settings: Full Send to:

Stroke

A group of pathological conditions characterized by sudden, non-convulsive loss of neurological function due to BRAIN ISCHEMIA or INTRACRANIAL HEMORRHAGES. Stroke is classified by the type of tissue NECROSIS, such as the anatomic location, vasculature involved, etiology, age of the affected individual, and hemorrhagic vs. non-hemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810)

Year introduced: 2008 (2000)

PubMed search builder options

Subheadings:

<input type="checkbox"/> blood	<input type="checkbox"/> ethnology	<input type="checkbox"/> prevention and control
<input type="checkbox"/> cerebrospinal fluid	<input type="checkbox"/> etiology	<input type="checkbox"/> psychology
<input type="checkbox"/> chemically induced	<input type="checkbox"/> genetics	<input type="checkbox"/> radiography
<input type="checkbox"/> classification	<input type="checkbox"/> history	<input type="checkbox"/> radionuclide
<input type="checkbox"/> complications	<input type="checkbox"/> immunology	<input type="checkbox"/> imaging
<input type="checkbox"/> congenital	<input type="checkbox"/> metabolism	<input type="checkbox"/> radiotherapy
<input type="checkbox"/> diagnosis	<input type="checkbox"/> microbiology	<input type="checkbox"/> rehabilitation
<input type="checkbox"/> diet therapy	<input type="checkbox"/> mortality	<input type="checkbox"/> surgery
<input type="checkbox"/> drug therapy	<input type="checkbox"/> nursing	<input type="checkbox"/> therapy
<input type="checkbox"/> economics	<input type="checkbox"/> parasitology	<input type="checkbox"/> ultrasonography
<input type="checkbox"/> embryology	<input type="checkbox"/> pathology	<input type="checkbox"/> urine
<input type="checkbox"/> enzymology	<input type="checkbox"/> physiopathology	<input type="checkbox"/> veterinary
<input type="checkbox"/> epidemiology		<input type="checkbox"/> virology

☐ Restrict to MeSH Major Topic.
☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

PubMed search builder

Add to search builder AND

Search PubMed

All links from this record

PubMed
PubMed - Major Topic
Clinical Queries
NLM MeSH Browser

Recent activity

Stroke (13)

- Stroke (MeSH)
 - retrieves 103,000 + records
- MeSH is the controlled vocabulary or thesaurus used in PubMed to organize articles.
- Use MeSH headings to locate articles that are **indexed** or tagged for a specific concept.
- Related words or synonyms are included.
- Subject headings are easily modified using subheadings.

“Add to search builder” to retrieve all articles indexed with this subject heading or concept.

Major Headings

MeSH
NLM Controlled
Vocabulary

Search: MeSH [v] Limits Advanced search Help

[Search] [Clear]

Display Settings: [v] Full Send to: [v]

Stroke

A group of pathological conditions characterized by sudden, non-convulsive loss of neurological function due to BRAIN ISCHEMIA or INTRACRANIAL HEMORRHAGES. Stroke is classified by the type of tissue NECROSIS, such as the anatomic location, vasculature involved, etiology, age of the affected individual, and hemorrhagic vs. non-hemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810)

Year introduced: 2008 (2000)

PubMed search builder options

Subheadings:

<input type="checkbox"/> blood	<input type="checkbox"/> ethnology	<input type="checkbox"/> prevention and control
<input type="checkbox"/> cerebrospinal fluid	<input type="checkbox"/> etiology	<input type="checkbox"/> psychology
<input type="checkbox"/> chemically induced	<input type="checkbox"/> genetics	<input type="checkbox"/> radiography
<input type="checkbox"/> classification	<input type="checkbox"/> history	<input type="checkbox"/> radionuclide imaging
<input type="checkbox"/> complications	<input type="checkbox"/> immunology	<input type="checkbox"/> radiotherapy
<input type="checkbox"/> congenital	<input type="checkbox"/> metabolism	<input type="checkbox"/> rehabilitation
<input type="checkbox"/> diagnosis	<input type="checkbox"/> microbiology	<input type="checkbox"/> surgery
<input type="checkbox"/> diet therapy	<input type="checkbox"/> mortality	<input type="checkbox"/> therapy
<input type="checkbox"/> drug therapy	<input type="checkbox"/> nursing	<input type="checkbox"/> ultrasonography
<input type="checkbox"/> economics	<input type="checkbox"/> parasitology	<input type="checkbox"/> urine
<input type="checkbox"/> embryology	<input type="checkbox"/> pathology	<input type="checkbox"/> veterinary
<input type="checkbox"/> enzymology	<input type="checkbox"/> physiopathology	
<input type="checkbox"/> epidemiology		

☒ **Restrict Search to Major Topic headings only.**

☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

PubMed search builder

[Add to search builder] [AND] [Search PubMed]

All links from this record

[PubMed](#)
[PubMed - Major Topic](#)
[Clinical Queries](#)
[NLM MeSH Browser](#)

Recent activity

[stroke \(13\)](#)
[Stroke](#)
[Stroke \(13\)](#)

- Stroke (Majr)
 - Retrieves 79,000+ records
- Limiting the subject heading to “Major Topic” locates only those articles where the focus of the article is on this main concept.
- NOTE: Fewer articles are located than when searching with MeSH; however, these articles are focused and more relevant to your search.

Check this box to select “Major Topic” when limiting articles to “Major Topic” ONLY.

Example of MeSH Relationship

A Anatomy

- A1 Body Regions
- A2 Musculoskeletal System
- A3 Digestive System
- A4 Respiratory System
- A5 Urogenital System
- A6 Endocrine System
- A7 Cardiovascular System
- A8 Nervous System
- A9 Sense Organs
- A10 Tissues
- A11 Cells
- A12 Fluids and Secretions
- A13 Animal Structures
- A14 Stomatognathic System
- A15 Hemic and Immune Systems
- A16 Embryonic Structures
- A17 Integumentary System

All MeSH Categories

Anatomy Category

Body Regions

Abdomen

Abdominal Cavity +

Abdominal Wall

Groin

Inguinal Canal

Umbilicus

Back

Lumbosacral Region

Sacroccocygeal Region

Breast

Mammary Glands, Human

Nipples

Extremities

Amputation Stumps

Lower Extremity +

Upper Extremity +

Head

Ear

Face +

Scalp

Skull Base +

Face

Cheek

Chin

Eye

Eyebrows

Eyelids +

Forehead

Mouth

Lip

Nose

Parotid Region

- MeSH is organized into thematic hierarchical categories.
- Themes are broken down into more specific concepts...
i.e. subject headings.
- Articles are indexed (tagged) for the most specific concept.
- “+” signifies that there are more specific terms available
e.g. Face + .
- MeSH vocabulary is updated annually.
- Most articles are tagged with 10–15 subject headings.

“Do not include indented MeSH terms”

☐ enzymology
☐ epidemiology

☐ physiopathology

☐ urine
☐ veterinary
☐ virology

☐ Restrict to MeSH Major Topic.

☒ Do not include MeSH terms found below this term in the Mesh Hierarchy.

[All MeSH Categories](#)

[Diseases Category](#)

[Nervous System Diseases](#)

[Central Nervous System Diseases](#)

[Brain Diseases](#)

[Cerebrovascular Disorders](#)

Stroke

[Brain Infarction](#)

[Brain Stem Infarctions +](#)

[Cerebral Infarction +](#)

[Stroke, Lacunar](#)

i.e., Brain Infarction etc. is not included in this search because of our selection above.

- All subject headings indented and below the chosen subject heading “Stroke” will automatically be included in the search strategy *unless* the “Do not include...” option is selected.

- Automatic inclusion of these terms broadens the search as related subject headings are added automatically.

MeSH Subheadings

Stroke

A group of pathological conditions characterized by sudden, non-convulsive loss of neurological function due to BRAIN ISCHEMIA or INTRACRANIAL HEMORRHAGES. Stroke is classified by the type of tissue NECROSIS, such as the anatomic location, vasculature involved, etiology, age of the affected individual, and hemorrhagic vs. non-hemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810)

Year introduced: 2008 (2000)

PubMed search builder options

Subheadings:

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> blood | <input type="checkbox"/> ethnology | <input type="checkbox"/> prevention and control |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> etiology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> genetics | <input type="checkbox"/> radiography |
| <input type="checkbox"/> classification | <input type="checkbox"/> history | <input type="checkbox"/> radionuclide imaging |
| <input type="checkbox"/> complications | <input type="checkbox"/> immunology | <input type="checkbox"/> radiotherapy |
| <input type="checkbox"/> congenital | <input type="checkbox"/> metabolism | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> microbiology | <input type="checkbox"/> surgery |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> mortality | <input checked="" type="checkbox"/> therapy |
| <input type="checkbox"/> drug therapy | <input type="checkbox"/> nursing | <input type="checkbox"/> ultrasonography |
| <input type="checkbox"/> economics | <input type="checkbox"/> parasitology | |
| <input type="checkbox"/> embryology | <input type="checkbox"/> pathology | |

PubMed search builder

"Stroke/therapy"[Mesh]

Add to search builder

AND

Search PubMed

All links from this record

PubMed

PubMed - Major Topic

Clinical Queries

NLM MeSH Browser

Recent activity

stroke (13)

Stroke

- Stroke (MeSH) with subheading: *"therapy"*
 - Retrieves 43,830+ records
- Stroke (Majr) with subheading: *"therapy"*
 - Retrieves 25,600+ records

Subheadings **NARROW** the subject heading.
e.g., diagnosis of stroke or genetics of stroke or therapy of stroke



Select as many descriptors as you need.

PubMed search builder

"Stroke/therapy"[Majr]

Add to search builder

AND

Search PubMed

MeSH Subheadings

Abnormalities	Deficiency	History	Organization	Secondary
Administration & dosage	Diagnosis	Immunology	Parasitology	Secretion
Adverse effects	Diagnostic use	Injuries	Pathogenicity	Standards
Agonists	Diet therapy	Innervation	Pathology	Statistics & numerical data
Analogs & derivatives	Drug effects	Instrumentation	Pharmacokinetics	Supply & distribution
Analysis	Drug therapy	Isolation	Pharmacology	Surgery
Anatomy & histology	Economics	Legislation	Physiology	Therapeutic use
Antagonists & inhibitors	Education	Manpower	Physiopathology	Therapy
Biosynthesis	Embryology	Metabolism	Poisoning	Toxicity
Blood	Epidemiology	Methods	Prevention & control	Transmission
Blood supply	Ethics	Microbiology	Psychology	Transplantation
Cerebrospinal fluid	Ethnology	Mortality	Radiation effects	Ultrasonography
Chemical synthesis	Etiology	Nursing	Radiography	Ultrastructure
Chemically induced	Genetics		Radionuclide imaging	Urine
Chemistry	Growth & development		Radiotherapy	Utilization
Classification			Rehabilitation	Veterinary
Complications				Virology
Congenital				
Contraindications				
Cytology				

NOTE: Some subject/subheading combinations are not available
e.g., STROKE/therapeutic use

- Subheadings **NARROW** the subject heading.
- Usually they are combined with the subject heading
 - e.g., **Stroke/therapy**
("stroke" is the subject heading & "therapy" the subheading.)

Subheadings:

☐ diagnosis
☐ diet therapy
☐ drug therapy
☐ economics
☐ embryology

☐ microbiology
☐ mortality
☐ nursing
☐ parasitology
☐ pathology

☐ radiotherapy
☐ rehabilitation
☐ surgery
☒ therapy
☐ ultrasonography

Advanced Search

Builder

All Fields

"Stroke/therapy"[Majr]

AND

All Fields

"Patient Care Team"[Mesh]

AND

All Fields

Search

or [Add to history](#)

[Download history](#) [Clear](#)

History

Search	Add to builder	Query	Items found
#10	Add	Search ("Patient Care Team"[Mesh]) AND "Stroke/therapy"[Majr]	476
#9	Add	Search "Patient Care Team"[Mesh]	59509
#7	Add	Search "Stroke/therapy"[Majr]	30634
#6	Add	Search "Stroke/therapy"[Mesh]	43839
#5	Add	Search "Stroke"[Majr]	79065
#4	Add	Search "Stroke"[Mesh]	103388

The Advanced Search page shows your search strategies and search results. These search statement numbers (e.g. #4 or #6) can be combined with each other, [AND], or with new search terms [#X] using Boolean logic operators "AND", "OR", "NOT".

NOTE: The result numbers in your search sets may be different since the database is updated DAILY!

Filters – used to narrow down topic

Filters are located on the left-side of the results page.

Article types

Clinical Trial
Review
Customize ...

Text availability

Abstract
Free full text
Full text

Publication dates

5 years
10 years
Custom range...

Species

Humans
Other Animals

[Clear all](#)

[Show additional filters](#)

Additional filters

- ☒ Article types
- ☒ Text availability
- ☐ PubMed Commons
- ☒ Publication dates
- ☒ Species
- ☒ Languages
- ☒ Sex
- ☐ Subjects
- ☐ Journal categories
- ☒ Ages
- ☐ Search fields

Show

To activate filters; select and click on on needed ones. Once **blue**, they are active.

Article types

Clinical Trial
Review
Customize ...

Text availability

Abstract
Free full text
Full text

Publication dates

5 years
10 years
Custom range...

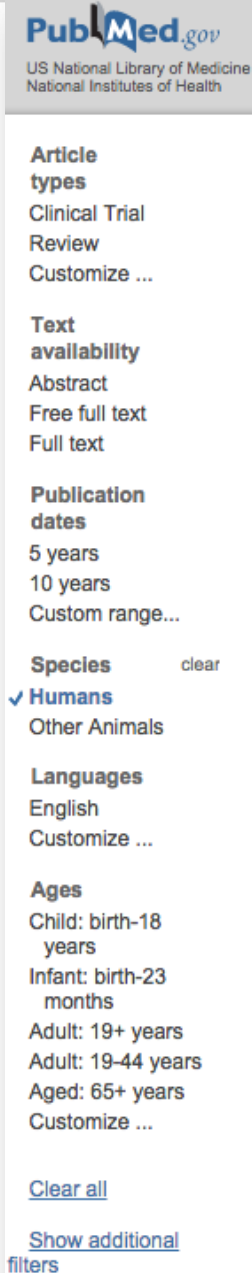
Species

☒ **Humans** [clear](#)
Other Animals

[Clear all](#)

[Show additional filters](#)

Filters – used to narrow down topic



Commonly used modifiers are located within the “Filters” options.

The Boolean operator “OR” is the default operator within groups.

e.g., meta-analysis or practice guideline from the “Articles Types” grouping retrieves articles of either publication type.

The Boolean Operator “AND” is the default operator between groupings.

e.g., English from the “Languages” grouping combined with “Adult: 19+ years” retrieve articles that are in English and deal with adults over 19 years of age. All concepts must be present for retrieval.

[See Boolean Slide](#)

WHEN DO I USE...

- **Use MeSH** when unfamiliar with the topic and don't know how much has been written on the subject. It will give you the broadest search for your term as a **concept**.
- **Use Major:** If you find too much on the subject then go back to the MeSH database and start filtering (narrowing down) by choosing to only get those articles that are focused on your topic (Major).
- **Attach subheadings** to either MeSH or Major: when you are interested in a particular facet of your concept.

Most importantly, you will use pieces of the database to construct what you hope will give you the answer to your question.

IT DEPENDS ON THE QUESTION!!!

- Sometimes your topic may be so small and already narrow that you only need to use MeSH.
 - Today 11/8/16 a search for Zika Virus Infections results in 372 articles
 - So will only need minimal work to narrow down.
 - Today 11/8/16 there are 952,781 articles on Heart Disease
 - You will definitely want to narrow this down.
- **How?** Maybe you are interested in population, then locate a 2nd MeSH term
 - e.g. African Americans and combine.
 - ("Heart Diseases"[Mesh]) AND "African Americans"[Mesh]

IT DEPENDS ON THE QUESTION!

- The indexers index/tag to the most specific level of subject heading.
 - Heart diseases is very broad so narrow the strategy to a more specific term: myocardial infarction [MeSH]
 - You are interested in prevention:
 - there is a subheading for prevention and control that can be used with myocardial infarction
 - ("Myocardial Infarction/prevention and control"[Mesh]) = 9,310 articles (2/8/16)
Still too many!
 - So you may relook at your question and realize that what you really want are articles on the prevention of Myocardial Infarction in the African American population.
 - (2 MeSH headings and one of the MeSH headings has a subheading attached)
 - ("Myocardial Infarction/prevention and control"[Mesh]) AND "African Americans"[Mesh] = 13

Information



MeSh Headings = Broadest

Major will narrow topic

MeSH/subheading further narrows

Major/subheading = narrowest

When there is little information then MeSH will be enough!

REMEMBER: Combining two concepts (2 MeSH terms) also narrows your topic.

ACE inhibitors in African Americans with hypertension associated with worse outcomes as compared to other antihypertensives.

Lund LH¹.

⊕ Author information

Comment on

Outcomes with Angiotensin-converting Enzyme Inhibitors vs Other Antihypertensive Agents in Hypertensive Blacks. [Am J Med. 2015]

PMID: 26608476 DOI: [10.1136/ebmed-2015-110258](https://doi.org/10.1136/ebmed-2015-110258)

[PubMed - indexed for MEDLINE]



Publication Types, MeSH Terms, Substances

Publication Types

[Comment](#)

MeSH Terms

[African Americans*](#)

[Angiotensin-Converting Enzyme Inhibitors/therapeutic use*](#)

[Antihypertensive Agents/therapeutic use*](#)

[Female](#)

[Humans](#)

[Hypertension/drug therapy*](#)

[Male](#)

[Myocardial Infarction/prevention & control*](#)

[Stroke/prevention & control*](#)

Substances

[Angiotensin-Converting Enzyme Inhibitors](#)

[Antihypertensive Agents](#)

This article was one of the results of strategy...

("Myocardial Infarction"[Mesh]) AND "African Americans"[Mesh]

THE FOLLOWING SLIDES AND EXAMPLES WILL HELP YOU
TO PRACTICE USING THESE CONCEPTS

**Search
Question:**

This form can help organize your thought process.

Databases:

1 ↔ AND 2 ↔ AND 3 ↔ AND 4

↑
OR
↓

Do you need... ?

limiters such as:

age groups

subheadings

language

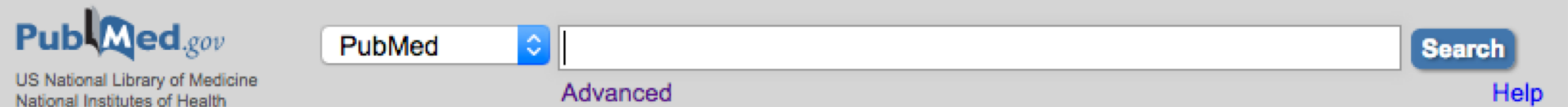
publication types

dates

**human or
animal**

journal subsets

PubMed: How to Search Step-by-Step



NCBI will begin redirecting all HTTP traffic to HTTPS on Thursday, November 10 at 9 AM EST (2 PM UTC). [Read more.](#)

PubMed

PubMed comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

Using PubMed

[PubMed Quick Start Guide](#)

[Full Text Articles](#)

[PubMed FAQs](#)

[PubMed Tutorials](#)

PubMed Tools

[PubMed Mobile](#)

[Single Citation Matcher](#)

[Batch Citation Matcher](#)

[Clinical Queries](#)

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

Select

[E-Utilities \(API\)](#)

From the PubMed homepage *Click* on MeSH Database...to search by concept.

Review Point

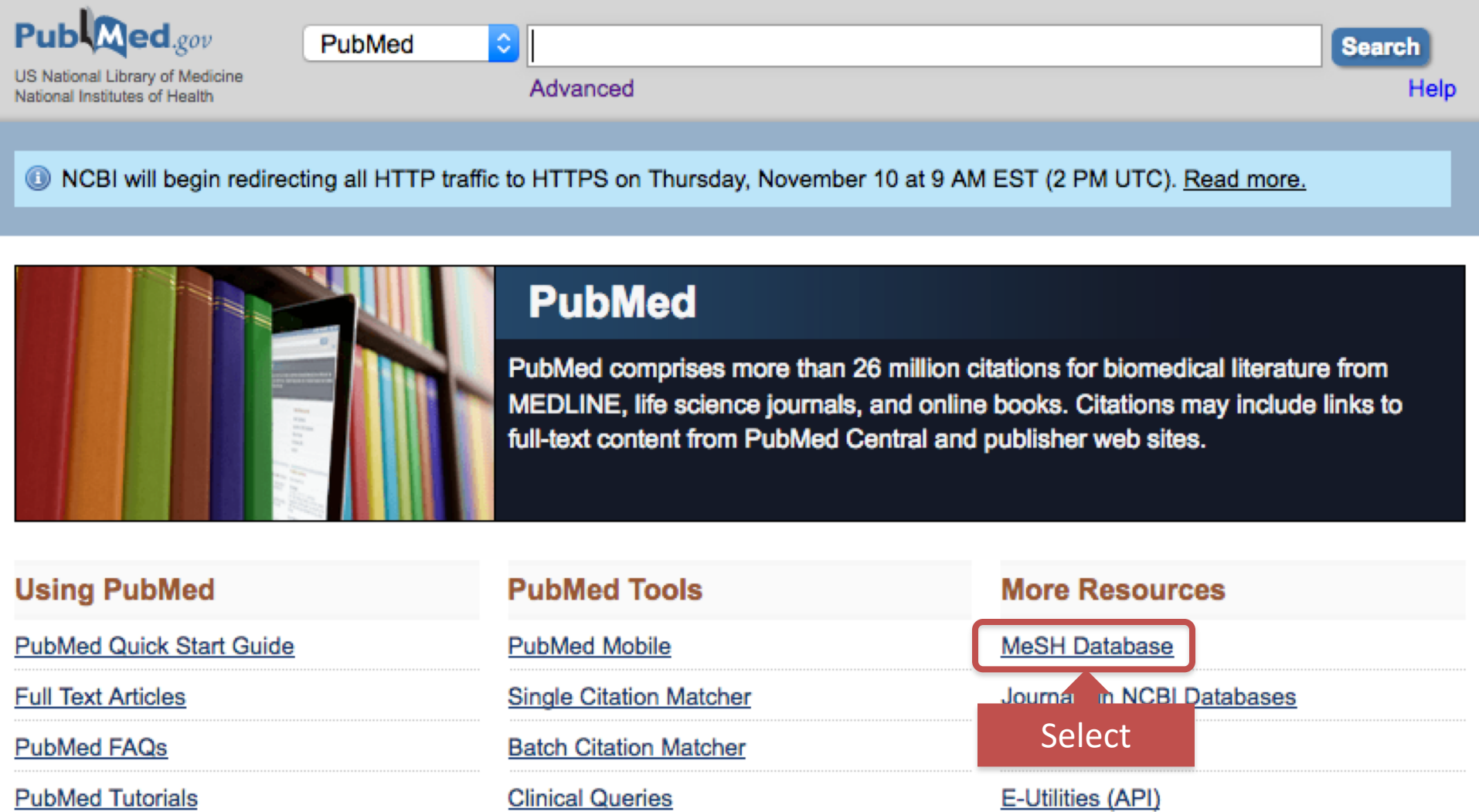
- Using the major Boolean operators “And,” “Or,” and “Not,” a search strategy can be refined to effectively locate articles on specific topics.
 - True or false: The Boolean operator “And” means that an article MUST be indexed for “Both” terms
 - (e.g., HELLP Syndrome “And” Pregnancy...both concepts will be in all the articles)

Review Point

- *True*
- When using the Boolean operator “And,” articles are indexed for both terms. Only the articles in the intersection will be retrieved.

[See Boolean operators slide](#)

PubMed: How to Search Step-by-Step



The screenshot shows the PubMed homepage. At the top left is the PubMed.gov logo with the text "US National Library of Medicine" and "National Institutes of Health". To the right is a search bar with "PubMed" in the dropdown, a search button, and a "Help" link. Below the search bar is a blue banner with a notice about NCBI redirecting HTTP traffic to HTTPS. The main content area has a dark blue header with the "PubMed" logo and a description of the database. Below this are three columns of links: "Using PubMed", "PubMed Tools", and "More Resources". A red box highlights the "MeSH Database" link in the "More Resources" column, with a red arrow pointing to it from a red box labeled "Select".

PubMed

PubMed comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

Using PubMed

- [PubMed Quick Start Guide](#)
- [Full Text Articles](#)
- [PubMed FAQs](#)
- [PubMed Tutorials](#)

PubMed Tools

- [PubMed Mobile](#)
- [Single Citation Matcher](#)
- [Batch Citation Matcher](#)
- [Clinical Queries](#)

More Resources

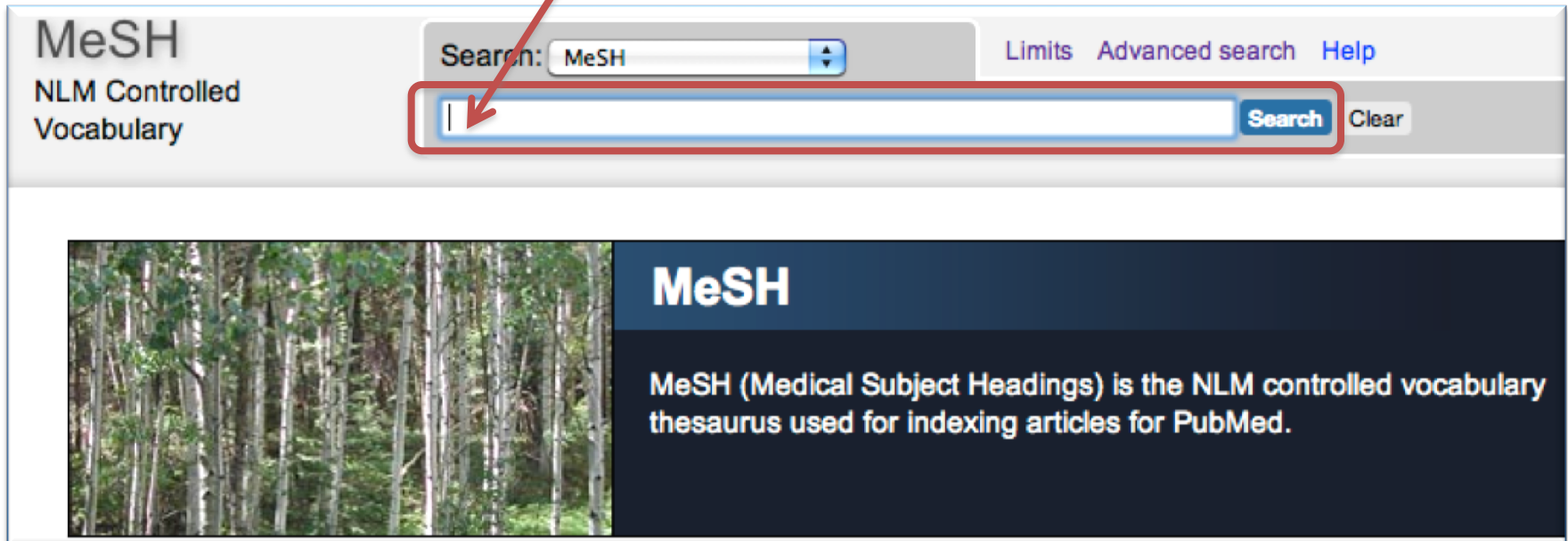
- [MeSH Database](#)
- [Journals in NCBI Databases](#)
- [E-Utilities \(API\)](#)

Select

To search by subject heading from the PubMed homepage *Click* on MeSH Database...

Using MeSH

Step 1) On the MeSH page: *Type* needed term. Then *Click* “Search”



MeSH
NLM Controlled
Vocabulary

Search: MeSH

Limits Advanced search Help

Search Clear

MeSH

MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.

If your term does not show up...

Consider using synonyms and if they are MeSH headings they will display. Next, consider a broader term that may be helpful. If still having difficulties locating an appropriate MeSH term, consult your librarian.

PubMed: How to Search Step-by-step

Step 1) From the MeSH page: *Type* needed term. *Click* “Search”

Step 2)

Select subheading(s)
(optional) based on your
search needs.

Step 3)

“Add to search builder”

Step 4)

Then: “Search PubMed”

MeSH

stroke

Search

Limits Advanced

Help

Display Settings: Full

Send to: PubMed Search Builder

Add to search builder AND

Search PubMed

Add to search builder AND

Search PubMed

Stroke

Ag BR **Subheadings:** erized by sudden, non-convulsive loss of neurological funct MORRHAGES. Stroke is classified by the type of tissue NE such as the anatomic location, vasculature involved, etiology, age of the affected individual, and hemo vs. non-hemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810)

Year introduced: 2008 (2000)

PubMed search builder options

Subheadings:

- ☐ analysis
- ☐ anatomy and histology
- ☐ chemically induced
- ☐ classification
- ☐ complications
- ☐ congenital
- ☐ cytology
- ☐ diagnosis
- ☐ diet therapy
- ☐ drug therapy
- ☐ economics
- ☐ embryology
- ☐ enzymology
- ☐ epidemiology
- ☐ ethnology
- ☐ etiology
- ☐ genetics
- ☐ history
- ☐ immunology
- ☐ metabolism
- ☐ microbiology
- ☐ mortality
- ☐ nursing
- ☐ organization and administration
- ☐ parasitology
- ☐ pathology
- ☐ physiology
- ☐ physiopathology
- ☐ prevention and control
- ☐ psychology
- ☐ radiography
- ☐ radionuclide imaging
- ☐ radiotherapy
- ☐ rehabilitation
- ☐ statistics and numerical data
- ☐ surgery
- ☒ therapy
- ☐ ultrasonography
- ☐ urine
- ☐ veterinary
- ☐ virology

☒ Restrict to MeSH Major Topic.

Do not include MeSH terms found below this term in the MeSH hierarchy.

HEALTH SCIENCES CENTER.

Related information

- PubMed
- PubMed - Major Topic
- Clinical Queries
- NLM MeSH Browser
- dbGaP Links
- MedGen

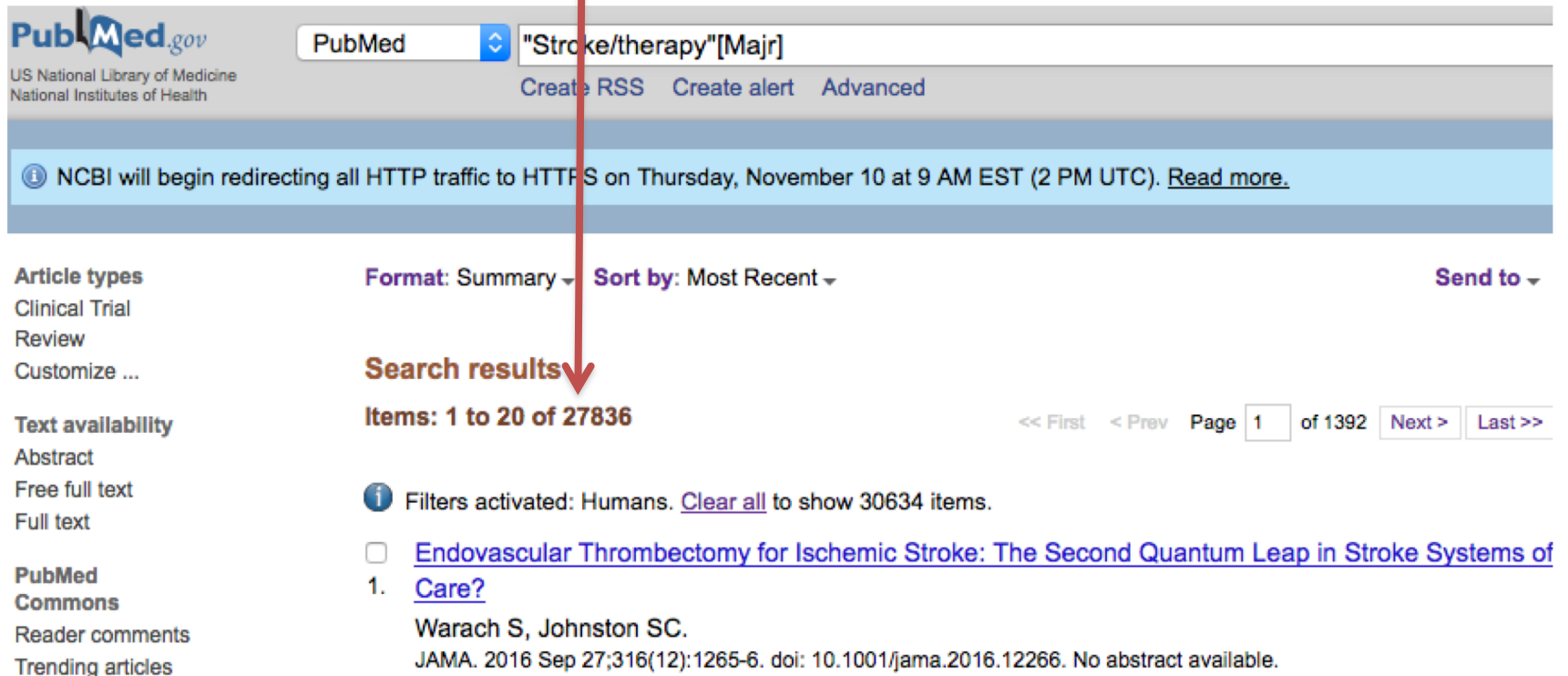
Recent Activity

Stroke

stroke (15)

PubMed: Results 1st Concept

1) 1st subject heading results



The screenshot shows the PubMed.gov search interface. The search bar contains the query "Stroke/therapy"[Majr]. Below the search bar, there is a notification about NCBI redirecting HTTP traffic to HTTPS. The left sidebar contains links for Article types (Clinical Trial, Review, Customize ...), Text availability (Abstract, Free full text, Full text), and PubMed Commons (Reader comments, Trending articles). The main content area displays the search results. At the top, it says "Format: Summary" and "Sort by: Most Recent". Below this, it says "Search results" and "Items: 1 to 20 of 27836". To the right of this, there are navigation links: "<< First", "< Prev", "Page 1 of 1392", "Next >", and "Last >>". Below the navigation links, there is a filter section: "Filters activated: Humans. Clear all to show 30634 items." The first result is listed as "1. Endovascular Thrombectomy for Ischemic Stroke: The Second Quantum Leap in Stroke Systems of Care?" by Warach S, Johnston SC. The abstract is not available.

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed "Stroke/therapy"[Majr]
Create RSS Create alert Advanced

NCBI will begin redirecting all HTTP traffic to HTTPS on Thursday, November 10 at 9 AM EST (2 PM UTC). [Read more.](#)

Article types
Clinical Trial
Review
Customize ...

Text availability
Abstract
Free full text
Full text

PubMed Commons
Reader comments
Trending articles

Format: Summary Sort by: Most Recent Send to

Search results
Items: 1 to 20 of 27836

<< First < Prev Page 1 of 1392 Next > Last >>


Filters activated: Humans. [Clear all](#) to show 30634 items.

1. [Endovascular Thrombectomy for Ischemic Stroke: The Second Quantum Leap in Stroke Systems of Care?](#)
Warach S, Johnston SC.
JAMA. 2016 Sep 27;316(12):1265-6. doi: 10.1001/jama.2016.12266. No abstract available.


Using MeSH – 2nd Concept

1) Repeat steps/selections with 2nd concept

MeSH
NLM Controlled
Vocabulary

Search: 

[Limits](#) [Advanced search](#) [Help](#)



MeSH

Using MeSH – 2nd concept

2) 2nd concept selections, “Add to search builder”

MeSH

MeSH patient care team Search

Save search Limits Advanced

Display Settings: ☒ Full

Send to: ☒

Patient Care Team

Care of patients by a multidisciplinary team usually organized under the leadership of a physician; each member of the team has specific responsibilities and the whole team contributes to the care of the patient.
Year introduced: 1968

PubMed search builder options

Subheadings:

<input type="checkbox"/> classification	<input type="checkbox"/> legislation and jurisprudence	<input type="checkbox"/> standards
<input type="checkbox"/> economics	<input type="checkbox"/> manpower	<input type="checkbox"/> statistics and numerical data
<input type="checkbox"/> education	<input type="checkbox"/> methods	<input type="checkbox"/> trends
<input type="checkbox"/> ethics	<input type="checkbox"/> organization and administration	<input type="checkbox"/> utilization
<input type="checkbox"/> history		

PubMed Search Builder

Add to search builder AND

Search PubMed

Related information

PubMed

PubMed - Major Topic

3) 2nd concept results

PubMed

US National Library of Medicine
National Institutes of Health

Create RSS Create alert Advanced

NCBI will begin redirecting all HTTP traffic to HTTPS on Thursday, November 10 at 9 AM

Article types: Clinical Trial, Review, Customize...

Format: Summary Sort by: Most Recent

Text availability: Abstract, Free full text, Full text

PubMed Commons: Reader comments, Trending articles

Search results

Items: 1 to 20 of 55578

Filters activated: Humans. [Clear all](#) to show 59509 items.

1. [Cough It Up: A Health Care Paradox.](#)

1. Bebell LM.
JAMA. 2016 Oct 11;316(14):1449-1450. doi: 10.1001/jama.2016.818 available.
PMID: 27727387

Using Advanced Search with “And”

Add to builder	Query	Items found
Add	Search "Patient Care Team"[Mesh]	55627
Add	Search "Patient Care Team"[Mesh] Filters: Humans	51827
Add	Search "Stroke/therapy"[Majr]	25694
Add	Search "Stroke/therapy"[Majr] Filters: Humans	23314

1) Click on “Add” to enter into ‘Search Builder

2) Repeat with 2nd term

3) Then *Click* on SEARCH

Builder

All Fields ▾ "Patient Care Team"[Mesh]

AND ▾ All Fields ▾ "Stroke/therapy"[Majr]

AND ▾ All Fields ▾

Search or [Add to history](#)

Results after using Boolean “And”

Notice the search has been done with
MeSH Headings (573)
and then refine more using
Major Headings (194)

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#11	Add	Search ("Stroke/therapy"[Majr]) AND "Patient Care Team"[Majr]	194	11:11:07
#10	Add	Search ("Stroke/therapy"[Mesh]) AND "Patient Care Team"[Mesh]	573	11:10:55
#9	Add	Search "Patient Care Team"[Majr]	24805	11:10:19
#8	Add	Search "Patient Care Team"[Mesh]	59509	11:09:59
#7	Add	Search "Stroke/therapy"[Majr]	30634	11:09:23
#6	Add	Search "Stroke/therapy"[Mesh]	43839	11:09:00

In order to narrow the topic further, the filters on the next screen can be applied.
So *Click* on the “Items found” that you want to manipulate and then select filters
from the filters list (next screen).

Results – Before filters

Article types

Clinical Trial
Review
Customize ...

Text
availability

Abstract
Free full text
Full text

PubMed
Commons

Reader comments
Trending articles

Publication
dates

5 years
10 years
Custom range...

Species

Humans
Other Animals

[Clear all](#)

[Show additional filters](#)

Format: Summary ▾ Sort by: Most Recent ▾

Send to

Search results

Items: 1 to 20 of 573

<< First < Prev Page 1 of 29 Next > Last

☐ [\[Updates for nursing on the stroke unit\].](#)

1. Cassier-Woidasky AK.
Pflege Z. 2016 Jun;69(6):350-4. German. No abstract available.
PMID: 27455784
[Similar articles](#)

☐ [\[Emergency medicine for pregnant women\].](#)

2. Hyodo H.
Nihon Rinsho. 2016 Feb;74(2):267-73. Review. Japanese.
PMID: 26915251
[Similar articles](#)

☐ [Practice variation in the structure of stroke rehabilitation in four rehabilitation centres in the Netherlands.](#)

3. Groeneveld IF, Meesters JJ, Arwert HJ, Roux-Otter N, Ribbers GM, van Bennekom CA, Goossens PH, Vliet Vlieland TP.
J Rehabil Med. 2016 Mar;48(3):287-92. doi: 10.2340/16501977-2054.
PMID: 26843457 **Free Article**
[Similar articles](#)

☐ [\[Feasibility of a geriatric multidisciplinary outpatient rehabilitation program-lessons learned\].](#)

4. Mak RG, de Groot AJ, Vreeburg EM, Smalbrugge M, Depla MF.
Tijdschr Gerontol Geriatr. 2016 Apr;47(2):47-57. doi: 10.1007/s12439-015-0164-y.
PubMed PMID: 26843457

Results after using “Filters”

Article types [clear](#) **Format:** Summary **Sort by:** Most Recent **Send to** [▼](#)

☒ **Randomized Controlled Trial**

Review
Customize ...

Text availability
Abstract
Free full text
Full text

PubMed Commons
Reader comments
Trending articles

Publication dates [clear](#)

☒ **5 years**
10 years
Custom range...

Species
Humans
Other Animals

Languages [clear](#)

☒ **English**
Customize ...

Ages [clear](#)

Child: birth-18 years
Infant: birth-23 months
Adult: 19+ years
Adult: 19-44 years
☒ **Middle Aged + Aged: 45+ years**
Aged: 65+ years
Customize ...

Search results

Items: 3

Filters activated: Randomized Controlled Trial, published in the last 5 years, English, Middle Aged + Aged: 45+ years. [Clear all](#) to show 573 items.

- ☐ [Baseline feature of a randomized trial assessing the effects of disease management programs for the prevention of recurrent ischemic stroke.](#)
Fukuoka Y, Hosomi N, Hyakuta T, Omori T, Ito Y, Demura J, Kimura K, Matsumoto M, Moriyama M; DMP Stroke Trial Investigators..
J Stroke Cerebrovasc Dis. 2015 Mar;24(3):610-7. doi: 10.1016/j.jstrokecerebrovasdis.2014.10.007.
PMID: 25576351 **Free Article**
[Similar articles](#)
- ☐ [Effect on anxiety and depression of a multifactorial risk factor intervention program after stroke and TIA: a randomized controlled trial.](#)
Ihle-Hansen H, Thommessen B, Fagerland MW, Oksengård AR, Wyller TB, Engedal K, Fure B.
Aging Ment Health. 2014 Jul;18(5):540-6. doi: 10.1080/13607863.2013.824406.
PMID: 23957255
[Similar articles](#)
- ☐ [Implementation of evidence-based treatment protocols to manage fever, hyperglycaemia, and swallowing dysfunction in acute stroke \(QASC\): a cluster randomised controlled trial.](#)
Middleton S, McElduff P, Ward J, Grimshaw JM, Dale S, D'Este C, Drury P, Griffiths R, Cheung NW, Quinn C, Evans M, Cadilhac D, Levi C; QASC Trialists Group..
Lancet. 2011 Nov 12;378(9804):1699-706. doi: 10.1016/S0140-6736(11)61485-2.
PMID: 21996470
[Similar articles](#)

There are 3 articles focused on your specific research topic!
(These numbers may change over time.)

To view further information on article(s), click on small box(es) next to number(s).

1.

To view “Abstract”, select “Summary” and then select format of interest in pulldown menu.

When just interested in One article *Click* on the title to view abstract.

Abstract Format

[Lancet](#). 2011 Nov 12;378(9804):1699-706. doi: 10.1016/S0140-6736(11)61485-2. Epub 2011 Oct 11.

Implementation of evidence-based treatment protocols to manage fever, hyperglycaemia, and swallowing dysfunction in acute stroke (QASC): a cluster randomised controlled trial.

Middleton S¹, McElduff P, Ward J, Grimshaw JM, Dale S, D'Este C, Drury P, Griffiths R, Cheung NW, Quinn C, Evans M, Cadilhac D, Levi C; QASC Trialists Group.

Author information

Abstract

BACKGROUND: We assessed patient outcomes 90 days after hospital admission for stroke following a multidisciplinary intervention targeting evidence-based management of fever, hyperglycaemia, and swallowing dysfunction in acute stroke units (ASUs).

METHODS: In the Quality in Acute Stroke Care (QASC) study, a single-blind cluster randomised controlled trial, we randomised ASUs (clusters) in New South Wales, Australia, with immediate access to CT and on-site high dependency units, to intervention or control group. Patients were eligible if they spoke English, were aged 18 years or older, had had an ischaemic stroke or intracerebral haemorrhage, and presented within 48 h of onset of symptoms. Intervention ASUs received treatment protocols to manage fever, hyperglycaemia, and swallowing dysfunction with multidisciplinary team building workshops to address implementation barriers. Control ASUs received only an abridged version of existing guidelines. We recruited pre-intervention and post-intervention patient cohorts to compare 90-day death or dependency (modified Rankin scale [mRS] ≥ 2), functional dependency (Barthel index), and SF-36 physical and mental component summary scores. Research assistants, the statistician, and patients were masked to trial groups. All analyses were done by intention to treat. This trial is registered at the Australia New Zealand Clinical Trial Registry (ANZCTR), number ACTRN12608000563369.

FINDINGS: 19 ASUs were randomly assigned to intervention (n=10) or control (n=9). Of 6564 assessed for eligibility, 1696 patients' data were obtained (687 pre-intervention; 1009 post-intervention). Results showed that, irrespective of stroke severity, intervention ASU patients were significantly less likely to be dead or dependent (mRS ≥ 2) at 90 days than control ASU patients (236 [42%] of 558 patients in the intervention group vs 259 [58%] of 449 in the control group, p=0.002; number needed to treat 6.4; adjusted absolute difference 15.7% [95% CI 5.8-25.4]). They also had a better SF-36 mean physical component summary score (45.6 [SD 10.2] in the intervention group vs 42.5 [10.5] in the control group, p=0.002; adjusted absolute difference 3.4 [95% CI 1.2-5.5]) but no improvement was recorded in mortality (21 [4%] of 558 in intervention group and 24 [5%] of 451 in the control group, p=0.36), SF-36 mean mental component summary score (49.5 [10.9] in the intervention group vs 49.4 [10.6] in the control group, p=0.69) or functional dependency (Barthel Index ≥ 60 : 487 [92%] of 532 patients vs 380 [90%] of 423 patients; p=0.44).

INTERPRETATION: Implementation of multidisciplinary supported evidence-based protocols initiated by nurses for the management of fever, hyperglycaemia, and swallowing dysfunction delivers better patient outcomes after discharge from stroke units. Our findings show the possibility to augment stroke unit care.

FUNDING: National Health & Medical Research Council ID 353803, St Vincent's Clinic Foundation, the Curran Foundation, Australian Diabetes Society-Servier, the College of Nursing, and Australian Catholic University.

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Comment in

Full text links

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Cited by 2 systematic reviews

Review Organised interdisciplinary stroke care in the intensive care unit [Cochrane Database Syst Rev 2012; (12):CD009782]

Review Continuous versus intermittent glucose monitoring in the intensive care unit [Cochrane Database Syst Rev 2012; (12):CD009782]

Related citations in PubMed

Fever, hyperglycaemia, and swallowing dysfunction in acute stroke units [Implement Sci 2011; 6:10]

Quality in Acute Stroke Care (QASC): process and outcomes [Int J Stroke 2011; 6(12):1111-1118]

Death, dependency and quality of life at 90 days in the QASC study [Intern Med 2011; 151(12):1611-1618]

Review Redesigning the intensive care unit [Health Technol Assess 2011; 15(12):1-198]

Review Improving the quality of intensive care [Health Technol Assess 2011; 15(12):1-198]

Cited by 14 PubMed Central articles

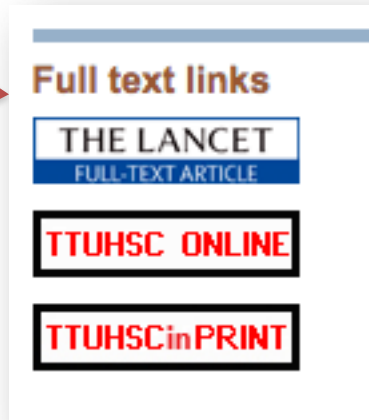
Implementation of evidence-based protocols for the management of fever, hyperglycaemia, and swallowing dysfunction in acute stroke units [J Multidiscip Healthc 2011; 4(4):201-208]

Organising health care for the intensive care unit [BMC Health Serv Res 2011; 11:100]

Effects of tight computerised glucose control on patient outcomes in the intensive care unit [Crit Care Med 2011; 39(12):2811-2818]

Access Information

- Icons



- **TTUHSC PRINT** – This article is available in the TTUHSC Libraries system.
 - Clicking on the icon will show dates and location where this journal is held.
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- **Publisher Site** - Access may be FREE or there may be CHARGES.

Email Results

From the PREVIOUS list of results:

select ☐ (the little boxes) of the articles needed to print, email or order.

The screenshot shows the PubMed.gov website interface. At the top left is the PubMed.gov logo and the text "U.S. National Library of Medicine National Institutes of Health". To the right is a search bar with "PubMed" entered and a "Search" button. Further right are links for "RSS", "Save search", and "Limit". Below the search bar, there is a "Display Settings:" section with a dropdown menu set to "Summary, 20 per page, Sorted by Recently Added". To the right of this is a "Send to:" dropdown menu, which is highlighted with a red box. Below the "Send to:" menu is a "Choose Destination" section with six radio button options: "File", "Clipboard", "Collections", "E-mail", "Order", and "My Bibliography". The "E-mail" option is the one to be selected according to the instructions.

Then select: ☐ [Send to:](#) ☐ and choose appropriate button for needed activity.

Future Study



PubMed

PubMed comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

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[Clinical Trials](#)

[E-Utilities \(API\)](#)

[LinkOut](#)

From Library Home Page> Databases> PubMed then select: Tutorials.

Practice Question #1

- Research current trends and utilization of health care services in rural Texas.
- POSSIBLE ANSWER is on the next page.
- You may want to try searching for this topic before moving on.

Answer: Practice Question #1

Add to builder	Query	Items found
Add	Search ("Texas"[Mesh]) AND (("Rural Health Services/trends"[Mesh] OR "Rural Health Services/utilization"[Mesh]))	5
Add	Search ("Rural Health Services/trends"[Mesh] OR "Rural Health Services/utilization"[Mesh])	1063
Add	Search "Texas"[Mesh]	23656

This is a possible strategy to answer Practice question #1.
(Read strategy from the bottom up.)

NOTE: As the database is updated daily the “Results” numbers may change.
Therefore the document retrieval numbers have been removed.

This strategy located 5 articles
on November 9, 2016

Locating the correct subject heading or
MeSH term and then using appropriate
subheadings creates a good strategy for
this question.

Practice question #2

- Does use of finasteride prevent the risk of developing prostate cancer in the male population over 65 years of age?
- Limit to Randomized Controlled Trial, English and Human
- POSSIBLE ANSWER is on the next page.
- You may want to try searching for this topic before moving on.

Practice Question 2: Strategy 1

Keeping it simple and to the point works!

Add	Search ("Finasteride"[Mesh]) AND "Prostatic Neoplasms"[Mesh] AND "Risk"[Mesh]	97
Add	Search "Risk"[Mesh]	958097
Add	Search "Prostatic Neoplasms"[Mesh]	104975
Add	Search "Finasteride"[Mesh]	1941

However, if your results are too many...try the next strategy on the following slide.

This is a possible strategy to answer Practice question #2 .

(Read strategy from the bottom up.)

NOTE: As the database is updated daily the "Results" numbers may change.

This strategy located
97 articles on
November 9, 2016

Search results

Items: 1 to 20 of 77 << First < Prev Page 1 of 4 Next > Last >>

- ☐ [Non-steroidal anti-inflammatory drug \(NSAID\) use is not associated with erectile dysfunction risk: results from the Prostate Cancer Prevention Trial.](#)
Patel DP, Schenk JM, Darke A, Myers JB, Brant WO, Hotelling JM. BJU Int. 2016 Mar;117(3):500-6. doi: 10.1111/bju.13264. PMID: 26305866 [Similar articles](#)
- ☐ [Serum Retinol and Carotenoid Concentrations and Prostate Cancer Risk: Results from the Prostate Cancer Prevention Trial](#)
Nash SH, Till C, Song X, Lucia MS, Parnes HL, Thompson IM Jr,

Practice Question 2: Strategy 2

1. Subheadings and use of [Majr] concept narrows results.

Search (((("prostatic neoplasms/prevention and control"[MeSH Major Topic]))) AND "Risk"[Mesh]) AND "Finasteride/therapeutic use"[Mesh]	63
Search ("prostatic neoplasms/prevention and control"[MeSH Major Topic])	2474
Search "Risk"[Mesh]	958443
Search "Finasteride/therapeutic use"[Mesh]	1387

This is a possible strategy to answer Practice question #2.
(Read strategy from the bottom up.)

NOTE: As the database is updated daily the "Results" numbers may change.

This strategy located 63 articles on November 10, 2016

Practice Question #3

- Can better communication among staff in the operating room prevent medical errors?
- POSSIBLE ANSWER is on the next page.
- You may want to try searching for this topic before moving on.

Answer: Practice Question #3

Search ("Interprofessional Relations"[Mesh]) AND "Surgical Procedures, Operative"[Mesh] AND ("Medical Errors/prevention and control"[Mesh])	58
Search "Medical Errors/prevention and control"[Mesh]	16587
Search "Surgical Procedures, Operative"[Mesh]	2687400
Search "Interprofessional Relations"[Mesh]	60817

This is a possible strategy to answer Practice question #3.
(Read strategy from the bottom up.)

NOTE: As the database is updated daily the “Results” numbers may change.
Therefore the document retrieval numbers have been removed.

This strategy located 58 articles
on November 10, 2016

Sometimes locating the obvious
subject heading is not easy.
Consider other synonyms that
have similar meaning.

Summary...Final Points

- Using database tools appropriately increases relevancy and accuracy of results.
 - Boolean operators
 - Subject headings (MeSH)
 - Subheadings
 - Major headings
 - Filters

- If you have some topics that you would like covered please send a note to “Ask a Librarian.”
- Links to “Ask a Librarian” are located on the library homepage