University of Dundee
School of Medicine

Using MEDLINE via EBSCO
A guide to searching the world’s premier medical database
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What is MEDLINE?

MEDLINE provides authoritative medical information on medicine, nursing, veterinary medicine, the healthcare system, dentistry, pre-clinical sciences and much more. Created by the National Library of Medicine (NLM), MEDLINE uses MeSH (Medical Subject Headings) indexing, tree hierarchy and explosion capabilities to search abstracts from over 4,600 current biomedical journals. Included are citations from Index Medicus, International Nursing Index, Index to Dental Literature, PREMEDLINE, AIDSLINE, BIOETHICSLINE, and HealthSTAR.

What is EBSCO?

EBSCO Information Services is a leading service provider of subscriptions, e-resource management tools, databases and related services for all types of libraries and research organizations and corporations. EBSCO provides the University of Dundee with access to a number of health-related databases, including CINAHL, Medline and the British Nursing Index.

Database Help

To obtain help for MEDLINE, click the Help icon to the right of the database name or databases drop-down list. From the Choose Databases Screen, click the More Information link below the Database description.
How to access MEDLINE

You should access MEDLINE via the University Library website at www.dundee.ac.uk/library

Select Resources for your subject.

Select MEDICINE from the list and then MEDLINE to access the database (using the EBSCOhost system).
If you are studying **off campus**, the first time you access electronic resources from the University Library you will be presented with a Shibboleth Login screen.

- On this screen, use the drop down menu to select **UK Higher Education** and then from the list that follows choose **University of Dundee**.

On the next screen, please enter your University of Dundee username and password and click the Login button. Once logged in, you will be taken directly to the EBSCOhost page and MEDLINE will be noted as your chosen database.
Developing a Search Strategy

Before you begin to use the databases, take time to consider what you actually want to find. What would be your ideal article? What terms would it include? Are there any synonyms or related terms that you could use to help you find information on this topic? Decide how far back, in years, you want to search for information (MEDLINE includes articles published from the 1960s). Are there any other limitations (limiters) that you want to impose on your search?

The following steps will help you to get started:

1. Describe your ideal article in one sentence and write this down.
2. Select key terms or words from that sentence.
3. Consider alternative terms: synonyms and related terms.
4. Decide how these terms should be combined to find the most relevant articles? (See note about Boolean operators below.)
5. Choose appropriate limits for your search, e.g. English language, year of publication dates.

Example

Ideal article
Is acupuncture an effective method of helping middle aged women to stop smoking?

Key terms/words
Acupuncture
stopping smoking/smoking cessation

Combining terms
Acupuncture AND smoking cessation

Limiters
Publication Year: from 2000 to date
Gender: Female
Age Groups: Middle Age

Boolean operators (AND / OR / NOT) can be used to combine your search terms. To restrict your results use AND, to widen them use OR, to exclude specified key words or terms from your results, use NOT.
Starting to search MEDLINE

The MEDLINE database opens in the **Basic Search** screen, but it’s preferable to use the **Advanced Search**

![Advanced Search Screen](image)

- Select the **Advanced Search** tab, to use the full range of searching facilities in EBSCO

Searching with MeSH

The **Medical Subject Headings (MeSH)** List (a list of preferred terms in a *controlled vocabulary* or *thesaurus*) provides a more effective searching tool in the MEDLINE database by helping you to choose the right word or subject for your search.

*In the Advanced Search screen…*

- click on **MeSH**

![MeSH Screen](image)

This feature will allow you to select the most appropriate keyword from a list of relevant MedicalSubject Headings.
Enter a keyword/s for the subject you wish to search for – e.g. smoking

From the MeSH screen, select the heading most relevant to your search. You now have to consider whether you want to widen (Explode) and/or restrict your search to articles where your topic is the Major Concept.

- Selecting Explode will include the topic plus more specific terms.
- Selecting Major Concept will restrict the search to include articles where the main topic of the article is your chosen subject.
- When you have made your choice, click on the Search Database button.
- The Scope notes attached to each MeSH Heading provide additional information about indexed terms of the database. The information provided can include when the term was first indexed, how the term is applied in the database, used-for terms and see-terms, and other information relevant to your search.

If you wish to select sub-headings for your search term, click on the MeSH Heading itself. The range of sub-headings available for each Subject Heading varies depending on the nature of the topic.

To find the relevant MeSH Headings for other topics in your search, it is best to search these individually. Continue until you have carried out searches for all the key concepts of your search.
Combining search results

- Select the Search History link to view your search history

It is in this screen that you can combine your previous searches and develop your search strategy. Before you begin, clear your last search from the Find box.

In the search history below, the searches for Acupuncture and Smoking have the Search IDs S1 and S2. To obtain a list of articles combining both of these topics, the searches should be combined with AND.

- Tick the boxes of the searches you wish to combine
- Click on the Search with AND button
Searching with AND, OR & NOT (Boolean Searching)

Boolean logic defines logical relationships between search terms. The Boolean search operators **AND**, **OR** and **NOT** allow you to broaden or focus your search results.

- **The AND operator** combines search terms so that each result contains all of the terms. For example, **kidney AND lung** will result in articles that contain both **kidney** and **lung**.

- **The OR operator** combines search terms so that each result contains at least one of the terms. For example, **blood OR plasma** will result in articles that contain either **blood** or **plasma**.

- **The NOT operator** excludes search terms so that each result will not contain any of the terms that follow it. For example, **blood NOT vein** will result in articles that contain the term **blood**, but not the term **vein**.

Refining search results

The options to place limits on your search appear in the left hand side of the screen.

In the example search from page 6, the following limiters were noted:

**Publication Year**: from 2000 to date

**Gender**: Female

**Age Groups**: Middle Age

Each refinement has to be done separately - the search will prompt you to update each time you identify a limit you wish to apply. It is important therefore to prioritise these limits; e.g. is it more important that the article is about women, or that it was published recently? Apply the limits in order of priority until you either complete the list, or reach a low number of articles - if you only have 5 articles anyway, you wouldn’t want to limit them further!

**NEVER** click on the ‘Linked full text’ option. This will limit you to only those articles which are available via EBSCO MEDLINE; this is only a very small proportion and will lose you all the results which may still be available full text through the university subscriptions. Instead, use the **Link To** option, which are covered in the next few pages.
Other Search techniques in MEDLINE

- **Field searching**

  **Field Searching** allows you to designate one specific field in the MEDLINE record within which your term will be searched. These fields include (but are not limited to): **Article Title (TI)**, **Author (AU)**, **Abstract (AB)**, **Source/Journal title (SO)**.

  To search within a field, enter the two-letter field code, followed by your search term in the **Find** box. For example, type **au Smith** to search for **Smith** in the **Author** field of the record.

  For a complete list of field codes, click the **Select a Field** pull-down menu that appears directly to the right of **Find** box in the Advanced Search screen.

- **Using truncation or wildcards to support keyword searching**

  If there are no appropriate MeSH Headings for the topic you wish to search, you can use keywords to carry out a “free-text” search. Use the wildcard (?) and truncation (*) symbols to create searches using terms with unknown characters, multiple spellings or various endings.

  **Note:** Neither the wildcard nor the truncation symbol can be used as the first character in a search term.

  - The **wildcard** is represented by a question mark (?). To use the wildcard, enter the search terms and replace each unknown character with a ?. EBSCOhost will provide results containing variations of that character set, with the ? replaced by a letter.
    
    For example, type **ne?t** to find all citations containing **neat**, **nest** or **next**. EBSCOhost will not find net because the wildcard replaces a single character.

  - **Truncation** is represented by an asterisk (*). To use truncation, enter the root of a search term and replace the ending with an asterisk (*). EBSCOhost will find all available forms of that word.
    
    For example, type **hemat*** to find the words **hematocrit** or **hematoma**.
• **Grouping Terms Together Using Parentheses**

Parentheses can be used to control a search query. Without parentheses, a search is executed from left to right. However, words enclosed in parentheses are searched first.

Why is this important? Parentheses allow you to define the way the search will be executed. The left phrase in parentheses is searched first; then, based upon those results, the second phrase in parentheses is searched.

**Generalized Search:** heart or lung and blood or oxygen

**Focused Search:** (heart or lung) and (blood or oxygen)

In the first example, the search will retrieve results on heart, as well as references to the terms lung and blood, and everything on oxygen.

In the second example, parentheses control the query to only find articles about heart or lung that reference blood or oxygen.

• **Proximity Search**

A Proximity Search produces results with two or more terms that appear a specified number of words (or fewer) apart in the database(s). The proximity operator is composed of a letter (N or W) and a number (to specify the number of words), placed between search terms.

• **Near Operator (N) - N5** will find a result if the terms are within five (5) words of each other, regardless of the order in which they appear.

  For example, type kidney N5 failure for results that contain kidney failure, as well as failure of the kidneys.

• **Within Operator (W) - W8** will find a result if the terms are within eight (8) words of each other, in the exact order entered.

  For example, type kidney W8 failure for results that contain kidney failure, but not failure of the kidneys.
Viewing search results

- Scroll down to view information about the articles in your search results
- Follow the hypertext link in each article title to view further details about the article;

Click on the ‘Link to’ button to check if the University can supply either full text online or print version of the article.

Click on the Go button next to the Full text link to access the full text of the article. Information will be given as to any off campus authentication which might be required.

If there is no Full text link, the Library holdings section will list what print copies are available; it will be possible to request these via ILL, or ‘Make a photocopy request’ in the catalogue, if you are not able to visit the library which holds the journal. There is a cost of £2 for this service.
• To print, email or save your search results for the current session only, click the Add to folder link which appears below the article details.

• When you have finished making your selections, click on the Folder view link to the right of the screen to view your selections.

In the following screen, confirm your selection of references.

• Now follow the relevant link and the onscreen instructions to print, email, save or export.

References will automatically be removed from the folder after this process, unless you choose to do otherwise. If you wish to store your search results and strategy for a future session, you will need to create an account and sign-in to EBSCOhost.
Get direct access to MEDLINE on your smartphone here :-

Further Help

If you would like further help with using MEDLINE, please contact Andy Jackson (Medical Librarian) at a.z.jackson@dundee.ac.uk, or at the Ninewells Medical Library.

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