BMA Library

Medline tutorial

For the

Ovid SP interface

*Easy reference condensed session essentials*
Contents:

First steps: Signing in  page 3

A tour around the Ovid interface  page 6

Laying the ground work for effective searching-records, fields and indexing terms:  page 7

The Medline record  page 7

Searching in ‘fields’  page 8

What are Indexing terms?  page 10

Boolean Operators : AND, OR, NOT (the building blocks of your search)  page 11

Designing your search strategy  page 12

Subject searching in Medline using Indexing terms (known as Medical Subject headings)  page 13

Explode and focus - what these do:  page 14

Subheadings and when to use them  page 15

Subject searching using your own Keywords  page 17

Important synonyms, truncation wildcards  page 17

Limiting your results  page 19

Reducing the number of results if you have too many  page 21

Post-qualification  page 23

Handling your results  page 24

Logging off and helpdesk  page 26
First steps: Signing in:

Go to http://www.bma.org.uk

Click on “Sign in”:

On the re-loaded page, log in as prompted:
Click on “Medline” from the drop down menu:

![Medline dropdown menu]

Then click on the “continue” button:

![Continue button]

Select Medline 1946 to [the current date]

![Select Resource(s) to search]

OK button highlighted
You will see the search screen below ready to carry out your search:

![Search Screen](image-url)
A tour around the Ovid Interface:

1. Useful “help” options. Use the “Ask the BMA Library Medline Helpdesk” link if you wish to email us for assistance.

2. The Search History. This area will expand as you enter your search terms.

3. Tabs for different search options. The Medline Plus service uses the “Advanced search option”.

4. “Resource Selected” – gives the name of the section of the database we are searching. In this example we are searching Medline 1946 to the present.

5. The search box where your search commands are entered.

6. The Limits, and ! to tailor your search results to your needs.
**Laying the ground work for effective searching - records, fields and indexing terms:**

**The Medline record:**

Each record covers a single article.

Each record is made up of fields. For example, the title field, the author field, the abstract field.

- **Status:** MEDLINE
- **Authors:** Onat A; Donmez I; Kadaireniz Y; Cakir H; Kaya A.
- **Authors Full Name:** Donmez, Ibrahim; Kadaireniz, Yusuf; Cakir, Hakan; Kaya, Aysem.
- **Institution:** Onat, Altan. Department of Cardiology, Cerrahpasa Medical Faculty, Istanbul University, Istanbul, Turkey.
- **Title:** Type 2 diabetes and coronary heart disease: common physiopathology, viewed from autoimmunity. [Review]
- **NLM Journal Name:** Expert review of cardiovascular therapy
- **Publishing Model:** Journal available in: Print Citation processed from: Internet
- **NLM Journal Code:** 101182328
- **Journal Subset:** Index Medicus
- **Country of Publication:** England
- **MeSH Subject Headings:**
  - *Autoimmunity / im [Immunology]
  - Cholesterol, LDL / me [Metabolism]
  - Coronary Disease / im [Immunology]
  - *Coronary Disease / pp [Physiopathology]
  - Diabetes Mellitus, Type 2 / im [Immunology]
  - *Diabetes Mellitus, Type 2 / pp [Physiopathology]
  - Humans
  - Insulin Resistance / im [Immunology]
  - Lipoprotein(a) / bl [Blood]
  - Risk Factors
- **Keyword Heading:**
  - autoimmune activation
  - coronary heart disease
  - primary prevention
  - proinflammatory state
  - statin therapy
- **Abstract:** Two highly prevalent diseases, Type-2 diabetes mellitus and coronary heart disease (CHD), share risk factors. Excess levels of LDL-cholesterol have been overemphasized to uniformly encompass the development of CHD, and the origin of insulin resistance underlying Type-2 diabetes has not been fully elucidated.

Most fields are searchable.
Searching in ‘fields’:
Either use the tab “Search fields”, tick the field you want to search from the list and then enter your term in the search box and click on search

Or enter your term followed by the command for the appropriate field in the main search box as follows:

- ti (title) searches in the title field
- tw (text word) searches in the title and abstract fields simultaneously
.mp (covers a multi-purpose set of fields) the title, original title, abstract, subject heading,

.au (Author field). Only really useful for finding references by a particular author rather than subject searching. Good practice is to search for the first initial only followed by the $ to pick up any other initial the author may have. Eg Smith T$.au

.fa (Authors’s full name) is also available. Please note the full name of authors is not always given on the database records.

.sh The subject heading field is just another field in the database which can be searched but instead of using a ‘dot command’ we take advantage of Ovid’s Map term to subject heading feature which helps the searcher select the correct heading.

If you did want to search in the subject heading field without using the Map term to subject heading feature the command would be .sh
What are Indexing terms?

Except ‘Medline in-process’, (which contains records fresh from the publishers which have not yet been worked on) all records on Medline, are indexed.

Indexing is a human activity where descriptive terms (from a restricted list/thesaurus) are entered into the subject heading field to describe the subject of the article. To these main headings, a further descriptor is added to give extra context. These are referred to as subheadings. They include things such as etiology, therapy, epidemiology, etc.

In the Subject heading field, subheading are represented by a two character code and always appear after the subject heading, preceded by a forward slash.

Eg. Coronary disease/et

Coronary disease is the Subject heading, et is the subheading for etiology.

Term hierarchy:

The indexing terms are organised in a hierarchical structure of broad headings under which more specific headings are grouped.

The Indexers are instructed to apply the most specific term they can to describe the content of the article. They also mark with an asterisk, the heading they feel most reflect the focus of the article.

How to search:

To search for references on a particular subject, searchers firstly need have an understanding of how to build a search strategy.

This is done by using “Boolean operators”, these are AND, OR and NOT and the next section in the manual describes what these do.

Following on from this searchers then need to design their strategy using these. This design process is demonstrated in a diagram showing how Boolean operators are used in a strategy.

Using this diagram will enable you to design your own strategy around the topic you are interested in.

The rest of the manual will then cover instructions on how to carrying out key search activities: searching using subject heading (also known as indexing terms); searching using your own words (keywords); limiting your results by publication year or to reviews etc.; and downloading your results.
**Boolean Operators: AND, OR, NOT (the building blocks of your search)**

The building blocks for search strategies are Boolean operators. They provide a way to combine together groups of results in a series of steps to retrieve what you require:

The logic of the use of **AND**, **OR** or, **NOT** to combine topics in a search strategy is illustrated below:

**AND retrieves records where both topics appear.**

![Venn diagram](image)

Rivers AND salinity retrieves only those records which refer to both rivers and salinity (yellow area). The number of records found is reduced.

**OR retrieves records where either or both topics appear.**

![Venn diagram](image)

Fruit OR vegetables retrieves records which refer to either or both fruit and vegetables. The number of records found is increased.

**NOT retrieves records where the first but not the second topic appears.**

![Venn diagram](image)

Fruit NOT apples retrieves records which refer to fruit but excludes those which refer to apples. The number of records found is reduced and some relevant articles may be missed.
Designing your search strategy

The step by step approach:

1. Identify each separate concept in your subject to be searched for.

2. Search for each concept using the Indexing terms, then your own terms (with appropriate synonyms and plurals). Combine these together using OR

3. Combine each separate concept using AND
Subject searching in Medline using Indexing terms (known as Medical Subject headings)

The Ovid interface assists the searcher in identifying indexing terms relevant to their topic through the “Map term to Subject heading” feature.

To use this feature ensure that the Map term to subject heading box is ticked:

Enter your term in the search box. In this example I will enter Coronary heart disease.

This links me to the appropriate heading “Coronary disease”.

If the suggested term is not relevant to my search I can still search using my own term by selecting “Coronary heart disease.mp search as keyword” This looks for my term as a multi-purpose search.
Clicking on the term **Coronary Disease** shows the section of the hierarchy where the term appears.

**Explode and focus - what these do:**

**Explode:**

Searching using the broad term (at the top of the hierarchy) will find very general articles on a topic.

**Explode** allows you to include all the narrower terms under the broad term automatically.

This is important as Indexers assign the most specific term they can to an article to describe its content. Therefore in this example not exploding the top term coronary disease will mean that you will only retrieve very general articles on coronary disease. You will not retrieve any articles given the more specific headings lower down in this part of the hierarchy, for example on coronary aneurism, coronary artery disease, coronary occlusion etc.

A word of caution: Only explode a broad indexing term when you are sure that you wish to retrieve all, or most of, the narrower terms which fall under it in the MeSH tree hierarchy otherwise you may retrieve too many non-relevant results.

**Focus:**

Indexers mark, with an asterisk, any indexing terms which reflect the main focus of the article.

**Focus** allows you to restrict your search to retrieve only those articles which have your chosen heading(s) as the main focus of the article.
Subheadings and when to use them

Subheadings are a way of clarifying the context of a main heading. They can be a useful way of focussing your search to restrict your results to a particular aspect of a condition. For example you may be interested in the management or treatment of coronary disease so the following subheading could be useful:

Drug therapy (dt), Therapy (th), Surgery (su), Prevention & Control (pc)

Subheadings have a two character code (as shown) which when applied, appear in the search history after your chosen indexing term as follows: **Eg. Coronary Disease/dt,th,su,pc**

After choosing a **subject heading** Ovid will automatically give you the option to apply subheadings from a list of those subheadings relevant to you term.

After making your selection and clicking on “Continue” your selection will be applied.
In addition to those reflecting treatment of a condition, other common subheadings are Etiology (et), Diagnosis (di), Adverse effects (ae), Complications (co), Epidemiology (ep) Toxicity (to).

A complete list is given below

| Abnormalities | /ab |
| Administation & dosage | /ad |
| Adverse effects | /ae |
| Agonists | /ag |
| Analogs & derivatives | /aa |
| Analysis | /an |
| Anatomy & histology | /ah |
| Antagonists & inhibitors | /ai |
| Biosynthesis | /bi |
| Blood | /bl |
| Blood supply | /bs |
| Cerebrospinal fluid | /cf |
| Chemical synthesis | /cs |
| Chemically induced | /ci |
| Chemistry | /ch |
| Classification | /cl |
| Complications | /co |
| Congenital | /cn |
| Contraindications | /ct |
| Cytology | /cy |
| Deficiency | /df |
| Diagnosis | /di |
| Diagnostic use | /du |
| Diet therapy | /dh |
| Drug effects | /de |
| Drug therapy | /dt |
| Economics | /ec |
| Education | /ed |
| Embryology | /em |
| Enzymology | /en |
| Epidemiology | /ep |
| Ethnology | /eh |
| Etiology | /et |
| Genetics | /ge |
| Growth & development | /gd |
| History | /hi |
| Immunology | /im |
| Injuries | /in |
| Innervation | /ir |
| Instrumentation | /is |
| Isolation & purification | /ip |
| Legislation & jurisprudence | /lj |
| Manpower | /ma |
| Metabolism | /me |
| Methods | /mt |
| Microbiology | /mi |
| Mortality | /mo |
| Nursing | /nu |
| Organization & administration | /og |
| Parasitology | /ps |
| Pathogenicity | /py |
| Pathology | /pa |
| Pharmacokinetics | /pk |
| Pharmacology | /pd |
| Physiology | /ph |
| Physiopathology | /pp |
| Poisoning | /po |
| Prevention & control | /pc |
| Psychology | /px |
| Radiation effects | /re |
| Radiography | /ra |
| Radionuclide imaging | /ri |
| Radiotherapy | /rt |
| Rehabilitation | /rh |
| Secondary | /sc |
| Secretion | /se |
| Standards | /st |
| Statistics & numerical data | /s |
| Supply & distribution | /sd |
| Surgery | /su |
| Therapeutic use | /tu |
| Therapy | /th |
| Toxicity | /to |
| Transmission | /tm |
| Transplantation | /tr |
| Trends | /td |
| Ultrasonography | /us |
| Ultrastructure | /ul |
| Urine | /ur |
| Utilization | /ut |
| Veterinary | /ve |
| Virology | /vi |

I recommend you use subheadings when you have too many records on the subject and you want to target your search more closely.
Subject searching using your own Keywords

When keyword searching is needed:

When searching using subject headings, synonyms, alternative spellings and plurals are automatically covered through the indexers work when they apply a standard heading for a topic irrespective of how it may have been expressed by the author(s). But when searching the rest of the text, you need to do this for yourself.

You need to search using keywords to:

- Maximize recall from your search, that is, to be comprehensive. To find articles that may have been inconsistently indexed, or to find minor mentions of your term, you will need to search the same concepts by keyword as well as subject heading;
- Find terms that are so new they are not covered by subject headings, eg severe acute respiratory syndrome, when it first emerged in 2003;
- Find some drug names, particularly brand names not used in the United States;
- Find vague concepts not readily fitting into the controlled structure such as patient attitudes;
- Search PreMEDLINE, as the database has no subject headings.

Important synonyms:

Golden rule: Always search for both American and English spelling

Searches on the liver, also search for the terms hepatology, hepatological, hepatic, hepato –

On the Kidney(s), also search for the term renal

On etiology, also search for the alternatives: aetiology, aetiological, etiological, cause(s)

On prognosis, search also for the terms outcome or outcomes

On pathophysiology, also search for physiopathology, as the terms are interchangeable. Also search for pathophysiological or physiopathological.

Searching for BMJ articles historically, use BMJ.jn (in the journal name field) but also cover British Medical Journal.jn and British Medical Journal Journal clinical research ed .jn

Care with spelling Opththalmology, opthalmic.

Truncation (Searching for the stem of a word with any ending)

$ is used to search for a particular word stem with any of a number of possible endings

For example: practi$.tw Retrieves practice, practices, practitioners, as well as other words you may not want like practicalities or practised.
You may also specify how many characters you are willing to accept after your basic word stem by adding a number after the $ character.
For example: `ovar$3.ti`. Retrieves items where the word stem `ovar` is followed by 0-3 more characters.

# is the mandatory wildcard character and can be used within or at the end of a search term to substitute for one required character.
For example: `organi#ational.ti` Retrieves items with titles containing the word `organizational` or `organizational`.

? is the optional wildcard character and may be used within or at the end of a search term to substitute for one or no characters. Note: at least 1 character must appear before the ? function for this to work.
For example: `gyn?ecology.ti`. Retrieves items with titles containing the word `gynecology` or `gynaecology`.

**Searching for phrases:**
“…” are used to search for an exact phrase and must be used where a number or a combination term (and, or, not) is used.

Examples: “interleukin 2”,

“sensitivity and specificity”.

**Using Proximity – the adjacency command:**

Adj is the adjacency command. Add a number after adj to specify how many additional words you are prepared to accept in between those you are searching for, regardless of word order.
For example: `(home adj2 help).ti`. Retrieves `home help, help in the home` in the titles of articles.
Limiting your results:

Limit your search to local holdings (i.e. held by the BMA library), human subjects, English language, reviews, articles with abstracts, or by date by making your selection from the options in the Limits section of the screen. You can select any of these limits either before or after your search.

Select Additional Limits after your search, to obtain further limits such as publication type, language and age groups.

If you wish to select more than one option within a list (e.g. publication types) press the ctrl key in conjunction with the left mouse button to select each one.
To limit by publication year simply complete the “to and from” years from the drop down and click “search”.

![Limits](image)

**Note:**

**Latest update**

This limits your results to those added in the most recent update (generally weekly). The updates reflect the date that they were entered into the system, not necessary the publication year.
Reducing the number of results if you have too many

Below shows a typical search on Medline, the searcher requires articles on coronary disease and the effects of drinking wine.

They have firstly searched for the concept of coronary disease using an exploded MeSH heading *(using explode will include the specific coronary conditions under the broad MesH heading ‘Coronary disease’)*.

Relevant keywords for coronary disease are then searched for within multiple fields in the record *(.mp)*.

These 4 steps are combined using the OR operator (to create set 5).

Moving to the concept of wine, the searcher has searched for wine, again firstly using a MeSH heading, but this time they have not used “explode” as no further heading fall below wine in the hierarchical tree of headings:

*The MeSH hierarchical tree for alcoholic beverages showing ‘wine’ at the bottom of this hierarchy:*
The searcher then searches for the keyword wine. These two steps are then combined using ‘OR’ (creating set 8 in our example strategy).

Set 5 and set 8 are then combined using the operator AND to retrieve articles mentioning both concepts (set 9). This part of the strategy is annotated in blue.

After applying some limits to restrict the search to articles in English with abstracts, the searcher still has too many articles so they need to take steps to reduce these. These ‘reducing’ steps are annotated in red in lines 11-20 of the strategy.

The technique is to search just for focussed Medical subject headings (‘focus’ is indicated by the asterisk) or words in the title (.ti) for the two main concepts of coronary disease and wine. This can be done simply by using post-qualification (see p.23).

The AND operator is then used to combine these with set 10 resulting finally in 38 references. These 38 will have both coronary disease and wine as the main topic of the article.
**Post-qualification**

This is where you can use the set number of previous step in your strategy to carry out a new command. For example:

You have just searched for the MeSH heading coronary disease

1. Coronary disease/

....if you then want to search for this as a focussed MeSH heading simply type an asterisk * (which is the command we use to focus) followed by the set number in your strategy. So *1 will give you:

2.*Coronary disease/ [retrieving those records assigned with the focussed MesH heading Coronary disease]

If you would like to replay this step but include a subheading, for example the subheading for diagnosis, type the set number followed by a forward slash / then the two character code for the subheading. So 2/di will get you:

3.*Coronary disease/di [retrieving those records assigned with the focussed MesH heading Coronary disease with a subheading of diagnosis]

If you have searched for coronary disease as a multipurpose search, i.e. using .mp

4.Coronary disease.mp

....and would now like to search for this term in the title, simply type 4.ti

This will produce the following command:

5.Coronary disease.ti [retrieving those references with coronary disease in the title]

**Other examples of postqualification:**

<table>
<thead>
<tr>
<th>#</th>
<th>You enter:</th>
<th>Ovid displays the search as:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>coronary heart disease.mp.</td>
<td>coronary heart disease.mp.</td>
</tr>
<tr>
<td>2</td>
<td>1.ti.</td>
<td>coronary heart disease.ti.</td>
</tr>
<tr>
<td>3</td>
<td>2 or chd.ti.</td>
<td>(coronary heart disease or chd).ti.</td>
</tr>
<tr>
<td>4</td>
<td>prevent$.ti.</td>
<td>prevent$.ti.</td>
</tr>
<tr>
<td>5</td>
<td>3 adj3 4</td>
<td>((coronary heart disease or chd) adj3 prevent$).ti.</td>
</tr>
<tr>
<td>6</td>
<td>5.mp.</td>
<td>((coronary heart disease or chd) adj3 prevent$).mp.</td>
</tr>
<tr>
<td>7</td>
<td>6 and wine.mp.</td>
<td>(((coronary heart disease or chd) adj3 prevent$) and wine).mp.</td>
</tr>
</tbody>
</table>
**Handling results:**

**Selecting your results**

To select all the results in a set, click on the “Select all” option at the top of your results list.

![Select all](image1)

Figure 1: Select all.

To select items one at a time, tick the box to the left of each reference.

![Select individual references](image2)

Figure 2: Select individual references.

To view the items you have selected, choose “Selected only” in the “Filter by” box.

![View selected items](image3)

Figure 3: View selected items.
To keep the selected results in a separate search set in your search history, either click on “Keep Selected”

or after filtering to selected only, choose “Add to search history”

Figures 4 and 5: Adding selected results to your search history.

**Ordering, printing, emailing and exporting your results**

Selecting the *order* option will bring up a simple form for you to order your selected items directly from the BMA Library.

Figure 6: Ordering articles
Selecting **Print**, allows you to select the format and fields for your selected references and will load a print preview copy in a new window on your computer ready for you to print.

Selecting **Email** also allows you to select the format and fields for your selected references and brings up a screen for you to enter the email account details to send your results:

![Email Citations List](image)

Figure 7: Sending your results to an email account.

Selecting **Export** allows you to export your results through to your reference manager software package and again allows you to select the format and fields for your selected references.

**Logging off**

Select the **Logoff** option from the Main Search page to exit the system. The window you are using will close, and you are then returned to the BMA website.

If you require help with your search please email info.medine@bma.org.uk or call 020 7383 6582.