THE UNIVERSITY OF LIVERPOOL LIBRARY

MEDLINE

NATIONAL LIBRARY OF MEDICINE

WHAT IS MEDLINE?

MEDLINE is an index that is used to find articles published in biomedical journals. It is produced by the National Library of Medicine and contains bibliographic records of more than eleven million articles indexed from over 4800 core medical, nursing and dentistry journals. This guide explains how to use Medline through Ovid. Ovid is a web-based service that provides access to a suite of health related bibliographic databases combined with full text electronic versions of selected biomedical, nursing and mental health journals.

Contents

How to access Medline

- Login to the student/staff intranet and navigate through to the library homepage : http://www.liv.ac.uk/library
- In the **Quick Links** section, click on Electronic Library.
- In the Key Sites | Databases section, click on **Medline**.
- This will link you to the Medline search screen.
- Several resources and versions of Medline are available via Ovid; select the 1996 – present option.

Searching Medline

Type your search term into the search text box. It is best to search for each concept of your topic separately and then combine the individual searches.

Just below the search box you will see the command **Map Term to Subject Heading** – the default is checked. When checked you are telling the database to provide you with a list of **MeSH terms** associated with your topic; this will give you the opportunity to pick an appropriate MeSH term for your topic (more of this later).

The default search option is to look within the **Article Title, Abstract, and Keywords** for any keyword or phrase typed into the **Search for** box.

Keyword searching

Concentrating on one part of your question at a time and entering all those search terms separately means that the structure of your search strategy is much easier to follow and it is much simpler if you later decide to delete one stage of your search.

Tip: To increase the number of references retrieved, it is useful to consider all possible keywords that might describe each concept (i.e., related terms, synonyms, alternative terminology and spelling). You can then link them with **OR** to ensure that either or any of the terms are present. For example:

Communication	Dementia	Older adults	Nurse
Communication	Dementia	Older	Nurse
Interpersonal	Alzheimers	Elderly	
Listen	Senility	Geriatric	
Talk		Aged	
Interaction			
Conversation			
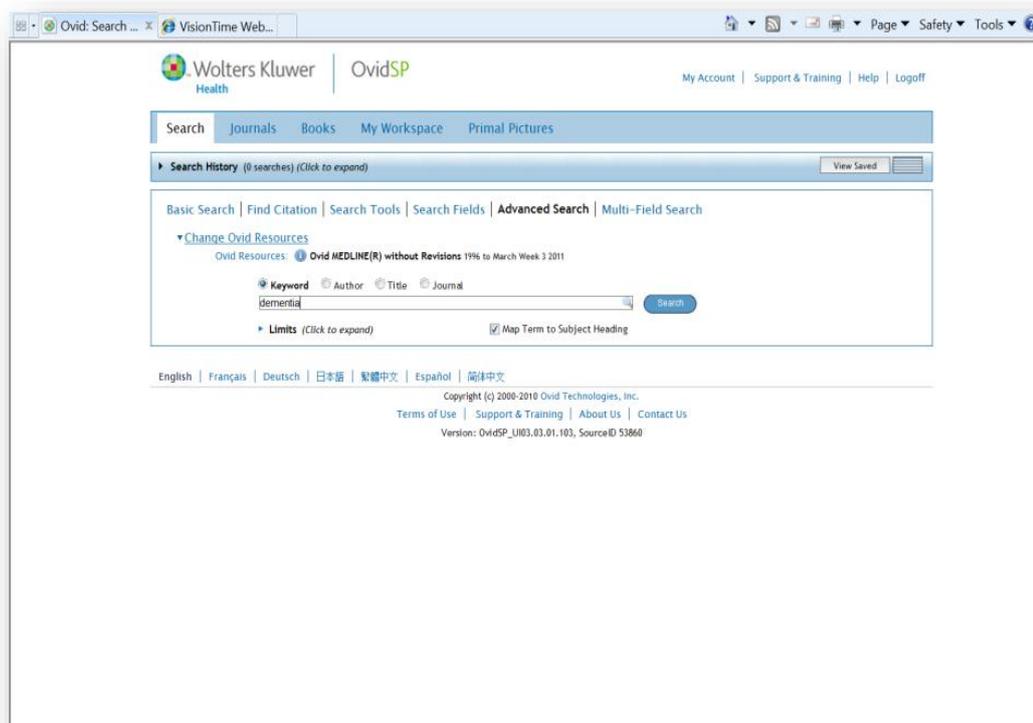
Searching for Authors, Titles, or Journals

As well as keywords, you can also search for a particular author, article or journal title. In order to perform a search for authors, titles, or journals, click on the relevant button above the search box. For author and journal searches the database will return an alphabetical list of entries for you to choose from (you can jump backward or forward in this alphabetical list by using the buttons at the top of the screen).

What are MeSH terms

Many databases use subject headings (in Medline these headings are known as **MeSH terms**; **MeSH** is an acronym for **M**edical **S**ubject **H**eadings). This is a way of standardizing the terminology so that articles on a particular topic can be found more effectively, *even if authors have used variant terminology in the titles/abstracts of their papers*. When you enter a search term, Medline will suggest the MeSH term that best matches it. If you choose to use it your search will return all results to which the MeSH term has been added – typically, this will include papers where authors have used variant terminology which could have been missed had you carried out a conventional keyword search.

How do you know what the MeSH term is for your topic? The Ovid search interface has a feature to help you find the appropriate MeSH term. On the main search screen be sure to check the box next to **Map Term to Subject Heading**. Once you have clicked on the **Search** button, the next screen provides you with a list of MeSH terms. For example, if you search for "high blood pressure" the database will prompt you to choose "hypertension" instead, as this is the recognized MeSH term for that topic.

You can click on the subject heading to see the structured thesaurus (tree); this helps you see how your term relates to other subject headings. If you are not sure which subject heading to select, use the **Scope** note button for more information. Select the most appropriate heading by ticking the box to the left. You can choose more than one subject heading on this screen; however, you will probably get better results if you choose the *single narrowest subject heading* that corresponds with the information that you are trying to find. Click on **Continue**. This brings up a list of subheadings which you can use to further focus your search; in practice it is better to accept all results initially and refine later if necessary. Click on **Continue** to display the results.

> **No MeSH term?**
>
> There may be occasions when you enter a search term that is not recognized by the database and it will be unable to offer appropriate suggestions for **MeSH** terms. This can occur when you are searching for new medical terms, new drug names, species names, etc. If the subject heading screen does not retrieve any **MeSH** terms that are relevant to your search, then you need to search using a keyword search strategy.

There may be occasions when you enter a search term that is not recognized by the database and it will be unable to offer appropriate suggestions for **MeSH** terms. This can occur when you are searching for new medical terms, new drug names, species names, etc. If the subject heading screen does not retrieve any **MeSH** terms that are relevant to your search, then you need to search using a keyword search strategy.

Combining your results

The first stage is to search for each concept of your topic separately; once this is done the next stage is to combine the individual searches to obtain more focused results. Click on **Search history** and you will see the results of each individual search.

Individual searches can be combined using **AND** or **OR**. Check the box against the searches you want to combine (you can combine as many searches as you wish) and then select either the **AND** or **OR** box.

The 'OR' search	The 'AND' search
To search for **alternative** or **related** key terms, combine each term with an '**OR**'. This will ensure that you get results **whichever** term is used: For a more comprehensive search for '**cancer**', you would also have to consider the terms '**tumour**' or **neoplasm** as well.	For the best results, do not add your search query in 'sentence style' as you perhaps would on Google. Instead, identify the **key terms** and combine them with '**AND**'. This will ensure that the results will contain **all** of the terms. Click on the **Add search field** link to include more search boxes and enter each key term in a separate box. This helps you to lay out your search more clearly.

6
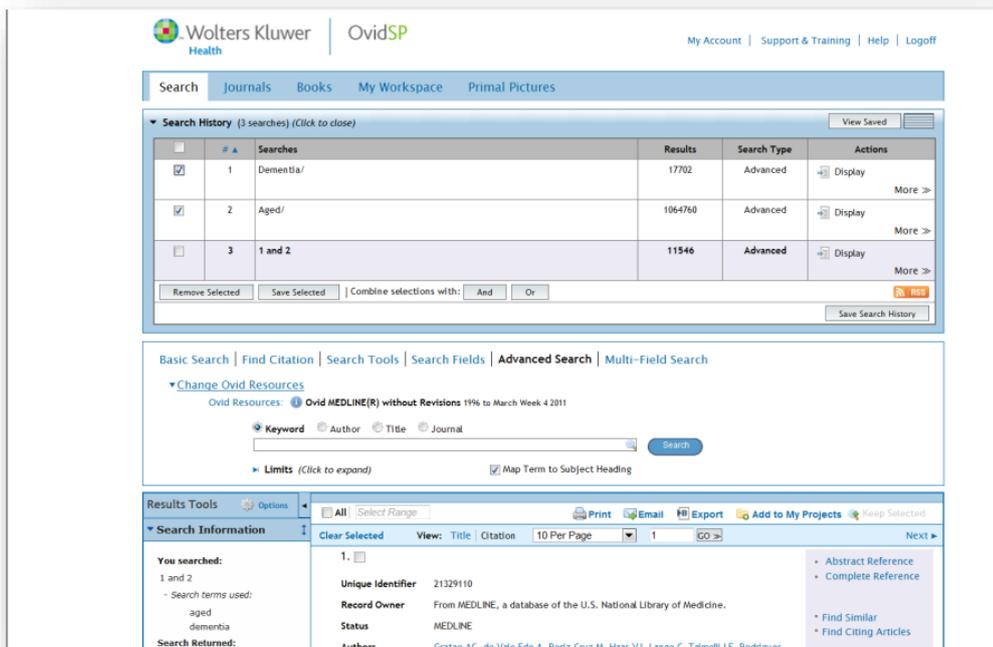
Viewing your results

The first 10 results of you search are displayed automatically. Use the **Next** link to see more results. Medline defaults to showing the full record but you can choose to view just titles by clicking on **View | Title.** To find out more about the article, select **Abstract Reference**. Some articles are available in full-text via Ovid, click on **Full Text** to view the entire article and if full-text isn't available via Ovid, click on the **Find it at Liverpool** button to see whether the journal is available elsewhere or to check the Library catalogue.

Improving your search results

Exploding and focusing

Medline offers the ability to explode and/or focus your subject heading by checking the appropriate boxes in the columns labeled explode and focus.

Explode
The **explode** command tells the database to search for your requested subject heading as well as any more specific terms that are related to your subject heading.

To find out what, if any, narrower topics are associated with your subject heading (so that you can decide whether or not you want to explode your heading) click on the heading itself, this will present a new screen that allows you to view the narrower (and broader) subject terms associated with your topic. This screen shows subject

headings in a "tree" structure. You will probably need to scroll down to find your subject heading in the tree. The plus (+) sign next to a topic means that the topic has narrower terms associated with it. You can view narrower terms by clicking on the plus sign. The number of articles that you can expect to retrieve for each subject heading is provided in parenthesis after each heading. See the screen image below for an example.

Focus
The **focus** command tells the database to retrieve only those articles in which your subject term is considered to be the primary focus of the article. This will eliminate articles in which your topic is discussed only peripherally. You will retrieve fewer (but probably more relevant) articles if you use this feature.

You can explode and focus at the same time.

If you check **both** the explode and focus boxes next to your subject heading, the database will look for all of the exploded terms and retrieve articles in which any one of the terms has been designated as the main focus of the article.

Once you have chosen your subject heading and decided whether you want to explode and/or focus, you can move to the next screen by clicking the **Continue** button.

After you have chosen a subject heading and decided whether you want to explode and/or focus the heading, the next screen prompts you to choose subheadings. Subheadings describe the type of information that you want about the MeSH term that you just selected (for example: therapy, diagnosis, etiology, etc.) You can choose one or more subheadings, or you can check the box to include all subheadings.

Once you have chosen subheadings, click **Continue**; the next screen will show the final results of your search.

If the database does not present the subheading screen, it is because you selected more than one subject term and the subject terms that you selected do not share the same subheading categories. In this case, the database skips the subheading page.

Truncation

This is a technique for retrieving all variant forms of a word. Type in the word stem plus the truncation symbol * e.g. communicat* will retrieve communication, communicated, communicating. Use with care as this can retrieve irrelevant information.

Wildcards

The standard Wildcard symbol is an asterisk ***** .
The asterisk is used to represent a letter or letters (or no letters) at the beginning, in the middle or at the end of a word. As such it can be used to search for variant spellings, prefixes and suffixes.
The question mark **?** replaces one character anywhere in the word.

Note: Using the singular form of a word in your search automatically retrieves the singular, plural, and possessive forms of most words, so there's no need to use the ***** to retrieve plurals.

Phrase searching

> Phrase searching is a good technique to use if your initial search returns too many results. It will significantly reduce your result set and is particularly effective when applied to a phrase made up of commonly used words.
> For example: **"Medical communication"**

Adjacency searching

A useful keyword search technique is called adjacency searching. This is useful if you want to look for papers where your words might appear NEAR each other rather than only right next to each other. To do this, separate your words with **ADJn** where **n** is the number of major words that you will allow to appear between your words.

For example, searching for **physician ADJ2 relationship** will find the words physician and relationship within 2 major words of each other in any direction – and would find many more papers than just searching for the specific phrase "physician relationship". Using this technique would retrieve papers with phrases like "physician patient relationship", "patient physician relationship", "relationship of the physician to the patient" and so on. Medline does not count stop words such as in, on, and, the or they etc in the ADJ number you specify so your target words may well be even more than 2 words apart (but no more than 2 major words apart).

Note: the higher the ADJ number you use, the further apart your keywords will be from each other. When this happens, you can start to lose the context you wanted.

Limiting your search

You can refine your search either by choosing more specific keywords or adding further concepts but you can also set parameters by clicking the **Limits** link under the search box. You can limit by publication year, language or document type but Medline also offers a much larger menu of limits.

What if you were only interested in retrieving articles on your topic written in English, or articles written in the past two or three years?

There are two menus available for selecting limits. One menu is located just below the search text box on the main search screen. Listed here are the most common limits that people employ in their searches. To use these limits, simply click on the box or boxes that you want to use to limit your search, and hit the **Perform Search** button. The database will apply these limits to your current search or, if you do not have a search entered in the search box, the database will apply limits to the last search set in your search history.

An even larger menu of limits is displayed when you select the target icon at the top of the main search screen. Limits available here include language choices, age group choices, publication types, etc. If you are interested in finding only articles relevant to **evidence-based medicine**, you should use publication type limits such as practice guidelines, randomized controlled clinical trials, consensus development conference, meta-analysis, etc. To select more than one item on a limit menu, hold down the **Control** key on your keyboard while making your selections. Once you have made your selections, click on the **Limit Search** button.

Saving your results and search strategies

The main search screen displays each of the searches that you have conducted under the heading "Search History." To view any of these sets of records, click on "Display Records" next to the set of records that you wish to view.

As you view the articles that you retrieved in your search, you will see links below each citation for viewing more information about the citation. For example there is usually a link to the citation's abstract and frequently the full-text of the article.

You can mark records that you wish to save by clicking in the box to the left of the citation. Once you are finished marking citations - or if you want to skip this step and save all of the citations - then scroll to the bottom of any page until you see the Citation Manager.

The Citation Manager guides you through the process of choosing the citations that you want to save and the fields you want to retain, as well as asking you to choose whether you want to display the records (for printing) or email or save the records.
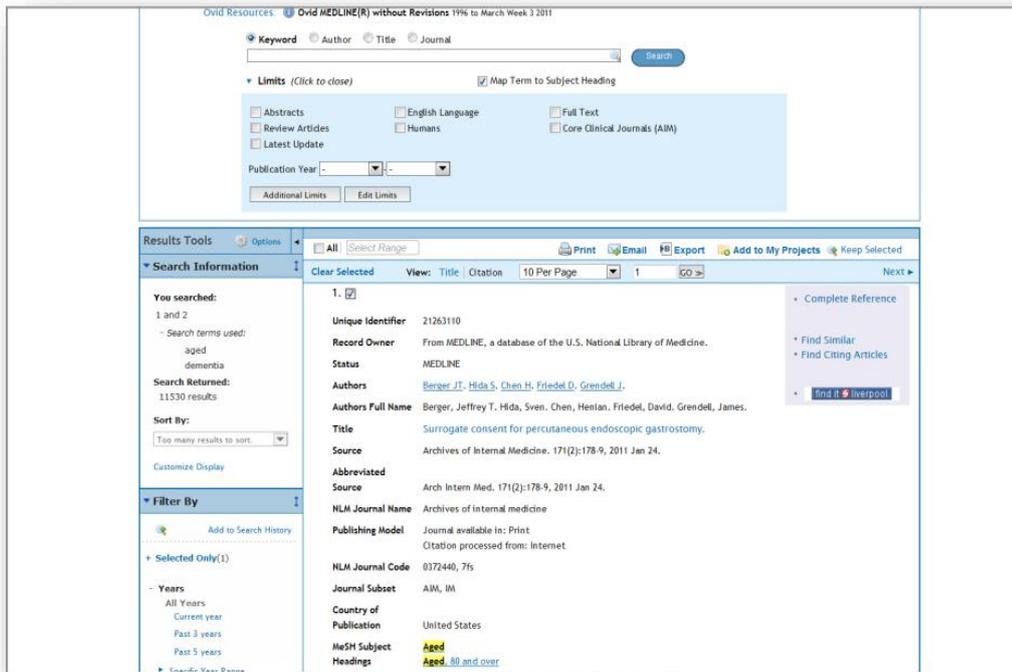
You can export your references to reference management software such as EndNote or RefWorks. Once you have marked the references you want, click on **Export** at the top of the page. In the box that opens, select either Endnote or RefWorks from the drop down menu and choose which fields you want displayed, click on **Export Citation(s)**.
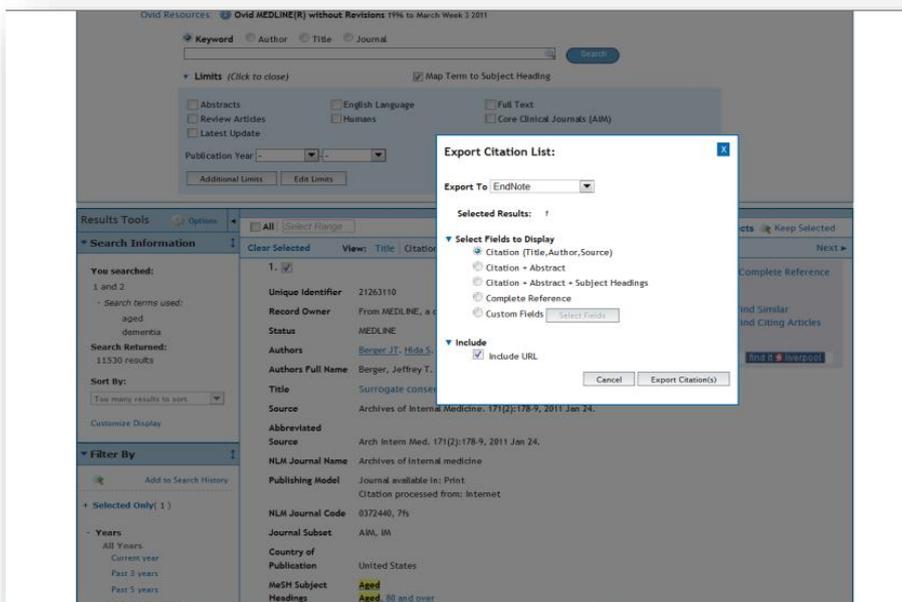
Note: You are not exporting the full text of an article, only the citation.

Saving searches

To save a search and rerun at a later date, click on **Save Search History** in the Search history screen. You will need to log into your personal account or create on if you haven't already done so.

Once you have saved a search strategy, you can run it again at a later date by clicking on **View Saved** in the top right corner. Select the search you want to run and click on **Run**. Your results will be available back on the main search page (click on the Search tab to get there). It is a good idea to make sure your Search History box is clear before running a saved search. Otherwise your results will be added on to the end of any results already visible.

To delete searches from your search history table, tick individual boxes (or the one at the top to select them all) and click **Remove Selected**

Help and Contacts

Online help is available throughout, via the **Help** button at the top of the Medline screen.

For any more information, please contact your appropriate **Liaison Librarian**. Their details can be found from the following link;
http://www.liv.ac.uk/library/help/subject-contacts.html

Ken Linkman February 2011.