

# How to Search PubMed: An Introductory Guide for Dentists

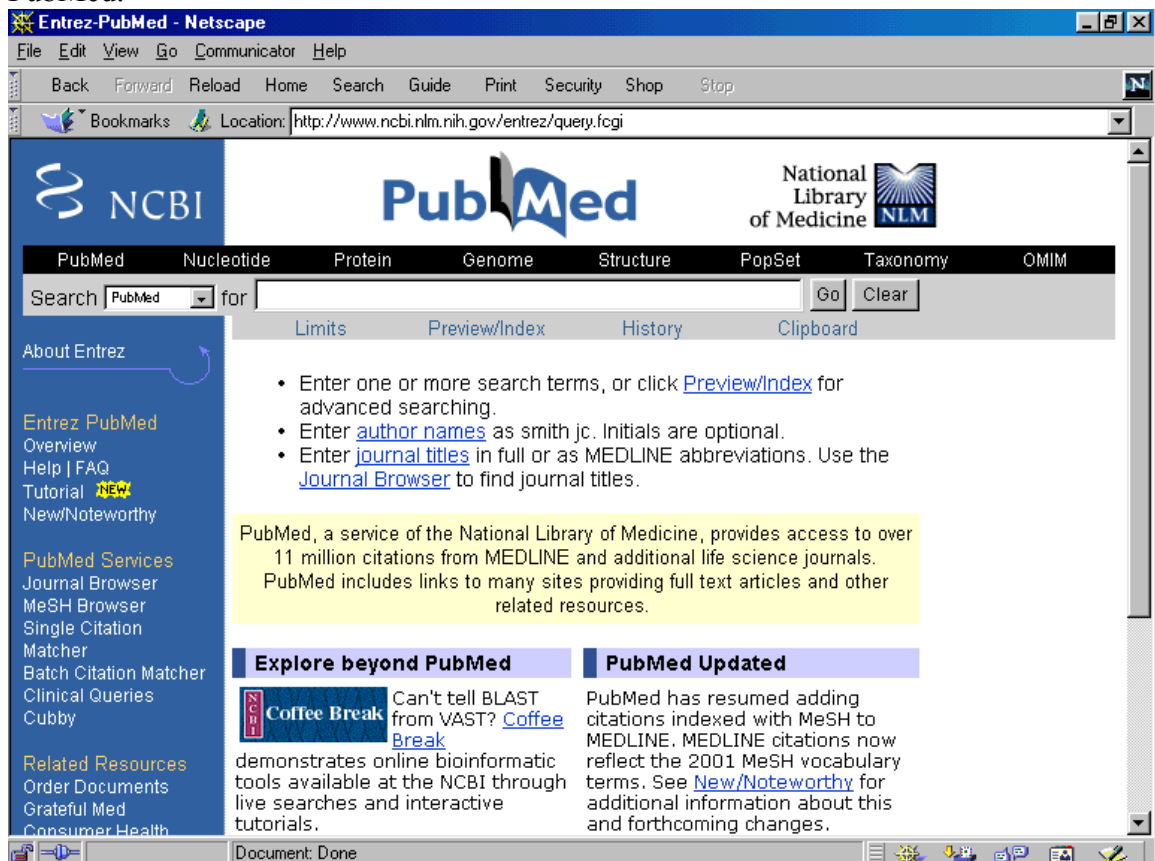
Adapted by Stephanie Walker, Faculty Librarian, Faculty of Dentistry, University of Toronto, from the PubMed tutorial of the National Library of Medicine ([http://www.nlm.nih.gov/bsd/pubmed\\_tutorial/m1001.html](http://www.nlm.nih.gov/bsd/pubmed_tutorial/m1001.html)) and from the UBC Life Sciences Libraries Guide "How to search PubMed"

## **What is PubMed?**

PubMed is a search interface to Medline, a database consisting of over 12 million citations from over 4,000 journals indexed by the National Library of Medicine in the United States. Some citations have links to online full-text articles from participating publishers.

## **Starting a Search**

1. Open your Internet browser.
2. Go to the URL <http://www.nlm.nih.gov>, which is the address for the National Library of Medicine.
3. Click on Health Information.
4. Click on Medline/PubMed. This will take you to the simple search interface page for PubMed.



## Simple Searching

1. To perform a search, type a keyword related to your topic into the search window.
2. Multiple keywords will automatically be combined with AND. You may also search using the Boolean operators OR or NOT. Please note that Boolean operators must be in upper case letters, or they will be ignored.
3. You may search phrases by enclosing a phrase in quotations, eg. "intraoral cameras."
4. To execute the search, click the "Go" button.
5. By default, your results will be displayed in summary format.

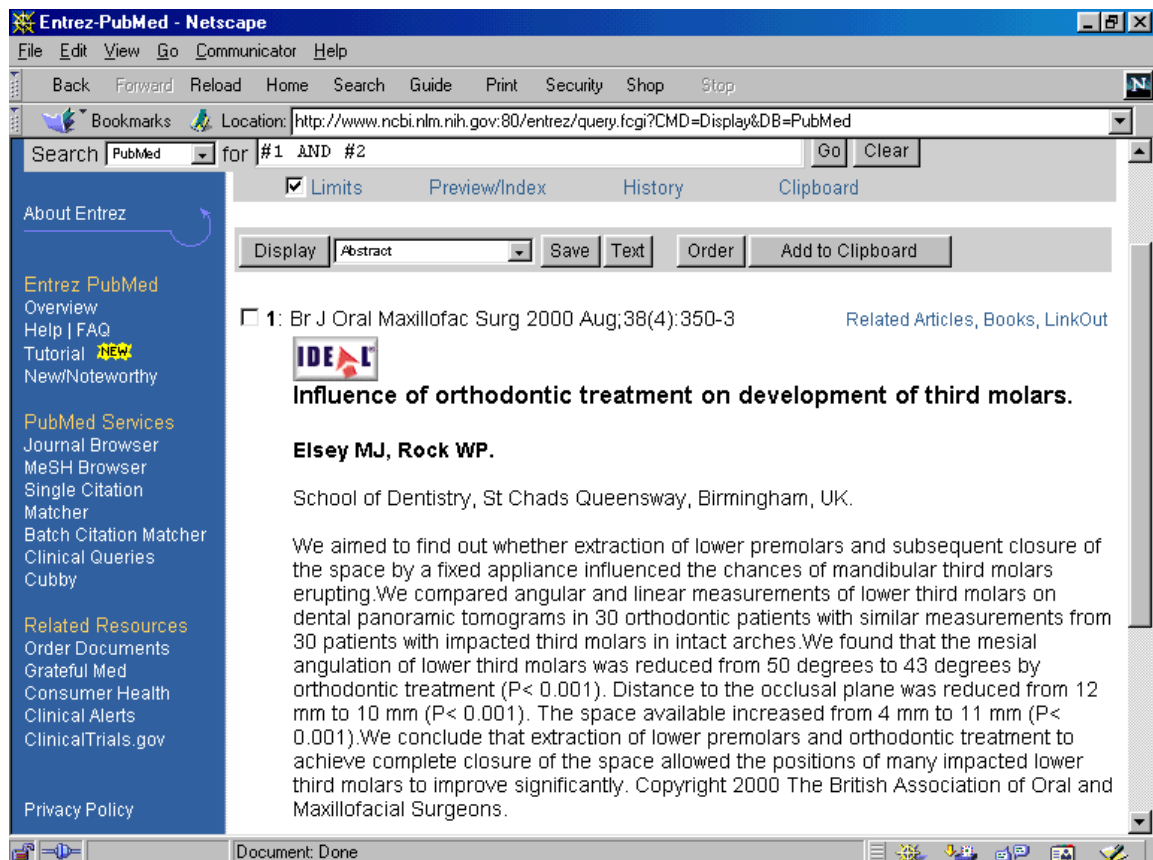


The screenshot shows the Entrez-PubMed search interface in a Netscape browser window. The search query "intraoral cameras" is entered in the search box. The results are displayed in summary format, showing three articles:

Item	Author	Title	Journal	PMID	Indexing	Related Articles
<input type="checkbox"/> 1	<a href="#">Freydberg B.</a>	Selecting office management computer equipment.	Tex Dent J. 1998 Nov;115(11):18-25.	9927950	[PubMed - indexed for MEDLINE]	Related Articles
<input type="checkbox"/> 2	<a href="#">Farr C.</a>	Sharper image: next generation intraoral cameras.	Dent Today. 1996 Jul;15(7):70, 72-7. No abstract available.	9567784	[PubMed - indexed for MEDLINE]	Related Articles
<input type="checkbox"/> 3	<a href="#">Farr C.</a>	Intraoral cameras: dentistry's pursuit of wow.	Dent Today. 1997 Apr;16(4):100, 5. No abstract available.	9560724	[PubMed - indexed for MEDLINE]	Related Articles

### *Changing the Display:*

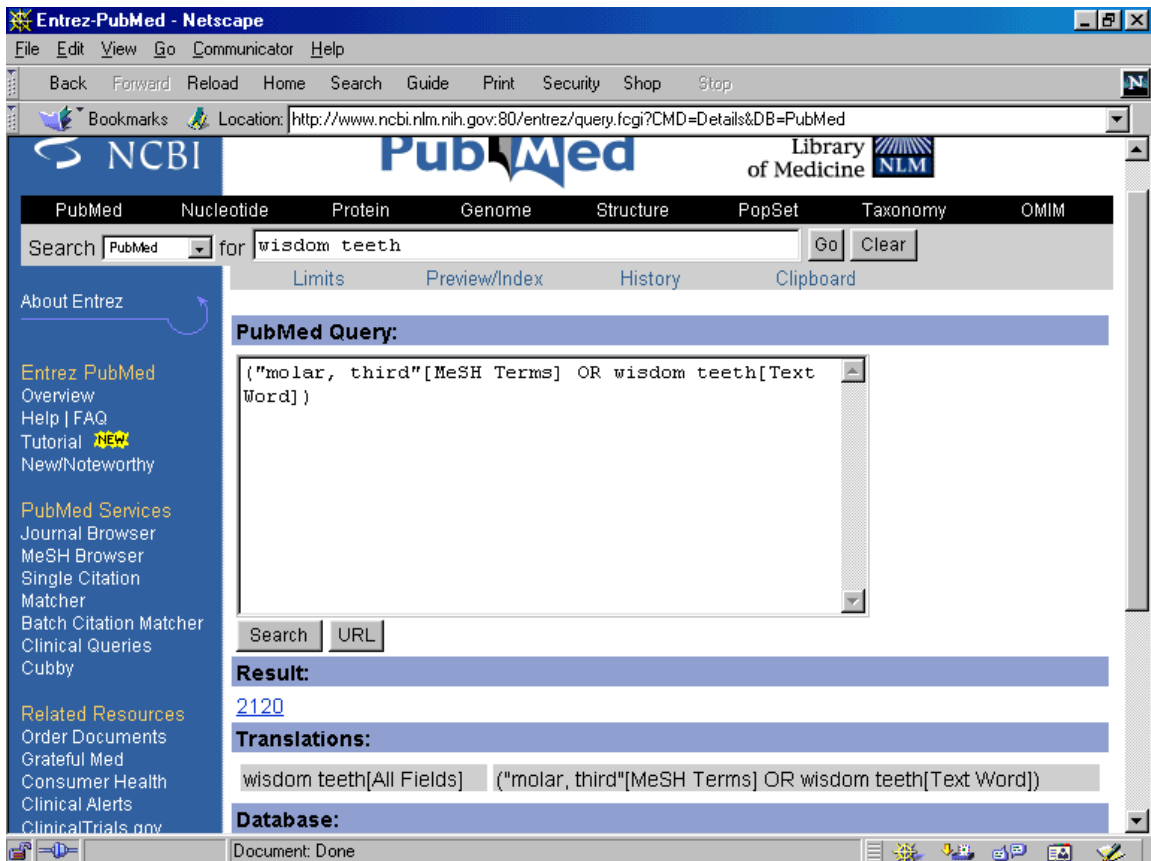
1. To change the display, click the “Display” button and choose another format from the pull down menu of options. For example, you may wish to display abstracts.
2. If you wish to see abstracts for only selected records, use the check boxes beside the records to select the ones you wish to view.
3. PubMed provides some links to full text articles from participating publishers.



In the above example, clicking on the “Ideal” logo allows you to link out to the publisher’s website, and ultimately obtain the full text of the article.

### *Automatic Term Mapping:*

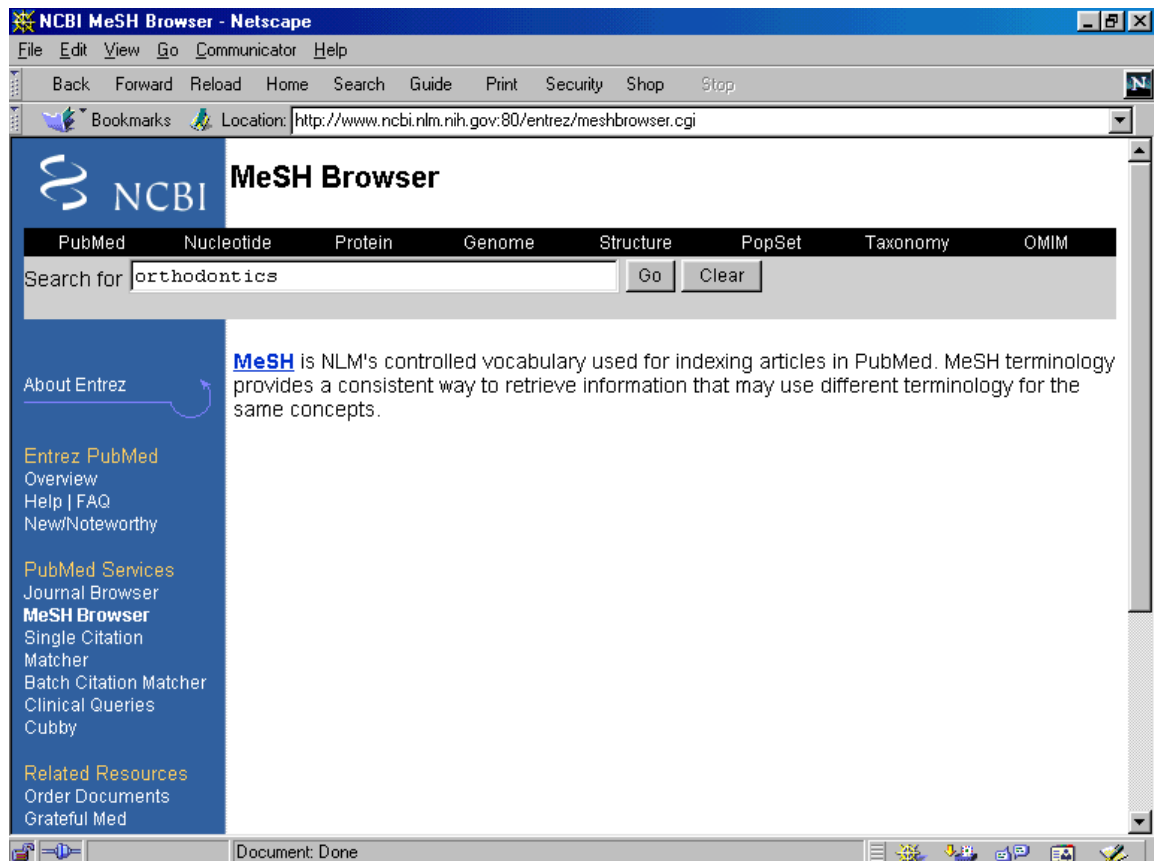
1. PubMed automatically maps your keyword search to the special subject headings used by Medline. The words are mapped against the Medical Subject Heading (MeSH) vocabulary, a Journals Translation Table, a Phrase List, and an Author Index. For example, a search on the layman's term "wisdom teeth" maps to both the approved vocabulary term "third molars" and to a keyword search for any usage of the words "wisdom teeth."
2. If you wish to check how your search was interpreted, click on the "Details" button.



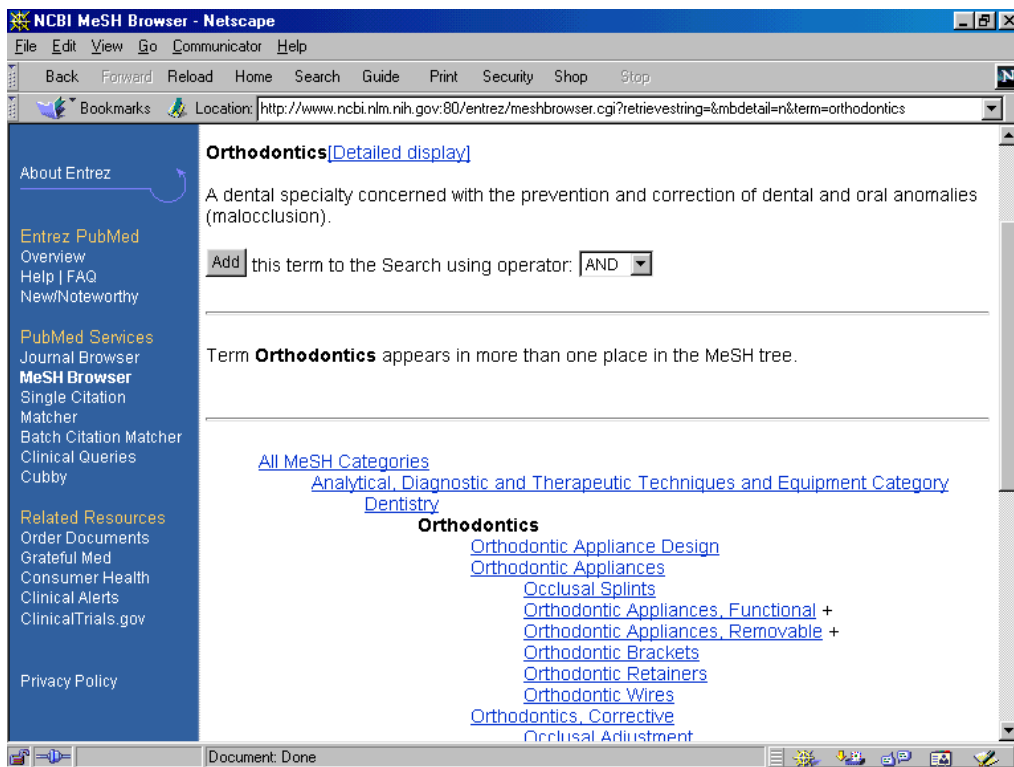
You can edit the search directly in this screen if you choose.

### ***Searching Using Controlled Vocabulary – The MeSH Browser:***

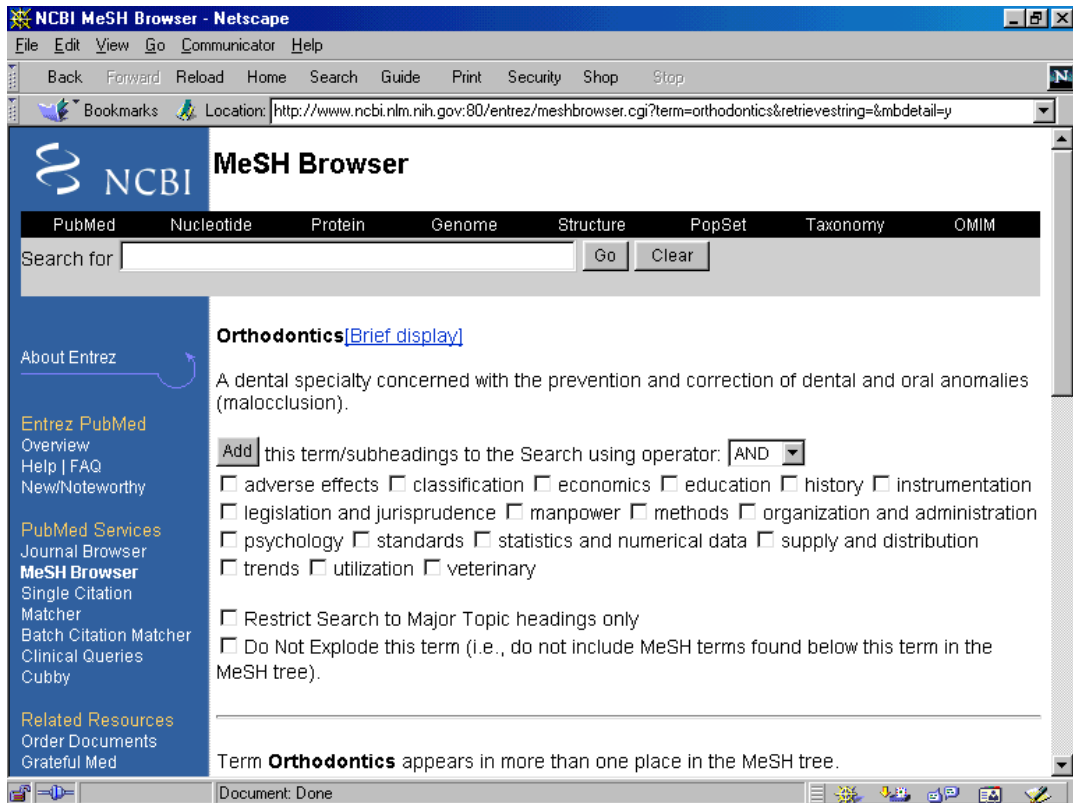
1. The PubMed sidebar offers numerous tools and services.
2. One of these, the MeSH browser, allows you to search Medline’s controlled vocabulary for terminology you can use in your search. This is especially useful if you’re not sure about what terminology to use to allow you to get the best and most specific result.
3. Enter your term in the search window, and click “Go”.
4. A search on a general term, such as “Orthodontics” maps to a hierarchical list of terms that could be used, some more general and some more specific.



5. “Orthodontics” is a MeSH term (it is found in the vocabulary), but there are many narrower terms available as well. You may wish to include all of these in your search.
6. PubMed automatically explodes your MeSH term (includes narrower terms in your search), so a search using the term “Orthodontics” will automatically include articles indexed using “Orthodontic Appliance Design,” “Orthodontic Appliances,” etc.

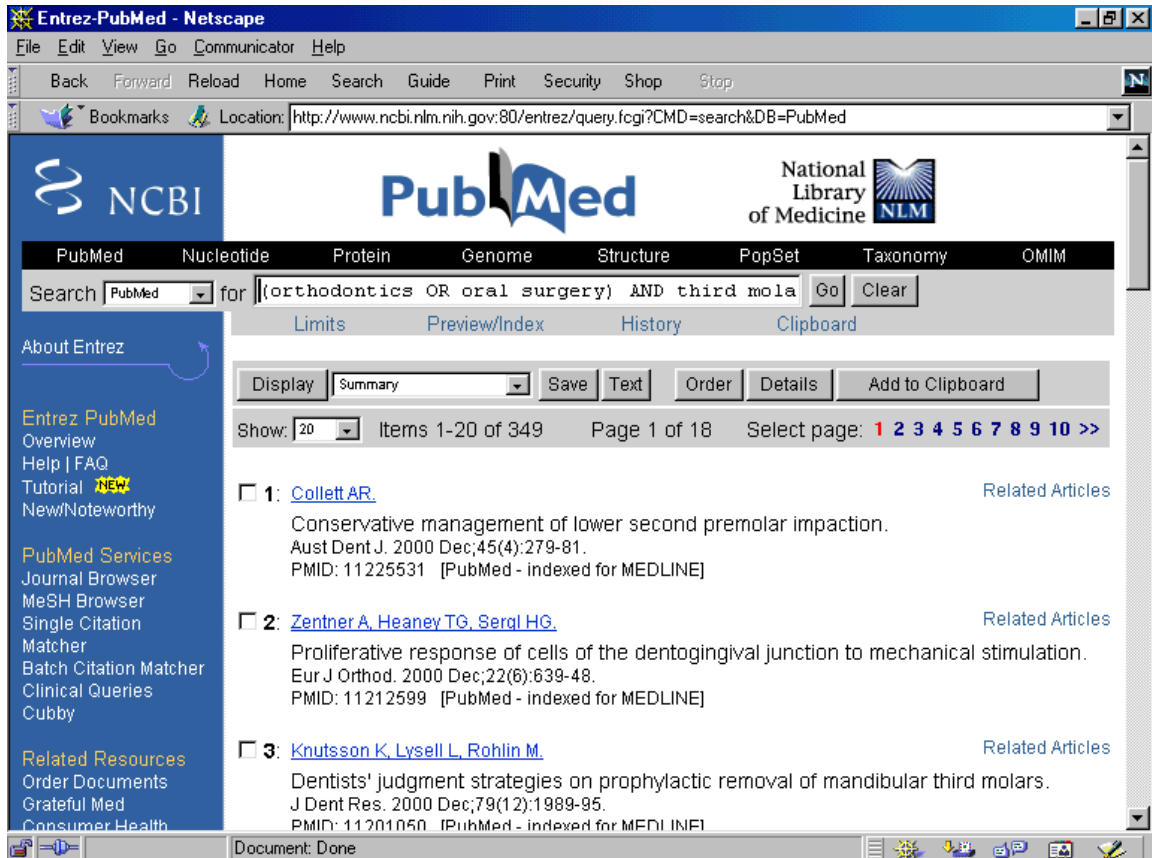


7. If you click on “Detailed Display,” PubMed will also display subheadings for your topic. You may wish to include these in your search.



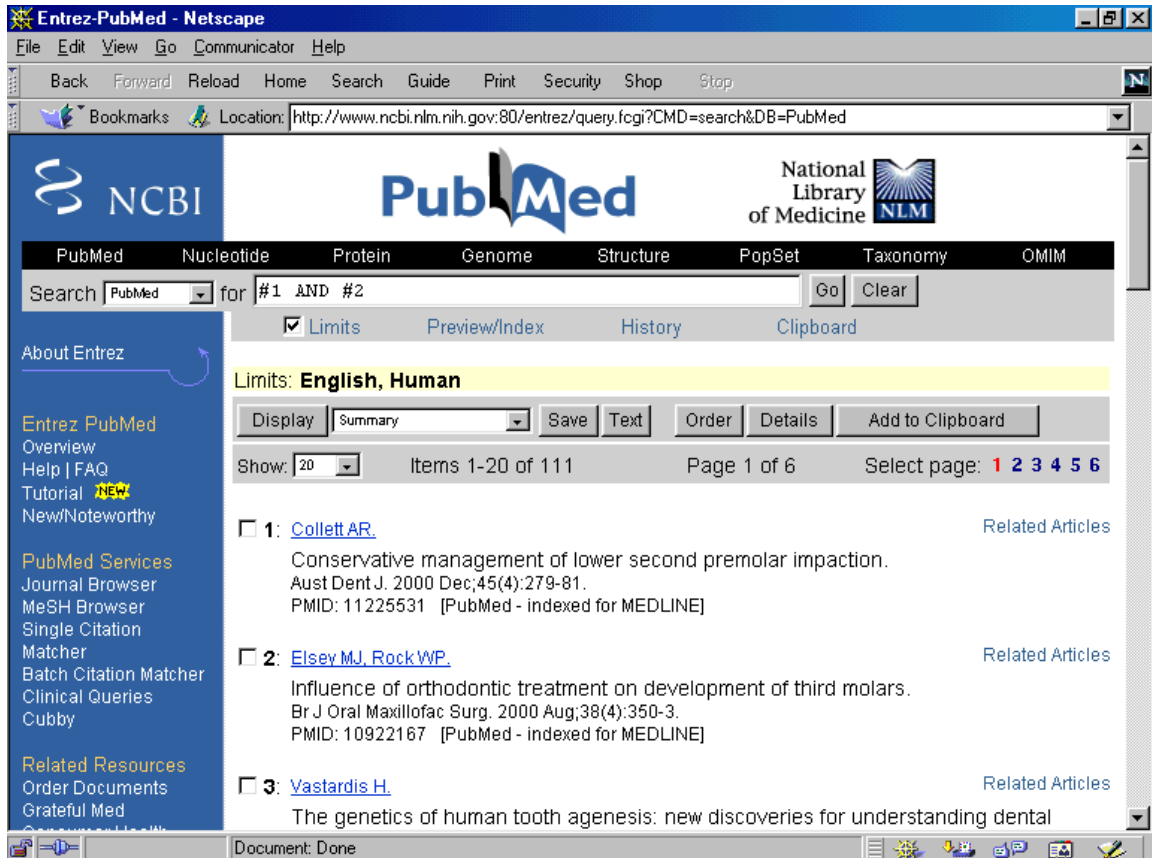
### ***Combining Multiple Search Terms:***

1. Use Boolean logic to search multiple terms. Use AND to retrieve all of the terms (i.e. orthodontics AND third molars), OR to retrieve any but not necessarily all of the terms (orthodontics OR oral surgery), and NOT to eliminate terms (mice NOT rats).
2. To search complex concepts, enclose individual concepts in parentheses. The terms inside the set of parentheses will be processed first, and then combined with the other terms in the set, i.e. (orthodontics OR oral surgery) AND third molars.
3. Boolean operators must be in upper case or they will be ignored by PubMed.
4. To combine separate searches, click on the word “History” below the query box. Use the search numbers (i.e. #1 AND #2) to combine searches.



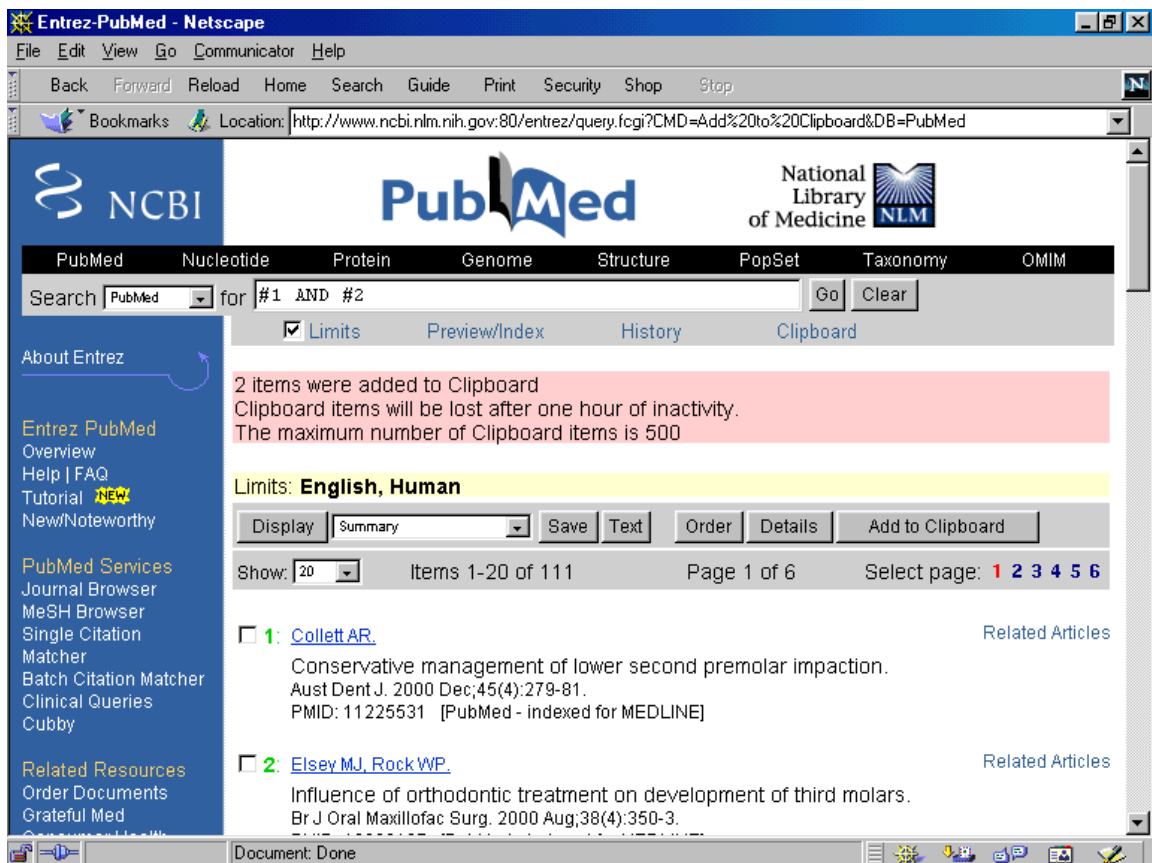
### ***Limiting A Search:***

1. Sometimes you may wish to limit your search in various ways, for example by specific age groups or by language. Click on the button that says “Limits” below your search.
2. Select the types of limits you want by using the pull down menus.
3. Click “Go.”
4. A check mark will appear in the box next to the word “Limits” to indicate that this feature is in use.
5. The limits in effect will be displayed in a yellow bar across the top of the search set.



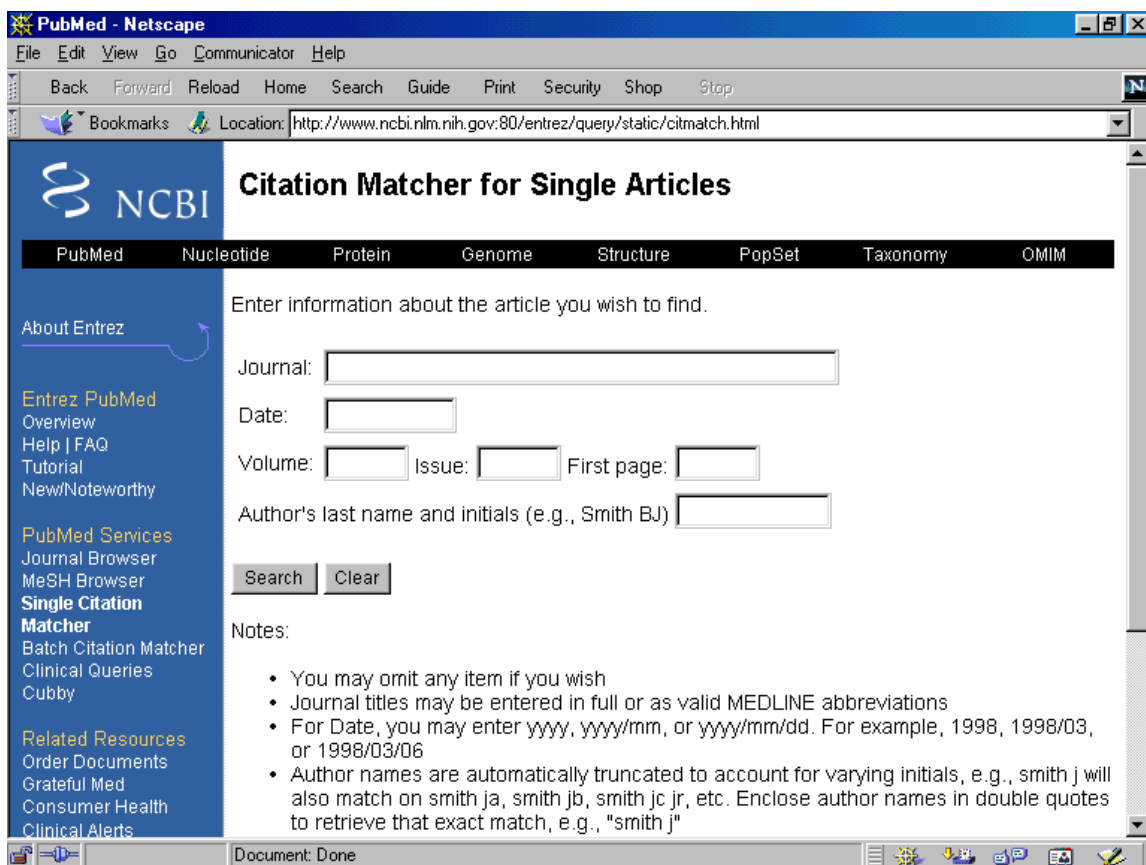
### ***Using the Clipboard:***

1. The clipboard allows you to save or view selected citations from one search or several searches that you may wish to print or save. To place an item on the clipboard, click on the check box to the left of the citation, and then click on the “Add to Clipboard” button.
2. Once you have added a citation to the clipboard, the record number colour will change to green.
3. Clipboard items are lost after one hour of inactivity.
4. If you click “Add to Clipboard” without selecting any citations, PubMed will add all your citations, up to a maximum of 500 records, to the Clipboard. Duplicates will be automatically eliminated.



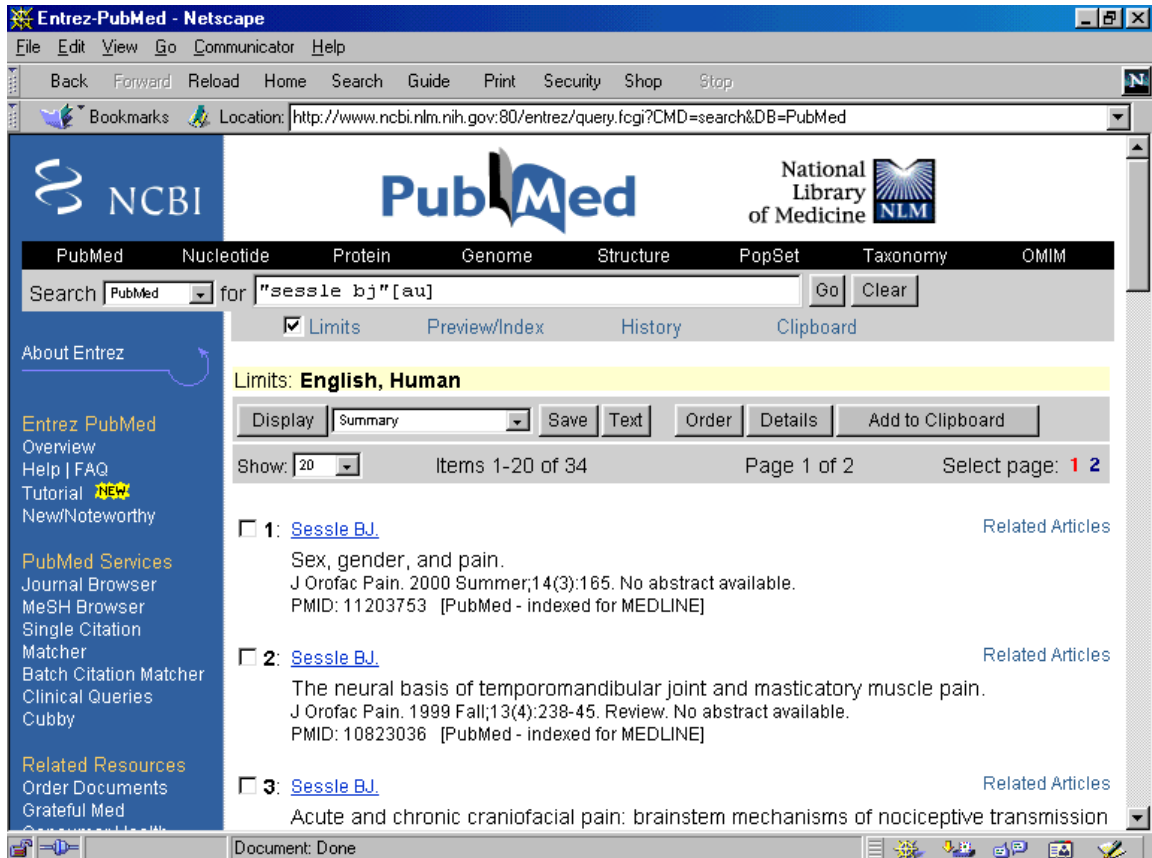
### ***Single Citation Matcher:***

1. Sometimes you may wish to verify a citation. To do this, click on “Single Citation Matcher” in the sidebar, under PubMed Services.
2. Enter your citation information (e.g. journal, volume, author, pages, etc.) to locate a record for a specific single article.
3. You may omit portions of the information – often you may not have complete citation information.
4. Click on the “Search” button.
5. To verify more than one item at a time, i.e. if you wish to find multiple items indexed from a particular volume or issue of an individual journal, choose the “Batch Citation Matcher” from the list of PubMed services and follow the example.



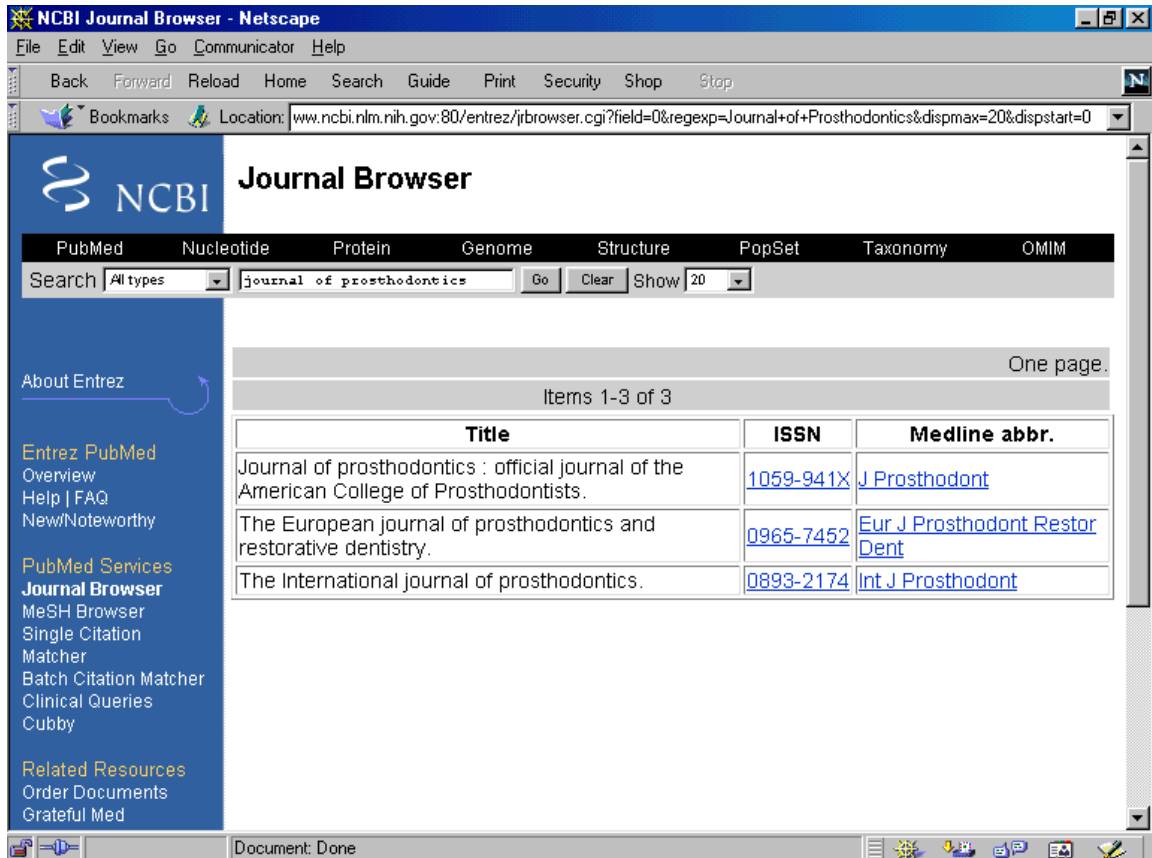
### ***Author Searching:***

1. The format for author searching is last name plus initials. Do not use commas.
2. PubMed will automatically truncate the author's name to account for varying initials – sometimes an author will be listed using only his first initial and last name, and other times he may use his first and middle initials and last name.
3. To turn off automatic truncation of an author's name, surround the name with double quotes and use the [au] tag.
4. If you are searching with last name only, use the [au] tag.



### ***Journal Searching:***

1. To search for journals by journal title, abbreviation, or ISSN (International Standard Serial Number), click "Journal Browser" under "PubMed Services" on the sidebar.
2. Enter your search in the search box, and click "Go."
3. PubMed will retrieve exact and close matches for journals indexed in Medline.



### ***Saving Search Strategies:***

1. When searching from your home or office computer, you may wish to save your search strategy. This option is not often available on public computers, such as those in libraries.
2. Conduct your search as usual.
3. Once you've finished, click on the "Details" button.
4. From the "Details" window, click on the "URL" button. PubMed will return to the search results screen. The translated search strategy will be displayed in the query box and this search strategy will also be embedded as part of the URL.
5. Next, use your Web browser's bookmarks/favorites function to save the URL as a bookmark. You may wish to rename the bookmark using your Web browser's edit function to give it a meaningful name. This feature cannot be used to save searches that have been created using search set numbers in History (ie. #1 AND #2).

### ***Clinical Queries:***

This specialized search query with built-in research methodology filters is intended for clinicians. Four study categories or filters are provided: therapy, diagnosis, etiology and prognosis. You may indicate whether you wish your search to be more sensitive (e.g. includes relevant articles but probably some less relevant) or mor specific (e.g. more precise articles with less retrieval).

*Adapted from the PubMed tutorial of the National Library of Medicine  
([http://www.nlm.nih.gov/bsd/pubmed\\_tutorial/m1001.html](http://www.nlm.nih.gov/bsd/pubmed_tutorial/m1001.html)) and from the UBC Life Sciences  
Libraries Guide "How to search PubMed"*