

Techniques for Searching the CINAHL Database Using the EBSCO Interface

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In the information age in which we live, many excellent research tools are available to nurses. Whether a nurse is conducting research to write a school paper or journal article or investigating evidence for practice, being able to efficiently search for articles and journals is essential. The Cumulative Index to Nursing and Allied Health Literature (CINAHL) database, available from EBSCO Publishing, Ipswich, Mass, is a powerful and useful indexing tool that nurses can use to assist them in their research needs.

This article is designed to give step-by-step instructions for conducting a basic search in CINAHL. It is not meant to cover every search option but to allow readers to begin searching CINAHL correctly. These instructions will be most useful if you can work through them while working on a computer, performing the steps as you read. If, after going through this tutorial you still have questions, your best resource is a health sciences librarian.

The CINAHL database is a searchable, online database that provides references to articles from more than 2,800 journals.¹ The CINAHL database is different from MEDLINE, which is produced by the National Library of Medicine, Bethesda, Md, and is available at no charge through PubMed; CINAHL is privately owned by EBSCO Publishing.

The CINAHL database currently is available from several vendors; however, this article will focus on searching CINAHL Plus with Full Text as provided by EBSCO. According to the online Database Help, CINAHL Plus with Full Text provides indexing as far back as 1937, with "complete coverage of English-

language nursing journals and publications from the National League for Nursing and the American Nurses' Association."¹ In addition to its coverage of nursing literature, CINAHL also covers 17 allied health disciplines as well as consumer health, alternative medicine, health sciences librarianship, and biomedicine in general. A subscription to CINAHL Plus with Full Text provides full text retrieval of articles from more than 530 journals.²

Unfortunately, EBSCO does not allow individuals to subscribe to the customizable version of CINAHL. You will need to check with your institution's library to request access to CINAHL through EBSCO. If your institution does not have a library or if your library does not subscribe to CINAHL, a local college or university may have a subscription and may allow people not affiliated with the institution to access CINAHL in its library. If your library does have a subscription to

ABSTRACT

- **THE CUMULATIVE INDEX to Nursing and Allied Health Literature (CINAHL) is a useful research tool for accessing articles of interest to nurses and health care professionals.**
- **MORE THAN 2,800 JOURNALS are indexed by CINAHL and can be searched easily using assigned subject headings.**
- **DETAILED INSTRUCTIONS about conducting, combining, and saving searches in CINAHL are provided in this article.**
- **ESTABLISHING AN ACCOUNT at EBSCO further allows a nurse to save references and searches and to receive e-mail alerts when new articles on a topic of interest are published. *AORN J* 85 (April 2007) 779-791. © AORN, Inc, 2007.**

CINAHL, access to the program from off campus also may be available. You will need to inquire about the availability of this feature through your institution. At the time this article was written, CINAHL still provides a version of the database to individuals at <http://www.cinahl.com> for a fee of \$20 per year.

SUBJECT HEADINGS

Every article indexed in CINAHL is read by a subject specialist and indexed using appropriate subject headings that reflect the content of the entire article. The subject specialists select terms from an annually updated list of headings. This list of terms is an integral part of the CINAHL database. In most cases, using subject headings is the best way to search this database. It is important to remember that the text of most of the articles indexed in CINAHL is not searchable, so the subject headings that are assigned act as a surrogate for the complete article.

The subject specialist who reviews an article assigns the most specific subject terms possible. For example, an article about pneumonia would be indexed to *Pneumonia*, rather than the broader heading *Lung Diseases*. An article on aspiration pneumonia will be indexed to the more specific heading *Pneumonia, Aspiration*, rather than *Pneumonia*. You are able to find all articles associated with the term "pneumonia" by selecting the option to "explode" the subject in your search for pneumonia. This broad-

er search feature is easy to select during a search of CINAHL.

For more complex searches, it is best to locate and search for one subject heading at a time. After several searches have been performed, you can combine the concepts. By selecting one term at a time, you also will be able to combine the search terms in different ways, if necessary.

A SAMPLE SEARCH

To illustrate some of the many features of CINAHL, this article demonstrates how to search for alternative or herbal medicines used to treat severe nausea and vomiting. Many of the features in CINAHL Plus with Full Text can be customized, so the version available to you may not look exactly like the screens that have been recreated here.

From the CINAHL home screen (Figure 1), select the "Advanced Search" tab and then click the "CINAHL Headings" link. This will allow you to conduct a search based on the CINAHL headings that were assigned to articles by the subject specialists. Alternately, if your version of the program gives you the option "Suggest Subject Terms," you can enter your first concept into the "Find:" box and check the "Suggest Subject Terms" check box, which is typically located near the "Find:" box. This will yield a list of CINAHL headings related to your concept.

For this example, the user will select the "CINAHL Headings" link on the

Figure 1 •
The CINAHL main screen indicating the Advanced Search tab. All figures in this article are copyrighted by EBSCO Publishing, Ipswich, Mass. Reprinted with permission.

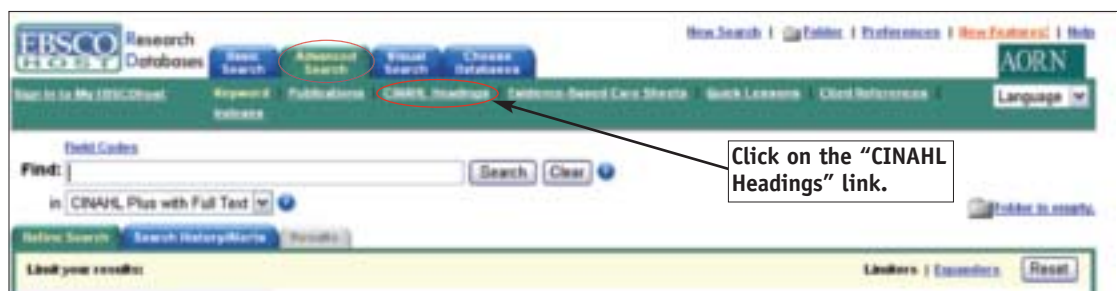




Figure 2 • Search using CINAHL headings.

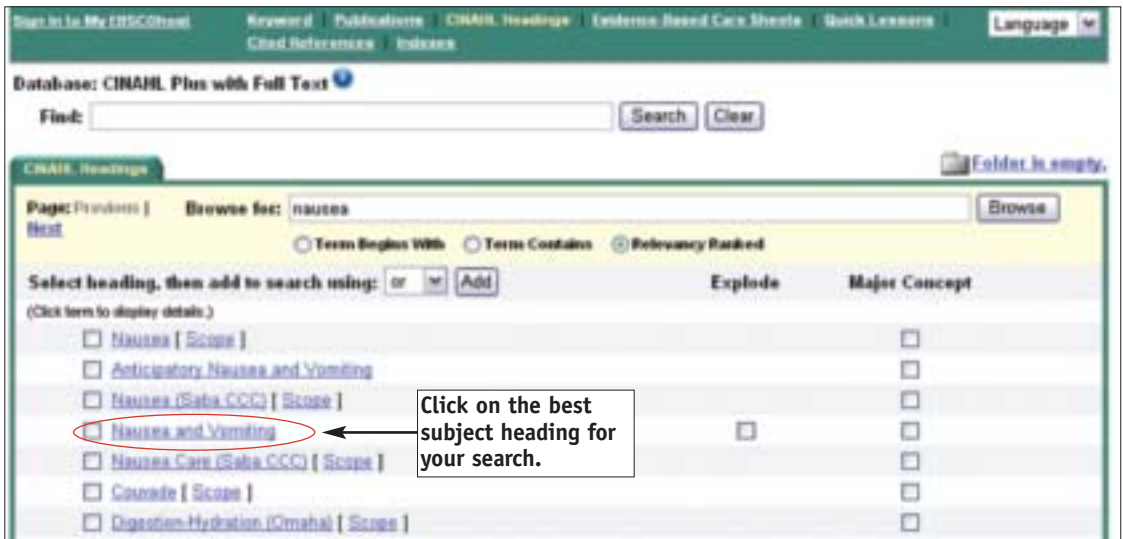


Figure 3 • Results of CINAHL headings search on *nausea*.

home screen. This opens a new search screen (Figure 2). In the “Browse for:” box, you should enter the first search term (eg, *nausea*). After entering the search term, click the “Browse” button.

The next screen provides a list of possible subject headings related to the browse term that was entered (Figure 3). It is here that you can select the best heading for your search. In this example, the best heading would be “Nausea and Vomiting.” Click on this subject heading.

TREE VIEW. Clicking on any subject heading will display a “Tree View,” listing more information about the heading (Figure 4). For example, “Anticipatory Nausea and Vomiting,” “Nausea,” and “Vomiting +” are listed under the “Nausea and Vomiting” heading. Typically, you will want to include these narrower terms in your search, because the person who indexes the articles will use the most specific heading available (eg, an article related to antiemetic therapy for patients undergoing chemo-

therapy would be categorized under “Anticipatory Nausea/ Vomiting” rather than “Nausea and Vomiting”).

EXPLODE. By clicking on the “Explode” box located under the “On Search:” section on the top right side of the screen (Figure 5), your search will include all of the narrower, more-specific headings under “Nausea and Vomiting.” By selecting “Explode,” you guarantee that your search will include articles about all types of nausea and vomiting.

SUBHEADINGS. Also listed on the right side of the screen is a selection of subheadings for your search term. An article listed in the major subject heading may be further assigned to one or more subheadings by the subject specialist. You can check any of these specific terms to narrow the results of your search. You do not need to use subheadings, however. If you do not choose a subheading, your results will include all of the articles indexed to the main subject heading (eg, “Nausea and Vomiting”). A subject specialist may not have

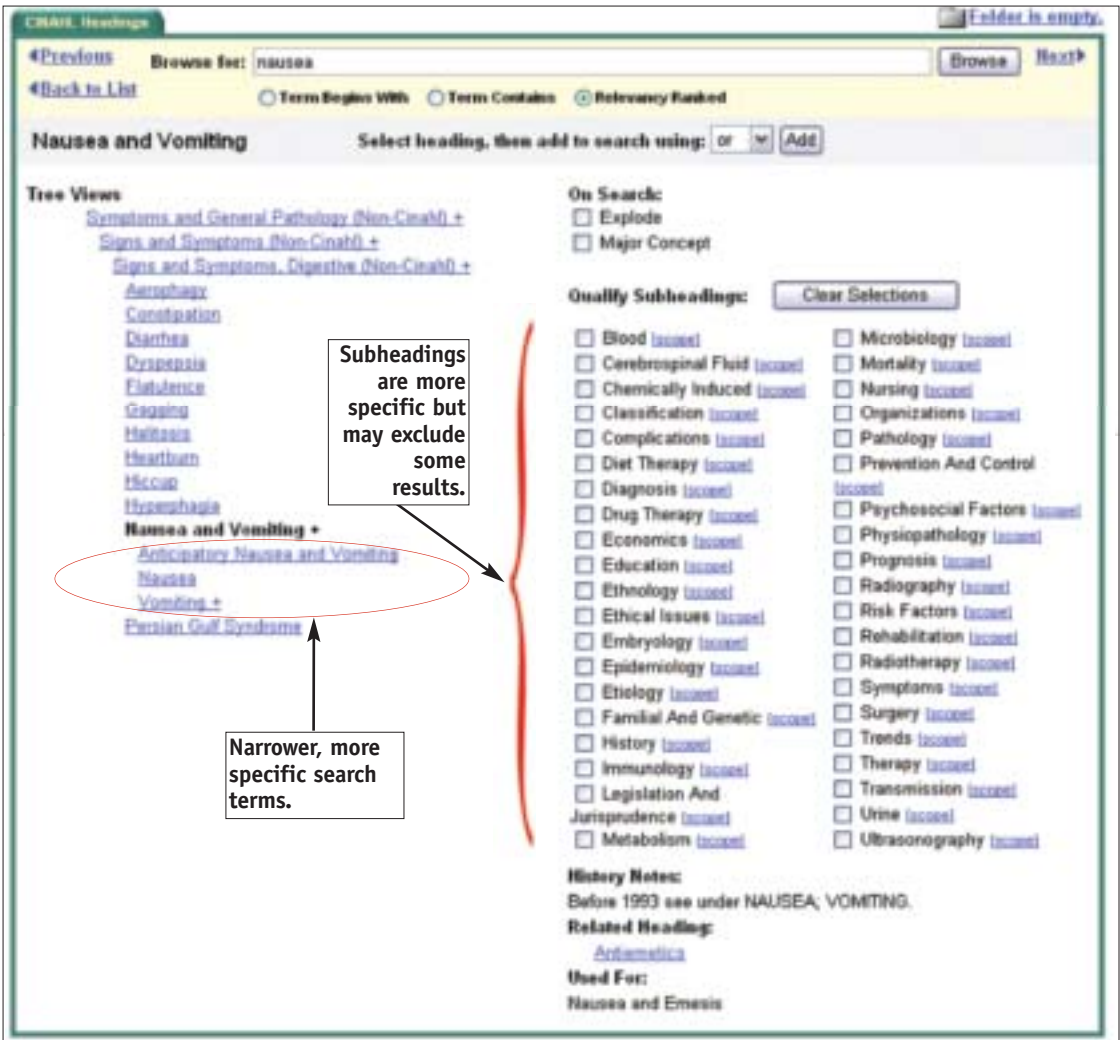


Figure 4 • Subject headings and subheadings related to *nausea and vomiting*.

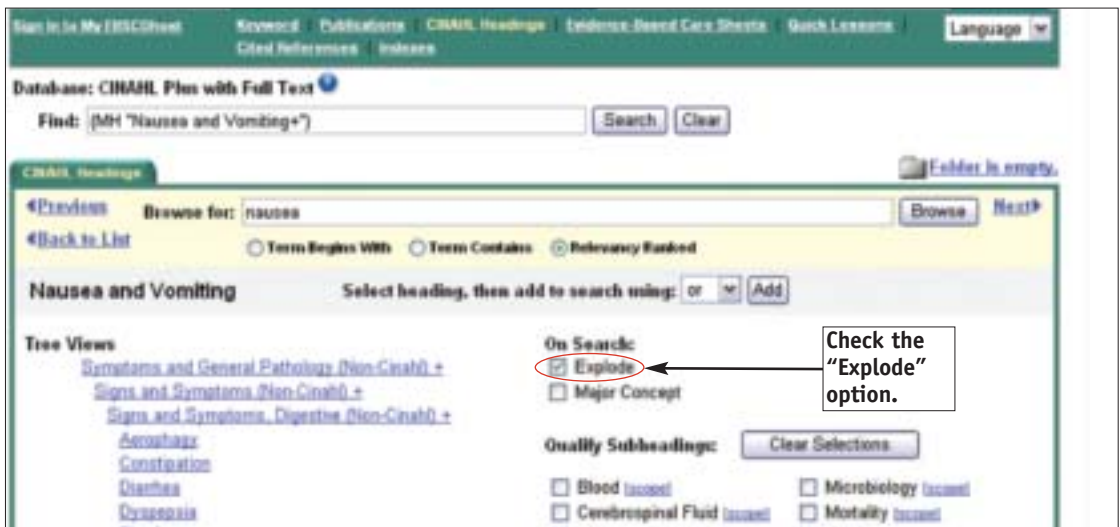


Figure 5 • Search *nausea and vomiting* articles using the Explode option.

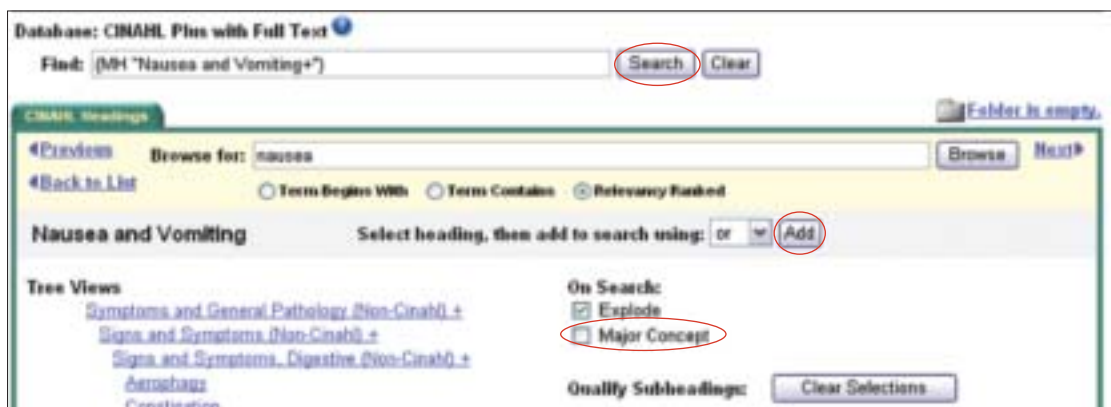


Figure 6 • Locations of the Major Concept check box and the Add and Search buttons.



Figure 7 • Sample search results for *nausea and vomiting*.

included subheadings when he or she assigned an article to the main subject heading. If you are unsure about whether to choose a subheading, it is recommended that you do not select any.

MAJOR CONCEPT. Just below the “Explode” check box is a second check box labeled “Major Concept” (Figure 6). When the subject specialist assigns headings to an article, he or she will mark a few subjects as the main points or major concepts of the article. If you check the “Major Concept” box, your search will be limited to only those articles that include your subject heading as a main point. This function can be very useful when you are searching a very broad topic, but it is important to remember that by clicking “Major Concept,” you will exclude some of the articles indexed with the subject heading you have chosen.

When you have finished deciding whether to explode, mark subheadings, and/or restrict your search to a major concept, click the “Add” button, and

then click “Search” to begin your search.

After CINAHL has completed the search, it will return you to the main search screen. From this screen, you can view the results of your search (Figure 7) or enter more search terms to combine at a later time. When you click on the “Search History/Alerts” tab you will see that your search is saved and listed here (Figure 8). For this example, we want to search for alternative or herbal medicines to treat nausea, so we will need to conduct more searches, keeping this first search stored for later use.

To search for a secondary topic, once again click on the CINAHL Headings link to enter the next search term. In this example, you would type in *herbal medicine* and click the browse button. Herbal medicine, however, is not one of the CINAHL subject terms. Instead of the tree view, the program will bring up a list of similar subject headings for you to choose from. The suggested subject choice from this search is “Medicine,

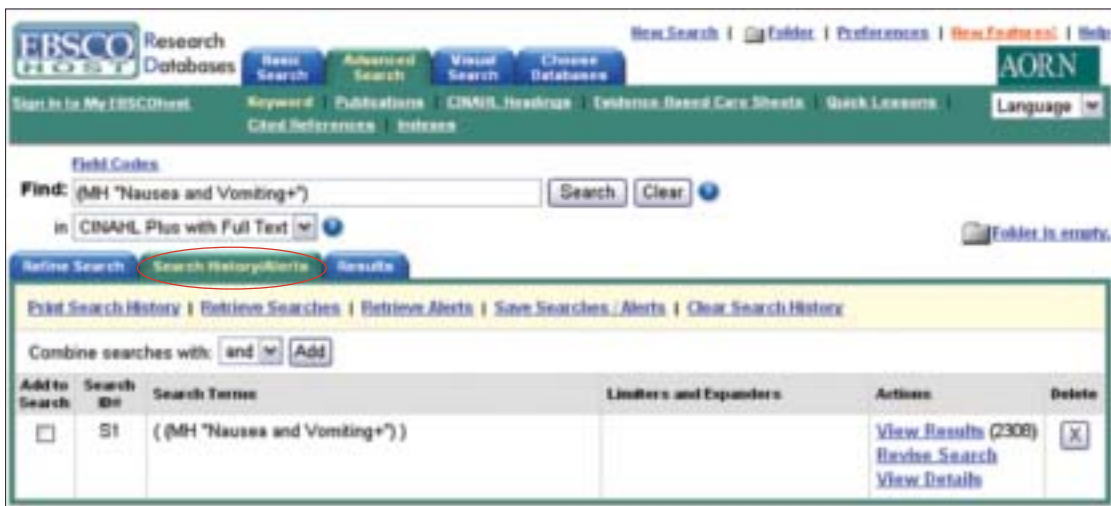


Figure 8 • Location of the Search History/Alerts tab.

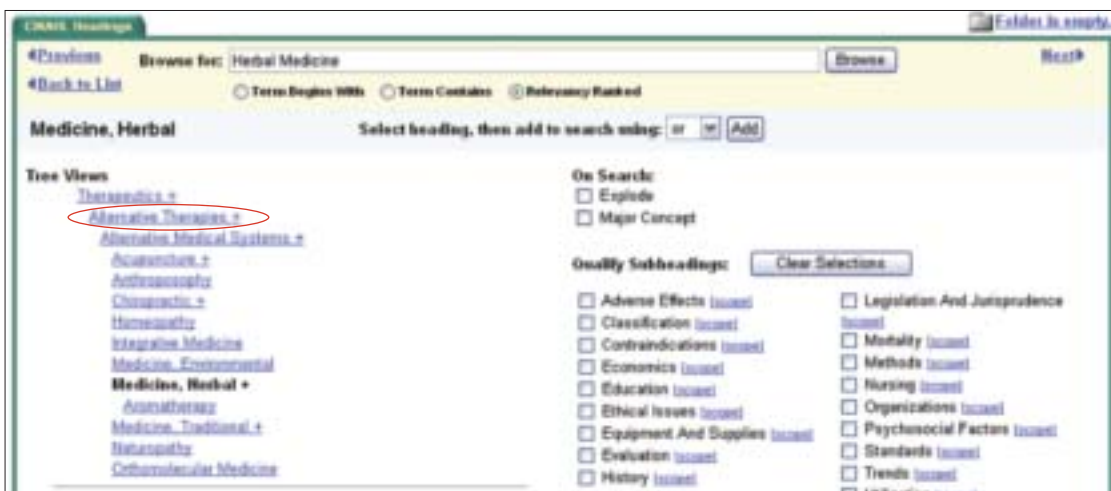


Figure 9 • Tree view of *Medicine, Herbal*.

Herbal.” By clicking on this heading you can examine the tree display for this subject (Figure 9). The expanded tree view actually may provide a better option for your search. Notice that “Alternative Therapies” is a more comprehensive heading for the purpose of this search. By choosing this heading, your search probably will return more articles of interest. Click on “Alternative Therapies” and you will be given the subheadings tree for this topic. If you want to include all of the therapies listed under “Alternative Therapies,” remember to click the “Explode” box, and then click “Add.” As before, click “Search” to conduct the search and return to the main screen.

It is a simple matter to add any addi-

tional subjects that are of interest to you by following these steps again. When all of the searches have been conducted, you will combine these searches together in an overall search.

COMBINING SEARCHES

To combine the searches together, click the “Search History/Alerts” tab from the main search screen. An important step at this point is to clear any text listed in the “Find:” box. To do this, click the “Clear” button to the right of the “Find:” box (Figure 10). Notice that all of your searches are listed in the table at the bottom of the screen. Select the searches to combine by clicking the “Add to Search” check boxes at the left. To combine searches,

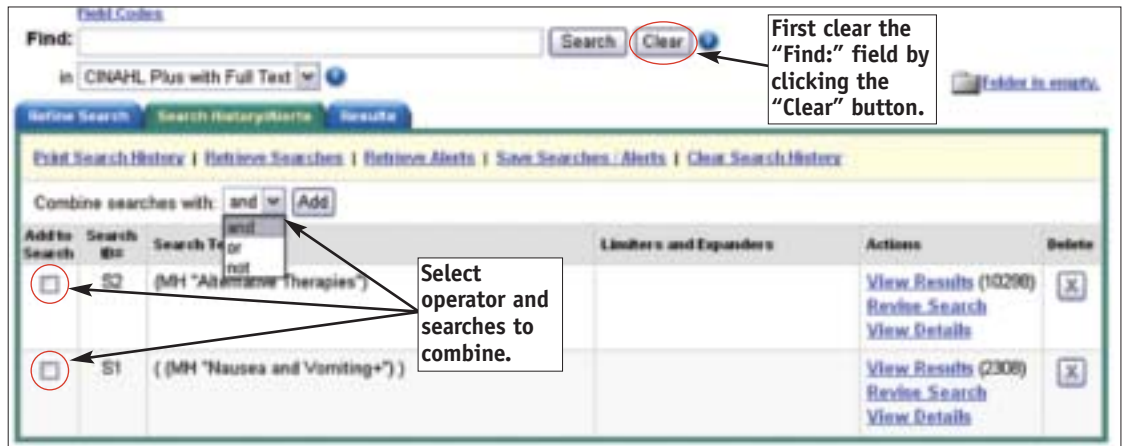


Figure 10 • Combining searches in Search History/Alerts.



Figure 11 • Combined and nested searches.

you must choose the desired Boolean operator (eg, and, or, not) from the "Add using:" or "Combine searches with:" drop-down box at the top of your search history display. After selecting the appropriate operator, click "Add." Your combined search terms now will appear in the "Find:" box. At this point you can click "Search" to run the search.

Sometimes you will have a search for which you wish to combine any of two or more concepts with another concept. For example, you may want to look for articles on the use of either lifestyle changes or aromatherapy to treat nausea and vomiting. In this case, you will again look for each concept (ie, *Nausea and Vomiting*, *Aromatherapy* and *Life Style Changes*) separately. When this has been completed, return to the main screen and select the "Search History/

Alerts" tab. Remember to click the "Clear" button before you combine your searches. Click on the check boxes next to individual searches for "Aromatherapy" and "Life Style Changes" and change the "Add using:" or "Combine searches with:" drop-down box to "or" because you want articles discussing either *Aromatherapy* or *Life Style Changes*. When this has been selected, click the "Add" button to copy these terms to the "Find:" box.

Next, click the box next to the "Nausea and Vomiting" search and change the "Add using:" or "Combine searches with:" drop-down box to "and" and click the "Add" button once again. Your "Find:" text now will read "(S3 or S2) and (S1)" (Figure 11). Notice that the search statement numbers for "Life Style Changes" and "Aromatherapy"

are nested together in parentheses. This instructs CINAHL to combine these two search terms first with “or” and then to combine the results of this search with “Nausea and Vomiting” using “and.” When the combination of search terms reflects your search criteria, run the search by clicking the “Search” button.

SEARCH RESULTS

The CINAHL database will return a list of articles that meet your search criteria. Before you begin looking at the list of articles, however, it may be helpful to filter your results to eliminate articles based using certain criteria. To do this, click on the “Refine Search” tab. This will bring you to a screen that lists some useful limits (Figure 12), including publication date, language, and age limits (eg, if you want to limit your results to articles that focus on children). You also are able to limit your search to research articles. Selecting this filtering term will eliminate from your results any editorials or news items. After selecting the limits appropriate to your search, click the “Search” button once again to apply them.

To see the results of your search, click on the “Results” tab. Here you will see a list of articles retrieved by CINAHL that match your search criteria. You can click on any title in this list of articles to see the abstract for that article. If the full text of the article is available, there will be a link to it both from the results screen and from the abstract view of the individual article. If CINAHL has access to the article in a portable document format (PDF), this will be indicated as well. An article with a PDF format will resemble a very good photocopy of the article, whereas an article with HTML format will appear more like a web page. Advantages to having an article with a PDF format is that it will include the original page numbers and any related graphics as they appeared in the original printed version of the journal.

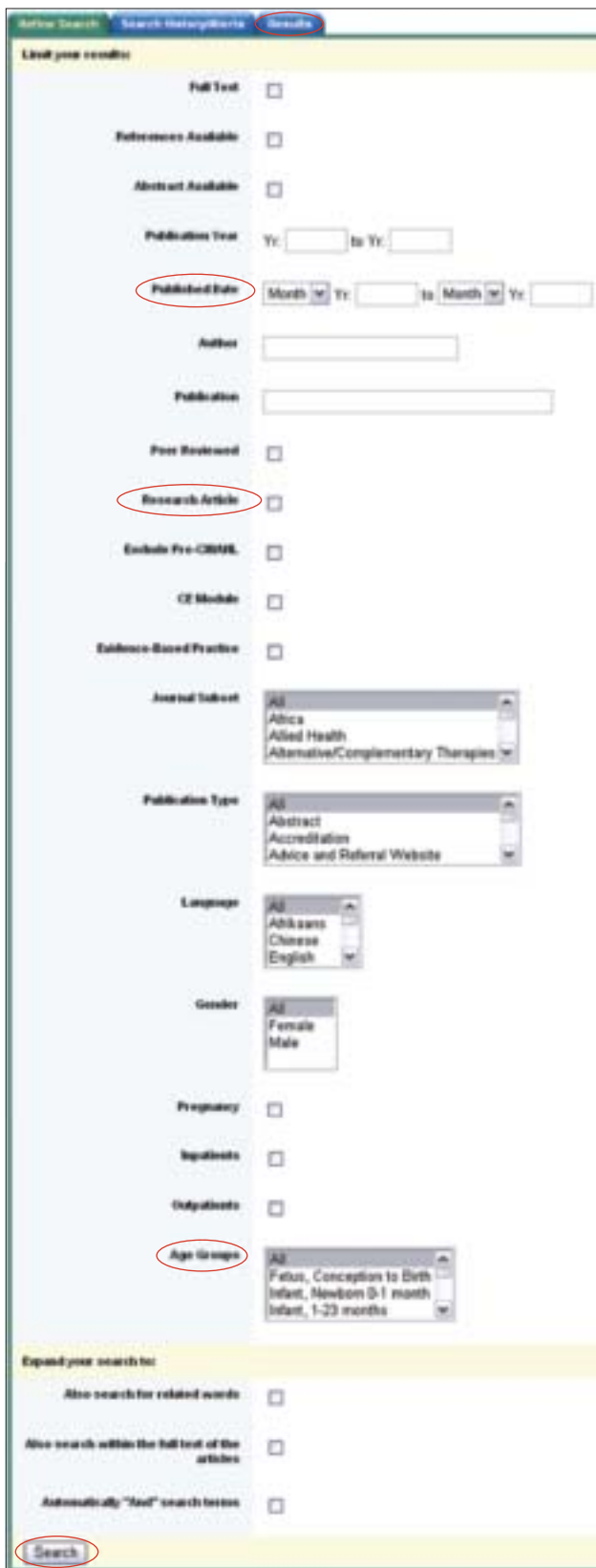


Figure 12 • Refining searches and obtaining search results.



<p>4. Evidence for practice. Ginger use for preventing postoperative nausea and vomiting. Allen G; <i>AORN Journal</i>, May2006; 83 (5): 1136-7. (journal article - abstract, commentary) CINAHL AN: 2009229351</p> <p> PDF Full Text</p>	 Add
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Figure 13 • Example of article cited in CINAHL search results.



The screenshot shows a web interface for saving search results. On the left, there is a 'Number of items to be saved: 1' and a 'Save' button. Below this, there are links for 'online help' and 'online citation help'. On the right, under 'Include when saving:', there is a checked box for 'HTML link(s) to article(s)'. Below that, there are three radio button options: 'Standard Field Format', 'Citation Format' (which is selected and circled in red), and 'Customized Field Format'. Under 'Citation Format', there is a dropdown menu currently showing 'AMA (American Medical Assoc.)'. There is also a 'Detailed Citation and Abstract' button next to the 'Standard Field Format' option.

Figure 14 • Save manager using built-in citation format.

SAVING SEARCH RESULTS

At this point you can print or save the abstract or text of the articles that are of interest to you. You also can select and save specific articles from the "Results" screen by clicking the "Add" icon located on the right side of the screen (Figure 13). This allows you to save specific references to use, print, or send by e-mail at a later time. By clicking on the "Add" icon, the reference will be automatically placed in a temporary session folder, which is represented by a folder icon at the top of the page. These files, however, only remain in this folder during your current session in CINAHL. Instructions on how to permanently save searches or individual references are discussed later.

When you add a reference or search, the "Folder is empty" icon at the top of the page will change to "Folder has items." Click on this icon to view the items you have added to your folder. From this list, you also can print, send by e-mail, or save your references. Notice that when you choose "Print," "E-mail," or "Save," you also are able to format the citation according to a specific format (ie, AMA, APA, Vancouver) by using the drop-down menu under "Citation Format" (Figure 14).

If you prefer to save your references to a bibliographic management software package (eg, RefWorks, EndNote, Reference Manager), CINAHL is set up to interface with these programs. This is ac-

complished by clicking on "Export."

- For EndNote or Reference Manager, select "Direct Export to EndNote, ProCite, or Reference Manager."
- For RefWorks, select "Direct Export to RefWorks."
- If the computer you are working on does not have the bibliographic software installed but you wish to save the reference and import it to one of these programs at a later time, select either "Citations in a format that can be uploaded to bibliographic management software" or "Generic bibliographic management software." This will allow you to save or e-mail your references in a text file for later import to one of these programs.

SETTING UP AN EBSCO ACCOUNT

You can permanently save your searches or references to use at a later time by clicking the "Sign In to My EBSCOhost" link on the main screen (Figure 15). The first time you use "My EBSCOhost," you will need to select the "I am a New User" link and set up a free account. After this is done, you can return to your saved searches or to your saved references by accessing CINAHL and entering your EBSCO user name and password.

To permanently save a search, you must log in to your EBSCO account. Click on the "Advanced Search" tab and then the "Search History/Alerts"

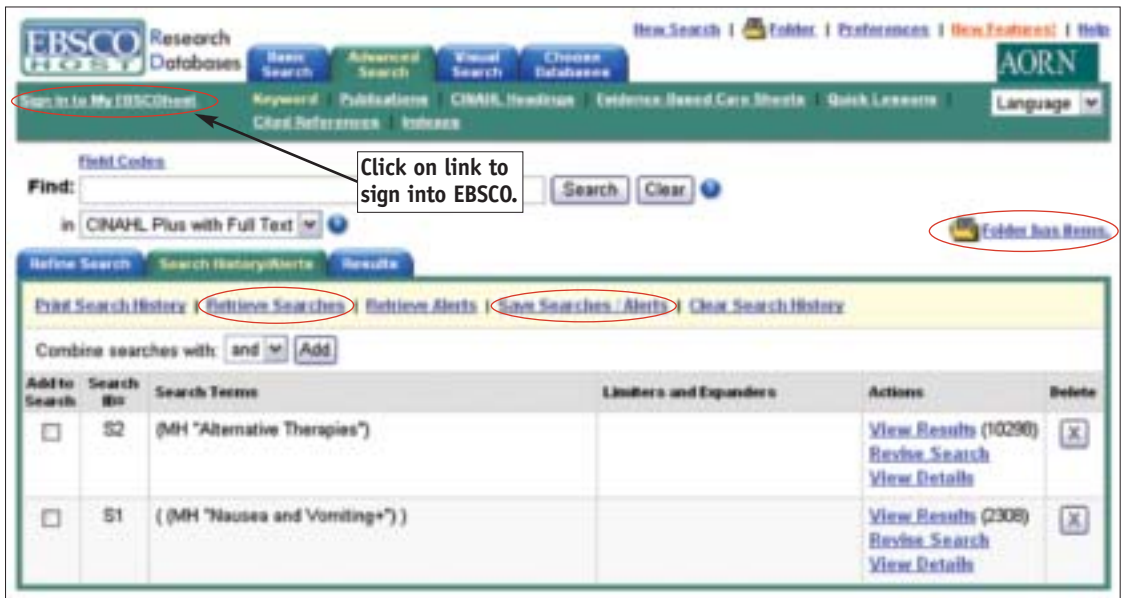


Figure 15 • EBSCO sign-in, retrieving searches, and saving searches and alerts.

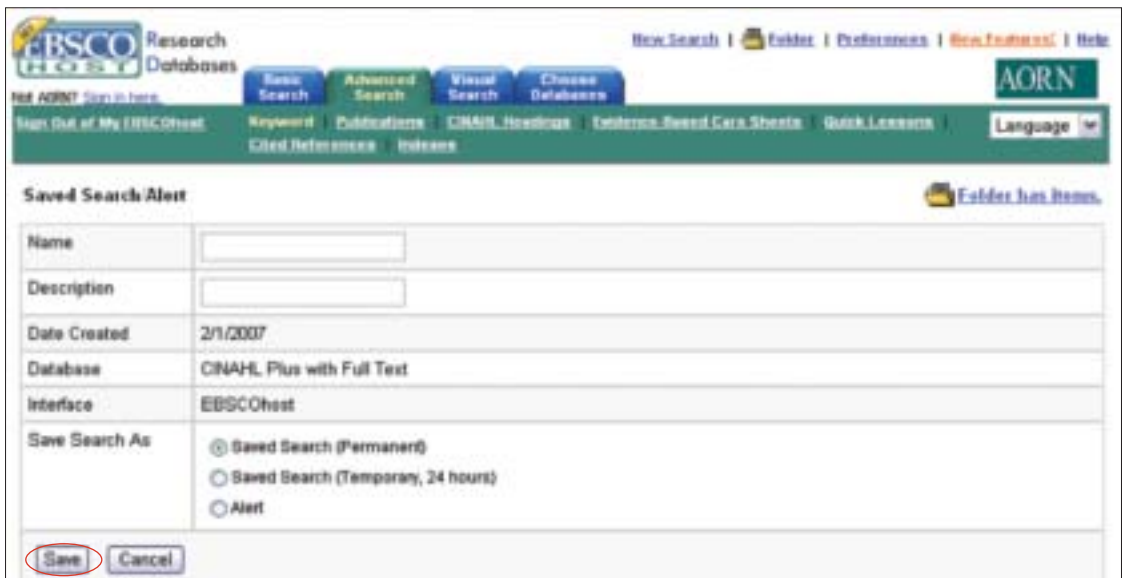


Figure 16 • Saving searches and alerts in the EBSCOhost account.

tab to see your temporarily saved searches. Here you can choose to save searches permanently; temporarily (ie, for 24 hours); or as an alert (Figure 16). After choosing a title for the search and the appropriate save option, click on the “Save” button to save your search. This programming feature allows you to retrieve your saved search in the future by once again logging into your EBSCO account, clicking the “Search History/Alerts” tab, and clicking on

the “Retrieve Searches” link.

If you choose to save your search as an alert, you will be asked to specify how often you would like the alert to be run and to provide one or more e-mail addresses to which the alert results should be sent. After you have set up an alert, any time that a new article is added to the CINAHL database that matches your alert search, the reference to the article automatically will be sent to you by e-mail.

To permanently save a reference, you also must log in to your EBSCO account. After you log in, all of the references that you have saved in your temporary session folder or subsequently save while logged in will automatically transfer to your permanent EBSCO "Result List Items." These will be saved for you until you remove them from the saved references.

QUESTIONS ABOUT CINAHL

As with any skill, searching CINAHL takes practice and will become easier with experience. Your institution's librarian most likely will be the best resource to assist you in your search or to answer any questions you have related to using CINAHL. If your institution does not have access to CINAHL or does not have a librarian to assist you in your search, consider checking with local colleges or nursing schools to see if they subscribe to CINAHL. You may be able to access CINAHL from one of these libraries, and their librarians will be able to assist you further. ❖

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Deaths of American Women from Heart Disease Declines

The number of women dying from heart disease in the United States is declining, according to a February 1, 2007, news release from the National Heart, Lung, and Blood Institute. Data show that the number of American women who die from heart disease decreased from one in three women to one in four women (ie, a decrease of nearly 17,000 deaths) from 2003 to 2004. Researchers also found that the number of deaths of US women from heart disease has declined each year from 2000 to 2004. Also in 2004, the life expectancy at birth for women reached an all-time high of 80.4 years.

Despite increased awareness that heart disease is the leading killer of women (ie, from 34% awareness in 2000 to 55% awareness in 2005), many women still do not take heart disease seriously or personally. Eighty percent of women aged 40 to 60 years have one or more of the controllable risk fac-

tors that can dramatically increase their risk of developing the disease, including

- high blood pressure,
- high blood cholesterol,
- diabetes,
- smoking,
- being overweight or obese, and
- being physically inactive.

A woman's chance of developing heart disease doubles if she has one of these risk factors; having three or more risk factors increases a woman's risk tenfold.

Heart Disease Deaths in American Women Decline [news release]. Bethesda, Md: National Heart, Lung, and Blood Institute; February 1, 2007. Available at: <http://www.nih.gov/news/pr/feb2007/nhlbi-01.htm>. Accessed March 1, 2007.

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