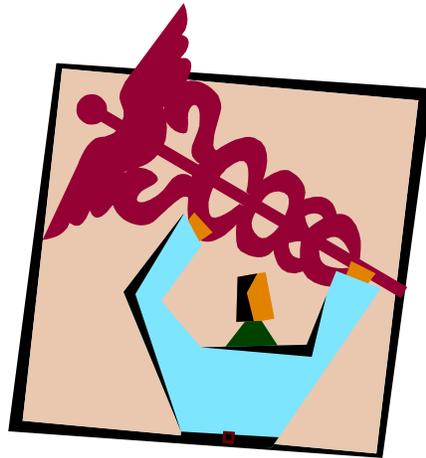


CONSUMER HEALTH INFORMATION FOR CALIFORNIA



MODULE I: HEALTH REFERENCE

OVERVIEW

The purpose of Module I is to give the participant an overview of the skills used in providing basic health reference. This module is the first in a series of three modules aimed at providing consumer health information in a public library setting. Module I will cover strategies for conducting a basic health reference interview; handling consumer health information questions; legal/liability aspects of providing this type of information; types of resources available; and an introduction to medical terminology.

Goals:

Upon completion of this 3-hour workshop attendees will:

- be familiar with reference interviewing techniques for consumer health information
- understand key concepts needed to access and use health information resources
- understand and interpret medical terminology
- become familiar with the types of health reference resources and their access including the use of Medical Subject Headings (MeSH)

Module Development

This Module Developed by:

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<http://www.llu.edu/llu/library>

TIME:

3 hours.

AUDIENCE:

- Any library staff with no formal library training.
- Any staff that would benefit by a review of basic sources and techniques used in medical reference.
- Volunteers.

AUDIENCE SIZE:

The ideal size is between 6 and 12

ITEMS REQUIRED:

- Workshop packet for each participant. (which includes the *Core Consumer Health Bibliography for Public Libraries*).
- Markers for participant name plates. Washable, water based markers suggested. Avoid yellow, which does not show up well across the room.
- A ratio of no less than 1 book to 3 participants, for each book used in this module.
- Sign-in sheet/roster.

ORGANIZATION OF THE MANUAL:

The Manual presents the basic outline of the workshop. In some sections text of the lectures is included, but you do not need to follow the text as given as long as the same points are covered.

Pages from the participant's manual are included where they fall in the presentation.

This manual contains all three modules. Individual modules may be separated into separate notebooks, as needed by the instructor so they are easier to carry.

PREPARATION:

The manual contains discussion exercises and answer keys for each exercise. You should work through each set of questions before the workshop to familiarize yourself with the exercises.

TIPS ON TEACHING THE CONSUMER HEALTH INFORMATION FOR CALIFORNIA WORKSHOP:

- Participants will rarely have the same level of experience and familiarity with the consumer health resources covered in this module. Emphasize that some of the techniques presented will be new to some and not to others, but that there will be some new material for everyone.
- Ask participants in advance to bring copies of the reference books with them to the workshop.
- Make sure to work all the exercises yourself before you teach the module for the first time, and make sure you are using the most recent edition of the reference books. If the room where you will be teaching doesn't have a chalkboard or white board, bring a flip chart that you can write on.

ADDITIONAL NOTES:

CLASS SCHEDULE

REGISTRATION
INTRODUCTION
Basic Health Reference Interview <ul style="list-style-type: none"><input type="checkbox"/> Types of Health Reference Questions<input type="checkbox"/> Health Reference Interviews<input type="checkbox"/> Legal and Liability Issues in Dispensing Health Related Information<input type="checkbox"/> Strategies for Handling Consumer Health Information Questions
<i>BREAK (5 min.)</i>
Types of Health Resources <ul style="list-style-type: none"><input type="checkbox"/> Journals<input type="checkbox"/> Books<input type="checkbox"/> Association Publications
<i>BREAK (5 min.)</i>
National Library of Medicine <ul style="list-style-type: none"><input type="checkbox"/> Background history<input type="checkbox"/> Bibliographic Resources<input type="checkbox"/> Medline<input type="checkbox"/> MeSH<input type="checkbox"/> National Libraries of Medicine; PSRML
<i>BREAK (5 min.)</i>
Basic Medical Terminology <ul style="list-style-type: none"><input type="checkbox"/> Word Structure and Definitions<input type="checkbox"/> Discussion

INTRODUCTION & WELCOME

Introduce yourself.

- Name cards

Ask the group to take the name cards out of their packets.

Participants should fold the card in half. On the side facing the teacher, they should write the name they would like to be called during the workshop.

TIP: For small groups or groups where participants don't know each other, ask the group to introduce themselves aloud including the name of the library they are from.

- Local arrangements
 - Parking*
 - Rest rooms*
 - Refreshments*
 - Lunch*
 - Background on the grant project*
 - Other announcements as needed*

TIP: If your style permits, invite people to move about as needed during the day to get coffee, etc.

- Roster & workshop packet

Ask the class if everyone has a packet and has signed the ROSTER.

Remind participants to print clearly.

- Overview of the day & goals

This module is the first in a series of three modules aimed at providing consumer health information in a public library setting. The purpose of Module I is to give the participant an overview of the skills used in providing basic health reference. Module I is an introduction to health science information for those who have had no experience in this setting. Module I will cover strategies for conducting a basic health reference interview, handling consumer health information questions, legal/liability aspects of providing this type of information, types of resources available for reference, and an introduction to medical terminology. The purpose of this module is not to make you a medical librarian, but to introduce you to the tools and skills you will use in the area of health information. Module II will then focus on hands-on exercises in using the reference sources.

Refer to schedule included in participant packets.

The class is divided into four sections with 5-minute breaks between each section, as you can see from the class schedule in your packets. For the practice exercises we will work groups, of about three, and then review the answers together.

- Please feel free to ask questions as we go along.

Does anyone have any questions so far? (*wait 10 seconds before continuing*)

Let's get started!

Basic Health Reference Interview

As library personnel you may already be familiar with the basic concepts of conducting a reference interview to assess the type of information the library user seeks. In the initial exchange you are determining the library user's information needs and suggesting an appropriate resource. In some cases, the person requesting the information may not know exactly what they are looking for, may ask for something all together different than what they really want, or may not be able to articulate their information need. This is illustrated in this flowchart of the levels of information needs.

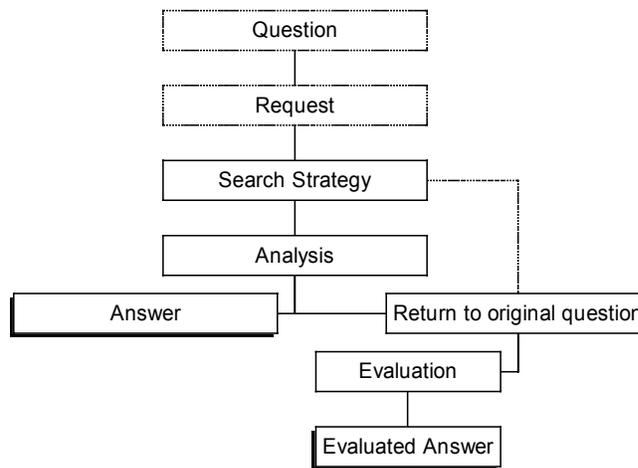
Levels of Information Need

- 1) Actual (unexpressed)
- 2) Conscious
- 3) Verbalized
- 4) Compromised

Taylor, "Question Negotiation and Information Seeking in Libraries." *College and Research Libraries*, 29:178-94, 1968.)

For Example: You may want to draw the following flowchart to illustrate the steps a patron may go through in reaching an answer.

Information Needs



When the question's scope is in the area of health, answering the question is further complicated because additional issues need to be considered.

Introduce Group Exercise

Ask the class to think of some health related questions that they may have encountered. It doesn't matter whether it was a personal question or from on the job. It may be a question or topic they may even have come across recently in the media. *You will ask for volunteers to share some examples with the class.*

To get them thinking give some examples. Keep it short—about 15 seconds.

Example:

I was watching a recent morning show and they mentioned coping with hot flashes. How can I find out more about that segment? I don't remember what show it was in but it was on in the morning.

Give the group about 2 minutes to think of some examples.

Discussion

Ask for volunteers to share some of the types of questions they may have come across.

To illustrate the variety of health related questions, write these examples on the chalkboard so everyone can see. You may want to group them into types of questions. Use no more than 10 minutes for this exercise.

Summarize exercise

As you can see there is a large variation in the types of health related questions that can be presented. You may be able to group them into broad categories, such as diseases/conditions, cancers, age related, etc.

POINTS TO MAKE:

- Many types of health related questions exist.
- Topics are endless and encompass a variety of reasons and applications. Use specific examples from the sharing if you can.

If participants are having trouble thinking of some examples, here are some of the types of typical questions received. You may want to bring your own examples of health related questions encountered at the reference desk.

Sample Questions:

Diseases/Conditions

Parkinson's Disease

"Do you have books on Parkinson's Disease? Like about someone who has it--not a medical book."

Rocky Mountain Spotted Fever

"What is Rocky Mountain Spotted Fever, and how do you get it?"

Inguinal Hernia

"I'm doing a paper on different types of hernias, and I would like more information."

Irritable Bowel Syndrome (IBS)

"My daughter has just been diagnosed with IBS. What is it?"

What is Prader-Willi syndrome?

What is Menier's Disease?

What is hypertension?

I was just diagnosed with

Cancers

Breast Cancer

“I am looking for current research on treatments for cancer, specifically breast cancer, including the information about living with it, like books on diets, etc.”

Prostate Cancer

“I can’t convince my husband to get regular physicals. Do you have any information on prostate cancer that I can give him to convince him that he needs to get checked?”

Alternative Medicine

“I’ve heard using ginseng is good for you. Do you have any information on what it is?”

Health Reference Interview

Main Points:

- **Variety** - There is a wide variety in the types of health reference questions.
- **Privacy** - Some of these questions may be embarrassing to ask. In a busy reference desk area, privacy may be a high commodity, however, care should be taken to respect the library user's need.
Take your cues from the user; some may be quite comfortable asking their question, others may not be. They may want to write the question down for you. Also you may want to walk over to an area with less traffic, such as a table near the reference area.
- **Emotional** - Be aware of the patron's emotional state. Due to the emotions and stress levels of users and the complexity of the information sources, providing reference service for health related questions may require more time. Stress empathy and listening skills. Be sensitive to social and cultural factors such as the patron's age or culture. For example, an older male patron may not feel comfortable asking a young female reference librarian a question regarding prostate cancer. Also a patron may find it inappropriate approaching a stranger on personal matters, so the question they ask may not be exactly what they are asking for; be aware of the stated and the unstated question.
- **Bias & Cultural Context** - Be aware of the cultural context of the time in which the information is being produced. Factors such as the amount of research available, media focus, and funding available at the time may affect the health information retrieved. For example, a while back there was more information on breast cancer and less on prostate cancer; now the disparity in the amount of information available is not as wide. In the late 60's and 70's the media focus was on herpes, in contrast to the 80's and 90's, when the issue of AIDS and HIV was more prevalent in the media.
- What **stage** of research is the user at?
- What does the user know already? Determine the **level of information** the user needs and the appropriate resource.

- ***Finding the right tool for the job.*** Basic descriptions of diseases are best answered by books NOT by MEDLINE search.
- ***The purpose of the information.*** - Discretely ask what the purpose of the information is so you can meet the user's information needs. "Is this for a class or for personal knowledge?" If it is for a class, you may want to know the length of the paper? The type of information they will need will be different for a one-page overview on a disease, versus a dissertation on the topic; or a high school paper in contrast to a professional paper. The topic may be for an English class rather than a biology class, so the focus will be different.
- Be aware of differences in ***literacy levels*** among users, both in reading and computer skills.

Mock Reference Interview

Ask the group to pair up with the person to the right of them. One of them will be the library employee and the other will be the library user. For groups of three, additional scenarios are included for three people.

INSTRUCTIONS:

In this mock reference interview, one of you will be the library user, and the other will be the library employee.

You may wish to hand out a reference scenario to the designated “**library user**” in each group or have the “**library user**” from each group pick a scenario out of a hat (or other container).

LIBRARY USER:

Have the “**library user**” read the scenario to themselves first. Instruct them **NOT TO SHOW THE SCENARIO TO THE OTHERS IN THE GROUP**. The library user may reveal as little or as much information as they want regarding their character.

LIBRARY EMPLOYEE:

As the “library employee,” you will be conducting the reference interview.

DISCUSSION:

- As the Library Employee, what are some questions you may want to ask the library patron?
- Are there any special considerations you may want to have as you assist the library user?
- List 3 things you may want to know in order to assist the library user?

Recap the exercise and go over some of the main points illustrated in the scenarios. Suggested responses are included.

MOCK REFERENCE INTERVIEW SCENARIOS

Clip out the following scenarios and hand out to each group.

✂-----

Scene:

You are staffing the reference desk one afternoon when a man approaches. He appears to be about 35 years old, with a bit of a receding hairline but fairly fit for his age. Appearing a bit embarrassed, he requests information on the cancer that Lance Armstrong had. Meanwhile a line of patrons has continued to form. They can easily hear the conversation between you, and as you assist the patron he tells you that he has just been diagnosed with testicular cancer.

✂-----

Scene:

As the patron approaches the reference desk, s/he is coughing and hacking quite loudly.

The patron then asks, “Excuse me. Do you have any information on bird lovers lung? My doctor told me to go to the library for information.” (Actually it is “bird fancier’s lung” but you could only remember that it had something to do with birds so you give the incorrect name.)

✂-----

Scene:

On a very busy morning a student from a local health professions program rushes in.

S/he asks, “Do you have medical databases? I think one is called MEDLINE? I have to do a one page report on hernias.” (You figure that if it is on the computer it will answer your question.)

✂-----

Scene:

Parent [you do all the talking.] with seventh grader (probably his or her child) [the child does not speak, but lets the parent do all the talking].

“Do you have medical books? I want some pictures we can look at. Also do you have any books with surgeries?” asks the parent.

Your child is doing a report on heart transplants for a science fair and what s/he really needs is a picture of a heart to use on the poster board. S/he also needs a description of medical advances, such as heart transplants, and a historical timeline of medical advances.

✂-----

Scene:

“Do you have books on cancer? I want everything about cancer.”

As you get the student started on some resources, s/he looks over to the computers and asks, “If I go on the computer can I just copy the summary to write my paper?”

✂-----

Scene:

Older gentleman and his wife would like to know more about diabetes. Their doctor has mentioned that there is information available on the Internet from the American Diabetes Association, including recipes that can be printed. Their sight is not very good, and they haven't really used a computer other than for e-mailing their grandchildren, but they are willing to try.

MOCK REFERENCE INTERVIEW SCENARIOS SUGGESTIONS/ANSWER KEY

Scene:

You are staffing the reference desk one afternoon when a man approaches. He appears to be about 35 years old, with a bit of a receding hairline but fairly fit for his age. Appearing a bit embarrassed he requests information on the cancer that Lance Armstrong had. Meanwhile a line of patrons has continued to form. They can easily hear the conversation between you, and as you proceed to assist the patron, he tells you that he has just been diagnosed with testicular cancer.

Questions to consider

- What is the stated question?
- What type of cancer information would the patron like?
- How much information on the topic does the patron have so far?
- Does the patron know what type of cancer it is?
- Would the patron like to go to a more private area?

Main Points

- Stated/unstated questions
- Privacy, personal matters, confidentiality
- Emotions—be aware of the emotional state of the patron and emotional questions

Scene:

You are coughing as you approach the reference desk. You have just been diagnosed with “Bird lovers lung”(actually “bird fancier’s lung” but you give the incorrect name) and your doctor told you to go to the library for information.

- Be non-judgmental, don't assume too much, such as are the Patron is contagious, etc....Treat each library user with respect and maintain confidentiality.
- Emotional considerations – The name of the disease the patron gives may not be the complete or actual name; the patron may have had to deal with an overwhelming amount of information from the doctor, including misspellings, etc. The disease is psittacosis/bird fancier's lung.

Scene:

“Do you have medical databases? I think one is MEDLINE.” You are a medical student doing a one-page report. And your actual question is “What is a ‘hernia’?”

- Select the right tool for the job—a MEDLINE search may not be required when a book on the topic can easily and concisely answer the question.
- How long is the report and what is its purpose?

Scene:

Parent with seventh grader (probably his or her child):

“Do you have medical books? I want some pictures we can look at. Also do you have any books with surgeries?” [You do all the talking.]

Other library user is the child [does not speak, lets parent do all the talking].

Your child is doing a report on heart transplants for a science fair and what s/he really needs is a picture of a heart to use on the poster board. The child also needs a description of medical advances, such as heart transplants, and a historical timeline of medical advances.

- The parent may dominate the conversation, but try to draw out the actual nature of the question from the student.
- Find out the requirements of the project.
- A student may not be comfortable talking to a “big adult.”

Scene:

“ I want everything about cancer.” A community college student is doing a three-page paper report for an English 101 class, and would also like to use the same paper for a speech class. “Can I use the abstracts to write my paper?”

- Student may not have a lot of experience writing papers or know what is appropriate.
- Literacy: even at the college level, medical information can be difficult to understand.

Scene:

An older older gentleman and his wife would like to know more about diabetes. Their doctor has mentioned that there is information available on the Internet from the American Diabetes Association, including recipes that can be printed. Their sight is not very good, and they haven't really used a computer other than for e-mailing their grandchildren back east, but they are willing to try.

- Computer literacy: Some users may be quite open to new technology but they may not be very comfortable with it, so you may need to assist them with web addresses and printing.
- Computer screens can be difficult to see and even more so if you have problems with your vision. You may want to tactfully ask this couple if they would like you to adjust the font on the computer screen.

To adjust the font in Netscape: Go to View, then to Increase Font.

Legal and Liability Issues in Dispensing Health Information

Americans With Disabilities Act (ADA)

Sometimes it may be necessary to assist a library user, who because of their disability may not be able to get the information they seek in the usual manner. If they are accessing materials on the Internet, you may try adjusting the font on the web site for easier viewing. Other times they may need information read over the phone either because they are visually impaired, or unable to physically come to the library.

As with any medical reference interaction, remember that you must be especially careful not to give a diagnosis, to refrain from offering personal opinions, or from interpreting the information. You may however, depending on your own institution's policy, read information over the phone.

Reading information over the phone can be an especially sensitive area because many times the patron may want you to interpret the information or give them a direct answer.

Some things to remember:

- Scan the information before reading it.
- “Mis-hearing” may happen, so supply the spelling and verify it.
- When reading anything over the phone, give the reference to the source of the information.
- Some questions and information may be too complex to be answered over the phone. In this instance you may risk giving incomplete and misinterpreted information so instead, invite the patron to come to the library to read the information in its entirety.

Practicing without a license

As in law information, health information is an area where careful attention should be paid to the way the information is delivered. It is very easy, for the

sake of helping the user, to be confronted with situations where it would not be appropriate to give an opinion about the information being delivered.

Practicing without a license is defined as: “*practicing activities as defined under state law in the medical practice act without physician supervision, direction, or control.*” (Mosby’s Medical, Nursing, & Allied Health Dictionary, 4th Edition.)

For example how would you respond to the following scenarios:

A Library user reading a description for an illness sees the word “dyspepsia” and asks you what is.

- Evaluation of the information. If users have a little trouble understanding what they are reading, hand them a dictionary, and encourage them to discuss items they have read with their physician for further clarification.
- Help them locate information on the topic.
- And remember, do not rely on your own memory, even if you have answered the question a million times before! In health matters, the outcome could be affected by your by your well-meaning but incorrect answer to a question.

A library user may come in describing symptoms. Symptoms may be similar for different conditions such as Chronic Fatigue Syndrome and fibromyalgia.

- IT IS NOT APPROPRIATE FOR YOU TO INTERPRET HEALTH INFORMATION OR TO MAKE A DIAGNOSIS!!!

Patient Bill of Rights

Written by the American Hospital Association, it focused attention on the patient’s right to obtain information on diagnosis, treatment, and prognosis in terms that they could understand. How does this affect us as health information providers and as consumers? In recent years, there has been a focus on preventive medicine, and for users there is increased interest in consumer health information. Patients want to know more about their health. In the next section we will look at some of the ways that the National Library of Medicine has begun to meet that information need.

Strategies For Handling Consumer Health Information Questions

Practicing without a license

Is defined as: “*practicing activities as defined under state law in the medical practice act without physician supervision, direction, or control.*” (Mosby’s *Medical, Nursing, & Allied Health Dictionary, 4th Edition.*)

Tips:

- Do not rely on your own memory, even if you have answered the question a million times before!
- Users may have a little trouble understanding what they are reading. Hand them a dictionary, and encourage them to discuss the items they have read with their physician for further clarification.
- It is not appropriate for you to interpret health information! Refrain from adding your own commentary to the discussion.
- Inevitably the latest "disease of the week" becomes a hot topic and receives increased attention, generating many questions from the public and the media alike. As a starting point, you may want to refer to the web sites of news programs, especially when users may not remember details that could help you answer their questions.

Example:

Patron: “ *I recently saw a show—I think it was 20/20—on meningitis on college campuses.* ”

ABC <<http://www.abcnews.go.com/>>

Other useful sites:

TODAY Show <<http://www.msnbc.com/news/>>

CBS This Morning <<http://www.cbs.com/>>

National Public Radio <<http://npr.org>>

- Maintain confidentiality & privacy—no personal stories/opinions

- Non-judgmental /Don't ask, don't assume

- If the user asks for the meaning of a word, give dictionary definitions only, especially over the phone. In answering definition questions, make sure you give the references and the dates of your sources.

- Be aware that old materials can be dangerous or incomplete. Develop a replacement schedule in which material is regularly reviewed and updated. Refer to lists such as the one included with this workshop packet or the Brandon/Hill list published in the Bulletin of the Medical Library Association.

- Develop a referral network and check it for cracks to avoid "buck passing." We will cover this in more detail in the section on the National Library of Medicine and how it is helpful in obtaining health information.

- Spelling variations and physicians comments.

English and British spellings.

For Example: pediatric/paediatric

Spelling errors are quite common. Encourage patients to have the doctor write the name of the disease, drug, etc.

Physician's comments may have been misspelled, or they may have given a lot of information to write down during the visit, etc.

- Naming variations/synonyms

Diseases and conditions may have more than one name attached to them; users may be more familiar with the common name of a disease, rather than the complete medical term.

For Example: cavity/dental caries

stroke/cerebral vascular hemorrhage

- Strongly encourage the user to take the information they have found to their personal physician for further explanation and discussion. **IT IS NOT APPROPRIATE FOR YOU TO INTERPRET THE INFORMATION.**

Types of Health Resources

Different types of resources are consulted for health information depending on the amount of information needed, the type of information, and its intended use. Biomedical research information is communicated through the journal literature and eventually this information is used to write textbooks.

Health information ranges from literature written for the health professional to information written for the consumer. That is why having an understanding of the type of information available is important to “finding the right tool for the job.”

Journals

Journals are helpful when you need:

- Current information
- Specific information on a topic

Some of the regularly cited titles in the media include the *New England Journal of Medicine*, and *Lancet*.

Textbooks

Textbooks are helpful when you need:

- General background information
- Condensed information
- All facets of a subject
- Summary & history of a topic
- Descriptions of diseases, the prognosis, its history
- List of most current treatments
- Standard knowledge on a subject

TIP: Think of the type of book that may have a CHAPTER on a topic.

Scan the table of contents, the preface, and index of the book.

Association Publications

Association publications can be a good source for information. The American Cancer Society's, "*How to Live With*" series is a good example. The American Heart Association, the American Hospital Association, and the American Diabetes Association also produce health information of interest to consumers and have web sites containing frequently asked questions, resources, and additional information. MEDLINE*plus* includes links to the web sites of many of these organizations.

Health Letters such as the Mayo Clinic and the Harvard Health Letter also contain information of interest to the consumer in easy-to-understand language.

National Library of Medicine (NLM)

Background

- MEDlars = MEDical Literature Analysis and Retrieval System

Precursor to what is now known as MEDLINE. In the past, users would request literature searches from NLM; NLM would then mail the results back to the user via the requesting library.

- Medline (MEDlars onLINE)

Explain MESH.

Medical Subject Headings=MESH: the subject headings and subheadings used for the indexing and searching of articles contained in MEDLINE.

The MEDLINE database uses a controlled vocabulary, Medical Subject Headings (MESH), to standardize indexing terms. Using the MESH thesaurus allows you to obtain the highest level of precision in your searching. This enables you to search for synonyms, related terms, and preferred terms by consulting the vocabulary in the thesaurus. MESH terms are arranged hierarchically so that you can select more general (broader) and more specific (narrower) terms.

NLM Consumer Focus

PubMed was launched in July 1997, as a way to access MEDLINE for FREE over the Internet.

MEDLINEplus - *www.medlineplus.gov*

Includes MEDLINE, as well as links to self-help groups, NIH consumer health information, clearinghouses, health related organizations, and clinical trials. In addition it contains information on general health topics as well as extensive information on specific diseases and conditions

Some of the information contain in MEDLINEplus includes:

- **Health topics** - links for common diseases and conditions including arthritis, diabetes, fibromyalgia, and dozens of others. Each topic page includes links to MEDLINE® searches for locating journal articles.
- **Dictionaries** - for finding definitions of medical terms
- **Databases** - for articles and information from other organizations
- **Organizations** - links to major national groups providing information to consumers
- **Clearinghouses** - links to organizations that will send health literature to your home
- **Publications/News** - textbooks, newsletters, and health news sources for reading online.
- **Directories** - for finding health care professionals and facilities
- **Libraries** - to find a nearby consumer health library.

MEDLINE

- Is the National Library of Medicine's (NLM) premier bibliographic database covering the fields of medicine, dentistry, veterinary medicine, nursing, the health care system, and the preclinical sciences.
- Contains bibliographic citations (e.g., authors, title, and journal reference) and author abstracts from about 4,500 biomedical journals published in the United States and in other foreign countries.
- Contains over 11 million records dating back to 1966.
- Has worldwide coverage, but 87% of the citations in MEDLINE are to English-language sources and 72% have English abstracts.
- Contains citations that appear in Index Medicus, as well as the citations of "special list" journals. Special list journals include those indexed for the Index to Dental Literature and the International Nursing Index. *Citations for MEDLINE are created by the National Library of Medicine, International MEDLARS partners, and cooperating professional organizations.*
- MeSH® Vocabulary

Indexers always use the most specific MeSH term(s) available to describe the subject content of an article. The MeSH Vocabulary contains the biomedical subject headings, subheadings, and supplementary chemical terms used in indexing and searching MEDLINE, as well as many other databases in the MEDLARS system.

Example:

If you are searching for types of heart disease, you can search on heart disease without having to list each of the following terms individually:

TREE 1 of 1 : Cardiovascular Diseases

Heart Diseases

Arrhythmia (+30)

Carcinoid Heart Disease

Cardiac Output, High

Cardiac Output, Low

Cardiac Tamponade

Endocarditis (+2)

Heart Aneurysm

Heart Arrest (+1)

Heart Defects, Congenital (+22)

Heart Failure, Congestive (+3)

Searching Interfaces

Different interfaces are available to search MEDLINE. Although the interface may vary, you are searching the same database information.

MEDLINEplus - <http://www.medlineplus.gov>

MEDLINEplus is the National Library of Medicine's web site for consumer health information. It includes MEDLINE, as well as links to self-help groups, consumer health information from the National Institutes of Health, health-related organizations, clearinghouses, and clinical trials. In addition it contains information on general health topics as well as extensive information on specific diseases and conditions including health information in Spanish and other languages.

PubMed – <http://www.ncbi.nlm.nih.gov/PubMed/>

Launched in July 1997, **PubMed** is the World Wide Web (WWW) retrieval service developed by the National Library of Medicine. It provides “free access” to MEDLINE, in addition to molecular biology databases maintained by the National Center for Biotechnology Information.

For more detail information on NLM products see:

<<http://www.nlm.nih.gov/pubs/factsheets/>>

Other Interfaces

Company produced interfaces such as SilverPlatter and Ovid, have additional features built into the basic MEDLINE product. These features may include local holdings information and other user tools.

“Free” MEDLINE is available through various web sites. Be aware that many of these sites may be sponsored by advertising, are commercial sites,

and may not have the most current or complete version of MEDLINE on the site.

Average number of citations added to MEDLINE:

- 7,300 weekly
- 33,000 monthly
- 350,000 to 400,000 yearly

National Network of Libraries of Medicine (NN/LM)

- Administered by the National Library of Medicine

- Eight geographical regions
 - we are in the Pacific Southwest Region
 - The Regional Medical Library (RML) - Administers & coordinate services to resource libraries and other health science libraries.

- Resource Libraries (140 nationwide)

Resource Libraries are designated institutions within a region whose quality and size of collections and/or uniqueness of materials add significantly to a region's resources. The Libraries participate in resource sharing activities, making materials available to libraries at a charge at or below the national maximum for lending within the National Network of Libraries of Medicine. They also assist the Regional Medical Library in planning, coordinating and implementing a variety of Network programs and serve as backup reference resources for smaller health science libraries in the regions.
<<http://www.nnlm.nlm.nih.gov/psr/rlweb.html>>

- Health Science Libraries (Over 4,500 + nationwide)

TIP

To reach your local regional library you may call:

1-800-338-7657 or visit nnlm.gov

Medical Terminology

Medical terms are formed from a combination of several parts: *prefixes*, *suffixes* and *root words*. These word parts are often based on Greek and Latin words, which makes medical words look more challenging than they really are. Being able to break down a medical word into its parts will help you get the most out of using a medical dictionary.

Let's look at the examples on the worksheet exercise together.

Ask group to get out the worksheet on medical terminology and to look at the examples at the top.

Prefixes, *suffixes* and *root words* are joined together by vowels.

1. Look at the first example. “**Lipo** -” is a prefix that means, “fat.” “Suction” is the root word. When they are combined the word means, “surgical removal of fat by suction.”
2. Look at the second example. “- **Is**m” is a suffix that means, “condition of.” Alcohol is the root word. When they are combined the word means, “chronic dependence on or addiction to alcohol.”

When the exact word you need a definition for is not in the dictionary, look up the root word. Medical dictionaries use sub-entries heavily. You may find the exact word you are looking for listed under its root.

Ask group to look up the word “*Kidney*” in *Dorland's Illustrated Dictionary*. Point out the numerous sub-entries.

If the exact word you were looking for isn't a sub-entry, look up the word's prefixes and suffixes. Common medical prefixes and suffixes will have main entries.

Ask group to open the cover of *Dorland's Illustrated Dictionary* to point out the location of the "*Quick Guide*."

Now it's time for you to do the practice worksheet on medical terminology.

The exercises are all similar to the examples we worked together.

You can work on these together as groups. Make sure everyone has an opportunity to use the dictionary.

In 10 minutes we will review the answers together.

Allow 10 minutes for practice and 5 minutes for review.

DORLAND’S ILLUSTRATED MEDICAL DICTIONARY

INSTRUCTOR ANSWER KEY

lipo + *suction* = surgical removal of fat by suction
alcohol + *ism* = chronic dependence on, or addiction, to alcohol

Find the meaning of the word parts and word below:

	Word	Definitions
	<u>neoplasm</u>	<u>any new and abnormal growth... [a common medical term referring to cancer]</u>
	<u>pathology</u>	<u>that branch of medicine which treats of the essential nature of disease, especially of the structural and functional changes in tissues and organs of the body which cause or are accused by disease [what happens to your body, in a mechanical sense, because of the disease]</u>
3	<u>Etiology</u> - <u>logy</u> - <u>etiology</u>	<u>...meaning the science or study of the study or theory of the factors that cause disease... [how one gets the disease]</u>
4	<u>contact dermatitis</u> - <u>itis</u> <u>derma</u> – <u>contact dermatitis</u>	<u>...denoting inflammation</u> <u>...denoting skin</u> <u>acute or chronic dermatitis caused by materials or substances coming in contact with the skin... [a sub-entry under dermatitis]</u>
5	<u>gastralgia</u> <u>gastr</u> – - <u>algia</u> - <u>gastralgia</u>	<u>...denoting relationship to the stomach.</u> <u>...denoting relationship to pain [under a see reference]</u> <u>stomach pain [word not in dictionary, use word parts for definition]</u>

DORLAND'S ILLUSTRATED MEDICAL DICTIONARY

lipo* + **suction* = surgical removal of fat by suction
alcohol + ***ism*** = chronic dependence on or addiction to alcohol

Find the meaning of the word parts and words below:

		<u>Definition</u>
	<u>Neoplasm</u>	
	<u>Pathology</u>	
	<u>Etiology</u>	
	-ology	
	<u>etiology</u>	
	<u>Contact Dermatitis</u>	
	-itis	
	derma-	
	<u>contact dermatitis</u>	
	<u>Gastralgia</u>	
	gastr -	
	- algia	
	Gastralgia	

Medical Terminology: Prefixes

<i>Prefix</i>	<i>Definition</i>	<i>Example</i>
a-, an-	without; lacking	aphasia - without speech anemia - lack of blood
ab-	away from	abductor - leading away from
ad-	toward; near	adductor- leading toward adrenal - near the kidney
anti-/contra-	against	anticoagulant - prevent blood clotting contraception - prevent conception/impregnation
ect-, ecto-, exo-	outer; outside	ectoderm - outer skin
end-, endo-, ent	within; inner	endocranial - within the cranium endodontium - dental pulp
hyper	above, beyond, excessive	hyperglycemia - high glucose hypertension - high blood pressure
hyp-, hypo-	under, deficient	hypothermia - low body temperature hypothyroidism - thyroid deficiency
infra-	beneath; below	infraorbital - beneath the eye
inter-	between	intercostal - between the rib
intra-	within	intravenous - within a vein
neo-	new	neonate - newly born
peri-	around	periodontal - around the tooth periosteum - around bone
poly-	many, excessive	polycystic - many cysts polydipsia - excessive thirst
sub-	under	subcutaneous - under the skin sublingual - beneath the tongue

Medical Terminology: Suffixes

<i>Suffix</i>	<i>Definition</i>	<i>Example</i>
-algia, -dynia	pain	neuralgia - pain in nerves
-centesis	surgical puncture to remove fluid	amniocentesis - amniotic fluid
-ectomy	cut out, excision	appendectomy - removal of the appendix
-emia	blood condition	anemia - low/lack of red blood cells leukemia - malignant blood disease
-esis -ity -iasis -ia -osis -y	state or condition	anesthesia - loss of sensation psoriasis - skin condition scoliosis - spine curvature
-gram, -graphy	recording, written	mammogram - x-ray of breast cardiography - record of physical or functional aspect of the heart
-ites, -itis	inflammation	carditis - inflammation of the heart
-oma	tumor	lymphoma - lymph tissue melanoma - tumor of pigment tissue
-penia	deficiency, lack of	glycopenia - sugar deficiency in tissues
-phagia, phagy	eating, devouring	tachyphagia - eating fast
-plasty	surgical shaping	genioplasty - chin rhinoplasty - nose
-pnea	breathing	apnea - cessation of breathing dyspnea - labored breathing
-rrhaphy	suture	gastrorrhaphy - stomach
-rrhea	flow or discharge	rhinorrhea - nasal
-stomy	surgical opening	colostomy - into the colon tracheostomy - into the trachea
-scopy	to examine	cystoscopy - bladder cytoscopy - cells
-tomy	cutting; incision	phlebotomy - into the vein

Wrap-up

- Review/overview main points covered today.

- Ask if there are any other questions?

- Thank the hosting library.

- Remind attendees to complete the evaluation forms and return them to you on their way out.