COURSE WORKBOOK

INITIAL ONLINE TRAINING CLASS

NATIONAL LIBRARY OF MEDICINE

AGENDA

Initial Online Services Training Class

National Library of Medicine

MONDAY	WELCOME	8:30 - 9:00
	HISTORY OF MEDLARS AND INTRODUCTION TO ALL NLM DATA BASES	9:00 - 9:30
	BREAK	9:30 - 9:45
	SYSTEM MECHANICS	
	A. LOGIN/LOGOFF procedures and use of terminal	9:45 - 10:30
	B. Basic commands/program messages	10:30 - 12:00
	LUNCH	12:00 - 1:00
	C. Terminal exercises	1:00 - 1:45
	D. Discussion of terminal exercises	1:45 - 2:00
	COMPUTER PHYSIOLOGY/BOOLEAN LOGIC	
	A. Computer Physiology	2:00 - 2:45
	B. Search efficiency/time overflow messages	2:45 - 3:15
	BREAK	3:15 - 3:30
	TOUR (MMS, Computer Room, Reading Room)	3:30 - 3:45
	C. Boolean logic slide/tape	3:45 - 4:30
	D. Boolean logic in-class exercise	4:30 - 4:45
	E. Discussion of class exercise	4:45 - 5:00
TUESDAY	MESH AND INDEXING PRINCIPLES	
	A. Use in indexing and searching	
	1. Introductory material/MeSH and related tools	8:30 - 10:10
	BREAK	10:10 - 10:25
	2. Annotations exercise & discussion	10:25 - 11:00
	3. Check tags	11:00 - 12:00
	LUNCH	12:00 - 1:00
	4. Subheadings & coordination	1:00 - 2:15
	5. MeSH Vocabulary file	2:15 - 2:45
	BREAK	2:45 - 3:00

6.	Sample search request and analysis of the question	3:00 - 3:30
7.	Terminal exercises	3:30 - 4:30
8.	Discussion of terminal exercises	4:30 - 5:00

WEDNESDAY

SEARCH FORMULATION

A.	MEDLINE/HEALTH	
1.	Lecture (including Scope and content, Unit record, Explosions, Pre-explosions)	8:30 - 10:00
2.	Sample search requests and analysis of the questions	10:00 - 10:30
	BREAK	10:30 - 10:45
3.	Terminal exercises	10:45 - 11:30
4.	Discussion of terminal exercises	11:30 - 12:00
	LUNCH	12:00 - 1:00

SYSTEM CAPABILITIES

A.	Offsearch	
1.	Purpose and use	1:00 - 1:45
B.	Storesearch	
1.	Purpose and use	1:45 - 2:15
C.	SAVESEARCH	
1.	Purpose and use	2:15 - 2:30
D.	SAVE	
1.	Purpose and use	2:30 - 2:45
	BREAK	2:45 - 3:00

FREE TEXT SEARCHING

A.	Text word generation	3:00 - 3:30
B.	Truncation/use of Nbr	3:30 - 4:00
C.	Terminal exercises	4:00 - 4:45
D.	Discussion of Terminal Exercises	4:45 - 5:00

THURSDAY

STRINGSEARCH/SENTENCESEARCH

A.	Purpose and impact on system	8:30 - 9:00
B.	Format and use with all data bases	9:00 - 9:30
C.	Terminal exercises	9:30 - 10:00
D.	Discussion of terminal exercises	10:00 - 10:15
	BREAK	10:15 - 10:30

SEARCH FORMULATION

A. CHEMLINE (chemical searching)	10:30 - 12:00
LUNCH	12:00 - 1:00
B. TOXLINE	
1. Lecture	1:00 - 2:30
BREAK	2:30 - 2:45
2. Terminal exercises	2:45 - 4:15
3. Discussion of terminal exercises	4:15 - 5:00

FRIDAY

SEARCH FORMULATION

A. CANCERLIT, CANCERPROJ, CLINPROT	
1. Lecture	8:30 - 10:15
BREAK	10:15 - 10:30
2. Terminal exercises	10:30 - 11:30
3. Discussion of terminal exercises	11:30 - 12:00
LUNCH	12:00 - 1:00
ADMINISTRATIVE INFORMATION (includes distribution of codes, explanation of Automatic SDI's and the functions of the MEDLARS Management Section, especially the MMS Service Desk)	1:00 - 2:00

INTEGRATION OF SUBJECT SEARCHING TECHNIQUES

A. Preparation of question	2:00 - 2:15
B. Terminal hands-on	2:15 - 2:45
C. Discussion of assigned question including proper data bases, use of OFFSEARCH, alternative strategies, etc.	2:45 - 3:15
CLOSE	

INITIAL ONLINE TRAINING

The goal of this course is to provide an overview of the MEDLARS system and the basic ELHILL searching capabilities. The course includes lectures, class participation, audiovisual presentations and supervised hands-on terminal experience.

Objectives are to:

1. introduce new users to the MEDLARS system, its content, its searching capability, and basic commands.

2. provide an understanding of NLM's controlled vocabulary, MeSH.

3. describe the uses and input procedure for the following system capabilities:

    a. OFFSEARCH
    b. STORESEARCH/SAVESEARCH/SAVE
    c. STRINGSEARCH/SENTENCESEARCH

4. describe the MEDLARS rules for text word generation and provide experience with text word searching.

5. describe the scope, coverage, data elements and searching techniques for the following data bases:

    a. MEDLINE
    b. HEALTH PLANNING & ADMIN
    c. CHEMLINE
    d. TOXLINE
    e. CANCERLIT, CANCERPROJ, CLINPROT

6. assist trainees in developing the skills necessary to perform efficient subject searches in appropriate data bases (integration of subject searching techniques).

Table of Contents

MEDLARS TRAINING CLASS GLOSSARY

access	approach to information through any storage medium
acoustic coupler	a device that permits a telephone handset to be connected to a terminal. Through this device the terminal's signals are transformed into audible signals which the telephone transmits to a computer
address	a label or number identifying a database disk location where information is stored in the computer
alphanumeric	containing both letters and numerals
annotation	descriptive or explanatory comment
backfile	an older portion of a database that is separate from the current material
batch processing	processing procedure for which items must be coded and collected into a group before processing
Boolean operators	see logical operators
call number	combination of letters and numbers assigned (applied) to a book by means of which it can be arranged on the shelf and later located
category	a logical grouping of associated terms syn: tree
CAN #	computer assigned number that uniquely identifies a unit record
category qualifiers	mnemonics that stand for data elements in unit records
central concept	the main point of an article, indicated by an asterisk in MEDLINE
central processing unit	the area of the computer containing the circuits that control and execute the instructions given the computer from peripheral terminals
characters	symbols such as alphabet letters, the digits 0 through 9, punctuation marks or a space
check tags	concepts that need to be considered for every article and are preprinted on the indexing data form needing only to be 'checked'
citation	see reference
classification	systematic distribution or arrangement, in a class or classes

command	word or symbol entered by a user specifying the operation to be performed
concept	an idea of a class of objects, a general notion
connect time	elapsed time that a terminal has been connected to the computer (computer keeps track)
controlled vocabulary	a list of subject terms used to describe records in a database syn: subject authority list, thesaurus
coordinate indexing	a system of indexing using a combination of descriptors or descriptors and qualifiers to show relationships and to indicate more specific conceptual meaning
database	a collection of information, generally related by subject area, usually available via a computer search (MEDLINE database, TOXLINE database)
data elements	specific items of information that make up a unit record
dataphone	a special telephone set that enables transmission and reception of digital data without an acoustic coupler
default database	the database to which a user is automatically connected when logging into an online system
descriptor	a word or phrase used to identify a subject, concept or idea syn: heading, term
disk	a circular plate coated with magnetic material used to store digital or machine readable data (generally stored in disk packs)
disk time	time used by the computer to go to the disk pack, copy something and store the results syn: fetching and putting time, input/output time
down time	see system down
entry term	a synonym or near synonym for a descriptor syn: see reference
exclusion word dictionary	see stop word list
explode (explosion)	a mechanism by which the computer can do a generic search on a term and all the terms subordinate to it in the tree structure or hierarchy (by automatic ORs)
false drop	an item that is retrieved because it corresponds to terminology used in the search strategy but is not relevant

fetching and putting time	*see disk time*
field	*an area of a unit record used to store a defined category of data*
file	*a collection of related records; usually used as a* synonym for database; also sometimes used to refer to part of a database structure, e.g. the index file *of a particular database*
file maintenance	modification of a file/database, to incorporate changes such as additions, deletions, transfers or corrections
hardware	the machinery and computers used in data processing systems
header file	file that contains all of the complete unit records (identified by a CAN#) for a particular database *syn: linear file, print file*
heading	see descriptor
hierarchical relation	relation between classes in a chain of subordinated classes, where each foregoing member includes all *following members of the chain*
hits	see postings
index file	file that contains all the descriptors, numbers, authors, title abbreviations, text words, etc. that are directly searchable in a particular database. In this listing is shown the number of postings to each term, as well as (invisible to the user) the address in the postings file. syn: inverted file
input/output time	see disk time
interactive system	a system that allows direct communication between a user and the computer by means of a natural program language and allows for immediate alterations or *modifications of search strategy* syn: iterative system
inverted file	see index file
iterative system	see interactive system
ISBN	International Standards Book Number
ISSN	International Standards Serial Number

journal	*see serial*
linear file	see header file
logging in	getting connected to the computer
logical operators	words or symbols used to represent the processes to be performed (AND, AND NOT, OR in the NLM system) *syn: Boolean operators*
magnetic tape	a tape with a magnetic surface used to store digital or machine readable data
major descriptor	any descriptor listed in the alphabetic MeSH that is not a 'see' or 'see under' reference
mapping	the automatic addition to the unit record, by the computer, of the appropriate descriptor to cover the concept indicated by an indexer
minor descriptor	any descriptor listed in the alphabetic MeSH as a 'see under' reference
mnemonic	a symbol or abbreviation to aid the memory; used in the MEDLINE context as a synonym for category qualifier
modem	acronym for MOdulator-DEModulator; a device connected to a terminal, that converts machine readable data to a form that is compatible with telecommunication equipment and vice versa
monograph	a treatise or book on a single subject
multimeaning	a message from the computer when an ambiguous term has been entered, i.e., the term occurs in the index in more than one way, e.g., MH, TA, SH. This message is also received when exploding a term that is in more than one tree
multiword term	two or more words searchable as a unit, without the need to be joined with logical operators
natural language	a language whose rules use natural speech rather than symbols
network	two or more points connected by communications links
noise	any disturbance, or unwanted signal, in the communication system that interferes with the normal operation of the system

offline printing	generation of printed records after the user has given the appropriate command and has logged off of the system
offline searching	computer processing of a search after the user has entered the appropriate strategy and has logged off of the system
online processing	processing of search statements and commands while the user is connected to the computer
periodical	see serial
postings	number of items 'posted' or indexed to the term or combination of terms searched syn: hits, tally
postings file	file that contains the addresses associated with specific terms in the index file. At these addresses are listed the CAN#s in the header file for the unit records that contain the specific term in the index file
precision ratio	the ratio of the number of documents retrieved and relevant to the question to the number of those not retrieved
print file	see header file
programs	see software
recall factor	the fraction of relevant documents retrieved by the system
record	see unit record
redundancy	the part of a message or record that can be eliminated without loss of essential information
reference	an indication of where to find certain information syn: citation
regeneration	rebuilding of file or databases see also update
root	the beginning or middle characters of a word or term syn: stem
scratch pad	see user environment
search	examination of a set of items (documents) for those that have a desired property (content)
search statement	an individual user-entered query that instructs the search program to retrieve a set of records matching the statement

search strategy	a set of planned search statements
see reference	see entry term
sequential access	access to stored information in a 'one after the other' manner
serial	a periodical publication containing articles by various writers syn: journal, periodical
software	the sets or computer readable messages that instruct computers to perform specified tasks syn: programs
stem	see root
stop word list	dictionary of syntactical words, articles and prepositions which are ignored when a machine scans titles or abstracts in the making of a KWIC index syn: exclusion word dictionary
subject authority list	see controlled vocabulary
system down	computer not functioning at that moment due to machine or programming failure
tally	see postings
Telenet	the GTE Telenet Corporation data telecommunications network that enables the user to connect with the NLM computer by dialing a Telenet telephone number local to the user area, eliminating the need of a long distance call
term	see descriptor
terminal	an electronic device for transmitting to and receiving signals from a computer
text word	a single word extracted from directly searchable data elements according to specified rules
thesaurus	see controlled vocabulary
time sharing	method of allowing simultaneous interaction with a computer by many users, each user being given a specified slice of time to perform operations syn: time slicing
time slicing	see time sharing
tree	see category

truncation	process of dropping one or more characters from either end of a term or word without altering any of the remaining characters. For direct searching only right-hand truncation is allowed. For string searching both right- and left-hand truncation is allowed.
Tymnet (or Tymshare)	The Tymshare Corporation data telecommunications network that enables the user to connect with the NLM computer by dialing a Tymnet telephone number local to the user area, eliminating the need of a long distance call
unit record	a record containing all the facts or fields relating to a single citation, or a single descriptor or a single concept syn: record
uniterm	a single word; text words are uniterms
update	modification of a file or database by addition, deletion or change of information see also regeneration
user environment	a work space on the disk pack reserved for an individual user at LOGIN syn: scratch pad

WELCOME

I. OVERVIEW OF INITIAL COURSE

- A. Use of Initial Class workbooks
- B. Course objectives
- C. Agenda for week
  1. Lectures
  2. Lecturers
  3. Hands-on exercises
  4. Use of terminals
  5. Certificates at end of course
  6. Codes at end of course
  7. Evaluations at end of course (feedback to NLM from trainees)

II. ADMINISTRATIVE

- A. MLA Contact Hours (for recertification requirements)
  1. 35 Contact Hours for attending with hands-on
  2. 21 Contact Hours for auditing (no hands-on)
- B. Name tags
- C. Emergency notification cards
- D. Phone calls
- E. Lunch facilities
- F. No smoking or food in training room

III. INTRODUCTION OF TRAINEES

HISTORY OF MEDLARS AND INTRODUCTION TO ALL NLM DATA BASES

Objectives of this lecture are to:

1. Introduce trainees to the NLM MEDLARS system including:

   a. the purpose of computerization at NLM and its historical development, starting with the use of computers to produce NLM publications (particularly INDEX MEDICUS) and leading into the development of an online interactive system to allow for demand searches.

   b. the AIM-TWX Experiment and the development of MEDLINE.

   c. current publications produced from MEDLARS.

2. Describe in general terms the scope and content of each of the NLM data bases.

3. Discuss the use of the computer, including hours of availability of the NLM computer and the sister computer at SUNY.

4. Describe the billing structure.

5. Make the trainees aware of the scope of the NLM online network nationwide/worldwide.

HISTORY OF MEDLARS

MANUAL

PART 1

MEDLARS

-- Acronym for Medical Literature Analysis and Retrieval System.

-- Represents entire computer system, including all the data bases.

-- Began in 1964 for the purpose of preparing printed publications.

Elhill - software

PRIMARY PUBLICATION -- INDEX MEDICUS

-- Began in 1880 as Index Catalog of the Library of the Surgeon General's Office.

-- Originally annual publication, produced on cards and assembled by hand, but by 1950's, with proliferation of medical literature, it became difficult to maintain.

-- In 1954, began considering use of computers to produce IM.

-- Today Index Medicus and all NLM bibliographic publications are produced via computer. 3 months elapsed time

PREPARING CITATIONS FOR ENTRY INTO COMPUTER (Index Medicus/MEDLINE)

-- Indexers in U. S. and foreign countries scan articles in over 2600 journals (Index Medicus).

-- Assign subject headings to each article.

-- Use MeSH thesaurus for headings:

Two parts to MeSH:

1. Annotated Alphabetic List -- different from "Black & White" public MeSH, i.e., contains terms that can be used in computer search but will not appear in IM.

2. Tree Structures -- categorized list of all MeSH terms.

   14 Categories plus geographic category (available online only).

MeSH Categories

Category A -- Anatomy
Category B -- Organisms
Category C -- Diseases
Category D -- Chemicals & Drugs
Category E -- Procedures & Technics
Category F -- Psychology & Psychiatry
Category G -- Biological Sciences, Health Occupations, Environment, Biology & Physiology
Category H -- Physical Sciences
Category I -- Social Sciences
Category J -- Technology, Industry, Agriculture & Food
Category K -- Humanities
Category L -- Information & Communication
Category M -- Named Groups
Category N -- Health Care

Category Z -- Geographics (terms for online use only) not in IM

-- Most articles indexed with approximately 12 headings plus checktags (e.g., CHILD, HUMAN).

-- Only 2-3 headings are asterisked to indicate main point.

-- All headings may be searched in computer, citations appear in Index Medicus under asterisked terms only.

-- All information for MEDLINE/Index Medicus is recorded on data forms and input into the computer. (Data forms will be discussed in MeSH lecture.)

THE UNIT RECORD

-- A unit record represents in the computer one complete bibliographic citation (in MEDLINE and other NLM bibliographic data bases). This includes:

Title (TI)
Author (AU)
Source (SO) - a composite field in MEDLINE derived from the fields:

TITLE ABBREVIATION (TA)
ISSUE/PART/SUPPLEMENT (IP)
VOLUME/ISSUE (VI)
PAGINATION (PG)
DATE OF PUBLICATION (DP)

Main Heading (MH)
Abstract (AB) - if present
And all other fields containing information pertinent to the citation. Many fields are directly searchable via computer.

-- In a non-bibliographic data base, a unit record may represent, e.g., one chemical compound (as in CHEMLINE) and contains all the information pertaining to that compound in the data base.

INPUTTING INFORMATION INTO THE COMPUTER

-- Originally information was input into the computer on magnetic tape.

-- Allowed for production of publications and for computer searching in batch mode. Batch mode searching on the computer was particularly slow because it was sequential searching; i.e., each unit record (representing a citation in MEDLINE) had to be searched individually for the term of interest.

-- With the advent of new technology in hardware (the machinery of the computer), software (programs or instructions that run the computer) and communications systems (TELENET, TYMNET), it became possible to communicate with the computer directly in a real time/online fashion. Slow sequential/batch mode searching gave way to faster online interactive searching.

INPUTTING (continued)

-- Disks, which look like stacks of phonograph records, replaced the magnetic tapes. Disks allow for direct access to the stored information unlike the tapes which allow for sequential searching only; much faster searching.

THE AIM/TWX EXPERIMENT -1970

-- Abridged Index Medicus via TWX lines.

-- First NLM online system began in June 1970.

MEDLINE

-- Acronym for MEDLARS onLINE.

-- Outcome of AIM/TWX Experiment; began in October 1971.

-- Originally contained previous 3 years' citations plus current year and covered 1100 - 1200 journals.

-- Now contains previous 2 years' citations plus current year and covers 3000 journals (Index Medicus covers approximately 2600 journals; MEDLINE coverage is broader due to the inclusion in the data base of Special List journals. (Manual 7.3.14))

-- Older citations for MEDLINE contained in the BACKFILES (MED79, MED77, MED75, MED72, MED69, MED66). MED75, MED72, MED69, MED66 are available through OFFSEARCH only. (OFFSEARCH mechanism will be discussed in lecture later in week).

OTHER PUBLICATIONS PRODUCED VIA COMPUTER FROM NLM DATA BASES

-- Computer use developed originally to produce publications; demand searches came much later.

-- Current publications include:

Recurring Bibliographies (produced from MEDLINE and other NLM data bases with the cooperation of various sponsoring organizations):

ANESTHESIOLOGY BIBLIOGRAPHY
INDEX OF AUDIOVISUAL SERIALS IN THE HEALTH SCIENCES
CRANIO-FACIAL -- CLEFT PALATE BIBLIOGRAPHY
INDEX TO DENTAL LITERATURE
RECURRING BIBLIOGRAPHY ON EDUCATION IN THE ALLIED HEALTH PROFESSIONS
FAMILY MEDICINE LITERATURE INDEX
HOSPITAL LITERATURE INDEX
RECURRING BIBLIOGRAPHY OF HYPERTENSION
INTERNATIONAL NURSING INDEX
BIBLIOGRAPHY ON MEDICAL EDUCATION
NEUROSURGICAL - BIBLIO - INDEX
ANNUAL BIBLIOGRAPHY OF ORTHOPAEDIC SURGERY
PHYSICAL FITNESS/SPORTS MEDICINE
CURRENT BIBLIOGRAPHY OF PLASTIC AND RECONSTRUCTIVE SURGERY
BIBLIOGRAPHY OF PODIATRIC MEDICINE & SURGERY
PSYCHOPHARMACOLOGY BIBLIOGRAPHY
INDEX OF RHEUMATOLOGY
SCHISTO UPDATE
CURRENT CITATIONS ON STRABISMUS, AMBLYOPIA, AND OTHER DISEASES OF OCULAR MOTILITY
BIBLIOGRAPHY OF SURGERY OF THE HAND
INDEX OF TISSUE CULTURE
QUARTERLY BIBLIOGRAPHY OF TROPICAL MEDICINE

-- Current publications (continued)

Literature Searches -- individualized bibliographies produced by MEDLARS deemed to be of wide interest are reprinted for distribution by NLM without charge. About 100 different bibliographies are available, including such topics as "Suicide or Depression in Childhood and Adolescence," "Hospices" and "Hypertension." A list of available titles appears in Index Medicus and Abridged Index Medicus; this list may also be obtained by writing to: Literature Search Program, Reference Section, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20209. The name and address of the requestor, typed on a gummed label, must accompany the request (no return postage necessary). 10-12 a year

BIBLIOGRAPHY OF THE HISTORY OF MEDICINE -- produced from the HISTLINE data base.

ABRIDGED INDEX MEDICUS (and CUMULATED ABRIDGED INDEX MEDICUS) -- from MEDLINE

LIST OF JOURNALS INDEXED IN INDEX MEDICUS

LIST OF SERIALS AND MONOGRAPHS INDEXED FOR ONLINE USERS

INDEX OF NLM SERIAL TITLES -- from SERLINE

NATIONAL LIBRARY OF MEDICINE AUDIOVISUALS CATALOG -- from AVLINE

NATIONAL LIBRARY OF MEDICINE CURRENT CATALOG -- from CATLINE

A complete list of all NLM publications is available by writing to MEDLARS Management Section.

DATABASES

1982

NLM

AVLINE

BIOETHICSLINE

CANCERLIT

CANCERPROJ

CATLINE

CHEMLINE

CLINPROT

EPILEPSY

HEALTH PLANNING & ADMIN

HISTLINE

MEDLINE
MED79
MED77
MED75
MED72
MED69
MED66

MESH VOCABULARY

NAME AUTHORITY

POPLINE

RTECS

SDILINE

SERLINE

TOXICOLOGY DATA BANK

TOXLINE
TOXBACK74
TOXBACK65

MEDLEARN, A CAI PROGRAM FOR MEDLINE INSTRUCTION, IS ALSO AVAILABLE.

SUNY

HEALTH PLANNING & ADMIN

MEDLINE
MED79
MED77
MED75
MED72
MED69
MED66

MESH VOCABULARY

SDILINE

MMS 8/81

SUNY Primary Access Users
(Codes issued since April 1980)

Must access the following databases at the SUNY computer:

HEALTH PLANNING & ADMINISTRATION

MEDLINE

MED79
MED77
MED75*
MED72*
MED69*
MED66*

*Available through OFFSEARCH only -- never available online.

Have access to all other databases at NLM, including:

AVLINE
BIOETHICSLINE
CANCERLIT
CANCERPROJ
CATLINE
CHEMLINE
CLINPROT
HISTLINE
NAME AUTHORITY
POPLINE
RTECS
SDILINE
SERLINE
TOXICOLOGY DATA BANK
TOXLINE
TOXBACK74
TOXBACK65* (*Available through OFFSEARCH only - never available online.)

Have access to the following databases at both NLM and SUNY:

MESH VOCABULARY
SDILINE

1982
NLM ONLINE SERVICE

DATABASE ACCESS LOCATION FOR USERS APPROVED AFTER MARCH 1980 *

DATABASES ACCESSED ON NLM COMPUTER	DATABASES ACCESSED ON SUNY COMPUTER	DATABASES ACCESSED ON BOTH COMPUTERS
AVLINE	HEALTH PLANNING & ADMINISTRATION	MESH VOCABULARY FILE
BIOETHICSLINE	MEDLINE	SDILINE
CANCERLIT	MED79	
CANCERPROJ	MED77	
CATLINE	MED75**	
CHEMLINE	MED72**	
CLINPROT	MED69**	
HISTLINE	MED66**	
MESH VOCABULARY FILE	MESH VOCABULARY FILE	
NAME AUTHORITY FILE	SDILINE	
POPLINE		
RTECS		
SDILINE		
SERLINE		
TOXICOLOGY DATA BANK		
TOXLINE		
TOXBACK74		
TOXBACK65**		

*USERS APPROVED PRIOR TO APRIL 1980 HAVE ACCESS TO ALL FILES ON BOTH COMPUTERS.

**AVAILABLE THROUGH OFFSEARCH ONLY.

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NATIONAL LIBRARY OF MEDICINE

ONLINE FILE DESCRIPTIONS

Following are brief descriptions of data bases available through the National Library of Medicine's (NLM) computerized Medical Literature Analysis and Retrieval System (MEDLARS):

AVLINE

AVLINE (AudioVisuals onLINE) contains citations to about 10,000 audiovisual teaching packages used in health sciences education at the college level and for the continuing education of practitioners. All titles in AVLINE are screened for technical quality; all but lecture-type recordings are also reviewed for currency, content accuracy, and teaching effectiveness. AVLINE may be searched by words in abstracts, medical subject headings, titles, names, source, and elements of physical description such as medium and playing time.

BIOETHICSLINE

BIOETHICSLINE (BIOETHICS onLINE) is a file of about 10,000 references to materials on bioethical topics such as euthanasia, human experimentation, and abortion. They are selected from the literature of the health sciences, philosophy, law, religion, psychology, and from the popular media. BIOETHICSLINE is produced in cooperation with the Kennedy Institute of Ethics, Center for Bioethics, at Georgetown University.

CANCERLIT

CANCERLIT (CANCER LITerature), formerly called CANCERLINE, is sponsored by NIH's National Cancer Institute (NCI) and contains about 225,000 references dealing with various aspects of cancer. All references have English abstracts. Over 3,500 U.S. and foreign journals, as well as selected monographs, meeting papers, reports, and dissertations are abstracted for inclusion in CANCERLIT.

CANCERPROJ

CANCERPROJ (CANCER research PROJects), also sponsored by NCI, contains 20,000 descriptions of ongoing cancer research projects from the current and two preceding years. The descriptions are provided by cancer researchers in many countries and are collected for NCI by the Smithsonian Science Information Exchange.

CATLINE

CATLINE (CATalog onLINE) contains about 210,000 references to books and serials cataloged at NLM since 1965. CATLINE gives medical libraries in the network immediate access to authoritative cataloging information, thus reducing the need for these libraries to do their own original cataloging. Libraries also find this data base a useful source of information for ordering books and journals and for providing reference and interlibrary loan services.

MMS Aug 1980

CHEMLINE — CHEMLINE (CHEMical dictionary onLINE) is a file of some 1,000,000 names for chemical substances, representing 500,000 unique compounds. CHEMLINE, created by NLM in collaboration with Chemical Abstracts Service (CAS), contains such information as CAS Registry Numbers, molecular formulas, preferred chemical nomenclature, and generic and trivial names. The file may be searched by any of these elements and also by nomenclature fragments, making chemical structure searches possible.

CLINPROT — CLINPROT (CLINical cancer PROTocols) is another NCI-sponsored data base. It contains summaries of clinical investigations of new anticancer agents and treatment techniques.

EPILEPSYLINE — EPILEPSYLINE (EPILEPSY onLINE) is sponsored by NIH's National Institute of Neurological and Communicative Disorders and Stroke. The file contains about 25,000 references and abstracts to articles on epilepsy that have been abstracted by Excerpta Medica.

HEALTH — HEALTH PLANNING & ADMIN (Health Planning and Administration) contains about 200,000 references to literature on health planning, organization, financing, management, manpower, and related subjects. The references are from journals indexed for MEDLINE, Hospital Literature Index, and other journals selected for their emphasis on health care matters. This data base will eventually also contain references to nonserial items such as books and technical reports. This file is produced in cooperation with the American Hospital Association and the Health Resources Administration.

HISTLINE — HISTLINE (HISTory of Medicine onLINE) contains some 40,000 references to articles, monographs, symposia, and other publications dealing with the history of medicine and related sciences. This data base is the source of NLM's annual Bibliography of the History of Medicine. Although there are selected references back to 1964, most of the material cited in the HISTLINE file was published after 1970.

MEDLEARN — MEDLEARN is a computer-assisted instruction (CAI) program which teaches the novice user how to search the NLM online system. Track A of MEDLEARN is currently available and is designed to teach the user to perform basic MEDLINE searches. The program provides online, interactive instruction including simulated subject searching and a final quiz which is programmed to evaluate the user's understanding of the material presented. Additional tracks are under development which will provide user education for other data bases and more advanced search techniques and system capabilities.

MEDLINE

MEDLINE (MEDLARS onLINE) contains approximately 600,000 references to biomedical journal articles published in the current and two preceding years. An English abstract, if published with the article, is frequently included. The articles are from 3,000 journals published in the U.S. and 70 foreign countries; MEDLINE also includes a limited number of chapters and articles from selected monographs. Coverage of previous periods (back to 1966) is provided by backfiles that total some 2,700,000 references. MEDLINE is updated monthly and is used to publish Index Medicus and other recurring bibliographies.

MeSH

MeSH Vocabulary File (Medical Subject Headings Vocabulary File) is an online vocabulary file of the 14,000 Medical Subject Headings that are used for indexing and retrieving references and for subject cataloging. Also included are approximately 20,000 chemical records. Specific chemicals with their associated Registry Numbers or Enzyme Commission Numbers and MeSH index terms will then be extracted from the vocabulary records and inserted into the MEDLINE unit records as they appear in indexed articles. The file consists of a complete description of each main heading and qualifier including such information as cross references, scope notes, and date of entry into the system.

NAF

NAF (Name Authority File) is an authority list of 110,000 personal names, series names, corporate names and series decision records used in the descriptive cataloging of NLM's monograph and serial collection. The NAF is primarily a support file for CATLINE, SERLINE, AVLINE and HISTLINE.

POPLINE

POPLINE (POPulation Information onLINE) contains about 80,000 citations and abstracts to journal articles, monographs, and technical reports in the field of population - including basic research in reproductive biology, applied research in contraceptive technology, family planning, and demography. POPLINE is produced in cooperation with the Population Information Program of Johns Hopkins University and the Center for Population and Family Health of Columbia University.

RTECS

RTECS (Registry of Toxic Effects of Chemical Substances), formerly the Toxic Substances List) is an annual compilation prepared by the National Institute for Occupational Safety and Health (NIOSH). RTECS contains toxicity data for approximately 40,000 substances. Threshold limit values, recommended standards in air, and aquatic toxicity data are also included in this file.

SDILINE

SDILINE (Selective Dissemination of Information onLINE) contains references to the most current month of MEDLINE. The entire contents of the file are changed monthly and usually consist of approximately 20,000 citations. Users may store searches and have them run automatically by NLM each month against the new SDILINE file as a current awareness service.

SERLINE

SERLINE (SERials onLINE) contains bibliographic information for about 35,000 serial titles, including all journals which are on order or cataloged for the NLM collection. For one-fifth of these, SERLINE has locator information for the user to determine which U.S. medical libraries own a particular journal. SERLINE is used by librarians to obtain information needed to order journals and to refer interlibrary loan requests.

TDB

TDB (Toxicology Data Bank) contains chemical, pharmacological, and toxicological information and data on approximately 2,500 substances. Information on additional substances is being prepared. Data for the TDB are extracted from handbooks and textbooks and reviewed by a peer review group of subject specialists.

TOXLINE

TOXLINE (TOXicology information onLINE) is a collection of about 800,000 references from the last six years on published human and animal toxicity studies, effects of environmental chemicals and pollutants and adverse drug reactions. Older material (400,000 references) is in TOXBACK. Almost all references in TOXLINE have abstracts or indexing terms and most chemical compounds mentioned in TOXLINE are further identified with Chemical Abstracts Service Registry Numbers. The references are from five major published secondary sources and five special literature collections maintained by other organizations.

NATIONAL LIBRARY OF MEDICINE'S CHARGES TO U.S. CENTERS FOR ONLINE USAGE
January 1, 1982

TOXLINE/TOXBACK74/TOXBACK65

Online Hourly Rates		Page Charges
Non-prime	$45.00 (includes royalty charges of $30.00)	$0.35
Prime	$52.00 (includes royalty charges of $30.00)	(includes royalty charges of $0.20)

Automatic SDI Profile Execution: $1.00/month/search

CHEMLINE

Online Hourly Rates		Page Charges
Non-prime	$94.00 (includes royalty charges of $79.00)	$0.45
Prime	$101.00 (includes royalty charges of $79.00)	(includes royalty charges of $0.30)

ALL OTHER NLM DATABASES

Online Hourly Rates		Page Charges
Non-prime	$15.00	$0.15
Prime	$22.00	

Prime time 10:00 a.m. to 5:00 p.m. Monday through Friday, Eastern Time. Saturday hours and all other hours are non-prime time.

Purchase Orders/Financial Agreements should be made out to the National Technical Information Service (NTIS), which does the billing and collecting for NLM, and not to the National Library of Medicine.

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161

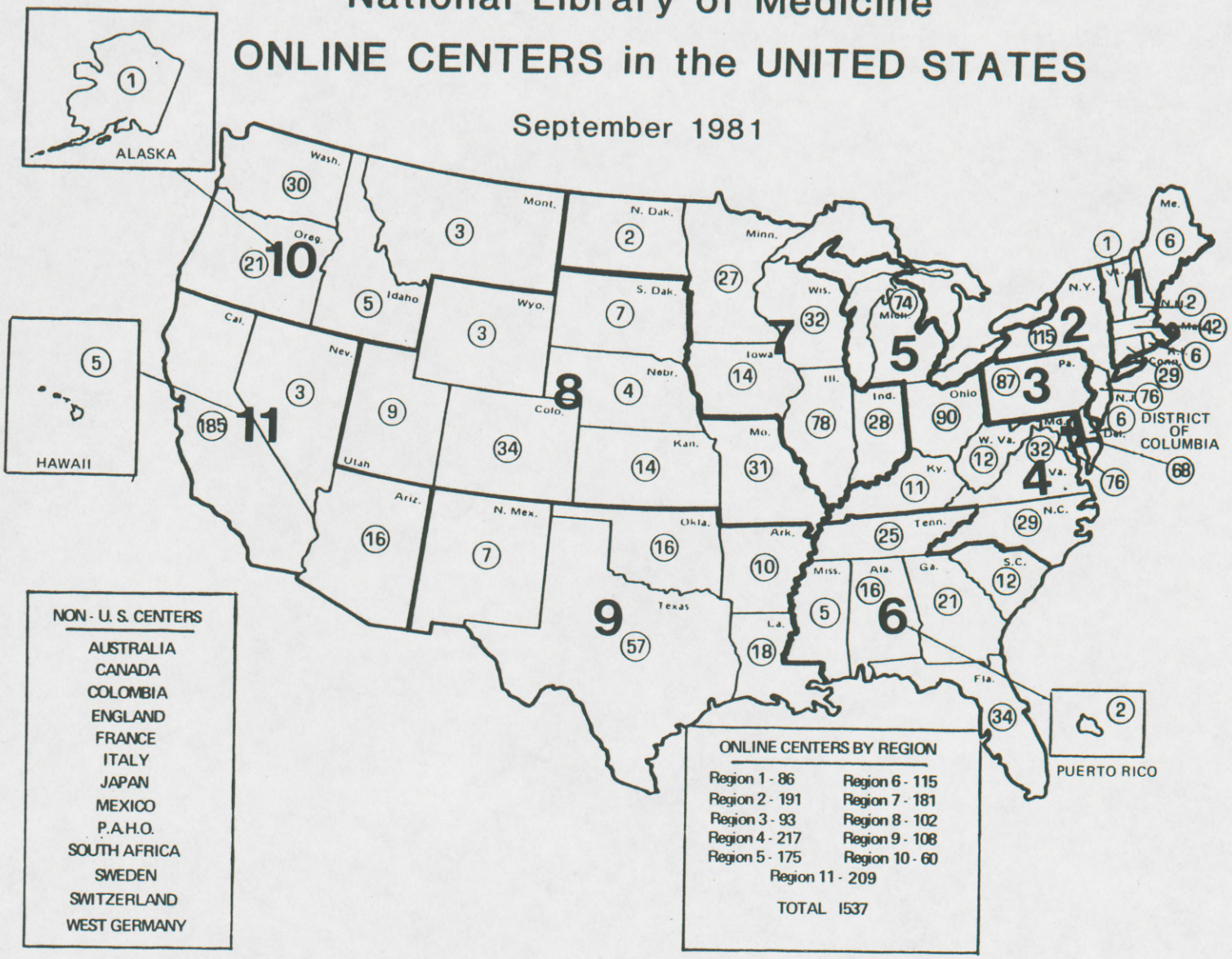
ELHILL Hours (all Eastern Time)

	NLM		SUNY	
MON	3 AM - 8 PM	17	8 AM - 9 PM	13
TUE	3 AM - 9 PM	18	8 AM - 8 PM	12
WED	3 AM - 8 PM	17	8 AM - 9 PM	13
THU	3 AM - 8 PM	17	8 AM - 9 PM	13
FRI	3 AM - 9 PM	18	8 AM - 8 PM	12
SAT	8:30 AM - 5 PM	8.5		63
		95.5	No Saturday Hours	

National Library of Medicine

ONLINE CENTERS in the UNITED STATES

September 1981



NON - U. S. CENTERS
AUSTRALIA
CANADA
COLOMBIA
ENGLAND
FRANCE
ITALY
JAPAN
MEXICO
P.A.H.O.
SOUTH AFRICA
SWEDEN
SWITZERLAND
WEST GERMANY

ONLINE CENTERS BY REGION	
Region 1 - 86	Region 6 - 115
Region 2 - 191	Region 7 - 181
Region 3 - 93	Region 8 - 102
Region 4 - 217	Region 9 - 108
Region 5 - 175	Region 10 - 60
Region 11 - 209	
TOTAL 1537	

UPDATES

AVLINE - weekly

BIOETHICS - quarterly

CANCERLIT - monthly

CANCERPROJ - quarterly

CATLINE - weekly

CHEMLINE - bimonthly

CLINPROT - quarterly

HEALTH - monthly

HISTLINE - quarterly

MEDLINE - monthly

MED79 [Annually, the oldest year is taken from MEDLINE and moved to the latest BACKFILE. When a BACKFILE contains 2-3 years (depending on file size), it is closed and another is created.]

- MED77 - closed
- MED75 - closed
- MED72 - closed
- MED69 - closed
- MED66 - closed

MESH VOC - only changed once a year (MeSH); twice a week (chemical records)

NAME AUTH - monthly

POPLINE - monthly

RTECS - quarterly

SDILINE - monthly (contains the latest month added to MEDLINE; changed every month)

SERLINE - monthly

TDB - quarterly

TOXLINE - monthly

- TOXBACK65 - data retired to TOXBACK65 from TOXLINE as necessary
- TOXBACK74 - data retired to TOXBACK74 from TOXLINE as necessary

FOREIGN CENTER ACCESS

	ONLINE ACCESS	TAPE USER
AUSTRALIA	X	X
CANADA	X	X
FRANCE	X	
GERMANY	X	X
ITALY	X	
JAPAN		X
MEXICO	X	
PAHO		X
SOUTH AFRICA	X	
SWEDEN	X	X
SWITZERLAND	X	
UNITED KINGDOM	X	X

MMS 4/80

SYSTEM MECHANICS

Objectives

Trainees will be able to:

1. use the *Phones and Terminal Identifiers* lists to locate the proper phone number (or node) and terminal ID necessary to access the NLM or SUNY computers via direct dial, TYMNET and TELENET.

2. login and off the NLM and SUNY computers using direct dial (NLM only), TYMNET and TELENET access procedures, and explain program messages frequently encountered in the login process.

3. locate and explain the function of the following terminal settings:

   CPS
   ONLINE
   DUPLEX
   PARITY
   AUTOMATIC LINE FEED

4. describe the purpose, entry format, and results of the use of the following ELHILL commands:

   "TIME
   "CAPS
   PRINT
   PRINT FULL
   PRINT DETAILED
   PRINT AR
   TAILORED PRINTS
   PRINT INCLUDE
   PRINT EXCLUDE
   PRINT SKIP
   PRINT SS #
   PRINT OFFLINE
   PRINT INDENTED
   PRINT COMPRESSED
   NEIGHBOR
   NEIGHBORDET
   ERASEALL
   ERASEBACK
   RESTACK
   EXPLAIN
   FILES
   FILE
   USERS

4. (continued)

NEWS
COMMENT
DISPLAY
STOP Y
PROFILE

5. explain the meaning of most commonly received ELHILL program messages and identify appropriate user responses for each.

INSTRUCTIONS FOR PHONE LIST

MANUAL

3.3

Look up your state on the attached PHONES list and locate your city or one nearest to yours. If your terminal operates at 10, 15 or 30 characters per second (cps) look for a blank, or a number, 10, 15 or 30, in the "SPEED" column. Usually, in the "TYPE" column either the letter 'B' or a blank will appear. Dial the TYMNET or TELENET telephone number in your city with the 'B' or a blank in the "TYPE" column. (If there are both TELENET and TYMNET telephone numbers (or nodes) for your city, you may elect to use either number.)

Follow the instructions for logging on that correspond to the telephone number you dialed (e.g., if you dial a TELENET number, use the TELENET logon instruction).

If your terminal operates at 120 characters per second (cps) you must look for the number "120" in the "SPEED" column. In addition, one of three modem or data set model numbers will appear in the "TYPE" column: 1) V3405, 2) B202, or 3) B212A. To use the TELENET or TYMNET 120 cps telephone number, you must have a modem that corresponds to one of the three types above, that is: 1) VADIC 3405 modem (for TYPE V3405), 2) BELL 202C or 202S DATA SETS (for TYPE B202), or 3) BELL 212A DATA SETS (for TYPE B212A).

If there is a 120 cps telephone number near your city, and your modem corresponds to the "TYPE" listed, dial the TYMNET or TELENET telephone number to access NLM and follow the instructions for logging on which correspond to the number you dialed (e.g., if you dial a TELENET number, use the TELENET logging on instructions).

If you have a 120 cps terminal, and do not live near a city with a 120 cps telephone number, or do not have the requisite modem, call the MEDLARS Management Section Service Desk (8:30 - 5:00 p.m. E.T.) 301/496-6193 or 800/638-8480 (toll free) for assistance.

PLEASE NOTE: The PHONES list is published every 3 months in the NLM Technical Bulletin. One copy of the Bulletin is sent every month to each USERID. Please check this list periodically for possible new phones access in your area.

INSTRUCTIONS FOR TERMINAL IDENTIFIERS LIST

(TYMNET and TELENET; no terminal identifier is necessary for Direct Dial)

MANUAL

I. TYMNET 3.5.2

If you will be using the TYMNET communications network (i.e., the telephone number you chose from the "PHONES LIST" is listed in the TYMNET column), you must know the appropriate terminal identifier for your particular type of terminal. This identifier will be either one letter (A, B, C, etc.) or a 'carriage return' depending on your terminal. Look at the attached list of TYMNET terminal identifiers. Find the "brand name" and model of your terminal on the list. Use the letter listed under the column marked "ID" as your terminal identifier. You will use the terminal identifier in the login process to NLM through TYMNET.

II. TELENET 3.5.3

If you will be using the TELENET communications network (i.e., the telephone number you chose from the "PHONES LIST" is listed in the TELENET column), you must know the appropriate terminal identifier for your particular type of terminal. For most terminals with thermal printers, pressing a 'carriage return' in response to the TELENET query "TERMINAL=" will be a sufficient terminal identifier. However, you should look at the attached list to see if a specific terminal identifier is listed for your terminal. If so, use the indicated terminal identifier instead of the 'carriage return' in the login process to NLM through TELENET.

III. DIRECT DIAL 3.5.1

Direct Dial login does not require a terminal identifier.

PHONES LIST

UNLESS OTHERWISE NOTED, THE SPEED OF THE NUMBERS IS 10-30 CHARACTERS PER SECOND (CPS).

* = DIRECT DIAL NUMBER

FOR 120 CPS USE COMPATIBLE MODEMS INCLUDE:

V3405 = VADIC 3400 SERIES COMPATIBLE. THE FOLLOWING VADIC EQUIPMENT IS COMPATIBLE: VA3455P AND VA3451P MODEMS AND VA3434 COUPLER. THE FOLLOWING ANDERSON JACOBSON EQUIPMENT IS COMPATIBLE: AJ1255 MODEM AND AJ 1234 COUPLER.

B/V = VADIC SUPER MODEM (V3467) NODE. USERS WITH BELL 103, 113, OR 212A MODEMS OR V3400 SERIES COMPATIBLE MODEMS MAY USE THESE NUMBERS. NOTE: BELL 103 AND 113 ARE LOW SPEED MODEMS.

B202 = INDICATES NODE IS BELL 202C OR 202S DATA SET COMPATIBLE.

B212A = BELL 212A DATA SET COMPATIBLE.

FOR IBM 2741 TERMINAL ACCESS:

B = INDICATES THAT BOTH CORRESPONDENCE AND EBCDIC CODED TERMINALS ARE SUPPORTED BY TYMNET. THE USER MUST TYPE A P FOLLOWED BY A CARRIAGE RETURN SO THAT TYMNET CAN DETERMINE THE "CODE" TO BE USED. USE CORRECT TERMINAL IDENTIFIER FOR TELENET ACCESS VIA 2741'S. THE NETWORKS DO NOT SUPPORT BCD CODED 2741'S.

ALL PHONE NUMBERS ARE SUBJECT TO CHANGE OR DELETION WITHOUT PRIOR NOTICE.

ST	CITY	TYMNET	TYPE	SPEED	TELENET	TYPE	SPEED
AK	ANCHORAGE	CONTACT ALASKA TELEPHONE COMPANY FOR ACCESS					
AK	JUNEAU	CONTACT ALASKA TELEPHONE COMPANY FOR ACCESS					
AL	BESSEMER				205/251-2495		
AL	BESSEMER				205/326-3420	B/V	120
AL	BIRMINGHAM	205/942-4141	B/V	120	205/326-3420		
AL	BIRMINGHAM	205/942-1015	B212A	120	205/326-3420	B/V	120
AL	FLORENCE				205/767-4800		
AL	HUNTSVILLE	205/539-5377 FX	B		205/539-2281		
AL	HUNTSVILLE	205/539-3753 FX	B/V	120	205/539-2281	B/V	120
AL	MOBILE				205/432-1680		
AL	MOBILE	205/432-3382	B/V	120	205/432-1680	B/V	120
AL	MONTGOMERY	205/834-3410 FX	B		205/265-1500		
AL	MONTGOMERY				205/265-1500	B/V	120
AL	SHEFFIELD				205/767-4800		
AR	FT. SMITH	501/782-3210	B212A	120			
AR	JONESBORO	501/932-6886	B212A	120			
AR	LITTLE ROCK	501/372-5780 FX	B		501/374-4100		
AR	LITTLE ROCK	501/376-3768	B212A	120	501/372-4616	B/V	120
AR	SPRINGDALE	501/756-2201	B212A	120			
AZ	MESA				602/257-1552		
AZ	MESA				602/271-0533	B/V	120
AZ	PHOENIX	602/254-5811	B		602/257-1552		
AZ	PHOENIX	602/254-5811	B/V	120	602/271-0533	B/V	120
AZ	SCOTTSDALE				602/257-1552		
AZ	SCOTTSDALE				602/271-0533	B/V	120
AZ	TEMPE				602/257-1552		
AZ	TEMPE				602/271-0533	B/V	120
AZ	TUCSON	602/790-0764	B		602/745-1666		
AZ	TUCSON	602/747-4097	B/V	120	602/745-1666	B/V	120
CA	ALHAMBRA	213/572-0999 FX	B		213/956-8235		
CA	ALHAMBRA				213/507-1006	B/V	120
CA	ANAHEIM				714/558-6061		
CA	ANAHEIM				714/558-7078	B/V	120
CA	ANTIOCH	415/757-6855 FX	B				
CA	ARCADIA	213/574-7636 FX	B				
CA	BAKERSFIELD				805/327-8146		
CA	BAKERSFIELD				805/327-8146	B/V	120
CA	BURLINGAME	415/348-4992 FX	B		415/595-0360		
CA	BURLINGAME				415/591-0726	B/V	120
CA	CANOGA PARK				213/822-9287		
CA	CANOGA PARK				210/306-2984	B/V	120

ST	CITY	TYMNET	TYPE	SPEED	TELENET	TYPE	SPEED
CA	COLTON	714/825-9372	B		714/824-1710		
CA	COLTON	714/824-8170	B212A	120	714/824-3805	B/V	120
CA	CUPERTINO	408/446-7309	B212A	120			
CA	CUPERTINO	408/446-7001	V3405	120	408/279-2425	B/V	120
CA	CUPERTINO	408/446-1470	B		408/279-8450		
CA	CUPERTINO	408/257-0593	CCITT RESTRICTED FOR OVERSEAS USE ONLY				
CA	EL CONDIDO				714/747-0810		
CA	EL MONTE				213/956-8235		
CA	EL MONTE				213/507-1006	B/V	120
CA	EL SEGUNDO	213/640-1281	B		213/332-7703		
CA	EL SEGUNDO	213/640-1281	B212A	120			
CA	FRESNO				209/233-0961	B/V	120
CA	FULLERTON				714/558-6061		
CA	FULLERTON				714/558-7078	B/V	120
CA	GARDEN GROVE				714/898-9820		
CA	GARDEN GROVE				714/898-9820	B/V	120
CA	GLENDALE				213/956-8235		
CA	GLENDALE				213/507-1006	B/V	120
CA	HAYWARD	415/785-3431	B		415/881-1382		
CA	HOLLYWOOD				213/624-5230		
CA	HOLLYWOOD				213/937-3580		
CA	HOLLYWOOD				213/689-9040		
CA	HOLLYWOOD				213/624-2251	B/V	120
CA	HUNTINGTON BEACH				714/558-6061		
CA	HUNTINGTON BEACH				714/558-7078	B/V	120
CA	INGLEWOOD				213/624-5230		
CA	INGLEWOOD				213/937-3580		
CA	INGLEWOOD				213/689-9040		
CA	INGLEWOOD				213/624-2251	B/V	120
CA	LONG BEACH				213/549-5150		
CA	LONG BEACH	213-435-7088	FX B212A	120	213/548-6141	B/V	120
CA	LOS ALTOS				415/856-9930		
CA	LOS ALTOS				415/856-9995	B/V	120
CA	LOS ANGELES	213/626-0365	B		213/624-5230		
CA	LOS ANGELES	213/626-0365	B212A	120	213/689-9040		
CA	LOS ANGELES	213/626-2400	B212A	120	213/937-3580		
CA	LOS ANGELES	213/623-8500	V3405	120	213/624-2251	B/V	120
CA	MARINA DEL REY	213/821-2257	FX B212A	120	213/822-9287		
CA	MARINA DEL REY				213/306-2984	B/V	120
CA	MISSION HILLS	213/365-2013	FX B212A	120			
CA	MODESTO	209/578-4236	FX B212A	120	209/576-2852	B/V	120
CA	MOUNTAIN VIEW	415/941-8450	B		415/856-9930		
CA	MOUNTAIN VIEW	415/949-0330	B212A	120	415/856-9995	B/V	120
CA	NEWPORT BEACH	714/540-9560	B		714/558-6061		
CA	NEWPORT BEACH	714/540-0951	B212A	120	714/558-7078	B/V	120
CA	NORTHRIDGE	213/998-4872	FX B212A	120			
CA	NORWALK	213/865-2066	FX B212A	120			
CA	OAKLAND	415/836-8700	B		415/836-4884		
CA	OAKLAND	415/836-8900	B212A	120	415/836-4911	B/V	120
CA	OXNARD	805/486-4811	B/V	120	805/659-4660		
CA	OXNARD				805/656-6760	B/V	120
CA	PALM SPRINGS	714/320-0772	FX B		714/320-7491		
CA	PALO ALTO	415/966-8550	B/V	120	415/856-9930		
CA	PALO ALTO				415/856-9995	B/V	120
CA	PASADENA	213/577-8722	FX B212A	120	213/956-8235		
CA	PASADENA				213/507-1006	B/V	120
CA	PLEASANT HILL	415/798-2093	FX B				
CA	REDWOOD CITY				415/595-0360		
CA	REDWOOD CITY				415/591-0726	B/V	120
CA	RIVERSIDE	714/825-9372	B		714/824-1710		
CA	RIVERSIDE	714/824-8170	B212A	120	714/824-3805	B/V	120
CA	SACRAMENTO	916/441-6550	B		916/443-7921		
CA	SACRAMENTO	916/448-8151	B212A	120	916/448-6262	B/V	120
CA	SALINAS	408/443-4333	FX B		408/443-4980		
CA	SALINAS				408/443-4940	B/V	120
CA	SAN BERNADINO				714/824-1710		
CA	SAN BERNADINO				714/824-3805	B/V	120
CA	SAN CARLOS				415/595-0360		
CA	SAN CARLOS				415/591-0726	B/V	120
CA	SAN CLEMENTE	714/498-3130	FX B				
CA	SAN DIEGO	714/291-8700	B		714/231-1922		
CA	SAN DIEGO	714/293-3590	B212A	120	714/233-0233	B/V	120
CA	SAN DIEGO	714/692-0219	B212A	120			
CA	SAN FRANCISCO	415/986-8200	B		415/362-6200		
CA	SAN FRANCISCO	415/397-4300	V3405	120	415/956-5777	B/V	120
CA	SAN FRANCISCO	415/788-7955	B212A	120			
CA	SAN JOSE	408/446-1470	B		408/279-8450		

ST	CITY	TYMNET		TYPE	SPEED	TELENET	TYPE	SPEED
CA	SAN JOSE	408/446-7001		V3405	120			
CA	SAN JOSE	408/446-7309		B212A	120	408/279-2425	B/V	120
CA	SAN MATEO					415/595-0360		
CA	SAN MATEO					415/591-0726	B/V	120
CA	SAN PEDRO	213/830-0775	FX	B212A	120	213/549-5150		
CA	SAN PEDRO					213/548-6141	B/V	120
CA	SANTA ANA					714/558-6061		
CA	SANTA ANA					714/558-7078	B/V	120
CA	SANTA BARBARA	805/682-9641	FX	B		805/682-5361		
CA	SANTA BARBARA	805/682-9641	FX	B/V	120	805/682-5361	B/V	120
CA	SANTA CLARA					408/279-8450		
CA	SANTA CLARA					408/279-2425	B/V	120
CA	SANTA CRUZ	408/429-9572		B212A	120			
CA	SANTA MONICA					213/822-9287		
CA	SANTA MONICA					213/306-2984	B/V	120
CA	SANTA ROSA	707/546-1050		B				
CA	SANTA ROSA	707/546-6776		B212A	120			
CA	SUNNYVALE					408/279-8450		
CA	SUNNYVALE					408/279-2425	B/V	120
CA	TORRANCE					213/549-5150		
CA	TORRANCE					213/548-6141	B/V	120
CA	VAN NUYS	213/986-9503	FX	B				
CA	VENTURA	805/486-4811		B/V	120	805/659-4660		
CA	VENTURA					805/656-6760	B/V	120
CA	VISTA	714/727-6011	FX	B				
CA	WALNUT CREEK	415/932-0116	FX	B				
CA	WEST COVINA	213/331-3954		B				
CA	WOODLAND HILLS					213/992-0144		
CA	WOODSIDE					415/856-9930		
CA	WOODSIDE					415/856-9995	B/V	120
CO	AURORA					303/773-8500		
CO	AURORA					303/741-4000	B/V	120
CO	BOULDER					303/773-8500		
CO	BOULDER					303/741-4000	B/V	120
CO	COLO. SPRINGS	303/475-2121	FX	B/V	120	303/634-5676		
CO	COLO. SPRINGS					303/473-0263	B/V	120
CO	DENVER	303/830-9210		B/V	120	303/773-8500		
CO	DENVER	303/830-9116		V3405	120	303/741-4000	B/V	120
CO	LAKEWOOD					303/773-8500		
CO	LAKEWOOD					303/741-4000	B/V	120
CT	BRIDGEPORT	203/367-6021		B/V	120			
CT	DANBURY	203/743-1340	FX	B		203/794-9075		
CT	DANBURY	203/743-1650		B212A	120	203/794-9075	B/V	120
CT	DARIEN	203/655-8931		B				
CT	DARIEN	203/655-7951		B212A	120			
CT	FAIRFLD/BRDGPT	203/333-4926		B212A	120			
CT	GREENWICH					203/357-1800		
CT	GREENWICH					203/348-0787	B/V	120
CT	HARTFORD	203/242-7140		B		203/522-0344		
CT	HARTFORD	203/242-7417		B212A	120	203/247-9479	B/V	120
CT	MILFORD					203/624-5954		
CT	MILFORD					203/624-5954	B/V	120
CT	NEW HAVEN	203/789-0579		B		203/624-5954		
CT	NEW HAVEN	203/787-1702		B212A	120	203/624/5954	B/V	120
CT	STAMFORD					203/357-1800		
CT	STAMFORD					203/348-0787	B/V	120
CT	WATERBURY	203/755-1153	FX	B				
CT	WEST HARTFORD					203/522-0344		
CT	WEST HARTFORD					203/247-9479	B/V	120
DC	WASHINGTON	202/442-3900		B				
DC	WASHINGTON	703/841-0200		B		202/347-1400		
DC	WASHINGTON	703/841-9560		B		202/783-2050		
DC	WASHINGTON	703/734-3900		B				
DC	WASHINGTON	301/770-1680		B				
DC	WASHINGTON	703/841-9330		V3405	120	202/347-6093	B/V	120
DC	WASHINGTON	703/734-8370		B212A	120	202/347-3061	B212A	120
DC	WASHINGTON	703/442-7800		B212A	120			
DC	WASHINGTON	703/841-3550		B212A	120			
DC	WASHINGTON	703/442-3960		B/V	120	202/347-6757	B/V	120
DC	WASHINGTON*	301/492-3150		BELL	30/120			
	(AUTOM. SPEED DETECTOR - ENTER P (CR))							
DC	WASHINGTON*	301/492-3142		B202S	120			
DC	WASHINGTON*	301/492-3129		V3405	120			
DC	WASHINGTON*	301/492-3132		V3405	120			
DC	WASHINGTON*	301/492-3134		V3405	120			
DC	WASHINGTON*	301/492-3135		V3405	120			
DE	WILMINGTON	302/658-5261	FX	B		302/454-7710		

ST	CITY	TYMNET	TYPE	SPEED	TELENET	TYPE	SPEED
DE	WILMINGTON	302/658-8611	B212A	120	302/454-7710	B/V	120
FL	CLEARWATER				813/323-4026	B/V	120
FL	DAYTONA BEACH	904/252-4481 FX	B		904/252-6637		
FL	FT LAUDERDALE	305/467-3807	B/V	120	305/764-4505	B/V	120
FL	HOLLY HILL				904/252-6637		
FL	JACKSONVILLE	904/721-8100	B		904/356-0790		
FL	JACKSONVILLE				904/356-2264	B/V	120
FL	MELBOURNE	305/725-8011 FX	B				
FL	MELBOURNE	305/724-9972	B212A	120			
FL	MIAMI	305/624-7900	B/V	120	305/371-4801		
FL	MIAMI				305/371-4822	B/V	120
FL	ORLANDO	305/851-3530 (30 CPS ONLY)			305/422-4088		
FL	ORLANDO	305/859-7670	B212A	120	305/422-4088	B/V	120
FL	PENSACOLA	904/434-0134 FX	B/V	120			
FL	ST PETERSBURG	813/535-6441	B		813/323-4026		
FL	ST PETERSBURG	813/535-1446	B212A	120	813/323-4026	B/V	120
FL	SARASOTA	813/365-3526 FX	B212A	120			
FL	TAMPA	813/977-2400	B		813/224-9920		
FL	TAMPA	813/977-2400	B212A	120	813/223-1088	B/V	120
FL	W PALM BEACH	305/622-2871 FX	B/V	120	305/833-6691		
GA	ATLANTA	404/659-6670	B		404/577-8911		
GA	ATLANTA	404/659-2910	B				
GA	ATLANTA	404/581-0619	B212A	120	404/523-0834	B/V	120
GA	COLUMBUS				404/324-0684		
GA	GAINESVILLE				402/534-0535		
GA	MACON	912/236-1904	V3405	120			
GA	SAVANNAH	912/352-7259 FX	B		912/236-2605		
GA	SAVANNAH	912/236-1904 FX	B/V	120			
HI	HONOLULU	CONTACT HAWAII TELEPHONE COMPANY FOR ACCESS(TELENET)					
HI	HONOLULU	CONTACT WESTERN UNION INT'L FOR ACCESS(TYMNET)					
IA	CEDAR RAPIDS	319/363-2482 FX	B		319/364-0911		
IA	CEDAR RAPIDS	319/363-9019 FX	B212A	120	319/364-0911	B/V	120
IA	COUNCIL BLUFFS				402/341-7733		
IA	COUNCIL BLUFFS				402/341-7733	B/V	120
IA	DAVENPORT	319/322-5642 FX	B				
IA	DAVENPORT	319/324-7197	B/V	120			
IA	DES MOINES	515/288-6640	B		515/288-4403		
IA	DES MOINES	515/288-8097	B212A	120	515/288-4403	B/V	120
IA	IOWA CITY	319/354-7371	B				
IA	IOWA CITY	319/354-9532	B212A	120			
IA	WATERLOO	319/233-9227	B212A	120			
ID	BOISE	208/343-4851	B		208/343-0611		
ID	BOISE	208/344-4311	B212A	120	208/343-0611	B/V	120
IL	ARLINGTON HTS				312/938-0500		
IL	ARLINGTON HTS				312/938-0600	B/V	120
IL	CHAMPAIGN				217/384-6428		
IL	CHAMPAIGN				217/384-6428	B/V	120
IL	CHICAGO	312/346-4961	B		312/938-0500		
IL	CHICAGO	312/368-4700	B		301/938-0600	B/V	120
IL	CHICAGO	312/368-4607	B				
IL	CHICAGO	312/641-1630	B212A	120	312/938-0600	B/V	120
IL	CHICAGO	312/372-0391	V3405	120			
IL	CICERO				312/938-0500		
IL	CICERO				312/938-0600	B/V	120
IL	E. ST. LOUIS				314/421-4990		
IL	E. ST. LOUIS				314/421-4990	B/V	120
IL	FREEPORT	815/233-5585	B				
IL	JOLIET	815/723-9854	B212A	120			
IL	OAK PARK				312/938-0500		
IL	OAK PARK				312/938-0600	B/V	120
IL	PEORIA	309/673-2156 FX	B		309/637-8601		
IL	PEORIA				309/637-8570	B/V	120
IL	ROCKFORD	815/398-6090	B				
IL	SKOKIE				312/938-0500		
IL	SKOKIE				312/938-0600	B/V	120
IL	SPRINGFIELD	217/753-7905	B/V	120	217/753-1373		
IL	SPRINGFIELD				217/753-1373	B/V	120
IL	URBANA				217/384-6428		
IL	URBANA				217/384-6428	B/V	120
IN	EVANSVILLE	812/423-6885 FX	B				
IN	FT WAYNE	219/424-5162 FX	B				
IN	GARY				219/882-8800		
IN	GARY				219/882-8800	B/V	120
IN	HIGHLAND	219/836-5452 FX	B				
IN	INDIANAPOLIS	317/257-3461	B		317/635-9630		
IN	INDIANAPOLIS	317/926-1253	B212A	120	317/634-5708	B/V	120
IN	KOKOMO				317/456-3851		

ST	CITY	TYMNET	TYPE	SPEED	TELENET	TYPE	SPEED
IN	MARION	317/662-0091 FX	B				
IN	MERRILLVILLE	219/769-7254 FX	B				
IN	MISHAWKA				219/233-7104	B/V	120
IN	OSCEOLA				219/233-7104	B/V	120
IN	SOUTH BEND	210/233-4163	B		219/233-7104	B/V	120
KS	KANSAS CITY	913/677-2833	B		816/221-9900		
KS	KANSAS CITY	913/677-0707	B212A	120	816/221-9900	B/V	120
KS	SHAWNEE MISSION	913/677-2833	B				
KS	SHAWNEE MISSION	913/677-0707	B212A	120			
KS	TOPEKA	913/233-0690 FX	B		913/233-9880		
KS	TOPEKA				913/233-9880	B/V	120
KS	WICHITA	316/265-1241	B/V	120	316/262-5669		
KS	WICHITA				316/262-5669	B/V	120
KY	FRANKFORT				502/223-1841		
KY	LEXINGTON	606/253-3463	B		606/233-0312		
KY	LEXINGTON	606/253-3498	B212A	120			
KY	LOUISVILLE	502/361-3881	B		502/589-7520		
KY	LOUISVILLE	502/361-3821	B212A	120	502/589-5580	B/V	120
LA	BATON ROUGE	504/292-4050	B		504/343-0753		
LA	BATON ROUGE	504/292-2650	B212A	120			
LA	LAFAYETTE	318/237-9500	B/V	120			
LA	MONROE				318/387-6330		
LA	NEW ORLEANS				504/524-0783		
LA	NEW ORLEANS	504/524-4371	B/V	120	504/524-4094	B212A	120
LA	SHREVEPORT				318/221-5833		
LA	SHREVEPORT	318/688-4666 FX	B212A	120	318/221-5833	B/V	120
MA	ARLINGTON	617/482-4677	B				
MA	ARLINGTON	617/482-5605	B		617/338-1400		
MA	ARLINGTON	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	BOSTON	617/482-4677	B				
MA	BOSTON	617/482-5605	B		617/338-1400		
MA	BOSTON	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	BROOKLINE	617/482-4677	B				
MA	BROOKLINE	617/482-5605	B		617/338-1400		
MA	BROOKLINE	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	CAMBRIDGE	617/482-4677	B				
MA	CAMBRIDGE	617/482-5605	B		617/338-1400		
MA	CAMBRIDGE	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	CHICOPEE	413/781-6830	B		413/739-7221		
MA	CHICOPEE	413/781-0145	B212A	120			
MA	HOLYOKE	413/781-6830	B		413/739-7221		
MA	HOLYOKE	413/781-0145	B212A	120			
MA	LEXINGTON				617/863-1550		
MA	LEXINGTON				617/863-1565	B/V	120
MA	MEDFORD	617/482-4677	B				
MA	MEDFORD	617/482-5605	B		617/338-1400		
MA	MEDFORD	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	NEWTON	617/482-4677	B				
MA	NEWTON	617/482-5605	B		617/338-1400		
MA	NEWTON	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	QUINCY	617/482-4677	B				
MA	QUINCY	617/482-5605	B		617/338-1400		
MA	QUINCY	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	SOMERVILLE	617/482-4677	B				
MA	SOMERVILLE	617/482-5605	B		617/338-1400		
MA	SOMERVILLE	617/482-7035	B/V	120	617/338-7495	B/V	120
MA	SPRINGFIELD	413/781-6830	B		413/739-7221		
MA	SPRINGFIELD	413/781-0145	B212A	120			
MA	WALTHAM	617/482-4677	B				
MA	WALTHAM	617/482-5622	B		617/338-1400		
MA	WALTHAM	617/482-3386	B212A	120	617/338-7495	B/V	120
MA	WALTHAM	617/482-1854	V3405	120			
MA	WORCESTER	617/754-9451 FX	B		617/755-4810		
MA	WORCESTER	617/755-5601	B212A	120	617/755-4740	B/V	120
MD	ANNAPOLIS	301/547-8100	B		301/266-6886		
MD	ANNAPOLIS	301/685-2845	B212A	120			
MD	BALTIMORE	301/547-8100	B		301/962-5010		
MD	BALTIMORE	301/244-8959	B212A	120	301/727-6060	B/V	120
MD	BETHESDA	703/841-0200	B		202/347-1400		
MD	BETHESDA	301/770-1680	B				
MD	BETHESDA	703/524-9215	B212A	120	202/347-3061	B212A	120
MD	BETHESDA	703/841-9330	V3405	120	202/347-6093	B/V	120
MD	COLLEGE PARK	703/841-0200	B		202/347-1400		
MD	COLLEGE PARK	703/524-9215	B212A	120	202/347-3061	B212A	120
MD	COLLEGE PARK	703/841-9330	V3405	120	202/347-6093	V3405	120
MD	DUNDALK	301/547-8100	B		301/962-5010		
MD	DUNDALK	301/244-8959	B212A	120	301/727-6060	B/V	120

ST	CITY	TYMNET		TYPE	SPEED	TELENET	TYPE	SPEED
MD	ROCKVILLE	703/841-0200		B		202/347-1400		
MD	ROCKVILLE	301/770-1680						
MD	ROCKVILLE	703/524-9215		B212A	120	202/347-3061	B212A	120
MD	ROCKVILLE	703/841-9330		V3405	120	202/347-6093	B/V	120
MD	SILVER SPRING	301/770-1680		B				
MD	SILVER SPRING	703/841-0200		B		202/347-1400		
MD	SILVER SPRING	703/524-9215		B212A	120	202/347-3061	B212A	120
MD	SILVER SPRING	703/841-9330		V3405	120	202/347-6093	B/V	120
MD	TOWSON	301/547-8100		B		301/962-5010		
MD	TOWSON	301/244-8959		B212A	120	301/727-6060	B/V	120
ME'	AUGUSTA					207/623-5136	B/V	120
ME	PORTLAND	207/773-2029	FX	B212A	120			
MI	ANN ARBOR	313/665-2627		B		313/996-0351		
MI	ANN ARBOR	313/662-8282		B212A	120	313/996-5995	B/V	120
MI	BATTLE CREEK					616/968-0929		
MI	BATTLE CREEK					616/968-0929	B/V	120
MI	CADILLAC	616/775-1261		B/V	120			
MI	DETROIT	313/963-3388		B		313/964-5538		
MI	DETROIT	313/963-8880		B212A	120	313/964-2988	B/V	120
MI	DETROIT	313/963-2353		V3405	120			
MI	FLINT					313/233-3050		
MI	FLINT	313/732-7303		B212A	120	313/233-3050	B/V	120
MI	GRAND RAPIDS	616/459-5069	FX	B/V	120	616/458-1200		
MI	GRAND RAPIDS					616/774-0966	B/V	120
MI	JACKSON	517/787-9461		B				
MI	KALAMAZOO	616/385-3150		B		616/385-0160		
MI	KALAMAZOO	616/388-3534		B/V	120			
MI	KALAMAZOO	616/388-3534		B/V	120			
MI	LANSING	517/487-2040	FX	B/V	120	517/372-5400		
MI	LANSING					517/372-5420	B/V	120
MI	MANISTEE	616/723-8373	FX	B/V	120			
MI	PLYMOUTH	313/459-8900		B				
MI	PLYMOUTH	313/459-8100		B212A	120			
MI	SAGINAW					517/790-5166		
MI	SOUTHFIELD	313/569-8350		B				
MI	ST JOSEPH	616/429-2568	FX	B/V	120			
MI	TRAVERSE CITY	616/946-0002	FX	B/V	120			
MI	WARREN					313/575-9230		
MN	DULUTH					218/722-0906		
MN	DULUTH					218/722-1719	B/V	120
MN	MANKATO	507/625-1684		B212A	120			
MN	MINNEAPOLIS	612/339-5200		B		612/339-0150	B/V	120
MN	MINNEAPOLIS	612/339-8086		B				
MN	MINNEAPOLIS	612/339-2415		B212A	120	612/338-3782	B/V	120
MN	ROCHESTER	507/282-3741		B212A	120			
MN	ST. PAUL	612/339-5200		B		612/339-0150	B/V	120
MN	ST. PAUL	612/339-2415		B212A	120	612/338-3782	B/V	120
MO	BRIDGETON	314/731-2304	FX	B				
MO	COLUMBIA	314/875-1150	FX	B				
MO	FLORISSANT					314/421-4990	B/V	120
MO	JEFFERSON CITY	314/634-3273		B212A	120			
MO	JOPLIN	417/782-3037		B212A	120			
MO	KANSAS CITY	913/677-2833		B		816/221-9900		
MO	KANSAS CITY	913/677-0707		B212A	120	816/221-9900	B/V	120
MO	SPRINGFIELD	417/831-0566		B212A	120			
MO	ST JOSEPH	816/232-0624		B212A	120			
MO	ST LOUIS	314/421-5110		B		314/421-4990		
MO	ST LOUIS	314/621-4660		B212A	120	314/421-4990	B/V	120
MS	JACKSON	601/944-0860	FX	B		601/969-0036		
MS	JACKSON	601/969-5141		B212A	120			
MS	PASCAGOULA	601/769-6502		B				
MS	PASCAGOULA	601/769-6673		B212A	120			
MT	BUTTE	406/494-2998		B212A	120			
MT	HELENA					406/443-0000		
NE	LINCOLN	402/475-8659	FX	B/V	120			
NE	OMAHA	402/392-2970		B		402/341-7733		
NE	OMAHA	402/397-0414		B212A	120	402/341-7733	B/V	120
NC	ASHEVILLE	704/255-0021		B212A	120	704/253-3517	B/V	120
NC	CHARLOTTE	704/376-2545	FX	B		704/374-0371		
NC	CHARLOTTE	704/376-2544	FX	B212A	120	704/332-3131	B/V	120
NC	DAVIDSON	919/549-0441		B		919/549-8311		
NC	DAVIDSON					919/549-8139	B/V	120
NC	DURHAM	919/549-0441		B		919/549-8311		
NC	DURHAM	919/549-8910		B212A	120	919/549-8139	B/V	120
NC	GREENSBORO	919/379-0470		B/V	120	919/273-2851	B/V	120
NC	HIGH POINT	919/885-0171	FX	B		919/889-2253		
NC	HIGH POINT	919/885-0171	FX	B/V	120	919/889-2253	B/V	120

ST	CITY	TYMNET		TYPE	SPEED	TELENET	TYPE	SPEED
NC	RALEIGH/DURHAM	919/549-0441		B		919/549-8311		
NC	RALEIGH/DURHAM	919/832-6592	FX	B212A	120	919/549-8139	B/V	120
NC	RES. TRI. PARK	919/549-0441		B		919/549-8311		
NC	RES. TRI. PARK					919/549-8139	B/V	120
NC	WINSTON-SALEM	919/725-1414		B		919/725-2126		
NC	WINSTON-SALEM	919/725-9252		B212A	120	919/725-2126	B/V	120
ND	BISMARCK					701/663-5081		
ND	MANDAN					701/663-5081		
NH	CONCORD					603/224-8110		
NH	CONCORD					603/224-1024	B/V	120
NH	MANCHESTER	603/669-0493	FX	B				
NH	NASHUA	603/882-0435	FX	B/V	120			
NH	PORTSMOUTH					603/431-2302		
NJ	ATLANTIC CITY					609/348-0561		
NJ	BAYONNE					201/623-6818		
NJ	BAYONNE					201/623-0469	B/V	120
NJ	ENGLEWOOD CLFS	201/894-8250		B				
NJ	JERSEY CITY					201/623-6818		
NJ	JERSEY CITY					201/623-0469	B/V	120
NJ	LYNDHURST	201/460-0100		B				
NJ	LYNDHURST	201/460-0180		B212A	120			
NJ	MARLTON					609/596-1500	B/V	120
NJ	MOORESTOWN	609/235-3761	FX	B				
NJ	MORRISTOWN	201/267-3997		B212A	120	201/455-0275	B/V	120
NJ	NEW BRUNSWICK					201/246-1090		
NJ	NEWARK	201/483-5937		B		201/623-6818		
NJ	NEWARK	201/483-4878		B212A	120	201/623-0469	B/V	120
NJ	PASSAIC					201/777-0952		
NJ	PATERSON					201/684-7560	B/V	120
NJ	PISCATAWAY	201/981-1900		B				
NJ	PRINCETON	609/452-8970				609/683-1312		
NJ	PRINCETON	609/452-8560		B212A	120	609/683-1312	B/V	120
NJ	RIDGEWOOD	201/447-6175	FX	B				
NJ	TRENTON					609/989-8847	B/V	120
NJ	UNION	201/483-5937		B				
NJ	UNION	201/483-4878		B212A	120			
NJ	UNION CITY					201/623-6818		
NJ	UNION CITY					201/623-0469	B/V	120
NJ	WAYNE	201/785-4480		B				
NM	ALBUQUERQUE					505/243-7701		
NM	ALBUQUERQUE	505/843-6301		B/V	120	505/243-4479	B/V	120
NM	SANTE FE					505/982-4282		
NV	BOULDER CITY	702/293-0300		B				
NV	CARSON CITY	702/882-7810		B/V	120			
NV	LAS VEGAS	702/293-0300		B/V	120	702/733-2158		
NV	LAS VEGAS					702/737-6861	B/V	120
NV	RENO	702/882-7810		B/V	120			
NY	ALBANY	518/463-3111	FX	B		518/445-9111		
NY	ALBANY	518/434-2633		B212A	120	518/465-8444	B/V	120
NY	BINGHAMPTON					607/772-6642	B/V	120
NY	BUFFALO	716/845-6610		B		716/847-0600		
NY	BUFFALO	716/847-0500		B212A	120	716/847-1440	B/V	120
NY	CORNING	607/962-5071		B				
NY	CORNING	607/936-4151		B212A	120			
NY	DEER PARK					516/586-7810		
NY	ELMIRA	607/737-9010		B212A	120			
NY	HEMPSTEAD, LI	516/872-6500	FX	B		516/292-0320		
NY	HEMPSTEAD, LI	516/872-6500	FX	B/V	120	516/292-3800	B/V	120
NY	HUNTINGTON, LI	516/549-2780	FX	B				
NY	HUNTINGTON, LI	516/549-2780	FX	B/V	120			
NY	MINOLA	516/222-1423	FX	B212A	120			
NY	NEW YORK	212/344-7445		B		212/279-1000		
NY	NEW YORK	212/683-0131		B				
NY	NEW YORK	212/532-0437		B		212/736-0099		
NY	NEW YORK	212/685-4414		B				
NY	NEW YORK	212/668-0130		B212A	120	212/947-9600	B/V	120
NY	NEW YORK	212/532-8101		B212A	120			
NY	NEW YORK	212/684-6363		B/V	120			
NY	NEW YORK	212/785-5400		B/V	120			
NY	NIAGARA FALLS	716/285-6691	FX	B				
NY	NIAGARA FALLS	716/285-3114	FX	B212A	120			
NY	POUGHKEEPSIE	914/473-7815	FX	B		914/473-5600		
NY	ROCHESTER	716/248-8000		B		716/454-3430		
NY	ROCHESTER	716/248-8350		B212A	120	716/454-1020	B/V	120
NY	ROME					315/797-0920	B/V	120
NY	SCHENECTADY					518/445-9111		
NY	SCHENECTADY					518/465-8444	B/V	120

C-12

ST	CITY	TYMNET	TYPE	SPEED	TELENET	TYPE	SPEED
NY	SYRACUSE	315/437-7111	B		315/472-5503		
NY	SYRACUSE	315/437-1117	B212A	120	315/472-5583	B/V	120
NY	TROY				518/445-9111		
NY	TROY				518/465-8444	B/V	120
NY	UTICA				518/465-8444	B/V	120
NY	WHITE PLAINS	914/694-9361	B		914/328-9199	B/V	120
NY	WHITE PLAINS	914/694-8960	B212A	120	914/328-9199	B/V	120
OH	AKRON	216/535-1861	B		216/762-9791	B/V	120
OH	CANTON				216/452-0903		
OH	CINCINNATI	513/891-7211	B		513/621-7017		
OH	CINCINNATI	513/791-5311	B212A	120	513/579-0390	B/V	120
OH	CINCINNATI	513/793-8893	B/V	120			
OH	CLEVELAND	216/781-7050	B		216/241-0940		
OH	CLEVELAND	216/861-5383	B212A	120	216/696-4225	B/V	120
OH	COLUMBUS	614/421-7270	B		614/463-9340	B/V	120
OH	COLUMBUS	614/421-1650	B212A	120			
OH	DAYTON	513/223-3847	B		513/461-1570		
OH	DAYTON	513/461-6400	B212A	120	513/461-5254	B/V	120
OH	EUCLID				216/241-0940		
OH	EUCLID				216/696-4225	B/V	120
OH	KENT				216/678-5115		
OH	MARYSVILLE	513/642-2015 FX	B212A	120			
OH	PARMA				216/241-0940		
OH	PARMA				216/696-4225	B/V	120
OH	SPRINGFIELD				513/323-8433		
OH	TOLEDO	419/243-3144 FX	B		419/225-7805		
OH	TOLEDO	419/255-2946 FX	B212A	120	419/225-7881	B/V	120
OH	YOUNGSTOWN	216/744-5326	B212A	120	216/743-2296	B/V	120
OK	BARTLESVILLE				918/336-0020		
OK	BETHANY	405/947-0561	B				
OK	BETHANY	405/949-0125	B212A	120	405/232-4546	B/V	120
OK	NORMAN	405/947-0561	B				
OK	NORMAN	405/949-0125	B212A	120	405/232-4546	B/V	120
OK	OKLAHOMA CITY	405/947-0561	B		405/232-4546		
OK	OKLAHOMA CITY	405/949-0125	B212A	120	405/232-4546	B/V	120
OK	STILLWATER				405/624-1112		
OK	TULSA	918/582-0507	B		918/584-3247		
OK	TULSA	918/582-0498	B212A	120	918/584-3247	B/V	120
OR	PORTLAND	503/231-4050	B		503/295-3000		
OR	PORTLAND	503/231-4077	B212A	120	503/295-3028	B/V	120
OR	SALEM				503/378-7712	B/V	120
PA	ALLENTOWN	215/433-6131 FX	B		215/425-3330		
PA	ALLENTOWN	215/432-5926	B212A	120	215/425-3330	B/V	120
PA	ALTOONA	814/946-8888	B212A	120			
PA	DOWINGTON	215/269-9861 FX	B/V	120			
PA	ERIE	814/453-7161	B		814/453-7561		
PA	ERIE				814/453-6859	B/V	120
PA	HARRISBURG	717/236-1190 FX	B		717/236-6882		
PA	HARRISBURG	717/233-8531 FX	B212A	120	717/236-6882	B/V	120
PA	JOHNSTOWN				814/535-7576		
PA	JOHNSTOWN				814/535-8541	B/V	120
PA	KING OF PRUSSIA	215/337-9900	B212A	120	215/337-4300	B/V	120
PA	PENN HILLS				412/288-9950		
PA	PENN HILLS				412/288-9974	B/V	120
PA	PHILADELPHIA	215/561-6120	B		215/574-0620		
PA	PHILADELPHIA	215/567-1381	B212A	120	215/574-9462	B/V	120
PA	PITTSBURGH	412/765-1320	B		412/288-9950		
PA	PITTSBURGH	412/261-4151	B212A	120	412/288-9974	B/V	120
PA	SCRANTON				717/961-5321		
PA	SHARON				412/346-6576		
PA	UPPER DARBY				215/574-0620		
PA	UPPER DARBY				215/574-9462	B/V	120
PA	VALLEY FORGE	215/666-9190	B				
PA	VALLEY FORGE	215/666-0930	B212A	120			
PA	YORK	717/846-3900	B/V	120	717/846-6550	B/V	120
RI	PROVIDENCE	401/273-0200 FX	B		401/272-9290		
RI	PROVIDENCE	401/273-0201	B212A	120	401/751-7912	B/V	120
RI	WARWICK	401/274-5783 FX	B		401/272-9290		
RI	WARWICK	401/831-5566	B212A	120	401/751-7912	B/V	120
SC	CHARLESTON				803/722-4352		
SC	CHARLESTON	803/577-2179 FX	B/V	120	803/722-4303	B/V	120
SC	COLUMBIA	803/252-0840 FX	B		803/254-1108		
SC	COLUMBIA	803/256-5238 FX	B212A	120	803/254-0695	B/V	120
SC	GREENVILLE	803/271-2418 FX	B		803/233-3488		
SC	GREENVILLE	803/271-9967 FX	B		803/233-3486	B/V	120
SC	SPARTANBURG	803/585-2637 FX	B/V	120			
SD	PIERRE				605/224-6188		

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ST	CITY	TYMNET		TYPE	SPEED	TELENET	TYPE	SPEED
TN	CHATTANOOGA	615/756-5856		B		615/756-5323		
TN	CHATTANOOGA	615/756-0561		B212A	120	615/756-1161	B/V	120
TN	KNOXVILLE	615/637-3118	FX	B		615/523-5500		
TN	KNOXVILLE	615/523-7458	FX	B212A	120	615/523-5500	B/V	120
TN	MEMPHIS	901/529-0170		B		901/525-2563		
TN	MEMPHIS	901/529-0183		B212A	120	901/521-0215	B/V	120
TN	NASHVILLE	615/367-9382		B		615/244-8310		
TN	NASHVILLE	615/361-7566		B212A	120	615/244-5099	B/V	120
TX	ABILENE					915/676-7701		
TX	AUSTIN	512/444-3280		B/V	120	512/928-1130	B/V	120
TX	BAYTOWN	713/427-5856	FX	B				
TX	BEAUMONT	713/832-2589	FX	B				
TX	CORPUS CHRISTI	512/882-3641	FX	B212A	120	512/884-9030	B/V	120
TX	DALLAS	214/638-8888		B/V	120	214/748-0127		
TX	DALLAS	214/688-1444		B212A	120	214/748-6371	B/V	120
TX	EL PASO	915/544-9590		B/V	120	915/532-7907	B/V	120
TX	EL PASO	915/532-1936		B212A	120			
TX	FORT WORTH	214/263-4581	FX	B		817/336-7791		
TX	FORT WORTH	214/263-0278		B212A	120	817/332-4307	B/V	120
TX	GALVESTON					713/762-3308	B/V	120
TX	HOUSTON	713/975-0500		B		713/227-1018		
TX	HOUSTON	713/977-4080		B				
TX	HOUSTON	713/780-7390		B				
TX	HOUSTON	713/780-7496		V3405	120			
TX	HOUSTON	713/977-7671		B212A	120	713/227-1018	B/V	120
TX	LACKLAND					512/227-7784		
TX	LACKLAND					512/227-0182	B/V	120
TX	LONGVIEW	214/758-1756	FX	B				
TX	LUBBOCK	806/762-0136	FX	B				
TX	MIDLAND	915/683-5645		B				
TX	MIDLAND	915/683-9833		B212A	120			
TX	NEDERLAND					713/724-2341		
TX	ODESSA	915/563-3745	FX	B		915/332-6883		
TX	SAN ANGELO					915/944-9670		
TX	SAN ANGELO					915/944-8502	B/V	120
TX	SAN ANTONIO	512/226-9995		B		512/227-7784		
TX	SAN ANTONIO	512/226-0023		B212A	120	512/227-0182	B/V	120
UT	SALT LAKE CITY	801/582-8972		B		801/364-2644		
UT	SALT LAKE CITY	801/582-6060		B212A	120	801/359-0149	B/V	120
VA	CHESAPEAKE					804/625-1186	B/V	120
VA	HERNDON					703/435-3333		
VA	LYNCHBURG	804/528-0021	FX	B212A	120			
VA	NEWPORT NEWS	804/596-5754	FX	B		804/596-6600	B/V	120
VA	NORFOLK	804/625-8301		B212A	120	804/625-1186	B/V	120
VA	PORTSMOUTH					804/625-1186	B/V	120
VA	RICHMOND	804/649-3050	FX	B		804/788-9902	B/V	120
VA	RICHMOND	804/788-4604		B212A	120			
VA	ROANOKE	703/345-6668	FX	B/V	120			
VA	VIRGINIA BEACH					804/525-1186	B/V	120
VT	BURLINGTON	802/864-0054	FX	B212A	120			
VT	MONTPELIER					802/229-4966		
WA	AUBURN					206/939-8200		
WA	BELLEVUE	206/625-9937		B212A	120	206/625-9612	B/V	120
WA	BELLEVUE	206/625-9900		B		206/447-9012		
WA	ENUMCLAW	206/825-6909	FX	B212A	120			
WA	LONGVIEW					206/577-5835		
WA	OLYMPIA	206/943-4190	FX	B				
WA	RICHLAND	509/375-1975		B				
WA	RICHLAND	509/375-3367		B212A	120			
WA	SEATTLE	206/625-9900		B		206/447-9012		
WA	SEATTLE	206/625-9937		B212A	120	206/625-9612	B/V	120
WA	SPOKANE	509/747-4105		B/V	120	509/455-4071	B/V	120
WA	TACOMA	206/952-6800	FX	B		206/627-1717		
WA	TACOMA					206/627-1791	B/V	120
WA	WENACHEE					509/662-1901		
WA	WENACHEE					509/662-1901	B/V	120
WI	APPLETON	414/734-9940	FX	B/V	120			
WI	EAU CLAIRE	715/834-7863	FX	B212A	120	715/835-4641		
WI	GREEN BAY	414/468-6808		B/V	120			
WI	MADISON	608/221-4211		B		608/251-5904		
WI	MADISON	608/221-0891		B212A	120	608/257-5010	B/V	120
WI	MILWAUKEE	414/257-3482		B		414/271-2560		
WI	MILWAUKEE	414/257-1703		B/V	120	414/271-3914	B/V	120
WI	NEENAH	414/722-5580		B/V	120			
WI	OSHKOSH	414/235-4594	FX	B/V	120			
WI	RACINE	414/637-0910		B/V	120			
WV	CHARLESTON	304/345-2908		B212A	120	304/345-6471	B/V	120
WV	HUNTINGTON	304/522-6261	FX	B				
WY	CHEYENNE					307/638-4421	B/V	120

LIST OF TYMNET TERMINAL IDENTIFIERS

TERMINAL	ID
ADDS	
580, 620, 680, 880, 980	A
Anderson Jacobson	
330	(CR)
830, 832	A
630	E
860	A
Ann Arbor Terminals	
Design III, 200	A
Beehive Medical Electronics	
Mini Bee 1, 2, 4	A
Super Bee 2, 3	A
I-211, M-501, R-211	A
Bell System	
Dataspeed 40/2	
KD	A
KDP	G
Computer Devices	
1030	E
1132, 1201, 1202, 1203	
1204, 1205, 1206	A
Computek	
200, 300	A
Conrac	
401, 480	A
Control Data	
713	A
Computer Transceiver Systems	
Execuport	E
DEC	
GT40, LA34, LA36, LA38, LA120, #LS120, #VT05, VT50, VT100, VT132	A
Datamedia	
1500, 2000, 2100, 2500	A
Datapoint	
1100, 3000, 3300	A
Delta Data	
5000, 5100, 5200	A
Digi-Log	
33, 209, 300	A
General Electric	
Terminet	
300, 1200	G
Gen-Com	
300	A
Hazeltine	
1200, 2000	A
Hewlett-Packard	
2615, 2616, 262X Series	
263X Series, 264X Series	A
Hydra	
Model B	I

TERMINAL	ID
IBM	
2741	P (CR)
Interdata	
Carousel 300	E
Incoterm	
SPD 10/20, 20/20, 900	A
Infoton	
Vistar	A
ITT	
3501 Asciscope	A
Lear Siegler	
7700, ADM-1, ADM-2, ADM-3	A
LogAbax Informatique	
LX 180	I
LX 1010#	A
MI2	
2400#	I
Megadata	A
Memorex	
1240	G
NCR	
260	E
796	A
Omron	
8525	A
Ontel	
4000	A
Research	
Teleray 3300, 3311, 3712	A
Raytheon	
PTS-100	A
Singer	
30	E
Scientific Measurement Systems	
1440	A
Tally	
1612#	A
Tec	
400 Series, 1440	A
Tektronix	
4012, 4013, 4014, 4023, 4025	A
Teletype	
33, 35	D
38	B
43	A
Texas Instruments	
720, 725, 733, 735	E
743, 745, 763, 765, 771, # 820	A

LIST OF TYMNET TERMINAL IDENTIFIERS CONTINUED ON PAGE 2

LIST OF TYMNET TERMINAL IDENTIFIERS

TERMINAL	ID
Texas Scientific	
Entelkon 10	A
Typagraph	
DP-30	C
Tymshare	
100, 110, 212, 213	E
200	D
310, 311	C
125, 126, 225, 315, 316, 325, 350, #420, 430, 440W, 444, 1100#	A
Wang Laboratories	
220 OB	A
Westinghouse	
1600, 1620	A
Xerox	
BC100, BC200	A

NOTES:

(CR) = CARRIAGE RETURN
= DURING LOGIN, ENTER CONTROL R IMMEDIATELY BEFORE TYPING NLM OR SUNY

TELENET TERMINAL IDENTIFIERS

Telenet has published a new list of terminal model identifiers as of January 1981. They suggest that these identifiers be used to get the best performance from your terminal. If your terminal model is not listed, simply enter a CARRIAGE RETURN to the TERMINAL = prompt during the login procedure.

Terminal Model	ID
ADDS CONSUL 520, 580, 980	D1
ADDS ENVOY 620, REGENT	D1
ALANTHUS DATA TERMINAL T-133	A1
T-300	A8
T-1200	A3
ALANTHUS MINITERM	A2
AM-JACQUARD AMTEXT 425	D1
ANDERSON JACOBSEN 510	D1
ANDERSON JACOBSEN 630	B1
ANDERSON JACOBSEN 830,832	B3
ANDERSON JACOBSEN 841	*
ANDERSON JACOBSEN 860	B5
APPLE II	D1
ATARI 400, 800	D1
AT&T DATASPEED 40/1,40/2,40/3	D1
BEEHIVE MINIBEE, MICROBEE	D1
CENTRONICS 761	A8
COMMODORE PET	D1
COMPU-COLOR II	D1
COMPUTER DEVICES CDI 1030	A2
COMPUTER DEVICES TELETERM 1132	A8
COMPUTER DEVICES MINITERM 1200 SERIES	A2
COMPUTER TRANSCEIVER EXECUPORT 300	A2
COMPUTER TRANSCEIVER EXECUPORT 1200	A9
COMPUTER TRANSCEIVER EXECUPORT 4000	A8
CPT 6000, 8000	D1
DATAMEDIA ELITE	D1
DATAPOINT 1500,1800,2200,3000, 3300,3600,3800	D1
DATA PRODUCTS PORTATERM	A1
DATA TERMINAL & COMMUNICATIONS DTC 300,302	B3
DIABLO HYTERM	B3
DIGI-LOG 33 & TELECOMPUTER II	D1
DIGITAL EQUIPMENT (LA 35-36) DECWRITER II	A8
(LA 120) DECWRITER III	A8
DIGITAL EQUIPMENT VT50, VT52, VT100, WS78, WS200	D1
GEN-COMM SYSTEMS 300	B3
GE TERMINET 30	A5
GE TERMINET 300	A4
GE TERMINET 120, 1200	A3
GENERAL TERMINAL GT-100A, GT-101, GT110, GT-400, GT-400B	D1
HAZELTINE 1500, 1400, 2000	D1
HEWLETT PACKARD 2621	D3
HEWLETT PACKARD 2640 SERIES	D1
IBM 2741 (EBCD Code) TYPESPHERE ELEMENT Code: #963, 996, 998	E1
IBM 2741 (EBCD Code) TYPESPHERE ELEMENT Code: #938, 939,961,962,997	E2
942, 943	E3
947, 948	E4
IBM 2741 (CORRESPONDENCE CODE) TYPESPHERE ELEMENT Code #001, 005, 007,008,022,030,050,053, 067,070,085	C1
006,010,015,019,059,090	C2
021,025-029,031-039,060,068, 086,123,129-145,156,161	C3
043,054	C4
IBM 3101	D1
INFORMER 1304, D304	D1
INFOTON 100,200,400, VISTAR	D1
INTELLIGENT SYSTEMS INTECOLOR	D1
INTERTEC INTERTUBE II	D1
LANIER WORD PROCESSOR	D1
LEAR SIEGLER ADM SERIES	D1
LEXITRON 1202, 1303	D1
MEMOREX 1240	A2
MICOM 2000, 2001	D1
NBI 3000	D1
NCR 260	A2
PERKIN-ELMER MODEL 1100, OWL, BANTAM	D1
PERKIN-ELMER CAROUSEL 300 SERIES	A8
RADIO SHACK TRS 80	D1
RESEARCH INC. TELERAY	D1
TEKTRONIX 4000-4024	D1
TELETYPE MODEL 33, 35	A1
TELETYPE MODEL 40	D1
TELETYPE MODEL 43	B3
TELETYPE MODEL 40/1,40/2,40/3	D1
TEXAS INSTRUMENT 725	A7
733	A2
735	A6
743,745,763,765	D1
820	B3
99/4	D1
TRENDATA 1000,1500,2000	*
4000 (ASCII)	B1
TYMSHARE 110, 212	A2
315	A8
325	B3
UNIVAC DCT 500	B4
WANG 20,25,30,015,130,145	D1
WESTERN UNION EDT 33,35	A1
300	A3
XEROX 800, 850, 860	D1
XEROX 1700	B3

*USE IBM 2741 CODES

TELENET
(NLM or SUNY)

MANUAL

3.5.3

1. Set terminal to:

   ON — ONLINE
   30 cps. — FULL DUPLEX

2. Dial appropriate number for Telenet node

3. After receiving high pitched tone, connect receiver to acoustic coupler

	COMPUTER	USER	
4.	ONLINE SIGNAL LIGHTS UP	(CR) ;	(CR) - half duplex
5.	TELENET 202 DL9 TERMINAL=	(CR)	
6.	@ type HALF	C 301 20 (CR) or C 518 20 (CR)	FOR NLM FOR SUNY
7.	301 20 CONNECTED (or 518 20 CONNECTED)	/LOGIN (CR)	
8.	PLEASE ENTER USER ID/PASSWORD OR LOGON #####	XXX01/WORD (CR)	

(CR) = CARRIAGE RETURN

TYMNET OR TYMSHARE
(NLM or SUNY)

MANUAL
3.5.2

1. Set terminal to:

ON	ONLINE
30 cps.	FULL DUPLEX

2. Dial appropriate number for Tymshare node

3. After receiving high pitched tone, connect receiver to acoustic coupler

	COMPUTER	USER	
4.	PLEASE TYPE YOUR TERMINAL IDENTIFIER	E^A (NO CR)	
5.	PLEASE LOG IN: For 1/2 duplex: call H NLM	NLM or SUNY	(CR)
6.	PASSWORD	BCN	(CR) (this does not print)
7.	;	(Press carriage return)	
8.	PLEASE ENTER /LOGIN	/LOGIN	(CR)
9.	PLEASE ENTER USERID/PASSWORD OR LOGON		
	##################	XXX01/WORD	(CR)

Direct Dial
(NLM only)

MANUAL
3.5.1

1. Set terminal to:

ON	ONLINE
30/120 cps.	HALF-DUPLEX

2. Dial 492-3150. Area code 301 if needed.

3. After receiving high pitched tone, connect receiver to acoustic coupler

	COMPUTER	USER	
4.	ONLINE SIGNAL LIGHTS UP	P	(CR)
5.	PLEASE ENTER /LOGIN	/LOGIN	(CR)
6.	PLEASE ENTER USERID/PASSWORD OR LOGON	XXX01/WORD	(CR)

##########

(CR) - CARRIAGE RETURN

ELHILL COMMANDS

GENERAL — MANUAL

-- commands available in all data bases

-- using a command does not use up a Search Statement number (except one command, FIND; that's why you may use a command after SF,C)

-- a command may be given after any USER: cue

-- as of July 3, 1978, initial double quotes are no longer required when inputting commands

EXCEPTIONS:

"TIME - not ELHILL command but TCAM (Telecommunications Access Method) command; initial quotes still required. (NLM command only.) — 4.9.27

function: displays cumulative search or connect time from /login or from last "TIME command and computer connected to (NLM only); gives Eastern time.

example:
```
USER:
"TIME
TIME  0:00:12   NLM TIME   7:16:30
```

NOTE: This command does not work at SUNY in this form. Instead at SUNY, to get time, type one @ (at sign) if connected through TYMNET communications network; type two @@ (at signs) if connected through TELENET.

"CAPS - not ELHILL command but TCAM command; 4.9.1 initial quotes still required — 4.9.1

function: allows users with a terminal in upper and lower case to receive online output in upper case only

-- does not affect OFFLINE/OFFSEARCH PRINTS
-- online command only
-- stays in effect for entire terminal session; cancelled by STOP Y logoff command only

NOTE: No CAPS capability is available at SUNY.

Double quotes are still required for commands at NLM and SUNY when the command is entered after certain system prompts. Two such prompts are:

MORE NEWS (Y/N) when printing NEWS

REPLY (Y/N) when sending a comment

NOTE: With elimination of initial quotes, if you want to search on a term that is also a command name or command name abbreviation, you must either enter the term preceded by a space or preceded by a qualifier.

e.g. to search on the term PRINT, enter:

USER		USER:
PRINT	or	(TW) PRINT

I. PRINT COMMANDS

Note: MEDLINE will be used as standard reference in discussion.

-- used to display full or partial unit records of postings received in any search statement.

Three standard PRINT commands: 4.9.16

PRINT (PRT) au, ti, so

PRINT FULL (PRT FU) language + MH

PRINT DETAILED (PRT DL) everything

a. display different unit record elements in different databases (e.g., MEDLINE, TOXLINE)

b. response to each standard PRINT command for each database in unit record description for each database in ONLINE SERVICES REFERENCE MANUAL (see specific database section) or available online

-- all PRINT commands display data elements of postings from Search Statement immediately preceding PRINT command

-- unit records most recently entered to database displayed first

-- prints 25 lines at a time (if PROFILE has not been changed), finishes printing unit record it started printing even if 25 line limit reached

-- any data element which is part of the standard print not present in the unit record will not have a "space" left in its place; the element will not be printed

IN MEDLINE

PRT - AU, TI, SO

PRT FU - AU, TI, LA, MH, SO, CA (if present), NM/RN (if present)

PRT DL - every printable element in the unit record (all databases)

STANDARD PRINT MEDLINE/HEALTH/~~POPLINE~~ only 7.6/23.6

PRINT AR - AU, TI, SO, AB (if present) 40% here

TAILORED PRINT COMMANDS 4.9.16.4

-- indicate specific data elements to be displayed using mnemonic for data elements; commas necessary between mnemonics

e.g. PRT TI, MH (prints title and MeSH headings only -- good to browse titles for relevancy and to see how relevant citations indexed)

e.g. PRINT 5 TI (to limit browse to 5 titles only; comma not necessary between number and mnemonic)

MANUAL

OTHER PRINT COMMANDS

1) PRT INCLUDE -- gives basic elements for standard PRINT in database, plus elements specified — 4.9.16.4

e.g. PRT INCLUDE MH (prints AU, TI, SO, MH; same as PRT TI, AU, SO, MH)

Also: PRT FU INCLUDE

PRT AR INCLUDE

2) PRT EXCLUDE -- gives basic elements for standard PRINT in database, omitting elements specified — 4.9.16.4

Also: PRT FU EXCLUDE

PRT DL EXCLUDE

PRT AR EXCLUDE

3) PRT SKIP -- used to print out only selected citations/postings from those retrieved; used with standard PRINTS, tailored PRINTS, etc. — 4.9.16.5

e.g. PRT 1 SKIP 5 (prints one citation beginning at 6th citation)

4) SPECIFYING SEARCH STATEMENT NUMBER - used to print from Search Statement other than preceding one — 4.9.16.6

e.g. SS 10/C?
USER:
PRT SS 5 TI (prints titles from Search Statement 5; overrides default to previous statement)

OTHER PRINT COMMANDS (continued)

5) PRT OFFLINE -- used to avoid printing a large number of postings at your own terminal; instead, printing is done at night at NLM or SUNY (depending on which computer connected to when command issued) and mailed the next morning 4.9.16.8

-- limit on OFFLINE print = 300 postings; if postings greater than 300 and PRT OFFLINE command issued, a message will be received:

"LIMIT OF 300 DOCUMENTS FOR OFFLINE PRINT. COMMAND DELETED."

-- to print more than 300 postings, issue more than one command using SKIP option

e.g. SS (5) PSTG (355)

SS 6/C?
USER:
PRT OFFLINE 300

SS 6/C?
USER:
PRT OFFLINE 55 SKIP 300

NOTE: In second or any subsequent PRT OFFLINE commands for the same search statement, exact number of remaining postings (in this case 55) must be specified or command will not work.

REMEMBER: There are page charges on OFFLINE prints; this should be considered when requesting a large number of postings to be printed at NLM or SUNY OFFLINE.

OTHER PRINT COMMANDS (continued)

-- OFFLINE prints may be used with standard prints or tailored

e.g. PRT OFFLINE TI SS 3
PRT OFFLINE AR SKIP 25
PRT FU EXCLUDE MH OFFLINE

COMPLETE FORMAT

SS (10) PSTG (112)

SS 11/C?
USER:
PRT OFFLINE

PROG: (PROGRAM PROMPTS FOR MAILING INFORMATION)
NAME?
ADDRESS?
CITY, STATE (PLEASE DO NOT ABBREVIATE) AND ZIP-
REQUESTOR'S NAME OR SAME
SEARCH TITLE, OR NONE?

OK? (Y/N/C/ADDRESS)

Y - program replies "OFFLINE PRINT COMPLETED"
N - program re-prompts for NAME, ADDRESS, etc.
C - program gives message:
"OFFLINE PRINT COMMAND HAS BEEN CANCELLED"

ADDRESS - program lists STORED ADDRESS if one exists

CANCELLING AN OFFLINE PRINT

entering C in response to Y/N/C/ADDRESS as above

entering a space and carriage return after any USER: cue during the NAME, ADDRESS, etc. portion above

NOTE: After the message "OFFLINE PRINT COMPLETED" has been received, an OFFLINE PRINT may not be cancelled.

OTHER PRINT COMMANDS (continued)

PRESPECIFICATION OR ERROR CORRECTION IN OFFLINE PRINTS 4.9.16.8.1

-- any user supplied information (i.e., address information) may be prespecified and/or corrected when inputting information for an OFFLINE print; the user may enter as much of the address information as will fit on one line (prespecification may not be continued on a second line).

e.g.
```
PROG:
NAME?
USER:

JANE DOE, ADDRESS = 718 MAIN STREET

PROG:
CITY, STATE (PLEASE DO NOT ABBREVIATE), AND ZIP-
USER:

BETHESDA, MARYLAND  20014

PROG:
REQUESTOR'S NAME OR SAME
USER:

SAME,  TITLE = HOSPICES
```

MAIL = PROMPT

-- specific keywords followed by a space, an equals sign (=) and another space must be used in place of program prompts during prespecification:

program prompt	corresponding keyword
NAME?	NAME =
ADDRESS?	ADDRESS =
CITY, STATE (PLEASE DO NOT ABBREVIATE, AND ZIP-	CITSTAZIP =
REQUESTOR'S NAME OR SAME	REQUESTOR =
SEARCH TITLE OR NONE	TITLE =

OTHER PRINT COMMANDS (continued)

6) PRT INDENTED -- mnemonics which are used with all prints are spelled out in full 4.9.16.7

e.g. PRT INDENTED
PROG:

```
AUTHOR              WALD FS
TITLE               TERMINAL CARE AND
                      NURSING EDUCATION
SOURCE              AM J NURS 1979 OCT; 79(10):1762-4
```

-- may tailor:

PRT AR INDENTED
PRT TI, AU, SO, MH INDENTED
PRT OFFLINE INDENTED

-- good PRINT command for demonstrations and with new databases (for unfamiliar mnemonics)

7) PRT COMPRESSED (alias: PRT COMPR; PRT COMPRESS) 4.9.16.7

-- data elements having more than one item of information (e.g. AUTHOR (multiple authors)), will print out across the page rather than listing down, one item per line

-- online PRINT command only (OFFLINE & OFFSEARCH PRINTS already in compressed format)

e.g. PRT COMPR
PROG:

```
1
AU - HOUFF SA ; BURTON RC ; WILSON RW ; HENSON TE ;
     LONDON WT ; BAER GM ; ANDERSON LJ ; WINKLER WG ;
     MADDEN DL ; SEVER JL
TI - HUMAN-TO-HUMAN TRANSMISSION OF RABIES VIRUS BY
     CORNEAL TRANSPLANT.
SO - N ENGL J MED 1979 15 MAR;300(11):603-4
```

II. OTHER COMMANDS

1) NEIGHBOR (alias NBR) 4.9.13

-- used to browse Index File of the database connected to (Index File contains all searchable elements in the database listed A-Z; 1-9999)

-- displays search terms alphabetically or numerically identical to or adjacent to term entered entered and the number of postings for that term in the database connected to

-- can enter up to 36 characters

EXAMPLE:

```
SS 1/C?
USER:
NBR EYE
PROG:

POSTINGS                TERM

     1                  EYDOUX P  (AU)
     2                  EYDT JN  (AU)
   829                  EYE  (MH)
  2428                  EYE  (TW)
    10                  EYE BANKS  (MH)
UP N OR DOWN N?

USER:
```

1) NEIGHBOR (continued)

-- *displays term and 2 terms above it in Index File* and 2 terms below

-- if the term is not there, it takes you to the area of the index where it would be

QUESTION "UP N OR DOWN N?"

To browse further, answer question with any of the following:

To continue down (toward Z) enter:

DOWN (with a number 1-10)
D (with a number 1-10)
a number 1-10

DOWN by itself defaults to 5
D may not be entered by itself

To continue up (toward A) enter:

UP (with a number 1-10)

UP entered by itself defaults to 5
a number 1-10 will not page up; UP must be used to page up or the system will assume DOWN.

U may not be entered by itself or with a number to page up.

To cancel a NEIGHBOR command, in response to the question, enter:

N	a space followed by a carriage return
NONE	another command
NO	anything except a number
0	

Find ( )

1) NEIGHBOR (continued)

To NEIGHBOR specific part of the Index, use mnemonic.

EXAMPLE:

```
SS 1/C?
USER:
NBR EYE (MH)
PROG:

POSTINGS      TERM
   498        EXTREMITIES
   198        EXUDATES AND TRANSVDATES
   977        EYE
     9        EYE BANKS
    79        EYE BURNS
```

-- mnemonic not shown after term since only MH requested

-- may get TIME OVERFLOWS limiting NEIGHBOR by mnemonic

2) NEIGHBORDET (alias NBRDET) detailed 4.9.13

-- more detailed NEIGHBOR used for NBRing MeSH Headings

-- lists every form of the heading, alone, with the asterisk, with subheadings, and with both asterisk and subheadings

-- terms may not be NBRed with asterisk; must page down

-- qualifier required

asterisks = main point

```
nbrdet eye (mh)
PROG:

POSTINGS    TERM
     1    *EXUDATES AND TRANSUDATES/RI
     3    *EXUDATES AND TRANSUDATES/SE
  1154    EYE
   117    EYE/AB abnormalities
    74    EYE/AH
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
    28    EYE/AN
   100    EYE/BS
    10    EYE/CY
    94    EYE/DE
    40    EYE/EM
    19    EYE/EN
    36    EYE/GD
    20    EYE/IM
    35    EYE/IR
    82    EYE/ME
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS:   TERM
    11    EYE/MI
   122    EYE/PA
   200    EYE/PH
    44    EYE/PP
    11    EYE/PS
    12    EYE/RA
    33    EYE/RE
     3    EYE/RI
     3    EYE/SE
   124    EYE/SU
UP N OR DOWN N?

USER:
10
PROG:
```

```
POSTINGS    TERM
    15      EYE/TR
    46      EYE/UL
   662      *EYE
    66      *EYE/AB
    31      *EYE/AH
    23      *EYE/AN
    63      *EYE/BS
     3      *EYE/CY
    50      *EYE/DE
    23      *EYE/EM
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
    12      *EYE/EN
    17      *EYE/GD
    10      *EYE/IM
    15      *EYE/IR
    51      *EYE/ME
     6      *EYE/MI
    32      *EYE/PA
   106      *EYE/PH
    19      *EYE/PP
     5      *EYE/PS
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
     4      *EYE/RA
    18      *EYE/RE
     3      *EYE/SE
    74      *EYE/SU
     2      *EYE/TR
    10      *EYE/UL
    12      EYE BANKS
     2      EYE BANKS/HI
     1      EYE BANKS/MT
    10      *EYE BANKS
UP N OR DOWN N?

USER:
```

MANUAL
4.9.5

3) ERASEALL (alias ERSLL)

-- erases all previous search statements

-- returns user to SS 1/C?

-- after ERASEALL, previous search statements may not be used in searching or printing

-- use anytime; most common after SF,C 25 SS limit

4) ERASEBACK (alias ERASEBAK; ERSBK; BACKUP) 4.9.6

-- to delete search statements selectively

-- command entered alone, deletes last search statement having postings

e.g.

```
PROG:
SS (20)  PSTG (277)

SS 21/C?
USER:
ERASEBACK

PROG:
SS 20/C?
```

-- command entered with a number, deletes all search statements with numbers greater than or equal to the one entered with the command

e.g.

```
PROG:
SS 23/C?
USER:
ERASEBACK 9

PROG:
SS 9/C?
USER:
```

-- use to give more room on scratch pad, when overflow messages received

MANUAL
4.9.20

5) RESTACK (alias RSTK; KEEP)

-- to delete search statements selectively; keep others

-- command entered alone, takes last search statement with postings, makes it search statement 1, deletes all other search statements

-- command entered with search statement number(s); keeps those search statements, deletes all others

e.g.

```
SS (20)  PSTG (277)

SS 21/C?
USER:
RESTACK 7,8

PROG:
SS 3/C?
```

(search statements 7 and 8 have been made search statements 1 and 2; all other search statements have been deleted)

-- command entered with the word, TO, and search statement number, keeps indicated search statements, deletes others

e.g.

```
SS (20)  PSTG (277)

SS 21/C?
USER:
RESTACK 7,8 TO 5

PROG:
SS 7/C
```

(search statements 1-4 have been kept; search statements 7 and 8 have been placed in search statements 5 and 6 respectively; all other search statements have been deleted)

5) RESTACK (continued)

EXAMPLES:

Assume search statement 7 just completed

COMMAND ENTERED	RESULT	PROGRAM RESPONSE
RESTACK	SS 1,2,3,4,5,6 erased; SS 7 becomes SS 1	SS 2/C? USER:
RESTACK 4,7	SS 1,2,3,5,6 erased SS 4 becomes SS 1 SS 7 becomes SS 2	SS 3/C? USER:
RESTACK TO 4	SS 1,2,3 kept SS 5,6 erased SS 7 becomes SS 4	SS 5/C? USER:
RESTACK 5,7 TO 2	SS 1 retained SS 2,3,4,6 erased SS 5 becomes SS 2; SS 7 becomes SS 3	SS 4/C? USER:
RESTACK 5 TO 7	ERROR A lower SS number may not be renumbered to a higher SS number	SS 8/C? USER:

-- NOTE: smallest search statement number <u>always</u> put to lowest search statement number

e.g RESTACK 7,4

SS 7 will become SS 2;
SS 4 will become SS 1 regardless of order entered

-- commas necessary when RESTACKing multiple numbers

MANUAL
4.9.7

6) EXPLAIN (alias EX)

-- command entered alone explains last program message received

-- entering EXPLAIN EXPLAIN gives list of explainable items

-- command entered with explainable term, i.e., program message, command, database name, etc. gives explanation of requested term

USEFUL EXPLAINS

EXPLAIN UNIT RECORD -- gives detailed explanation of the unit record of the database connected to.

To obtain unit record explanation of data base not connect to, use EXPLAIN with database name.

e.g. in MEDLINE to obtain explanation of CHEMLINE unit record, enter:

EXPLAIN CHEMLINE

7) FILES (alias FILE ?) 4.9.9

-- names all ELHILL databases available to your USERID and available at the computer connected to (NLM & SUNY have different databases available)

-- tells which data base connected to

8) FILE 4.9.8

-- command used to change from one database to another

-- erases scratch pad, i.e., all search statements from database previously connected to

-- at SS 1/C? in new database

MANUAL
4.9.29

9) USERS

-- enter to obtain the number of ELHILL users currently connected to system

-- if connected to NLM, multiply number of users by 3 to obtain actual number of users (three copies of ELHILL at NLM)

-- if connected to SUNY response to command is actual number of users

-- 30-40 users, response time slows; SUNY usually has fewer users

10) NEWS - use at least once a week 4.9.14

-- to receive general system news while connected to system

-- contains news of such things as updates to databases, system news, closing news (around holidays), and other items of immediate interest to users

-- gives news one item at a time, most recent item first and asks user if wishes to continue

-- next to last item in news contains list of most used databases with date of most recent update, dates of coverage and number of unit records

-- added to almost daily

-- kept about one week (unless of ongoing interest)

-- should get news every day

-- gives news faster than Technical Bulletin

MANUAL
4.9.2

11) COMMENT

-- to ask questions about or remark on system

-- sent to the MEDLARS Management Section at NLM

-- comments may be sent anonymous or a reply may be requested (please include phone number with address information if reply requested)

EXAMPLE:

```
SS 5/C?
USER:
COMMENT
PROG:
REPLY?  (YES/NO)
USER:
NO                  (if user enters YES, the system
PROG:               prompts for NAME and ADDRESS)
CONT OR FINISHED-
USER:
enter comment
```

NOTE: After each line of the comment has been entered and a carriage return is pressed, the system will again prompt "CONT OR FINISHED-" and give a USER: cue. There is no need to enter "CONT" to continue the COMMENT. Simply continue typing after the USER: cue.

-- when finished entering COMMENT, on a new line, after a USER: cue, type:

FINISHED

12) DISPLAY 4.9.4

-- to obtain a descriptive printout of the logical structure of all search statements entered during search, or of one specified search statement from session, or a STORESEARCH or SAVESEARCH or SAVE

ENTERED alone: DISPLAY (gives logical structure of all search statements in ascending numerical order)

MANUAL
4.9.4

12) DISPLAY (continued)

-- Entered with a NUMBER: DISPLAY 5 (gives logical structure of search statement 5 only)

-- Entered with a STORESEARCH or SAVESEARCH name

DISPLAY DR JONES HOSPICES
(gives logical structure of a STORESEARCH or SAVESEARCH stored under USERID)

13) STOP or STOP Y 4.9.24

-- to disconnect from system

-- gives total connect time

entered without Y:

```
STOP

TIME  0:18:32  NLM TIME 13:26:57

PROG:
DONE?  (YES/NO)

USER:
YES

PROG:
GOODBYE!
```

entered with Y (or YES), preanswers DONE question:

```
USER:
STOP Y

PROG:

TIME  0:13:22  NLM TIME 10:32:12

. . .

GOODBYE!
```

14) PROFILE (series of commands)

-- These commands are used to display or change data in the Unified User Specification File (UUSF) attached to a user ID code. There are two ways to manipulate data in the UUSF: 1) use the PROFILE MODIFY command and deal with each item individually as the system prompts you, or 2) use the PROFILE MODIFY command with one or more of the following keywords (separated by commas): PASSWORD, STORAD, NAME, ADDRESS, CITSTAZIP, PAGELENGTH, PAGEWIDTH.

In the first option, the user enters the command -

```
USER:
PROFILE MODIFY
PROG:
PASSWORD?                (The system prompts for data)

USER:
SAME                     (The user elects to keep the same
PROG:                    passowrd)
NAME?

USER:
JANE DOE                 (The user chooses to enter a value)
PROG:
ADDRESS?

USER:
SAME
PROG:
CITSTAZIP?

USER:
SAME
```

. . . . The system will continue to prompt for each item and will list the latest value for every one after the last interaction:

```
PROG:
PASSWORD = DAFFODIL
NAME = JANE DOE
ADDRESS = 15 MAIN ST.
CITSTAZIP = NEW YORK, NY 10021
PAGELENGTH = 40
PAGEWIDTH = 80
OK? (Y/N/C/LIST)         (The NO reply will begin the MODIFY
                         process again from the beginning,
                         the CANCEL reply will put the user
                         at the next search statement, and
                         the LIST reply will list the entire
                         UUSF data again)
```

An item of data may be removed with the REMOVE response to the prompt, e.g.,

```
PASSWORD?
USER:
REMOVE
```

but an error message will be received if you attempt to remove a necessary item.

In the second option, the user enters one or more keywords:

```
USER:
PROFILE MODIFY PASSWORD, NAME
PROG:
PASSWORD?

USER:
DAFFIDIL                (The user has accidentally
PROG:                   misspelled the word DAFFODIL)
NAME?

USER:
MARY JONES
PROG:
(the system lists the entire contents of the UUSF,
 including the new values)
OK? (Y/N/C/LIST)

USER:
PASSWORD = DAFFODIL     (The keyword is used to correct
OK? (Y/N/C/LIST)        the misspelling)

USER:
YES
PROG:
PROFILE COMPLETED.
```

Limitations on the UUSF data include:

1) Password must be no more than 8 alphabetic characters or fewer than 3 characters.
2) Stored address may be only 3 lines of up to 50 characters each.
3) Page length may vary from 10 to 100 lines between CONTINUE PRINTING? (Y/N) message; page width may vary between 40 and 132 characters.

III. PROGRAM MESSAGES

1) NO POSTINGS MESSAGE 4.10.3

-- indicates that no unit records have been found by the computer having the term entered in the field entered

-- common reasons why message received:

a. misspelling a term (most frequent reason)

b. entering a term with the wrong qualifier or without a qualifier when one needed, e.g. entering a Text Word in MEDLINE (which defaults to searching MeSH headings) without the qualifier (TW)

c. when subheadings have been applied to search statements using the SUBHEADINGS APPLY command (MEDLINE only) and no MeSH headings with the specified subheadings are found

d. term does not exist in data base as a search term

e.g.
```
SS 1/C?
USER
LIBER DISEASES  (LIVER misspelled)
PROG:
NP (LIBER DISEASES)
```

NP in a search statement containing Boolean AND.

-- if a term which retrieves postings is ANDed in a single search statement with a term for which there are no postings, a NO POSTINGS message will result and no retrieval will be saved

e.g.
```
SS 1/C?
USER:
LIVER DISEASES AND HUMEN

PROG:
NP (HUMEN)
*NONE
```

-- nothing is saved, entire search statement must be correctly reentered

1) NO POSTINGS MESSAGE (continued)

NP in a search statement containing Boolean OR. 4.10.3

-- if a term which retrieves citation is ORed in a single search statement with a term for which there are no postings, a NO POSTINGS message will be generated only for the term with no retrieval

e.g.

```
SS 1/C?
USER:
LIVER OR LIBER NEOPLASMS

PROG:
NP (LIBER NEOPLASMS)

SS (1)  PSTG (5875)

SS 2/C?
USER:
```

-- retrieval for LIVER saved

-- LIVER NEOPLASMS must be reentered and ORed with SS 1 retrieval to obtain same results

NOTE: Always be leary of NP Message
Make sure of spelling
Make sure connected to right file (MeSH headings work only in MEDLINE and HEALTH)
Make sure using correct subheading
Make sure embedded AND disguised in MeSH heading

2) NONE, NO MATCH, *NONE 4.10.4

-- appears when there are no records having EACH term connected by the Boolean AND

e.g.

```
SS 1/C?
USER:
LIVER AND DOUGLAS R
PROG:
*NONE-
SS 1/C?
```

Basic Commands/Program Messages

Initial Training Class

NOTE: PLEASE USE SUNY COMPUTER

1. Which authors are filed alphabetically around your name?

2. Using the NBR or FIND command, find the number of postings for the term BRAIN CHEMISTRY.

3. Cause a *NONE message to appear by using two terms with the AND logical operator.

4. Cause a NP--NO POSTINGS message to appear.

5. Type OBESITY AND HEART DISEASES. Now combine those terms using 2 search statements, then 3.

6. From the postings received in #5 (above):

    a. Print 2 citations (author, title, source)
    b. Print 3 titles
    c. Print the 2nd citation in full
    d. Print the source and journal title code of 1 citation
    e. Print indented the 2nd and 3rd citations
    f. Print 1 detailed
    g. Print offline, using the following information:
        Your name (ONLINE TRAINING CLASS)
        MMS
        NLM
    Be sure to cancel the offline printout
    h. Print 3 titles from search statement 2

7. DISPLAY your search.

8. Using RESTACK, save your first and last search statements.

9. Use ERASEALL.

10. List the first two items in the NEWS.

11. Send a COMMENT to MEDLARS Management Section.

12. Which files are available to your code?

13. Type EXPLAIN CHEMLINE to print out an explanation of the database.

14. Neighbor WATER without a qualifier, with a qualifier.

15. Log off the system.

Computer Physiology

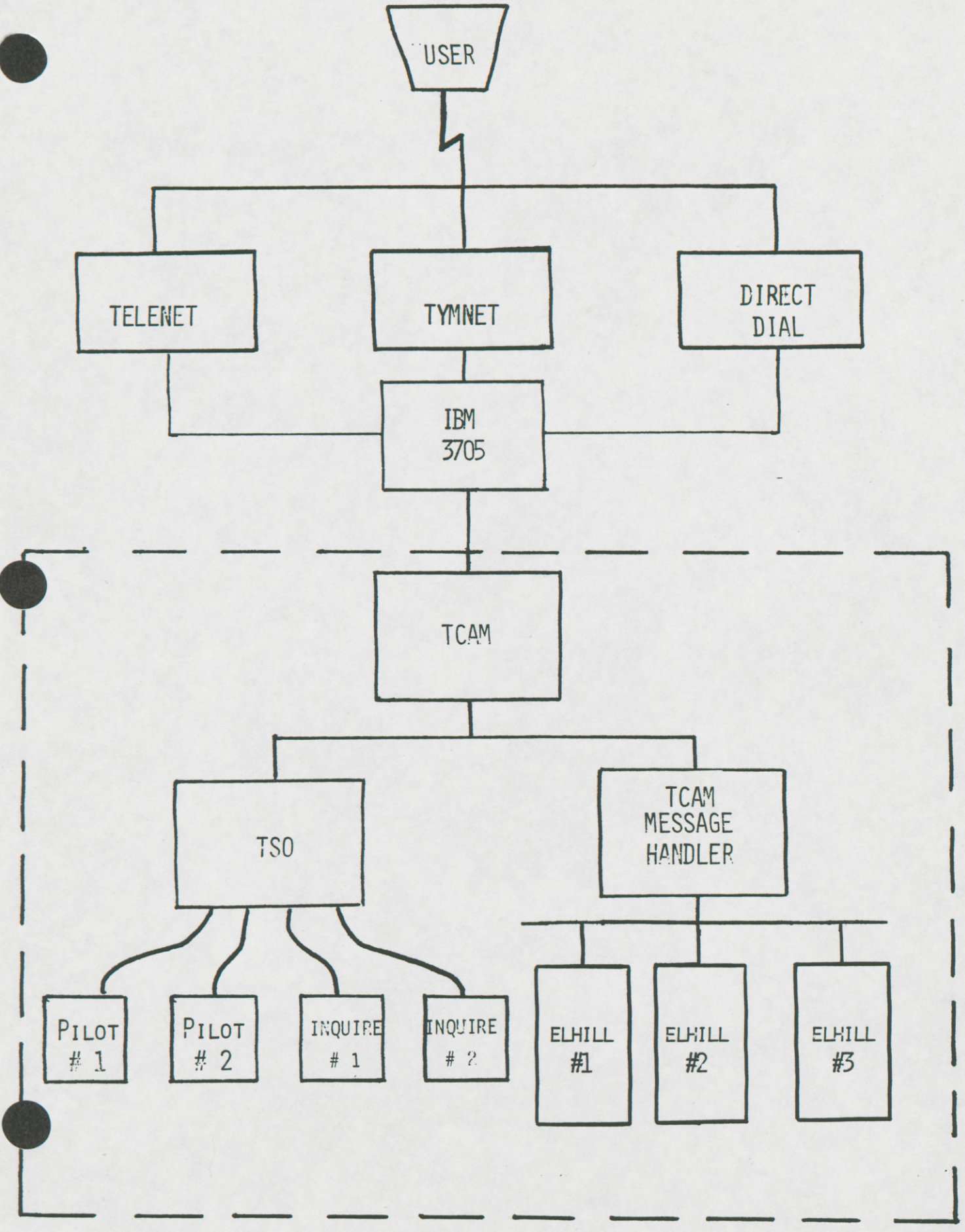
Objectives

Trainees will be able to:

1. identify the parts of a communications network and the NLM computer configuration, and the corresponding steps in transmission of messages to and from the user.

2. recall the typical ELHILL data base structure and processing rules, and identify search techniques which make efficient use of the system based on this knowledge.

3. understand the various overflow messages of the ELHILL system and the proper action to take in response to each.


USER
TELENET
TYMNET
DIRECT DIAL
IBM 3705
TCAM
TSO
TCAM MESSAGE HANDLER
PILOT # 1
PILOT # 2
INQUIRE # 1
INQUIRE # 2
ELHILL #1
ELHILL #2
ELHILL #3

AFTER A CARRIAGE RETURN...

1. TYMNET/TELENET COMPUTER NETWORK.
2. MESSAGE CONTROL PROGRAM (MCP) & Q.
3. MEDLINE (ELHILL) PROCESSING.
4. BACK TO MCP & OUTPUT QUEUE.
5. TYMNET/TELENET COMPUTER NETWORK.
6. RESPONSE PRINTED AT TERMINAL.

TERMINOLOGY
(SIMPLIFIED)

DATA BASES -- MAKE UP THE MEDLARS SYSTEM; STORED ON DISK PACKS.

FILES -- PARTS OF EACH DATA BASE.

UNIT RECORD -- REPRESENTS ONE COMPLETE CITATION IN THE COMPUTER (IN A BIBLIOGRAPHIC DATA BASE) OR ONE COMPLETE RECORD (IN A DATA BANK).

CPU TIME -- COMPUTER THINK TIME.

DISK (I/O) TIME -- FETCHING/PUTTING.

USER ENVIRONMENT -- SCRATCH PAD.

INTERMEDIATE RESULTS -- "SET ASIDE".

HEADER FILE

--contains all of the unit records for a data base.

--arranged one after another; no particular order.

--unit records most recently put into the data base are on top.

--all have CAN Number (CAN = Computer Assigned Number).

--printing done from Header file.

--stringsearching/sentence searching done on header file.

INDEX FILE

--contains all the terms, numbers, title abbreviations, etc. that are directly searchable in the data base connected to.

--alpha-numeric index A-Z followed by numbers.

--has the number of postings to any particular term listed with term.

--transparent to user, has computer address of the place in the POSTINGS FILE where CAN numbers of particular term are listed.

POSTINGS FILE

--contains addresses associated with specific term from Index file.

--lists CAN numbers from Header file for unit record which contains the specific term in Index file.

COMPUTER PHYSIOLOGY
REVIEW

THREE FILES....

INDEX FILE - (TALLIES, ADDRESSES).

POSTINGS FILE - (ADDRESSES).

"HEADER" OR DATA FILE - (CITATIONS).

PROCESSING RULES

A AND C OR B AND C

1) MOVE A TO SCRATCH PAD
2) MOVE C TO SCRATCH PAD
3) COMPARE LISTS A AND C
4) SAVE (SET ASIDE) INTERMEDIATE RESULTS
5) MOVE B TO SCRATCH PAD
6) MOVE C TO SCRATCH PAD
7) COMPARE LISTS B AND C
8) FETCH INTERMEDIATE RESULTS (FROM 4)
9) COMPARE 2 INTERMEDIATE RESULTS LISTS
10) STORE FINAL RESULTS

OPTIMIZATION

(A OR B) AND C.....

1. SS1. A AND C OR B AND C

2. SS1. A OR B
   SS2. 1 AND C

3. SS1. C
   SS2. 1 AND A OR 1 AND B

WHICH ?????

IT DEPENDS.....

"LEARNING DISORDERS IN CHILDREN 2-12"

TALLIES:	LEARNING DISORDERS	=	230
	CHILD, PRESCHOOL	=	20,000
	CHILD	=	36,000

1. SS1. CHILD OR CHILD, PRESCHOOL
   SS2. LEARNING DISORDERS AND 1

2. SS1. LEARNING DISORDERS — More uniques used first
   SS2. 1 AND CHILD OR 1 AND CHILD, PRESCHOOL

3. SS1. LEARNING DISORDERS AND CHILD OR
   LEARNING DISORDERS AND CHILD, PRESCHOOL — use twice

BUT....

"HOW DO MENTALLY DISORDERED VIEW THEMSELVES?"

TALLIES:	EXPLODE F2.54	=	15,000
	BODY IMAGE	=	300
	SELF CONCEPT	=	1,400
	SICK ROLE	=	80

1. SS1. EXPLODE F2.54
   SS2. 1 AND BODY IMAGE
   SS3. 1 AND SELF CONCEPT
   SS4. 1 AND SICK ROLE
   SS5. 2 OR 3 OR 4

✓2. SS1. EXPLODE F2.54
   SS2. BODY IMAGE OR SELF CONCEPT OR SICK ROLE
   SS3. 1 AND 2

WORST POSSIBLE

3. SS1. EXPLODE F2.54 AND BODY IMAGE OR
EXPLODE F2.54 AND SELF CONCEPT OR
EXPLODE F2.54 AND SICK ROLE

ALSO:

SS1. EXPLODE F2.54 AND BODY IMAGE
SS2 EXPLODE F2.54 AND SELF CONCEPT
SS3 EXPLODE F2.54 AND SICK ROLE
SS4. 1 OR 2 OR 3

MANUAL

OVERFLOW MESSAGES

Two kinds of limits to system:

1) to size of scratch pad/user environment.

2) to time computer allocates each user for any interaction or process.

1. LIMIT TO SIZE OF SCRATCH PAD

(NOTE: Scratch pad/user environment not really measurable; contains certain limits; whichever hit first is one that inhibits further searching unless user takes some type of action.)

A. Only 25 search statements may be entered 4.10.15

--receive message SF, Search Full Command.

--can only enter commands (not FIND).

--use ERASEALL, ERASEBACK, RESTACK to make more room.

B. STORPSTG OVFL 4.10.18

--received when user has reached the limit on the number of cumulative postings (or CAN numbers) which may be stored on scratch pad (approximately 100,000 postings).

--use ERASEALL, ERASEBACK, RESTACK to make more room.

C. PROCPSTG OVFL 4.10.19

--received when the total number of postings generated in the "Intermediate Results" of one search statement exceeds 160,000.

--to remedy, refine search statement and reenter.

MANUAL

D. KEBTRM OVFL 4.10.20

--received when more search terms have been entered in a series (from SS1 onward) than allowable by ELHILL (380 terms or 5800 characters, whichever comes first).

--does not include EXPLODES or truncations.

--to remedy use ERASEALL, ERASEBACK, RESTACK.

E. GENTRM OVFL 4.10.21

--received when the number of terms, in one search statement, generated by an EXPLODE or truncation, exceeds 450.

--to remedy, use more specific EXPLODE or less general truncation.

2. LIMIT TO PROCESSING TIME

A. TIME OVFL: CONT? (Y/N) 4.10.17

--received when the procedure requested (e.g., an EXPLODE) required more computer time (CPU) than in one time slice.

--answers:

Y - computer continues processing (assumes Y if anything typed in place of Y)

N - stops processing; saves nothing; gives NP (No Postings) message

B. Time OVFL in TS/SENS (STRINGSEARCH/SENSEARCH) 4.10.5

--received in TS/SENS after certain number of Header File records have been searched for character string (approx. 50).

--answers:

Y - continues searching next 50 records

N - writes CAN Numbers of those records that already matched string on scratch pad; gives number of pstg.

C. DYNAJECT 4.10.22

--received when too many users have time overflows at same time.

--processing of all requests stops.

--remedy:

reenter search statement immediately

ONLINE BOOLEAN LOGIC SEARCHING - INITIAL TRAINING CLASS
MONDAY P.M.

Formulate search statements for each of the requests below using the logical connectors: AND, OR, AND NOT

VOCABULARY for numbers 1-6

CANNABIS	MEMORY	STUDENTS
DRUG ABUSE	MESCALINE	THINKING
FOREIGN	PERSONALITY	
ENG		

1. The effects of cannabis on memory.

2. The effects of cannabis on memory or thinking.

3. The effects of cannabis or mescaline on memory or on thinking.

4. Any effects of cannabis on personality but exclude studies involving students.

5. English language articles on drug abuse among students.

6. All articles on mescaline but since I've read all the English language journals, just retrieve the foreign literature.

MeSH

Trainees will be able to:

1. describe and define the structure of MeSH including the following:

   - alphabetic arrangement
     - Latin, Greek and English roots
     - inversions
   - hierarchical arrangement
     - subject groups (Tree Structures)
     - specificity
   - references
     - see
     - see under
     - see related

2. select appropriate subheading(s) to cover a particular aspect of a MeSH heading, applying (as appropriate) category permissions and restrictions, common groupings, and hierarchical groupings

3. use and combine terms in the vocabulary to retrieve relevant citations from the data base(s) indexed with those terms

4. retrieve relevant citations from the data base(s) given subject requests.

MeSH and Indexing Principles

MANUAL

I. Background

A. Index Medicus (IM) compared with MEDLINE 7.1

1.	Hardcopy	Online
2.	Only IM journals	IM journals plus Special List journals
3.	Citations listed under Major Descriptors only	Citations retrievable using Major or Minor Descriptors
4.	Citations listed under central point of article only	Citations retrievable by central or peripheral concepts

B. Journals

1. Index Medicus - approximately 2500 titles

2. Special Lists - approximately 500 titles
   a. Dental (D)
   b. Nursing (N)
   c. Communication Disorders (C)
   d. Foreign (F)

3. List of Journals Indexed (LJI)
   a. Separate publication, January IM, Cumulated IM
   b. 4 listings--Title Abbreviation (TA), Full Title, Subject, Geographic

4. List of Serials and Monographs Indexed for Online Users
   a. IM journals, Special List journals, Monographs
   b. 1 listing--Title Abbreviation (TA)

5. Priority
   a. 1 or 2--Use enough descriptors to cover content of article fully
   b. 3 --Use only enough descriptors to cover major points of article

6. Selective
   a. Journals that are not exclusively medical, biomedical; we index only the medical, biomedical articles (F)

C. Index Medicus (IM) vs Non Index Medicus (NIM) Concepts (CHART I)

1.	Central, primary points of the article	Peripheral, secondary point of the article
2.	Organs, diseases, therapies, substances, physiological processes	Technics, age groups
3.	Veterinary animals	Experimental animals
4.	Main Subject	Delimiters of the subject

Search * for main point

II. *Introduction to MeSH*

A. Introductory Material

1. Scope and Content
   a. Authority list for subject analysis of biomedical literature at NLM
      1. Used for Index Medicus
      2. Used for computer searching
      3. Used for cataloging of books and audiovisuals at NLM
      4. Revised annually
   b. Primary aspects--organs, organisms, diseases, treatments, drugs and chemicals
      Secondary aspects--physiological functions, chemistry, biochemistry, paramedical areas

2. Comparison of Black & White MeSH (IM MeSH) with Annotated MeSH (preferred) 6.2
   a. Number of headings 6.3
   b. Geographis
   c. Checktags - subset
   d. NonMeSH terms -
   e. Annotations -

3. Forms of Headings 6.4
   a. Normal, Inverted
   b. Greek, Latin roots
   c. Precoordinated
   d. Speciality Headings
   e. NonMeSH terms

4. Alternate Entries for MeSH Headings 6.9
   a. Data Form Abbreviations
   b. Omitted AND Abbreviations
   c. Embedded Subheading Abbreviations
   d. Hyphenated Descriptors
   e. Descriptors with words ending in 'ic' or 'ical'
   f. Descriptors with the word DISEASE, DISEASES, DISORDER or DISORDERS

5. Terminology Changes

	(Front of Annotated MeSH)
a. New Headings with Previous Indexing	X-XVIII
b. New Headings with Scope Notes	XIX-XXX
c. New Headings by Subcategory	XXXI-XXXIII
d. Replacement Headings	XXXIV-XXXVI
e. Deleted Headings	XXXVII-XLI
f. Majors changed to minors and minors changed to majors	XLII

B. Descriptor types

1. Major descriptors - stands on its own, large type — 6.3.1
2. Minor descriptors always see unders, can be searched on line — 6.3.2
3. Entry terms to descriptors, synonyms. either side of x ref

C. Cross References — 6.3.3

1. "See" entry terms
2. "See Under" minor descriptors
3. "See Related" informational — backwards x ref.

D. Subheading Information — (Front of Annotated MeSH)

1. Scope notes	XLIII-XLIX
2. Allowable categories in parens	L - LI
3. Abbreviations for searching	L - LI
4. Dates	L - LI
5. Category List	LII-LVII
6. Cataloging subheadings	LXIV-LXXXI
a. Form	LXVII-LXXVI
b. Geographic	LXXVII-LXXX
c. Language	LXXXI

III. Annotations

A. Uses — LVIII-LX

1. Indexing
2. Searching
3. Cataloging

B. Contents

1. Abbreviations and Symbols — LXI
2. Scope and Meaning
   a. GEN
   b. SPEC
3. IM vs NIM

		MANUAL (Front of Annotated MeSH)	
4.	Subheading Information a. no qualif b. only /.... c. do not use /.... d. / .....permitted e. retrictions by category	LXII	
5.	Technical Notes a. Tumor Key		
6.	Indexing Manual		
7.	Coordination a. Precoordinated terms b. Post Coordination		
8.	Data Form abbreviations (DF)		
9.	Catalog:/lang/form :use NAF entry		
10.	History Notes a. Dates 1. YY 2. (YY) 3. YY(YY) or (YY)YY 4. None b. Changes in form, status, mapping	LXXXII	
11.	Online Notes	LXXXIII	
C.	Exercise on Annotations	Workbook	
IV.	Trees (Categories)	Tree Structures Introduction	6.2.4
A.	Subcategories		
B.	Additional tree numbers		
V.	Permuted MeSH	Permuted MeSH Introduction	6.2.3
A.	To find a specific heading		
B.	To identify (locate) related headings		
C.	To identify possible "noise" in Text Word searching		

MANUAL

VI. Check Tags

A. Check-list vs Subject Indexing — 6.3.1.2

B. Data Form — Workbook

1. Preprinted Concepts

2. Indexer typed Concepts

C. Representative Groups — Workbook

1. Citation Types (Never IM)
   a. Historical Article
      1. Historical note or historical aspects of a subject
   b. Historical Biography
      1. Substantive material relating to persons who died before the calendar year preceding the date of publication of the journal in hand
   c. Biog Obit
      1. Substantive material relating to living persons or those who died within the current or previous year in relation to the publication date of the journal in hand
   d. Monograph
      1. Indicates individual papers within selected nonjournal items, i.e., symposia, congresses
   e. English Abstract
      1. Indicates presence in journal of substantive English language abstract with foreign language article

2. Chronologic Tags
   a. Used in conjunction with 1a,b, or c
   b. May be IM or NIM

3. Author Abstract (AUTHOR (AA))
   a. Indicates presence on computer unit record of substantive English language abstract text taken from journal
   b. Used with English or Foreign articles

4. PREGNANCY
   a. Normal is IM
   b. Useful redundancy--this check tag is used (NIM) even when an indexing descriptor has an obvious relation to pregnancy, i.e., ABORTION, LABOR, PREGNANCY COMPL.

5. Age Groups
   a. Usually NIM
   b. Sometimes IM
      1. When age group is discussed from social, sociological, political, psychological aspect
   c. INFANT, NEWBORN
      1. Normal is IM
      2. Useful redundancy--this check tag is used (NIM) even when an indexing descriptor has an obvious relation to the newborn infant, i.e., HYDROCEPHALUS; ANEMIA, NEONATAL; SYPHILIS, CONGEN.

6. ANIMAL and specifics
   a. Specifics sometimes IM
      1. Importance of animal as species or genus
      2. Comparative anatomy, physiology, etc.
      3. Veterinary
   b. ANIMALS vs ANIMAL
      1. ANIMALS seldom used, prefer specifics
      2. ANIMAL never IM
      3. Useful redundancy--this check tag is used even when an indexing term has an obvious relation to any animal, i.e., HINDLIMB; DISTEMPER; HEPATITIS, ANIMAL

7. HUMAN
   a. Never IM
   b. Useful redundancy--this check tag is used even when an indexing term has an obvious relation to humans, i.e., CHILD BEHAVIOR, MEN, WOMEN

8. FEMALE, MALE
   a. Never IM
   b. Animal or human
   c. Useful redundancy--this check tag is used even when an indexing term has an obvious relation to either sex, i.e., OVARY, TESTIS, CERVIX NEOPLASMS, PROSTATIC NEOPLASMS

9. IN VITRO
   a. Never IM
   b. Limited use
      1. Not used for any research routinely performed in vitro
      2. Restricted to human or animal tissue

10. CASE REPORT
    a. Never IM
    b. Human or veterinary

11. COMPARATIVE STUDY
    a. Never IM
    b. Comparison of any two or more concepts

12. Support Tags
    a. Never IM
    b. Indicates source of financial support that is acknowledged in the article

13. Author Affiliation (Address(AD))
    a. Indicates institutional affiliatin of first author listed
    b. Not directly searchable
    c. Available only on the SDILINE

VII. Subheadings - 76 Workbook

A. Common groups and pairs

1. /Anatomy & Histology (AH)
    a. /Anatomy & Histology (AH)--gross, visible, normal condition
    b. /Cytology (CY)--cellular, microscopic, normal condition
    c. /Pathology (PA)--a or b in disease state
    d. /Ultrastructure (UL)--subcellular, normal or disease state
    e. /Blood Supply (BS)
        1. Arterial, capillary or venous
        2. Used with neoplasm headings also
    f. /Innervation (IR)
    g. /Embryology (EM)
        1. Embryonic and fetal development of organs, regions, animals
        2. Embryologic factors contributing to postnatal disorders
    h. /Abnormalities (AB)
        1. Congenital defects producing structural changes

2. /Physiology (PH)
    a. /Physiology (PH)
        1. Normal function of organs, tissues, cells
        2. Physiologic role of endogenous substances (i.e., hormones)
    b. /Physiopathology (PP)
        1. Disordered function of organs, tissues, cells in disease state
        2. Not a substitute for disease concept
    c. /Growth & Development (GD)
        1. Used with plants, microorganisms
        2. Used for postnatal growth and development of animals or organs or anatomical parts

3. /Metabolism (ME)
   a. General concept--process, change over a period of time
   b. Specifics
      1. /Biosynthesis (BI)
         a. Formation of substance in organisms, cells or subcellular fractions
      2. /Enzymology (EN)
         a. Enzyme studies of organisms, organs, tissues
         b. Also enzyme aspect of disease
      3. /Secretion (SE)
         a. Only with endogenous substances
      4. /Blood (BL) /Urine (UR) /Cerebrospinal Fluid (CF)
         a. Presence of substances in these fluids
         b. Examination of or changes in these fluids
         c. Differentiation from /Analysis (AN)
      5. /Deficiency (DF)
         a. Used for absence or diminished amount relative to the normal requirement of an organism or biologic system

4. /Analysis (AN)
   a. General concept--identification or determination of a substance or its constituents--at a given time
   b. Specifics
      1. /Enzymology (EN)
      2. /Blood/Urine/Cerebrospinal Fluid
      3. /Isolation & Purification (IP)
         a. Used with D category terms
         b. Also used with bacteria, fungi, protozoa, and viruses

5. /Etiology (ET)
   a. General concept, unspecified
   b. Specifics
      1. /Chemically induced (CI)
         a. HEPATITIS, TOXIC/et not HEPATITIS, TOXIC/ci
      2. /Congenital (CN)
         a. Used for conditions existing at or even before birth
         b. Excludes birth injuries and morphologic abnormalities
      3. /Genetics (GE)
         a. Mechanisms of heredity in organisms
         b. Genetic aspects of endogenous subtances

4. /Immunology (IM)
   a. Used with tissues, organs, microorganisms, fungi, viruses, animals
   b. Used with diseases in immune activity sense; for diagnostic, preventive, therapeutic senses use the other respective subheadings
   c. Used with substances when discussed as antigens or haptens
5. /Microbiology (MI)
   a. Used for microbiological studies of organs, animals, plants, diseases
6. /Parasitology (PS)
   a. Used for parasitological studies of organs, animals, plants, diseases
7. /Transmission (TM)
8. /Complications (CO)
   a. Etiology-Complications
   b. Complications-Complications
9. /Secondary (SC)
   a. Used only with neoplasm terms
   b. Relation to NEOPLASM METASTASIS

6. /Diagnosis (DI)
   a. General aspect, unspecified
   b. Specifics
      1. /Familial & Genetic (FG)
         a. Genetic, hereditary basis of disease
      2. /Microbiology (MI)
      3. /Parasitology (PS)
      4. /Radiography (RA)
         a. X-ray diagnosis
      5. /Radionuclide Imaging (RI)
         a/ Imaging or scanning, using radioisotopes

7. /Pharmacodynamics (PD)
   a. Only with D category terms
   b. Relation to /Drug Effects (DE)
   c. /Adverse effects (AE)
      1. Unexpected results or effects
   d. /Poisoning (PO)
      1. Acute or chronic
      2. Accidental, suicidal, medication error
      3. Environmental exposure
   e. /Toxicity (TO)
      1. Experimental studies to determine 'if' and at 'what dose' toxic effects occur
   f. /Chemically Induced (CI)

8. /Diagnostic Use (DU)
   a. Used with D, H category terms
   b. Relation to Adverse Effects (AE)

9. /Therapeutic Use (TU)
   a. Used with D, H category terms
   b. Relation to /Adverse Effects (AE)

10. /Therapy (TH)
    a. General, unspecified concept
    b. Specifics
       1. /Diet Therapy (DH)
       2. /Drug Therapy (DT)
       3. /Nursing (NU)
       4. /Prevention & Control (PC)
       5. /Radiotherapy (RT)
       6. /Rehabilitation (RH)
       7. /Surgery (SU)
          a. /Transplantation (TR)

subs apply
subs display
subs add
subs cancel

11. Other Subheadings
    a. /Occurrence (OC), /Mortality (MO)
    b. /Injuries (IN), /Radiation Effects (RE)
    c. /Psychology (PX)
    d. /Veterinary (VE)
    e. /Pathogenicity (PY)
    f. /Analogs & Derivatives (AA)
       /Antagonists & Inhibitors (AI)
       /Chemical Synthesis (CS)
    g. /Classification (CL), Economics (EC)
       /Education (ED), /History (HI)
       /Instrumentation (IS), /Methods (MT)
       /Standards (ST)
    h. /Legislation & Jurisprudence (LJ)
       /Manpower (MA), /Organization &
       Administration (OG), /Supply &
       Distribution (SD), /Trends (TD)
       /Utilization (UT)

B. Searching using subheadings (CHART II) 4.9.25

1. MH/sh
   a. Individual subheading applied
      to individual descriptor
   b. *allowed-- *MH/sh

2. SUBHEADINGS APPLY command
   a. One or more subheadings to be used
      with MHs, explosions or tree numbers
      searched in subsequent SS/C?s
   b. Separate the subheadings by
      commas, which act as ORs
   c. Can use * with MH, EXP or tree #

d. SUBS APPLY remains in effect during search session until cancelled by searcher
   1. Do another SUBS APPLY to change list of subheadings required
   2. Do SUBS ADD to add to list of subheadings required
   3. 'Bald' Subheadings or floating
      a. Search for the presence of the subheading regardless of MH to which it may be attached
      b. *not allowed

C. Subheading vs same Main Headings (Descriptors) 6.4.1
   a. MH/sh combination is preferred
   b. MH which is same as SH is used for broad concept, general picture

VIII. Coordination (CHART III)

A. Types of Coordination

1. Main Heading + Main Heading (+ MH + MH etc.)
   a. Terms of equal emphasis (all IM, all *, all NIM)
   b. Terms of unequal emphasis (IM or NIM, * or not *)

2. Main Heading + Check Tag
   a. Use Check tags to cover routine aspects (age groups, pregnancy, experimental animals)

3. Main Heading/subheading
   a. Ties aspect directly to main point

4. Precoordinated Main Headings
   a. Main point and facet combined in one term
   b. Two main points combined in one term

B.. Coordination for single concepts not expressed in MeSH
   a. Use alphabetic list and trees
   b. Use two or more descriptors

IX. MeSH Vocabulary File - Validation No systems term used

A. Content

1. Descriptor Records (MH)
   a. Major Descriptors
   b. Minor Descriptors

2. Qualifier Records (SH)
   a. Topical (Indexing) Subheadings
   b. Cataloging Subheadings

3. Chemical Term Records
   a. Records for chemical terms which are not in any printed version of MeSH

MANUAL

B. Format

1. Dictionary File

2. Only one unit record for each descriptor, qualifier or chemical term

C. Availability

1. NLM and SUNY

D. Uses

1. Validation for proper use of terms

2. Generation of publications (Public MeSH, Annotated MeSH, Permuted MeSH, Trees)

3. Consolidation of information in one place

4. Presentation of information not found in publications

E. Data Elements - Descriptor Records — Workbook 6.7.1

1. (MH) MeSH Heading — 6.8.24
   a. Form of descriptor used in NLM publications and printouts
   b. Directly searchable
   c. Textword searchable

Front of Annotated MeSH VIII-IX

2. (DE) Descriptor Entry Version — 6.8.7, 6.9.1
   a. Abbreviated form of descriptor
   b. Data Form abbreviations
   c. Omitted AND abbreviations
   d. Embedded subheading abbreviations
   e. Alternate forms for hyphenated terms
   f. Alternate forms for terms with words ending in 'IC' or 'ICAL'
   g. Alternate forms for terms with the word DISEASE(S) or DISORDER(S)
   h. Directly searchable

3. (MN) MeSH Tree Number — 6.8.25
   a. Alphanumeric string designating position of the term in the trees
   b. May be more than one MN for a term
   c. Directly searchable

4. (FX) Forward Cross Reference — 6.8.18
   a. Indicates the major descriptor to which the MH refers in a 'see related' cross reference

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5. (DX) Date Major Descriptor Established — 6.8.13
   a. YYMMDD
   b. First day this descriptor was available for searching as a major descriptor
   c. Not searchable

6. (DY) Date Minor Descriptor Established — 6.8.14
   a. YYMMDD
   b. First day this descriptor was available for searching as a minor descriptor
   c. Not searchable

7. (MS) MeSH Scope Note — 6.8.27
   a. Free text giving the meaning and scope of a descriptor
   b. Textword searchable

8. (PI) Previous Indexing — 6.8.33
   a. Current MeSH descriptor(s) or MH/sh combination(s) for the searcher to use to search the concept before the present descriptor became available
   b. Textword searchable

9. (EC) Entry Combination — 6.8.15
   a. Indicates a 'legal' by category MH/sh combination which is synonymous with a precoordinated MH
   b. Textword searchable

10. (TH) Thesaurus ID — 6.8.48
   a. Identifies thesauri other than MeSH in which the MH or one of its entry terms (BX type 0 or type 1) is included
   b. Directly searchable

11. (BX) Backward Cross Reference — 6.8.3
   a. Type 0 = entry term nonprint = alternate forms of a descriptor other than the entry version (DE)
   b. Type 1 = entry term print = 'see' cross reference
   c. Type 2 = 'see under' cross reference
   d. Type 3 = 'see related' cross reference
   e. Only type 0 and type 1 are directly searchable
   f. Only type 0 and type 1 are textword searchable

12. (AN) Annotation — 6.8.1
   a. Informative note
   b. Initially for indexers and catalogers, but subsequently useful to searchers
   c. Textword searchable

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13. (HN) History Note — 6.8.21
    a. Indicates the year since 1963 when the current form of the MH entered the system as a major or a minor descriptor
    b. Those without dates assumed to be in system since the beginning
    c. Textword searchable

14. (OL) Online Note — 6.8.31
    a. Information helpful for online searching
    b. Indicates if MH ever existed in another form
    c. Textword searchable

15. (PM) Public MeSH Note — 6.8.34
    a. Gives the year since 1963 when the current form of the descriptor entered the system as an *Index Medicus* term and traces certain changes in the descriptor and its cross references
    b. Textword searchable

16. (RY) Record Type — 6.8.44
    a. D = Descriptor--Major or Minor
    b. Q = Subheading
    c. C = Chemical term record

17. (B##) Backfile Postings — 6.8.2
    a. Any of several data elements B66, B69, B72, B75, B77, B79 that give the postings for a term in each backfile
    b. Each element has two entries: total postings; IM postings
    c. Not directly searchable

18. (RN) CAS Registry Number/EC Number — 6.8.42
    a. Unique 5 to 9 digit number, in hyphenated format, assigned by CAS
    b. Code with a maximum of four nodes separated by periods, from Enzyme Nomenclature
    c. Directly searchable

Workbook

F. Data Elements - Subheading Records — 6.7.2

1. (SH) Subheading (Qualifier Print Version) — 6.8.45
    a. Form of qualifier used in NLM publications and printouts
    b. Directly searchable

2. (QE) Qualifier Entry Version — 6.8.36
    a. Abbreviated form of qualifier used in indexing and cataloging
    b. Directly searchable

MANUAL

3. (QA) Topical Qualifier Abbreviation — 6.8.35
   a. The two character abbreviation used in online searching
   b. Directly searchable

4. (QT) Qualifier Type — 6.8.39
   a. type 1 = topical qualifier (etiology)
   b. type 2 = form qualifier (popular works)
   c. type 3 = time qualifier (19th cent.)
   d. type 4 = geographic qualifier (france)
   e. type 5 = language qualifier (german)
   f. types 2 through 5 are used exclusively in cataloging
   g. Directly searchable

5. (MS) MeSH Scope Note — 6.8.27
   a. Free text giving the meaning and scope of a qualifier
   b. Textword searchable

6. (TN) Tree Node Allowed — 6.8.49
   a. A letter of a category or the first node of a subcategory of the Trees with which the qualifier may be used
   b. Not searchable

7. (NO) Note — 6.8.30
   a. Indicates the date the qualifier was established
   b. YYMMDD
   c. Not directly searchable and not rangeable

8. (B##) Backfile Postings — 6.8.2
   a. Any of several data elements B66, B69, B72, B75, B77, B79 which give the postings for a qualifier in each backfile
   b. Only one entry for total postings
   c. Not directly searchable

G. Data Elements - Chemical Term Records — Workbook — 6.7.3

1. (NM) Name of Substance — 6.8.29
   a. The preferred name used as the main entry for the chemical
      1. Generic, common, nonproprietary names
      2. Trade (proprietary) or experimental names
      3. Chemical or systematic name
   b. Directly searchable
   c. Name fragment searchable

MANUAL

2. (RN) CAS Registry Number/EC Number — 6.8.42
   a. Unique 5 to 9 digit number, in hyphenated format, assigned by CAS
   b. Enzyme Commission number
   c. Directly searchable

3. (SY) Synonyms — 6.8.47
   a. Names for the chemical, other than those entered in the NM and N1 fields, which have been identified in MEDLINE journals
   b. Directly searchable
   c. Name fragment searchable

4. (N1) CAS Type 1 Name — 6.8.28
   a. Systematic name assigned by CAS
   b. Systematic name from MEDLINE literature
   c. Name fragment searchable
   d. Not directly searchable

5. (HM) Heading Mapped-to
   a. Indicates the MH(s) and/or MH/sh(s) used to index the chemical in MEDLINE — 6.8.20
   b. Directly searchable
   c. Name fragment searchable

6. (PA) Pharmacological Action — 6.8.32
   a. MH(s) describing observed biological activity of chemical in MEDLINE literature
   b. Directly searchable
   c. Name fragment searchable

7. (PI) Previous Indexing — 6.8.33
   a. Suggests MH(s) or MH/sh(s) used to index the concept before the current term became available
   b. Not searchable

8. (DA) Date of Entry — 6.8.5
   a. Represents date the chemical term was first identified in a MEDLINE journal
   b. YYMMDD

9. (SO) Source — 6.8.46
   a. Indicates citations in MEDLINE to articles in which the chemical has been identified
   b. Not searchable

10. (TH) Thesaurus ID — 6.8.48
   a. Indicates authoritative references where the chemical is listed (e.g., Merck Index, Negwer, USAN)
   b. Not searchable

MANUAL

11. (NO) Note — 6.8.30
    a. Consists of narrative information about the chemical, such as biological properties, additional registry numbers, salts
    b. Not searchable

12. (UI) Unique Identifier — 6.8.50
    a. Dummy accession number for internal use
    b. Directly searchable

MeSH and Related Tools

ANNOTATED MeSH

Exercise

1. What do the following abbreviations mean?

GEN	65	SPEC: SPEC qualif
IM	70(65)	A ll qualif
NIM coord	no qualif	TN

2. When did "habitual abortion" come into the system?

3. Missed abortion is permitted with animals. Is eugenic abortion? Is legal abortion?

4. How do I index "blood physiology"?

5. What is a synonym for "blister"?

6. Where is "blood picture" indexed?

7. May I search for an article using EXPEDITIONS/manpower?

8. How is "exercise" searched?

9. May I search SNOW/adverse effects for frostbite from walking in the snow?

10. When did WATER MOVEMENTS come into the system?

11. Where is "chemical water pollution" searched?

12. May a cataloger catalog a book entitled "Chemical Water Pollution in the United States" under WATER POLLUTION, CHEMICAL/UNITED STATES?

13. Where was "water-electrolyte imbalance" indexed before 1976?

14. Is WATER/poisoning permitted?

15. How do I search micro-organisms in water?

16. An article on calcium absorption would be indexed under CALCIUM and ABSORPTION. Is CALCIUM printed in INDEX MEDICUS? Is ABSORPTION printed in INDEX MEDICUS?

17. Why is BIOMETRY wrong for articles on a comparison of the size of men's and women's hands?

E-20

(1) C	(8) PAGINATION	(9) LANGUAGE ENG. ___ ___ ___	(11) ANONYMOUS A ☐	(17) REFS Rev. art	(15) SUBJECT NAME (PS)

(10) AUTHOR DATA

(13) TITLE *(Eng or Transl)* [Trans] (authors trans)

(14) TITLE *(Vernac or Translit)*

(19)
- A ☐ HIST ART
- B ☐ HIST BIOG
- C ☐ BIOG OBIT
- ~~G ☐ MONOGR~~
- H ☐ ENG ABST

(20)

A ☐ PREGN	J ☐ CATS	V ☐ HUMAN	f ☐ 15th CENT
B ☐ INF NEW (to 1 mo)	K ☐ CATTLE	W ☐ MALE	g ☐ 16th CENT
C ☐ INF (1–23 mo)	L ☐ CHICK EMBRYO	X ☐ FEMALE	h ☐ 17th CENT
D ☐ CHILD PRE (2–5)	M ☐ DOGS	Y ☐ IN VITRO	i ☐ 18th CENT
E ☐ CHILD (6–12)	O ☐ GUINEA PIGS	Z ☐ CASE REPT	j ☐ 19th CENT
F ☐ ADOLESC (13–18)	P ☐ HAMSTERS	b ☐ COMP STUDY	k ☐ 20th CENT
G ☐ ADULT (19–44)	Q ☐ MICE	c ☐ ANCIENT	l ☐ NIH/PHS SUP
H ☐ MID AGE (45–64)	S ☐ RABBITS	d ☐ MEDIEVAL	m ☐ OTHER US GOVT SUP
I ☐ AGED (65 +)	T ☐ RATS	e ☐ MODERN	n ☐ NON-US GOVT SUP
	U ☐ ANIMAL		

(12) AUTHOR AD
☐ AFFIL

(22) AUTHOR
☐ ABST

(24) NIH/PHS GRANT NO.

(21)

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NIH–1416

INDEXED CITATION FORM

Checktags Available for MEDLINE searching

I. Never IM (*)

Animal	Current Biog-Obit
Case report	English Abstract
Comparative Study	Historical Article
Female	Historical Biography
Human	Monograph
In Vitro	Review
Male	Support, Non-U.S. Gov't. Support, U.S. Gov't, Non-P.H.S. Support, U.S. Gov't, P.H.S.

II. Sometimes IM (*)

A. MeSH Age Groups

Infant, Newborn	(to 1 month)
Infant	(1 to 23 months)
Child, Preschool	(2 to 5 years)
Child	(6 to 12 years)
Adolescence	(13 to 18 years)
Adult	(19 to 44 years)
Middle Age	(45 to 64 years)
Aged	(65 years and older)

B. Specific Animal Descriptors

Cats	Guinea Pigs
Cattle	Hamsters
Chick Embryo	Mice
Dogs	Rabbits
	Rats

C. History of Medicine Descriptors

Ancient	17th Cent.
Medieval	18th Cent.
Modern	19th Cent.
15th Cent.	20th Cent.
16th Cent.	

D. Other Descriptors

Pregnancy

SUBHEADING GROUPS

Since subheadings fall into natural groups it is possible to conceive of a display of subheadings to show relationships similar to the way MeSH headings are arranged in the *MeSH Tree Structures*. Like MeSH categories, the groups below should always be examined for the most specific application in the permitted category.

/anatomy & histology
  /blood supply
  /cytology
  /embryology
    /abnormalities
  /innervation
  /pathology
  /ultrastructure

/physiology
  /growth & development
  /metabolism
    /biosynthesis
    /blood/urine/csf
    /deficiency
    /enzymology
  /physiopathology
  /secretion

/analysis
  /blood/urine/csf cerebro spinal fluid
  /enzymology
  /isolation & purification

/etiology - cause
  /chemically induced
  /complications
    /secondary
  /congenital
  /genetics
    /familial & genetic
  /immunology
  /microbiology
    /parasitology
  /transmission

/diagnosis
  /enzymology
  /genetics
    /familial & genetic
  /immunology
  /microbiology
    /parasitology
  /radiography
  /radionuclide imaging

/pharmacodynamics
  /administration & dosage
  /adverse effects
  /poisoning
  /toxicity
/drug effects

/diagnostic use
  /administration & dosage
  /adverse effects

/therapeutic use
  /administration & dosage
  /adverse effects

/therapy
  /diet therapy
  /drug therapy
  /nursing
  /prevention & control
  /rehabilitation
  /surgery
    /transplantation

/occurrence
  /mortality
/injuries
/veterinary

/organization & administration
  /economics
  /manpower
  /standards
  /supply & distribution
  /trends
  /utilization

/analogs & derivatives
/antagonists & inhibitors
/chemical synthesis

/classification
/education
/ethnology
/history
/legislation & jurisprudence
/methods
/pathogenicity
/psychology
/radiation effects

SUBHEADINGS

Common Combinations

The groups below are commonly encountered pairings of combinations of subheadings. Add others to the list as you meet them:

(Disease A) *etiology
(Disease B) *complications
- where the cause-and-effect relationship is known

(Disease A) *complications
(Disease B) *complications
- where the diseases are associated but cause-and-effect is not stated

(Disease) *drug therapy
(Drug) *therapeutic use

(Organ) *drug effects
(Drug) *pharmacodynamics

(Organism) *drug effects
(Drug) *pharmacodynamics

(Organ) *metabolism
(Substance) *metabolism

(Organism) *metabolism
(Substance) *metabolism

(Disease) *metabolism
(Organ) *metabolism
(Substance) *metabolism

(Disease) *chemically induced
(Drug) *adverse effects

(Organ) *radiation effects
RADIATION EFFECTS
specific radiation

SUBHEADINGS

/metabolism

The following words appear in titles and texts frequently. In MEDLARS they are properly covered by the subheading /metabolism.

absorption
binding
breakdown
conversion
degradation
distribution
elimination (consider /urine)
excretion (consider /urine)
incorporation
mobilization
release
secretion = /secretion
splitting
storage
synthesis = /biosynthesis
transport
turnover
uptake
utilization (but not the subheading /utilization)

/metabolism may be used with the names of organs (Category A), names of organisms (Category B), names of diseases (Category C) and names of drugs and chemicals (Category D).

PANCREAS /metabolism (A)

SALMONELLA /metabolism (B)

PANCREATITIS /metabolism (C)

SODIUM /metabolism (D)

Note that concepts such as hydrolysis, oxidation, demethylation, deamination, alkylation, etc. would fall within the definition of /metabolism also if taking place in tissue. If taking place in a test tube, without tissue present, the concepts would be considered "chemical" rather than metabolic and /metabolism would not apply.

SUBHEADING RESTRICTIONS: HEART & MYOCARDIUM

These notes appear in another form in the Indexing Manual, 14.18.

HEART and MYOCARDIUM are frequently used interchangeably by authors. The Analyst will differentiate between them in the following way, regardless of the term used by the author either in the title or the text. If the organ is viewed as a pump, the correct heading is HEART; if viewed as tissue, the correct heading is MYOCARDIUM.

Only the following Subheadings are permissible with HEART:

/anatomy & histology	/microbiology	/radiation effects
/drug effects	/parasitology	/radiography
/embryology	/physiology	/radionuclide imaging
/growth & development	/physiopathology	/transplantation

Only the following Subheadings are permissible with MYOCARDIUM:

/analysis	/immunology	/ultrastruct
/cytology	/metabolism	
/enzymology	/pathology	

Do not use the following Subheadings for these Subheadings with the concept "heart" exist in MeSH as a pre-coordinated main heading:

/abnormalities	this is	HEART DEFECTS, CONGENITAL
/blood supply	this is	CORONARY VESSELS
/injuries	this is	HEART INJURIES
/surgery	this is	HEART SURGERY

Articles on a foreign body of the heart will be indexed as HEART (IM) and FOREIGN BODIES (IM), not HEART DISEASES and not FOREIGN BODIES (NIM).

Articles on the heart in relation to pregnancy, will be indexed as HEART (IM) or any of the pre-coordinated PREGNANCY headings or any of the concepts related to pregnancy (e.g., LABOR; ANESTHESIA, OBSTETRICAL; ABORTION).

/secretion do not use with either HEART or MYOCARDIUM

USING SUBHEADINGS IN SEARCHING

Here are some reminders on the use of subheadings in doing searches:

+ subheadings are used freely by indexers so they should be used freely as applicable by searchers

+ pair a given subheading ONLY with a MeSH heading from the SAME category

+ search on the same MeSH heading with as many different subheadings as you need or want, as long as the subheading is paired with the legal MeSH heading. Indexers often use the same MeSH heading in an article with many different subheadings if these many different aspects are discussed

+ avoid searching nonsensical combinations (e.g., DIGESTION/manpower) for they should have been equally nonsensical to an indexer

+ some MeSH heading/subheading combinations are legal by category but illegal in use. Remember to search both the correct and the illegal on the off-chance that the invalid combination was forgotten by the harassed indexer

+ avoid searching on a MeSH heading which is a duplicate of a subheading for indexers never, never use them as substitutes for subheadings

+ follow announced subheading restrictions

+ do not force a borderline or questionable application into a questionable interpretation

+ use good sense

Major Descriptor Unit Record

```
file mesh
PROG:
YOU ARE NOW CONNECTED TO THE MESH VOCABULARY FILE.

SS 1 /C?
USER:
health personnel
PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
prt dl
PROG:

1
MH  - Health Manpower
DE  - HEALTH MAN  desc. Entry
DT  - 1
DC  - 1
MN  - N2.350 - tree no.
DX  - 680101  date 1st avail
MS  - Individuals working in the health occupations.  mesh scope
PI  - Health Occupations (66-67)  prev. index
MR  - 770322
MR  - 810518
RO  - M:GHR
RO  - M:GHR
RO  - M:SMH
EC  - ED:0:Health Occupations:ED
TH  - BIOETHICS  thesaurus
TH  - POPLINE  "
BX  - Fieldworkers:0:00000000:0000000:781226
BX  - Field Workers:0:00000000:0000000:781226
BX  - Staff:0:00000000:0000000:781226  Non prt
BX  - Manpower Resources:0:00000000:0000000:781226
BX  - Manpower Needs:0:00000000:0000000:781226
BX  - Health Personnel:1:00000000:0000000:770317
BX  - Health Occupations Manpower:1:00000000:0000000:770524  Prt entry term
AN  - GEN only: prefer /manpower with specific headings; when GEN & IM,
      do not use /educ (= HEALTH OCCUPATIONS /educ) /manpower /organ
      CATALOG: /geog /form
HN  - 68  History
PM  - 68
RY  - D
B79 - 112
B79 - *60
B77 - 248  Nov. asterisk
B77 - *126
B75 - 464
B75 - *198
B72 - 718
B72 - *176
B69 - 843
B69 - *317
B66 - 238
B66 - *97

SS 2 /C?
USER:
```

Subheading Unit Record

SH - drug therapy
QE - DRUG THER
QA - DT
QT - 1
MS - Used with disease headings for the treatment or the prevention of the disease by the administration of drugs, chemicals and other therapeutic agents, such as antibiotics, biologicals and tissue extracts. Excludes diet therapy, for which "diet therapy: is used, and excludes biologicals, for which "therapy: is used.
TN - C
TN - F3
DA - 731227
MR - 770527
MR - 780811
RO - M:GHR
RO - M:CAB
RO - M:SMH
NO - 660101
B77 - 17084
B75 - 45002
B72 - 52684
B69 - 50184
B66 - 30548

Chemical Term Unit Record

Do not show up printed mesh

```
file mesh
PROG:
YOU ARE NOW CONNECTED TO THE MESH VOCABULARY FILE.

SS 1 /C?
USER:
basamide
PROG:
MM (BASAMIDE) (2)
            1  BASAMIDE (NF)  name fragment
            2  BASAMIDE (SY)  synonym
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
2
PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
prt dl
PROG:

1
NM  - dazomet  name of substance
RN  - 533-74-4  registry no.
SY  - Basamide
SY  - thiazone
N1  - 3,5-dimethyl-1,3,5-(2H)-tetrahydrothiadiazine-2-thione  chemical name
HM  - *THIADIAZINES  Heading mapped to IM
PA  - NEMATOCIDES  Pharm actions
PA  - HERBICIDES
PA  - ANTIFUNGAL AGENTS
DA  - 760101  last date
MR  - 810625  touched
RO  - M:NBM
SO  - Aust Vet J 52(5):220;1976
SO  - J Hyg (Camb) 77(3):377;1976
TH  - Merck Index, 9th ed, p. 371, #2818  Thesaurus used
FR  - 3
NO  - fumigant for poultry litter & eggs to control salmonella;
      structure
RY  - C
UI  - 12864  acc. no

SS 2 /C?
USER:
```

Prior to 1980 search TW's

E-30

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file medline
PROG:
YOU ARE NOW CONNECTED TO THE MEDLINE FILE.

SS 1 /C?
USER:
basamide (nm) <— sy
PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
prt fu
PROG:

1
AU  - Kebina VIa
AU  - Romanenko NA
AU  - Smirnova ZM
TI  - [Helminth removal from sewage sediment with thiazone]
LA  - Rus
MH  - Animal
MH  - *Ascaris/PATHOGENICITY
MH  - Dose-Response Relationship, Drug
MH  - English Abstract
MH  - Larva/PATHOGENICITY
MH  - Mice
MH  - *Sewage
MH  - Thiadiazines/*PHARMACODYNAMICS
MH  - Thiazines/*PHARMACODYNAMICS
MH  - Time Factors
RN  - 533-74-4 (dazomet) nm
SO  - Med Parazitol (Mosk) 1981 Mar-Apr;50(2):18-20

SS 2 /C?
USER:
```

CHART I

Index Medicus (IM) vs Non Index Medicus (NIM) Concepts

1. Central, major point of the article vs Peripheral, minor points of article.

The rate of accidental injuries in childhood morbidity and lethality.

*ACCIDENTS	ADOLESCENCE
*WOUNDS AND INJURIES/oc	CHILD
	CZECHOSLOVAKIA
	HUMAN
	MORTALITY

Acccidents in a geriatric department.

*ACCIDENTS	AGED
*GERIATRICS	DRUG THERAPY
*HOSPITAL DEPARTMENTS	FEMALE
	HUMAN
	INTERIOR DESIGN AND FURNITURE
	MALE
	PROSPECTIVE STUDIES

2. Organs, diseases, therapies, substances vs technics, age groups, physiological processes.

Dynamics of adaptive reactions of the heart of athletes during training.

*HEART/ph	ADAPTATION, PHYSIOLOGICAL
*PHYSICAL EDUCATION AND TRAINING	ADULT
*SPORTS MEDICINE	ELECTROENCEPHALOGRAPHY
	HUMAN
	MALE
	WRESTLING

Neurological sequelae of acute carbon monoxide intoxication.

*BRAIN DISEASES/et	BRAIN DISEASES/di
*CARBON MONOXIDE POISONING/co	CARBON MONOXIDE POISONING/di
	CASE REPORT
	CHILD
	COGNITIVE DISORDERS/di
	ELECTROENCEPHALOGRAPHY
	FEMALE
	HUMAN
	PERSONALITY DISORDERS/et
	TOMOGRAPHY, X-RAY COMPUTED

3. Animal as veterinary subject vs experimental animal.

Spontaneous degenerative lesions of peripheral nerves in aging rats.

*AGING	ANIMAL
*PERIPHERAL NERVES/pa	FEMALE
*RATS/ah	MALE
	SEX FACTORS
	SPECIES SPECIFICITY

An approach to ameliorating aggressive behavior of dogs toward children.

*AGGRESSION	ANIMALS, DOMESTIC
*BEHAVIOR THERAPY	HUMAN
*DOGS	
*CHILD	

Effect of intrapulmonary heparin in lipoprotein lipase activity in mice.

*HEPARIN/pd	ANIMAL
*LIPOPROTEIN LIPASE/me	DOSE-RESPONSE RELATIONSHIP, DRUG
*LUNG/de	INJECTIONS, INTRAVENOUS
	MALE
	MICE
	TIME FACTORS

The regulation of glucose and pyruvate formation from glutamine and citric-acid-cycle intermediates in the kidney cortex of rats, dogs, rabbits and guinea pigs.

*GLUCONEOGENESIS/de	ANIMAL
*GLUTAMINE/me	COMPARATIVE STUDY
*KIDNEY CORTEX/me	DOGS
*KREBS CYCLE	GUINEA PIGS
*PYRUVATES/bi	IN VITRO
	KETOGLUTARIC ACIDS/me
	KIDNEY CORTEX/de
	KIDNEY TUBULES/de
	KIDNEY TUBULES/me
	LACTATES/me
	PICOLINIC ACIDS/pd
	RABBITS
	RATS

4. Concept as point of the article vs concept as delimiter of the point.

Data and statistics.

*NURSING CARE	DATA COLLECTION
*RESEARCH DESIGN	
*STATISTICS	

The scientific foundation for prevention of coronary heart disease.

*CORONARY DISEASE/pc	AGING
	BEHAVIOR THERAPY
	CARDIOLOGY/mt
	HUMAN
	HYPERTENSION/pc
	LONG TERM CARE
	RISK
	SOCIOLOGY
	STATISTICS

CHART I (cont)

Clinical utility of ambulatory EEG monitoring.

*AMBULATORY CARE/mt
*ELECTROENCEPHALOGRAPHY
*EPILEPSY/di
*MONITORING, PHYSIOLOGIC/mt

ADOLESCENCE
ADULT
AGED
CHILD
CHILD, PRESCHOOL
ELECTROCARDIOGRAPHY
HUMAN
MIDDLE AGE

Neurophysiological aspects of learning and memory processes.

*BRAIN/ph
*EPILEPSY/pp
*LEARNING/ph
*MEMORY/ph

ANIMAL
ANTICONVULSANTS/pd
CATS
CONVULSIONS/pp
DISEASE MODELS, ANIMAL
ELECTROENCEPHALOGRAPHY
EVOKED POTENTIALS
HUMAN
LEARNING/de
LIMBIC SYSTEM/ph
MEMORY/de
RETICULAR FORMATION/ph
REVIEW
VISUAL CORTEX/ph

CHART II

Examples of searching using subheadings

1. MH/sh

Articles with any mention of metabolism of imipramine	1. IMIPRAMINE/me
Articles with major emphasis on the chlorpropamide treatment of diabetes	1. *DIABETES MELLITUS/dt and *CHLORPROPAMIDE/tu

2. Subs Apply

Articles on the causes of any urologic tumors, in English	1. Subs apply ci, cn, et, fg, sc 1. EXP *UROLOGIC NEOPLASMS 2. Subs cancel 2. 1 and ENG (LA)
Review articles on diagnosis and prognosis of myocardial infarct	1. Subs apply di, en, fg, im, ra, ri 1. *MYOCARDIAL INFARCTION 2. Subs cancel 2. *MYOCARDIAL INFARCTION and PROGNOSIS 3. 1 or 2 4. 3 and REVIEW

3. 'Bald' Subheadings

Articles on the effect of drugs (any drug) on insulin metabolism	1. INSULIN/me and pd(SH)
Articles on methods of diagnosing endocrine diseases	1. exp *ENDOCRINE DISEASES/di 2. 1 and mt (SH) 3. 1 and METHODS 4. 2 or 3

4. Use of subheading vs same main heading (descriptor)

A. Split-hand deformity	HAND/ab not HAND and ABNORMALITIES
Birth defects and counseling	ABNORMALITIES
B. Chemotherapy of kidney diseases	KIDNEY DISEASES/dt not KIDNEY DISEASES and DRUG THERAPY
Drug therapy: from compliance to cooperation	DRUG THERAPY
Adverse reactions to drugs in general practice	DRUG THERAPY/ae
C. Metabolism of streptomycin	STREPTOMYCIN/me
On the physiological meaning of secondary metabolism	METABOLISM
Metabolic effects of clofibrate in experimental animals	METABOLISM/de CLOFIBRATE/pd

CHART III

EXAMPLES OF COORDINATION

	INDEXING	SEARCHING
1. MH + MH (equal weight)		
Albuterol in asthma	*ALBUTEROL *ASTHMA	*ALBUTEROL and *ASTHMA
MH/sh + MH/sh		
Albuterol therapy in asthma	ALBUTEROL/*ther use ASTHMA/*drug ther	*ALBUTEROL/tu and *ASTHMA/dt
MH + MH (unequal weight)		
Occurrence of industrial accidents in California nuclear reactors	*ACCIDENTS, OCCUPATIONAL *NUCLEAR REACTORS STATISTICS CALIFORNIA	(*)ACCIDENTS, INDUSTRIAL and (*)NUCLEAR REACTORS and STATISTICS and CALIFORNIA
2. MH + check tag		
Thyroid diseases in school children	*THYROID DISEASES CHILD ADOLESCENCE	1. *THYROID DISEASES 2. 1 and CHILD or 1 and ADOLESCENCE
3. MH/sh		
Chemotherapy of lung neoplasms	LUNG NEOPLASMS/*drug ther	*LUNG NEOPLASMS/dt

4. Precoordination

MH + MH	ANTIBODIES, ANTIFUNGAL	from ANTIBODIES * ANTIFUNGAL AGENTS
MH + sh	HAND INJURIES	from HAND/injuries
MH + checktag	PREGNANCY IN ADOLESCENCE	from PREGNANCY + ADOLESCENCE

5. Coordination for concepts not in MeSH		
Diseases of the pylorus	*PYLORUS STOMACH DISEASES	*PYLORUS and STOMACH DISEASES
Filariasis of the skin	*FILARIASIS *SKIN DISEASES, PARASITIC	*FILARIASIS and *SKIN DISEASES, PARASITIC

B[redacted] & WHITE

HORMONE ANALOGS see HORMONES, SYNTHETIC

HORMONE ANTAGONISTS
D6.347+
75

HORMONE-DEPENDENT NEOPLASMS see NEOPLASMS, HORMONE-DEPENDENT

HORMONE RECEPTORS see RECEPTORS, HORMONE

HORMONES
D6.472+
XU PAROTIN

HORMONES, ECTOPIC
D6.472.397
68
see related
NEOPLASTIC ENDOCRINE-LIKE SYNDROMES
XR NEOPLASTIC ENDOCRINE-LIKE SYNDROMES

HORMONES, INVERTEBRATE see INVERTEBRATE HORMONES

HORMONES, SYNTHETIC
D6.597+
75
X HORMONE ANALOGS

ANNOTATED MESH [redacted]

HORMONE ANTAGONISTS
D6.347+
do not use /analogs /antag /defic /physiol; DF: HORMONE ANTAG
75

HORMONE-DEPENDENT NEOPLASMS see NEOPLASMS, HORMONE-DEPENDENT
C4.626

HORMONE RECEPTORS see RECEPTORS, HORMONE
D12.776.543.750+ G6.184.154.803+
G12.803+

HORMONES
D6.472+
GEN only: prefer specifics; /biosyn /physiol permitted; /defic: see TN 194; do not use /analogs /antag (= HORMONE ANTAGONISTS); /chem syn permitted: do not convert to HORMONES, SYNTHETIC
XU PAROTIN

HORMONES, ECTOPIC
D6.472.397
/biosyn /physiol permitted; do not use /analogs /defic
68
see related
NEOPLASTIC ENDOCRINE-LIKE SYNDROMES
XR NEOPLASTIC ENDOCRINE-LIKE SYNDROMES

HORMONES, INVERTEBRATE see INVERTEBRATE HORMONES
D6.472.445+

HORMONES, SUBSTITUTES, ANTAGONISTS (NON MESH)
D6+

HORMONES, SYNTHETIC
D6.597+
do not use /analogs /biosyn /defic /physiol; do not confuse with HORMONES /chem syn; DF: HORMONES SYN
75
X HORMONE ANALOGS

PERMUTED MESH [redacted]

HORMONE
ADRENOCORTICOTROPIC HORMONE see **CORTICOTROPIN**
ANTIDIURETIC HORMONE, INAPPROPRIATE SECRETION see **INAPPROPRIATE ADH SYNDROME**
CORTICOTROPIN RELEASING HORMONE
ECTOPIC HORMONE SYNDROMES see **NEOPLASTIC ENDOCRINE-LIKE SYNDROMES**
FOLLICLE-STIMULATING HORMONE see **FSH**
FSH RELEASING HORMONE see **LH-FSH RELEASING HORMONE**
GROWTH HORMONE, PITUITARY see **SOMATOTROPIN**
GROWTH HORMONE RELEASING HORMONE see **SOMATOTROPIN RELEASING HORMONE**
HORMONE ANALOGS see **HORMONES, SYNTHETIC**
HORMONE ANTAGONISTS
HORMONE-DEPENDENT NEOPLASMS see **NEOPLASMS, HORMONE-DEPENDENT**
HORMONE RECEPTORS see **RECEPTORS, HORMONE**
INTERSTITIAL CELL-STIMULATING HORMONE see **LH**
LACTOGEN HORMONE, PLACENTAL see **PLACENTAL LACTOGEN**
LACTOGENIC HORMONE, PITUITARY see **PROLACTIN**
LH-FSH RELEASING HORMONE
LH RELEASING HORMONE see **LH-FSH RELEASING HORMONE**
LUTEINIZING HORMONE see **LH**
MAMMOTROPIC HORMONE, PITUITARY see **PROLACTIN**
MAMMOTROPIC HORMONE, PLACENTAL see **PLACENTAL LACTOGEN**
MELANOCYTE-STIMULATING HORM RELEASE INHIBITING HORMONE see **MSH RELEASE INHIBITING HORMONE**
MELANOCYTE-STIMULATING HORM RELEASING HORMONE see **MSH RELEASING HORMONE**
MOLTING HORMONE see **ECDYSONE**
MSH RELEASE INHIBITING HORMONE
MSH RELEASING HORMONE
NEOPLASMS, HORMONE-DEPENDENT
PITUITARY HORMONE RELEASE INHIBITING HORMONES
PITUITARY HORMONE RELEASING HORMONES
PROGESTATIONAL HORMONE ANALOGS see **PROGESTATIONAL HORMONES, SYNTHETIC**
PROLACTIN RELEASE INHIBITING HORMONE
PROLACTIN RELEASING HORMONE
RECEPTORS, HORMONE
SEX HORMONE BINDING GLOBULIN
SOMATOTROPIN RELEASE INHIBITING HORMONE
SOMATOTROPIN RELEASING HORMONE
THYROID STIMULATING HORMONE see **THYROTROPIN**
THYROTROPIN RELEASING HORMONE

HORMONES
ADRENAL CORTEX HORMONES
ANTIDIURETIC HORMONES see **VASOPRESSINS**
CORPUS LUTEUM HORMONES
ENTERIC HORMONES see **GASTROINTESTINAL HORMONES**
GASTROINTESTINAL HORMONES
GONADOTROPIN RELEASING HORMONES see **PITUITARY HORMONE RELEASING HORMONES**
HORMONES
HORMONES, ECTOPIC
HORMONES, INVERTEBRATE see **INVERTEBRATE HORMONES**
HORMONES, SYNTHETIC
HYPOTHALAMIC HORMONES
INSECT HORMONES
INTESTINAL HORMONES see **GASTROINTESTINAL HORMONES**
INVERTEBRATE HORMONES
JUVENILE HORMONES
MELANOCYTE-STIMULATING HORMONES see **MSH**
PANCREATIC HORMONES
PARATHYROID HORMONES
PITUITARY HORMONE RELEASE INHIBITING HORMONES
PITUITARY HORMONE RELEASING HORMONES
PITUITARY HORMONES
PITUITARY HORMONES, ANTERIOR
PITUITARY HORMONES, POSTERIOR
PLACENTAL HORMONES
PLANT HORMONES see **PLANT GROWTH REGULATORS**
PROGESTATIONAL HORMONES
PROGESTATIONAL HORMONES, SYNTHETIC
SEX HORMONES
TESTICULAR HORMONES
THYMIC HORMONES see **THYMUS HORMONES**
THYMUS HORMONES
THYROID HORMONES

COMPARISON OF DISPLAYS OF A TERM

TREES

HORMONES	D6.472				
ADRENAL CORTEX HORMONES	D6.472.40				
GLUCOCORTICOIDS	D6.472.40.322				
HYDROXYCORTICOSTEROIDS	D6.472.40.322.478	D6.472.40.			
11-HYDROXYCORTICOSTEROIDS	D6.472.40.322.478.353	D6.472.40.			
CORTICOSTERONE	D6.472.40.322.478.353.237	D4.808.745.	D6.472.40.		
HYDROCORTISONE	D6.472.40.322.478.353.476	D4.808.745.	D6.472.40.		
18-HYDROXYCORTICOSTERONE •	D6.472.40.322.478.353.500	D4.808.745.	D6.472.40.		
TETRAHYDROCORTISOL •	D6.472.40.322.478.353.825	D4.808.745.	D6.472.40.		
17-HYDROXYCORTICOSTEROIDS	D6.472.40.322.478.478				
CORTISONE	D6.472.40.322.478.478.195	D4.808.745.			
CORTODOXONE •	D6.472.40.322.478.478.225	D4.808.745.			
HYDROCORTISONE	D6.472.40.322.478.478.392	D4.808.745.	D6.472.40.		
HYDROXYPREGNENOLONE	D6.472.40.322.478.478.477	D4.808.745.			
TETRAHYDROCORTISOL •	D6.472.40.322.478.478.782	D4.808.745.	D6.472.40.		
TETRAHYDROCORTISONE •	D6.472.40.322.478.478.865	D4.808.745.			
PREGNENOLONE	D6.472.40.322.478.745	D4.808.745.	D6.472.798.		
17-KETOSTEROIDS	D6.472.40.502	D4.808.578.	D6.597.481.		
ANDROSTENEDIONE	D6.472.40.502.112	D4.808.54. D6.472.866.	D4.808.578.	D6.472.79.	
ANDROSTERONE	D6.472.40.502.195	D4.808.54. D6.472.866.	D4.808.578.	D6.472.79.	
DEHYDROEPIANDROSTERONE	D6.472.40.502.372	D4.808.54. D6.472.866.	D4.808.578.	D6.472.79.	
ESTRONE	D6.472.40.502.497	D4.808.365. D6.472.866.	D4.808.578.	D6.472.265.	

• INDICATES MINOR DESCRIPTOR

MESH VOCABULARY FILE

```
1
MH  - Hormones
DT  - 1
DC  - 1
MN  - D6.472
MR  - 770330
RO  - M:GHR
RO  - M:GHR
RO  - M:CAB
EC  - AI:0:Hormone Antagonists
EC  - AA:0:Hormones
BX  - Parotin:2
AN  - GEN only: prefer specifics; /biosyn /physiol permitted; /defic:
      see TN 194; do not use /analogs /antag ( = HORMONE ANTAGONISTS);
      /chem syn permitted: do not convert to HORMONES, SYNTHETIC
RY  - D
B79 - 471
B79 - *274
B77 - 828
B77 - *479
B75 - 940
B75 - *529
B72 - 861
B72 - *433
B69 - 1017
B69 - *478
B66 - 685
B66 - *458
```

E-38

Date Received 3/15/82

NATIONAL LIBRARY OF MEDICINE
Reference Section/Mid-Atlantic Regional Medical Library
8600 Rockville Pike
Bethesda, Maryland 20209

MEDLARS SEARCH REQUEST

NAME OF REQUESTER: JAMES L. PARKER, PH.D.

TELEPHONE: 301/782-4321

OCCUPATION: CHILD PSYCHOLOGIST

ORGANIZATION AND ADDRESS:

MAIL TO: 117 HUNTINGTON AVE

CITY: BETHESDA, MD

STATE: 20209

ZIP:

REQUEST SUBMITTED BY:

DETAILED STATEMENT OF REQUIREMENTS (Describe subject matter for which search is to be conducted. Be specific. Define terms that have special meaning in your request. State points NOT to be included.)

Research done on the effect of additives in food as a cause of hyperactivity

LIST CURRENT, RELEVANT CITATIONS AND TERMINOLOGY

SPECIFY:

Language(s) ENG, FRE
Age group(s) —
Animals (specify) NONE
Geographic area(s) —

INDICATE PREFERENCE:

Selective bibliography [ ]
Comprehensive bibliography [X]

DATA BASE(S)

PURPOSE OF SEARCH:

Patient care [X]
Research [X]
Teaching [ ]
Other

ANALYST:

MeSH - Hands-On Exercises

Initial Training

1. Search for the MeSH heading Intestinal Fistula in the following ways:

   1) Find the number of postings; 337

   2) Search with the subheading "etiology"; 153

   3) Find the number of articles cited under this heading in Index Medicus. 75

2. Retrieve citations on the treatment of basal cell carcinoma in the elderly. 15

3. Retrieve citations on breast neoplasms resulting from mammography. 18

4. Retrieve citations on the occurrence of corneal cancer in young women. 2

5. Retrieve citations on the availability of radiologists and pharmacists in Great Britain.

Updated monthly
20,000 - at largest
SDILINE - current months -- 20,000

MEDLINE

Trainees will be able to:

1. describe the subject content, primary publication coverage and time span of the MEDLINE data base

2. describe the purpose and content, data element mnemonic, and search entry format for the following fields in the MEDLINE unit record:

   MeSH Headings (MH)
   MeSH Tree Number (MN)
   Abstract Author (AA)
   Date of Entry (DA)
   Entry Month (EM)
   ISSN (IS)
   Language (LA)
   Year (YR)
   Journal Title Abbreviation (TA)
   Personal Name as Subject (PS)
   Date of Publication (DP)
   Subheadings (SH)

3. recognize and explain the meaning of MeSH heading/subheading(s) with and without a central concept indicator, as displayed in a "PRINT" command.

4. write the proper format for searching MeSH headings/subheading combinations with and without a central concept indicator

5. identify highly posted search terms required for searching on a given set of search requests

6. explain what is meant by redundant searching

7. formulate efficient search strategies for given search requests which displays your understanding of #4 and #5 above

8. describe the purpose, entry format and results of the use of the MeSHNO and TREE commands: compare and contrast the TREE command display with the hard copy Tree Structures publication

9. identify the appropriate use of the EXPLODE search capability and its relationship to the logical OR

10. describe the entry format and results of use of the EXPLODE with and without the central concept indicator

MEDLINE

MANUAL

I. Introduction — 7.1

A. Scope

1. Relationship to IM
2. Special List Journals
3. Publications

B. Content

1. 3,000 journals
2. Select monographs

C. Coverage

1. 2 years and current year
2. Backfiles
3. SDILINE

D. Update frequency

E. Availability - NLM and SUNY

II. Data Elements

A. MeSH Headings (MH) — 7.3.18

1. Approximately 12 per citation plus check tags
2. Print vs. search format
3. Searching
   a. Without * or SH
   b. With *

MEDLINE

MANUAL

II. Data Elements (continued)

c. With SH

d. With * and SH

4. Checktags

B. Subheadings - 3 ways to search 7.3.28

1. MH/SH

2. SUBS APPLY

3. Alone as bald subheading

C. Author (AU) 7.3.4

1. Format LAST II JR

2. Use of NBR

D. Personal Name as Subject (PS) 7.3.23

1. Same format as author

E. Title 7.3.31

1. Textracted (TW)

2. Translated title in brackets

F. Abstracts 7.3.2

1. Source is author or editor

2. Abstract Author (AA) 7.3.1

a. Searchable as Author (AA)

b. Usd to limit to online abstracts

3. ENGLISH ABSTRACT (MH) 7.3.2

a. For foreign articles only

b. May or may not be online

MEDLINE

	MANUAL
II. Data Elements (continued)	
G. Language (LA)	7.3.15
1. Three letter abbreviations	
H. Title of journal	
1. Title Abbreviation (TA)	7.3.30
2. ISSN (IS)	7.3.13
3. Journal Title Code (JC)	7.3.14
I. Dates	
1. Year of publication (YR)	7.3.35
a. Format YY	
b. Searching	
2. Date of Publication (DP)	7.3.8
a. Format varies	
b. Stringsearchable	
3. Entry Month (EM)	7.3.10
a. Update tag	
b. Format YYMM	
4. Date of Entry (DA)	7.3.7
a. Format YYMMDD	
b. Rangeable	
c. Use in backfile searching	
J. Special List Indicator (LI)	7.3.16
1. 6 special lists (D,N,F,C,P,R)	
2. Uses for searching	

MEDLINE

	MANUAL
II. Data Elements (continued)	
K. Journal Subset (SB)	7.3.27
1. 2 subsets (A,M)	
2. Uses for searching	
L. Review (MH)	7.3.24
1. Use and limitations	
M. Monograph (MH)	7.3.5
1. Format	
2. Use of call number (CA)	
N. CAS Registry Number (RN)	7.3.25
1. Format (443-48-1)	
2. Name of substance (NM)	
III. MeSH Tree Structures	
A. Hard copy Trees	6.2.4
1. Purpose	
a. Hierarchical arrangement	
b. Relationship to Annotated Alphabetic MeSH	
c. Additional tree numbers for MeSH terms	
2. Use in searching	
a. Implication of + following term	
b. Specificity of indexing vs. generality of searching	

MEDLINE

MANUAL

III. MeSH Tree Structures (continued)

B. Commands; Use and format

1. TREE term — 4.9.28
   a. Displays hierarchical position of term
   b. Displays MeSH tree number(s)
2. MESHNO term — 4.9.12
   a. Displays MeSH tree number(s)
3. MESHTERM number
   a. Displays MeSH heading
   b. Displays tree number(s)

C. EXPLODE — 4.6.1
1. Relationship to boolean "OR"
2. Use of Tree number
3. Use of MeSH term
   a. Multi-meaning message
   b. Appropriate alternatives
4. Use of asterisk
5. Use of subheading
6. Pre-Explodes — 4.6.2
   a. Format
   b. Restrictions in use of subheadings

D. Category Z - Geographic descriptors — 6.3.1.3
1. Purpose and arrangement
2. Subheading - ethnology
3. Do not use asterisk

MEDLINE

MANUAL

IV. Search efficiency

A. Identification of highly posted terms

1. Checktags

2. Language

B. Avoid redundant searching

C. Limit to one EXPLODE per search statement

V. Hands-on and Discussion

MEDLINE UNIT RECORD

PS - is personal name

1

AUTHOR	Guill:en M
AUTHOR	Llopis B
AUTHOR	Esteve J
AUTHOR	Fern:andez A
AUTHOR	Perales JL
AUTHOR	Mart:inez B
AUTHOR	Garc:ia J
TITLE	[Congenital renal arteriovenous fistula]—
LANGUAGE	Spa
MESH HEADING	Adult
MESH HEADING	Arteriovenous Malformations/*PATHOLOGY/ RADIOGRAPHY/SURGERY
MESH HEADING	Case Report
MESH HEADING	English Abstract
MESH HEADING	Female
MESH HEADING	Human
MESH HEADING	Nephrectomy
MESH HEADING	Renal Artery/*ABNORMALITIES
MESH HEADING	Renal Veins/*ABNORMALITIES
MESH HEADING	Vena Cava, Inferior/*ABNORMALITIES
DATE OF ENTRY	811025
DATE OF PUBLICATION	1981 Mar-Apr
INTL STAND SER NO	0004-0614
TITLE ABBREVIATION	Arch Esp Urol
UNIQUE IDENTIFIER	81280753
PAGINATION	91-100
JOURNAL SUBSET	M
MESH Z TREE NUMBER	Z1.542.846
ENG ABSTR IND	A
ISSUE/PART/SUPP	2
TRANSLIT/VERNAC TITLE	F:istula arteriovenosa renal cong:enita.
VOLUME ISSUE	34
JOURNAL TITLE CODE	6ZW
ABSTRACT AUTHOR	Author
ENTRY MONTH	8112
ABSTRACT	On the occasion of a recent observation in our Centre of a case of congenital renal arteriovenous fistula, we make a review of the literature and give a detailed description of the clinical case presented. We stress the difficulty in differentiating between congenital and acquired fistulae and explain the course of therapy currently used.
SOURCE	Arch Esp Urol 1981 Mar-Apr;34(2):91-100

(EM) entry-month
82 07- June entries

deactivated

EXAMPLE: ENGLISH ABSTRACT (MH); AUTHOR (AA)

Abstracts on line 1975
250 words or less

JTC - J. title code
TA - title abbreviation
YR - not a field (DP)

```
SS 1 /C?
USER:
hearing
PROG:
SS (1) PSTG (196)

SS 2 /C?
USER:
1 and english abstract
PROG:
SS (2) PSTG (33)

SS 3 /C?
USER:
prt 2 compr
PROG:

1
AU  - Flach M ; Hofmann G
TI  - [Ultrasound hearing by humans: objectivation with brain stem
      potentials (author's transl)]
SO  - Laryngol Rhinol Otol (Stutts) 1980;59(12):840-3

2
AU  - Kekha:iov AN
TI  - [Vestibular effects on visual and auditory function during the
      formation of the perception of space, time and movement
      combination (the space-time-movement combination)]
SO  - Aggressologie 1980;21(3):165-9

SS 3 /C?
USER:
2 and author (aa)
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
Y
PROG:
SS (3) PSTG (13) - abstracts on line

SS 4 /C?
USER:
prt 1 ar
PROG:

1
AU  - Flach M
AU  - Hofmann G
TI  - [Ultrasound hearing by humans: objectivation with brain stem
      potentials (author's transl)]
AB  - Early acoustic evoked potentials (brain stem evoked response) may
      be received by bone conduction after ultrasound irritation (40
      kHz). In comparison with the brain stem potential which is
      received by the some bone conduction by 4 kHz there are
      differences in the pattern of the potential and in the latency
      shift. It may be thought of a retro-cochleare perception of the
      ultrasound because of the 1 msec earlier potential.
SO  - Laryngol Rhinol Otol (Stutts) 1980;59(12):840-3
```

EXAMPLE: Backfile searching using Date of Entry (DA)

6 digits
greater than
less than
from — to —

```
file mesh
PROG:
YOU ARE NOW CONNECTED TO THE MESH VOCABULARY FILE.

SS 1 /C?
USER:
women's rights
PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
prt dl compr
PROG:

1
MH  - Women's Rights
DT  - 1
DC  - 1
MN  - I1.880.604.473.850 ; N3.706.437.850
DX  - 770101
MS  - The rights of women to equal status pertaining to social,
      economic, and educational opportunities afforded by society.
PI  - Civil Rights (68-76) ; Human Rights (73-76) -
DA  - 760505
MR  - 770323 ; 810326
RO  - O:EC ; C:CAB ; M:SMH
TH  - BIOETHICS ; POPLINE
BX  - Women's Status:O:00000000:0000000:781226 ; Women,
      Status:O:00000000:0000000:781226 ; Women
      Rights:O:00000000:0000000:810326 ; Woman
      Rights:O:00000000:0000000:810326 ; Woman's
      Rights:O:00000000:0000000:810326 ; Women's
      Liberation:1:00000000:0000000:760505
AN  - only /hist /legis /trends
HN  - 77
PM  - 77
RY  - D
B79 - 55 ; *39
B77 - 112 ; *66
B75 - 33 ; *19
```

Previously indexed

The following was done through OFFSEARCH

PROG:
ENTER SEARCH-

STS SS 1 /C?
USER:
women's rights
PROG:

STS SS 2 /C?
USER:
human rights and women and from 741205 to 761103 (da)
PROG:

STS SS 3 /C?
USER:
civil rights and women and from 741205 to 761103 (da)
PROG:

STS SS 4 /C?
USER:
1 or 2 or 3

N1 - HEALTH CARE-POPULATION CHARACTERISTICS

POPULATION CHARACTERISTICS (NON MESH)

Additional locations

(1) POPULATION CHARACTERISTICS (NON MESH)	N1			
DEMOGRAPHY	N1.224	I1.782.616.		
AGE FACTORS	N1.224.67	G7.168.142		
ETHNIC GROUPS	N1.224.317	I1.76.201.	I1.880.143.	M1.194
HANDICAPPED	N1.224.406	M1.289		
HEALTH SURVEYS	N1.224.458	G3.850.520.		
DENTAL HEALTH SURVEYS	N1.224.458.251	G3.890.160		
DMF INDEX	N1.224.458.251.266	G3.890.160.		
ORAL HYGIENE INDEX •	N1.224.458.251.576	G3.890.160.		
PERIODONTAL INDEX	N1.224.458.251.720	E6.721.658	G3.890.160.	
HEALTH STATUS INDICATORS •	N1.224.458.470	G3.850.520.		
MASS SCREENING	N1.224.458.527	E1.563 N2.421.726.	G3.850.520.	N2.421.143.
GENETIC SCREENING	N1.224.458.527.125	E1.563.390	G3.850.520.	N2.421.143.
MASS CHEST X-RAY	N1.224.458.527.443	E1.302.577 G3.850.520.	E1.563.443 N2.421.143.	E1.818.870. N2.421.726.
MULTIPHASIC SCREENING	N1.224.458.527.633	E1.563.633 N2.421.726.	G3.850.520.	N2.421.143.
NUTRITION SURVEYS	N1.224.458.696	G3.850.520.		
DIET SURVEYS •	N1.224.458.696.385	G3.850.520.		
MINORITY GROUPS	N1.224.593	I1.880.371	M1.403	
POPULATION	N1.224.716	I1.782.616		
POPULATION DENSITY	N1.224.716.533	I1.782.616.		
POPULATION GROWTH	N1.224.716.700	I1.782.616.		
POPULATION EXPLOSION •	N1.224.716.700.617	I1.782.616.		
SEX FACTORS	N1.224.816			
VITAL STATISTICS	N1.224.935			
BIRTH RATE	N1.224.935.161			
LIFE EXPECTANCY	N1.224.935.464			
MORBIDITY	N1.224.935.597			
MORTALITY	N1.224.935.698			
FETAL DEATH	N1.224.935.698.302	C13.703.243	C23.240.477	
INFANT MORTALITY	N1.224.935.698.489			
MATERNAL MORTALITY	N1.224.935.698.653			
SEX RATIO	N1.224.935.780	G5.414.791	G8.665.831	
(2) SOCIOECONOMIC FACTORS	N1.824	I1.880.840		
EDUCATIONAL STATUS	N1.824.196			
EMPLOYMENT	N1.824.245			
(3) FAMILY CHARACTERISTICS	N1.824.308	F1.829.263.	I1.880.225.	
(4) DIVORCE	N1.824.308.266	F1.829.263.	I1.880.225.	I1.880.735.
MARRIAGE	N1.824.308.526	F1.829.263.	I1.880.225.	
SINGLE PERSON	N1.824.308.794	F1.829.263.	I1.880.225.	M1.785
INCOME	N1.824.417			
PENSIONS	N1.824.417.510			
SALARIES AND FRINGE BENEFITS	N1.824.417.700			
MEDICAL INDIGENCY	N1.824.460			
OCCUPATIONS	N1.824.547			
CAREER MOBILITY	N1.824.547.330			
POVERTY	N1.824.600	I1.880.735.	I1.880.840.	
SOCIAL CHANGE	N1.824.737	I1.880.526		
SOCIAL CLASS	N1.824.782	I1.880.552	I1.880.840.	
SOCIAL MOBILITY	N1.824.782.673	I1.880.552.	I1.880.840.	
SOCIAL CONDITIONS	N1.824.827	I1.880.578		
UNEMPLOYMENT	N1.824.925			

* INDICATES MINOR DESCRIPTOR

SS 1 /C?
USER:
exp n1.824

EXPLODE TREE NO.

PROG:
SS (1) PSTG (5390)

SS 2 /C?
USER:
socioeconomic factors or educational status or employment or

LOGICAL OR

PROG:
CNT 2

USER:
family characteristics or divorce or marriage or single person or

PROG:
CNT 2

USER:
income or pensions or salaries and fringe benefits or

PROG:
CNT 2

USER:
medical indigency or occupations or career mobility or poverty or

PROG:
CNT 2

USER:
social change or social class or social mobility or social conditions or

PROG:
CNT 2

USER:
unemployment

PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y

PROG:
SS (2) PSTG (5390)

```
SS 1 /C?
USER:
tree socioeconomic factors

PROG:
MM (Socioeconomic Factors) (2)
  1    I1.880.840
  2    N1.824
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
all

PROG:

Sociology  I1.880
    Socioeconomic Factors  I1.880.840
        Poverty  I1.880.840.535
        Social Class  I1.880.840.755 (*)

Population Characteristics (Non Mesh  N1
    Socioeconomic Factors  N1.824
        Educational Status  N1.824.196
        Employment  N1.824.245
        Family Characteristics  N1.824.308 (*)
        Income  N1.824.417 (*)
        Medical Indigency  N1.824.460
        Occupations  N1.824.547 (*)
        Poverty  N1.824.600
        Social Change  N1.824.737
        Social Class  N1.824.782 (*)
        Social Conditions  N1.824.827
        Unemployment  N1.824.925


SS 4 /C?
USER:
meshterm a11.118.637

PROG:

Leukocytes
    A11.118.637
    A15.145.229.637


SS 4 /C?
USER:
meshno leukocytes

PROG:

Leukocytes
    A11.118.637
    A15.145.229.637
```

"TREE MESH TERM

*further indentation

"MESHTERM ___

"MESHNO ___

```
3 /C?
USER:
tree leukocytes

PROG:
MM (Leukocytes) (2)
  1    A11.118.637
  2    A15.145.229.637
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
all

PROG:

Blood Cells  A11.118
    Leukocytes  A11.118.637
        Granulocytes  A11.118.637.415 (*)
        Lymphocytes  A11.118.637.555 (*)
        Monocytes  A11.118.637.652

Blood Cells  A15.145.229
    Leukocytes  A15.145.229.637
        Granulocytes  A15.145.229.637.415 (*)
        Lymphocytes  A15.145.229.637.555 (*)
        Monocytes  A15.145.229.637.652

SS 3 /C?
USER:
exp leukocytes

PROG:
MM (LEUKOCYTES) (2)
            1  A11.118.637
            2  A15.145.229.637
NUMBER, NONE, OR EXPAND-

USER:
1

PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y

PROG:
SS (3) PSTG (14527)
```

"TREE MESH TERM

EXPLODE MESH TERM

PRE-EXPLODES IN MEDLINE FILES

The Pre-Explode capability has been designed to overcome some of the limitations of the normal "EXPLODE" capability. The following list represents commonly needed large trees which have been exploded in advance and stored in the index, therefore eliminating the usual overflow message.

The Pre-Explodes are searched as NAME (PX). The word "EXPLODE" is not used. For example:

SS 4/C? NEOPLASMS (PX)

The asterisk can be used too with a pre-explode to indicate a central concept:

SS 5/C? *ENZYMES (PX)

Subheadings cannot be appended to pre-explodes, nor can the "SUBS APPLY" command be used. To link a subheading with a pre-explode, one should "AND" the two together. For example, a search on the causative agents of cancer could be searched using the pre-exploded neoplasms combined with the subheading etiology in the following way:

SS 6/C? NEOPLASMS (PX) AND ET (SH)

The available Pre-Explodes are:

NM - qualifier for chem subs.

AVAILABLE PRE-EXPLOSIONS

Pre-explosions added for 1982 are preceded by (82).

Pre-explosion Name (PX)	Tree No.
ANTIBIOTICS	D20.85
BACTERIA	B3
BACTERIAL INFECTIONS	C1.252
BEHAVIOR	F1.145
(82)BEHAVIOR AND BEHAVIOR MECHANISMS	F1
BRAIN	A8.186.211
CARBOHYDRATES	D9.203
CARDIOVASCULAR DISEASES	C14
CELLS	A11
CENTRAL NERVOUS SYSTEM	A8.186
CENTRAL NERVOUS SYSTEM DISEASES	C10.228
DENTISTRY	E6
(82)DIGESTIVE SYSTEM DISEASES	C6
ENZYMES	D8.586
(82)GENETICS	G5
HEALTH FACILITIES	N2.278
HEALTH SERVICES	N2.421
HEART DISEASES	C14.280
HORMONES	D6.472
(82)IMMUNOLOGIC FACTORS	D24.611
LIPIDS	D10.516
MAMMALS	B2.649
MENTAL DISORDERS	F3.709
METABOLIC DISEASES	C18.452
(82)MISCELLANEOUS TECHNICS	E5
MOUTH AND TOOTH DISEASES	C7
NEOPLASMS	C4
NERVOUS SYSTEM	A8
NERVOUS SYSTEM DISEASES	C10
NEUROLOGIC MANIFESTATIONS	C10.597
(82)ORGANIZATION AND ADMINISTRATION	N4.452
PROTEINS	D12.776
RESPIRATORY TRACT DISEASES	C8
SIGNS AND SYMPTOMS	C23.888
STEROIDS	D4.808
SURGERY, OPERATIVE	E4
UNITED STATES MC [as MeSH heading]	Z1.107.567.875
UNITED STATES [as place of publication]	Z1.107.567.875
(82)VASCULAR DISEASES	C14.907
VERTEBRATE VIRUSES	B4.909
VERTEBRATES	B2
VIRUS DISEASES	C2
(82)VIRUSES	B4
WOUNDS AND INJURIES	C21.866

Remember to disguise the AND in names of pre-explosions just as you do for regular searching on MeSH headings with embedded ANDs.

SEARCHING GEOGRAPHICS IN MEDLINE

CATEGORY Z

1) MH
2) Place of pub.

1. GEOGRAPHIC AS A MAIN HEADING

EXAMPLE -- CITATIONS ON HOOKWORM INFECTIONS IN SOUTH AMERICA

SS 1/C? EXP HOOKWORM INFECTIONS

SS 2/C? 1 AND EXP SOUTH AMERICA

2. GEOGRAPHIC AS A PLACE OF PUBLICATION

EXAMPLE -- CITATIONS ON HOOKWORM INFECTIONS WHICH ARE PUBLISHED IN SOUTH AMERICAN JOURNALS OR IN A JOURNAL OF ONE PARTICULAR COUNTRY IN SOUTH AMERICA

A. SS 1/C? EXP HOOKWORM INFECTIONS

SS 2/C? 1 AND EXP Z1.107.757: (ZN) (All South America)

Tree no

OR

SS 1/C? EXP HOOKWORM INFECTIONS

SS 2/C? 1 AND Z1.107.757.176. (ZN) (Brazil only)

B. SDILINE

SS 1/C? EXP HOOKWORM INFECTIONS

SS 2/C? 1 AND EXP Z1.107.757: (ZN) (All South America)

OR

SS 1/C? EXP HOOKWORM INFECTIONS

SS 2/C? 1 AND BRAZIL (CY) (Brazil only)

GEOGRAPHICS USED ROUTINELY TO DESCRIBE AN ARTICLE ON:

EPIDEMIOLOGY
PUBLIC HEALTH
VITAL STATISTICS
LICENSURE

JURISPRUDENCE
GOVERNMENT
ECONOMICS
LEGISLATION

ASSOCIATIONS AND SOCIETIES
ECOLOGY
INSTITUTIONS

DATE OF ENTRY (DA) RANGES FOR YEARLY SEGMENTS OF MEDLINE AND ALL BACKFILES

MED66	1966 - 651113 through 661101
	1967 - 661123 through 671129
	1968 - 671212 through 681111
MED69	1969 - 681117 through 691119
	1970 - 691126 through 701112
	1971 - 701117 through 711117
MED72	1972 - 711130 through 721030
	1973 - 721108 through 731116
	1974 - 731130 through 741119
MED75	1975 - 741205 through 751108
	1976 - 751120 through 761103
MED77	1977 - 761104 through 771031
	1978 - 771101 through 781027
MED79	1979 - 781118 through 791026
MEDLINE	1980 - 791027 through 801027
	1981 - 801028 through 811030
	1982 - 811031 through

MEDLINE

SEARCH FORMULATION EXERCISES

1. Use of audiovisual aids in medical education (include all types of ausiovisuals as well as all levels of medical education).

   a. Retrieve citations from the July 1981 or October 1981 updates to the system.

2. Mutation which is caused by air pollution.

   a. How many citations contain an ABSTRACT that can be displayed online?

   b. How many of these citations were published in 1981?

3. Continuing education for nursing relicensure.

   a. How many of the articles are in English or are foreign language articles with an English abstract?

   b. How many of these appeared in the AORN Journal?

MEDLINE
SEARCH FORMULATION EXERCISES

1. Use of audiovisual aids in medical education (include all types of audiovisuals as well as all levels of medical education).

   a. Retrieve citations from the July 1981 or October 1981 updates to the system.

```
SS 1 /C?
USER:
exp education, medical
PROG:
SS (1) PSTG (2444)

SS 2 /C?
USER:
exp l1.178.147
PROG:
SS (2) PSTG (1894)

SS 3 /C?
USER:
1 and 2
PROG:
SS (3) PSTG (68)

SS 4 /C?
USER:
3 and 8107 (em)
PROG:
SS (4) PSTG (5)

SS 5 /C?
USER:
3 and 8110 (em)
PROG:
SS (5) PSTG (3)
```

Ask end user if all types of medical education are desired. If this is the case, EDUCATION, MEDICAL should be exploded. Since there is only one tree number for this MeSH heading, the term can be exploded.

L1.178.147 should be used since it has a larger number of indentations and included the indentations under I2.903.847.297 for the heading AUDIO-VISUAL AIDS.

Separate the retrieval for each update to distinguish one from the other for end-user's clarity.

2. Mutation which is caused by air pollution.
   a. How many citations contain an ABSTRACT that can be displayed online?
   b. How many of these citations were published in 1981?

```
SS 6 /C?
USER:
exp air pollution
PROG:
SS (6) PSTG (912)

SS 7 /C?
USER:
6 or exp air pollutants
PROG:
SS (7) PSTG (1683)

SS 8 /C?
USER:
exp mutation or mutagens
PROG:
SS (8) PSTG (4792)

SS 9 /C?
USER:
7 and 8
PROG:
SS (9) PSTG (51)

SS 10 /C?
USER:
9 and author (aa)
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y
PROG:
SS (10) PSTG (29)

SS 11 /C?
USER:
10 and 81 (yr)
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y
PROG:
SS (11) PSTG (13)
```

It is important to browse up and down in MeSH for appropriate MeSH headings. For this search, one should use AIR POLLUTION as well as AIR POLLUTANTS. This is also true for MUTATION and MUTAGENS.

One will receive TIME OVFLOW messages when searching for such highly posted concepts as AUTHOR (AA) and 81 (YR). The only way to avoid this is to STRINGSEARCH for highly posted terms.

3. Continuing education for nursing relicensure.
   a. How many of the articles are in English or are foreign language articles with an English abstract?
   b. How many of these appeared in the AORN Journal?

SS 12 /C?
USER:
education, nursing, continuing
PROG:
SS (12) PSTG (552)

SS 13 /C?
USER:
12 and licensure, nursing
PROG:
SS (13) PSTG (24)

SS 14 /C?
USER:
13 and eng (la) or 13 and english abstract
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
y
PROG:
SS (14) PSTG (22)

SS 15 /C?
USER:
14 and aorn j (ta)
PROG:
SS (15) PSTG (2)

It is not necessary to textword search for the concept MANDATORY since the retrieval for this search is small. The user can browse titles for those appropriate to the request.

Health files NLM + Sunny

HEALTH PLANNING & ADMINISTRATION

SCOPE: Bibliographic citations to the literature concerning the non-clinical aspects of health care delivery. Special emphasis includes health care facilities and administration, clinical equipment, financial management, legislation, accreditation, manpower and personnel, health insurance, and licensure.

CONTENT: Includes citations from MEDLINE and an additional 350 selectively indexed health administration journals. Language is limited to English, German, and French.

COVERAGE: 1975 to present.

SIZE: Approximately 192,000 citations as of 12/81.

UPDATE SCHEDULE: Approximately 2,000 new records are added monthly.

Health Planning and Administration

Trainees will be able to:

1. Describe the scope, coverage and content of the database

2. Describe the relationship between the MEDLINE and HEALTH Unit Records

3. Identify the appropriate use of the Special List (H) tag

4. Explain the special considerations regarding ILL

5. Perform appropriate subject searches using the HEALTH file.

MANUAL

Health Planning and Administration File

I. Description

A. Scope 23.2

1. Non-clinical and administrative aspects of health care delivery

2. Special areas of emphasis

B. Content

1. MEDLINE profile

   -no case reports, animal studies, historical articles, letters, or monographic citations

2. 350 non-IM journals indexed by the American Hospital Association (AHA)

3. Language limited to English, French, German

4. 200 citations per year from the Association of American Medical Colleges (AAMC)

D. Size

E. Update Schedule
- monthly
- approximately 2,000 citations

F. Publications - Hospital Literature Index; American Hospital Association

II. Future Plans for Enrichment

A. National Health Planning Information Center (NHPIC) of the Health Resources Administration

1. Monographs

2. Technical Reports

3. Currently accessed in Weekly Government Abstracts: Health Planning Series

MANUAL

III. Searching the File

A. MeSH Vocabulary — 23.4.16

1. Category N

2. Scope notes available from MMS

B. Same searching capabilities as MEDLINE

1. Use MeSH (EXP, *, SH, etc.) — 23.4.16

2. Use textwords (from title and abstract)

3. Pre-explosions available — 4.6.2

a. Health Facilities
b. Health Services
c. Organization and administration

C. Author Abstract (AA) — 23.4.1

1. Author (AA)
2. AAMC (AA)

D. Journal Subset (SB) — 23.4.24

1. A (SB)
2. M (SB)
3. N (SB)

E. Print AR available - AU, TI, AB, SO — 23.6

F. Good file to search public laws

G. Special List "H" (LI) 23.5

1. Use to eliminate MEDLINE retrieval

2. Caution regarding date coverage

IV. Special considerations about ILL 11.3.4

A. NLM does not subscribe to all journals

B. Check unfamiliar titles in SERLINE

1. CA - AHA

2. GN - This title is not in NLM collection

C. Request non-NLM titles locally first, then from American Hospital Association

V. Automatic SDI service available NLM Technical Bulletin 1981 December

HEALTH PLANNING AND ADMINISTRATION

THIS ONLINE BIBLIOGRAPHIC DATABASE CONTAINS CITATIONS TO LITERATURE ABOUT HEALTH CARE PLANNING, ORGANIZATION, FINANCING, MANAGEMENT, MANPOWER, AND RELATED SUBJECTS. INITIALLY THESE CITATIONS WILL BE DERIVED FROM THREE SOURCES: MEDLINE, ADDITIONAL JOURNALS INDEXED ESPECIALLY FOR THIS DATABASE, AND THE JOURNALS THAT THE AMERICAN HOSPITAL ASSOCIATION INDEXES FOR THE HOSPITAL LITERATURE INDEX.

* = DIRECTLY SEARCHABLE
TW = TEXT WORD SEARCHABLE
NF = NAME FRAGMENT SEARCHABLE
N = NO
Y = YES
R = RANGEABLE

CATEGORY QUALIFIER	ELEMENT NAME	DIRECTLY SEARCHABLE	PRINT	PRINT FULL	PRINT DETAILED
AA	ABSTRACT AUTHOR	*	N	N	Y
AB	ABSTRACT	TW	N	N	Y
AU	AUTHOR	*	Y	Y	Y
CA	CALL NUMBER	*	N	Y	Y
DA	DATE OF ENTRY	*,R	N	N	Y
DP	DATE OF PUBLICATION	*	N	N	Y
EA	ENG ABSTRACT INDICATOR		N	N	Y
EM	ENTRY MONTH	*	N	N	Y
ID	ID NUMBER	*	N	N	Y
IP	ISSUE/PART/SUPPLEMENT		N	N	Y
IS	INTL STAND SER NO	*	N	N	Y
JC	JOURNAL TITLE CODE	*	N	N	Y
LA	LANGUAGE	*	N	Y	Y
LI	SPECIAL LIST INDICATOR	*	N	N	Y
LR	LAST REVISION DATE	*	N	N	Y
MH	MESH HEADING	*	N	Y	Y
MN	MESH CLASS NUMBER	*	N	N	N
NI	NO-AUTHOR INDICATOR		N	N	Y
NM	NAME OF SUBSTANCE	*,NF	N	Y	Y
PG	PAGINATION		N	N	Y
PS	PERSONAL NAME AS SUBJECT	*	N	N	Y
RF	NUMBER OF REFERENCES		N	N	Y
RN	CAS REGISTRY NUMBER	*	N	Y	Y
RO	RECORD ORIGINATOR		N	N	Y
SB	JOURNAL SUBSET	*	N	N	Y
SH	SUBHEADING	*	N	Y	Y
SO	SOURCE		Y	Y	Y
TA	TITLE ABBREVIATION	*	N	N	Y
TI	TITLE	TW	Y	Y	Y
TT	TRANSLITERATED/VERNACULAR TITLE		N	N	Y
UI	UNIQUE IDENTIFIER	*,R	N	N	Y
VI	VOLUME/ISSUE		N	N	Y
YR	YEAR	*	N	N	N
ZN	MESH Z TREE NUMBER	*	N	N	Y

NOTES: PRINT AR IS ALSO AVAILABLE FOR THIS FILE. IT PRINTS AU, TI, SO, AB.
CONTINUE PRINTING? (YES/NO)

USER:
Y
PROG:
PRE-EXPLOSIONS (PX) MAY BE USED IN THIS DATABASE.
81:348

SAMPLE SEARCH Back to 1975

FILE HEALTH

Medline - Back to 1980

PROG:
YOU ARE NOW CONNECTED TO THE HEALTH PLANNING & ADMIN FILE.

SS 1 /C?
USER:
exp nursing and rural health

PROG:
SS (1) PSTG (64)

SS 2 /C?
USER:
prt 1 dl indented compr

— fields spelled out

PROG: 1

AUTHOR	Berggren WL ; Ewbank DC ; Berggren GG
TITLE	Reduction of mortality in rural Haiti through a primary-health-care program.
LANGUAGE	Eng
MESH HEADING	Adolescence ; Adult ; Allied Health Personnel/ UTILIZATION ; Child Nutrition ; Child ; Child, Preschool ; Diarrhea/THERAPY ; Female ; Haiti ; Health Education ; Health Services Needs and Demand ; Human ; Immunization ; Infant ; Infant, Newborn ; Middle Age ; Midwifery ; *Mortality ; Nutrition Disorders/ THERAPY ; Parasitic Diseases/THERAPY ; Pregnancy ; Primary Health Care/MANPOWER/ *METHODS ; Primary Prevention/METHODS ; Rural Health/*TRENDS ; Support, Non-U.S. Gov't ; Tuberculosis/THERAPY ; Vital Statistics
DATE OF ENTRY	810625
DATE OF PUBLICATION	1981 May 28
INTL STAND SER NO	0028-4793
TITLE ABBREVIATION	N Engl J Med
UNIQUE IDENTIFIER	81172915
PAGINATION	1324-30
JOURNAL SUBSET	A ; M
MESH Z TREE NUMBER	Z1.107.567.875
ISSUE/PART/SUPP	22
VOLUME ISSUE	304
JOURNAL TITLE CODE	NOW
ABSTRACT AUTHOR	Author
ENTRY MONTH	8108
ABSTRACT	Deaths and their causes in a rural Haitian population of 8820 were studied through hospital records, death registration, a disease survey, and health surveillance. The results were used in selecting eight diseases for the delivery of health services by village-level health workers. The impact of the services was measured by monitoring annual age-specific and disease-specific mortality rates and by comparing them with officially estimated national mortality rates. Mortality rates fell progressively during five years, to levels only one fourth as high as the national estimates. The fall in mortality was associated principally with services that prevented deaths due to tetanus, malnutrition, diarrhea, and tuberculosis. The total program of hospital and village health services saved 495 years of potential life per thousand population per year. Most of the saving was attributable to preventive services. The program eventually served more than 115,000 persons, and it has been replicated by other agencies for an additional 135,000 Haitians.
SOURCE	N Engl J Med 1981 May 28;304(22):1324-30

CORE JOURNALS INDEXED FOR HEALTH FILE

The following is a core list of 34 journals which are indexed cover to cover for the HEALTH file. In addition to these titles, another 300 titles are indexed selectively. Of the selectively indexed titles, many include layman publications such as the Wall Street Journal and U. S. News and World Report which are routinely monitored for relevant articles. All journals indexed for the HEALTH file are non-clinical in scope and emphasize the facilities and costs of health care rather than the patient or disease.

1. American Lung Association Bulletin
2. American Rehabilitation
3. Bulletin - American Protestant Hospital Association
4. Critical Care Quarterly
5. Consumer Health Perspectives
6. Contemporary Pharmacy Practice
7. Cross-Reference on Human Resources Management
8. Family and Community Health
9. Health Care in Canada
10. Health Care Management Review
11. Hospital Administration Currents
12. Hospital Financial Management
13. Hospital Forum
14. Hospital and Health Services Administration
15. Hospital Medical Staff
16. Hospital Supervisors Bulletin
17. Hospital Trustee
18. How to Evaluate Health Programs
19. Journal of Ambulatory Care Management
20. Journal - American Health Care Association
21. Journal of Economics and Business
22. Journal of Health and Human Resources Administration
23. Journal of Long Term Care Administration
24. Journal of Medical Systems
25. Journal - National Association for Hospital Development
26. Journal - National Association of Private Psychiatric Hospitals
27. Law and Contemporary Problems
28. Long Term Care and Health Services Administration Quarterly
29. Nursing Homes
30. Patient Counselling and Health Education
31. Review - Federation of American Hospitals
32. Trustee
33. Voluntary Action Leadership
34. World Hospitals

HEALTH FILE

Search Exercises

1. Find citations on area wide planning of psychiatric facilities. 4

   a. How many of these are non MEDLINE citations?

2. Retrieve citations on training the physical therapist.

3. Find information about the growing number of mothers who want to have their babies at home.

physical therapy & students

Initial Training Class
HEALTH File
Annotated Answers

1. Find citations on area wide planning of psychiatric facilities.

   a. How many of these are non MEDLINE citations?

SS 1/C?
USER:
exp areawide planning
PROG:
SS (1) PSTG (2756)

SS 2/C?
USER:
PSYCHIATR DEP -
PROG:
SS (2) PSTG (474)

SS 3/C?
USER:
exp f4.408 - mental health
PROG:
SS (3) PSTG (5440)

SS 4/C?
USER:
2 or 3
PROG:
SS (4) PSTG (5831)

SS 5/C?
USER:
4 and 1
PROG:
SS (5) PSTG (98)

SS 6/C?
USER:
5 and h (li)
PROG:
SS (6) PSTG (21)

AREAWIDE PLANNING is a "see" ref. to REGIONAL HEALTH PLANNING. Either may be used.

The use of Permuted MeSH is helpful for the psychiatric concept. One also wants to retrieve psychiatric facilities both in and out of the hospital setting. Note the use of the data form PSYCHIATR DEP for the MeSH heading, PSYCHIATRIC DEPARTMENT, HOSPITAL which is over 30 characters.

2. Retrieve citations on training the physical therapist.

SS 7/C?
USER:
physical therapy/ed
PROG:
SS (7) PSTG (108)

Since the HEALTH File does not include clinical information, searching PHYSICAL THERAPY/ed retrieves information about educating the therapist and not the patient.

3. Find information about the growing number of mothers who want to have their babies at home.

SS 2/C?
USER:
EXP LABOR OR EXP DELIVERY
PROG:
SS (2) PSTG (1395)

SS 3/C?
USER:
MIDWIFERY OR NURSE MIDWIVES
PROG:
SS (3) PSTG (548)

SS 4/C?
USER:
3 OR HOME NURSING OR EXP HOME CARE SERVICES
PROG:
SS (4) PSTG (2291)

SS 5/C?
USER:
2 AND 4
PROG:
SS (5) PSTG (149)

LABOR, DELIVERY, and HOMECARE SERVICES appear once in their respective trees, so exploding on the terms is appropriate. Since most midwives are involved in home deliveries, MeSH headings MIDWIFERY and NURSE MIDWIVES are used.

Back 25-66 not online

MANUAL

PART 5

OFFSEARCH

Uses:

-- Only way to search backfiles not available online

-- Only way to execute STORESEARCH

-- Search more than one file at a time

To enter OFFSEARCH mode, after any USER: cue type the command

OFFSEARCH

The OFFSEARCH command:

-- Does not change the file to which you were connected when you issued the command

-- Erases your scratch pad

-- Does not allow direct access to the backfiles

3 parts to an OFFSEARCH:

Taskname = S7132015

1) Search information section

2) Search strategy

3) User information section

PART 1: SEARCH INFORMATION SECTION -

When OFFSEARCH command entered, the program gives you the taskname by which this OFFSEARCH is known and asks the question:

ONLINE OUTPUT:--NPS/PSTG/NONE?

The user may respond to this question with one of three options. These are explained as follows:

NONE

-- Gives no feedback during search strategy; not recommended

PSTG

-- Causes the program to perform the search online while the terms are being entered; gives postings from the file to which you were connected when you typed the OFFSEARCH command

-- Results are saved on your scratch pad and can be used in searching after the OFFSEARCH is completed

-- Allows you to print out citations during the OFFSEARCH procedure (browse) in order to check strategy; you may NOT, however, use the PRINT OFFLINE command

NPS

-- Merely checks the terms you enter against the index file of the file to which you were connected when you issued the OFFSEARCH command; will notify you if there are no postings to a given term

-- Does not actually perform the search

-- You must use this option if you are using a STORESEARCH in your OFFSEARCH

The next question you are asked is:

FILES?

Respond by typing the name(s) of the file(s) you want the OFFSEARCH to be performed against

-- A maximum of six files may be requested for a single OFFSEARCH

-- The MEDLINE backfiles have three variations of name:

BACK66	MED66	B66
BACK69	MED69	B69
BACK72	MED72	B72
BACK75	MED75	B75
BACK77	MED77	B77
BACK79	MED79	B79

Any of the variations may be used in response to the files query

-- It is suggested that only similar files be searched together in the same OFFSEARCH because of differences in types of available search terms and in file emphasis

SDILINE, MEDLINE, the MEDLINE backfiles and the HEALTH file are all similar files, and any six could be searched in the same OFFSEARCH

TOXLINE, TOXBACK65 and TOXBACK74 are similar files, and AVLINE and CATLINE are similar files. An example of a pair of dissimilar files is MEDLINE and TOXLINE

The next question is:

PRINTSPECS?

You may respond with one of the standard print format names:

SD (For standard, author, title, source; standard print varies with data base)

FU (For full)

DL (For detailed)

or you may specify data element abbreviations:

For example -

AU, TI, SO, LA, MH

IMPORTANT - If you are searching dissimilar files in one OFFSEARCH, you MUST use one of the three standardized print formats (SD, FU, DL) in response to this query - you may NOT specify individual elements OR use an include or exclude

After you have entered your PRINTSPECS, the program sends you the message:

PRINT ELEMENTS, IF ANY, WILL BE EVALUATED AGAINST THE (FIRST FILE NAME YOU TYPED) FILE.

This means that the data elements you have asked for (if you have not used one of the standardized formats) will be evaluated against a list of which data elements are available for that file. If, for example, you have asked for AB (Abstract) and have requested the BACK66 file first, you will receive an error message, because there are no abstracts in that file.

You will next be asked to agree that all that has been entered so far is correct with this question:

OK? (Y/N/C/ADDRESS)

If you answer Y or YES, the program will proceed with the OFFSEARCH

If you answer N or NO, the program will begin again at the first question (ONLINE OUTPUT?) and let you answer each question again (a new taskname will also be given)

If you answer C or CANCEL, the program will send a message:

OFFSEARCH COMMAND HAS BEEN CANCELLED

and return you to a search statement prompt - SS 1/C?

If you answer address to the question, the program will print out the stored address, if any, attached to the userid code you have used to log in.

PART 2: SEARCH STRATEGY -

The program sends the message:

ENTER SEARCH -

STS SS 1/C?

eraseback to correct

The *STS* is to remind you that you are in a storage mode; enter your search formulation as usual. Remember that:

-- If you explode a term that occurs in more than one tree and receive a multi-meaning message online, regardless of which number you type during the OFFSEARCH, when the search is done during the night ALL trees will be used; this sometimes causes a noticeable difference in the number of citations retrieved

-- The RESTACK, ELEMENTS and PRINT OFFLINE commands cannot be used

-- It is urged that you use the ERASEBACK or BACKUP command to get rid of unnecessary search statements

When you have entered the entire strategy, type:

FINISHED

PART 3: USER INFORMATION SECTION -

You will be asked the question:

SSNOS/OVRIDES? *Search statement nos.*

-- Answer with the number(s) of the search statement(s) from which you wish retrieval to be printed

-- You may not enter more than five search statement numbers

-- A maximum of 500 citations will be printed out from each search statement requested *per data base*

-- Separate the numbers with a comma and space

-- You may use the LIMIT instruction to limit the number of citations received in the mail by entering the following after any subsequent USER: cue

LIMIT = 100 (any number under 500)

The next question will be:

SEARCH TITLE, OR NONE -

You are advised to use a title on all OFFSEARCHES, as it will make proper tearing and mailing of the printout easier.

Mail = prompt rather than

If you DO NOT have a stored address, the program will ask:

NAME? Enter the name to which the output should be mailed

ADDRESS?

CITY, STATE (PLEASE DO NOT ABBREVIATE) AND ZIP -

NOTE: Only 3 lines are permissible for entry of complete address; do not exceed 50 characters across on any address line)

The last question you will be asked is:

REQUESTER'S NAME, OR SAME-

Either type the name of a person or organizational unit requesting the search, or type SAME

This is your LAST CHANCE to enter the command

OFFSEARCH CANCEL

or to correct any erroneous input

After you have answered this question, the program replies:

OFFSEARCH COMPLETED

If you need to cancel the OFFSEARCH after this message has been received, call MEDLARS Management Section and request that it be cancelled; be sure you can give the taskname and which computer (NLM or SUNY). You must call on the same day the OFFSEARCH was entered.

LIMITS IN OFFSEARCH:

-- Processing time cannot exceed 240 seconds; if it does, the entire OFFSEARCH will be purged and you will be notified

-- No more than 3000 citations may be stringsearched in one instruction; if such a stringsearch is attempted, the OFFSEARCH will be purged and you will be notified

PRESPECIFICATION IN OFFSEARCH:

You may correct or prespecify (pre-answer questions) items in the search information and user information parts of an OFFSEARCH using these keywords:

ONOUTS	NAME
FILES	ADDRESS
PRINTSPECS	CITSTAZIP
SSNOS/OVRIDES	TITLE
	REQUESTER

To correct or prespecify, type the keyword, space, an equals sign, space, and the correct information

For example:

USER:

PRINTSPECS = AU, TI, SO, MH, AB

YOU ARE NOW CONNECTED TO THE MEDLINE FILE

SS 1 /C?
USER:
offsearch
PROG:
TASKNAME = S4075434
ON-LINE OUTPUT:--NPS/PSTG/NONE?

USER:
pstg
PROG:
FILES?

USER:
b75, b72, b69, b66
PROG:
PRINTSPECS?

USER:
sd
PROG:
PRINT ELEMENTS, IF ANY, WILL BE EVALUATED AGAINST THE BACK75 FILE.
OK? (Y/N/C/ADDRESS)

USER:
y
PROG:
ENTER SEARCH-

STS SS 1 /C?
USER:
parkinson disease
PROG:
SS (1) PSTG (626)

STS SS 2 /C?
USER:
exp antiparkinson agents
PROG:
SS (2) PSTG (1309)

STS SS 3 /C?
USER:
1 and 2
PROG:
SS (3) PSTG (266)

STS SS 4 /C?
USER:
dimethyl sulfoxide
PROG:
SS (4) PSTG (558)

```
*STS* SS 5 /C?
USER:
exp eye
PROG:
MM (EYE) (2)
            1  A1.456.505.420
            2  A9.371
NUMBER, NONE, OR EXPAND-


USER:
1
PROG:
SS (5) PSTG (10120)

*STS* SS 6 /C?
USER:
4 and 5
PROG:
SS (6) PSTG (5)

*STS* SS 7 /C?
USER:
prt ti
PROG:

1
TI  - [The influence of cryoprotective solutions on the
      ultrastructure of rabbit corneal endothelium (author's
      transl)]

2
TI  - The effect of dimethylsulphoxide on the water-binding
      properties of stratum corneum.

3
TI  - Cytochalasin B-induced structural changes in the anterior
      ocular segment of the cynomlgus monkey.

4
TI  - Corneal penetration of rifampin.

5
TI  - Transport adenosine triphosphatase activity in the rat cornea.

*STS* SS 7 /C?
USER:
finished
PROG:
SSNOS-OVRIDES?

USER:
3,6
PROG:
SEARCH TITLE, OR NONE-
```

USER:
ANTIPARKINSON AGENTS AND DIMETHYL SULFOXIDE
PROG:
NAME?

USER:
JOHN MURRAY
PROG:
ADDRESS:

USER:
10 WALNUT LANE
PROG:
CITY, STATE (PLEASE DO NOT ABBREVIATE), AND ZIP

USER:
BETHESDA, MARYLAND 20209
PROG:
REQUESTOR'S NAME, OR SAME-

USER:
DR. SMITH
PROG:
OFFSEARCH COMPLETED

FREE TEXT SEARCHING
TEXT WORD EXERCISE

1. Find articles in MEDLINE about the Olympic games.

The important words to consider in this request are OLYMPIC and OLYMPICS. There are two ways in which they might be entered, by ORing the two Text Words together-

(TW) OLYMPIC OR OLYMPICS

or by using the # to substitute for either a blank space or the S -

(TW) OLYMPIC#

To avoid answering ALL in response to the Multi-Meaning Message, the question can be pre-answered in the search statement-

(TW) ALL OLYMPIC#

The same set of citations is retrieved in all three cases. To reduce the number of false drops, such as an article titled "Legislative commentary: the Olympics of politics," the searcher might combine the original retrieval with Text Words GAME, GAMES, SPORT, and SPORTS. Again, this can be done by ORing all four together-

(TW) GAME OR GAMES OR SPORT OR SPORTS

or by using the # for plurals and preceding each term with ALL-

(TW) ALL GAME# OR ALL SPORT#

As an additional option, the searcher might combine the retrieval with the MeSH headings SPORTS and SPORTS MEDICINE, either by entering each term separately-

SPORTS OR SPORTS MEDICINE OR ALL GAME# OR ALL SPORT#

(the ALL allows GAME# and SPORT# to be retrieved as Text Words without being qualified (TW)) or by combining common roots-

ALL SPORT: OR ALL GAME#

The SPORTS MeSH headings will be retrieved as well as the Text Words.

2. Find: Sports as a text word

(TW) SPORTS

Sports as a MeSH heading

SPORTS (no qualifier needed)

Sports as a text word and/or MeSH heading

ALL SPORTS

3. *CHINESE RESTAURANT SYNDROME*

The two important words are CHINESE and RESTAURANT-

(TW) CHINESE AND RESTAURANT

The retrieval is so small that the titles may be scanned by the searcher for relevance without further time-consuming refinements to the strategy.

4. G6PD - What is the MeSH heading?

When confronted with a word about which no information is available, the searcher should try a preliminary Text Word search-

(TW) G6PD

In MEDLINE this retrieves about 100 citations. By printing out some titles, the searcher can find a likely-looking phrase-

TI - A simple screening procedure for adenylate kinase, hexokinase, and glucose-6-phosphate dehydrogenase deficiencies.

When the abstract of this article is printed, the abbreviation (G6PD) appears after this phrase. Turning now to MeSH, the searcher finds a term GLUCOSEPHOSPHATE DEHYDROGENASE. By ANDing this term with the G6PD retrieval, it is found that many of the citations do contain this heading. Of course, you can't be absolutely sure that G6PD means GLUCOSEPHOSPHATE DEHYDROGENASE to the requester unless you ask.

5. *Therapeutic use of chicken soup.*

First search for the Text Words -

(TW) CHICKEN AND SOUP

The small number of citations can be read for relevance more efficiently than refining the strategy further with the therapeutic use concept.

6. Tourette's Syndrome - what is the MeSH heading?

The Text Word term generation program turns the word Tourette's into two words: TOURETTE and S. In most cases, only the root is necessary for retrieval (i.e. Tourette); a searcher may also consider the form TOURETTES. If, after browsing some titles, the searcher decides to include the concept of SYNDROME (sometimes also expressed as DISEASE by authors who use the words synonymously) these text words may be included.

```
SS 1  (TW) TOURETTE
SS 2  (TW) DISEASE OR SYNDROME
SS 3  1 AND 2
PRINT TI,MH 5
```

Scan the MeSH headings to see what term from the controlled vocabulary is used for this syndrome; i.e. Gilles De La Tourette's Disease.

STORESEARCH/SAVESEARCH/SAVE

Trainees will be able to:

1. Explain the uses of STORESEARCH/SAVESEARCH/SAVE
2. Define the ELHILL commands associated with STORESEARCH/SAVESEARCH/SAVE
3. List the restrictions for naming a STORESEARCH/SAVESEARCH/SAVE
4. Describe the procedure for execution of a STORESEARCH by the user through OFFSEARCH and the online or OFFSEARCH execution of SAVESEARCH/SAVE

STORESEARCH

Manual

I. Uses 5.6

A. Perform the same search at repeated intervals (SDI)

B. Perform a search against various data bases

C. Store large groups of related concepts as a hedge to be used repeatedly in other searches

II. Input Procedure 5.8

A. STORESEARCH

1. Command which initiates storing of a search

2. User should be connected to the file against which the storesearch will be run

B. SEARCHNAME? → SN

1. Name cannot be longer than 30 characters

2. Only one search per name

3. Names cannot be purely numeric

4. Names cannot contain Boolean operators or special characters

C. ONLINE OUTPUT -- NPS/PSTG/NONE?

1. NPS - search will not be performed online upon input, but search terms will be validated against the index

2. PSTG - search will be run online against the file you are connected to

3. NONE - search will not be performed online, no validation occurs

MANUAL

D. ENTER SEARCH -

E. FINISHED

Only the last statement will be printed

F. STORESEARCH COMPLETED

G. DISPLAY SEARCHNAME

Check the next day

III. Execution of STORESEARCH 5.9

A. Must be in OFFSEARCH

B. Must be in NPS option

C. Use searchname and (SN) qualifier
STS SS 1/C? HUMAN (SN)

IV. Automatic SDI Service 5.12

A. User stores search at the NLM computer using special naming conventions

B. User tests searching through use of DIAGRAM and OFFSEARCH

C. Automatic SDI Request Form is filled out and sent to NLM

D. Search is automatically run against monthly update and mailed to user

V. Deleting STORESEARCH 5.11

A. PURGESEARCH SEARCHNAME

Do not use (SN) qualifier

STORESEARCH

The following example illustrates the storing of an automatic SDI search formulation:

```
SS 1/C?
USER:
FILE SDILINE
PROG:
YOU ARE NOW CONNECTED TO THE SDILINE FILE.

SS 1/C?
USER:
STORESEARCH
PROG:
SEARCHNAME?
USER:
S601 FOOD ADDITIVES
PROG:
ON-LINE OUTPUT:--NPS/PSTG/NONE?

USER:
PSTG
PROG:
ENTER SEARCH-

*STS* SS 1/C?
USER:
EXP D26.471
PROG:
SS (1)  PSTG (53)

*STS* SS 2/C?
HYPERKINESIS OR HYPERACTIVITY (TW)
PROG:
SS (2)  PSTG (47)

*STS* SS 3/C?
USER:
1 AND 2

PROG:
SS (3)  PSTG (14)

*STS* SS 4/C?
USER:
FINISHED
```

To test the search, the next day:

```
SS 1/C?
USER:
DIAGRAM  S601 FOOD ADDITIVES
PROG:
SEARCH FORMULATION BEGINNING AT SS 3:
(SS 1:
  (EXPLODE D26.471. : (MN)).
AND SS 2:
  (HYPERKINESIS OR HYPERACTIVITY
        (TW))
```

NOTE: The DISPLAY command may also be used to find out if a STORESEARCH has been properly stored, e.g.

```
SS 1/C?
USER:
DISPLAY S601 FOOD ADDITIVES
```

The (SN) qualifier should never be used when DIAGRAMing or DISPLAYing a STORESEARCH.

STORESEARCH

Stored searches may not be executed online. They must be incorporated into an OFFSEARCH, using the NPS online output option. Remember to use the qualifier (SN) with your stored search name.

TO USE IN OFFSEARCH:

```
USER:
OFFSEARCH
TASKNAME=S0101522
ONLINE OUTPUT: NPS/PSTG/NONE?
USER:
NPS
  ...

ENTER SEARCH
*STS* SS 1/C?
USER:
PESTICIDES (SN)

*STS* SS 2/C?
USER:
1 AND CARCINOGENS

*STS* SS 3/C?
USER:
1 AND LIVER NEOPLASMS/CI

*STS* SS 4/C?
FINISHED

SSNOS - OVRIDES?
USER:
2, 3
  ...
```

TO DELETE YOUR STORESEARCH:

```
SS 4/C?
USER:
PURGESEARCH PESTICIDES
PROG:
OK? (Y/N/C)
USER:
Y
PROG:
PURGESEARCH COMPLETED
```

(Note: Qualifier (SN) is not used within a command)

SAVE/SAVESEARCH - 2 Commands

MANUAL
4.9.22

USES:

-- to perform a search against various data bases

-- to retain small frequently used search strategies for use online (for larger searches, hedges, or SDIs use STORESEARCH/OFFSEARCH)

NOTE:

These commands add search formulations to the Unified User Specification File (UUSF) storage area attached to the user ID with which the searcher logged in. Because there is a limited amount of saved search storage space in the UUSF, it is suggested that elaborate search formulations, such as those for recurring SDIs, be stored in the STORE SEARCH area (not part of the limited UUSF), and that the saved search area be used for smaller searches used frequently online or for current searches to be executed against more than one data base.

THE COMMANDS:

A. SAVE

-- used AFTER a formulation has been entered

-- will not save search statements that retrieved no postings message

-- only last search statement in SAVE retrieves postings when executed

EXAMPLE:

```
FILE MEDLINE

PROG:
YOU ARE NOW CONNECTED TO THE MEDLINE FILE.

SS 1/C?
USER:
ALL METHAPYRILENE
PROG:
SS (1) PSTG (9)
```

```
SS 2/C
USER:
(TW) METAPYRILENE OR RESTRYL OR PARADORMALENE
PROG:
NP (METAPYRILENE (TW))
NP (RESTRYL (TW))
NP (PARADORMALENE (TW))

SS 2/C?
USER:
91-80-5
PROG:
NP (91-80-5)

SS 2/C?
USER:
SAVE
PROG:
SEARCHNAME?

USER:
METHAPYRILENE
PROG:
SEARCH SET FROM SS 1 SAVED AS 'METHAPYRILENE'.
```

NOTE:

-- only SS 1 saved

-- all search statements that retrieved no postings are NOT saved

-- postings retained online but are not part of the search strategy saved; strategy only saved in UUSF;not current online postings

B. SAVESEARCH

-- used BEFORE a formulation is entered

-- all search statements entered are saved whether or not they retrieved citations when entered during SAVESEARCH while connected to a particular data base

-- only last search statement in a SAVESEARCH retrieves postings when executed

STS saves everything

MANUAL

EXAMPLE:

```
FILE MEDLINE

PROG:
YOU ARE NOW CONNECTED TO THE MEDLINE FILE.

SS 1/C?
USER:
SAVESEARCH
PROG:
ENTER SEARCH-

*STS* SS 1/C?
USER:
ALL METHAPYRILENE
PROG:
SS (1) PSTG (9)

*STS* SS 2/C?
USER:
(TW) METAPYRILENE OR RESTRYL OR PARADORMALENE
PROG:
NP (METAPYRILENE (TW))
NP (RESTRYL (TW))
NP (PARADORMALENE (TW))
SS (2) PSTG (0)

*STS* SS 3/C?
USER:
91-80-5
PROG:
NP (91-80-5)
SS (3) PSTG (0)

*STS* SS 4/C?
USER:
1 OR 2 OR 3
PROG:
SS (4) PSTG (9)

*STS* SS 5/C?
USER:
FINISHED                (indicates to computer when input
PROG:                    of SAVESEARCH complete)
SEARCHNAME?

USER:
METHAPYRILENE MED TOX
PROG:
SEARCH SET FROM SS 1 SAVED AS 'METHAPYRILENE MED TOX'.
SAVESEARCH COMPLETED.
```

MANUAL

NOTE:

-- all search statements saved whether or not they retrieved postings in MEDLINE

-- postings retained online but are not part of the search strategy saved; strategy only saved in UUSF, not current online postings

EXECUTION:

-- use SAVE or SAVESEARCH name and (SN) qualifier

-- enter as any other search term

A. SAVE

MEDLINE

```
SS 1/C?
USER:
METHAPYRILENE (SN)
PROG:

SS (1) PSTG (9)
```

(postings retrieved from last search statement only; search statements that had retrieved no postings are not present)

TOXLINE

```
SS 1/C?
USER:
METHAPYRILENE (SN)
PROG:
SS (1) PSTG (50)
```

(postings retrieved from last search statement only; search statements that had retrieved no postings are not present)

B. SAVESEARCH

MEDLINE

```
SS 1/C?
USER:
METHAPYRILENE MED TOX (SN)
PROC:
SS (5) PSTG (9)
```

(postings retrieved from last search statement only; search statements that had retrieved no postings are present, but in this case do not increase MEDLINE retrieval)

TOXLINE

```
SS 1/C?
USER:
METHAPYRILENE MED TOX (SN)
PROG:
SS (1) PSTG (91)
```

(postings retrieved from last search statement only; search statements that retrieved no postings are present; note increased retrieval over METHAPYRILENE SAVESEARCH where NO POSTINGS statements lost)

NOTE:

The METHAPYRILENE SAVE search and the SAVESEARCH METHAPYRILENE MED TOX when executed retrieved the same postings in MEDLINE even though the search statements that retrieved no postings were retained in the SAVESEARCH. This is because SS 2 and SS 3 retrieved no postings on MEDLINE; SS 4 (combined retrieval of SS 1, SS 2, SS 3) was the result of SS 1 only which was the same search statement as the SS 1 executed in SAVE.

However, in TOXLINE, METHAPYRILENE SAVE search and the SAVESEARCH METHAPYRILENE MED TOX when executed retrieved different postings. This is because SS 2 and SS 3 resulted in postings; therefore SS 4 (the combined retrieval of SS 1, SS 2, SS 3) resulted in a greater retrieval than the SS 1 which was the only search statement saved and executed by SAVE. Here the "saving" of the search statements that retrieved no postings was an advantage.

SEARCHNAME

-- name cannot be longer than 30 characters

-- only one search per name

-- names cannot be purely numeric

-- names cannot contain Boolean operators or special characters

SAVE LIST

-- to list out all SAVE/SAVESEARCHes stored in UUSF

-- gives amount of storage space left in SAVESEARCH/PROFILE AREA

e.g.

```
USER:
SAVE LIST
PROG:
YOU NOW HAVE 2 SAVE SEARCHES.
METHAPYRILENE
METHAPYRILENE MED TOX
THERE IS 90 PERCENT FREE SPACE IN YOUR
  SAVESEARCH/PROFILE AREA.
```

DELETING A SAVE/SAVESEARCH

enter: SAVE Searchname REMOVE

e.g.

USER:
SAVE METHAPYRILENE MED TOX REMOVE
PROG:
SAVED SEARCH 'METHAPYRILENE MED TOX' DELETED

DIAGRAM/DISPLAY

-- to display search formulation of SAVE/SAVESEARCH

-- do not use (SN) qualifier

e.g.

USER:
DISPLAY METHAPYRILENE

GENERAL

SAVESEARCH and SAVE are designed primarily to retain small frequently used search strategies and/or for executing the same search in more than one file online. If you save complex or large search strategies e.g., journal holdings, you may quickly use up your SAVESEARCH/SAVE environment or you may be unable to execute the search online due to system limitations. Use STORESEARCH for large, complex searches. Also, be careful if you have included MeSH Headings in your "saved" strategy to execute it only in files containing MeSH headings.

The example in the manual replacement pages, Part 4.9.22 is only for illustrative purposes; it will generate an overflow condition and the search cannot be executed.

FREE TEXT SEARCHING

Trainees will be able to:

1. list the rules for computer generation of text words

2. apply rules of text word generation to a sample text, identifying those strings of characters which are saved and those which are deleted

3. list sources of text words for use in free text formulation

4. develop free text formulations for given search requests, using the NBR command and applying truncation as appropriate

5. describe techniques for browsing the various NLM databases so as to expand or narrow retrieval in an heuristic fashion

TEXT WORD SEARCHING

MANUAL

I. Introduction and Definition — 4.7

A. Subject searching - controlled vocabulary vs. free text

B. Sources of text words

1. Title
2. Abstract
3. Other defined fields

C. Definition of text word - single words of up to 39 contiguous alpha or alphanumeric characters

D. Text word generation computer program for all ELHILL files (except CHEMLINE)

II. Rules for Text Word Generation — 4.7.1

A. Spaces are delimiters

B. Punctuation and special characters are converted to spaces

C. Drop common words that appear on Stop Word List

D. Drop numeric strings

E. Hyphen rule - these special strings are saved as text words

1. A hyphen followed by a single alphabetic character and preceded by a numeric string

XXX-A

2. A hyphen followed by a numeric string and preceded by one, two or three alphabetic characters

ABC-XXX
AB-XXX
A-XX

MANUAL

III. Text Word Searching 4.7.2

A. Multi-term concepts - use logical 'AND'

B. Synonyms and related terms - use logical 'OR'

1. Synonyms
2. Plural and singular forms
3. Variant spellings and endings
4. Latin, Greek and English forms
5. Nouns and adjectives
6. An organ and its various parts
7. Organ, diseases of an organ, causes of diseases
8. Normal and abnormal states

C. Sources for text words

1. MeSH Trees
2. Online browsing of titles and abstracts
3. Reference tools
4. Requestor

IV. Search Strategy Hints

A. Use NBR command 4.9.13

B. Truncation

1. Hash mark (#) substitutes for one character 4.4.4
2. Colon (:) " for longer 4.4.3

IV. Search Strategy Hints (continued)

C. Use of ALL preceding term 4.4.2

1. To avoid a Multi-Meaning Message

2. To override the system default

D. Use of category qualifiers 4.4.2

1. Prequalification before term

2. Postqualification after "

FREE TEXT SEARCHING

MeSH	Text Word
Structured Vocabulary	Unstructured Vocabulary
1. Preferred term in Thesaurus	1. Synonyms, variant endings, British vs. American spelling
2. Lack of absolute currency or specificity (time lag)	2. Specificity is current
3. Can asterisk (*) term (main point)	3. All terms of equal weight
4. No misspelled words	4. More misspelled words (nbr)
5. Precoordinated terms	5. Single terms
6. Successful search depends on understanding indexing principles	6. Successful search depends on subject knowledge (and literature)
7. Terms are categorized and defined	7. Terms can be ambiguous

ELHILL FREE TEXT STOPWORD LIST

A
ABS
ABOUT
ACCORDINGLY
AFFECT
AFFECTED
AFFECTING
AFFECTS
AFTER
AGAIN
AGAINST
ALL
ALMOST
ALREADY
ALSO
ALTHOUGH
ALWAYS
AMONG
AN
AND
ANOTHER
ANY
ANYONE
APPARENTLY
ARE
ARISE
AS
ASIDE
AT
AWAY
BE
BECAME
BECAUSE
BECOME
BECOMES
BEEN
BEFORE
BEING
BETWEEN
BIOL
BOTH
BRIEFLY
BUT
BY
CAME
CAN
CANNOT
CERTAIN
CERTAINLY
CHEM
COPYRIGHT
COULD
DID
DIFFERENT
DO
DOES
DONE
DUE
DURING
EACH
EFFECT
EFFECTS
EITHER
ELSE
ENOUGH
ESPECIALLY
ETC
EVER
EVERY
FOLLOWING
FOR
FOUND
FROM
FURTHER
GAVE
GETS
GIVE
GIVEN
GIVING
GONE
GOT
HAD
HAS
HARDLY
HAVE
HAVING
HERE
HOW
HOWEVER
IF
IMMEDIATELY
IMPORTANCE
IMPORTANT
IN
INTO
IS
IT
ITS
ITSELF
JUST
KEEP
KEPT
KG
KM
KNOWLEDGE
LARGELY
LIKE
MADE
MAINLY
MAKE
MANY
MAY
MG
MIGHT
ML
MORE
MOST
MOSTLY
MUCH
MUG
MUST
NEARLY
NECESSARILY
NEITHER
NEXT
NO
NONE
NOR
NORMALLY
NOS
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POSSIBLE
POSSIBLY
POTENTIALLY
PREDOMINANTLY
PRESENT
PREVIOUSLY
PRIMARILY
PROBABLY
PROMPT
PROMPTLY
QUICKLY
QUITE
RATHER
READILY
REALLY
RECENTLY
REFS
REGARDING
REGARDLESS
RELATIVELY
RESPECTIVELY
RESULTED
RESULTING
RESULTS
SAID
SAME
SEEM
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SPECIFICALLY
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TOWARD
UNDER
UNLESS
UNTIL
UP
UPON
USE
USED
USEFULLY
USEFULNESS
USING
USUALLY
VARIOUS
VERY
WAS
WERE
WHAT
WHEN
WHERE
WHETHER
WHICH
WHILE
WHO
WHOSE
WHY
WIDELY
WILL
WITH
WITHIN
WITHOUT
WOULD
YET

FREE TEXT SEARCHING
TEXT WORD GENERATION RULES

1. A hyphen is a delimiter in an alphabetic string.

   EXAMPLE:

Y-BODIES	IN THE INDEX becomes	BODIES (TW) ... Y (TW)

   Construct a Search Formulation:

---

2. Apostrophe S

   ' is deleted, S is saved.

   EXAMPLE:

HASHIMOTO'S DISEASE	in the index becomes	DISEASE (TW) ... HASHIMOTO (TW) ... S (TW)

   Construct a Search Formulation:

A word ending in an ' (apostrophe), the ' is deleted.

EXAMPLE:

COOMBS' TEST	in the index becomes	COOMBS (TW) ... TEST (TW)

Construct a Search Formulation:

FREE TEXT SEARCHING
TEXT WORD GENERATION RULES

3. Alphanumerics

a. Leading & trailing numbers are deleted. See b. & c. for exceptions.

EXAMPLE:

13-CARBON CARBON-13 CARBON 13	*in the index* becomes	CARBON (TW)
CARBON13	in the index becomes	CARBON13 (TW)

Construct a Search Formulation:

---

b. A numeric string separated by a hyphen and followed by a single alphabetic character is treated as a text word.

EXAMPLE:

PYROZOLO(2,3-A)(1,3,5)TRIAZINES

in the index becomes	PYROZOLO (TW) ... TRIAZINES (TW) ... 2,3-A (TW)

Construct a Search Formulation:

---

c. One, two, or three alphabetic characters preceding and separated by a hyphen from a numeric string forms a contiguous string and is treated as a text word.

EXAMPLE:

F-5050	in the index becomes	F-5050 (TW) ...
KF-100		KF-100 (TW) ...
SKF-525		SKF-525 (TW)

FREE TEXT SEARCHING

TEXT WORD GENERATION

Example: Patients with Hodgkin's disease were given a 25 mg. I.V. injection of 1,2-dehydrocortisone, D-hydrocortisone.

POSTINGS	INDEX FILE
_____	D (tw)
_____	DEHYDROCORTISONE (tw)
_____	DISEASE (tw)
_____	HODGKIN (tw)
_____	HYDROCORTISONE (tw)
_____	I (tw)
_____	INJECTION (tw)
_____	PATIENTS (tw)
_____	S (tw)
_____	V (tw)

EXERCISE: TEXTRACT THE FOLLOWING SENTENCE.

Thus, 36 g of 7-ethyl-4,7-dihydro-2-methyl-4-oxo-thieno(2,3-B)pyridine-5-carboxylic acid was mixed with feed and given to a group of 6000 sweetfish (av. body wt. apprx. 20 g) each day for 4 days.

VARIANT ENGLISH SPELLINGS AND TEXT WORD SEARCHING

Robin Chivers, Index Section, NLM

When text word searching in MEDLINE, in order to insure complete retrieval, one should be aware of variant English spellings. In general, longer spellings of words are used in Britain and countries where British spelling is preferred, such as Australia, India, New Zealand, South Africa, etc.

1. Some British authors use short forms.
2. Some North American authors use longer forms.
3. Some European journals use both forms.

There is no uniformity of word usage in any particular country or journal. In any particular journal, spelling will depend on the whims of the author and editorial policy.

A sample of the more common variants is given below. Note that not all are shorter/longer forms; some involve replacement of one consonant by another, transposition of two letters, etc.

North American	British	North American	British
E	AE	F	PH
Anesthesia	Anaesthesia	Sulf- (sulfates)	Sulph- (sulphates)
Cecum	Caecum		
Cesarean sect.	Caesarean sect.	IZ	IS
-emia (anemia	-aemia (anaemia)		
Etiology	Aetiology	Organization	Organisation
Feces	Faeces		
Gynecology	Gynaecology	K	C
Hem- (hematuria)	Haem- (haematuria)		
Medieval	Mediaeval	Leukocyte	Leucocyte
Orthopedics	Orthopaedics		
		L	LL
E	OE		
		Counseling	Counselling
Celiac	Coeliac		
Edema	Oedema	OR	OUR
Esophagus	Oesophagus		
Estrus	Oestrus	Labor	Labour
Fetus	Foetus	Color	Colour
-rrhea (diarrhea)	-rrhoea (diarrhoea)	Odor	Odour
		Tumor	Tumour

North American	British	North American	British
ER	RE	CTION	XION
Center	Centre		
Fiberoptics	Fibreoptics	Connection	Connexion
Goiter	Goitre	Reflection	Reflexion
Liter	Litre		
Meter	Metre		
Theater	Theatre		

MISCELLANEOUS

Hiccup	Hiccough
Jewelry	Jewellery
Licorice	Liquorice
Program	Programme

Consider, for example, the search topic "Pediatric esophageal tumors presenting to community health centers." Naturally, this could be done using main headings and check tags, but if using text words, consider the following:

PEDIATRIC (TW) OR PAEDIATRIC (TW)
ESOPHAGEAL (TW) OR OESOPHAGEAL (TW)
TUMORS (TW) OR TUMOURS (TW)
CENTERS (TW) OR CENTRES (TW)

Keep in mind also the use of different British words for North American concepts. For example:

MATRON for Director of nurses
OPERATING THEATRE for Operating room

The trend for the future appears to be for shortened spelling, so this variant spelling should be a diminishing problem. Meanwhile, for thorough text word searching, variant spellings should be included.

Sources:

Stedman's Medical Dictionary. 23rd ed., 1976. p. xiv. Spelling. Webster's Third New International Dictionary. Unabridged. 1969. p. 25a-25b. Spelling.

Reprinted from:

Library Network/MEDLINE Technical Bulletin. May 1976.

MANUAL

TRUNCATION

A. Hash Mark (#) 4.4.4

1. Single character variation symbol

2. Within a term, will not substitute for a lack of a character

3. At the end of a term, will substitute for a space or for a single character

4. Use of the hash mark will often produce a multi-meaning message

5. May use up to two hash marks together - ##

EXAMPLE: SS 1/C? HEART# (TW)

MM (HEART#) (3)
1. HEART (TW)
2. HEARTH (TW)
3. HEARTS (TW)

SPECIFY NUMBERS, ALL, OR NONE -

B. Colon (:) 4.4.3

1. Multiple character variation symbol

2. Within a term and at the end of a term, will substitute for any number of spaces or characters

3. Use of the colon will always produce a multi-meaning message

EXAMPLE: SS 1/C? PASSIV: (TW)

MM (PASSIV:) (8)
1. PASSIVATED (TW)
2. PASSIVATION (TW)
3. PASSIVE (TW)
4. PASSIVELY (TW)
5. PASSIVENESS (TW)
6. PASSIVES (TW)
7. PASSIVISTS (TW)
8. PASSIVITY (TW)

SPECIFY NUMBERS, ALL OR NONE -

Risks in Truncating:

1. False Drops

2. Genterm Overflow Message (GENTRM OVFL)
- 450 terms or more ORed together

FREE TEXT SEARCHING

TEXT WORD EXERCISE

Find articles in MEDLINE on the following topics. Use synonyms and various word endings when using text words; also use MeSH as appropriate.

1. OLYMPIC games

2. Find: Sports as a text word
   Sports as a MeSH heading
   Sports as a text word and/or MeSH heading

3. CHINESE RESTAURANT SYNDROME

4. G6PD - What is the MeSH heading?

5. Therapeutic use of chicken soup

6. Tourette's Syndrome - what is the MeSH heading?

STRINGSEARCH/SENTENCESEARCH

Trainees will be able to:

1. describe the purpose and limitations of stringsearch and sentencesearch and the impact on the NLM system of the use of these capabilities

2. compare and contrast computer processing of a direct search of the database index file with a stringsearch or sentencesearch

3. list four reasons for using stringsearch and sentencesearch

4. discuss similarities and differences between stringsearch and sentencesearch

5. prepare appropriate stringsearch and sentencesearch statements using proper format for required and optional elements for given search requests

6. describe the optional and system limitations on the use of stringsearch in online searches and OFFSEARCH

STRINGSEARCH

MANUAL

I. Definition and comparison with direct search — 4.6.3

A. Method of searching the unit record for a specific character string

1. By-passes normal searching procedure

2. Goes directly to the "header" file

B. Requires a previous subset of retrieval of less than 300 postings (approximately)

C. Performs search on oldest citations first

II. Uses

A. To determine word adjacency

B. To search for STOPWORDS, NUMERICS

C. To perform left-handed truncation

D. To more efficiently search for highly posted terms (checktags, language) from a small subset

III. Format — 4.6.3.1

TS 5 SKIP 100 (TI) :XXXX:

A. Search strategy name

1. TS, STRS, STRINGSEARCH or TITLESEARCH

B. Search statement number (optional)

1. If no number specified, the stringsearch will be performed on the last retrieval

2. Enter number alone bounded by spaces

3. SKIP instruction may also be used

C. Category qualifier (optional)

1. Indicate the category qualifier (in parentheses) of the field to be searched

2. This field must exist on the unit record as "hard" data

3. If no field is indicated, the system will stringsearch the "default" field defined for the database being searched

D. Character string to be searched

1. Enclose in colons

2. Spaces are legitimate characters; placement of spaces within colons is meaningful

3. If colons are omitted, right-hand truncation assumed

4. Disguise punctuation characters with (#)

E. Use of boolean connectors

F. Use of category qualifiers; prequalification, postqualification

G. Search is "time-sliced"
(N) SEARCHED AND (N) QUALIFIED

IV. Limitations 4.6.3.2

A. Limit retrieval as much as possible before stringsearching

B. Avoid stringsearch in OFFSEARCH, STORESEARCH

V. Examples

Only use of SS is in prt

K-5

STRINGSEARCH

EXAMPLE: Searching for word adjacency

TS Δ 1Δ
STRS

```
file medline
PROG:
YOU ARE ALREADY CONNECTED TO THE MEDLINE FILE.

SS 1 /C?
USER:
(tw) heat and loss
PROG:
SS (1) PSTG (182)

SS 2 /C?
USER:
ts (ti) :heat#loss: or :heat#loss: (ab)
PROG:
(72) SCHD (28) QUAL; CONT? (Y/N)

USER:
Y
PROG:
(147) SCHD (68) QUAL; CONT? (Y/N)

USER:
Y
PROG:
SS (2) PSTG (84)

SS 3 /C?
USER:
prt 5 ti
PROG:

1
TI  - Microwave effects on energy metabolism of rat brain.

2
TI  - Thermal and glycemic responses during mild exercise in +5 to -15
      degrees C environments followins alcohol ingestion.

3
TI  - [Lethal and neutral temperature of a helium-oxygen atmosphere for
      rabbits in the presence of elevated atmospheric pressure]

4
TI  - Abnormal temperature control after intoxication with short-acting
      barbiturates.

5
TI  - Head insulation and heat loss in the newborn.

SS 3 /C?
USER:
```

SS
TS Δ 3 Δ skip Δ 182 (TI)

searches from oldest to newest, prt reverse

date of entry

STRINGSEARCH

EXAMPLE: Searching for highly posted terms

```
file medline
PROG:
YOU ARE ALREADY CONNECTED TO THE MEDLINE FILE.

SS 1 /C?
USER:
*vincristine
PROG:
SS (1) PSTG (146)

SS 2 /C?
USER:
ts (mh) :human: and :female: and ens (la)
PROG:
(72) SCHD (19) QUAL; CONT? (Y/N)

USER:
Y
PROG:
SS (2) PSTG (45)

SS 3 /C?
USER:
```

STRINGSEARCH

EXAMPLE: SEARCHING FOR NUMBERS

```
SS 1/C?
USER:
  (TW) ICRF
SS (1) PSTG (97)

SS 2/C?
USER:
  TS (TI)  :ICRF#159:  OR  :ICRF#159:(AB)
PROG:
  (49) SEARCHED AND (32) QUALIFIED.  CONTINUE?  (YES/NO)

USER:
  Y
PROG:
SS (2) PSTG (82)

SS 3/C?
USER:
PRT TI
PROG:

1
TI - ICRF-159 (RAZOXANE) IN THE TREATMENT OF PEDIATRIC SOLID
     TUMORS: A SOUTHWEST ONCOLOGY GROUP STUDY.

2
TI - COMBINATION OF RADIOTHERAPY AND RAZOXANE (ICRF 159) FOR
     CHONDROSARCOMA.
```

JUDICIOUS USE OF STRINGSEARCH IN ONLINE AND OFFLINE SEARCHES

David L. Kenton, Staff Assistant, OCCS

In August 1973, an article entitled "MEDLINE Search Optimization for Efficient Processing" appeared in the Library Network/Medlars Technical Bulletin (pp 8-17). Although this article was published before the present ELHILL 3 program was installed and mainly addressed the searching algorithms of ELHILL 2, many of its guidelines remain remarkably current to our present system. We recommend its review by users of the MEDLINE service.

In order to write a sequel to the article, it would be necessary to address all the changes introduced with ELHILL 3 which would dilute the main purpose of this article; therefore this presentation will deal exclusively with one subject. Subsequent articles will cover additional aspects of offsearching.

STRINGSEARCHing (TS, STRS) uses more machine resources than any other function in ELHILL 3. Why? When a user executes this function, the machine is forced to examine each citation individually and interrogate it looking for the requested character string(s). It requires about the same time for the machine to TS one citation as to print it. Hence, the STRINGSEARCHing or printing of large number of citations should be avoided. Sometimes it cannot be avoided, but then one must try to "reduce" the number of citations to be TS'ed. This article will present some ways to limit the number of citations when searching and some suggestions as to when and how to use STRINGSEARCH.

ONLINE USE

The NLM recommends that the user pull ENG (LA), HUMAN (MH) and other highly-posted terms from a subsearch of 200 or less citations in the MEDLINE (not SDILINE) data base by doing a STRINGSEARCH as follows:

```
PROG:
SS 1/C?
USER:
DOPA AND DOPAMINE AND METHYLDOPA
PROG:
SS (1) PSTG (11)
SS 2/C?
USER:
TS : HUMAN : (MH) AND :ENG: (LA)
PROG:
SS (2) PSTG (3)
  (note:  no time overflows)
```

SDILINE should be directly searched for ENG (LA), HUMAN(MH), etc. since it is a comparatively small file.

This use of STRINGSEARCH online is timesaving both for the user and the system. If more than 200 citations are to be subset in MEDLINE, TS should not be used since direct searching is more economical. In the above example, SS 2 would become:

```
USER:
1 AND HUMAN (MH) AND ENG (LA)
  (note:  this will result in time overflows
          but will still be faster than STRING-
          SEARCHing)
```

If a user actually has a need to TS, looking for particular words or phrases in the title or abstract, after a concept has been searched, then the use of a text word (TW) search before TS will reduce the number of citations considerably. For example, a user constructed a concept in six search statements using MeSH as the selection vehicle. At that point, the user wished to refine the search by requiring that the title field of the last subset contain the words "failure" and "thrive". The search was injudiciously completed as follows:

```
PROG:
SS (6) PSTG (17491)
SS 7/C?
USER:
TS : FAILURE: (TI) AND : THRIVE: (TI)
```

This retrieved an answer but took an inordinate amount of time to perform. (The average search takes 10 seconds; this search took 20 minutes.) The same answer would have been achieved by the following example but would have taken only 1% as much of the computer resources:

```
USER:
6 AND ALL FAILURE: (TW) AND ALL THRIVE: (TW)
PROG:
SS (7) PSTG (150)
SS 8/C?
USER:
TS : FAILURE: (TI) AND : THRIVE: (TI)
```

SS 7 would contain "failure" and "thrive" in the abstract or title fields; SS 8 restricted it to the title. Note that in the first example 17,491 citations were TS'ed - in the second example only 150 citations. Both got the same answer but the second is much less expensive in computer time.

We do recognize that there are some cases where text word searching cannot be used to further subset a concept before using TS, but every effort should be made to TS the fewest number of citations possible. This basic rule always applies to both online and offline use.

OFFSEARCH

Never STRINGSEARCH a concept to limit the result to the highly posted terms (HUMAN, ENG, ENGLISH ABSTRACT, etc.). Why? When using the PSTG option for online outputs when OFFSEARCHing MEDLINE and/or backfiles, the NLM recommends that the user be connected to the SDILINE data base whenever possible. This creates much less work for the system and fewer time overflows for the user, yet still allows "browsing". Thus, the user has no way to know whether the retrieval is below or above the 200 citation limit. Secondly, even if the user were connected to MEDLINE, one could not anticipate counts in the backfiles. Thirdly, the user might be in NPS mode and not have any idea of posting counts. For these reasons we request that you never TS in OFFSEARCH to restrict your search to highly posted terms. Instead, use the highly-posted terms directly.

The recommendations stated actually lead to a contradiction, namely: what do I do if I am in an OFFSEARCH and specify online outputs of PSTG? The user will be searching online and causing an OFFSEARCH to be run offline. In this case, the search should follow the OFFSEARCH rule and TS should not be used to restrict searches to highly posted terms.

AVOIDANCE OF STRINGSEARCH

Recently, a particular search came to my attention. A user with an intermediate search result of 23,000 citations wished to find the prefix "nephr" in either the title or the abstract field, intending to find words such as nephritis, nephraogenic, nephrosis, nephron, etc. The user had done the following:

```
PROG:
SS (1) PSTG (23000)
SS 2/C?
USER:
TS : NEPHR: (TI) OR : NEPHR: (AB)
```

This is a very expensive search (roughly the equivalent of printing 23,000 citations) which can and must be avoided. Since individual words in the title and abstract are directly searchable as text words (TW), the user should have input the following SS in the previous example:

```
PROG:
SS (1) PSTG (23000)
SS 2/C?
USER:
1 AND ALL NEPHR: (TW)
```

The first search would run several hundred times longer than this one but both retrieve the same citations. Therefore, we hope you will utilize the second example whenever possible.

USE OF STRINGSEARCH

There are cases where TS cannot be avoided. A user may wish to restrict an existing search to a stem (root) which may occur as a prefix or an imbedded concept. An example of this is "fluor" which may occur as a prefix in fluoride, fluorine, fluoridation, etc. and may occur as an imbedded stem in words starting with monofluor, difluor, polyfluor, etc. If "fluor" were being searched as an imbedded concept, then TS would have to be used. It is hoped that the user will have retrieved a small enough subset of citations such that the STRINGSEARCH will not prove to be too expensive.

RECAP OF NLM RECOMMENDATIONS

1. Use TS online to restrict a search to highly posted terms, when the subset is smaller than 200 citations (in the MEDLINE data base). Then use all the terms at once such as:

   ```
   TS HUMAN (MH) AND ENG (LA) AND CHILD: (MH)
    (note: CHILD: (MH) will retrieve CHILD
     or CHILD, PRESCHOOL)
   ```

2. Do not use TS in the above example when in OFFSEARCH mode or when connected to SDILINE (regardless of the citation count).

3. When searching a prefix, use text words and text word truncations (# or :).

(Note: rules 1-3 apply to MEDLINE and the backfiles; rule 3 applies to all data bases, including TOXLINE.)

It is imperative that users make every effort to adhere to these searching technics to avoid system degradation and delays in the delivery of OFFSEARCHes and OFFLINE prints. NLM is investigating the imposition of an automatic limit on the duration of individual OFFSEARCHes.

SYSTEM EFFICIENCY

AVOID:

-- REDUNDANT SEARCHING, ESPECIALLY REDUNDANT EXPLODES

-- STRINGSEARCHING WHEN A TEXT WORD (TW) SEARCH CAN GET THE SAME ANSWER

-- STRINGSEARCHING WITHOUT REDUCING THE SEARCH STATEMENT BY USE OF TEXT WORDS (TW)

-- STRINGSEARCHING IN OFFSEARCH TO RESTRICT A SEARCH TO HIGHLY POSTED TERMS, CHECK TAGS AND LANGUAGES SUCH AS HUMAN, ENG, ENGLISH ABSTRACT, etc. WHEN OFFSEARCHING, THESE TERMS SHOULD BE USED IN BOOLEAN SEARCHES, NOT STRINGSEARCHING

EFFICIENT STRINGSEARCHING

Stringsearching consumes more processing time and computer resources than any other search operation, and causes a substantial number of OFFSEARCH purges. To help conserve users' connect time and NLM computer resources, we offer the following recommendations:

1. In General -

   a) Always limit retrieval as much as possible BEFORE stringsearching. Examine the word or words to be stringsearched and identify items that might be retrieved as Text Words first:

      SS 1 - (TW) MIDLIFE AND CRISIS

      SS 2 - TS (TI) : MIDLIFE CRISIS:

      or searched directly, e.g., 5 AND ENG (LA). For online postings of over 200, there is no advantage to stringsearching for items that can be searched directly, such as languages or MeSH headings.

   b) Stringsearching the same retrieval set in consecutive search statements and then combining them may yield unpredictable results: it may work perfectly, it may give false results of 1 or *NONE, it may cause a RESTART (that sudden HELLO FROM ELHILL ... message you receive in the middle of your search), or it may stop OFFSEARCH processing. For example:

      DO NOT

      SS (3) PSTG (198)

      STS SS 4/C?
      USER:
      TS (TI): CODEINE SULFATE: OR : CODEINE SULPHATE:
      (after time-slicing)

      PROG:
      SS (4) PSTG (95)

      STS SS 5/C?
      USER:
      TS 3 (AB): CODEINE SULFATE: OR : CODEINE SULPHATE:

      PROG:
      SS (5) PSTG (135)

      STS SS 6/C?
      USER:
      4 OR 5

Instead, consolidate the instruction, using post-qualification:

SS (4) PSTG (198)

STS SS 5/C?
USER:

TS (TI) : CODEINE SULFATE: OR : CODEINE SULPHATE: OR

PROG:
CONT 5-
USER:
: CODEINE SULFATE: (AB) OR : CODEINE SULPHATE: (AB)

This way is much more reliable than using two separate search statements.

c) Remember that different data bases have different string-search defaults, so that entering

SS 6 - TS :3-DAY OR :3-DAY: (AB)

will search the Title (TI) and Abstract (AB) in MEDLINE but will search the abstract twice in TOXLINE or CANCERLIT. The latter duplication may cause unpredictable results as described in b) above. Whenever you are storing or saving a stringsearch for use in dissimilar data bases (e.g., MEDLINE and TOXLINE) always specify each data element, rather than relying on defaults:

SS 6 - TS (TI) :3-DAY: OR :3-DAY: (AB)

2. In a Storage (OFFSEARCH, STORESEARCH, SAVESEARCH) Mode -

NEVER use stringsearch for items that may be searched directly, such as ENG (LA), EVEN if you are in the PSTG option and there are fewer than 200 citations to stringsearch online. An excellent rule of thumb is that if there is a choice between searching directly or stringsearching, direct searching is more efficient.

SENTENCESEARCH

I. Definition

A. Capability which allows you to search for words which appear within the same sentence

B. Sentence is defined by computer as any string of characters followed by a period and a space

1. Abbreviations cause problems

C. Similar to Stringsearch

II. Uses

A. To retrieve word adjacency within a sentence

B. To retrieve word permutations

III. Format

SENS 3 SKIP 50 (AB) :XXX:XXX:

A. Search strategy name

SENS, SENSEARCH or ABSTS

B. Search statement number; SKIP (optional)

C. Category qualifier - AB, TI

D. Character string to be searched

1. Three sets of colons are used

2. Permutations are linked with logical "OR"

IV. Examples

SENTENCESEARCHING

EXAMPLE: HEART-LUNG PREPARATION

SS 8 /C?

USER:

(TW) HEART AND LUNG AND ALL PREPAR:

PROG:

TIME OVFLW: CONT? (Y/N)

USER:

Y

PROG:

SS (8) PSTG (57)

SS 12 /C?

USER:

SENS 8 (TI) :HEART:LUNG:PREP: OR :HEART:LUNG:PREP: (AB) OR

PROG:

CNT 12

USER:

:LUNG:HEART:PREP: OR :LUNG:HEART:PREP: (AB)

PROG:

(41) SCHD (19) QUAL: CONT? (Y/N)

USER:

Y

PROG:

SS (12) PSTG (22)

SENTENCESEARCH

(TW) HEART AND LUNG AND PREPAR:

PRT 1 AB

AB - The development of effective drugs for chronic LUNG disease, especially bronchodilator aerosols, has been a boon to patients and physicians alike, but these agents also may provoke arrhythmias. Fluorocarbon propellants, once regarded as harmless are now known to disrupt cardiac function, sensitizing the HEART to the arrhythmic effects of sympathomimetic amines. Catecholamine drugs as a group have a strong impact on heart fat and contractility. But the danger of rhythm disturbance often can be reduced by cutting the dosage or choosing a PREPARATION with more Beta 2 activity. Methylxanthines, generally safer than catecholamines, nevertheless must be used with caution and preferably alone in patients with heart and lung disease.

Below is the result after SENSEARCHING

AU - Fischer KJ
TI - [Myocardial contractility during limited haemodilution (author's trans)]
AB - The direct cardiac effects of limited isovolaemic haemodilution by low molecular dextran was investigated in the cat HEART-LUNG PREPARATION. This type of preparation does not allow evaluation of the significance of nervous or humoral influences. All haemodynamic and contractile parameters remain unchanged as does myocardial adaptability to acute changes in pressure or volume load. However, cardiac function curves and the estimation of contractility by means of force-velocity-relations reveal a slight increase of the inotropic state.
SO - Anaesthesist 25(4):143-9, Apr 76

AU - Szmolenszky T ; Hamm agyi Gy ; R"oth E ; T"aor"ok B
TI - Autoperfused multi-organ preparations. II. Microcirculation in the autoperfused organs.
AB - The microcirculation of 46 autoperfused HEART-LUNG -liver-duodenum-pancreas-kidney PREPARATIONS has been studied and the acid-base conditions were determined. The stability of the autoperfused organ preparation was not ensured by the "multi-organ" arrangement, moreover the combination had a detrimental effect, with reduced tissue perfusion leading to hypoxia and acidosis. This general vasomotor breakdown represented a therapeutic drug resistance, so that the organ preparation failed to solve the problem of temporary organ

STRINGSEARCH/SENTENCESEARCH

EXERCISES

Find articles in MEDLARS on the following topics. Use MeSH or text word search capabilities which are most efficient and appropriate. Use stringsearch as indicated.

1. Using your retrieval from a search on Paget's disease (text word search), stringsearch for articles in English or German. 158

2. Using the original retrieval on Paget's disease, stringsearch for articles that were published in 1981.

3. Articles on PL 93-641.

4. Hepatic infusion. Limit to human and females. 85

TS 1 A : Eng:

CHEMLINE

OBJECTIVES

Trainees will be able to:

1. describe the scope and content of the database and the means by which it is created

2. identify the information contained in each field and write the correct entry format

3. retrieve unit records for compounds, given any of the following:

    a. registry number
    b. systematic chemical name
    c. common name
    d. molecular formula

4. discuss CHEMLINE's relationship to other NLM databases and use of CHEMLINE information in them.

MANUAL

CHEMLINE

13.1

Definition:

--CHEMLINE is an online Chemical dictionary/ thesaurus database.

--contains information on over 500,000 unique chemical compounds.

--not a citation file; no bibliographic references

Purpose:

--to assist in searching free text databases (notably TOXLINE) for chemical compounds required in a search (provides other names (synonyms) for chemical compound of interest and registry numbers which can be used in search)

--also allows for location of generic classes of chemical compounds.

Initial Class Focus:

--on use of CHEMLINE to obtain synonyms and CAS registry numbers for free text searching.

Order of lecture:

1. Chemical literature, creation of CHEMLINE and how it relates to NLM databases.

2. CHEMLINE unit record including:

    a. discussion of elements of unit record related to synonomy and access to CHEMLINE unique unit record:

Registry number	(RN)
Other number	(ON)
Molecular formula	(MF)
Preferred index name	(NI)
Synonym	(SY)
Locator	(LO)

3. Discussion of use of Name Fragments and their use in locating CHEMLINE unit records.

4. Summary of how to search CHEMLINE effectively to find unique unit records.

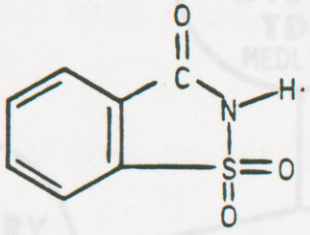
5. Discussion of sample CHEMLINE searches and CHEMLINE/TOXLINE searches.

6. Calculating molecular formula and brief overview of other capabilities of CHEMLINE, i.e., structural search terms:

    a. formula fragments
    b. ring analysis

REPRESENTATIONS OF A CHEMICAL

STRUCTURAL FORMULA



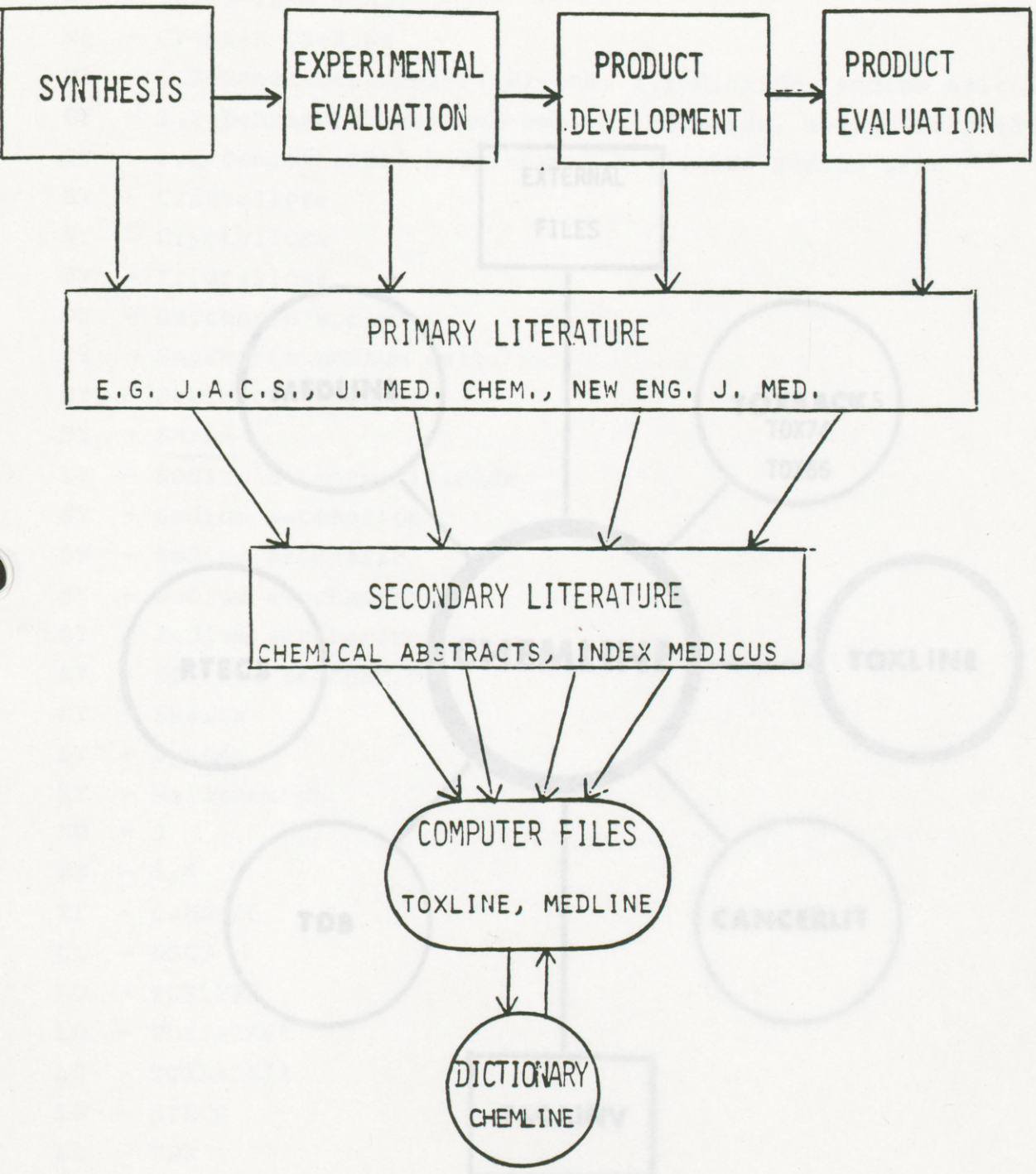
NON-SYSTEMATIC NAMES

BENZOSULFIMIDE
GARANTOSE
GLUCID
SACCHARINE

SYSTEMATIC NAME

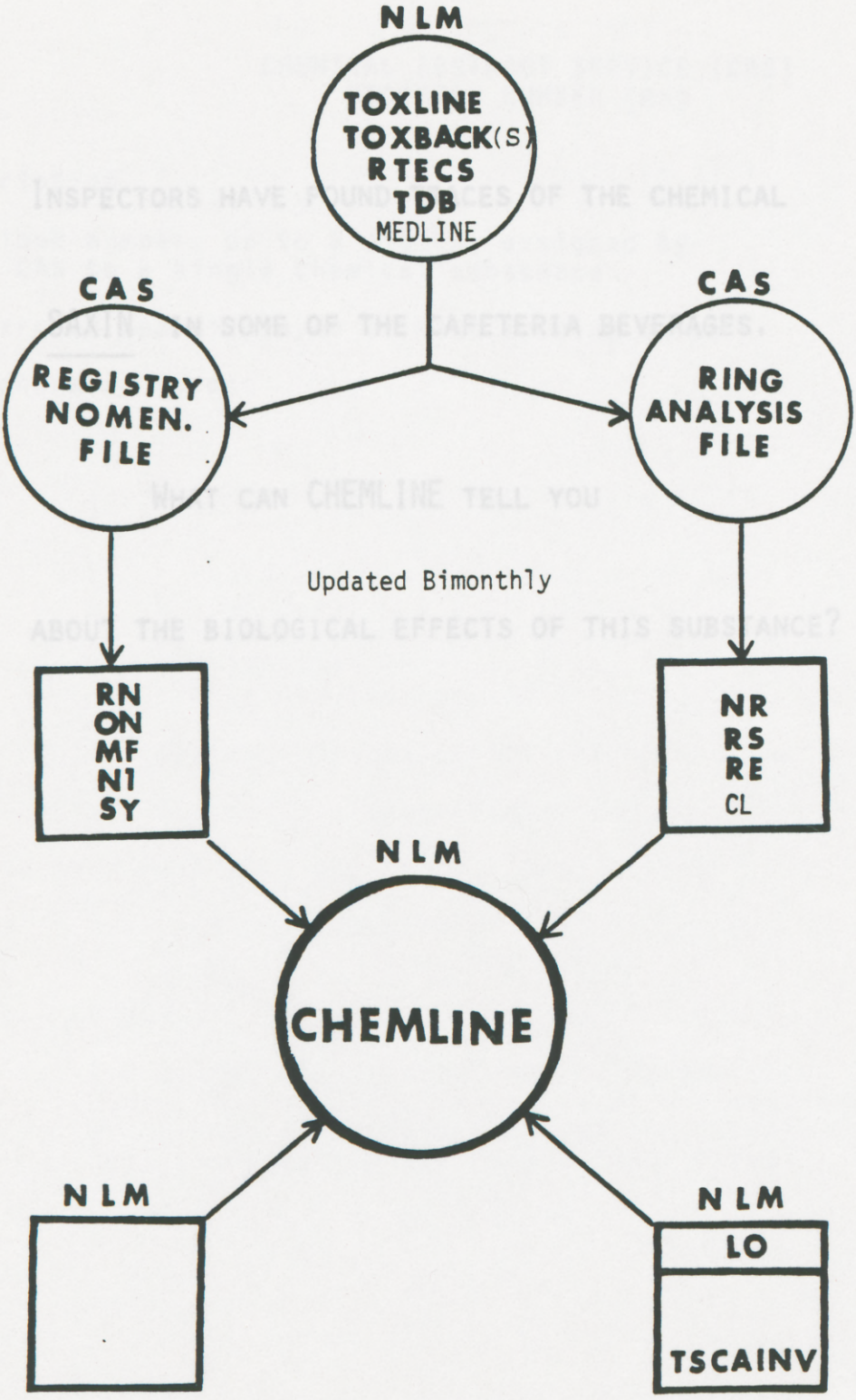
1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE

INFORMATION LIFETIME OF A CHEMICAL



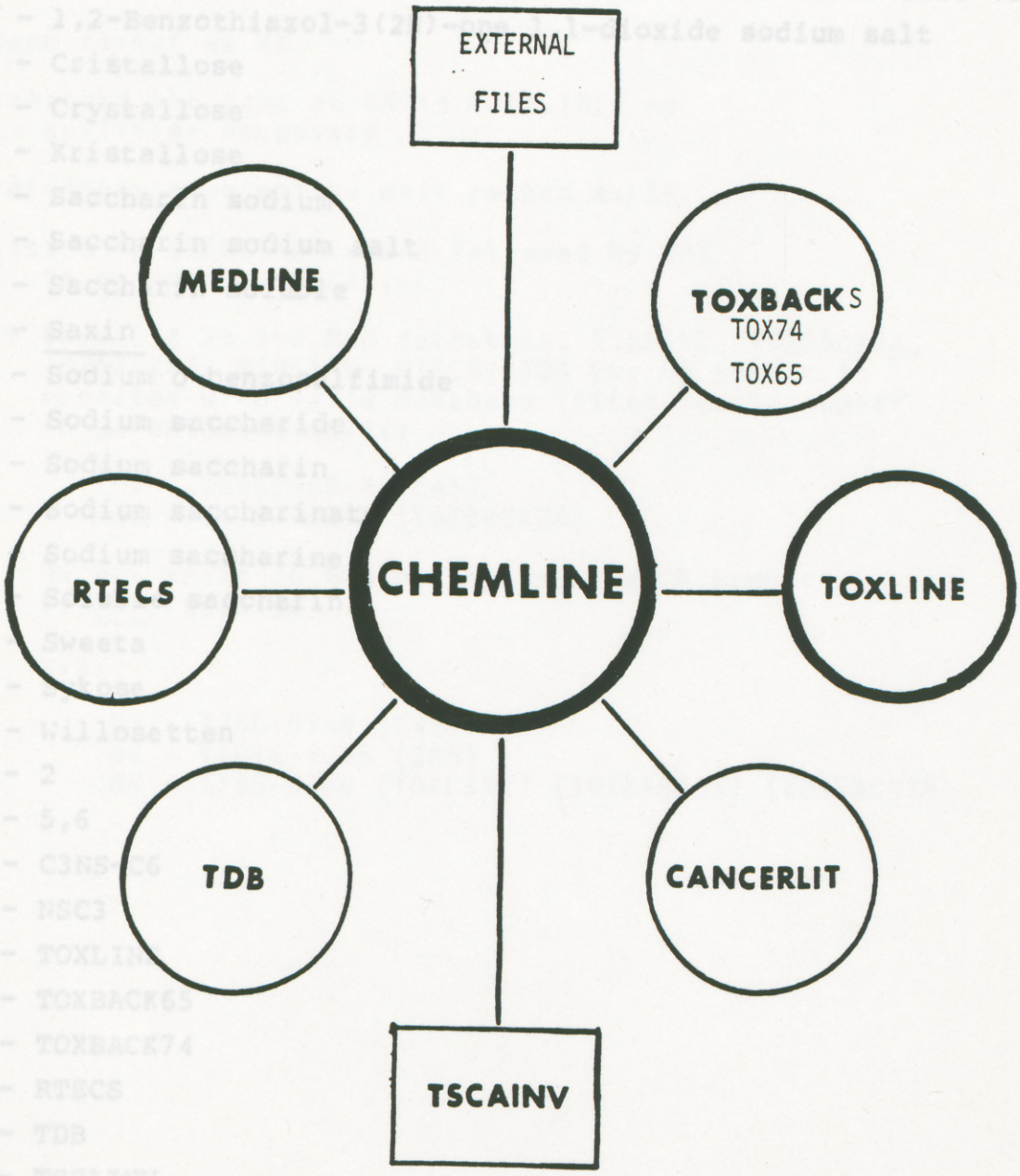
MANUAL

13.1


NLM
TOXLINE
TOXBACK(S)
RTECS
TDB
MEDLINE
CAS
REGISTRY
NOMEN.
FILE
CAS
RING
ANALYSIS
FILE
Updated Bimonthly
RN
ON
MF
NI
SY
NR
RS
RE
CL
NLM
CHEMLINE
NLM
NLM
LO
TSCAINV

MANUAL

13.1


EXTERNAL
FILES
MEDLINE
TOXBACKS
TOX74
TOX65
RTECS
CHEMLINE
TOXLINE
TDB
CANCERLIT
TSCAINV

INSPECTORS HAVE FOUND TRACES OF THE CHEMICAL

SAXIN IN SOME OF THE CAFETERIA BEVERAGES.

WHAT CAN CHEMLINE TELL YOU

ABOUT THE BIOLOGICAL EFFECTS OF THIS SUBSTANCE?

CHEMLINE RECORD

MANUAL
13.4

RN - 128-44-9
ON - 38279-26-4 (CAS)
MF - C7-H5-N-O3-S.Na
N1 - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt (9CI)
SY - 1,2-Benzisothiazolin-3-one, 1,1-dioxide, sodium salt (8CI)
SY - 1,2-Benzothiazol-3(2H)-one 1,1-dioxide sodium salt
SY - Cristallose
SY - Crystallose
SY - Kristallose
SY - Saccharin sodium
SY - Saccharin sodium salt
SY - Saccharin soluble
SY - Saxin
SY - Sodium o-benzosulfimide
SY - Sodium saccharide
SY - Sodium saccharin
SY - Sodium saccharinate
SY - Sodium saccharine
SY - Soluble saccharin
SY - Sweeta
SY - Sykose
SY - Willosetten
NR - 2
RS - 5,6
RE - C3NS-C6
CL - NSC3
LO - TOXLINE
LO - TOXBACK65
LO - TOXBACK74
LO - RTECS
LO - TDB
LO - TSCAINV
EM - 8103

MANUAL

CHEMICAL ABSTRACT SERVICE (CAS) REGISTRY NUMBER (RN)

Description 13.4.1

--Unique number, up to 9 digits, assigned by CAS to a single chemical substance

--searched and displayed without leading zeros

--hyphenated format

MANUAL

OTHER CAS REGISTRY NUMBER (ON)

Description 13.4.2

--superseded CAS registry numbers (RN in record is current CAS registry number)

--same format as RN

--searched the same as RN in CHEMLINE; no qualifier necessary

--retrieves same unique unit record as RN

--listed in CHEMLINE record followed by CAS in parentheses (CAS)

--if ON valid in the NLM databases, TOXLINE, TOXBACK74, TOXBACK65, MEDLINE, RTECS, TDB the ON number is repeated with valid database listed behind number in parentheses, e.g.:

ON - 58667-68-8 (CAS)
ON - 58667-68-8 (TOXBACK74)

--if ON not valid in NLM databases, the ON number is NOT repeated

e.g.

ON - 1360-61-8 (CAS)
ON - 11016-42-5 (CAS)
ON - 1360-61-8 (TOXLINE) (TOXBACK65) (TOXBACK74)

MANUAL

MOLECULAR FORMULA (MF)

Description 13.4.3

--is a summary of the elemental composition of a chemical substance in terms of the numbers and kinds of atoms

--not unique

--format, Hill Convention, dot disconnect, hyphenated

HILL CONVENTION

1. Organic Compounds (compounds containing carbon)
   a. C (carbon) - listed first with count
   b. H (hydrogen) - listed second with count
   c. all other elements in alphabetical order (elemental symbols, e.g., C for carbon obtained from periodic chart)

2. Inorganic compounds (compounds without carbon)
   a. listed in alphabetical order

Counts made explicit; counts of 1 are implicit

e.g., C7-H5-N-O3-S.Na

DOT DISCONNECT

1. For salts, mixtures and molecular addition compounds, molecular formulas of the components are presented individually and separated by a dot; one with highest carbon count first.

MANUAL

LOCATOR (LO)

Description 13.4.17

--name of database/file where information on chemical may be found

--shows presence of RN (not names) in databases/files listed

--possible locators:

TOXLINE
TOXBACK65
TOXBACK74
RTECS
TDB
MEDLINE
TSCAINV (file not present at NLM)

--TSCAINV indicates chemical present on EPA Toxic Substances Control Act Inventory

--additional files may be carried in future

--searchable LO field generated from File Names in ON Field and in printable LO Field

LOCATOR EXAMPLES

RN - 759-94-4
MF - C9-H19-N-O-S
N1 - Carbamothioic acid, dipropyl-, S-ethyl ester (9CI)
SY - Carbamic acid, dipropylthio-, S-ethyl ester (8CI)
SY - Eptam
SY - Eptam 6E
SY - EPTC
SY - S-Ethyl dipropylthiocarbamate
SY - FDA 1541
SY - R 1608
SY - Stauffer R 1608
SY - Torbin
LO - TOXLINE
LO - TOXBACK65
LO - TOXBACK74
LO - RTECS
LO - TDB
LO - TSCAINV
EM - 8103

SEARCHABLE AS 759-94-4 IN TOXLINE, TOXBACK65, TOXBACK74, RTECS, TDB, AND IS ON THE EPA TOXIC SUBSTANCES CONTROL ACT INVENTORY

RN - 6980-18-3
ON - 11025-67-5 (CAS)
ON - 16982-49-3 (CAS)
ON - 16982-49-3 (TOXLINE)
MF - C14-H25-N3-O9
N1 - D-chiro-Inositol,
3-O-(2-amino-4-((carboxyiminomethyl)amino)-2,3,4,6-tetradeoxy-a-lpha-D-arabino-hexopyranosyl)- (9CI)
SY - Kasugamycin (8CI)
SY - KSM (VAN)
NR - 1
NR - 1
RS - 6
RS - 6
RE - C6
RE - C50
LO - TOXLINE
LO - TOXBACK65
LO - TOXBACK74
LO - MEDLINE
EM - 8103

SEARCHABLE AS 6980-18-3 IN TOXLINE, TOXBACK65, TOXBACK74 MEDLINE.

ALSO SEARCHABLE AS 16982-49-3 IN TOXLINE

11025-67-5 NOT USED IN NLM FILES

N1 AND SY SEARCH RECORDS

- Up to 39 characters of the N1 and SY printable fields are used to create searchable N1,SY records
  - -thus multiword names can be searched directly

- The following qualifying data are not kept in the searchable N1 and SY fields, but are retained in the Name Fragment (NF) Field.

(8CI) or (9CI)	8th or 9th Collective Index Name
(VAN)	Valid Ambiguous Name
[XXXXX]	Anything in square brackets -Homograph Definitions -Line Formulas

EXAMPLES OF N1 AND SY SEARCH RECORDS

PRINT RECORD

SY - Vinyl Chloride

SY - Acetonitrile (8CI)

SY - Tris (VAN)
SY - Tris [Buffering Agent]

N1 - Phenol,
4-(5-(4-methyl-1-piperazinyl)(2,5'-bi-1H-benzimidazol)-
2'-yl)-, trihydrochloride (9CI)

CORRESPONDING SEARCH RECORDS (as seen during a NBR)

VINYL CHLORIDE (SY)

ACETONITRILE (SY)

TRIS (SY)

PHENOL, 4-(5-(4-METHYL-1-PIPERAZINYL)(2 (N1)

NAME FRAGMENTS (NF)

Description 13.4.7

--fragments generated from names in N1 and SY fields according to specific rules

--similar in use to text words but differs in important ways, e.g., all parts of name kept, including numbers

--searchable, non-printable field

RULES:

1. break on (i.e., use as term delimiter):
   hyphens
   colons
   enclosures (e.g., parentheses, brackets)
   blanks

2. when special characters, e.g., commas, periods and other non-alphanumerics, are preceded or followed by a blank (or space), convert these special characters to blanks and create NF.

3. trailing single quotes are always kept as part of search term

4. all uniquely occurring name fragments are kept; no stopword list

5. no fragment is kept more than once for any unit record

EXAMPLES OF NAME FRAGMENTS

PRINT FIELD

SY - Nicotine (8CI)
N1 - Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9CI)
SY - Flux Maag
SY - Nicotin

NAME FRAGMENTS (Non-Printable)

1st SY	N1		1st SY	2nd SY
NICOTINE	PYRIDINE	2	FLUX	NICOTIN
8CI	3	PYRROLIDINYL	MAAG	
	1	S		
	METHYL	9CI		

Example 2.

N1 - Phenol,
4-(5-(4-methyl-1-piperazinyl)(2,5'-bi-1H-benzimidazol)-
2'-yl)-, trihydrochloride (9CI)

Yields these Name Fragments

PHENOL	PIPERAZINYL	2'
4	2,5'	YL
5	BI	TRIHYDROCHLORIDE
METHYL	1H	9CI
1	BENZIMIDAZOL	

SEARCHING CHEMLINE

SUMMARY

GIVEN CHEMICAL NAME

1. NBR name (enter name as is with multiple terms, hyphens, etc.)
2. If name present as SY or N1, search using appropriate qualifier
3. If cannot locate, or name has greater than 39 characters, use Name Fragments (remember to post-qualify single numbers with NF)
4. PRT DL

GIVEN REGISTRY NUMBER (RN)

1. Enter number in hyphenated format with no leading zeros
2. PRT DL

GIVEN MOLECULAR FORMULA (MF)

1. Enter formula in Hill Convention, hyphenated format
2. Use dot disconnect for salts, mixtures or molecular addition compounds
3. If more than one posting received (MF not unique) PRT N1 or SY to determine correct record
4. PRT correct record DL

SEARCHING FOR THE SWEETENER SACCHARIN

IN CHEMLINE

GIVEN:

1. NAME

   a) Saccharin

   b) 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt

   c) Sodium 1,2 Benzisothiazolin-3-one-1,1-dioxide

2. CAS REGISTRY NUMBER

   a) 81-07-2

3. MOLECULAR FORMULA

   a) C7-H5-N-O3-S

   b) C7-H5-N-O3-S.??? Simple salts and other dot disconnected formulas

NAME SEARCHING

```
NLM TIME 17:37:53 DATE 81:203 LINE 035

HELLO FROM ELHILL AT NLM.
YOU ARE NOW CONNECTED TO THE MEDLINE FILE.

SS 1 /C?
USER:
FILE CHEMLINE

PROG:
YOU ARE NOW CONNECTED TO THE CHEMLINE FILE.

SS 1 /C?
USER:
NBR SACCHARIN ————————  ALWAYS NBR FIRST

PROG:

POSTINGS    TERM
     1      SACCHARIMIDE (NF)
     1      SACCHARIMIDE (SY)
    12      SACCHARIN (NF)
     1      SACCHARIN (SY)  ———  FIND NAME AS N1 OR SY
     1      SACCHARIN ACID (SY)
UP N OR DOWN N?

USER:
DOWN

PROG:

POSTINGS    TERM
     1      SACCHARIN AMMONIUM (SY)
     1      SACCHARIN COMPD. WITH DIETHANOL AMINE (SY)
     1      SACCHARIN INSOLUBLE (SY)
     1      SACCHARIN O-METHYL ETHER (SY)
     1      SACCHARIN SODIUM (SY)
UP N OR DOWN N?

USER:
N

PROG:

SS 1 /C?
USER:
SACCHARIN (SY)  ————————  SEARCH USING APPROPRIATE QUALIFIER

PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
```

DETAILED RECORD OF SACCHARIN

```
PROG:

SS 2 /C?
USER:
PRT DL

PROG:

1
RN  - 81-07-2
ON  - 474-91-9 (CAS)
MF  - C7-H5-N-O3-S
NI  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide (9CI)
SY  - 1,2-Benzisothiazolin-3-one, 1,1-dioxide (8CI)
SY  - Anhydro-o-sulfaminebenzoic acid
SY  - 1,2-Benzisothiazoline-3-one 1,1-dioxide
SY  - 3-Benzisothiazolinone 1,1-dioxide
SY  - Benzoic sulfimide
SY  - o-Benzoic sulfimide
SY  - Benzoic sulphinide
SY  - Benzosulfimide
SY  - o-Benzosulfimide
SY  - Benzosulfinide
SY  - o-Benzoyl sulfimide
SY  - 1,2-Dihydro-2-ketobenzisosulfonazole
SY  - 2,3-Dihydro-3-oxobenzisosulfonazole
SY  - Garantose
SY  - Glucid
SY  - Gluside
SY  - 3-Hydroxybenzisothiazole-S,S-dioxide
SY  - Saccharimide
SY  - Saccharin
SY  - Saccharin acid
SY  - Saccharine
SY  - 550 Saccharine
SY  - Saccharin insoluble
SY  - Saccharinol
SY  - Saccharinose
SY  - Saccharol
SY  - o-Sulfobenzimide
SY  - o-Sulfobenzoic acid imide
NR  - 2
RS  - 5,6
RE  - C3NS-C6
CL  - NSC3
LO  - TOXLINE
LO  - TOXBACK65
LO  - TOXBACK74
LO  - RTECS
LO  - TDB
LO  - TSCAINV
LO  - MEDLINE
EM  - 8103

SS 2 /C?
USER:
```

CHOOSE REGISTRY NUMBERS AND APPROPRIATE SYNONYMS TO SEARCH FREE TEXT DATABASES, OR TO LOCATE RECORDS IN RTECS OR TDB

SEARCHING FOR NAMES LONGER THAN 39 CHARACTERS

```
PROG:

SS 2 /C?
USER:
NBR 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, SODIUM SALT

PROG:

POSTINGS    TERM
   2     1,2-BENZISOTHIAZOL-3(2H)-ONE, MIXT. WIT (N1)
   1     1,2-BENZISOTHIAZOL-3(2H)-ONE, 1-OXIDE (N1)
  10     1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXI (N1)
   2     1,2-BENZISOTHIAZOL-3(2H)-ONE, 2-((TRICH (N1)
   1     1,2-BENZISOTHIAZOL-3(2H)-ONE, 2-((2-(DI (N1)
UP N OR DOWN N?

USER:

PROG:

SS 2 /C?
USER:
(N1) 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE

PROG:
SS (2) PSTG (10)

SS 3 /C?
USER:
(NF) DIOXIDE AND SODIUM AND SALT AND 2

PROG:
SS (3) PSTG (3)

SS 4 /C?
USER:
PRT RN,ON,N1

PROG:

1
RN  - 66278-57-7
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt, mixt.
      with 5-methyl-1,2,4-triazolo(3,4-b)benzothiazole (9CI)

2
RN  - 6155-57-3
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt,
      dihydrate (9CI)

3
RN  - 128-44-9
ON  - 38279-26-4 (CAS)
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt (9CI)

SS 4 /C?
USER:
```

NOTE 10 PSTGS TRUNCATION AT 39 CHARACTERS

TYPE AT LEAST 39 CHARACTERS

ADD REMAINDER OF NAME AS NF

FIRST HIT IS RIGHT COMPOUND IN MIXTURE
SECOND IS DIHYDRATE, THIRD IS CORRECT EXACTLY

USING NAME FRAGMENTS TO FIND INDIVIDUAL COMPOUNDS

```
PROG:

SS 4 /C?
USER:
NBR SODIUM 1,2 BENZISOTHIAZOLIN-3-ONE-1,1-DIOXIDE

PROG:

POSTINGS    TERM
     1    SODIUM 1-PROPANETHIOLATE (SY)
     1    SODIUM 1-TETRADECENESULFONATE (SY)
     1    SODIUM 1,2-BIS(2-ETHYLHEXYLOXYCARBONYL) (SY)
     1    SODIUM 1,2-DIHYDRO-1-OXO-3-ISOQUINOLINE (SY)
     1    SODIUM 1,2-DIHYDROXY-3,5-BENZENEDISULFO (SY)
UP N OR DOWN N?

USER:

PROG:

SS 4 /C?
USER:
(NF) SODIUM AND 1,2 AND BENZISOTHIAZOLIN AND 3(NF) AND ONE AND 1,1 AND

PROG:
CNT 4

USER:
DIOXIDE

PROG:
SS (4) PSTG (2)

SS 5 /C?
USER:
PRT RN,ON,N1,SY COMPR

PROG:

1
RN  - 6155-57-3
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt,
      dihydrate (9CI)
SY  - 1,2-Benzisothiazolin-3-one, 1,1-dioxide, sodium salt, dihydrate
      (8CI) ; Saccharin sodium dihydrate ; Sodium saccharin dihydrate

2
RN  - 128-44-9
ON  - 38279-26-4 (CAS)
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt (9CI)
SY  - 1,2-Benzisothiazolin-3-one, 1,1-dioxide, sodium salt (8CI) ;
      1,2-Benzothiazol-3(2H)-one 1,1-dioxide sodium salt ;
      Cristallose ; Crystallose ; Kristallose ; Saccharin sodium ;
      Saccharin sodium salt ; Saccharin soluble ; Saxin ; Sodium
      o-benzosulfimide ; Sodium saccharide ; Sodium saccharin ;
      Sodium saccharinate ; Sodium saccharine ; Soluble saccharin ;
      Sweeta ; Sykose ; Willosetten
```

NBR DOESN'T FIND NAME

FRAGMENT NAME AND INPUT AS NF
NOTE POST-QUALIFICATION OF NUMBER
AND USE OF TRAILING 'AND' FOR
CONTINUATION

CHECK HITS TO SEE IF THEY CONTAIN THE
SAME FRAGMENTS IN DIFFERENT ORDER, WITHOU
EXTRA, NON-RELEVANT INFORMATION

SEARCHING BY REGISTRY NUMBER

```
PROG:

SS 5 /C?
USER:
81-07-2 (RN)
                              RN IS A UNIQUE IDENTIFIER, RETRIEVES 1 PSTG
PROG:
SS (5) PSTG (1)

SS 6 /C?
USER:
PRT DL COMPRESS

PROG:

1
RN  - 81-07-2
ON  - 474-91-9 (CAS)
MF  - C7-H5-N-O3-S
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide (9CI)
SY  - 1,2-Benzisothiazolin-3-one, 1,1-dioxide (8CI) ;
      Anhydro-o-sulfaminebenzoic acid ; 1,2-Benzisothiazoline-3-one
      1,1-dioxide ; 3-Benzisothiazolinone 1,1-dioxide ; Benzoic
      sulfimide ; o-Benzoic sulfimide ; Benzoic sulphinide ;
      Benzosulfimide ; o-Benzosulfimide ; Benzosulfinide ; o-Benzoyl
      sulfimide ; 1,2-Dihydro-2-ketobenzisosulfonazole ;
      2,3-Dihydro-3-oxobenzisosulfonazole ; Garantose ; Glucid ;
      Gluside ; 3-Hydroxybenzisothiazole-S,S-dioxide ; Saccharimide ;
      Saccharin ; Saccharin acid ; Saccharine ; 550 Saccharine ;
      Saccharin insoluble ; Saccharinol ; Saccharinose ; Saccharol ;
      o-Sulfobenzimide ; o-Sulfobenzoic acid imide
NR  - 2
RS  - 5,6
RE  - C3NS-C6
CL  - NSC3
LO  - TOXLINE ; TOXBACK65 ; TOXBACK74 ; RTECS ; TDB ; TSCAINV ;
      MEDLINE
EM  - 8103

SS 6 /C?
USER:
```

SEARCHING BY MOLECULAR FORMULA

```
PROG:

SS 6 /C?
USER:
NBR C7-H5-N-O3-S

PROG:

POSTINGS     TERM
    1     C7-H5-N-O2-S2 (MF)
    9     C7-H5-N-O3 (MF)
    2     C7-H5-N-O3-S (MF)          ———————— TWO PSTGS
    1     C7-H5-N-O3-S.C2-H6-O (MF)
    1     C7-H5-N-O3-S.C4-H11-N-O2 (MF)
UP N OR DOWN N?

USER:
10

PROG:

POSTINGS     TERM
    1     C7-H5-N-O3-S.C6-H12-O6 (MF)
    1     C7-H5-N-O3-S.C6-H13-N (MF)
    1     C7-H5-N-O3-S.C6-H13-N-O3-S (MF)
    1     C7-H5-N-O3-S.C6-H13-N3 (MF)
    1     C7-H5-N-O3-S.H3-N (MF)
    1     C7-H5-N-O3-S.NA (MF)
    1     C7-H5-N-O3-S.X-C5-H5-N (MF)
    1     C7-H5-N-O3-S.1/2CA (MF)
    1     C7-H5-N-O3-S.2H2-O.NA (MF)
    1     C7-H5-N-O3-SE (MF)
UP N OR DOWN N?

USER:
FIND C7-H5-N-O3-S (MF)          ———————— USE FIND TO DIRECTLY SEARCH
                                         FROM NBR
PROG:
SS (6) PSTG (2)

SS 7 /C?
USER:


PROG:

SS 7 /C?
USER:
```

NOTE OTHER DOT-DISCONNECTS OF SAME FORMULA

STRINGSEARCH

g for highly related

PROG:

SS 7 /C?
USER:
PRT FULL COMPRESS
PROG:

1
RN - 2845-62-7
MF - C7-H5-N-O3-S
N1 - Benzenesulfonyl isocyanate (9CI)
SY - Benzenesulfonic acid, anhydride with isocyanic acid (8CI) ; Isocyanic acid, anhydride with benzenesulfonic acid ; Phenylsulfonyl isocyanate ; Sulfone, isocyanato phenyl
LO - TOXBACK74

2
RN - 81-07-2
ON - 474-91-9 (CAS)
MF - C7-H5-N-O3-S
N1 - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide (9CI)
SY - 1,2-Benzisothiazolin-3-one, 1,1-dioxide (8CI) ; Anhydro-o-sulfaminebenzoic acid ; 1,2-Benzisothiazoline-3-one 1,1-dioxide ; 3-Benzisothiazolinone 1,1-dioxide ; Benzoic sulfimide ; o-Benzoic sulfimide ; Benzoic sulphinide ; Benzosulfimide ; o-Benzosulfimide ; Benzosulfinide ; o-Benzoyl sulfimide ; 1,2-Dihydro-2-ketobenzisosulfonazole ; 2,3-Dihydro-3-oxobenzisosulfonazole ; Garantose ; Glucid ; Gluside ; 3-Hydroxybenzisothiazole-S,S-dioxide ; Saccharimide ; Saccharin ; Saccharin acid ; Saccharine ; 550 Saccharine ; Saccharin insoluble ; Saccharinol ; Saccharinose ; Saccharol ; o-Sulfobenzimide ; o-Sulfobenzoic acid imide
LO - TOXLINE ; TOXBACK65 ; TOXBACK74 ; RTECS ; TDB ; TSCAINV ; MEDLINE

SS 7 /C?
USER:

THE MOLECULAR FORMULA IS NOT A UNIQUE IDENTIFIER, THE FIRST IS A FALSE DROP. SEARCHER OR PATRON MUST IDENTIFY HITS BY INSPECTION OF NAMES.

SEARCHING FOR SIMPLE DOT DISCONNECTS

```
PROG:

SS 7 /C?
USER:
C7-H5-N-O3-S.:  ————————————  TRUNCATION AFTER DOT FINDS SALTS,
                               MIXTURES WITH LOWER CARBON COUNT
PROG:
MM (C7-H5-N-O3-S.:) (11)
ALL OR NONE?

USER:
ALL

PROG:
SS (7) PSTG (11)

SS 8 /C?
USER:
PRT COMPRESS INCLUDE MF

PROG:

1
RN  - 66566-43-6
N1  - Sulfamic acid, cyclohexyl-, mixt. with
      1,2-benzisothiazol-3(2H)-one 1,1-dioxide (9CI)
LO  - TOXLINE
MF  - C7-H5-N-O3-S.C6-H13-N-O3-S

8
RN  - 6485-34-3
ON  - 17105-05-4 (CAS)
MF  - C7-H5-N-O3-S.1/2Ca
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, calcium salt (9CI)
LO  - TOXLINE ; TOXBACK65 ; RTECS ; TDB ; TSCAINV

9
RN  - 6381-61-9
ON  - 128-43-8 (CAS)
MF  - C7-H5-N-O3-S.H3-N
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, ammonium salt (9CI)
LO  - TOXLINE ; TOXBACK74 ; TDB ; TSCAINV

10
RN  - 6155-57-3
MF  - C7-H5-N-O3-S.2H2-O.Na
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt,
      dihydrate (9CI)
LO  - TOXLINE ; RTECS

11
RN  - 128-44-9
ON  - 38279-26-4 (CAS)
MF  - C7-H5-N-O3-S.Na
N1  - 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, sodium salt (9CI)
LO  - TOXLINE ; TOXBACK65 ; TOXBACK74 ; RTECS ; TDB ; TSCAINV

SS 8 /C?
USER:
```

INPUT ASSUMPTIONS

```
PROG:

SS 9 /C?
USER:
CHLORMADINONE

PROG:
MM (CHLORMADINONE) (2)
            1  CHLORMADINONE (NF)
            2  CHLORMADINONE (SY)
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
2

PROG:
SS (9) PSTG (1)

SS 10 /C?
USER:
PRT N1

PROG:

1
N1  - Pregna-4,6-diene-3,20-dione, 6-chloro-17-hydroxy- (8CI)(9CI)

SS 10 /C?
USER:
(SY) BLEOMYCIN

PROG:
NP (BLEOMYCIN (SY))

SS 10 /C?
USER:
NBR BLEOMYCIN 3

PROG:

POSTINGS    TERM
     1      BLEOMYCETIN (SY)
     1      BLEOMYCIN (N1)
    50      BLEOMYCIN (NF)
UP N OR DOWN N?

USER:
FIND BLEOMYCIN (N1)

PROG:
SS (10) PSTG (1)

SS 11 /C?
USER:
PRT N1

PROG:

1
N1  - Bleomycin (8CI)(9CI)
```

THERE ARE NO SEARCH DEFAULTS IN CHEMLINE

TERMS ENTERED WITHOUT QUALIFIER MAY PRODUCE MULTI-MEANING (MM)

CAN USE "ELEMENTS EXCLUDE NF" TO ELEMINATE THE MOST COMMON SOURCE OF THESE

ASSUMPTION THAT A SHORT NAME IS A SYNONYM LEAD TO NO POSTINGS.

SHOULD USE NBR COMMAND

SAMPLE SEARCH REQUEST

"EFFECT OF LEPTOPHOS ON THE NERVOUS SYSTEM"

```
PROG:

SS 12 /C?
USER:
NBR LEPTOPHOS          ———————— NBR FIRST

PROG:

POSTINGS    TERM
     1    LEPTOFEN (NF)
     1    LEPTOFEN (SY)
     7    LEPTOPHOS (NF)
     1    LEPTOPHOS (SY)
     1    LEPTOPHOS DESMETHYLOXON (SY)
UP N OR DOWN N?

USER:
FIND LEPTOPHOS (SY)

PROG:
SS (12) PSTG (1)

SS 13 /C?
USER:
PRT DL                 ———————————— PRINT DETAILED TO OBTAIN THE

PROG:                                ENTIRE RECORD

1
RN  - 21609-90-5
ON  - 11095-16-2 (TOXBACK65)
MF  - C13-H10-Br-Cl2-O2-P-S
NI  - Phosphonothioic acid, phenyl-, O-(4-bromo-2,5-dichlorophenyl)
      O-methyl ester (8CI)(9CI)
SY  - Abar
SY  - Fosvel
SY  - K62-105
SY  - Leptophos
SY  - MBCP
SY  - NK 711
SY  - Oleophosvel
SY  - Phosvel
SY  - VCS 506
SY  - Velsicol 506
SY  - Velsicol VCS 506
NR  - 1
RS  - 6
RE  - C6
LO  - TOXLINE
LO  - TOXBACK65
LO  - TOXBACK74
LO  - RTECS
LO  - TDB
LO  - MEDLINE
EM  - 8103

SS 13 /C?
USER:
```

SWITCH TO TOXLINE FILE

FILE TOXLINE

PROG:
YOU ARE NOW CONNECTED TO THE TOXLINE FILE.

SS 1 /C?
USER:
LEPTOPHOS ——— CHEMICAL NAME GIVEN BY REQUESTER

PROG:
SS (1) PSTG (254)

SS 2 /C?
USER:
21609-90-5 OR PHOSVEL OR FOSVEL OR ABAR OR OLEOPHOSVEL OR 1

PROG:
NP (FOSVEL) ——— ADDITION OF ADDITIONAL NAMES AND RN
NP (CLEOPHOSVEL) IMPROVES RETRIEVAL.
SS (2) PSTG (385)

SS 3 /C?
USER:
2 AND ALL NERV: (TW) ——— COMBINE CHEMICAL SEARCH CONCEPT WITH
BIOLOGICAL SEARCH

PROG:
SS (3) PSTG (69)

SS 4 /C?
USER:
PRT 3 TI

PROG:

1
TI - Cytotoxic responses of selected insecticides in chick ganglia cultures

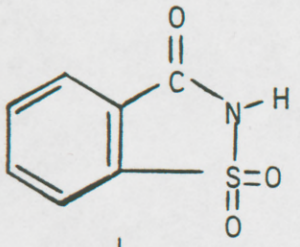
2
TI - Concentration of leptophos in the nervous tissues of hens.

3
TI - Change of concentration of leptophos in the nervous tissue of hens.

SS 4 /C?
USER:

MANUAL

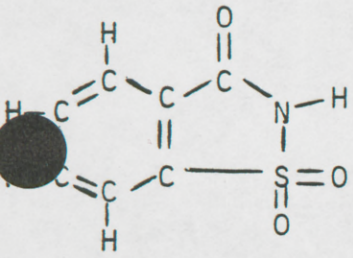
STRUCTURAL SEARCH TERMS

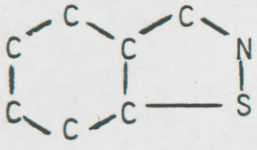


SACCHARINE

FORMULA FRAGMENTS (FF) 13.4.4

	(MF)	C7	H5	N	O3	S
SPECIFIC	(FF)	C7		N1	O3	S1
GENERIC	(FF)			N	O	S





RING ANALYSIS

(NR)	2		13.4.9
(RS)	5,6	(SF)	13.4.10-11
(RE)	C3NS-C6	(EF)	13.4.12-13
(CL)	NSC3	(CF)	13.4.14-15

TOXLINE

INITIAL CLASS

OBJECTIVES

Trainees will be able to:

1. describe the scope and coverage of TOXLINE

2. list the component subfiles of TOXLINE and the major similarities and differences among them

3. describe the purpose, search entry format, and mnemonic of the following data elements: AU, TI, AB, KW, RN, SO and SI

4. list the data elements in the TOXLINE unit record which are processed for generation of text words

5. formulate TOXLINE search strategies for given chemicals based on the CHEMLINE record for those substances

6. formulate free text TOXLINE search strategies for given biological concepts utilizing typically found abbreviations, and textracting of MeSH terms

7. combine search strategies for chemical and biological concepts in search formulations and evaluate relevancy of retrieved citations

8. expand or refine search strategies through use of specifying year of publication, limiting to review articles and/or subfile, and browsing appropriate portions of retrieved citations.

TOXLINE

WHAT IS TOXLINE ?

WHAT DO YOU NEED TO KNOW BEFORE SEARCHING TOXLINE?

SCOPE

EASE

COST

COVERAGE TODAY WILL BE:

BACKGROUND
SCOPE
FILE INFORMATION
UNIT RECORD EXPLANATION
SUBFILE COMPOSITION
SUBFILE SUMMARY
SEARCH STRATEGY

I. BACKGROUND

1. Toxicology Information Program
   a. Purpose is to provide computer based toxicology data banks from:
      1. scientific literature
      2. collaborating industrial, academic, & governmental agencies

   b. TOXLINE is one such data base
      1. assembled at NLM
      2. bibliographic
      3. accessible at NLM only

   c. Specialized Information Services at NLM manages the toxicology data bases.

II. SCOPE

1. Very general; interpreted broadly
2. Human and animal toxicity studies
3. Areas covered:
   a. environmental chemicals & pollution
   b. occupational safety & health
   c. pharmacology
   d. toxicity
   e. adverse drug effects
   f. poisoning agents
4. If in Medline searching one is using the subheadings AE (adverse effects), PO (poisoning) or TO (toxicity) with chemicals -- think about doing a TOXLINE search.

only NLM { Chemline - Toxline - RTECS NIOSH Toxicology Data Bank - EPA

III. FILE INFORMATION

1. TOXLINE
   a. online at NLM
   b. contains_____ records
   c. updated monthly (3rd weekend) with approx. 13,000 records
   d. 1979 - present (with exceptions)
   e. regenerated April 1982
   f. average growth is 140,000 records/year

2. TOXBACK65, TOXBACK74 Only by offsearch
   a. TOXBACK65
      1. pre 1965-1973
      2. 387,377 records
      3. duplicates eliminated
      4. available through OFFSEARCH at NLM

   b. TOXBACK74
      1. 1974-1978
      2. 474,653 records
      3. duplicates eliminated
      4. available online at NLM

3. Overview
   a. bibliographic file
   b. citations usually have abstracts and CAS Registry Numbers
   c. file is made by merging information from secondary sources and special collections into one data base
   d. file is maintained here at NLM but created elsewhere, except for the portion that comes from MEDLINE
   e. the secondary sources are responsible for the content
      1. each secondary source indexes published articles
      2. consequently duplicates get into the file
   f. search strategy can include all subfiles, access specific subfiles, or exclude specific subfiles

4. Cost
   a. secondary sources hold copyrights on their information, thus we pay royalties; costs can change

$52	prime time
$45	non prime time
$ 0.35	per page offline print

IV. UNIT RECORD EXPLANATION

1. Summary
   a. variable formats
   b. all records do not contain all data elements
   c. search and print status of elements vary
   d. recommend using qualifiers when searching

2. Abstract (AB) MANUAL 12.5.1
   a. in all subfiles; not all records have abstracts
   b. format varies:
      narrative
      keywords
      notation
      blank - copyright material

   c. search status
      1. textword - either use or not use qualifier
      2. stringsearch - when no qualifier is used, default searches abstract field
   d. example

AB - IPA COPYRIGHT; ASHP TWENTY GERIATRIC PATIENTS WERE GIVEN EITHER CLOMACRAN (I) 25 TO 150 MG/D ORALLY FOR 12 WEEKS OR THIORIDAZINE (II) 25 TO 150 MG/D ORALLY FOR THE TREATMENT OF THEIR ORGANIC BRAIN SYNDROME. PATIENTS WHO .....

3. Address (AD) MANUAL 12.5.2
   a. not in all records
   b. address of usually one author
   c. not searchable
   d. example
      AD - MED. CENT., WEST VIRGINIA UNIV., MORGANTOWN

4. Author (AU) MANUAL 12.5.3
   a. in all records
   b. somewhat standard format
   c. variable format of first name/initials
   d. NBR (Neighbor) to find correct form
      HAYES W
      HAYES WJ
      HAYES WJJR
   e. searchable without qualifier

5. Award Type (AW) MANUAL 12.5.4
   a. only in one subfile - RPROJ
      A = Intramural
      C = Contract
      F = Fellowship
      G = Grant
   b. searchable

6. Classification Code (CC) MANUAL 12.5.5
   a. only in one subfile - CBAC
   b. designates Chemical Abstracts Service section/subsection
   c. searchable
   d. example
      CC - CA/101003

7. Coden (CD) MANUAL 12.5.6
   a. in 7 subfiles
   b. designates the journal found in the source field
   c. from the INTERNATIONAL CODEN DICTIONARY from Chemical Abstracts Service
      1. 6 digits: 5 alphanumeric characters + 1 check tag
      2. TOXLINE uses only the 5 alphanumeric characters
      3. originally from American Society for Testing Materials
   d. searchable
   e. look up in SERLINE
   f. subfile from MEDLINE uses JTC (Journal Title Code); this is translated, however some cannot be translated.
   g. example
      CD - JAMAA (Journal of the American Medical Association)

8. Corporate Name (CN) MANUAL 12.5.7
   a. only in one subfile - CBAC
   b. designates corporate name when no personal author name available
   c. both directly searchable & Text Word searchable
   d. example
      CN - United States Environmental Protection Agency

9. Country (CY) MANUAL 12.5.8
   a. only in two subfiles - RPROJ, CBAC
   b. state/country where research is performed or article published
   c. searchable

10. Datatags (DTG) MANUAL 12.5.9
   a. only in one subfile - CBAC
   b. used from November 1976 to July 1980
   c. indicates information is available in the article
   d. search using full tag nomenclature
      blood concentrations
      chronic toxic dose
      hematology
      lethal concentrations
      lethal dosage
      maximum permissable limit (spell as shown)
      teratogenic dose
      threshold limit value
      urine concentration

11. Entry Month (EM) MANUAL 12.5.10
    a. in all records
    b. 4 digits - format YYMM
    c. searchable & rangeable
    d. use for SDI's

12. Identification Number (ID) MANUAL 12.5.11
    a. only in 2 subfiles - RPROJ & TD3
    b. identification of agency which funds this project
    c. can contain one or more ID numbers
    d. searchable only when entire ID is known; otherwise it is STRINGSEARCHed
    e. example
       ID - R01 CA 08800-14 (RPROJ)
       ID - CONTRACT F33615-76-C-5005, PROJ. 6302, TASK 01 (TD3)

13. International Standard Serial Number (IS) MANUAL 12.5.12
    a. only in two subfiles - TOXBIB, CBAC
    b. 8 digit numeric field xxxx-xxxx

14. Keywords (KW) MANUAL 12.5.13
    a. in 5 subfiles
    b. indexing terms used by secondary source to classify the citations; they are unique to each secondary source
    c. first 39 characters are searchable
    d. must use the qualifier to search this field
    e. multi term field
    f. terms are textracted into single words which are searchable as Text Words
    g. suggest using truncation to search Keyword field
    h. example

(TOXBIB)	Contraceptives, oral, *ADVERSE EFFECTS
(ASHP)	Contraceptives, oral toxicity
(EMIC)	Contraceptives
(ETIC)	Contraceptives, oral
(TD3)	Oral contraceptives

15. Language (LA) MANUAL 12.5.14
    a. in 7 subfiles
    b. not a standard format among the subfiles
    c. always NBR (neighbor)
    d. ENG is not on all english citations
    e. example

        LA - FRE;ENGLISH & ENG SUMM

16. Order Number (OD) MANUAL 12.5.15
    a. only in one subfile - TD3
    b. identifies the document order number
    c. not searchable, but printable

18. Price (PR) MANUAL 12.5.16
    a. only in one subfile - TD3
    b. gives price of document in coded format - 3 digits
    c. order form contains code translation
    d. example
        PR - NTIS PRICES: PC A06/MF A01

17. Publication Type (PT) MANUAL 12.5.17
    a. only in one subfile - CBAC
    b. designates standard type of publication
        MONOGRAPH
        JOURNAL ARTICLE
        PATENT
        THESIS
        TECHNICAL REPORT

19. CAS Registry Number (RN) MANUAL 12.5.18
    a. in about 75% of the records
    b. unique number associated with a chemical substance
    c. format is XXXXXX-XX-X, leading zeros suppressed
    d. use entire RN including hyphens to search
    e. should 'OR' trade names and other synonyms to get maximum retrieval
    f. use CHEMLINE to get RN

20. Supporting Agency (SA) MANUAL 12.5.19
    a. in 2 subfiles - RPROJ & TD3
    b. formal name & address of agency supporting research project
    c. TD3 subfile may contain several entries
    d. not searchable, but can be STRINGSEARCHed
    e. support dollars given if available
    f. example
        SA - U.S.Dept. of Health & Human Services; Public Health Service; National Inst. of Health; Division of Research Resources SUPPORT $31,658

21. Secondary Source (SI) MANUAL 12.5.20

a. on all records
b. used as file accession number
HEEP/75/10645

subfile 3-6 digits	2 or 3 digits yr or vol	4-7 digits accession number in secondary source

c. useful to notify MMS or Toxicology Information Program about a questionable citation; useful to find a specific citation for more detailed print
d. abbreviations for some subfiles differ from Textword which comes from header in abstract field

SI acronym	TW acronym
CA	CBAC
SSIE	RPROJ
NTIS	TD3
IPA	IPA or ASHP

22. Source (SO) MANUAL 12.5.21

a. in all records
b. contains bibliographic citation
c. not a standard format controlled by vendors
d. not searchable
e. CODEN and YEAR fields reflect the SOURCE
f. example
SO - ENVIRON HEALTH PERSPECT: 28:51-57,1979

23. Title (TI) MANUAL 12.5.22
    a. in all records
    b. not directly searchable, STRINGSEARCH
    c. textracted
    d. foreign titles are identified

24. Text Words (TW) - Main - MANUAL 12.7.1
    a. all records
    b. from ABSTRACT, KEYWORD & TITLE
    c. uniterm
    d. term generation rules & stopword list
        1. alpha or alphanumeric 39 character string
        2. special characters converted to blanks
        3. hyphen exception rule
        4. stopword list
    e. primary means to search TOXLINE 2,3,5-T
    f. not a data element

25. Initial Year (Y1) MANUAL 12.5.23
    a. in one subfile - RPROJ
    b. date project was initiated
    c. format is YYMM
    d. STRINGSEARCH only

26. Final Year (Y2) MANUAL 12.5.24
    a. in one subfile - RPROJ
    b. date project's authorization expires
    c. format YYMM
    d. STRINGSEARCH only

27. Year (YR) 80 MANUAL 12.5.25
    a. in all records
    b. reflects the source field
    c. searchable & rangeable
    as EM - 8204

28. Zip Code (ZP) MANUAL 12.5.26
    a. in two subfiles - RPROJ, CBAC
    b. searchable

V. SUBFILE COMPOSITION

1. Five major secondary sources
   - Chemical Abstracts Service
   - Environmental Protection Agency
   - American Society of Hospital Pharmacists
   - BioSciences Information Service
2. Six special collections
   - Environmental Mutagen Information Center
   - Environmental Teratology Information Center
   - Smithsonian Science Information Exchange
   - National Technical Information Services
   - Hayes File on Pesticides
   - Toxic Materials Information Center

TOXLINE MATRIX

April 18, 1982

category qualifier	element name	search status	print	print full	print detailed	* * * * * * * * secondary files * * * * * * * * * *								
						toxbib	cbac	pestab	ashp	heep	emic	etic	rproj	td3
ab	abstract	tw		ab	ab	ab	ab	ab	ab	ab	ab	ab	ab	ab
ad	address			ad	ad	ad	ad	ad	ad	ad			ad	ad
au	author	*	au	au	au	au	au	au	au	au	au	au	au	au
aw	award type	*			aw								aw	
cc	classification code CAS	*			cc		cc							
cd	coden see serline	*			cd	cd	cd	cd	cd	cd	cd	cd		
cn	corporate name	*tw	cn	cn	cn		cn							
cy	country or state	*			cy		cy						cy	
dtg	data tags	*			dtg		dtg							
em	entry month	*R			em	em	em	em	em	em	em	em	em	em
id	identification number	*			id								id	id
is	international standard serial number	*			is	is	is							
kw	keywords	*tw			kw	kw			kw		kw	kw		kw
la	language	*		la	la	la	la	la	la	la	la	la		
od	order number			od	od									od
pr	price			pr	pr									pr
pt	publication type	*			pt		pt							
rn	cas registry number	*			rn	rn	rn	rn	rn	rn	rn	rn		
sa	supporting agency				sa								sa	sa
si	secondary source id	*	si	si	si	si	si	si	si	si	si	si	si	si
so	source		so	so	so	so	so	so	so	so	so	so	so	so
ti	title	tw	ti	ti	ti	ti	ti	ti	ti	ti	ti	ti	ti	ti
tw	text words(from ab,kw,ti)	tw				tw	tw	tw	tw	tw	tw	tw	tw	
y1	initial year				y1								y1	
y2	final year				y2								y2	
yr	year (part of source field)	*R				yr	yr	yr	yr	yr	yr	yr	yr	yr
zp	zip code	*			zp		zp						zp	

* directly searchable
tw text word searchable
R rangeable

&cgm.tox.matrix

SUBFILES OF TOXLINE, TOXBACK74, AND TOXBACK65

Subfile abbreviation	Subfile Name	Source of Subfile	Years of Coverage TOXLINE	TOX74	TOX65	Comment
TOXBIB	Toxicity Bibliography	NLM MEDLINE	79→	74-78	65-73	Created by profile run against MEDLINE to retrieve toxicology related records
CBAC	Chemical Biological Activities	Chemical Abstracts	79→	74-78	65-73	CBAC sections; includes sections 8 Radbiochemistry, 59 air pollution 60 sewage and wastes since 1975.
PESTAB (HAPAB)*	Pesticides Abstracts (Health aspects of Pesticides Abstracts Bulletin)*	EPA Environmental Protection Agency	79-81	74-78	68-63	Scope is epidemiological effects of pesticides in humans. Name was changed in 1974.
IPA	International Pharmaceutical Abstracts	American Society for Hospital Pharmacists	79→	74-78	69-73	Scope includes pharmacology, toxicology of drugs
HEEP	Abstracts in Health Effects of Environmental Pollutants	BioSciences Information Service	79→	74-78	70-73	Includes both Biological Abstracts and Biological Abstracts/RRM profile.
EMIC	Environmental Mutagen Information Center File	Special file under NTP	50→			Many secondary sources used to collect mutagen related information.
ETIC	Environmental Teratology Information Center File	Special file under NTP	50→			Many secondary sources used to collect teratology information.
RPROJ	Toxicology/Epidemiology Research Projects	Smithsonian Science Information Exchange	79→			Profile used to group reports of research projects in process in toxicology and epidemiology
HAYES	W.J. Hayes, Jr. file on health aspects of pesticides	Special File			40-68	10,000 citations-no abstracts or registry numbers.
TMIC	Toxic Materials Information Center file	Special file			40-73	Closed file--prepared at Oak Ridge National Laboratory

1. The primary date of publication coverage for the various subfiles for TOXLINE and both backfiles are:

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
TOXBIB	79-present	74-78	65-73
CBAC	79-present	74-78	65-73
PESTAB (HAPAB)*	79-81	74-78	68-73*
ASHP(IPA)	79-present	74-78	69-73
HEEP	79-present	74-78	70-73
EMIC	50-present	---	---
ETIC	50-present	---	---
RPROJ	79-present	---	---
TD3	pre 79-present	---	---
HAYES	---	---	40-68
TMIC	---	---	40-73

closed Oak Ridge

*name change in 1974

VI. SUBFILES

1. TOXBIB MANUAL 12.6.1

a. National Library of Medicine: Toxicity Bibliography (printed form until 1977)

b. Two sections of information:

1. Drugs and Chemicals

D3

Adverse effects -- what happens when a drug or chemical used under normal conditions gives a bad reaction

Poisoning -- used very discretely; the drug or chemical is a poisoning agent or causes poisoning

Toxicity -- used with chemicals and drugs to determine the experimental effects upon man or animals

Individual MESH terms that imply both toxicity and the agent (i.e. lead poisoning)

2. Adverse reactions to drugs and chemicals

Chemically induced -- used with diseases, syndromes, congenital abnormalities and symptoms caused by chemical compounds

Individual MESH terms that do not carry the subheading agent (i.e. morphine addiction)

c. Profile is run against the SDILINE each month

d.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
TOXBIB	79-present	74-78	65-73

2. CBAC MANUAL 12.6.2

a. Chemical Abstracts Service: Chemical-Biological Activities (CBAC)

b. use CBAC to identify complete subfile

c.

CA SECTIONS	SECTION TITLE
101	Pharmacodynamics
102	Hormone Pharmacology
103	Biochemical Interactions
104	Toxicology
105	Agrochemicals
108*	Radiation Biochemistry
159	Air Pollution & Industrial Hygiene
160	Sewage and Wastes
162	Essential Oils and Cosmetics
163	Pharmaceuticals
164	Pharmaceutical Analysis

Additional new sections:

CA SECTIONS	SECTION TITLE
114	Mammalian Pathological Biochemistry
117	Food and Feed Chemistry
118	Animal Nutrition
161	Water
171	Nuclear Technology

d. Sections 101-5, 162-64 have abstracts; all others have phrases in the abstract field.
All CBAC records have CAS Registry Numbers.

e.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
CBAC	79-present	74-78	65-73

3. PESTAB MANUAL 12.6.3

a. Environmental Protection Agency: Pesticides Abstracts
b. Publication
c. Review of 1000+ domestic and foreign journals
d. Epidemiological effects of pesticides on humans
e. Before January 1974 this file was known as Health Aspects of Pesticides Abstract Bulletin -- HAPAB
f. Funding terminated Dec 1981
g.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
PESTAB (HAPAB)*	79-81	74-78	66-73*

4. IPA MANUAL 12.6.4

a. American Society of Hospital Pharmacists: International Pharmaceutical Abstracts (IPA).
b. Publication
c. Review 1000+ journals
d. Use ASHP to identify complete subfile
e. Types of information in subfile:
   - develpment & use of drugs
   - adverse drug reactions
   - toxicity
   - drug stability
   - drug analysis
   - drug metabolism

f.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
IPA	79-present	74-78	69-73

5. HEEP MANUAL 12.6.5

a. BioSciences Information Service: Abstracts on Health Effects of Environmental Pollutants (HEEP).
b. Publication
c. Effects of environmental chemicals or substances, other than medicinals on human health
d. Types of information in the subfile:
   - industrial medicine
   - occupational health
   - analytic methods
   - reports on vertebrates & invertebrates as indicators of toxic substances or disease vectors in food chain

e. Biological Abstracts (Research Reports) and Biological Abstracts/Reports, Reviews, Mgt literature
f.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
HEEP	79-present	74-78	70-73

6. EMIC MANUAL 12.6.6

a. Environmental Mutagen Information Center (EMIC) file, Oak Ridge National Laboratory, under auspices of National Toxicology Program

b. Major sources used to construct the subfile:
   - Chemical Abstracts
   - Biological Abstracts
   - Genetic Abstracts
   - Carcinogenesis Abstracts
   - Cancer Chemotherapy Abstracts
   - Teratology Lookout
   - Bioresearch Index

c. Literature type indexed in KW

Abstract	Note (non-copyrighted publication)
Book	Popular (scope info in popular press)
Book review	List (published list of references)
Chapter	Related paper
Collaborative study	Report (usually case reports on humans)
Dissertation	Report with data
Editorial	Symposium
Hypothesis (no data)	Review
Journal	Workshop
Letter	Patent
Methods	Epidemiological study
Meeting report	

d.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
EMIC	50-present	---	---

7. ETIC MANUAL 12.6.7

a. Environmental Teratology Information Center (ETIC) file, Oak Ridge National Laboratory, under auspices of National Toxicology Program

b. Literature type indexed in KW

c.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
ETIC	50-present	---	---

8. RPROJ MANUAL 12.6.8

a. Smithsonian Science Information Exchange
b. Toxicology and epidemiology research projects
c. File is a collection of currently funded research projects
d.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
RPROJ	79-present	---	---

e. Examples of the information in several of the fields unique to RPROJ

ID - R01 HL 25585-01
SO - TOXICOLOGY RESEARCH PROJECTS DIRECTORY, VOL.05 ISS.11 1980
AW - G
SA - U.S.DEPT. OF HEALTH & HUMAN SERVICES; PUBLIC HEALTH SERVICE; NATIONAL INST. OF HEALTH; NATIONAL HEART LUNG & BLOOD INST. SUPPORT $31,658
AB - RPROJ THIS PROJECT IS PART OF A BROADER PROGRAM A DESCRIPTION OF WHICH MAY BE FOUND BY SEARCHING (ID) P01 HL 10350-####

Y1 - 7909
Y2 - 8008

9. TD3 MANUAL 12.6.9

a. National Technical Information Service: Toxicology Document and Data Depository (TD3).
b. Contains citations to report literature on toxicology & related subjects as covered by NTIS
c. Begins with Government Reports Announcements & Index Oct 1979
d.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
TD3	79-present	---	---

e. Examples of the information in several of the fields unique to TD3

ID - CONTRACT F33615-76-C-5005, PROJ. 6302, TASK 01
OD - NTIS/AD-A075 976/1, 119P
PR - NTIS PRICES: PC A06/MF A01
SO - GOVT REPORTS ANNOUNCEMENTS & INDEX (GRA&I), ISSUE 04, 1980

10. HAYES MANUAL 12.6.11

a. Hayes File on Pesticides
b. Closed files; compiled by Dr. W.J. Hayes
c. Provides earlier years of HAPAB 1940-1966;

d.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
HAYES	---	---	40-68

11. TMIC MANUAL 12.6.10

a. Toxic Materials Information Center (TMIC) file, Oak Ridge National Laboratory
b. File was built from 1971-1975, however references prior to this time period are included
c.

SUBFILE	TOXLINE	TOXBACK74	TOXBACK65
TMIC	---	---	40-73

VII. SUBFILE SUMMARY

1. Total of 11 subfiles; 9 in TOXLINE

2. Each subfile has its own acronym
   a. present in the record as a keyword or as a header in the abstract field from where it is textracted
   b. textword searchable
   c. can 'AND' or 'AND NOT' in search strategy

3. Disadvantages of a merged data base
   a. variable record format
   b. variable data elements
   c. duplicate citations

4. Duplication Problem
   a. pay each secondary source for information received
   b. citations get into file at different times
   c. source field format not standardized
   d. completeness of record varies

5. Duplicate checking
   a. general problem of when to do it
   b. whose citation to keep
   c. TOXBACK65, TOXBACK74 have had duplicates removed
   d. TOXLINE thru 1981 have had duplicates removed

VIII. SEARCH STRATEGY

1. Comparison of MEDLINE and TOXLINE

	MEDLINE	TOXLINE
STD RECORD FORMAT	YES	NO
DUPLICATES	NO	YES
CONTROLLED VOCABULARY	YES	NO
TREE STRUCTURE	YES	NO
BOOLEAN LOGIC	YES	YES
SENTENCE SEARCH	YES	NO
STRINGSEARCH	YES	YES
EXPLODE	YES	NO
SUBHEADINGS APPLY	YES	NO
CHECKTAGS	YES	NO
SORT	YES	YES
RANGING	YES	YES

2. Ranging

a. Ranging on publication Year (YR) and Entry Month (EM) MANUAL 12.7.10
2 characters
qualify

b. Qualifier required for ranging on EM
4 characters

c. Formats:

FROM -- TO -- inclusive

LESS THAN -- exclusive

GREATER THAN -- exclusive

3. Sorting MANUAL 12.7.11

a. Functions as a prespecified keyword rather than a command.
b. Selects data element to be sorted and direction of sort.
   a. Ascending (0-9, A-Z) is assumed; otherwise include the word in the SORT statement.
      SORT=AUTI, DESCENDING, D, DESC
c. User initiates sort during question & answer portion of an OFFSEARCH or offline PRINT command.

   User prompt:
   PROG:
   SEARCH TITLE, OR NONE-

   USER:
   SORT=AUTI

d. System never prompts for SORT; enter in response to
   REQUESTOR'S NAME, OR SAME-
   SEARCH TITLE, OR NONE-
e. Five data elements may be listed for sorting.
f. Caution on SORTing in TOXLINE:
   Data elements with variable formats
   Data elements that occur several times

g. Useful data elements to sort in toxline

   Ordinarily w command but auti

   AU - Author
   TI - Title
   SI - Secondary Source
   CD - Coden
   YR - Year

4. Delineate the parameters of the search such as:
   years covered
   species
   clinical and/or nonclinical
   published articles /research projects

5. Develop chemical concept
   a. use CHEMLINE for RN, synonyms, locator
   b. chemical name fragments
   c. may not need to narrow search further

6. Develop concept
   a. use MESH to suggest terms
   b. various spellings
   c. various synonyms
   d. special terminology

7. Choose files to be searched
8. Develop print format and/or sort format
9. Application

1. In CHEMLINE, find the record for the pesticide DIELDRIN. Print the standard and full formats.

RN_____ ON_____

RN FILE LOCATORS_____

ON FILE LOCATORS_____

2. Find citations in TOXLINE by George D. Ledney.
   a. Print out a standard and detailed record of Dr. Ledney's paper on "Skin wound-enhanced survival and myelocytopoiesis in mice after whole-body irradiation".

   b. Note the difference in the two print formats.

3. Using the data from the Chemical record for the anti-inflamatory drug NAPROSYN, compare the numbers of retrieved citations when you use only the name given(naprosyn), the CAS Registry Number, and other synonyms.

RN_____

In the TOXLINE file:

citations using NAPROSYN_____

citations using RN _____

citations using other synonyms_____

OR together these 3 search statements for total_____

4. A requestor has seen the following name in a journal:

5-(3,3-DIMETHYL-1-TRIAZENYL)-1H-IMIDAZOLE-4-CARBOXAMIDE

Find its CHEMLINE record. RN_____

What synonyms look the most useful for a TOXLINE search?

5. Find information in TOXLINE of the effects of mercury on the central nervous system in children.

RN _____

SY _____

6. There is a government report in TOXLINE entitled "Health Effects of Synfuels Technology: A Review". You wish to order this document from NTIS.

ORDER NUMBER_____

PRICE_____

SUBFILE_____

7. A widely used antineoplastic agent has the following molecular formula:

C6 H12 N3 P S

Find the CHEMLINE record. RN_____

8. Find citations in TOXLINE about the irritation effects of ethyl acetate.

RN _____

SYNONYMS USED _____

9. In the TOXBACK74 file, how many citations are there on TIMOLOL?

a. Is there any information on the use of Timolol in cases of angina AND hypertension? What is the Journal Source?

b. Is there any newer publications on Timolol by the authors you found in response to question 10a.?

c. Is there any newer references in TOXLINE on the use of Timolol for angina OR hypertension?

CANCER DATABASES

Trainees will be able to:

* 1. describe in general terms the scope and content of each of the three cancer files.

2. describe the content and write the correct search entry format for the searchable data elements in CANCERLIT.

3. distinguish between the AU, TI, SO and TA fields for serial and nonserial records in CANCERLIT.

4. list the data elements processed for Text Words in CANCERLIT.

5. describe the content and write the correct search entry format for the searchable data elements in CANCERPROJ.

6. describe the content and format of the HT field in CANCERPROJ (and CLINPROT).

7. list the data elements processed for Text Words in CANCERPROJ.

8. describe the content under the correct search entry format for the searchable data elements in CLINPROT.

9. list the data elements processed for Text Words in CLINPROT.

*10. formulate effective search strategies for all three cancer files given a set of sample questions.

11. explain the difference between tumor, cancer and carcinoma.

12. list at least ten terms to use in formulating the concept, human.

* Objective applies to each of the databases, CANCERLIT, CANCERPROJ and CLINPROT.

CANCER FILES (CANCERLIT, CANCERPROJ, CLINPROT)
Initial Class-Lesson Plan

I. Introduction — MANUAL

A. Brief mention of National Cancer Act of 1971, origin of ICRDB Program and NCI/NLM collaboration.

B. Brief mention of other cancer information sevices of ICRDB.

C. Statement of what lecture covers.

1. Scope and content of 3 data bases

2. Search entry format for searchable data elements

3. Special points to remember and searching hints

4. Group formulation

5. Hands On Session

II. Definition of CANCERLINE

A. Brief description of each data base; derivation of name, explanation of type of information, emphasis of when appropriate to search each data base.

III. Discussion of CANCERLIT

300,000

A. Scope and Content (refer to scope chart handout) — 16.1

1. Describe scientific scope including years covered

2. Describe journalistic scope including years changed

3. State present number, update frequency, and estimated yearly growth

B. Unit Record (searchable elements only)

TW - AB, TI
TF - TI only - direct

1. Author - same as MEDLINE — 16.3.3

2. Title Abbreviation - standard, like TA in MEDLINE — 16.3.13

3. Year of Publication - rangeable — 16.3.16

4. Language - standard abbreviations as in MEDLINE — 16.3.8

MANUAL

5. Source Identifier - looks like TOXLINE, not same use; unique number — 16.3.11

6. Publication Type - describe each; mention Meeting Abstract and Letter to Editor also follow title — 16.3.10

7. ISSN and CODEN — 16.3.6, 16.3.4

8. Entry Month - YYMM; must specify when ranging because default is to YR — 16.3.5

9. Keyword - indexing enrichment terms, none at moment, will be in future; — 16.3.7

10. Text Word - TI, AB — 16.4.1

11. Title, Author, Title Abbreviation and Source fields when nonserial document

12. Title Word (TF) - single terms textracted from the title. — 16.4.1

C. Points to Remember

1. All records have abstracts

2. TA, LA, EM, AU fields all standard

3. No periods after abbreviations so SENSEARCH works very well

4. Appendix to manual has list of words always abbreviated

IV. Discussion of CANCERPROJ

A. Scope and Content (refer to scope chart) 20,000 — 17.1

1. Describe type of information, how it originates, how and who prepares it

2. State present number, update frequency and estimated yearly growth

B. Unit Record (searchable elements only) (TW) AB, TI, HT(hierarchal)

1. Investigator - same format as Author field — 17.3.10

2. Fiscal Year - format; what field contains — 17.3.6

MANUAL

3. Award Type - format; define contracts and grants — 17.3.3

4. Supporting Agency ID Number - format; use of Research Grant's Index — 17.3.12

5. Unique Identifier - format; explain continuation of projects; unique number — 17.3.15

6. Performing Organization - abbreviations, use manual appendix, use "NBR" — 17.3.11

7. Country (or State) - format — 17.3.4

8. Subject Captions, Hierarchical Terms, Hierarchical Subject Codes - mention briefly what they are and that they will be discussed in Advanced Class — 17.3.13, 17.3.7, 17.3.8

9. Text Word - TI, AB, HT

10. Funds - recent addition of this field — 17.3.18

C. Points to Remember

1. Project descriptions written by investigators themselves; not always well written, not always descriptive

2. Project descriptions enriched by liberal indexing

3. Descriptions usually segmented by Objective, Approach and Progress

4. Use # sign for periods when TSing SA field

5. No search term default - you get a multi-meaning message

6. Not all cancer research projects in CANCERPROJ

7. Often subprojects of large core grant will cause repetition

8. Contains information you will find in no other online database

V. Discussion of CLINPROTocals 3,000

A. Scope and Content (refer to sheet) Same as Cancerproj — 18.1

1. Describe type of information, where it originates, who prepares it and what it can be used for

2. State present number, update frequency and estimated yearly growth

MANUAL

B. Unit Record (searchable elements only)

1.	Identification Number - 3 different numbers; for NCI administrative use	18.3.7
*2.	Stratification Points - describe content of field	18.3.14
*3.	Protocol Phase - define 4 phases of study	18.3.11
4.	Accession Number - unique Identifying number	18.3.16
5.	Performing Organization - list of groups and abbreviations in appendix to manual	18.3.12
6.	Country (or State) - same as CANCERPROJ	18.3.3
7.	Subject Captions, Hierarchical Terms, Hierarchical Subject Codes - mention briefly what they are and that they will be discussed in the Advanced Class	18.3.13 18.3.5 18.3.6
8.	Text Word - TI, AB, HT	18.4

C. Points to Remember

1. Abstracts are long but broken down into specific segments (protocol details)
2. Titles are very descriptive so little need to browse abstracts online
3. Do not need to input general treatment terms
4. All studies done in humans

VI. Searching Hints for Cancer Files

A. Free text formulation in one will work for all (note however that general treatment terms and terms for human are not needed in CLINPROT)

B. Differences between cancer terms tumor, cancer, and carcinoma

C. Never use word cancer in these three files. Carcinoma and tumor can occasionally be of use

D. Always enter noun and adjective when searching organ site; e.g., larynx and laryngeal

E. Never use word human alone. Need patient or patients, man or men, woman or women, male and female (but remember get animals), adult or adults, child or children, adolescent or adolescents, boy or boys, girl or girls, and sometimes clinical helps

F. Never rely on broad class names to get everything. For example, lymphomas: need adenolymphoma, lymphosarcoma, Burkett's lymphoma, Hodgkin's Disease, Marek's Disease, etc. Applies to chemical compounds also; e.g., hydrazines

G. Tools

1. Cancer Medicine - James Holland and Emil Frei

2. MeSH

3. Chemline

VII. Group Search Formulation - Methotrexate therapy for lymphocytic leukemia

A. Stepwise search formulation on board

B. Input into 3 data bases

VIII. Hands on Session

IX. Discussion of Practice Questions

Hand Outs

A. In Training Class Workbook

1. CANCERLIT Manual

2. CANCERLIT Unit Record Description

3. CANCERLIT Sample Record Printout

4. CANCERPROJ Manual

5. CANCERPROJ Unit Record Description

6. CANCERPROJ Sample Record Printout

7. CLINPROT Manual

8. CLINPROT Unit Record Description

9. CLINPROT Sample Record Printout

10. Practice Questions

11. ICRDB Flow Chart

B. In ICRDB Folder

1. Cancerline Brochure

2. ICRDB Information Service Pamphlet

3. Scope and Content Sheet

4. Sample Search Request

5. Information Sheets for ICRDB Services and Products

UNIT RECORD DESCRIPTION - CANCERLIT

CATEGORY NAMES	ABBREVIATION	SEARCH	PRINT	PRINT FULL	PRINT DETAILED
Source Identifier	SI	YES	YES	YES	YES
Author	AU	YES	YES	YES	YES
Address	AD	NO	NO	YES	YES
Title	TI	NO	YES	YES	YES
Transliterated/Vernacular Title	TT	NO	NO	NO	YES
Source	SO	NO	YES	YES	YES
Abstract	AB	NO	NO	YES	YES
Language	LA	YES	NO	YES	YES
Title Abbreviation	TA	YES	NO	NO	YES
Year	YR	YES	NO	NO	YES
Publication Type	PT	YES	NO	NO	YES
Intl Standard Serial Number	IS	YES	NO	NO	YES
Coden	CD	YES	NO	NO	YES
Entry Month	EM	YES	NO	NO	YES
MeSH Headings	MH	YES	NO	NO	YES
Title Word	TF	YES	NO	NO	NO
Keywords	KW	YES	NO	NO	YES
Textword	TW	YES	NO	NO	NO

CANCERLIT

1
SI - ICDB/80/37060
AU - Schmidt A
AU - Chernajovsky Y
AU - Shulman L
AU - Federman P
AU - Berissi H
AU - Revel M
AD - Dept. Virology, Weizmann Inst. Science, Rehovot, Israel
(2'5') OLIGOISOADENYLATE AND THE C-C-C TERMINUS OF TRNA.
EM - 8001
SO - Proc Natl Acad Sci USA; 76(10:4788-4792 1979
LA - ENG
CD - PNASA
IS - 0027-8424
AB - A phosphodiesterase characterized by a generally hisher activity on 2'-5' than on 3'-5' phosphodiester bonds was isolated from mouse L cells treated with interferon. A similar enzyme was purified from mouse reticulocytes. The phosphodiesterase 2'-PDi splits the 2'-phosphate bond of pppA2'p5'A2'p5'A, the olisonucleotide activator of ribonuclease F. The level of phosphodiesterase 2'-PDi is increased by interferon treatment of L cells. The phosphodiesterase was also shown to desrade the cytidyl-cytidyl-adenyl terminus of transfer RNA (tRNA) and to reduce the amino acid acceptance of tRNA in cell free extracts, thereby causing a tRNA reversible inhibition of messenger RNA translation. (Author abstract) (35 Refs)
YR - 79
TA - Proc Natl Acad Sci Usa
PT - Journal Article

UNIT RECORD DESCRIPTION - CANCERPROJ

CATEGORY NAMES	ABBREVIATION	SEARCH	PRINT	PRINT FULL	PRINT DETAILED
Title	TI	NO	YES	YES	YES
Investigators	IR	YES	YES	YES	YES
Address	AD	NO	NO	YES	YES
Abstract	AB	NO	NO	YES	YES
Initial Year	Y1	NO	NO	YES	YES
Final Year	Y2	NO	NO	YES	YES
Identification Number	ID	YES	NO	YES	YES
Fiscal Year	FY	YES	NO	NO	YES
Award Type	AW	YES	NO	NO	YES
Unique Identifier	UI	YES	NO	NO	YES
Performing Organization	PO	YES	YES	NO	YES
Country (or State)	CY	YES	NO	NO	YES
Subject Captions	SC	YES	NO	NO	YES
Hierarchical Subject Codes	HC	YES	NO	NO	YES
Hierarchical Terms	HT	NO	NO	NO	NO
Entry Month	EM	YES	NO	NO	YES
Funds	ZZ	YES	NO	NO	YES
Text Word	TW	YES	NO	NO	NO
Supporting Agency	SA	NO	NO	NO	YES

CANCERPROJ

1
TI - BIOCHEMISTRY OF EARLY MAMMALIAN DEVELOPMENT
IR - Epstein CJ
AD - University of California; San Francisco Campus; School of Medicine; Dept. of Pediatrics; 551 Parnassus Ave.; San Francisco, California 94122
AB - The overall objectives of the project are the elucidation of molecular events occurring during mammalian oogenesis, fertilization, and early pre- and post-implantation development.
AB - Our goals for the current year are: A. The in vitro translation of messenger RNA's obtained from oocytes and very early embryos will be attempted. B. Protein synthesis during various stages of oocyte growth and maturation will be analyzed by two-dimensional electrophoresis. C. The split-embryo technique will be used for the study of development mutations which affect early embryonic development. D. Studies on the comparative protein synthesis of teratocarcinoma cells and of normal early post-implantation embryos will be carried out with two-dimensional electrophoresis to define better the similarities and differences between normal embryonic cells and teratocarcinoma stem cells.
AB - BIBLIOGRAPHIC REFERENCE: Epstein, C.J. Developmental mechanisms and abnormalities: toward a developmental genetics of man. In Littlefield, J.W. and de Grouchy, J. eds. Birth Defects (Excerpta Medica, Amsterdam, 1978), pp. 387-395. Dranser, K., Epstein, C.J., and Epstein, L.B. The antiproliferative effects of interferon on murine embryonic cells. Proc. Soc. Exp. Biol. Med. 160, 46-49 (1979)
Y1 - 7706
Y2 - 8005
FY - 79
ID - RO1 HD 03132-12
SA - U.S. Dept. of Health & Human Services; Public Health Service; National Inst. of Health; National Inst. of Child Health & Human Development
AW - G
UI - 1HD 313212
PO - University of California
CY - California
CY - USA
EM - 7909
ZZ - 95,396

THE CLINPROT DATABASE

On May 9, 1977 a new database, CLINPROT (CLINical Cancer PROTocols), was made available to all U.S. and foreign users of the NLM online computer system.

This database is sponsored by the International Cancer Research Data Bank (ICRDB) Program of the National Cancer Institute and should be considered an experimental database. The present format of the file as well as its continued availability depends on the feedback received by the ICRDB Program during this experimental period.

CLINPROT contains approximately 2,500 summaries of clinical investigations of new anticancer agents and treatment modalities. Most of the protocols were supplied by the Division of Cancer Treatment (DCT) of the National Cancer Institute. Several hundred have also been supplied by major U.S. cancer centers and by sources outside the United States.

The file contains detailed descriptions of all phases of clinical trials; Phase I studies which attempt to define an agent's limiting toxicities, time courses, dose-response relationships, etc; Phase II studies primarily designed to specifiy unambiguously the types of tumors which do or do not respond; Phase III which must establish the efficacy of a drug as a meaningful treatment and Phase IV which develops the use of this drug in combination with other therapies. The bulk of the file will be Phase II and Phase III studies.

The protocol descriptions will also define the entry criteria for the patient (e.g. acute leukemia with no prior therapy and no more than 30% blasts in the bone marow), give the details of the therapy, and provide the dose schedule, special study parameters and the various medical data collected and followed.

CLINPROT is a small highly specialized file which should be most useful to a narrow segment of the total NLM user base. It is primarily designed for clinical oncologists who are actively engaged in the development and testing of new clinical protocols. However, it may also be useful to other clinicians who may wish to be aware of new cancer treatment methods currently being evaluated in controlled clinical trials.

The experimental nature of these protocols is emphasized by a paragraph in each record which states: "Warning; Many of these agents are hazardous and have FDA approval for only clinical investigations by specialists in clinical oncology. In many cases, the protocols are not yet known to be more effective than existing treatment methods."

The unit record is listed below with a description of the data elements.

UNIT RECORD DESCRIPTION*

Category Names	Category Qualifier	Search	Print	Print Full
Investigator	IR	X	X	X
ID Number	ID	X	X	X
Title	TI		X	X
Address	AD		X	X
Stratification Points	SP	X		X
Protocol Phase	PH	X	X	X
Abstract	AB			X
Protocol Details	PD	X		
Initial Year	Y1			
Final Year	Y2			
Unique Identifier	UI	X		
Performing Organization	PO	X		
Country (or State)	CY	X		
Entry Month	EM	X		
Subject Captions	SC	X		
Hierarchical Subject Codes	HC	X		
Hierarchical Terms	HT			
Major Revision Date	MR	X		
Text Words	TW	X		

*All data elements will be displayed with the "PRT DETAILED command.

UNIT RECORD EXPLANATION

1. Investigator - the name of the principal investigator or the cooperative group chairman.

2. ID Number - the supporting agency's identification number and/or the protocol number.

3. Title - the title of the protocol.

4. Address - the name and address of the group conducting the studies.

5. Stratification Points - the entry criteria (parameters) by which patients are chosen.

6. Protocol Phase - the phase of the drug studies.

7. Abstract - a summary of the protocol which includes the protocol entry criteria and the protocol outline.

8. Protocol Details - this field includes the objectives, stratification points, special study parameters, end points, current status, dosage schedule, dosage forms and protocol chairman's telephone number.

9. Initial Year - the date of first patient entry.

10. Final Year - the date the last patient enters the study.

11. Unique Identifier - a sequential number input by SSIE as they process the protocols.

12. Performing organization - the name of the group conducting the studies.

13. Country (or State) - the name of the country where the studies are taking place. For U.S., the name of the state and/or USA can be used as a search term.

14. Entry Month - the date the protocol was entered into the NLM computer system.

15. Subject Caption - the specific SSIE indexing terms added.

16. Hierarchical Subject Codes - the numeric codes for each of the specific index terms added.

17. Major Revision Date - the date when a major change was made to the record.

18. Text Words - all the significant words which appear in the Title field, the Abstract field and the Hierarchical Terms field.

Free text searching is the primary searching mechanism but each record is also indexed, as is CANCERPROJ, with controlled terms from the SSIE thesaurus. These controlled terms (Subject Captions) can also be used in searching the data base. The feasibility of enriching the protocol summaries with MeSH terms is being explored.

N-15

UNIT RECORD DESCRIPTION - CLINPROT

CATEGORY NAMES	ABBREVIATION	SEARCH	PRINT	PRINT FULL	PRINT DETAILED
Investigators	IR	YES	YES	YES	YES
Title	TI	NO	YES	YES	YES
Address	AD	NO	YES	YES	YES
Stratification Points	SP	YES	NO	NO	YES
Protocol Phase	PH	YES	NO	NO	YES
Abstract	AB	NO	NO	YES	YES
Initial Year	Y1	NO	NO	NO	YES
Final Year	Y2	NO	NO	NO	YES
Identification Number	ID	YES	YES	YES	YES
Unique Identifier	UI	YES	NO	NO	YES
Performing Organization	PO	YES	NO	NO	YES
Country (or State)	CY	YES	NO	NO	YES
Entry Month	EM	YES	NO	NO	YES
Subject Caption	SC	YES	NO	NO	YES
Hierarchical Subject Codes	HC	YES	NO	NO	YES
Hierarchical Terms	HT	NO	NO	NO	NO
Major Revision Date	MR	YES	YES	YES	YES
Protocol Details	PD	NO	NO	NO	YES
Text Word	TW	YES	NO	NO	NO

CLINPROT

ID - MSKCC-7588
IR - Golbey RB
TI - COMBINATION CHEMOTHERAPY WITH MECCNU, 5-FU AND VINCRISTINE FOR PREVIOUSLY UNTREATED LARGE BOWEL CANCER
AD - Memorial Sloan Kettering Cancer Center; 1275 York Ave.; New York, New York 10021
AB - OBJECTIVES:
AB - I. Evaluate the relative effectiveness of two schedules of MOF combination chemotherapy in patients with recurrent metastatic carcinoma of the large bowel.
AB - PROTOCOL ENTRY CRITERIA: Patients with colon or rectal carcinoma with measurable non-resectable or residual disease, who have had no previous adequate chemotherapy nor been rendered free of disease by radiotherapy.
PD - Protocol chairman's telephone number is: 212-794-7093
PD - WARNING: Many of these agents are hazardous and have FDA approval ONLY for clinical investigations by specialists in Clinical Oncology. In many cases the protocols are not yet known to be more effective than existing treatment methods.
PD - PROTOCOL OUTLINE: Randomized study.
PD - Arm I: 3-Drug Combination Chemotherapy. MOF - Methyl CCNU, MeCCNU, NSC-95441; 5-Fluorouracil, 5-FU, NSC-19893; Vincristine, VCR -NSC-67574.
PD - Arm II: 3-Drug Combination Chemotherapy. MOF, different MeCCNU dosage.
PD - STRATIFICATION BY: Performance status, time interval from diagnosis to metastasis, lung involvement.
PD - SPECIAL STUDY PARAMETERS: CEA, 5-nucleotidase, bone and liver scans.
PD - END POINTS: Response/remission rate, duration of response, toxicity/morbidity of treatment, objective tumor response, survival rate, length of survival.
PD - CURRENT STATUS: Protocol closed and terminated 02/78.
PD - DOSAGE SCHEDULE:
PD - Arm I: MOF: MeCCNU - 150 mg/sqm po on day 1; 5-FU - 300 mg/sqm iv on days 1 through 5 and 36 through 39; VCR - 1.0 mg/sqm iv on days 1 and 36. Repeat course q 71 days. Remove from study patients who evidence a 25% increase in objective parameters.
PD - Arm II: MOF: MeCCNU - 30 mg/sqm po on days 1 through 5; 5-FU -300 mg/sqm iv on days 1 through 5 and 36 through 40; VCR - as in Arm I. Repeat q 71 days. Treat failures as with Arm I.
PD - Dosage modifications for toxicity are given.
PD - DOSAGE FORMS: Not given.
SP - Performance Status
SP - Site of Metastases
SP - Stratification -ot
Y1 - 7500
Y2 - 7802/7802
UI - ZZ-007832
PO - Memorial Sloan Kettering Cancer Center
CY - New York
CY - USA
EM - 7805
MR - 7802

CANCERLINE Files (CANCERLIT, CANCERPROJ, CLINPROT) Practice Questions

Intial Training Class

1. Find information discussing chemotherapy of bronchogenic and mediastinal tumors.

2. Find information about bladder or kidney cancer following exposure to hydrazine compounds. When searching published literature, limit retrieval to the 1970's.

3. Locate information discussing the epidemiology of lung cancer in women. When searching published literature, limit retrieval to articles added to the database September through October, 1976.

4. Find information on therapy of synovial sarcoma. When searching published literature, limit to journal articles.

5. Locate any information discussing the use of ICRF-159 in the chemotherapy of cancer in humans.

* Try the above questions in every appropriate cancer file.

FINAL SEARCH SESSION

Directions:

Review the question stated below and develop an appropriate search strategy for MEDLINE and at least one free text data base (TOXLINE, CANCERLIT).

Question:

Find articles on the relationship between artificial sweeteners and bladder cancer.

Requester: Physician Purpose: Patient care

Conditions: interested in publications 1976 forward
include abstracts
English language articles only
would like author addresses if possible

SEARCHING BASICS

REQUESTOR INTERVIEW

ANALYSIS OF QUESTION

PRESEARCH - SELECT DATABASE

SELECTION OF TERMS

- MESH, CHEMLINE ...
- TW
- *
- EXPLODE
- /

VOLUME / PRECISION RATIO

MODIFY

FORMULATE STRATEGY (AND ALTERNATES)

ONLINE

SAMPLE RETRIEVAL

DIAGRAM

PRINT (SORT, AB, MH)

EVALUATE

Charlotte Kenton
National Library of Medicine
April 1979

ADMINISTRATIVE INFORMATION

Trainees will be able to:

1. describe the role and function of MEDLARS Management Section (MMS) in relation to network participants

2. list several of the services provided by MMS

3. explain the correct use of the toll-free telephone number

4. describe the NLM billing procedures and policies

5. describe policies regarding availability and use of demonstration and training codes

6. understand the use of the PROFILE command for changing passwords, pagelength and for entering stored addresses

MAJOR MMS ACTIVITIES

- USER SUPPORT:
  - SERVICE DESK
  - INDEXING/SEARCHING/DATA BASE ASSISTANCE
  - NEWS/LETTERS/COMMENTS
- ONLINE CENTER APPLICATIONS
- TRAINING/DEMONSTRATIONS/EXHIBITS
- DISTRIBUTION OF OFF-LINE PRINTS AND OFFSEARCHES
- AUTOMATIC SDIs
- STATISTICS AND MANAGEMENT INFORMATION
- BILLING AND CODE ASSIGNMENT
- PUBLICATIONS:
  - INDEX MEDICUS
  - RECURRING BIBLIOGRAPHIES
  - TECHNICAL BULLETIN
  - ONLINE REFERENCE MANUAL
  - USER GUIDES
- OTHER:
  - COMPUTER REQUIREMENTS
  - TAPES FOR NON U.S. CENTERS

NLM AUTOMATIC SDI SERVICE REQUEST FORM

MEDLARS USERID CODE UNDER WHICH SEARCHES WILL BE STORED | M | E | D | | | | |

Name and address to which results should be sent: (no more than 50 characters per line)

_____
name

_____
address

_____
city, state, zip

Name and telephone number of the person who coordinates SDI service at your organization >

_____
name

_____
telephone number

This form is being submitted in order to:

☐ BEGIN SERVICE ON THE _____ DATABASE (ONLY ONE PER FORM)

☐ CHANGE A PREVIOUSLY SUBMITTED FORM

Please note that NLM automatic SDI searches must be named beginning with a four-character code (one letter, three numerical digits) that indicates which database the search is to be run against and the print format in which the retrieval should be printed. A table on the back of this form shows the available numerical ranges.

You may specify below any changes in the PRINT or SORT specification(s) you would like made to any numerical range. If you do not specify otherwise, the default SORT and PRINT values (see the back of this form) will be used.

NUMERICAL RANGE	PRINT ELEMENTS	SORT ELEMENTS*

*Users are encouraged to choose a precoded SORT format (such as AUTI) rather than a tailored format.

NOTE -- Use a separate form for each database for which automatic SDI searches will be stored. Submit only one form for each database; thereafter, submit a form only to change information on a previously submitted form, or to begin service on a different database, or to discontinue service.

RETURN THIS COMPLETED FORM TO:

MEDLARS MANAGEMENT SECTION
NATIONAL LIBRARY OF MEDICINE
8600 ROCKVILLE PIKE
BETHESDA, MARYLAND 20209

DATABASE NAME	FIRST LETTER OF SEARCHNAME	SORT ELEMENTS	NUMBER RANGE	PRINT FORMAT
SDILINE	S	JNL (TA A, DP D, VI D, IP D, PG A)	S001-200	STANDARD
			S201-400	FULL INCLUDE AD
			S401-600	AU, TI, SO, TT, LA, MH, AB, AD
			S601-700	AU, TI, SO, AB
			S701-800	SPECIFY ON THIS FORM
TOXLINE	T	JNL (SO A)	T001-200	STANDARD
			T201-400	FULL
			T401-600	DETAILED
			T601-700	SI, AU, TI, SO, AD
			T701-800	SPECIFY ON THIS FORM
CANCERLIT	C	JNL (TA A, YR A, TI A)	C001-200	STANDARD
			C201-400	FULL
			C401-600	DETAILED
			C601-700	AU, TI, SO, AB, PT
			C701-800	SPECIFY ON THIS FORM
HEALTH	H	JNL (IDENTICAL TO SDILINE)	H001-200	STANDARD
			H201-400	FULL
			H401-600	AU, TI, SO, TT, LA, MH, AB
			H601-700	AU, TI, SO, AB
			H701-800	SPECIFY ON THIS FORM

EXAMPLE - a stored search named S645 PARVOVIRUS will be processed each month against SDILINE, and the citations will be printed in the AU, TI, SO, AB format, in order by journal and date of publication.

AUTOMATIC SDI SERVICE: NEW FEATURES FOR 1982

Joseph Leiter, Ph.D., Associate Director, Library Operations, NLM

Automatic SDI service has been available through the National Library of Medicine online system since mid-1976. At present, approximately 15,000 searches are processed automatically each month. In response to requests from search analysts, three enhancements to the NLM Automatic SDI Service will become available in January 1982:

1) The Health Planning & Administration database will be be available for Automatic SDI service

2) All citations retrieved by Automatic SDI searches will be sorted, either by journal and publication date or by elements and directions specified by the searcher

3) Greater flexibility for print formats will be offered

Health Planning & Administration Automatic SDI Service

Searchers may now store searches that are to be performed against the HEALTH file each month after it is updated. These searches must be stored on the NLM computer and use the letter H as the first character of the name. To facilitate the storing of these searches while connected to the HEALTH file, searchers who can usually only access the HEALTH file at SUNY will be able to access this database at NLM between 12 noon and 1:00 pm ET daily (Monday-Friday) and every Saturday between 8:30 am and 5:00 pm ET during the month of January. After January, searchers ordinarily having access to the HEALTH file only at SUNY will be able to access HEALTH at NLM between 12 noon and 1:00 pm ET every Tuesday and every Saturday between 8:30 and 5 ET. Alternatively, any user may store searches for HEALTH file Automatic SDI service while connected to the SDILINE file, at any time. Any searcher who wishes to begin Automatic SDI service on the HEALTH file should complete and return an Automatic SDI Service Request Form, enclosed with this issue of the Technical Bulletin, to the MEDLARS Management Section, NLM. This form may be freely reproduced for your use. The first Automatic SDI processing for the HEALTH file will occur with the February update on January 11.

SORT for Automatic SDI Citations

Each of the databases available through the NLM Automatic SDI service has a default SORT for Automatic SDI searches assigned to it; printouts from these databases will be sorted according to journal and then by date of publication as specified by the precoded SORT, 'JNL,' for that database. The 'JNL' SORT format for NLM databases is described in detail in the June 1981 Technical Bulletin, page 10. The data elements used for the 'JNL' SORT for each database are:

SDILINE - TA A, DP D, VI D, IP D, PG A

TOXLINE - SO A

CANCERLIT - TA A, YR A, TI A

HEALTH - TA A, DP D,VI D, IP D, PG A

A = Ascending

D = Descending

As shown on the enclosed Automatic SDI Service Request Form, the searcher may specify a different SORT for any number range in any database. However, it is suggested that searchers use a precoded format, such as AUTI, rather than a tailored one. Alternatively, the searcher may specify NO SORT for any number range for any database; in that case, the citations will be printed out as they were previously: the last citation entered will be the first citation printed.

Tailored PRINT Formats For All Number Ranges

Previously, stored searches named within a particular number range (for example, S011 VIRAL SEQUENCE is in the 001-200 range) could produce printouts only in the one print format available for that range. Now, however, the searcher may request any print format for any number range. A search named S011 VIRAL SEQUENCE (processed automatically on SDILINE) will have any citations retrieved printed out in the Standard format (AU, TI, SO) unless the searcher has submitted an Automatic SDI Service Request Form indicating that the S001-S200 number range should produce some other print format. If the searcher has requested that the S001-200 range print out AU, TI, SO, AB, LA, then these data elements will be printed instead for S011 VIRAL SEQUENCE.

Note

Remember to send in an Automatic SDI Service Request Form whenever you wish to change one of the following: database(s) on which you want to have Automatic SDI service, print specifications for a number range, SORT specifications for a number range, or mailing address. Please do not send in a form for each search stored; only one form is needed to begin service. HEALTH Automatic SDI processing of searches will begin with the February update on January 11. Searches will be processed against HEALTH during the week of January 11-15. The sorting of printouts and the ability to specify print elements on all ranges will be utilized beginning in January for all files for which Automatic SDI service is provided.

The Automatic SDI Service Request Form is enclosed with this issue.

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P-7

NATIONAL LIBRARY of MEDICINE

FACT SHEET

Bethesda, Maryland 20209 April 1980

NLM Online Services Program Policy Statement

I. Network Objectives

Consistent with its legislative mandate and recommendations of the Board of Regents, the National Library of Medicine (NLM) is committed to the development and operation of an online services network. The objectives of the network are to provide:

- Rapid and efficient delivery of bibliographic and other literature-based information.
- Cost effective online services complemented by efficient document delivery through participating members.
- Equal network access, to the extent possible, while serving the basic purpose of support to health care delivery, education, and research.

II. Service Policies

A. General

The NLM approves new users, maintains overall systems management and provides supporting services such as training and assistance to users. The Regional Medical Libraries (RML) provide applications to potential online users, assist new users, and otherwise support network services in their regions.

B. User Admittance and Classification

In order to effectively and efficiently utilize the limited computer resources of NLM, a priority access system is established. As capacity permits, new users will be admitted to the system. Preference will be given to high priority health institutions and, where possible, Priority II institutions will be admitted. At any time, Priority II users might be restricted from use of the system, particularly when computer capacity is strained. Institutional users are classified as follows:

Priority I

- Direct Patient Care Facilities
- Health Professional Educational Institutions
- Organizations Primarily Engaged in Health Protection Activities
- Federal and State Health Agencies

Priority II

- Other Educational Institutions with Health or Information Science Programs
- Other Federal, State and Local Agencies not in Priority I
- Societies, Foundations, and Other Organizations with Secondary Health Responsibilities

Individuals are encouraged to use NLM online systems through established institutional centers, but may apply for access codes in unusual cases.

C. Responsibilities of Members

1) Online centers agree to send at least one individual for NLM sponsored training in the use of NLM's online system. NLM reserves the right to waive training for qualified individuals who demonstrate significant online experience or on-the-job training.

2) Online centers agree to provide access to all users commensurate with available resources.

3) Service costs may be passed on to the individual requester. Where charges are imposed, they must clearly distinguish that portion which represents NLM charges, such as connect-hour and page costs, from the charges levied by the network participants.

III. Prices

Consistent with the National Library of Medicine Act (Section 383), the NLM Board of Regents has established a domestic pricing policy permitting NLM to recover costs associated with the direct provision of services. Such costs include communications, back-up computer services, and user fees for data bases from other organizations. The Board of Regents has delegated to the Director of the National Library of Medicine the authority to set prices at the level required to ensure effective and efficient management of the system and the authority to establish priorities for users. To the extent practicable, such costs recovered from member institutions will be independent of their geographic location.

NATIONAL LIBRARY OF MEDICINE INTERLIBRARY LOAN REQUEST STANDARDS

Jim Cain, Circulation and Control Section, NLM

While NLM staff has filled more than 147,800 interlibrary loan requests so far this fiscal year (October 1980 - July 1981), more than 20,000 requests have been rejected by NLM's Circulation and Control Section during this period. "Rejects" are requests that are returned with no or limited searching because the form was incorrectly filled out, the material requested was out of scope, the request did not follow the Regional Medical Library Network procedures, etc. Rejection and subsequent resubmission of a request adds an estimated two weeks to processing time. Librarians can avoid such delays by rechecking their requests, before they are sent, against the standards that follow. NLM in turn will make every effort to provide quality service for document delivery as expeditiously as possible.

Standards:

1. Requests must be submitted on either standard ALA Interlibrary Loan Request Forms in triplicate, or by TWX. Examples of both, with guidelines for use, follow after the standards.

2. Requests must be signed (ALA form) by the individual responsible for interlibrary loans. On TWX requests the name of the responsible individual must be entered.

3. Requests for photocopy service must carry a statement of U. S. Copyright Compliance. Either conformance to the copyright law (CCL) or the copyright guidelines (CCG) must be indicated, but not both. NLM prefers that requests for original loans also carry the statement in order to facilitate the initial sorting process.

4. Citations should contain the required bibliographic elements. NLM prefers that requests be verified, though this is not required. Those requests that are not verified will receive limited searching while verified requests will be searched more thoroughly. If there are insufficient bibliographic elements to attempt a search, the request will be rejected immediately.

If the verification gives an NLM database as the source of the citation, state the specific name of the file from which the citation has been taken. MEDLINE is only one of our 19 databases. Do not put "MEDLINE" if the citation was found, for example, in TOXLINE or CATLINE.

If a citation is from an NLM database, and the NLM Call Number is present, this must be included on the request, or the request may be returned.

5. Requests must include a complete address with zip code. TWX users please take note of this point.

6. Requests must be submitted one per ALA form or TWX message. Our system of locating and processing items requires that each item must be requested on a separate form.

7. Requests must be typed.

8. Requests must be submitted through a library. Materials are available only as interlibrary loans, and not directly to individuals.

9. Requests must follow the RML Network procedures. Only certain libraries may submit requests directly to NLM; all others must send their requests to a Resource or Regional Library. (Foreign libraries may submit directly if the material requested is not available locally.)

10. The subject content of requests must be within the scope of the NLM collection. (The Scope and Coverage Manual of the National Library of Medicine is available from the National Technical Information Service, PB-271-252, $5.25.)

*****

USE OF TELETYPEWRITER EXCHANGE SERVICES FOR INTERLIBRARY LOAN REQUESTS (Revised June, 1981)

The National Library of Medicine can access requests through two teletypewriter exchange services as part of its program to speed interlibrary loan service. Through the Western Union service the numbers are 710-824-9615 and 710-824-9616. Through the Bell System service the number is 301-492-1817.

The format to be used for teletypewriter requests is based on the standard ALA interlibrary loan form. To facilitate teletype use, examples of requests are shown on the next page.

Message identification. Every request must contain, as the second line of information, the date of transmission, immediately preceded by the serial number of the message. When several requests are included in a single message transmission, each separate request must bear its own date, identification number, and return address, since copies of articles are forwarded in a specially designed mailer which uses a copy of the loan request for the address. The mailing address must include the ZIP CODE.

Standard abbreviations (followed by the sequential serial number and date) will be used to identify the type of message, and will be considered as part of the serial number:

ILLRQ - Interlibrary Loan Requests.
ILLRP - Interlibrary Loan Reports.

Each message should be numbered sequentially to permit rapid referral in replies. Message date should read as follows: 22/JUN/81.

Please insert 5 or 6 spaces between messages to allow speedier separation of messages.

Message fees. The borrowing library will pay all teletypewriter message fees involving ILL communication with NLM.

SAMPLE OF TELETYPEWRITER ILL REQUEST FOR A PERIODICAL ARTICLE

```
DNLMBETHESDA

ILLRQ 88 19/APR/81

INTERLIBRARY LOAN
DUKE UNIVERSITY MEDICAL CENTER LIBRARY
DURHAM, NORTH CAROLINA  27706

DR. J. SMITH  RESIDENT  OB-GYN

NEW ZEAL MED J 59: (DEC)  1960
LILEY, A. W. :  TECHNIQUES AND COMPLICATION OF AMNIOCENTESIS
  581-596.
VER: CIM 2:  A-844, 1961
AUTHR:  J. BROWN  (Name of authorizing official)

REMARKS:  WE LACK THIS VOLUME.

CCL  (or CCG)

END ILLRQ 88
NDC-M DURHAM
END
```

SAMPLE OF TELETYPEWRITER ILL REQUEST FOR A BOOK

```
DNLMBETHESDA
ILLRQ 89  19/APR/81

INTERLIBRARY LOAN
DUKE UNIVERSITY MEDICAL CENTER LIBRARY
DURHAM, NORTH CAROLINA  27706

DR. J. SMITH  RESIDENT  SURGERY

EUSTERMAN, GEORGE BYSSHE
THE STOMACH AND DUODENUM.  SAUNDERS, PHILA., 1936.
VER:  INDEX CAT.  (S.4) 5:664,  1940
AUTHR:  J. BROWN (Name of authorizing official)

CCL  (or CCG)

END ILLRQ 89
NCD-M DURHAM

END.
```

DIRECTIONS FOR PREPARING REQUEST FOR ARTICLE IN PERIODICAL

STANDARD FORM 162 (REV 5 - 78)
Prescribed by Library of Congress Interlibrary Loan Code

(1) Date of request: 3/2/79 Not needed after: (2) 4/5/79 Requester's order no. (3) 79-152

Call No. (5) W1 J0542k

NAME AND ADDRESS OF BORROWING LIBRARY

A REQUEST

For use of (6) J. Smith Status (7) Resident Dept. (8) Int. Med.

Book author: OR: periodical title, vol. and date

(9) Journal of Applied Physiology
v. 18 July 1963

Book title, edition, place, year, series: OR: periodical article author, title, pages. ☐ This edition only.

(10) Mohammed, S. Thermal indicator sampling and injection sites for cardiac output.
pp. 742-45

Verified in: OR: item cited in (11) Cumulated Index Medicus-v.-4 1963
ISBN, or ISSN, of LC card, or OCLC, or other number if known p. A-946
If non-circulating, & cost does not exceed $_____, please supply ☐ Microfilm ☐ Hard copy.

(13)
(12) National Library of Medicine
Circulation and Control Section
8600 Rockville Pike
Bethesda, Maryland 20209

Request complies with
☒ *108(g)(2) Guidelines (CCG)*
☐ *other provisions of copyright law (CCL)*

AUTHORIZED BY: (14) (Signature)
(FULL NAME) Title ILL Librarian

INTERLIBRARY LOAN REQUEST

Request for ☐ LOAN or ☐ PHOTOCOPY
According to the A.L.A. Interlibrary Loan Code and the Federal Library Committee's I.L.L. Code

REPORTS: Checked by
SENT BY: ☐ Library rate ☐ _____
Charges $_____ Insured for $_____
Date sent _____
DUE _____

RESTRICTIONS: ☐ For use in library only.
☐ Copying not permitted ☐ _____

NOT SENT BECAUSE: ☐ In use ☐ Not Owned
☐ Non Circulating
☐ Request of _____

Estimated Cost of: ☐ Microfilm _____ ☐ Hard copy _____

BORROWING LIBRARY RECORD:
Date received _____
Date returned _____
By ☐ Library rate ☐ _____
Postage enclosed $_____ Insured for $_____

RENEWALS: ☐ No renewals
Requested on _____
Renewed to _____ (or period of renewal)

Note: the receiving library assumes responsibility for notification of non-receipt.

162-102

1. Date request is prepared.
2. Date after which material is no longer needed.
3. Requester's order number.
4. Complete name and address of borrowing library including zip code. This address is used as the mailing label for the completed request. If more than one request is sent at one time, complete name and address must be included on each form.
5. NLM call number - for items verified in NLM database or publications.
6-8. Identification of borrower for whom request is made.
9. Complete title of periodical, volume, number and date (Do not enter author of article in this space.)
10. Complete citation: author, title of article and inclusive pagination.
11. Complete bibliographic source of reference, i.e.: Cumulated Index Medicus, v.4, 1963, p.A -946.
12. Complete address of the National Library of Medicine.
13. Statement of compliance with the U.S. Copyright Law. Check only one box, whichever applies. This is required.
14. Signature and title of librarian or staff member authorized to request loans.

PREPARE A SEPARATE FORM FOR EACH ITEM REQUESTED.
DETACH AND RETAIN BOTTOM SHEET OF FORM ONLY.
ALL REQUESTS MUST BE TYPED.

DIRECTIONS FOR PREPARING REQUEST FOR LOANS OF ORIGINAL MATERIAL

STANDARD FORM 162 (REV 5 - 78)
Prescribed by Library of Congress Interlibrary Loan Code

Date of request: (1) 6/18/81 Not needed after: (2) 7/18/81 Requester's order no. (3) 81-35

A REQUEST

Call No. (5) QZ 4 qM823t 1951

NAME AND ADDRESS OF BORROWING LIBRARY

For use of (6) J. Smith Status (7) Resident Dept. (8) Int. Med.

Book author: OR: periodical title, vol. and date

(9) Moore, Robert Allen

Book title, edition, place, year, series: OR: periodical article author, title, pages. ☐ This edition only.

(10) Textbook of Pathology. 2d ed., 1951
Saunders, Philadelphia

Verified in: OR: item cited in (11) CRI 1949-52 p. 1290

ISBN, or ISSN, of LC card, or OCLC, or other number if known _____

If non-circulating, & cost does not exceed $_____, please supply ☐ Microfilm ☐ Hard copy.

(12) National Library of Medicine
Circulation and Control
8600 Rockville Pike
Bethesda, Maryland 20209

(13) Request complies with
☐ *108(g)(2) Guidelines (CCG)*
☒ *other provisions of copyright law (CCL)*

AUTHORIZED BY: (14) (Signature)
(FULL NAME) Title ILL Librarian

INTERLIBRARY LOAN REQUEST

Request for ☐ LOAN or ☐ PHOTOCOPY
According to the A.L.A. Interlibrary Loan Code and the Federal Library Committee's I.L.L. Code

REPORTS: Checked by
SENT BY: ☐ Library rate ☐ _____
Charges $_____ Insured for $_____
Date sent _____
DUE _____

RESTRICTIONS: ☐ For use in library only.
☐ Copying not permitted ☐ _____

NOT SENT BECAUSE: ☐ In use ☐ Not Owned
☐ Non Circulating
☐ Request of _____

Estimated Cost of: ☐ Microfilm _____ ☐ Hard copy _____

BORROWING LIBRARY RECORD:
Date received _____
Date returned _____
By ☐ Library rate ☐ _____
Postage enclosed $_____ Insured for $_____

RENEWALS: ☐ No renewals
Requested on _____
Renewed to _____ (or period of renewal)

Note: the receiving library assumes responsibility for notification of non-receipt.

162-102

1. Date request is prepared.
2. Date after which material is no longer needed.
3. Requester's order number.
4. Complete name and address of borrowing library including zip code. This address is used as the mailing label for the completed request. If more than one request is sent at one time, complete name and address must be included on each form.
5. NLM call number - for items verified in NLM database or publications.
6-8. Identification of borrower for whom request is made.
9. Name of author or editor with first name or initial.
10. Title of book with edition, date and place of publication.
11. Complete bibliographic source of reference.
12. Complete address of the National Library of Medicine.
13. Check only one box in the copyright compliance area--not both. This speeds the processing of the request during the initial sorting of incoming requests, and is needed in case a few pages, chapter, or table of contents can be supplied for non-circulating material.
14. Signature and title of librarian or staff member authorized to request loans.

PREPARE A SEPARATE FORM FOR EACH ITEM REQUESTED.
DETACH AND RETAIN BOTTOM SHEET OF FORM ONLY.
ALL REQUESTS MUST BE TYPED.

NON-NLM TITLES IN NLM ONLINE FILES: INTERLIBRARY LOAN LIBRARIANS TAKE NOTE!

Jim Cain, Circulation and Control Section, NLM

Please note that in POPLINE, HEALTH and several "Special List" indexes (e.g., Dental and Nursing) some serials are included that are not in the NLM collection. These titles are indicated in SERLINE by: 1. a note stating they are not in the NLM collection, and 2. the indexing source instead of a call number in the Call Number (CA) field. This is illustrated in the following SERLINE record:

```
TI - ACADEMY OF MANAGEMENT REVIEW
TA - ACAD MANAGE REV
FL - 1,1958--
PL - MISSISSIPPI STATE MS
PU - MISSISSIPPI STATE UNIVERSITY
GN - THIS TITLE IS NOT IN THE NLM COLLECTION   — GENERAL NOTES FIELD
IS - 0001-4273
AI - PA
AI - HLI
AI - MAP
FR - G
OC - OPEN
LA - ENG
CY - UNITED STATES
CA - AHA                                      — INDEXING SOURCE: AHA
UI - A02730000
```

To avoid delays and confusion, do not send requests for these non-NLM titles directly to NLM. NLM does not refer loans to these "Special List" indexing sources. Such requests are returned to the requesting library. If the item is not available through the RML Network, you may wish to contact these sources directly for their loan and photocopy policies. A list of possible values for the Call Number (CA) field with addresses of the organizations to contact follows:

ADA - Bureau of Library Services
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

AHA - Library of the American Hospital Association
840 North Lake Shore Drive
Chicago, Illinois 60611

ANA - American Journal of Nursing Company
Library
555 West 57th Street
New York, New York 10019

CPFH - Population Information Program Resource Center
Johns Hopkins University
624 North Broadway
Baltimore, Maryland 21205

Attn: Document Delivery

PIP - Center for Population and Family Health
Library/Information Program
Columbia University
60 Haven Avenue
New York, New York 10032

Attn: Document Delivery

NEW SORT CAPABILITY

Lou S. Knecht, MEDLARS Management Section, NLM

OVERVIEW

The following article describes NLM's new capability for sorting offprints alphabetically. It will be implemented at NLM in June 1981 and shortly thereafter at SUNY. There will be no extra charge for sorted printouts, and the capability will be available on all databases except TDB and RTECS.

SORT functions as a prespecified keyword rather than a command. The user initiates the sort during the question-and-answer portion of an OFFSEARCH or offline PRINT command. The simplest of the three possible ways to use the sort is to enter one of the Precoded Sort format names (a list of these is included as Table A with this article) after a user prompt as follows:

```
PROG:
SEARCH TITLE, OR NONE-

USER:
SORT = AUTI
```

This example would result in the printout being sorted first on author, then on title, A through Z, then 0 through 9.

There are two other ways of sorting: Tailored Sort and Print Order Sort. All three are described in detail below. Citations also can be sorted in descending order (9 through 0, then Z through A). Sort instructions can be cancelled easily while still in the question-and-answer phase.

The offprint cover sheet will have a special message telling the user what (if any) sort format was used for that search.

Additional details on how the sort actually "works" are contained in the last section of the article, including punctuation rules, special delimiters in CATLINE/AVLINE, and sort restrictions for large retrievals.

INTRODUCTION

In June 1981, NLM expects to implement new software, to be know as ELHILL 3.2A, that supports the offline sorting of citation retrieval. ELHILL 3.2A is an enhancement of ELHILL 3.2 which was introduced in March 1980 and featured SAVESEARCH, SAVE, and PROFILE of the Unified User Specification File (UUSF). The present software architecture of ELHILL does not lend itself to sorting online. It is hoped that a future generation of this system will allow it. ELHILL 3.2A is the first step in that direction and is the result of a further collaborative effort between NLM and the British Library.*

*The ELHILL 3.2A software was developed by David L. Kenton, Office of Computer and Communications Systems, NLM, and Fred Bone, BLAISE, British Library.

It allows a user to request that records being printed offline (offline prints and OFFSEARCHes) be sorted by particular fields, for example, Author (AU) and Title (TI). This capability will be available for all the ELHILL databases except RTECS and TDB. The structure of these two databases precludes sorting.

WHAT IS SORT

Sorting is simply the alphabetizing of output. The user selects both the data element(s) to be sorted upon and the direction of the sort(s).

Data Element Options

The three ways to select data elements for a sort are categorized as follows:

1. Precoded Sort - NLM has stored a series of standardized sort formats with names (known across databases) that are similar to the PRINT format names of FULL, DETAILED, etc. See Table A;

2. Tailored Sort - A user may specify a list of up to five (5) element mnemonics, and a direction for each;

3. Print Order Sort - The system will sort on the elements in the order that they appear on the offline print as dictated by the PRINT OFFLINE command or PRINTSPECS? answer in OFFSEARCH.

Direction -- ASCENDING or DESCENDING

The direction of a sort can be either ASCENDING, which is A-Z followed by 0-9, or DESCENDING, which is 9-0 followed by Z-A. The direction is always assumed to be ASCENDING, and therefore, the word ASCENDING need not be specified. However, if you want the direction to be DESCENDING, you must include that word in the sort statement. This will be illustrated in the following sections. Legal abbreviations for these directions are DESC or D for DESCENDING, and ASC or A for ASCENDING.

Sorting will override the default (or standard) order of citation printing which is reverse chronological order by entry into the system, or "last citation entered is the first citation printed."

HOW TO REQUEST A SORT

You will never be prompted to enter a sort; rather, you must initiate the sort instruction by entering the 'SORT =' keyword at any point in the question-and-answer phase of an OFFSEARCH or an offline PRINT command. NLM recommends entering the 'SORT =' keyword in response to either the REQUESTER'S NAME, OR SAME- prompt or the SEARCH TITLE, OR NONE- prompt. The system will never give a confirmation that the SORT instruction was received; it will only re-prompt for an answer to the question that you did not yet answer. The system may give you an error message in certain cases, e.g., if a Precoded Sort name was used that is not defined for the database selected for the search. The 'SORT =' keyword works like any other prespecification keyword you may have used in the past, e.g., 'LIMIT ='; 'NAME ='; 'CITSTAZIP ='. The following is a generalized summary of the 'SORT =' keyword:

1. Precoded Sorts:

SORT = format name SORT = AUTI

Citations are to be sorted on the data elements included under the sort format name. Here, AUTI is a Precoded Sort which ELHILL 3.2A knows to be equivalent to 'SORT = AU, TI' for MEDLINE.

SORT = format name, DESCENDING SORT = AUTI, DESCENDING

The word DESCENDING means that the sort is to be in reverse direction for each data element in the format. Here, AU would sort from 9-0 and then from Z-A, and TI would also.

Notes

See Table A for a list of NLM Precoded Sorts.

Precoded Sort formats are good to use when searching dissimilar files. They have been standardized to account for differences in database structures. For example, if you search both CANCERLIT and CANCERPROJ in OFFSEARCH and specify 'SORT = AUTI', the system interprets that sort format name to mean Author (AU) , Title (TI) for CANCERLIT but Investigator (IR), Title (TI) for CANCERPROJ since the latter does not have an Author (AU) field. In other words, a Precoded Sort format name represents a concept across all databases for which it is defined and not necessarily the same data elements that compose the sort format name.

Direction for a Precoded Sort applies to each element in the sort format.

2. Tailored Sorts:

SORT = elem1, elem2,...elem5 SORT = LA, AU, TI

Citations are to be sorted on the named elements in the exact order as listed. Here the first sort is on language and if many citations have the same LA, then the second sort is on author; if several citations have the same LA and the same AU occurrences, then the third sort is on title of the article.

SORT = elem1, DESCENDING, elem2,
elem3, DESCENDING,...elem5

SORT = LA, DESCENDING,
AU, TI, DESCENDING

The word DESCENDING means that the sort is to be in reverse order for the immediately preceding element. Here LA and TI would sort from 9-0 and then from Z-A, but AU would sort from A-Z and then from 0-9.

Notes

Up to 5 data elements may be listed in a Tailored Sort.

Each element may have a direction specified but each direction applies only to the immediately preceding data element.

Commas are mandatory between data elements but optional between an element and its direction, e.g.: 'SORT = LA DESCENDING, AU, TI DESCENDING'.

3. Print Order Sorts:

SORT = PRINT

Citations are to be sorted on the elements implied in the PRINT OFFLINE command or those listed in an OFFSEARCH PRINTSPECS. If you use the name of a PRINT format for PRINTSPECS (STANDARD, FULL, etc.), the elements used would be taken from the PRINT format in the order that they print out for each database. If you specify 'PRT OFFLINE AR' for MEDLINE, then the sort would be on AU, TI, and AB in that order. SO would not be considered because it is not stored in the unit record as a data element but made up of 5 other elements. Additional data elements not stored in the MEDLINE record and therefore not sortable include YR (Year) and MN (MeSH Tree Number).

SORT = PRINT, DESCENDING

Citations are to be sorted on the PRINT OFFLINE command elements or the PRINTSPECS fields in the order that they print out, but in reverse direction. If you specify 'PRT OFFLINE AR' for MEDLINE, then the sort would be on AU, TI, and AB but in DESCENDING order on each. Again, since SO is a data element conglomerate made up of 5 other data elements, it is not used in the sort.

Notes

SORT = PRINT is good to use for an OFFSEARCH sort if you have responded with a PRINT format name (STANDARD, FULL, etc.) to PRINTSPECS and you are searching dissimilar files.

PRINT may be abbreviated as PRT.

If a PRINT format contains more than 5 elements, only the first 5 are used.

Direction in a Print Order Sort applies to all data elements used by the system for the sort.

HOW TO CANCEL A SORT

There are three ways to cancel a sort instruction without cancelling the offline print as long as you are still in the question-and-answer phase. You may enter a second 'SORT =' instruction that will override the first. You may enter 'SORT = NONE', or 'SORT = CANCEL'. The latter two negate a previously entered sort instruction. Not entering any sort keyword will, of course, result in your retrieval being printed in the default order of "last citation in is the first citation out."

OFFPRINT COVER SHEET

Your offline prints will have a new look with the implementation of ELHILL 3.2A. The cover sheet will have a special sort message appearing under the standard database message 'THIS SEARCH WAS PERFORMED ON THE XXXX FILE'. There are four possible variations of this sort message:

1) 'SORT = SORT FORMAT ('AUTI'), (ASCENDING) WAS SPECIFIED' for the Precoded Sort name AUTI.

2) 'SORT = (ELEMENTS/DIRECTIONS GIVEN BY USER) WAS SPECIFIED' for a Tailored Sort requested by the user. Note that the message will not say what the elements were. For this reason, NLM recommends that you include the sort information in your search title if you need to know it, e.g.: HOLISTIC HEALTH SORTED BY LA, AU, TI. Warning: Do not use 'SORT =' in your title; the computer will interpret it as another sort instruction.

3) 'SORT = PRINT ('FULL'), (ASCENDING) WAS SPECIFIED' for the Print Order format sort of PRT FU OFFLINE or FU in response to OFFSEARCH PRINTSPECS.

4) 'SORT WAS NOT REQUESTED' for no sort or a cancelled sort.

OTHER ITEMS OF INTEREST

Other tidbits about SORT that may interest you are the following:

1) All lowercase letters are converted to uppercase before sorting.

2) All punctuation is converted to spaces. A space is an actual character and files before nothing. Punctuation that begins a field is converted to a space and then the field is left-justified so that it sorts correctly. This permits foreign titles with brackets in MEDLINE to file correctly with English titles.

3) If a data element specified for a SORT is not contained in a record, then the SORT program sets the value for that missing element to be a space. That space causes all records without the data element to file before records with the data element. For example, 'SORT = AUTI' will result in all anonymous article records (i.e., those with no AU field) to file in alphabetical order by TI (Title) before the alphabetical sort by author on those records with an AU field(s). If the sort is DESCENDING, then records missing the element will file last.

4) The sort key used by the system consists of up to 100 characters of data taken from the specified data elements. If one of the data elements has multiple occurrences (e.g., multiple authors), all occurrences are considered for the sort before moving on to the next data element, or until the 100 characters of data allowed are used up. Therefore, if you specify five data elements for a sort but the first three take up the allowed 100 characters, then the last two data elements will not function in the sort.

5) If a data element stored in the unit record consists of several sub-elements, only the first subelement is used for the sort. For example, Initial Year (Y1) in CATLINE consists of two subelements - a code for type of date and the actual date. Since the format is Y1 - S:1976, a sort on Y1 would file alphabetically by the code for type of date (in this case S for single year), since it is the first subelement, and not on the actual date.

6) In databases that use filing delimiters (i.e., CATLINE and AVLINE), the sort obeys the delimiter. For example, in the title THE!HEART, the ! is a filing delimiter causing the sort to be performed on Heart, not The.

7) You cannot merge a Tailored Sort with a Precoded one. In other words, you cannot say: 'SORT = AUTI, LA D'. You must say: 'SORT = AU, TI, LA, D'. (Reminder: The D refers to LA only in this example.)

8) The implicit last data element in any sort is the date of entry into the system or "last in, first out" rule. This is an "extra" sort and is not counted as one of the allowable five data elements. For example, SORT = LA would result in many citations having the same sort key, e.g., ENG. All citations with ENG as the language would then be sorted by the "last in, first out" rule.

9) If an OFFSEARCH retrieves more records in a particular database than will be printed (i.e., more than 500 or more than the number you specify for 'LIMIT ='), no sorting will be performed for that database only. For example, suppose you specify 'LIMIT = 200' for an OFFSEARCH against TOX74 and also specify 'SORT = AUTI'. If the postings retrieved for TOX74 are 201 (or more), ELHILL 3.2A will not sort the citations, but it will print the first 200 in "last in, first out" order. However, the SORT message on the offprint will not indicate that the sort was not performed. Your only clue (besides the fact that the printout is noticeably not sorted) is the truncation message "PRINT TRUNCATED AT 500", or the LIMIT message "PRINT LIMITED BY USER TO XXX".

10) A citation can file in only one spot, e.g.: AU - Albee AJ; Jones C will sort only in the A's for Albee and not also in the J's for Jones.

11) The SORT capability supplied by ELHILL 3.2A should not be thought of as the all-encompassing sort of a publication such as Index Medicus or British National Bibliography. It could not have all the logic of a publication sort system, such as the generation of common sort versions for names like McArthur and Macarthur. However, CATLINE and AVLINE do include some sort versions stored as subelements in certain data elements like the Title (TI). If a Sort Version subelement is present in a field, then ELHILL 3.2A uses that Sort Version in its own sort. For example, the field 'TI - Abstracts, 12th International Cancer Congress' in CATLINE has a stored Sort Version so that '12th' is seen by the computer as 'twelfth' and the alphabetization will be "Abstracts t...", not "Abstracts 1..." Also, ELHILL 3.2A is a character-by-character sort, and not a decimal sort. For example, the number 11 (eleven) would file before the number 9 (nine) because the first character of eleven is a 1 and that will file before a 9.

12) Although it is not required, you may wish to print the data elements on which you are sorting so that the alphabetical order of the printout is easier to see at a glance.

FUTURE ANNOUNCEMENTS

NLM is pleased and proud to bring you this new capability. Watch for a broadcast and online NEWS note for the announcement of the exact date that you can

[B]in to sort your printouts at NLM, and later at SUNY. You will be able to [u]se 'EXPLAIN SORT' as an online aid for a description of sorting on ELHILL 3.2A. Manual pages will be mailed at a later date. A sample of SORT and the list of Precoded Sort names follow this article.

NLM will be making its new SORT capability available for the Automatic SDI Program (SDILINE, TOXLINE, AND CANCERLIT) in the near future. Information about this capability will be in a later issue of the NLM Technical Bulletin.

Your comments and suggestions on SORT are welcomed.

TABLE A

AVAILABLE PRECODED SORT NAMES

NAME	MEANING	DATABASES*
AUTI	Author/Title	All except CHEMLINE, MESH, SERLINE
CALL	Call Number	AVLINE, CATLINE, SERLINE
JNL	Journal Part	All except AVLINE, CANCERPROJ, CATLINE CHEMLINE, CLINPROT, MESH, NAME AUTHORITY
LADA	Language/Date	All except BIOETHICS, CANCERPROJ, CHEMLINE CLINPROT, HISTLINE, MESH
PERF	Performing Organization	CANCERPROJ, CLINPROT
PRTV	Print Version	MESH
PUBT	Publication Type	BIOETHICS, CANCERLIT
PUTI	Publisher/Title	SERLINE
REGN	Registry Number	CHEMLINE
SOID	Secondary Source ID	POPLINE, TOXLINE
SPLI	Special List	SERLINE
SUPP	Supporting Agency	CANCERPROJ
TIAU	Title/Author	All except CHEMLINE, MESH, SERLINE

*[B]TECS and TDB excepted

SAMPLE SEARCH ILLUSTRATING SORT

```
SS 1 /C?
USER:
(tw) holistic or wholistic or wellness

PROG:
SS (1) PSTG (133)

SS 2 /C?
USER:
1 or holistic health

PROG:
SS (2) PSTG (196)

SS 3 /C?
USER:
prt offline

PROG:
REQUESTER'S NAME, OR SAME-

USER:
dr. hill

PROG:
SEARCH TITLE, OR NONE-

USER:
sort = jnl

PROG:
SEARCH TITLE, OR NONE-

USER:
holistic health

PROG:
OK? (Y/N/C/ADDRESS)

USER:
Y

PROG:
OFF-LINE-PRINT COMPLETED.
```

PRECODED SORT EXAMPLE

◀ Search title prompt

◀ SORT keyword using name for a Journal Part sort from Table A

◀ Search title prompt again

Note: Precoded Sort name will appear on cover sheet

TAILORED SORT EXAMPLE

```
SS 3 /C?
USER:
prt offline include la

PROG:
REQUESTER'S NAME, OR SAME-

USER:
dr. roth

PROG:
SEARCH TITLE, OR NONE-

USER:
sort = la, au, ti

PROG:
SEARCH TITLE, OR NONE-

USER:
holistic health with sort of la, au, ti

PROG:
OK? (Y/N/C/ADDRESS)

USER:
Y

PROG:
OFF-LINE-PRINT COMPLETED.
```

◀ Language included in printout

◀ Search title prompt

◀ SORT keyword using language, author, and title fields – all in ascending order

◀ Search title prompt again

◀ Tailored Sort elements will not appear on cover sheet; you may wish to include in search title

*****

Other categories of shortened headings are described in past issues of the NLM Technical Bulletin (March 1978, No. 107, page 4; April 1981, No. 144, page 6).

*****

MONTHLY HINT: HOW TO SORT ON JOURNAL TITLES

Lou S. Knecht, MEDLARS Management Section, NLM

The new SORT capability can alphabetize offprints by journal title in those databases that cite journal literature. There are two basic ways to request a journal title sort:

1. use the Precoded Sort name JNL, which will always include the journal title as the first item to be sorted;

2. use a Tailored Sort on the data element that includes the journal title information (this will vary among the databases - TA vs. TJ vs. SO).

Precoded Journal Sort

The format for using the Precoded Sort name JNL is shown in the following example:

```
PROG:
SEARCH TITLE, OR NONE-
USER:
SORT = JNL
```

The chart below summarizes how the SORT program will interpret the 'SORT = JNL' instruction in the named databases:

DATABASE	MEANING OF JNL
BIOETHICS	SO A, MI A, IM A
CANCERLIT	TA A, YR A, TI A*
EPILEPSY	SO A, YR D
HEALTH	TA A, DP D, VI D, IP D, PG A
HISTLINE	TA A, VI A, TI A
MEDLINE, MED77, MED75, MED72, MED69, MED66	TA A, DP D, VI D, IP D, PG A

*Currently being evaluated. Note that this is the only database using a separate data element for the date where the direction is ascending rather than descending.

DATABASE	MEANING OF JNL
POPLINE	TJ A, MI A, DP D, IM A, VI D
SDILINE	TA A, DP D, VI D, IP D, PG A
SERLINE	TA A
TOXLINE	SO A
TOX74	
TOX65	

A = Ascending direction (A-Z, 0-9)
D = Descending direction (9-0, Z-A)

The JNL sort format name:

1. is known across appropriate databases regardless of (a) the data elements that actually contain the journal/source information, and (b) the publication types found in a database; and

2. is recommended for OFFSEARCHes that will be searching dissimilar files.

Tailored Journal Sort

The format for using a Tailored Sort for journal titles in MEDLINE is shown below:

```
PROG:
SEARCH TITLE, OR NONE-
USER:
SORT = TA
```

Remember that you cannot say 'SORT = SO' in MEDLINE because the MEDLINE Source field is a composite field (i.e., made up of five other data elements). However, for TOXLINE, the instruction would have to be 'SORT = SO' because TOXLINE does not have a TA (Title Abbreviation) field, and its Source field is not a composite field.

A Tailored Sort for journal titles:

1. must be custom-made for each database, and may not be used across all databases indiscriminately;

2. is useful for an OFFLINE print or OFFSEARCH on similar files where a single data element sort is sufficient for your needs.

Remember that any sort is dependent on the data that is to be alphabetized. For example, the TOXLINE database, which is derived from eleven different secondary sources, does not have a standardized format for its SO (Source) field. A journal title from one subfile may be abbreviated with periods while another subfile may omit the periods, e.g.:

INITIAL

ONLINE SERVICES TRAINING

COURSE EVALUATION

The National Library of Medicine would greatly appreciate your comments, suggestions, criticisms or praise on the following:

COURSE CONTENT:

SEQUENCE OF TOPICS:

HANDS-ON EXERCISES AND FOLLOW-UP DISCUSSIONS:

HAND-OUTS, WRITTEN EXERCISES, AND OTHER INSTRUCTIONAL AIDS:

INSTRUCTORS:

ANY ADDITIONAL COMMENTS:

NAME (optional) _____

DATES OF TRAINING COURSE _____

MeSH Hands-On Exercises
Initial Training

1. Search for the INTESTINAL FISTULA in the following ways:

   1) Find the number of postings.

```
SS 1/C?
USER:
intestinal fistula
PROG:
SS (1) PSTG (248)
```

OR

```
SS 1/C?
USER:
nbr intestinal fistula
PROG:

POSTINGS
  648     INTESTINAL DISEASES (MH)
  310     INTESTINAL DISEASES, PARASITIC (MH)
  248     INTESTINAL FISTULA (MH)
 2214     INTESTINAL MUCOSA (MH)
  659     INTESTINAL NEOPLASMS (MH)
UP N OR DOWN N?
```

   2) Search with the subheading "etiology."

```
SS 1/C?
USER:
intestinal fistula/et
PROG:
SS (1) PSTG (123)
```

   3) Find the number of articles cited under this heading in Index Medicus.

```
SS 1/C?
USER:
*intestinal fistula
PROG:
SS (1) PSTG (178)
```

The asterisk (*) indicates each heading in Index Medicus under which a citation will appear. It can be used by an online searcher to indicate a primary point of an article, thereby limiting retrieval.

For both of the last two questions, an alternative method to find postings is to use the NBRDET (neighbor detailed) command. This would appear as follows:

```
SS 1/C?
USER:

nbrdet intestinal fistula
PROG:

POSTINGS    TERM
     3      *INTESTINAL DISEASES, PARASITIC/TM (MH)
    20      *INTESTINAL DISEASES, PARASITIC/VE (MH)
   248      INTESTINAL FISTULA (MH)
     1      INTESTINAL FISTULA/BL (MH)
     1      INTESTINAL FISTULA/CI (MH)
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
    29      INTESTINAL FISTULA/CO (MH)
     4      INTESTINAL FISTULA/DH (MH)
    35      INTESTINAL FISTULA/DI (MH)
     3      INTESTINAL FISTULA/DT (MH)
   123      INTESTINAL FISTULA/ET (MH)
     1      INTESTINAL FISTULA/IM (MH)
     1      INTESTINAL FISTULA/ME (MH)
     2      INTESTINAL FISTULA/MI (MH)
     7      INTESTINAL FISTULA/MO (MH)
     2      INTESTINAL FISTULA/NU (MH)
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
     1      INTESTINAL FISTULA/OC (MH)
     7      INTESTINAL FISTULA/PA (MH)
     8      INTESTINAL FISTULA/PC (MH)
     3      INTESTINAL FISTULA/PP (MH)
     1      INTESTINAL FISTULA/PS (MH)
    24      INTESTINAL FISTULA/RA (MH)
     1      INTESTINAL FISTULA/RI (MH)
    87      INTESTINAL FISTULA/SU (MH)
    35      INTESTINAL FISTULA/TH (MH)
   178      *INTESTINAL FISTULA (MH)
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
     1      *INTESTINAL FISTULA/BL (MH)
     1      *INTESTINAL FISTULA/CI (MH)
    10      *INTESTINAL FISTULA/CO (MH)
     3      *INTESTINAL FISTULA/DH (MH)
    19      *INTESTINAL FISTULA/DI (MH)
     1      *INTESTINAL FISTULA/DT (MH)
    60      *INTESTINAL FISTULA/ET (MH)
     1      *INTESTINAL FISTULA/IM (MH)
     1      *INTESTINAL FISTULA/ME (MH)
     2      *INTESTINAL FISTULA/NU (MH)
UP N OR DOWN N?

USER:
10
PROG:

POSTINGS    TERM
     3      *INTESTINAL FISTULA/PA (MH)
     3      *INTESTINAL FISTULA/PC (MH)
     1      *INTESTINAL FISTULA/PP (MH)
    11      *INTESTINAL FISTULA/RA (MH)
     1      *INTESTINAL FISTULA/RI (MH)
    30      *INTESTINAL FISTULA/SU (MH)
    23      *INTESTINAL FISTULA/TH (MH)
  1431      INTESTINAL MUCOSA (MH)
    22      INTESTINAL MUCOSA/AH (MH)
    75      INTESTINAL MUCOSA/AN (MH)
UP N OR DOWN N?

USER:
```

2. Retrieve citations on the treatment of basal cell carcinoma in the elderly.

SS 1/C?
USER:
subs apply dh,dt,rt,su,th,nu,rh
PROG:
SUBHEADINGS ACCEPTED.

SS 1/C?
USER:
exp carcinoma, basal cell
PROG:
SS (1) PSTG (247)

SS 2/C?
USER:
subs cancel
PROG:
SUBHEADINGS CANCELLED

Subheadings must be cancelled when they no longer apply to a concept.

SS 2/C?
USER:
1 and aged
PROG:
SS (2) PSTG (106)

SS 3/C?
USER:
prt ti
PROG:
(Check some titles to be certain you are retrieving pertinent citations.)

NOTE: The concept of treatment cannot be expressed by a single MeSH heading, therefore subheadings must be used. It is not necessary to use all of the subheadings listed above in all searches; use those which apply in each individual case.

3. Retrieve citations on breast neoplasms resulting from mammography.

```
SS 1/C?
USER:
breast neoplasms/et
PROG:
SS (1) PSTG (137)

SS 2/C?
USER:
exp mammography/ae
PROG:
SS (2) PSTG (38)

SS 3/C?
USER:
1 and 2
PROG:
SS (3) PSTG (17)

SS 4/C?
USER:
prt ti
```

NOTE: The relationship of the mammography causing the breast neoplasms is indicated by the use of the subheadings ADVERSE EFFECTS and ETIOLOGY. This is an example of a good use of subheadings to require a certain relationship between the disease and the diagnostic technique. Since mammography is frequently used in the diagnosis of breast neoplasms, searching without subheadings in this case would retrieve numerous citations to articles on the use of mammography in the diagnosis of breast neoplasms; these would be false drops in this search. Use of the subheading ETIOLOGY on the disease and the subheading ADVERSE EFFECTS on the test, expresses the relationship this search requires.

4. Retrieve citations on the occurrence of corneal cancer in young women.

SS 1/C?
USER:
exp corneal diseases
PROG:
SS (1) PSTG (808)

There is no MeSH heading corneal neoplasms, therefore you must coordinate as the indexer did.*

SS 2/C?
USER:
exp C4.588.364
PROG:
SS (2) PSTG (657)

One of two tree numbers for EYE NEOPLASMS. Direct use of the number avoids a Multi-Meaning message.

SS 3/C?
USER:
1 and 2
PROG:
SS (3) PSTG (21)

EYE NEOPLASMS exists in two tree structures. The same terms are indented underneath EYE NEOPLASMS in both, therefore it does not matter which tree number is exploded.

SS 4/C?
USER:
3 and female and human
PROG:
TIME OVFLW: CONT? (Y/N)

USER:
Y

(Searcher may receive more than one time overflow; continue answering "yes.")

PROG:
SS (4) PSTG (9)

SS 5/C?
USER:
prt ti

NOTE: The word "young" is not precise. The searcher would need to get a specific age group or age range from the patron. Also, remember that searching for a specific age might eliminate all retrieval. Perhaps the patron would be satisfied with this search. The subheading OCCURRENCE may be used, but may eliminate all retrieval because this is generally used to express a statistical concept within an article.

* If a specific neoplasm term is not available, e.g. CORNEAL NEOPLASMS is not a MeSH heading, the coordination here is between the disease term for the site and the most specific neoplasm term. If there were no term CORNEAL DISEASES, the searcher and indexer would have to use the site name, in this case CORNEA, and coordinate with the neoplasm term, EYE NEOPLASMS. This procedure is followed for all cancer terms for which there is no pre-coordinated MeSH heading.

5. Retrieve citations on the availability of radiologists and pharmacists in Great Britain.

```
SS 1/C?
USER:
subs apply ma,sd,ut
PROG:
SUBHEADINGS ACCEPTED.

SS 1/C?
USER:
radiology or pharmacists
PROG:
SS (1) PSTG (51)

SS 2/C?
USER:
subs cancel
PROG:
SUBHEADINGS CANCELLED.

SS 2/C?
USER:
1 and exp great britain
PROG:
SS (2) PSTG (7)

SS 3/C?
USER:
prt ti
```

MANPOWER indicates the supply of personnel. SUPPLY AND DISTRIBUTION is used for the the availability of the services. UTILIZATION covers how much the personnel are used.

NOTE: The subheading MANPOWER is not allowed by category with PHARMACISTS; SUPPLY AND DISTRIBUTION and UTILIZATION are not allowed with RADIOLOGY. This SUBS APPLY command can be used because the subheadings are automatically applied to the appropriate headings. Remember the "," in a SUBS APPLY command implies an "ORing" of terms. If one of the subheadings is not applicable to a search term, postings will be retrieved because an "OR" will give postings even if only one of the terms, e.g. PHARMACISTS/SD, retrieves postings. Be careful when using this type of SUBS APPLY command: know which subheadings are allowable with each term to be certain of what is searched and what is retrieved.

MeSH and Related Tools
ANNOTATED MESH
Exercise Answers

1. What do the following abbreviations mean?

GEN - indicates that the heading is meant to be used for the general concept only. More specific headings exist and are preferred.

IM - indicates that the heading is usually given a * by the indexers--so it will usually appear in Index Medicus with citations indexed to the term.

NIM coord - means that heading should be used for coordination, but not for printing in Index Medicus.

65 - show that heading came into the system in 1965 as a major descriptor.

70(65) - shows that the heading came into the system in 1965 as a minor descriptor and was raised to major descriptor status in 1970.

No qualif - means that no subheadings are allowed with this descriptor.

SPEC: SPEC qualif - indicates that the heading is to be used for the concept of the specialty, the field or the practitioner and only the subheadings in the SPEC qualif list on p. LXII are allowed.

A 11 qualif - means that only the subheadings in the A 11 qualif list on p. LXII are allowed with the heading.

TN - indicates that there is a Technical Note with indexing instructions. The number of the specific Technical Note will accompany this designation.

2. When did "habitual abortion" come into the system?

listed in MeSH as an inverted heading, ABORTION, HABITUAL, has no date with it so it has been in the system as a major descriptor since the beginning.

3. Missed abortion is permitted with animals. Is eugenic abortion? Is legal abortion?

"Eugenic abortion," listed in MeSH as the inverted heading, ABORTION, EUGENIC, is a heading that may be used to index articles on animals. Although the annotation for this term does not indicate specifically, /vet permitted, this is indicated in the annotation for the term, ABORTION, INDUCED, the major descriptor to which the minor descriptor, ABORTION, EUGENIC "maps." Therefore, /veterinary, may be used in indexing to both terms and in searching both terms in the online system. (NOTE: remember terms indexed to the minor descriptor will appear in Index Medicus under the major descriptor ABORTION, INDUCED/vet. However, online, the minor descriptor, a more specific term, may be directly searched. This is true of any term that has the designation in the annotation "SEE UNDER_____.")

"Legal abortion," listed in MeSH as the inverted heading, ABORTION, LEGAL, may not be used to index articles on animals. The annotation states, "do not use.../vet."

4. How do I index "blood physiology?"

"blood physiology" is a non-MeSH term--BLOOD PHYSIOLOGY (NON MESH) available for "exploding" purposes only in searching the online system but not for indexing or searching by itself. This concept would be indexed, BLOOD/ph or specific element of the blood/ph.

5. What is a synonym for "blister?"

A synonym for "blister" is 'bulla' or 'vesication.' This is indicated by the backwards cross references in the annotation for the MeSH term, BLISTER, BLISTER, (X BULLA: X VESICATION).

6. Where is "blood picture" indexed?

"Blood picture" is probably indexed as BLOOD CELLS, or BLOOD CELL COUNT according to the annotation at the term, BLOOD.

7. May I search for an article using EXPEDITIONS/manpower?

An article should not be searched with main heading/subheading combination, EXPEDITIONS/manpower. The annotation indicates that /history is the only subheading allowed with this main heading.

8. How is "exercise" searched?

"Exercise" is searched in Index Medicus using EXERTION. The "see reference" or entry term EXERCISE, PHYSICAL refers you to the term used in Index Medicus. For searching online you may use EXERTION or the entry term, EXERCISE, PHYSICAL (but since EXERTION is shorter, it makes more sense to use this). Either term retrieves the same citations online. The annotation for EXERTION should be checked to determine allowable subheadings, date, etc., however.

9. May I search SNOW/adverse effects for frostbite from walking in the snow?

One may not search for SNOW/adverse effects. The annotation for SNOW indicates "no qualif," meaning no subheadings are allowed with SNOW.

10. When did WATER MOVEMENTS come into the system?

The heading, WATER MOVEMENTS, came into the system in 1972 as a minor descriptor, and was changed to a major descriptor in 1974. This is indicated in the heading's annotation by the date designation 74(72).

11. Where is "chemical water pollution" searched?

The concept "chemical water pollution" is searched as the inverted term, WATER POLLUTION, CHEMICAL (you might also want to consider WATER POLLUTANTS, CHEMICAL.)

12. May a cataloger catalog a book entitled "Chemical Water Pollution in the United States" under WATER POLLUTION, CHEMICAL/UNITED STATES?

A book entitled "Chemical Water Pollution in the United States" may be cataloged under WATER POLLUTION, CHEMICAL/U.S. Cataloging subheadings allowed are indicated in the annotation.

13. Where was "water-electrolyte imbalance" indexed before 1976?

The annotation indicates that before 1976 WATER-ELECTROLYTE IMBALANCE was a Non-MeSH term. Therefore, it could not be used as a term by itself for indexing, searching Index Medicus, or searching online (it could be "exploded" in an online search only, however).

14. Is WATER/poisoning permitted?

Use in indexing or searching of the main heading/subheading combination, WATER/poisoning, is not permitted. In the annotation for the term, WATER, (about half way through), it says "/pois & /tox = WATER INTOXICATION." This is the term that should be used to index and search this concept.

15. How do I search micro-organisms in water?

The concept of "micro-organisms in water" is searched using the term, WATER MICROBIOLOGY. The annotation under that term advises that this term be coordinated with the term for the specific microorganism.

16. An article on calcium absorption would be indexed under CALCIUM and ABSORPTION. Is CALCIUM printed in Index Medicus? Is ABSORPTION printed in Index Medicus?

Citations indexed to the heading, CALCIUM, a major descriptor, may be printed in Index Medicus.

Citations indexed to the heading, ABSORPTION, a major descriptor, would not print in Index Medicus under that term. The annotation indicates "almost never IM;" therefore an indexer would rarely asterisk (*) the term.

17. Why is BIOMETRY wrong for articles on a comparison of the size of men's and women's hands?

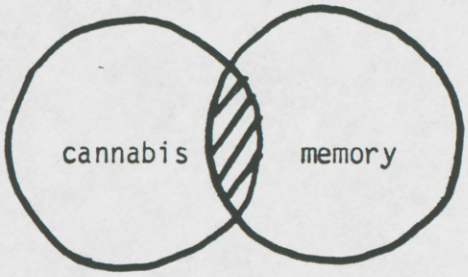
BIOMETRY is the wrong term for indexing and searching for articles on a comparison of the size of men's and women's hands because the annotation says "for human use probably ANTHROPOMETRY." Also according to TN 10--'on the basis of the Greek source meaning man,' restrict ANTHROPOMETRY to humans. If you need a term for the measurement of animals, BIOMETRY is the better term.

ONLINE BOOLEAN LOGIC SEARCHING

INITIAL CLASS

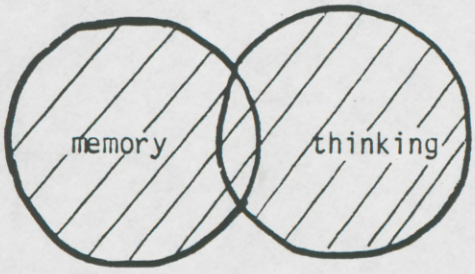
1. The effects of cannabis on memory.

SS 1/C?
USER:
cannabis AND memory

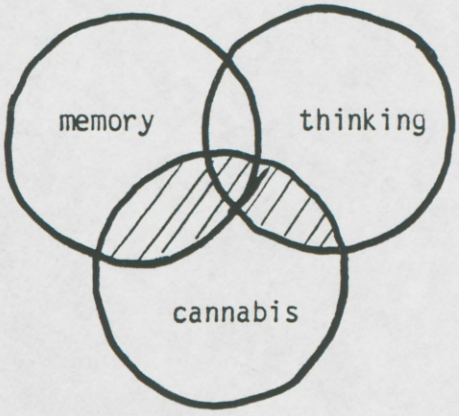


2. The effects of cannabis on memory or thinking.

SS 1/C?
USER:
memory OR thinking

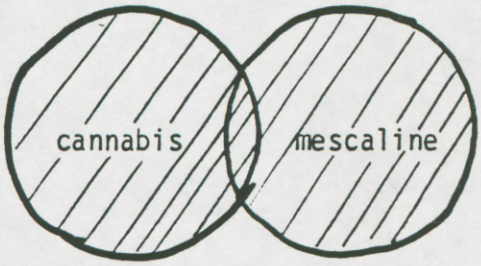


SS 2/C?
USER:
1 AND cannabis

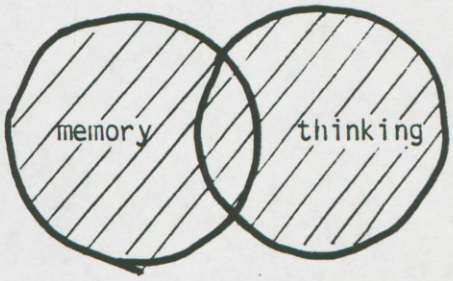


3. The effects of cannabis or mescaline on memory or on thinking.

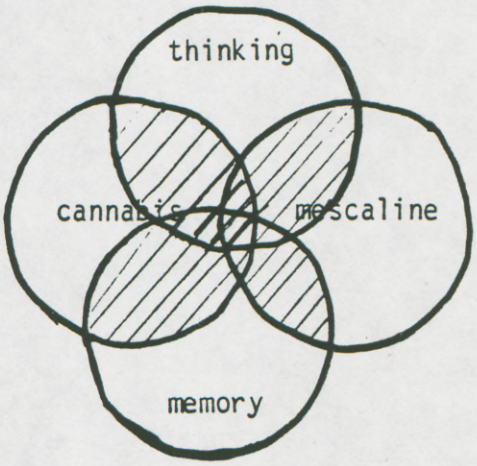
SS 1/C?
USER:
cannabis OR mescaline



SS 2/C?
USER:
memory OR thinking

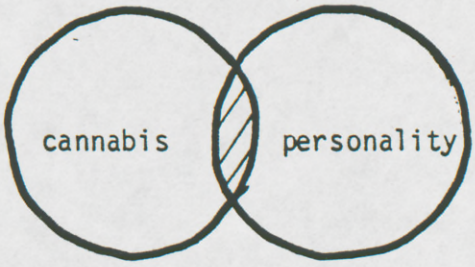


SS 3/C?
USER:
1 AND 2

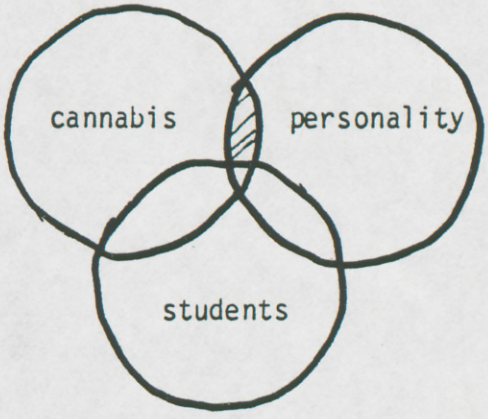


4. Any effects of cannabis on personality but exclude studies involving students.

SS 1/C?
USER:
cannabis AND personality

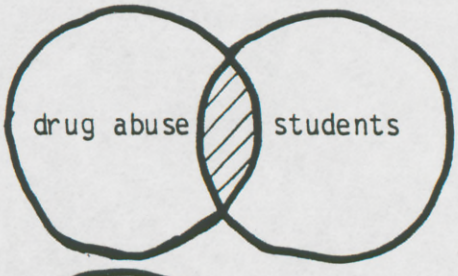


SS 2/C?
USER:
1 AND NOT students

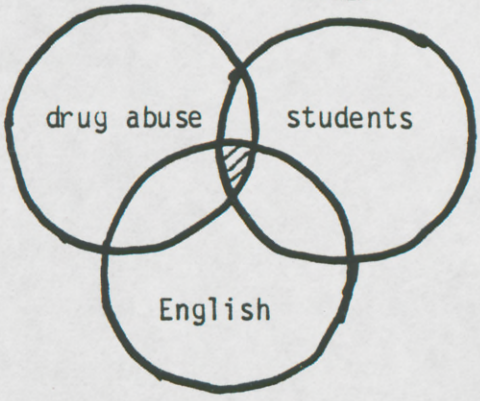


5. English language articles on drug abuse among students.

SS 1/C?
USER:
drug abuse AND students

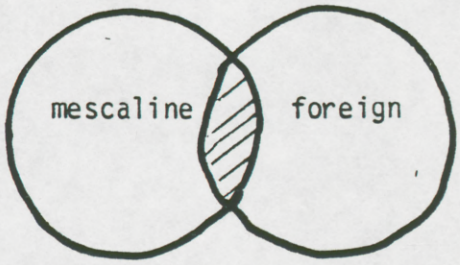


SS 2/C?
USER:
1 AND eng (la)



6. All articles on mescaline but since I've read all the English language journals, just retrieve the foreign literature.

SS 1/C?
USER:
mescaline AND for (la)



CHEMICAL ABSTRACT SERVICE (CAS)
REGISTRY NUMBER (RN)

UNIQUE NUMBER OF UP TO 9 DIGITS

ASSIGNED BY CAS

SEARCHED AND DISPLAYED IN HYPHENATED FORMAT

LEADING ZEROS DROPPED

RN FIELD *FOR SACCHARIN*:

RN — 81–07–2

OTHER REGISTRY NUMBER (ON) EXAMPLES

ON — 7085-69-0 (CAS)

ON — 7653-10-1 (CAS)

ON — 7085-69-0 (TOXBACK65)

7085-69-0 PRESENT IN NLM DATABASES

7653-10-1 NOT PRESENT IN NLM DATABASES

DOT-DISCONNECT CONVENTION

FOR SALTS AND MIXTURES

INDIVIDUAL FORMULAS SEPARATED BY A DOT

FORMULA WITH HIGHEST CARBON COUNT FIRST

MF FIELD ***FOR SODIUM SACCHARIN:***

MF — C7–H5–N–O3–S.NA

FORMULA FRAGMENT EXAMPLE

FOR SACCHARIN

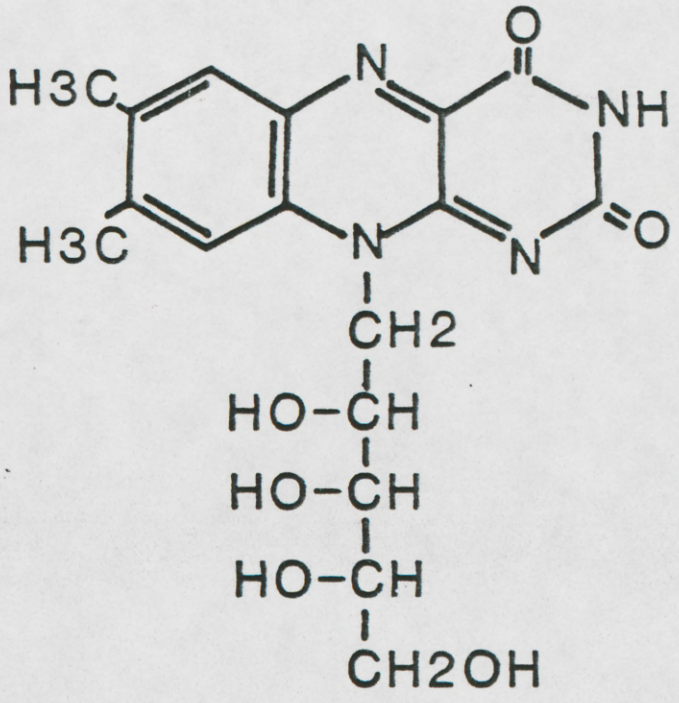
(MF)	C7 – H5 – N – O3 – S					
(FF)	C7		N1	O3	S1	(SPECIFIC)
			N	O	S	(GENERIC)

FOR MULTIPLE RING SYSTEMS:

CL GIVEN IN ORDER OF RING SIZE

THEN IN ALPHABETICAL ORDER

SEPARATED BY PERIODS



CL NCNC3 . NC2NC2

SEARCH STRATEGY

DEVELOP THE CHEMICAL CONCEPT:

1. Use CHEMLINE to obtain the Registry Number, synonyms and locators.

2. NBR the name (enter the name as is with multiple terms, hyphens, etc.)

3. If the name is present as SY or N1, search CHEMLINE with the appropriate qualifier.

4. If you can't locate the chemical, or the name has more than 39 characters use the name fragment (NF) field. Connect each name fragment with AND. Always remember to post qualify single numbers with (NF) or it may refer to a search statement.

5. Obtain the posting for the chemical. Print detail (DL) or full (FU). Check the ON field to determine if any of these registry numbers should also be used. Pick out several common synonyms (short words, easy to type names, name without numbers attached, possible names that authors might use). If an exhaustive search is required all the synonyms may be used as search terms.

DEVELOP THE BIOLOGICAL CONCEPT

1. Identify terms that express the biological concept using MeSH, textwords in abstracts and other known biological synonyms. Continue to add terms by scanning the retrieved citations for important terms.

   For example some terms for developing tissues would be: embryogenesis, fetus, fetal, development, cell differentiation, angiogenesis, neurogenesis....

2. TOXLINE does not have checktags (except the portion from MEDLINE) for the easy retrieval of human or specific animal terms. A hedge must be developed if these terms are routinely needed.

3. To determine how to search for the biological concept, NBR some of the terms selected to determine if truncation is needed. If a term has several suffixes (ex: carcinogen...) then truncation would be used.

4. Use of words that are general terms in the file such as adverse effects, poisoning, toxicity, & mammals will retrieve many postings and may give a STORE POSTINGS OVERFLOW.

SEARCHING CHEMICAL/BIOLOGICAL CONCEPTS

1. Search for the chemical concept using the information obtained in CHEMLINE. Always use some synonyms OR'd with registry numbers because the TOXLINE file is not completely indexed with RN's.

2. Search for the biological concept using the TW qualifier.

3. Combine the chemical & biological concept together. The search can be narrowed further by scanning several citations for additional biological concepts.

4. When there is a small number of citations (not over 400) STRINGSEARCH can be used to narrow the retrieval to more specific references. STRINGSEARCH both the title and the abstract field. Example:

   TS :VINYL#CHLORIDE: OR :VINYL#CHLORIDE: (TI)

STRINGSEARCH/SENTENCESEARCH
EXERCISE

1. Using retrieval from a text word search on Paget's disease, stringsearch for articles in English or German.

Create a stringsearch of the Language (LA) data element for the abbreviations ENG and GER-

```
SS 1 /C?
USER:
(TW) PAGET
PROG:
SS (1) PSTG (177)

SS 2 /C?
USER:
TS (LA) ENG OR GER
```

Note that in this case, the colons may be placed next to the first and last letters (:ENG:), one space away (: ENG :), or may be omitted entirely; the retrieval in all three will be the same. This is because each occurrence of the language element exist only as a three letter abbreviation. Also, remember that stringsearching directly searchable data elements such as language is only efficient if the retrieval set being stringsearched is less than 200.

2. Using the original retrieval on Paget's disease, stringsearch for articles that were published in 1981.

Three data elements contain year of publication information: the Source (SO), Year (YR), and the Date of Publication (DP) elements. However, because the Source and Year are generated from the citation (i.e., they are not "real" items of data attached to the citation), neither can be stringsearched. That leaves the Date of Publication. Note that the search statement number must be specified-

```
TS 1 (DP) :1981:          (remember not to add SS)
```

3. Articles on PL 93-641.

Begin by performing a preliminary Text Word search -

(TW) PL OR PUBLIC AND LAW

Use the NEIGHBOR command to decide whether or not to include PL93 and PL93641 as Text Words. Next stringsearch for the number, bearing in mind that the form could be 93641, 93-641, or 93 641-

TS (TI) :93641 : OR :93#641 : OR :93641 : (AB) OR :93#641 : (AB)

The colon is placed next to the 9 to allow for PL93...; the colon is placed one space away from the 1 to avoid numbers such as 6415.

4. Hepatic infusion. Limit to human and females.

The preliminary Text Word search (TW) HEPATIC AND INFUSION retrieves about 100 citations. Upon browsing, the searcher finds such phrases as "hepatic arterial infusion," "infusion hepatic angiography," and "hepatic arterial redistribution for intraarterial infusion." Noting that the words are not always immediately adjacent in a sentence, and wishing to retrieve citations in which the important words are in the same sentence but not necessarily adjacent, create a sentencesearch instruction.

```
SS 1 /C?
USER:
(tw)hepatic annd infusion
PROG:
SS (1) PSTG (189)

SS 2 /C?
USER:
1 and human and female
PROG:
TIME OVFLW: CONT? (Y/N)
USER:                        (may be more than one time overflow)
y
PROG:
SS (2) PSTG (71)

SS 3 /C?
USER:
sens (ti) :hepatic:infusion: or :infusion:hepatic: or
PROG:
CNT 3
USER:
:hepatic:infusion: (ab) or :infusion:hepatic: (ab)
PROG:
(56) SCHD (19) QUAL; CONT? (Y/N)
USER:
y
PROG:
SS (3) PSTG (26)
```

SUGGESTED SEARCH FORMULATIONS FOR CHEMLINE - TOXLINE PRACTICE QUESTIONS

1. In CHEMLINE, find the record for the pesticide DIELDRIN.
Print the standard and full formats.

RN 60-57-1 ON 3039-00-7

RN FILE LOCATORS: TOXLINE, TOXBACK74, TOXBACK65, RTECS, TDB, and MEDLINE

ON FILE LOCATOR: TOXBACK65

PURPOSE: To search CHEMLINE and print 2 formats; identify RN, ON and locator fields.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? NBR DIELDRIN

POSTINGS	TERM
1	DIELDREX (NF)
1	DIELDREX (SY)
11	DIELDRIN (NF)
1	DIELDRIN (SY)
1	DIELDRIN KETONE (SY)

SS 2/C? DIELDRIN (SY)
print standard (PRT) and print full (PRT FU) records

2. Find citations in TOXLINE by George D. Ledney.
a. Print out a standard and detailed record of Dr. Ledney's paper on "Skin wound-enhanced survival and myelocytopoiesis in mice after whole-body irradiation".

b. Note the difference in the two print formats.

PURPOSE: Do an author search given the full name; search for a specific paper of this author; compare print formats.

SEARCH STRATEGY:

FILE TOX

SS 1/C? NBR LEDNEY GD

POSTINGS	TERM
1	LEDNEV PI (AU)
1	LEDNEY (TW)
10	LEDNEY GD (AU)
1	LEDNICE (TW)
6	LEDNICER D (AU)

SS 1/C? (AU) LEDNEY GD
SS 2/C? (TW) MYELOCYTOPOIESIS AND MICE AND 1

PRINT 2 RECORD FORMATS: PRT, PRT DL

3. Using the data from the chemical record for the anti-inflamatory drug NAPROSYN, compare the numbers of retrieved citations when you use only the name given(naprosyn), the CAS Registry Number, and other synonyms.

RN 22204-53-1

In TOXLINE:

citations using NAPROSYN_____

citations using RN_____

citations using other synonyms_____

OR together these 3 search statements for total_____

PURPOSE: To understand the need for searching with BOTH the RN and synonyms.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? NBR NAPROSYN

```
POSTINGS   TERM
    1      NAPROPION (NF)
    1      NAPROPION (SY)
    1      NAPROSYN (NF)
    1      NAPROSYN (SY)
    7      NAPROXEN (NF)
 UP N OR DOWN N?
USER:
FIND NAPROSYN (SY)
SS 2/C? PRT FU                obtain the RN and SY

                RN - 22204-53-1
                      .
                      .
                      .
                SY - EQUIPROXEN
                SY - NAPROSYN
                SY - NAPROXEN
                SY - D-NAPROXEN
                      .
                      .
                      .
```

FILE TOX

```
SS 1/C? NAPROSYN
SS 2/C? 22204-53-1
SS 3/C? EQUIPROXEN OR NAPROXEN
SS 4/C? 1 OR 2 OR 3
```

4. A requestor has seen the following name in a journal:

5-(3,3-DIMETHYL-1-TRIAZENYL)-1H-IMIDAZOLE-4-CARBOXAMIDE

Find its CHEMLINE record. RN 4342-03-4

PURPOSE: To be able to find chemicals using name fragments (NF).

SEARCH STRATEGY:

FILE CHEM

SS 1/C? (NF) 5 (NF) AND 3,3 AND DIMETHYL AND 1 (NF) AND TRIAZENYL AND 1H AND IMIDAZOLE AND 4 (NF) AND CARBOXAMIDE

PRINT FULL RECORDS (PRT FU); There are 9 answers, the 9th record is the correct answer.

5. Find information in TOXLINE of the effects of mercury on the central nervous system in children.

RN 7439-97-6

SY Mercury; Quicksilver

PURPOSE: To use CHEMLINE for RN, SY and LO; to search TOXLINE for chemical/biological concepts.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? NBR MERCURY

Find Mercury as N1; print full record

FILE TOX

SS 1/C? 7439-97-6
SS 2/C? (TW) MERCURY OR QUICKSILVER
SS 3/C? 1 OR 2
SS 4/C? (TW) CENTRAL AND NERVOUS AND SYSTEM
SS 5/C? (TW) ALL CHILD:
SS 6/C? 4 AND 5
SS 7/C? 3 AND 6

Note: By using these textword for central nervous system you will retrieve less citations than by the next strategy.

SS 1/C? 7439-97-6
SS 2/C? (TW) MERCURY OR QUICKSILVER
SS 3/C? 1 OR 2
SS 4/C? (TW) ALL NERV: OR CNS OR ALL SPINAL: OR BRAIN
SS 5/C? (TW) ALL CHILD:
SS 6/C? 4 AND 5
SS 7/C? 3 AND 6

6. There is a government report in TOXLINE entitled "Health Effects of Synfuels Technology: A Review". You wish to order this document from NTIS.

ORDER NUMBER NTIS/ANL/ES-111

PRICE PC A04/MF A01

SUBFILE TD3 - TOXICOLOGY DOCUMENT & DATA DEPOSITORY

PURPOSE: To identify a specific citation by Text Word search and print out the proper data elements for ordering information from NTIS.

SEARCH STRATEGY:

FILE TOX

SS 1/C? (TW) HEALTH AND SYNFUELS AND TECHNOLOGY AND REVIEW
SS 2/C? PRT SI, TI, OD, PR

7. A widely used antineoplastic agent has the following molecular formula:

C6 H12 N3 P S

Find the CHEMLINE record. RN 699-37-6; 52-24-4

PURPOSE: Search CHEMLINE with hyphenated molecular formula.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? (MF) C6-H12-N3-P-S
SS 2/C? PRT FU

Note: There are multiple postings since the molecular formula field is not unique. The systematic names, synonyms and locators can be used to determine the proper answer.

8. Find citations in TOXLINE about the irritation effects of ethyl acetate.

RN 141-78-6

SYNONYMS USED ethyl acetate; acetiden; acetoxyethane

PURPOSE: To search with a multi term phrase and eliminate false drops.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? NBR ETHYL ACETATE
FIND ETHYL ACETATE (SY)

FILE TOX

SS 1/C? 141-78-6
SS 2/C? (TW) ACETIDEN OR ACETOXYETHANE
SS 3/C? (TW) ETHYL AND ACETATE

Note: False drops can occur when searching multi term chemical names as illustrated in SS 3/C. To eliminate these false drops one can STRINGSEARCH:

TS (TI) :ETHYL#ACETATE: OR :ETHYL#ACETATE: (AB)

SS 4/C? 1 OR 2 OR 3
SS 5/C? (TW) ALL IRRITA:
SS 6/C? 4 AND 5

9. In the TOXBACK74 file, how many citations are there on TIMOLOL?

a. Is there any information on the use of Timolol in cases of angina AND hypertension? What is the Journal Source?

b. Is there any newer publications on Timolol by the authors you found in response to question 10a?

c. Is there any newer references in TOXLINE on the use of Timolol for angina OR hypertension?

PURPOSE: To search the TOXBACK74 and TOXLINE for a chemical/ biological concept.

SEARCH STRATEGY:

FILE CHEM

SS 1/C? TIMOLOL (SY)
SS 2/C? PRT FU

FILE TOX74

SS 1/C? 26839-75-8 OR TIMOLOL
SS 2/C? 1 AND ANGINA AND HYPERTENSION
SS 3/C? PRT
Note: 2 citations retrieved; they are duplicate records but the TOXBIB record has no abstract.

FILE TOX

SS 1/C? 26839-75-8 OR TIMOLOL
SS 2/C? 1 AND ANGINA OR 1 AND HYPERTENSION
SS 3/C? 1 AND BROGDEN RN:

Note: A SAVE search could be used here between TOX74 & TOX

CLINPROT INDEX TERMS

APRIL 1982

The frequencies appearing on the attached list are included to assist you in formulating searches before going online.

All terms preceded by an asterisk (*) are broad category terms, which are not used to index records. The frequency number following these terms represents the total number of projects indexed to specific terms indexed under the broad category. You will receive a No Postings message should you enter an asterisk term in CLINPROT.

To retrieve protocols using Subject Captions, (SC), the most specific terms must be used. When <u>all</u> protocols within a broad category are desired, one must enter the Hierarchical Subject Code in truncated form.

*- broader

CLINPROT INDEX TERMS APRIL 1982

CODES	CAPTIONS	FREQUENCY
0780.	*Clinical Protocols	3088
0780.05	*Cancer Types	1114
0780.05.005	*Leukemia	410
0780.05.005.10	Acute Lymphocytic Leukemia	159
0780.05.005.20	Acute Nonlymphocytic Leukemia	173
0780.05.005.23	Acute Undifferent. Leukemia	45
0780.05.005.25	Acute Leukemia-unspecified	69
0780.05.005.30	Chron Lymphocytic Leukemia	27
0780.05.005.40	Chron Nonlymphocytic Leukemia	49
0780.05.005.50	Chron Leukemia-Blast Crisis	31
0780.05.005.70	Extramedullary Leukemia	33
0780.05.005.97	Leukemia-unspecified	20
0780.05.015	*Lymphoma	269
0780.05.015.10	Hodgkin's Disease	120
0780.05.015.20	*NonHodgkin's Lymphoma	178
0780.05.015.20.010	NHL-diffuse	73
0780.05.015.20.020	NHL-nodular	52
0780.05.015.20.030	NHL-unspecified	84
0780.05.015.20.040	Lymphosarcoma	20
0780.05.015.20.050	Reticulum Cell Sarcoma	25
0780.05.015.30	Burkitt's Disease	5
0780.05.015.40	Mycosis Fungoides	12
0780.05.015.90	Lymphoma-other	2
0780.05.015.95	Lymphoma-unspecified	36
0780.05.030	Myeloma	71
0780.05.040	Polycythemia Vera	10
0780.05.050	Hematologic Cancer-unspecified	19
0780.05.052	Germ Cell Tumors	29
0780.05.055	*Pediatric Solid Tumors	144
0780.05.055.10	Wilms' Embryoma	21
0780.05.055.20	Neuroblastoma	55
0780.05.055.30	Retinoblastoma	7
0780.05.055.40	Rhabdomyosarcoma	31
0780.05.055.50	Ewing's Sarcoma	36
0780.05.055.60	Histiocytosis	8
0780.05.055.95	Ped. Solid Tumors-other	9
0780.05.055.97	Ped. Solid Tumors-unspecified	32
0780.05.065	*Sarcoma	185
0780.05.065.10	Osteogenic Sarcoma	116
0780.05.065.20	Soft Tissue Sarcoma	138
0780.05.070	Carcinoid	6
0780.05.080	Solid Tumors-unspecified	78
0780.05.090	Cancer-unspecified	81
0780.07	*Disease Parameters	1789
0780.07.010	Metastatic Disease	1150
0780.07.020	Nonmetastatic Disease	236
0780.07.030	Resectable Tumor	231
0780.07.040	Nonresectable Tumor	485
0780.07.050	Recurrent Disease	469
0780.07.995	Disease Parameters-other	3
0780.10	*Body Sites	2149
0780.10.010	Breast	422
0780.10.020	*Central Nervous System	121
0780.10.020.10	Brain	118

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CODES	CAPTIONS	FREQUENCY
0780.10.020.95	CNS-other	12
0780.10.030	*Endocrine System	19
0780.10.030.10	Adrenal	2
0780.10.030.20	Endocrine Pancreas	8
0780.10.030.30	Thyroid	9
0780.10.040	*Gastrointestinal System	439
0780.10.040.10	Esophagus	57
0780.10.040.20	Stomach	110
0780.10.040.30	Pancreas	91
0780.10.040.40	Liver/Gall Bladder	59
0780.10.040.50	Colorectal	235
0780.10.040.60	Small Intestine	2
0780.10.040.97	Gastrointestinal-unspecified	31
0780.10.050	*Genitourinary System	282
0780.10.050.10	Bladder	93
0780.10.050.20	Kidney	75
0780.10.050.30	Prostate	79
0780.10.050.40	Testis	75
0780.10.050.95	Genitourinary-other	8
0780.10.050.97	Genitourinary-unspecified	13
0780.10.060	*Gynecologic System	257
0780.10.060.10	Cervix	79
0780.10.060.20	Ovary	145
0780.10.060.30	Uterus	41
0780.10.060.40	Trophoblast	2
0780.10.060.50	Vagina	4
0780.10.060.60	Vulva	7
0780.10.060.97	Gynecologic-unspecified	16
0780.10.070	Head & Neck	187
0780.10.075	Mesothelioma	11
0780.10.080	*Lung	444
0780.10.080.10	Lung-Small Cell (Oat Cell)	162
0780.10.080.20	Lung-Adenocarcinoma	171
0780.10.080.30	Lung-Large Cell	152
0780.10.080.40	Lung-Squamous Cell	172
0780.10.080.97	Lung-unspecified	94
0780.10.090	*Skin Tumors	230
0780.10.090.05	Melanoma	224
0780.10.090.95	Skin Tumors-other	10
0780.10.993	Body Sites - Multiple	5
0780.15	*Therapy Modalities	3088
0780.15.010	Surgery	305
0780.15.030	*Immunotherapy	491
0780.15.030.01	Bacteria/Bacterial Substances	23
0780.15.030.05	Virus/Viral Substances	12
0780.15.030.10	Nonspecific Stimulants	425
0780.15.030.15	Antibody Therapy	3
0780.15.030.20	Tumor Cells/Cell Fractions	47
0780.15.030.30	Other Cells/Cell Fractions	15
0780.15.030.70	Autologous Bone Marrow Therapy	1
0780.15.030.75	Bone Marrow Transplant	1
0780.15.030.80	Interferon	14
0780.15.030.95	Immunotherapy-other	2
0780.15.030.97	Immunotherapy -unspecified	4

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CODES	CAPTIONS	FREQUENCY
0780.15.040	Chemotherapy	2669
0780.15.041	Hyperthermia	13
0780.15.044	Radiosensitization	48
0780.15.045	*Radiotherapy	744
0780.15.045.05	High-LET heavy ions	6
0780.15.045.10	High-LET neutrons	28
0780.15.045.15	High-LET pions	5
0780.15.045.20	Low-LET Co-60 gamma rays	450
0780.15.045.25	Low-LET Implant	31
0780.15.045.28	Low-LET electrons	31
0780.15.045.30	Low-LET photons 1-4 MeV	448
0780.15.045.35	Low-LET photons above 4 MeV	390
0780.15.045.40	Mixed High/Low LET	9
0780.15.045.45	Low-LET -unspecified	183
0780.15.045.50	Isotopic Therapy	12
0780.15.050	*Endocrine Therapy	584
0780.15.050.10	*Ablative Surgery	40
0780.15.050.10.005	Ovariectomy	20
0780.15.050.10.010	Adrenalectomy	9
0780.15.050.10.015	Hypophysectomy	6
0780.15.050.10.020	Orchiectomy	11
0780.15.050.10.995	Ablative Surgery-other	1
0780.15.050.20	*Hormonal Therapy	566
0780.15.050.20.010	Antiestrogen Therapy	81
0780.15.050.20.020	Steroid Therapy	508
0780.15.050.20.030	Adrenal Blockade	12
0780.15.050.20.040	Replacement Therapy	4
0780.15.055	Anticoagulation Therapy	2
0780.15.065	Vitamin Therapy	5
0780.15.080	*Supportive/Preventive Therapy	147
0780.15.080.10	Antibiotic Therapy	39
0780.15.080.15	Antiemetic Therapy	10
0780.15.080.20	Bone Marrow Transplantation	50
0780.15.080.30	Management of Hypercalcemia	1
0780.15.080.40	Neutropenia Attenuation-Li	9
0780.15.080.45	Nutritional Therapy	21
0780.15.080.60	Protective Environment	26
0780.15.080.70	Radioprotection	4
0780.15.080.80	Transfusion-Blood/Components	21
0780.15.080.90	Vitamin Support	14
0780.15.080.95	Supportive-other	2
0780.15.995	Therapy Modalities-other	5
0780.21	*Therapy Modality Combinations	3058
0780.21.100	*Unimodal Therapies	2393
0780.21.100.10	Mode 1 Chemotherapy	1906
0780.21.100.20	Mode 1 Endocrine Therapy	90
0780.21.100.30	Mode 1 Immunotherapy	172
0780.21.100.40	Mode 1 Radiotherapy	269
0780.21.100.50	Mode 1 Surgery	96
0780.21.100.60	Mode 1 Hyperthermia	3
0780.21.200	*Bimodal Combinations	1096
0780.21.200.01	Mode 2 Anticancer/Supportive	2
0780.21.200.05	Mode 2 Chemo/Endo	378
0780.21.200.10	Mode 2 Chemo/Imm	231

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CODES	CAPTIONS	FREQUENCY
0780.21.200.15	Mode 2 Chemo/Rad	301
0780.21.200.20	Mode 2 Chemo/Surg	92
0780.21.200.25	Mode 2 Endo/Imm	4
0780.21.200.30	Mode 2 Endo/Rad	12
0780.21.200.35	Mode 2 Endo/Surg	11
0780.21.200.40	Mode 2 Imm/Rad	26
0780.21.200.45	Mode 2 Imm/Surg	27
0780.21.200.50	Mode 2 Rad/Surg	92
0780.21.200.60	Mode 2 Chemo/Hyper	7
0780.21.200.65	Mode 2 Chemo/Antibio	2
0780.21.200.70	Mode 2 Rad/Hyper	5
0780.21.300	*Trimodal Combinations	339
0780.21.300.05	Mode 3 Chemo/Endo/Imm	43
0780.21.300.10	Mode 3 Chemo/Endo/Rad	144
0780.21.300.15	Mode 3 Chemo/Endo/Surg	15
0780.21.300.20	Mode 3 Chemo/Imm/Rad	38
0780.21.300.25	Mode 3 Chemo/Imm/Surg	17
0780.21.300.30	Mode 3 Chemo/Rad/Surg	91
0780.21.300.35	Mode 3 Endo/Imm/Rad	1
0780.21.300.45	Mode 3 Endo/Rad/Surg	4
0780.21.300.50	Mode 3 Imm/Rad/Surg	5
0780.21.400	*Tetramodal Combinations	38
0780.21.400.05	Mode 4 Chemo/Endo/Imm/Rad	12
0780.21.400.10	Mode 4 Chemo/Endo/Imm/Surg	2
0780.21.400.15	Mode 4 Chemo/Endo/Rad/Surg	12
0780.21.400.20	Mode 4 Chemo/Imm/Rad/Surg	14
0780.21.500	*Pentamodal Combinations	2
0780.21.500.05	Mode 5 Chemo/Endo/Imm/Rad/Surg	2
0780.23	*Therapy Schedules	1398
0780.23.005	Therapy Schedule	122
0780.23.010	Crossover	151
0780.23.015	Cyclic	104
0780.23.020	Intermittent	811
0780.23.025	Sequential	289
0780.23.050	Alternate	101
0780.23.070	Concurrent	134
0780.23.080	Continuous	107
0780.23.995	Therapy Schedules-other	1
0780.25	*Remission Studies	838
0780.25.010	Induction	717
0780.25.013	Intensification	47
0780.25.015	Consolidation	150
0780.25.020	Maintenance	556
0780.25.050	Reinforcement	40
0780.27	*Protocol Phases	1881
0780.27.010	Phase I	173
0780.27.015	Phase II	1064
0780.27.020	Phase III	431
0780.27.030	Adjuvant Studies	319
0780.27.035	Phase IV	10
0780.27.040	Pilot Studies	224
0780.27.050	Ancillary Studies	19
0780.27.060	Master Protocol	34
0780.29	*Populations	505

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CODES	CAPTIONS	FREQUENCY
0780.29.010	*Age of Population	476
0780.29.010.10	Adult	217
0780.29.010.20	Child	263
0780.29.010.30	Elderly	2
0780.29.015	*Sex of Population	30
0780.29.015.10	Female	19
0780.29.015.20	Male	13
0780.31	*Stratification Parameters	2083
0780.31.010	Age	214
0780.31.015	Sex	97
0780.31.020	Blood Counts	34
0780.31.022	Prognostic Risk	102
0780.31.023	Immune Status	40
0780.31.030	Cardiac Status	22
0780.31.032	Bone Marrow Status	81
0780.31.035	CNS Involvement	24
0780.31.038	Diagnosis to Entry Interval	12
0780.31.040	Disease Stage	356
0780.31.041	Duration of Response	5
0780.31.045	Estrogen Levels	11
0780.31.047	Endocrine Status	24
0780.31.048	Renal Function	17
0780.31.049	Hepatic Function	13
0780.31.050	Hepatic Involvement	32
0780.31.055	Histologic Grade	150
0780.31.057	Hormone Receptor Status	22
0780.31.060	Menopausal Status	84
0780.31.065	Morphologic Subtypes	356
0780.31.070	Nodal Status	128
0780.31.075	Participating Institutions	1391
0780.31.080	Performance Status	397
0780.31.085	Prior Chemotherapy	230
0780.31.086	Prior Endocrine Therapy	13
0780.31.087	Prior Immunotherapy	4
0780.31.090	Prior Radiotherapy	159
0780.31.093	Prior Therapy-unspecified	103
0780.31.095	Prior Surgery	145
0780.31.103	Extent of Tumor	252
0780.31.104	Residual Tumor	8
0780.31.105	Site of Primary Tumor	300
0780.31.106	Site of Metastases	156
0780.31.107	Extent of Metastases	97
0780.31.109	Drug Tolerance	13
0780.31.995	Stratification-other	238
0780.33	*Chemotherapeutic Agents	2608
0780.33.001	Chemotherapeutic Agents -one	818
0780.33.002	Chemotherapeutic Agents -two	438
0780.33.003	Chemotherapeutic Agents -three	492
0780.33.004	Chemotherapeutic Agents -four	391
0780.33.005	Chemotherapeutic Agents -five	199
0780.33.006	Chemotherapeutic Agents -six	123
0780.33.007	Chemotherapeutic Agents -seven	89
0780.33.008	Chemotherapeutic Agents -eight	28
0780.33.009	Chemotherapeutic Agents -nine	18

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CODES	CAPTIONS	FREQUENCY
0780.33.010	Chemotherapeutic Agents -ten	8
0780.33.995	Chemotherapeutic Agents -other	6
0780.35	*Route of Drug Administration	1801
0780.35.005	Arterial	46
0780.35.010	Implantation	8
0780.35.015	Intradermal	64
0780.35.020	Intrathecal	151
0780.35.023	Intramuscular	96
0780.35.030	Intravenous	1350
0780.35.033	Intravesicular	15
0780.35.035	Oral	670
0780.35.040	Subcutaneous	72
0780.35.045	Topical	8
0780.35.050	Localized Perfusion	12
0780.35.060	Percutaneous	22
0780.35.065	Intralymphatic	1
0780.35.070	Intratumoral	9
0780.35.080	Intrapleural	11
0780.35.090	Intraperitoneal	11
0780.35.995	Route-other	8
0780.40	*Drugs	2921
0780.40.002	AAFC	3
0780.40.003	Acetaminophen	1
0780.40.006	Aclacinomycin	17
0780.40.007	Acivicin	2
0780.40.010	ACTH	2
0780.40.020	Actinomycin-d	122
0780.40.023	AD-32	1
0780.40.024	ADC	18
0780.40.025	Adriamycin	874
0780.40.026	Adriamycin-DNA Complex	5
0780.40.027	L-Alanosine	6
0780.40.028	Allopurinol	23
0780.40.029	Aminoglutethimide	13
0780.40.030	Aminopterin	2
0780.40.031	AMSA	88
0780.40.032	Amphotericin-b	8
0780.40.034	Amikacin	3
0780.40.035	Aniline Mustard	1
0780.40.037	Anguidine	13
0780.40.038	Antibiotics	20
0780.40.039	APD	1
0780.40.040	Cytosine Arabinoside	213
0780.40.045	Asaley	1
0780.40.047	L-asparaginase	87
0780.40.048	Aspirin	4
0780.40.050	Azacytidine	35
0780.40.060	Azapicyl	1
0780.40.063	Azaribine	1
0780.40.065	Azaserine	1
0780.40.067	Azathioprine	3
0780.40.075	Azauridine	1
0780.40.079	Azimexon	2
0780.40.081	Azlocillin	1

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CODES	CAPTIONS	FREQUENCY
0780.40.082	AZQ	40
0780.40.085	Baker's Antifol	40
0780.40.089	Bcg-Cell Wall Skeleton	2
0780.40.090	Connaught-bcg	33
0780.40.093	Bcg-glaxo	16
0780.40.094	Bcg-R.I.V.	1
0780.40.095	Mer Bcg	67
0780.40.100	Pasteur Bcg	37
0780.40.101	Institut Armand Frappier BCG	1
0780.40.102	Bcg-Lilly	1
0780.40.103	Bcg-Trudeau	1
0780.40.105	Tice Bcg	56
0780.40.106	Bcg-unspecified	52
0780.40.107	BCNU	138
0780.40.108	Benadryl	6
0780.40.109	Bestatin	3
0780.40.110	Bleomycin	250
0780.40.111	Betadine	1
0780.40.115	5-bromodeoxyuridine	1
0780.40.117	Bruceantin	4
0780.40.120	Busulfan	11
0780.40.125	Butocin	1
0780.40.128	Calcium Gluconate	2
0780.40.130	Calusterone	4
0780.40.135	Camptothecin	2
0780.40.142	Carminomycin	5
0780.40.145	CCNU	168
0780.40.147	Cefotaxime	1
0780.40.150	Chlorambucil	45
0780.40.152	Chlorozotocin	33
0780.40.155	Chromomycin A3	6
0780.40.158	Cimetidine	1
0780.40.160	Cisclomiphene	1
0780.40.165	Cis-platinum	412
0780.40.167	Citrovorum Factor	174
0780.40.169	Coenzyme-Q	2
0780.40.170	Colchicine	2
0780.40.175	C. Parvum Burroughs	55
0780.40.180	C. Parvum Merieux	7
0780.40.181	C. Parvum unspecified	18
0780.40.185	Cortisone	3
0780.40.186	Cortisone acetate	1
0780.40.195	Cyclocytidine	10
0780.40.200	Cycloleucine	4
0780.40.205	Cyclophosphamide	890
0780.40.206	Cyclosporin A	1
0780.40.210	Cytembena	2
0780.40.213	Cyproterone Acetate	1
0780.40.214	Danazol	2
0780.40.215	Daunomycin	93
0780.40.216	Daunomycin-DNA complex	2
0780.40.219	DDMP	3
0780.40.220	Deazauridine	2
0780.40.222	Dehydroemetine	2

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CODES	CAPTIONS	FREQUENCY
0780.40.227	2-Deoxycoformycin	1
0780.40.232	Detorubicin	2
0780.40.233	Dexamethasone	46
0780.40.235	DHEA Mustard	1
0780.40.240	Dianhydrogalactitol	38
0780.40.245	Dibromodulcitol	55
0780.40.260	Dichloromethotrexate	7
0780.40.265	Diethylstilbestrol	17
0780.40.270	Diglycoaldehyde	7
0780.40.272	Dihydroxyanthracenedione	45
0780.40.275	Dimethylsulfoxide	2
0780.40.276	Dinitrofluorobenzene	1
0780.40.278	DON	1
0780.40.279	DNCB	2
0780.40.286	Dromostanolone Propionate	1
0780.40.288	Droperidol	1
0780.40.290	DTIC	155
0780.40.292	Duborimycin	1
0780.40.293	Dipyridamole	2
0780.40.298	Epodyl	1
0780.40.300	Estracyt	13
0780.40.305	Estradiol	1
0780.40.317	Estrogens, conjugated	2
0780.40.323	Ethinyl Estradiol	1
0780.40.324	Etidronate disodium	1
0780.40.328	F3tdr	2
0780.40.330	Fluorodeoxyuridine	11
0780.40.331	Florinef	2
0780.40.336	Fludrocortisone	2
0780.40.340	5-fluorouracil	493
0780.40.349	Flurbiprofen	1
0780.40.350	Fluoxymesterone	21
0780.40.351	Freund's Complete Adjuvant	5
0780.40.353	Furosemide	11
0780.40.355	Ftorafur	28
0780.40.357	Gallium Nitrate	8
0780.40.358	Gentamicin	2
0780.40.359	Glutaminase-Asparaginase	1
0780.40.360	Guanazole	3
0780.40.368	Haloperidol	1
0780.40.370	Hexamethylmelamine	92
0780.40.381	Hycanthone Mesylate	3
0780.40.385	Hydrocortisone	38
0780.40.386	Hydrocortisone Na Succinate	1
0780.40.390	Hydroxyurea	71
0780.40.391	Hyperbaric Oxygen	2
0780.40.392	Interferon	14
0780.40.393	ICRF-159	31
0780.40.394	Idoxuridine	1
0780.40.395	Indicine-N-oxide	4
0780.40.396	Imidazole Mustard	1
0780.40.399	Isoniazid	13
0780.40.400	Ifosfamide	30
0780.40.401	ICRF-187	4

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0780.40.402	Isoprinosine	1
0780.40.412	Levonantradol	2
0780.40.413	Levamisole	77
0780.40.414	Lithium Carbonate	10
0780.40.415	Maytansine	21
0780.40.417	Medroxyprogesterone Acetate	31
0780.40.418	Megestrol Acetate	10
0780.40.419	Mannitol	79
0780.40.420	Melphalan	134
0780.40.421	MBEH	1
0780.40.425	6-mercaptopurine	98
0780.40.426	6-mercaptopurine riboside	1
0780.40.435	Methotrexate	664
0780.40.440	Methyl-CCNU	122
0780.40.445	Methyl-GAG	44
0780.40.447	Methylprednisolone	7
0780.40.452	Metoclopramide	1
0780.40.453	Metronidazole	2
0780.40.454	Misonidazole	45
0780.40.455	Mithramycin	1
0780.40.456	Mezlocillin	1
0780.40.460	Mitomycin-C	126
0780.40.463	Mitotane	2
0780.40.464	Moxalactam	2
0780.40.465	Nafoxidine	1
0780.40.467	Naloxone	1
0780.40.470	Neocarzinostatin	12
0780.40.475	Nitrogen Mustard	57
0780.40.476	Nystatin	1
0780.40.477	Norethisterone Acetate	1
0780.40.479	Nutritional Support	1
0780.40.481	OK-432	5
0780.40.483	Oxymetholone	2
0780.40.484	Peptichemio	6
0780.40.485	Phenestrin	1
0780.40.486	Papaverine	2
0780.40.487	PALA	29
0780.40.488	PCNU	18
0780.40.489	Penberol	1
0780.40.491	Pepleomycin	1
0780.40.492	Pentamethylmelamine	1
0780.40.493	Phosphorus-32	9
0780.40.494	Piperacillin	2
0780.40.495	Piperazinedione	16
0780.40.496	Placebo	22
0780.40.499	Poly AU	1
0780.40.500	Poly IC	2
0780.40.501	Poly ICLC	8
0780.40.509	Prednimustine	6
0780.40.510	Prednisolone	23
0780.40.511	Prednisolone sodium succinate	3
0780.40.515	Prednisone	387
0780.40.520	Procarbazine	129
0780.40.522	Prochlorperazine	2

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CODES	CAPTIONS	FREQUENCY
0780.40.524	Promethazine	1
0780.40.525	Progesterone	2
0780.40.526	POTABA	1
0780.40.528	Psk	2
0780.40.535	Pyrazofurin	9
0780.40.537	Pyrimethamine	1
0780.40.538	Quelamycin	1
0780.40.539	Retinoids	1
0780.40.541	Rubidazone	23
0780.40.542	Rifampin	1
0780.40.543	Shionogi	1
0780.40.544	Sodium Fluoride	1
0780.40.546	Sodium Butyrate	1
0780.40.548	Spirogermanium	7
0780.40.550	Spironolactone	1
0780.40.552	Stanozolol	4
0780.40.555	Streptonigrin	7
0780.40.557	Stilphostrol	2
0780.40.560	Streptozotocin	46
0780.40.561	Sulfamethoxazole	6
0780.40.563	Tamoxifen	79
0780.40.565	Testolactone	2
0780.40.575	Testosterone Enanthate	3
0780.40.583	Tetrahydrocannabinol	6
0780.40.587	Tetrahydrouridine	1
0780.40.595	Beta Tgdr	10
0780.40.600	Thalicarpine	1
0780.40.604	Thiabendazole	1
0780.40.607	Thiazolidine carboxylic acid	1
0780.40.610	Thioguanine	91
0780.40.620	Thiotepa	22
0780.40.622	Thymidine	6
0780.40.623	Thymosin	12
0780.40.625	Ticarcillin	4
0780.40.630	Tmca	1
0780.40.631	Treosulfan	1
0780.40.632	Triiodothyronine	1
0780.40.636	Trimethoprim	6
0780.40.637	Trofosfamid	1
0780.40.638	Trioxifene mesylate	1
0780.40.639	Tobramycin	2
0780.40.640	Tubercidin	1
0780.40.642	Urokinase	1
0780.40.644	Vancomycin	2
0780.40.645	Vinblastine	147
0780.40.650	Vincristine	720
0780.40.651	DAVA	55
0780.40.653	Vitamin-D	3
0780.40.655	VM-26	68
0780.40.660	VP-16	199
0780.40.665	Yoshi-864	7
0780.40.670	Vitamin-A	5
0780.40.675	Vitamin-B	7
0780.40.680	Vitamin-C	10

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0780.40.688	Warfarin	3
0780.40.690	WR-2721	1
0780.45	*Drug Combinations	534
0780.45.001	Abcm	1
0780.45.005	Abvd	7
0780.45.006	Acfucy	1
0780.45.009	AC	3
0780.45.011	Ace	2
0780.45.012	Ace-II	1
0780.45.013	AO	1
0780.45.014	Acop	4
0780.45.015	Acopp	1
0780.45.016	ACT	1
0780.45.017	AD	3
0780.45.018	AP	2
0780.45.019	Aim	1
0780.45.020	Adconfu	3
0780.45.022	Adoap	5
0780.45.023	Alomad	2
0780.45.025	Bacon	1
0780.45.026	AV	10
0780.45.027	Baco	1
0780.45.028	Avp	2
0780.45.030	Bacop	2
0780.45.031	Bap	1
0780.45.032	Bamon	1
0780.45.033	Bavip	2
0780.45.035	Bcop	2
0780.45.040	Bcvp	2
0780.45.045	Bcvpp	4
0780.45.046	BEP	1
0780.45.055	Bhd	5
0780.45.057	Bhd-v	1
0780.45.061	CAFTH	1
0780.45.063	Cavp-16	1
0780.45.064	BVP	1
0780.45.066	Bleo-MOPP	2
0780.45.067	Bleo-CVPP	1
0780.45.068	Bmp	1
0780.45.069	Bomb	1
0780.45.070	Caf	12
0780.45.071	Ca-bop	1
0780.45.072	Cad	2
0780.45.073	Cameleon	1
0780.45.074	Cafvp	6
0780.45.075	Calasp	1
0780.45.076	Cam	2
0780.45.077	Camp	4
0780.45.079	Cap-i	3
0780.45.080	Cap	27
0780.45.081	Cap-ii	3
0780.45.083	Cavp	1
0780.45.084	Ccm	6
0780.45.085	Cat	4

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0780.45.086	Ccnu-op	1
0780.45.087	Cho	3
0780.45.090	Chop	20
0780.45.091	Chad	3
0780.45.092	Ccv	2
0780.45.093	Ccvv	1
0780.45.094	Cfp	3
0780.45.095	Chopbleo	9
0780.45.096	Ccvvp	1
0780.45.097	Ccavv	1
0780.45.098	Cep	1
0780.45.099	Chd-r	1
0780.45.101	Cia	2
0780.45.102	Chvp	1
0780.45.103	C-mopp	3
0780.45.104	Cics	1
0780.45.105	Cmf	58
0780.45.107	Cmfv	1
0780.45.108	Cmf-bleo	1
0780.45.109	Cmfp	14
0780.45.110	Coap	12
0780.45.111	Cob	1
0780.45.112	Com	1
0780.45.113	CMF(P)TH	2
0780.45.115	Comf	2
0780.45.116	CMFPT	2
0780.45.117	Comb	3
0780.45.118	Conpadri-1	2
0780.45.119	Cmfp-va	1
0780.45.120	Cop	15
0780.45.121	Coma-a	1
0780.45.122	Cmfvp	3
0780.45.125	Copa	4
0780.45.126	Copac	1
0780.45.127	CHHOP	1
0780.45.128	CHIPS	1
0780.45.130	Copb	2
0780.45.135	Copp	5
0780.45.136	CytaBOM	1
0780.45.140	CP	3
0780.45.144	Cropam	1
0780.45.145	Cpob	1
0780.45.146	Crop	2
0780.45.147	Cvpp	4
0780.45.148	Cva	1
0780.45.149	Cy-va-dic	4
0780.45.150	Cvm	3
0780.45.151	Cvp	6
0780.45.152	Cy-va-dact	1
0780.45.154	DVB	1
0780.45.155	Dcmp	3
0780.45.158	Dap-ii	1
0780.45.159	DAT	2
0780.45.160	Dccmp	1

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0780.45.161	DAVTH	1
0780.45.162	DAVTHML	1
0780.45.163	Dv	1
0780.45.164	Dvlp	1
0780.45.165	Dzapo	1
0780.45.166	Ebap	1
0780.45.167	Echo	3
0780.45.168	DMFP	1
0780.45.169	Facp	4
0780.45.170	Fac	21
0780.45.171	Fac-bcg	2
0780.45.172	Fam	16
0780.45.173	Fame	4
0780.45.174	Fap	4
0780.45.177	Fime	1
0780.45.180	Fum	2
0780.45.181	Furam	1
0780.45.182	FOAM	2
0780.45.184	Hoap	3
0780.45.186	L-am	1
0780.45.187	Lapoca	2
0780.45.188	Lvvp	1
0780.45.191	Macc	7
0780.45.192	MIME	1
0780.45.193	MF	1
0780.45.194	Mcbp	1
0780.45.196	M-bacod	1
0780.45.197	Mopp	35
0780.45.198	Mop	1
0780.45.200	Nac	1
0780.45.201	Mvpp	1
0780.45.203	MAD	1
0780.45.204	Mait	2
0780.45.205	Oap	9
0780.45.206	Mifa	1
0780.45.207	Mof	5
0780.45.208	Omad	1
0780.45.209	Lmf	2
0780.45.210	Opal	2
0780.45.211	Patco	1
0780.45.212	Pep	1
0780.45.213	PF	1
0780.45.214	Pcv	1
0780.45.215	PAF	1
0780.45.216	Pip	1
0780.45.218	Poca	3
0780.45.219	Pocc	2
0780.45.220	Pomp	14
0780.45.221	Roap	6
0780.45.222	Rubidic	1
0780.45.224	Smf	4
0780.45.225	Tad	4
0780.45.227	T-coap	1
0780.45.228	T-mop	1

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0780.45.229	TA	1
0780.45.230	Vab	1
0780.45.232	Vab-ii	1
0780.45.235	Vab-iii	1
0780.45.236	Vab-v	2
0780.45.240	Vac	18
0780.45.244	Vadrc	6
0780.45.245	Vacar	1
0780.45.246	Vap	6
0780.45.248	Vafac	1
0780.45.249	Vath	2
0780.45.250	Vbap	5
0780.45.251	Vbp	6
0780.45.253	VAPE	1
0780.45.254	Vam	4
0780.45.257	Vav	1
0780.45.258	Vbmcp	1
0780.45.259	Vcap-i	1
0780.45.260	Vcap	5
0780.45.261	Vcf	1
0780.45.262	Vcp	2
0780.45.263	Vcp-1	1
0780.45.264	Vemp	1
0780.45.267	Vlp	2
0780.45.269	Vmc	1
0780.45.270	Vmcp	6
0780.45.271	Vmv	1
0780.45.273	Vp	1
0780.45.274	Vocap	2
0780.45.275	Vpcmf	1
0780.45.276	Voca	1
0780.45.277	VMF	1
0780.45.278	VPB	1
0780.45.300	VPH	1
0780.45.404	Abcx	1
0780.45.405	AB-DIC	2
0780.45.406	Abdv	2
0780.45.408	AMDDP	1
0780.45.409	APVV	1
0780.45.411	Atop	1
0780.45.413	AVEC	1
0780.45.414	AMV	1
0780.45.415	Avm	1
0780.45.416	Avp-16	1
0780.45.418	BCD	1
0780.45.419	BVDD	1
0780.45.420	Bop	1
0780.45.421	CA	3
0780.45.422	CD	1
0780.45.423	COAd/CO-5	1
0780.45.424	COAd/COB-5P	1
0780.45.425	CAP-BOP	1
0780.45.426	CO-5P	1
0780.45.427	CF	1

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0780.45.432	CMV	1
0780.45.435	BT	1
0780.45.439	Cafp	1
0780.45.440	Cav	8
0780.45.445	Camf	1
0780.45.449	CHex-UP	1
0780.45.450	Cv	1
0780.45.451	CHEXM	2
0780.45.452	Compadri-V	1
0780.45.453	Chap-5	2
0780.45.454	Cmc	3
0780.45.455	Fa	4
0780.45.456	Fac-S	1
0780.45.457	Facvp	1
0780.45.458	Caffi	1
0780.45.459	Fam-S	1
0780.45.460	FAM-T	1
0780.45.461	FAMP	1
0780.45.462	FAT	1
0780.45.465	Fomi	1
0780.45.466	FACV	1
0780.45.540	Hac	1
0780.45.541	Had	1
0780.45.543	HC	1
0780.45.544	Ham	2
0780.45.545	Ham-ii	1
0780.45.547	Hcap	1
0780.45.549	Hop	2
0780.45.550	Hp	1
0780.45.551	Hexa-caf	1
0780.45.552	HMV1b	1
0780.45.553	Hexa-FAM	1
0780.45.554	Hexa-CAP	1
0780.45.555	Hexa-VAC	1
0780.45.562	Ihop	1
0780.45.565	IMVP-16	1
0780.45.575	LEMP	1
0780.45.640	Ma	1
0780.45.641	MiCH	1
0780.45.642	Mac	3
0780.45.643	MEPH	1
0780.45.644	Map	1
0780.45.645	MACO	1
0780.45.646	Moad	1
0780.45.647	Mefa	1
0780.45.649	Mp	1
0780.45.651	Mof-Strep	4
0780.45.654	MVP	6
0780.45.655	Mvpd-26	1
0780.45.678	Oap-BLEO	1
0780.45.680	Oca	5
0780.45.681	Odap	1
0780.45.685	Opp	1
0780.45.700	PACT	1

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0780.45.701	PACCO	1
0780.45.702	PAC	2
0780.45.703	Pace	1
0780.45.704	Pce	1
0780.45.705	PFT	1
0780.45.706	Poach	1
0780.45.707	Pomp-24	1
0780.45.708	PentaCOP	1
0780.45.710	Prime	1
0780.45.714	ProMACE	5
0780.45.716	Pvb	5
0780.45.719	PVBV	2
0780.45.740	Sam	2
0780.45.770	Scab	1
0780.45.780	TAP	1
0780.45.781	T-cap	3
0780.45.784	TsAVbTH	1
0780.45.790	VBD	1
0780.45.795	VBM-L	1
0780.45.798	VC	1
0780.45.800	Vdp	2
0780.45.803	Vfam	1
0780.50	*Cooperative Groups	2755
0780.50.003	Cancer & Leukemia Group B	133
0780.50.007	Breast Cancer Task Force	5
0780.50.008	Baltimore Cancer Res.Center	72
0780.50.009	Brain Tumor Research Center	8
0780.50.010	Brain Tumor Study Grp	6
0780.50.015	Central Oncology Grp	31
0780.50.020	Childrens Cancer Study Grp	88
0780.50.021	Children's Hosp.Oncol.Center	9
0780.50.023	Children's Hosp.Philadelphia	7
0780.50.025	Coop Breast Cancer Grp	8
0780.50.027	Comprehen. Cancer Ctr.-Florida	20
0780.50.030	Eastern Coop Oncology Group	202
0780.50.031	EORTC	100
0780.50.032	GI Tumor Study Group	25
0780.50.033	GATLA	14
0780.50.034	Georgetown Univ. Med. Oncology	25
0780.50.035	Gynecologic Oncology Grp	66
0780.50.036	Intl.Group Study of Melanoma	3
0780.50.037	Natl.Tumor Institute of Italy	11
0780.50.038	FNCLCC	4
0780.50.039	Lung Cancer Study Group	6
0780.50.040	Malignant Melanoma Grp	1
0780.50.042	Mayo Clinic	162
0780.50.047	MD Anderson	406
0780.50.051	Melanoma Clinical Coop Grp	1
0780.50.052	Midwest Child.Cancer Ctr	1
0780.50.053	Mount Sinai School of Medicine	9
0780.50.055	Head & Neck Contracts Program	1
0780.50.059	NCI-Cancer Center Program	221
0780.50.060	NCI-Clinical Oncology Program	81
0780.50.061	Natl.Bladder Cancer Project	3

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0780.50.063	No.Calif.Oncology Group	54
0780.50.064	No.Central Cancer Therapy Grp	21
0780.50.066	Natl.Cancer Inst.of Canada	22
0780.50.100	Natl.Prostatic Cancer Project	15
0780.50.101	Natl.Wilms' Tumor Study Grp	3
0780.50.102	OSITC	4
0780.50.103	Ovarian Cancer Study Group	4
0780.50.105	Polycythemia Vera Study Grp	12
0780.50.107	Pediatric Oncology Group	81
0780.50.110	Natl.Surg.Adj.Breast Project	13
0780.50.115	Radiation Therapy Oncology Grp	97
0780.50.120	Radiother.Hodgkins Disease Grp	1
0780.50.123	Swiss Grp for Clin.Cancer Res.	17
0780.50.125	Roswell Park Memorial Inst.	24
0780.50.130	Southeastern Cancer Study Grp	134
0780.50.135	Sidney Farber Cancer Inst.	42
0780.50.137	SIOP	4
0780.50.140	Sloan-Kettering	85
0780.50.143	St.Jude Children's Res.Hosp.	34
0780.50.144	St.Vincent's Hosp., New York	1
0780.50.145	Southwest Oncology Group	245
0780.50.146	Univ.Ariz.-Tucson	4
0780.50.147	Univ.Calif.-Los Angeles	11
0780.50.149	Univ.Calif.-San Diego	2
0780.50.150	UICC	154
0780.50.151	Univ.Calif.-San Francisco	1
0780.50.152	Uro-oncology Res.Grp	3
0780.50.153	Univ.Michigan	10
0780.50.154	Univ.Texas-San Antonio	1
0780.50.155	VA Lung Cancer Study Grp	5
0780.50.161	VA Surg.Oncology Group	12
0780.50.162	Wisconsin Clin.Cancer Ctr	31
0780.50.163	Wake Forest Univ.-Bowman Gray	38
0780.50.165	Wayne State University	48
0780.50.170	Western Cancer Study Group	48
0780.50.180	Working Party for Lung Tumors	15
0780.50.183	Yale University	33
0780.50.185	Yorkshire Regional Chemo Grp	2
0780.60	*Participating Countries	577
0780.60.010	Argentina	50
0780.60.015	Australia	31
0780.60.030	Belgium	46
0780.60.035	Brazil	13
0780.60.040	Canada	40
0780.60.044	Chile	7
0780.60.046	Colombia	3
0780.60.047	Costa Rica	4
0780.60.048	Czechoslovakia	3
0780.60.050	Denmark	7
0780.60.070	France	82
0780.60.080	West Germany	20
0780.60.090	Greece	1
0780.60.095	Hungary	1

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0780.60.100	India	1
0780.60.115	Israel	3
0780.60.120	Italy	65
0780.60.130	Japan	18
0780.60.145	Lebanon	7
0780.60.155	Malaysia	1
0780.60.160	Mexico	3
0780.60.170	Netherlands	26
0780.60.175	New Zealand	3
0780.60.180	Norway	2
0780.60.188	Peru	7
0780.60.190	Poland	10
0780.60.205	South Africa	14
0780.60.207	Spain	6
0780.60.210	Sweden	6
0780.60.220	Switzerland	30
0780.60.240	United Kingdom	93
0780.60.250	Uruguay	12
0780.60.255	Venezuela	1
0780.60.260	Yugoslavia	2
0780.70	*Protocol Status	3088
0780.70.010	Protocol Status Active	1304
0780.70.050	Protocol Status-Closed	1326
0780.70.060	Protocol Status Not Available	92
0780.70.090	Protocol Status-Terminated	366

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COVERAGE	1963 TO PRESENT	MOST RECENT 2-3 YEARS	PROTOCOLS ACTIVATED SINCE 1976: ACTIVE, CLOSED, TERMINATED
DATE FREQUENCY	EVERY MONTH	EVERY 3 MONTHS	EVERY 3 MONTHS
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Type the NEIGHBOR command (can be abbreviated NBR), a space, your last name, another space, and one or two initials. For example:

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To limit to authors' names, type (AU) after the name: NBR HILL L (AU)

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SS 1 /C?
USER:
FIND BRAIN CHEMISTRY            (also NBR BRAIN CHEMISTRY)
```

3. Cause a *NONE message to appear by using two terms with the AND logical operator.

Use the AND logical operator to combine two terms. For example:

```
SS 2 /C?
USER:
HILL L AND BRAIN CHEMISTRY
```

4. Cause a NP--NO POSTINGS message to appear.

Misspell any word. For example:

```
SS 3 /C?
USER:
MALPRACTISS
```

5. Type OBESITY AND HEART DISEASES. Now combine those terms using 2 search statements, then 3.

In one search statement - OBESITY AND HEART DISEASES

In two search statements -

```
SS 4 /C?
USER:
OBESITY
PROG:
SS (4) PSTG (#)

SS 5 /C?
USER:
4 AND HEART DISEASES
SS (5) PSTG (#)
```

5. (cont'd)

In three search statements -

```
SS 6 /C?
USER:
OBESITY
PROG:
SS (6) PSTG (#)

SS 7 /C?
USER:
HEART DISEASES
PROG:
SS (7) PSTG (#)

SS 8 /C?
USER:
5 AND 6 and 7
SS (8) PSTG (#)
```

6. From the posting received in #5 (above):

a. Print 2 citations (author, title, source)

```
PRINT 2
```

b. Print 3 titles

```
PRINT 3 TI
```

c. Print the 2nd citation in full

```
PRINT 1 FULL SKIP 1
```

d. Print the source and journal title code of 1 citation

```
PRINT SO, JC 1
```

e. Print indented the 2nd and 3rd citations

```
PRINT 2 INDENTED SKIP 1
```

f. Print 1 detailed

```
PRINT 1 DETAILED
```

g. Print offline, using the following information:

```
Your name (ONLINE TRAINING CLASS)
MMS
NLM
**Be sure to cancel the offline printout**
PRINT OFFLINE
```

h. Print 3 titles from search statement 2

```
PRINT 3 TI SS 2
```

7. DISPLAY your search.
   DISPLAY

8. Using RESTACK, save your first and last search statements.
   RESTACK 1,8

9. Use ERASEALL.
   ERASEALL

10. List the first two items in the NEWS.
   NEWS
   reply "yes" when asked: MORE NEWS? (YES/NO)

11. Send a COMMENT to MEDLARS Management Section.
   COMMENT
   PROG:
   CONT- OR FINISHED-
   Begin typing your message

12. Which files are available to your code?
   FILES

13. Type EXPLAIN CHEMLINE to print out an explanation of the database.
   EXPLAIN CHEMLINE

14. Neighbor WATER without a qualifier, with a qualifier.
   NBR WATER
   NBR WATER (TW)

15. Log off the system.
   STOP
   DONE? (YES/NO) (This question may be pre-answered by typing STOP Y.)
   YES