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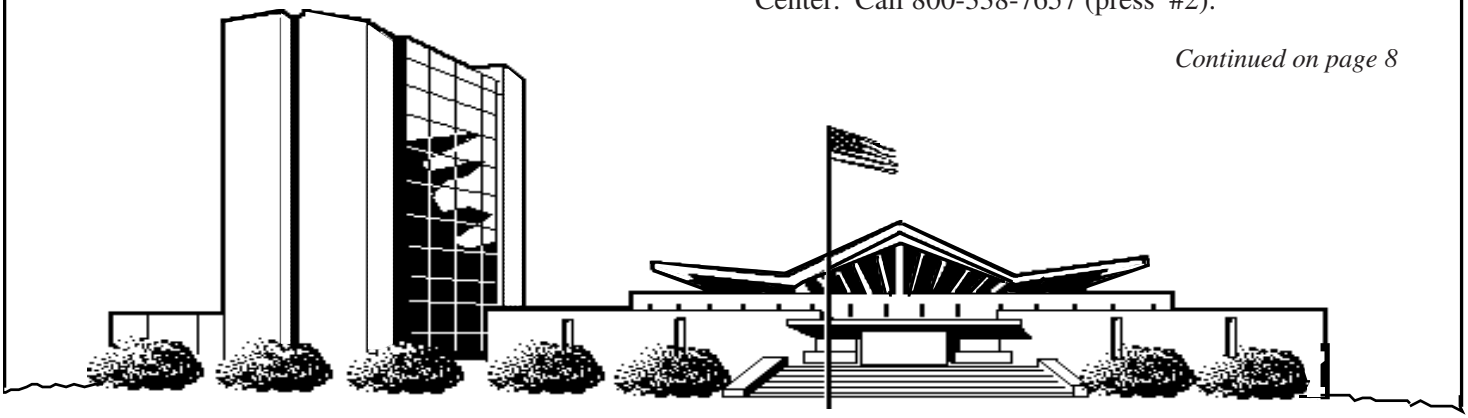
ELHILL 3.4: Proximity Searching

Introduction

Proximity searching is a new ELHILL search capability expected March 26, 1995. This capability permits the searcher to scan most field(s) in a record for concepts located within individual sentences. Three new operators **ADJ**, **NEAR**, and **CONTAINS**, and a new concept of element groups called **Clusters** are being introduced. The proximity operators are not case sensitive and do not need to be capitalized; they are capitalized in this article for emphasis. The instructions for proximity searching in this article apply to ELHILL files only; they do not apply to searching the TOXNET files or PDQ.

ELHILL 3.4, which provides the capability of proximity searching, is the fifth cooperative effort between the National Library of Medicine and the British Library in the field of information science and retrieval. ELHILL 3.4 also provides additional capabilities which are described in a separate article in this issue. (See page 16.) You are urged to read this documentation carefully and then try searches online. You may obtain a non-billed practice code to familiarize yourself with these new features by contacting your Regional Online Training Center. Call 800-338-7657 (press #2).

Continued on page 8



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The NLM Technical Bulletin is an administrative document sent to formal members of NLM's MEDLARS Online Network.

MEDLARS® DATABASE	TOTAL RECORDS	DATES COVERED	DATE UPDATED	UPDATE TAG
ELHILL® COMPUTER				
AIDSDRUGS	219		25 FEB 95	9502(EM)
AIDSLINE®*	109,651	JAN 80-APR 95	04 MAR 95	9505(EM)
AIDSTRIALS	646		24 DEC 94	9412(EM)
AVLINE®	28,342	THRU MAR 95	02 MAR 95	
BIOETHICSLINE®	44,679	JAN 73-FEB 95	28 JAN 95	9502(EM)
BIOTECHSEEK	5,819	JAN 90-MAR 95	04 MAR 95	9504(EM)
CANCERLIT®	1,099,853	JAN 63-MAR 95	04 MAR 95	9503(EM)
CATLINE®	744,359	THRU MAR 95	02 MAR 95	
CHEMID	267,994		06 FEB 93	
CHEMLINE®	1,258,634		10 MAR 94	9402(EM)
DENTALPROJ™	821		02 AUG 94	
DIRLINE®	17,592		03 DEC 94	
DOCUSER®	14,220		04 MAR 95	
HEALTH	799,075	JAN 75-MAR 95	04 MAR 95	9504(EM)
HISTLINE®	149,585	JAN 70-MAR 95	04 MAR 95	9503(EM)
HSTAR**	1,448,461	1985-DEC 94	08 NOV 94	9412(EM)
MEDLINE®***	1,082,751	JAN 92-APR 95	04 MAR 95	9505(EM)
MED90	748,681	JAN 90-DEC 91	10 DEC 94	
MED85	1,688,445	JAN 85-DEC 89	21 JAN 95	
MED80	1,388,882	JAN 80-DEC 84	21 JAN 95	
MED75	1,279,017	JAN 75-DEC 79	11 FEB 95	
MED66	1,986,381	JAN 66-DEC 74	07 JAN 95	
MESH VOCABULARY FILE®	99,892	1995	04 MAR 95	
NAME AUTHORITY FILE®	556,279		25 FEB 95	
PDQ®		THRU MAR 95	01 MAR 95	
POPLINE®	216,863	1970-MAR 95	04 MAR 95	9503(EM)
SDILINE®	32,248	APR 95	25 FEB 95	9504(EM)
SERLINE®	85,204	THRU FEB 95	07 FEB 95	9502(EM)
TOXLINE®	1,372,686	1981-1995	11 FEB 95	9502(EM)
TOXLINE65	707,146	PRE 1965-1980	30 APR 94	
TOXLIT®	1,382,981	1981-1995	11 FEB 95	9502(EM)
TOXLIT65	586,405	1965-1980	01 SEP 87	

* AIDSLINE: PART 1 OF 5 FOR 9505 (EM) WEEKLY UPDATE
** HSTAR: UPDATES ARE TEMPORARILY SUSPENDED DURING FILE MAINTENANCE.
*** MEDLINE: PART 1 OF 4 FOR 9505 (EM).

TOXNET® COMPUTER				
CCRIS	6,338		03 MAR 95	
DART™	23,214		10 FEB 95	
EMIC	9,852		28 FEB 95	
EMICBACK	75,886		04 APR 94	
ETICBACK	49,591		04 APR 94	
GENE-TOX	2,960		06 JUN 94	
HSDB®	4,493		02 MAR 95	
IRIS	665		03 MAR 95	
RTECS®	128,410		13 FEB 95	
TRI87	80,361		20 JAN 95	
TRI88	87,500		20 JAN 95	
TRI89	87,352		20 JAN 95	
TRI90	86,750		23 JAN 95	
TRI91	84,856		23 JAN 95	
TRI92	82,334		23 JAN 95	
TRIFACTS	326		10 APR 92	

Technical Notes

Latest Clinical Alerts Available

Two clinical alerts were issued during January 1995. On January 3, 1995 the National Institutes of Health (NIH) National Eye Institute issued findings from the Ischemic Optic Neuropathy Decompression Trial (IONDT). On January 30, 1995 the NIH National Heart, Lung and Blood Institute released a Clinical Alert about a new drug treatment using hydroxyurea for sickle cell anemia. As with previous NIH Clinical Alerts, these documents are available to MEDLARS users from the ALERT file.

To retrieve the two most recently added alerts online, type **file alert** at the first USER: prompt to enter the ALERT file. Then, at the next USER: prompt, type:

alert (tf); prt 2 information includes a brief entry (date, title, and source)

OR

alert (tf); prt 2 ar information includes the abstract

OR

alert (tf); prt 2 dl for the abstract and full text (FT) (FT includes a conclusion, names and addresses of participants, and names and addresses of Resource Centers for the IONDT alert. FT includes principal investigators and clinic director contact information for the Multicenter Study of Hydroxyurea).

To obtain these latest alerts from the NLM Gopher via the Internet, gopher to **gopher.nlm.nih.gov**, select the **National Institutes of Health (NIH) Clinical Alerts**, then select the alerts. The findings are also available in electronic form via anonymous ftp from the host **nlmpubs.nlm.nih.gov**, in the directory **alerts**, as **ischemic.txt** or **sickle.txt**.

The full text of National Institutes of Health Clinical Alerts are mailed to all libraries that are members of the National Network of Libraries of Medicine.

CHEMLINE, TOXLIT Price Changes

Effective January 1, 1995, the pricing structures of CHEMLINE, TOXLIT and TOXLIT65 files were modified in response to changes in the 1995 royalty rates charged by CAS® (Chemical Abstract Service). CAS is the supplier of proprietary data for these files.

To accommodate these changes, the NLM Online Pricing Algorithm has been updated for the Search Statement Charge and Online Citation Charge components for CHEMLINE, TOXLIT and TOXLIT65. CAS still does not charge a royalty for connecting to these files, but has adjusted its Online Citation Charge and Search Statement Charge royalties.

Please see Table I on the reverse side of Appendix A for the new NLM rates for the five components of the online algorithm for CHEMLINE, TOXLIT, and TOXLIT65. Please note, too, that offline page charges and ftp charges (for Automatic SDIs from TOXLINE) for these files also have been modified as a result of changes in royalty charges. The NLM portion of all charges has not changed. The online SHOW COST display reflects these new charges.

POPLINE Update

The POPLINE (POPulation Information OnLINE) database contained 213,839 citations at the close of 1994. The database, which is updated monthly and fully rebuilt once a year, is maintained by the Population Information Program at the Johns Hopkins University with the assistance of the *Population Index* at Princeton University and the *Annual Review of Population Law* at the Harvard Law School. In 1994 there were 90 new keywords, 46 keyword changes, and a few keyword deletions. An updated version of the *User's Guide to POPLINE Keywords* will be released in early 1995 from Johns Hopkins University. The cost will remain $35.00. To purchase the *User's Guide* or for other information about POPLINE, requests should be sent to:

Population Information Program
Center for Communication Programs
Johns Hopkins School of Public Health
111 Market Place, Suite 310
Baltimore, MD 21202-4024

Two New Subheadings

Two new subheadings have been introduced into the system in 1995: /agonists or /ag and /virology or /vi, as

mentioned in the September-October 1994 *Technical Bulletin*, page 13. Introduction of new MeSH subheadings is not a common practice. The last new subheadings introduced into MeSH (/chemistry or /ch, /contraindications or /ct and ultrasonography or /us) were introduced in 1991.

The /agonists or /ag subheading has been designed for use with chemicals, drugs and endogenous substances to indicate substances and agents that have an affinity for a receptor and intrinsic activity at that receptor. Items now indexed with /agonists were previously indexed with the subheading /pharmacology or /pd. Its use is restricted to Category D terms. Please do not confuse it with the old, still used subheading, /antagonists & inhibitors that has the short form /ai.

The /virology or /vi subheading is used with organs, animals, and higher plants and with diseases for virologic studies. Citations now indexed with this subheading would previously have been indexed with the /microbiology or /mi subheading, which is still used for bacteria, rickettsia, and fungi. Historically, from 1954 through 1959, a subheading named /virus was used to index for the *Current List of Medical Literature*. The /virus subheading was replaced in 1960 by /virology which was used only through 1962 to index for *Index Medicus*. The subheading /virology or /vi has been reintroduced now due to the importance of viruses in disease and molecular biology.

A complete subheading list is available to online users from the MeSH file by inputting the following strategy: **1 (qt)**. The qt is for Qualifier Type, and 1 is the value for topical subheadings. There are currently 88 topical MeSH subheadings.

New $INFO for the National Library of Medicine Publications

Information about the National Library of Medicine's publications is published in the *Technical Bulletin* as soon possible. However, that information may not be as up-to-date as the information obtained by typing a **$info** command at any ELHILL USER: prompt. Two examples: **$info nlmclass** will retrieve the latest information about the new NLM classification scheme (described in greater detail in the November-December 1994 *Technical Bulletin,* page 4), and **$info serpub** retrieves the latest information about NLM serial publications available via the Internet. Type **$info list** to see the latest $info offerings.

NLM Internet Address Directory/ Electronic Publication Retrieval Information

The directory of NLM Internet addresses has moved from the back cover of the *Technical Bulletin* to the page facing the back cover. This information will be consistently found in future issues in the same location, and will be updated as needed to reflect any changed or new addresses. In addition, a helpful table of information for electronic retrieval of NLM publications has been added on the other side of the Internet address directory.

1995 NLM Update and Online Users' Meeting at MLA

The NLM Update will be held on Monday, May 8 from 10:30 a.m. until noon at the Annual Meeting of the Medical Library Association in Washington, D.C. The NLM Online Users' Meeting will be a "Lunch and Learn" session on Sunday, May 7 from 12:30 p.m. until 1:15 p.m. NLM staff will discuss plans for new MEDLARS databases and features, DOCLINE activities, and Internet access as well as other avenues NLM is exploring to expand and improve services. Specific room assignments for both meetings will be announced in the online NEWS and in the March-April issue of the *Technical Bulletin*.

Dr. Lindberg will be one of two keynote speakers at the Seventh International Congress on Medical Librarianship on Wednesday, May 10 at 3:00 p.m. following the opening ceremony. On Friday, May 12, NLM will host a lunchtime seminar from 12:30 to 1:30 p.m. at the International Congress of Medical Librarianship

A complete listing of all NLM-related sessions at the MLA Annual Meeting and at the International Congress of Medical Librarianship will be published in both the *NLM News* and *Gratefully Yours*.

Plan to visit NLM representatives at the NLM Exhibit Booth in the MLA Exhibit Hall!

Publications available from GPO

To order publications from the Superintendent of Documents, U.S. Government Printing Office (GPO),

you may use the order form in Appendix B of this issue of the *Technical Bulletin.* Orders should be sent to:

New Orders
Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954

Individuals with a GPO deposit account, VISA, or MasterCard who wish to order documents by phone may call 202-783-3238. Individuals may fax orders if they have a deposit account, VISA, MasterCard or Federal government purchase order. The GPO fax number is 202-512-2233. Remittance or deposit account numbers should be sent with all mail orders and, unless otherwise specified, foreign orders should include an additional 25% of the domestic price to cover mailing. To avoid delays, send a separate order for each title requested, and include full title, price and GPO Stock Number (for individual publications) or GPO List ID (for subscriptions).

The following publications may now be ordered from GPO:

The ***Cumulated Index Medicus*** (CIM), Volume 35, 1994, is a 17-volume cumulation of the citations appearing in the monthly issues of *Index Medicus* (IM) for 1994. CIM contains bibliographic citations from 3,080 journal titles, and represents a subset of MEDLINE input into the National Library of Medicine's computer-based MEDLARS system. The anticipated shipping date of CIM from GPO is April 4, 1994. The order number and prices follow:

Cumulated Index Medicus
GPO Stock Number:
S/N 617-052-00309-1
Price: $397.00 (U.S.)
$496.25 (non-U.S.)

# # #

The ***Cumulated Abridged Index Medicus*** (CAIM), Volume 25, 1994, is a two-volume cumulation of citations appearing in the monthly *Abridged Index Medicus* (AIM) for 1994. CAIM contains citations from 119 English-language journals, representing a smaller subset of input into MEDLARS. The order number and prices follow:

Cumulated Abridged Index Medicus
GPO Stock Number: S/N 017-052-00320-8
Price: $93.00 (U.S.)
$111.60 (non-U.S.)

# # #

The 1995 monthly ***Index Medicus, Abridged Index Medicus, Medical Subject Headings*** (the "Black & White MeSH," which is included with the January issue of a subscription to *Index Medicus*, but may also be ordered individually) and ***List of Journals Indexed in Index Medicus*** are also available for order from GPO. Order numbers and price information follow:

Index Medicus
GPO List ID: IM95
Price for subscription: $260.00 (U.S.)
$325.00 (non-U.S.)

Abridged Index Medicus
GPO List ID: ABIM95
Price for subscription: $55.00 (U.S.)
$68.75 (Non-U.S.)

Medical Subject Headings ("Black & White MeSH") if ordered separately
GPO List ID: IM95
Price: $43.00 (U.S.)
$53.75 (non-U.S.)

List of Journals Indexed in Index Medicus , 1995
GPO List ID: LJI95
Price: $16.00 (U.S.)
$20.00 (non-U.S.)

NLM 1995 *Catalog of Publications, Audiovisuals & Software* Available

The *National Library of Medicine 1995 Catalog of Publications, Audiovisuals, & Software* is available free of charge from:

Office of Public Information
National Library of Medicine
8600 Rockville Pike
Bethesda, MD 20894
Phone: 800-272-4787 or 301-496-6308
Fax: 301-496-4450
E-mail: fran_beckwith@occshost.nlm.nih.gov

The catalog includes not only brief descriptive information about all MEDLARS tools and other material produced by the National Library of Medicine, but also offers complete ordering and subscription information.

Entries Deleted from NLM Bibliographic Publications

Three Publication Types will no longer be printed as entries with citations in National Library of Medicine bibliographic indexes (such as *Index Medicus*, *Abridged Index Medicus* and the *Aids Bibliography*. The change is effective starting with the 9502 Entry Month (EM). The entries as they appeared before 9502 (EM) are BIBLIOGRAPHY [Publication Type], DICTIONARY [Publication Type], and DIRECTORY [Publication Type]. The similar, but distinct MeSH heading entries, BIBLIOGRAPHY, DICTIONARIES, and DIRECTORIES, will remain.

The Publication Type entries were for bibliographic citations in a particular Publication Type **format,** and did not pertain to the **subject** of BIBLIOGRAPHY, DICTIONARIES, or DIRECTORIES. In other words, a bibliography was distinguished from an article about a bibliography, a dictionary was distinguished from an article about dictionaries and a directory was distinguished from an article about directories. The phrase in brackets reminds users of this distinction. The only Publication Types that will continue to be cited in NLM publications with [Publication Type] after them are:
DUPLICATE PUBLICATION [Publication Type],
RETRACTED PUBLICATION [Publication Type],
RETRACTION OF PUBLICATION [Publication Type],
SCIENTIFIC INTEGRITY REVIEW [Publication Type].

Forms enclosed

The following forms are provided for your convenience in this issue of the *Technical Bulletin*. They may be reproduced as needed.

Appendix B: GPO Order Form
Appendix C: NTIS Order Form
Appendix D: Suggestion for Medical Subject Headings Change, also to be used for new MeSH heading Pre-Explosion recommendations.

In lieu of using the MeSH suggestion/recommendation form in Appendix D, suggestions for MeSH changes may also be directed via e-mail to the following address: **meshsugg@nlm.nih.gov**. Please note that the MeSH vocabulary for 1996 closed in February; so suggestions made now will be considered for the 1997 vocabulary year.

Corrections to the Tumor Key for 1995

In the January-February 1994 *Technical Bulletin*, page 6, corrections to the 1994 *Technical Notes: MEDLARS Indexing Instructions, Tumor Key Supplement* ("Tumor Key"), which is available from the National Technical Information Service (NTIS), were made. The following changes were given:

page 7
add adenomyoepithelioma - CARCINOMA, ADENOID CYSTIC

page 49
add neoplasm, intraepithelial - CARCINOMA IN SITU

page 60
change sarcoma, synovial (unspecified) - SYNOVIOMA, SYNOVIAL
to sarcoma, synovial (unspecified) - SARCOMA, SYNOVIAL

page 63
change tumor, carcinoid, bronchial - NEOPLASMS, VASCULAR TISSUE
to tumor, carcinoid, bronchial - CARCINOID TUMOR

The *Technical Notes: MEDLARS Indexing Instructions, Tumor Key Supplement* will not be revised for 1995. Please annotate your 1994 edition with the following changes for 1995:

page 7
change adenomatosis, endocrine - *see* NEOPLASMS, MULTIPLE ENDOCRINE
to adenomatosis, endocrine - *see* MULTIPLE ENDOCRINE NEOPLASIA or MULTIPLE ENDOCRINE NEOPLASIA Types 1, 2a or 2b

page 7
change adenomatosis, familial endocrine - *see* NEOPLASMS, MULTIPLE ENDOCRINE
to adenomatosis, familial endocrine - *see* MULTIPLE ENDOCRINE NEOPLASIA or MULTIPLE ENDOCRINE NEOPLASIA Types 1, 2a or 2b

page 7
add adenomatosis, multiple endocrine *see* MULTIPLE ENDOCRINE NEOPLASIA or MULTIPLE ENDOCRINE NEOPLASIA Types 1, 2a or 2b

page 16
change carcinoma, residual - NEOPLASMS or the specific histologic type
to carcinoma, residual - NEOPLASM, RESIDUAL plus the specific histologic type

page 20
add cyst, brachial cleft -BRANCHIOMA

page 26
add fibroma, myxoid, ossifying - FIBROMA, OSSIFYING

page 31
change leiomyoma, vascular - ANGIOMYOMA
to leiomyoma, vascular *see* ANGIOMYOMA

page 43
add lymphoma, MALT - LYMPHOMA, MUCOSA-ASSOCIATED LYMPHOID TISSUE

page 43
add lymphoma, mucosa-associated lymphoid tissue - LYMPHOMA, MUCOSA ASSOCIATED LYMPHOID TISSUE

page 48
add myofibroblastoma *see* NEOPLASMS, MUSCLE TISSUE

page 51
add neuroma syndrome, mucosal - MULTIPLE ENDOCRINE NEOPLASIA TYPE 2B

page 67
add tumor, ossifying fibromyxoid - FIBROMA, OSSIFYING

page 69
change vipoma *see* DIARRHEOGENIC TUMOR
to vipoma - VIPOMA ❑

FTS2000 Transition Schedule

Reminder: NLM is transitioning from the current telecommunications networks SprintNet (Telenet), TYMNET, and CompuServe to the new FTS2000 network. Please begin using the FTS2000 number 800-525-0216 according to the schedule below. If the date for your state has passed, you may begin using the new number immediately.

The article on pages 23-26 of the November-December 1994 *Technical Bulletin* explains the transition process in detail, including the new login procedure that must be used with the FTS2000 number. Grateful Med users need to select FTS2000 in the SETUP screen and type in 800-525-0216.

January-February 1995 - All current WATS users

March and April 1995 - Regions 1 and 2
Users in the states of Alabama, Delaware, Florida, Georgia, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, the District of Columbia, Puerto Rico and the U.S. Virgin Islands should transition beginning in March from the present networks to the new FTS2000 service.

May and June 1995 - Regions 3 and 4
Users in the states of Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Utah, Wisconsin, and Wyoming should transition to the new FTS2000 AT&T network during May and June.

July and August 1995 - Regions 5 and 6
Users in the states of Alaska, Arkansas, Idaho, Louisiana, Montana, New Mexico, Oklahoma, Oregon, Texas, and Washington should transition to the FTS2000 network in July and August.

September and October 1995 - Regions 7 and 8
Users in the states of Arizona, California, Connecticut, Hawaii, Maine, Massachusetts, Nevada, New Hampshire, Rhode Island, Vermont, and American Samoa, Guam and military posts should transition to the new FTS2000 AT&T network.

If you have any difficulty with FTS2000, contact the MEDLARS Service Desk at 800-638-8480 or mms@nlm.nih.gov for assistance.

Continued from page 1

ADJ and NEAR Operators

Proximity searching deals with the occurrence of two (or more) terms or phrases in the same sentence. In this context, a sentence refers to a group of words or characters ending with a period followed by one or more spaces, or a sentence refers to the end of text which can be any numbers or characters in a field, (e.g., in the Pagination (PG) field the number 1 may be a sentence).

The adjacency operator, ADJ, is used to link two terms that should appear immediately adjacent to each other, left to right, in the same sentence. If a phrase of more than two terms is sought, the ADJ operator is repeated. For added convenience the "at" symbol (@) may be used as an alternative to ADJ. The spelled-out word **adjacency** will not be recognized as a proximity operator -- use ADJ or @. Note that spaces must surround ADJ, but are optional around the @ symbol. Examples are:

new ADJ drug
information @ explosion
very@low@birth@weight

The NEAR operator is used to specify that the two terms it links should appear in the same sentence in ANY order and with any number of words in between (including none). If more than two terms are being specified, the NEAR operator is repeated. Examples are:

information NEAR explosion
pollution NEAR emission NEAR reduction

Some concepts lend themselves to a combined use of NEAR and ADJ as shown below:

immune ADJ complex NEAR hypersensitivity
maternal @ health NEAR hospital:

- Note that truncation may be used, but do **not** use the word "all" before the truncated term because the proximity searching programs are designed to look for all variants routinely.

In MEDLINE, the NEAR and ADJ operators, when not qualified, default to the Title (TI) and Abstract (AB) fields. Proximity operators, when qualified, require **postqualification** with field mnemonic identifiers (e.g., TI, AB) not search qualifiers (e.g., TF, TW) in order to work. As a rule, however, you should **not** qualify these operators. If you need to search the words in the title only, continue using the Title Field Text Word (TF) search capability. TF searching is more efficient and cheaper than using NEAR and postqualifying with TI. For example:

complications NEAR surgery (ti)
ESTIMATED COST = $0.27

equals

(tf) complications and surgery
ESTIMATED COST = $0.10

In other words, as a general rule, do **not** qualify NEAR with TI, and only post-qualify ADJ with TI when immediate word order is absolutely required. However, if you need to search on either STOPWORDs or numbers in the title, these situations are the two exceptions to the "Don't qualify by TI" guideline. Examples illustrating these two situations are shown on pages 9 and 12.

If you are looking for a phrase in the abstract only, you must post-qualify the expression with the field mnemonic as shown:

complications NEAR surgery (ab)

CONTAINS Operator

You may have retrieved a set of records that you wish to scan for a term or phrase in a field which is not directly searchable (or in a searchable field). The CONTAINS operator links an expression on the left (representing a set of records) with a phrase or expression on the right (representing text to be scanned).

The expression on the left can be:

a search statement number	1 CONTAINS ...
any search term	pain CONTAINS ...
	science (ta) CONTAINS ...
a Boolean expression	1 and 94 (yr) CONTAINS
a proximity expression	heart@attack CONTAINS

The expression on the right can be:

a single proximity phrase	1 CONTAINS heart@surgery
a complex proximity expression	1 CONTAINS complication# NEAR heart@attack
a field that's not directly searchable	1 CONTAINS 113 (pg)

If you wish to have a specific field scanned using the CONTAINS operator, then the appropriate **field mnemonic** enclosed in parentheses must be **appended** to the CONTAINS expression. CONTAINS, like ADJ and NEAR, requires post-qualification with field mnemonic identifiers (e.g.,TI, AB) not search qualifiers (e.g., TF, TW) in order to work properly. If you don't specify a field in MEDLINE, the search will be performed on the default fields -- Title and Abstract. (See Clusters on page 13 of this article.)

Note that fields do not need to be true sentences to be searched with the CONTAINS operator. You should be aware that you may only use this feature for fields that are in the unit record for that database, e.g., you can **not** search in the DP field in the TOXLINE or CANCERLIT unit record, because the Date of Publication (DP) field doesn't exist in these files.

There are several advantages in using the CONTAINS operator:

- Fields that are not directly searchable may be scanned, such as Volume Issue (VI) or Pagination (PG)
- Expressions including STOPWORDs or numbers may be scanned
- SMALL sets of records may be scanned more efficiently

CAUTION: The term or the retrieval of the search statement shown to the left of the CONTAINS operator should be kept as small as possible to maximize efficient use of the computer **and** to hold down costs. Note the difference in cost between using CONTAINS to search against something with relatively small retrieval and using it with another MeSH heading that has many more postings.

*ampicillin contains allergic ADJ reaction:
ESTIMATED COST = $0.19

*antibiotics contains allergic ADJ reaction:
ESTIMATED COST = $1.62

Do **not** use NEAR, CONTAINS and ADJ operators indiscriminately as a substitute for traditional search strategies. Note the difference in costs of the following two search statements:

*antibiotics contains allergic ADJ reaction:
ESTIMATED COST = $1.62

*antibiotics and allergic ADJ reaction:
ESTIMATED COST = $0.22

Both search strategies will work and yield identical retrieval, but the difference in price and time (the first strategy generates TIME OVFLW messages) is substantial.

Qualifying the Proximity Expression

In most ELHILL databases, proximity searching first looks at individual Text Words, then scans the collected records for the specific terms in the default fields for that database (see Clusters table on page 16). All proximity operators, NEAR, ADJ, and CONTAINS, operate on the same default field or fields; in MEDLINE, these are the Title and Abstract fields, unless you restrict to just one of these fields by qualifying with TI or AB. These defaults simplify your proximity search as explicit qualification is not required. If you wish to perform a proximity search on something other than the default TEXT (TI or AB) fields, then the appropriate field qualifier must be **appended** to the proximity expression:

carbon ADJ 14 (ti)

restricts results to records with carbon 14 (or carbon-14) in the title, instead of the default Title *and* Abstract fields. Please note that a hyphen is usually treated as a space in proximity searching. These citations could not be retrieved using '(TF) carbon and 14', because, as a general rule, numbers in the title are not retrievable as Title Field Text Words.

CAUTION: Unless you need to search for a STOPWORD, or number, or exact word order, it's cheaper and more efficient to search using TF.

If your search statement has either NEAR or ADJ plus CONTAINS, and you want to perform proximity operations on fields other than the default fields, you need one qualifier for the NEAR and ADJ operators and a second qualifier for the CONTAINS operator as shown below.

heart @ attack (ab) CONTAINS 365 (pg)

restricts the results to records with **heart attack** in the abstract that begin on page 365;

heart @ attack CONTAINS mortality (ab)

restricts the results to records with the phrase **heart**

attack in the Title or Abstract fields and with the word **mortality** in the abstract;

N Engl J Med (ta) AND 94 (yr) CONTAINS Sep (dp)

scans the citations found in the 1994 issues of the *New England Journal of Medicine* for **Sep** in the Date of Publication (DP) field.

- This is a new, easy way to find all the indexed articles for a whole month of a journal, when you don't know the specific date of the issue.

Online examples of ADJ, NEAR and CONTAINS are shown in Figures 1, 2, and 3.

WELCOME TO THE NATIONAL LIBRARY OF MEDICINE'S ELHILL SYSTEM.
YOU ARE NOW CONNECTED TO THE MEDLINE (1992 - 95) FILE.

SS 1 /C?
USER:
heart adj attack

- ADJ searches the Title and Abstract fields for the phrase **heart attack**. In comparison, *MYOCARDIAL INFARCTION retrieves over 5,000 postings.

PROG:
SS (1) PSTG (116)

SS 2 /C?
USER:
(tw) heart and attack

- In comparison, Text Word searching looks for the words **heart** and **attack** in the Title, Abstract, and Name of Substance fields and as a MeSH heading fragment. **Heart** and **attack** do not have to be next to each other, or even in the same sentence.

PROG:
SS (2) PSTG (318)

SS 3 /C?
USER:
heart @ attack near mortality

- ADJ plus NEAR searches for the phrase **heart attack** in the TI or AB fields and for the word **mortality** in the same sentence with **heart attack**.

PROG:
SS (3) PSTG (6)

SS 4 /C?
USER:
prt ti, ab

PROG:

- Note: Heart attack and mortality appear in abstract sentence.

1
TI - Age at death due to ischemic heart disease: gender differences.
AB - This paper investigates gender differences in the timing of ischemic heart disease (IHD) mortality among white Americans. ... The importance of research on gender differentials in age at IHD **mortality** in relation to parental **heart-attack mortality**, smoking and spousal smoking, occupation, and fertility is highlighted.

- Note: Heart attack and mortality appear in title sentence.

2
TI - Recent trends in hospital **mortality** of acute myocardial infarction—the Worcester **Heart Attack** Study. Have improvements been realized for all age groups?
AB - BACKGROUND: While age-related differences in patterns of care for acute myocardial infarction have been demonstrated, temporal trends in clinical outcome for patients in different age groups have not been carefully examined. ...

Figure 1 - Using ADJ and NEAR with Heart Attack

```
WELCOME TO THE NATIONAL LIBRARY OF MEDICINE'S ELHILL SYSTEM.
YOU ARE NOW CONNECTED TO THE MEDLINE (1992 - 95) FILE.

SS 1 /C?
USER:
n engl j med (ta) contains 1198@210 (pg)

PROG:
NOTE: YOUR PROXIMITY SEARCH OF 4,249 RECORDS MAY CAUSE MANY TIME OVERFLOWS.
TIME OVFLW: CONT? (Y/N)
USER:
y

PROG:
SS (1) PSTG (1)

SS 2 /C?
USER:
prt ui, ti, so, pg

PROG:

1
UI  -  94187814
TI  -  Acute pancreatitis [see comments]
PG  -  1198-210
SO  -  N Engl J Med 1994 Apr 28;330(17):1198-210

SS 2 /C?
USER:
n engl j med (ta) contains 1198 (pg)

PROG:
NOTE: YOUR PROXIMITY SEARCH OF 4,249 RECORDS MAY CAUSE MANY TIME OVERFLOWS.
TIME OVFLW: CONT? (Y/N)

USER:
y

PROG:
SS (2) PSTG (4)

SS 3 /C?
USER:
prt ui, au, ti, so, pg compr

PROG:
1
UI  -  94187814
AU  -  Steinberg W ; Tenner S
TI  -  Acute pancreatitis [see comments]
PG  -  1198-210
SO  -  N Engl J Med 1994 Apr 28;330(17):1198-210

2
UI  -  93024705
AU  -  Cheung D ; Timmers MC ; Zwinderman AH ; Bel EH ; Dijkman JH ; Sterk PJ
TI  -  Long-term effects of a long-acting beta 2-adrenoceptor agonist, salmeterol, on airway
       hyperresponsiveness in patients with mild asthma [see comments]
PG  -  1198-203
SO  -  N Engl J Med 1992 Oct 22;327(17):1198-203
```

- Using CONTAINS and ADJ to find a specific citation when all you know is journal title and full pagination.
- You may receive a warning if your proximity search is over 2,500 records. You must answer Y to all Time Overflow messages in order to get retrieval. If you answer NO, you get nothing even if some citations were found up to the point when you answered NO.
- PG is the field ADJ operated on. The hyphen is treated as a space and the field is treated as a sentence.
- Using CONTAINS to find a citation, when all you know is the journal title and the starting page.
- Multiple citations are found on page 1198.

Figure 2 - Using CONTAINS with and without ADJ to find a Journal Article by Page Number

3
UI - 93205089
AU - Seino Y ; Hayakawa H
TI - Atrial systolic failure in cardiac amyloidosis [letter; comment]
PG - **1198**; discussion **1198**-9
SO - N Engl J Med 1993 Apr 22;328(16):1198; discussion 1198-9

4
UI - 93205088
AU - de Freitas AF ; Costa PP
TI - Atrial systolic failure in cardiac amyloidosis [letter; comment]
PG - **1198**; discussion 1198-9
SO - N Engl J Med 1993 Apr 22;328(16):1198; discussion 1198-9

Figure 2 - Using CONTAINS with and without ADJ to find a Journal Article by Page Number cont.

WELCOME TO THE NATIONAL LIBRARY OF MEDICINE'S ELHILL SYSTEM.
YOU ARE NOW CONNECTED TO THE MEDLINE (1992 - 95) FILE.

SS 1 /C?
USER:
very@low@birth@weight

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

USER:
y

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

USER:
y

PROG:
SS (1) PSTG (350)

- Articles contain phrase **very low birth weight** in the Title or the Abstract.

SS 2 /C?
USER:
prt 3 ti, ab

Note: Even though "very" is a STOPWORD and you could not retrieve these articles with (TW) very and low and birth and weight, ADJ gives you a powerful new capability to retrieve on STOPWORDS directly.

PROG:

1
TI - Nephrocalcinosis in **very low birth weight** neonates: sonographic patterns, histologic characteristics, and clinical risk factors.
AB - Fifty infants weighing less than 1200 grams at birth who survived at least 3 weeks ...

2
TI - Review of neonatal red cell transfusion practices.
AB - In the United States in 1991, 290,000 or 7.1% of the 4,110,907 live births were premature infants; 53,299 or 1.3% were infants with birth weights of less than 1500 grams. Many if not all of these **very low birth weight** infants will require red blood cell transfusions...

3
TI - Compartmental analysis of calcium metabolism in **very-low-birth-weight** infants.
AB - The calcium metabolism of 13 **very-low-birth-weight infants** fed a high-calcium diet...

Figure 3 - Using ADJ to Search on the STOPWORD "Very"

Clusters

For each database, there are groups of fields that you might logically want to search together, such as, in MEDLINE, the fields containing author's words or text, i.e., Title with Abstract. For proximity searching, these groups are called clusters, and will be predefined with names that can be used as though they were field qualifiers. Clusters provide a new way of searching terms using a predefined group of elements.

```
complication# NEAR heart ADJ attack (TEXT)
emery a (AU) CONTAINS managed @ care (TEXT)
1 AND managed @ care (TEXT)
```

where TEXT might consist of the Title and Abstract fields.

Each database has a default cluster which the system will use if you do not supply a cluster name. It is **not** necessary to specify the search DEFAULT cluster explicitly in your proximity statement. In most databases the default cluster is named TEXT and consists of data elements containing author-supplied words, notably the TI and AB. You would retrieve the same results entering the previous examples without the qualifier, as shown below:

```
complication# NEAR heart ADJ attack
emery a (AU) AND managed @ care
1 AND managed @ care
```

For the proximity operators, NEAR and ADJ, the post-qualifier applies to both terms in the expression. Prequalifiers, whether cluster names or field mnemonics, may **not** be used with proximity operators.

YES	NO
healthy @ obese (TEXT)	(TEXT) healthy @ obese
healthy near obese (AB)	(AB) healthy near obese

For the proximity operator CONTAINS, the post-qualifier must be entered separately, if it differs from the default cluster.

YES

new @ drug (AB) contains 57 (VI)

NO

new @ drug (AB) contains 57

Do not use "all" as part of your proximity search expressions.

YES	NO
1 CONTAINS carcinogen:	1 CONTAINS all carcinogen:

Note that truncation may be used, but do **not** use the word "all" before the truncated term because the proximity searching programs are designed to look for all variants routinely.

A list of the predefined default search clusters for each database follows this article in a table on page 16. The list includes the full descriptive name, the cluster mnemonic, the elements to be searched (collecting records which can then be scanned for specific terms), and the elements to be scanned (the elements to be looked at by NEAR, ADJ and CONTAINS). Users cannot create their own cluster definitions. NLM may introduce additional clusters in the future.

CAUTION ! !

Proximity searching on ELHILL is not the method of choice in all cases. For many searches, traditional ELHILL search techniques will be quicker and more cost effective. Users are urged to consider **carefully** when it will be beneficial to use proximity searching. It is recommended that you first check to see if MeSH headings are available, and, if so, search using them. If MeSH headings do not exist for the concept, then consider Text Word (TW) and Title Field Text Word (TF) searching in conjunction with Boolean operators. If the words must absolutely be located either next to each other or in the same sentence then consider using proximity searching.

Proximity searching, while providing a convenient mechanism for positional linking of words or phrases in the same sentence, is also a more costly approach than Boolean searching, although it is more cost-effective and efficient than STRINGSEARCHing or SENSEARCHing. If you get a program message warning of large retrieval, you may want to reconsider your search strategy and answer **no** at the first TIME OVFLW message.

Large Retrieval and Proximity Search Costs

Proximity searches that result in more than 2,500 records when the terms are first combined behind the scenes will produce a warning message. For example:

PROG:
NOTE: YOUR PROXIMITY SEARCH OF 2,769 RECORDS MAY CAUSE MANY TIME OVERFLOWS.
TIME OVFLW: CONT? (Y/N)

By answering YES to these TIME OVFLW messages, you will retrieve the results to this query **but** your costs will go up sharply with the number of records that must be searched. Although you may search up to 10,000 records with proximity search operators, you will pay for it both in time spent answering TIME OVFLW messages while sitting at the computer and in dollars. Proximity operators are computer-work-unit intensive and therefore expensive.

If at any time you answer NO to a TIME OVFLW message, you will retrieve **no** postings at all, even if some citations did meet the criteria of your search **and** you will be charged for all the work the computer has done up to that point even though you don't see any retrieval. This is noteworthy, because it is a change from STRINGSEARCHing where answering NO to a CONT? (Y/N) prompt, permits you to retrieve any citations found up to that point.

If your proximity search results in more than 10,000 records when the terms are first combined behind the scenes, you will get a message letting you know that your search will not be processed. For example:

PROG:
YOUR PROXIMITY SEARCH OF 26,830 RECORDS EXCEEDS 10,000 AND CANNOT BE PROCESSED.

If you receive this message, you will need to restructure your search. Consider using MeSH headings, or Text Words to narrow your retrieval and then perhaps you can use a proximity operator successfully.

In Conclusion

Proximity searching offers some powerful new ways to search. It is particularly useful in searching for numbers and STOPWORDS as well as for finding true adjacency. However, the scanning of large groups of individual records may result in time-consuming responses and may be expensive. You might want to consider issuing the SHOW COST or SHOW COST DL command, after you have run a proximity search, to get a feel for the price of this new feature. Non-billed practice codes are available for you to try out proximity searching. Please contact your Regional Online Training Center at 800-338-7657 (press #2).

The new proximity operators with their related definitions and some search hints are summarized in the chart in Figure 4. ❑

--prepared by Iris Renner and
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MEDLARS Management Section

Proximity Searching in ELHILL 3.4: Quick Reference Chart

ADJ	Links two terms, immediately ADJACENT to each other, LEFT TO RIGHT, in the same sentence. The @ symbol is an alias for ADJ.
NEAR	Links two terms, in ANY order, and with any number of words in between (including none), in the same sentence. (There is no option to specify a desired word interval.)
CONTAINS	Provides the capability to scan an existing search set for a word or phrase. CONTAINS links the existing search set (on the left of the CONTAINS operator) with an expression representing text to be scanned (to the right of the CONTAINS operator).
Clusters	Provides a mechanism to do a proximity search for an individual word, or phrase(s), within predefined groups of elements.
Sentence	Text ending with a period and at least one space, or the end of text, which can be any numbers or characters in a field, (e.g., in the PG field the number 1 can be a sentence).

Proximity Search Hints

Qualification: Proximity expressions **cannot** be prequalified. Field mnemonics (i.e., TI, AB, PG, VI) must be appended to the proximity expression.

As a general rule, do not use qualification at all with NEAR and ADJ. If you want to search only on title words when immediate adjacency is not required use:

(tf) A and B **not** A near B (ti)

NEAR, ADJ **Do use** to search for phrases that include STOPWORDs or numbers

very @ low @ density
50 @ lb#

CONTAINS Do **not** use CONTAINS to search for terms that are Text Word searchable; the Boolean AND is more efficient

1 and C (tw) **not** 1 contains C

Do use CONTAINS to locate journal articles when all you know is title and pagination or volume

Science (ta) contains 1176 (pg)

ALL Do **not** use “all” as part of your proximity search expressions, e.g., "1 contains all carcinogen: ". Proximity routinely looks for all variations of a truncated term.

Figure 4 - Proximity Search Operators and Search Hints

ELHILL PROXIMITY SEARCH DEFAULT CLUSTERS

DATABASE	CLUSTER NAME	CLUSTER MNEMONIC	ELEMENTS SEARCHED	ELEMENTS SCANNED
AIDSDRUGS	TEXTUAL DATA	TEXT	TW	DIS,OUSE,PA
AIDSLINE	TEXTUAL DATA	TEXT	TW	TI,AB
AIDSTRIALS	TEXTUAL DATA	TEXT	TW	TI,GD
ALERT	TEXTUAL DATA	TEXT	TW	TI,AB,FT
AVLINE	TITLES	TITL	TF	TI,TC
BIOETHICSLINE	TEXTUAL DATA	TEXT	TW	TI,AB
BIOTECHSEEK	TEXTUAL DATA	TEXT	TW	TI,AB
CANCERLIT	TEXTUAL DATA	TEXT	TW	TI,AB
CATLINE	TITLES	TITL	TF	TI,TC
CHEMID	TEXTUAL DATA	TEXT	NF	NM,N1,SY
CHEMLINE	TEXTUAL DATA	TEXT	NF	NM,N1,SY
DENTALPROJ	TEXTUAL DATA	TEXT	TW	TI,AB
DIRLINE	TEXTUAL DATA	TEXT	TW	NA,AC,AB
DOCUSER	TEXTUAL DATA	TEXT	TW	CZ,NA
HEALTH	TEXTUAL DATA	TEXT	TW	TI,AB
HISTLINE	TEXTUAL DATA	TEXT	TW	TI,AB
HSRPROJ	TEXTUAL DATA	TEXT	TW	TI,AB
HSTAR	TEXTUAL DATA	TEXT	TW	TI,AB
MEDLINE	TEXTUAL DATA	TEXT	TW	TI,AB
MeSH	ENTRY POINTS	ENTR	NF,TW	BX,EC,MH NM,N1,SY
POPLINE	TEXTUAL DATA	TEXT	TW	TI,AB
SDILINE	TEXTUAL DATA	TEXT	TW	TI,AB
SERLINE	TEXTUAL DATA	TEXT	TF	TI,AT
TOXLINE/ TOXLINE65	TEXTUAL DATA	TEXT	TW	TI,AB
TOXLIT/ TOXLIT65	TEXTUAL DATA	TEXT	TW	TI,AB

Clusters Table

ELHILL 3.4: Additional Capabilities - Nesting, SET, MMALL, and GFILE

ELHILL 3.4 is the fifth cooperative effort between the National Library of Medicine and the British Library in the field of information science and retrieval.

The following new ELHILL capabilities are expected to be available online on March 26, 1995 as part of the ELHILL 3.4 implementation:

- Nesting -- "parenthetical" searching using angle brackets, i.e., < >
- The SET command
- The MMALL parameter
- The GFILE parameter

These features are in addition to proximity searching as documented on pages 1; 8-16 of this issue. You may obtain a non-billed practice code to familiarize yourself with these new features by contacting your Regional Online Training Center. Call 800-338-7657 (press #2).

Nesting

In ELHILL, the logical Boolean operators (AND, OR, & AND NOT) perform so that AND operations take precedence over OR operations. Thus, if a user entered:

a OR b AND c OR d

the system first would perform the AND operation. The results of b AND c would then be ORed with a and those results would be ORed with d.

If the user wanted the ORs performed first, separate search statements would have been needed in the past, as follows:

SS1: a OR b
SS2: c OR d
SS3: 1 AND 2

The new nesting capability allows users to 'bracket' their search clauses using angle brackets (the less than, < and greater than, > symbols) and inform ELHILL of the preferred order of operation. The above search done in three search statements can now be done in one search statement, such as:

<a or b> and <c or d>

Angle brackets are used for nesting because the parentheses symbols are reserved characters in ELHILL that signal data element search qualifiers.

If the final result of a search incorporating nesting is to be used for further searching, additional angle brackets could be used. The number of left and right angle brackets must be the same or an error message will result. Examples of nesting follow in Figure 1:

```
SS 1 /C?
USER:
<*clinical protocols or *length of stay> and

PROG:
CNT 1                                          • Single nesting in a search statement.

USER:
<exp *hospitals or *delivery of health care>

PROG:
SS (1) PSTG (291)

SS 2 /C?                                       • Single nesting with CONTAINS.
USER:
<*clinical protocols or *length of stay> contains critical adj path:
```

Figure 1 - Examples of Nesting

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

USER:
y

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

USER:
y

PROG:
SS (2) PSTG (22)

SS 3 /C?
USER:
<<*clinical protocols or *length of stay> and <exp *hospitals or

PROG:
CNT 3                                   • Double nesting with CONTAINS.

USER:
*delivery of health care>> contains critical@path:

PROG:
SS (3) PSTG (1)
```

Figure 1 - Examples of Nesting cont.

Note that you cannot use a nested Boolean expression to the RIGHT of the CONTAINS operator, although you may use one on the LEFT. CONTAINS is a new proximity search operator; see pages 8 and 9 of this issue for more detail. CONTAINS should be used primarily with an ADJ clause as shown above or with fields such as Pagination or Volume Issue that are not directly searchable as shown in the next example. In this case the searcher has been asked to find a letter that appeared in one of two journals (the requester isn't sure which one) in 1994 on page 881.

```
SS 2 /C?
USER:
(ta) <n engl j med or jama> and 94 (yr) and
  letter (pt) contains 881 (pg)
```

The terms within angle brackets are governed by the traditional ELHILL Boolean search default which in most databases is a MeSH heading; this is in contrast to proximity operators which usually default to Text Word searching of the Title and Abstract fields. Other data elements can be specified for the nested terms by using prequalification; in the example above prequalifying with TA changes the default from MH to TA. The initial prequalification typed in before the nested terms applies to every term in the Search Statement, not just the terms within the angle brackets, unless the other terms are postqualified. Note that in the above example, all the other terms are postqualified; if they weren't then the TA would be applied to them and and the search statement wouldn't work.

Proximity Operators and Nesting

Although NESTING is being introduced with ELHILL 3.4, it is not a Proximity Feature. Angle brackets are to be used to collect Boolean expressions or Search Statements. The NEAR and ADJ operators may **not** be used with nested phrases. Therefore, the following would **not** be allowed:

<total or whole> ADJ body • **NO**

In order to perform this search, you should enter:

total ADJ body or whole ADJ body • **YES**

However, the CONTAINS operator may be used to the right of a set of nested terms and the CONTAINS operator may be followed by NEAR or ADJ. So the following search strategy works:

<ankle or foot> contains pain ADJ management • **YES**

You may receive the following system messages when attempting "illegal" searches involving nesting and a proximity expression, or when your brackets are not balanced:

"MISSING RIGHT BRACKET(S)

"TOO MANY RIGHT BRACKETS"

The above two "error messages" cover many circumstances. You may see it in any one of the following instances shown in Figure 2:

SS 1 /C? USER: <<foot or ankle> and hand or arm>>	• Hand is missing the <.
PROG: TOO MANY RIGHT BRACKETS	
SS 1 /C? USER: <<foot or ankle: and <hand or arm> and pain	• Ankle and arm are missing the >.
PROG: MISSING RIGHT BRACKET(S)	
SS 1 /C? USER: <<foot or ankle> and <hand or arm>> contains	• Search statement ends with contains.
PROG: MISSING RIGHT BRACKET(S)	
SS 1 /C? USER: (tf) <bee or wasp> contians sting	• Contains is misspelled.
PROG: MISSING RIGHT BRACKET(S)	

Figure 2 - Error Messages Received from "Illegal" Nesting or Proximity Searches

CAUTION: Error messages or incorrect retrievals will also occur in the situations shown below in Figure 3:

SS 1 /C? USER: (tf) <bee or wasp> contians 88 (pg)	• Contains is misspelled, search defaults to Boolean logic where PG is not directly searchable.
PROG: ELEMENT TYPE 'PG' IS NOT RETRIEVABLE.	
SS 1 /C? USER: <foot or ankle> near <hand or arm>	• NEAR and ADJ terms may **not** be nested. So although this appears to retrieve postings; the citations do **not** contain the requested terms.
PROG: SS (1) PSTG (2521)	
SS 1 /C? USER: (tf) <all ethic: or all moral:> and exp abortion	• Prequalification (i.e., (tf)) takes precedence over the EXPLODE command, so this search is actually on (tf) abortion **not** exp abortion. Using EXP ABORTION (MH) would work**.**
PROG: SS (1) PSTG (14)	

Figure 3 - Examples of Incorrect Use of Nesting and Proximity Features

SET Command

Until now, when a searcher **temporarily** wanted to change something in his/her profile, a PROFILE MODIFY command would have to be given and then be 'undone' with another PROFILE MODIFY command at the end of the session. The SET command allows the user to change PROFILE settings for the **current session only.** The following profile specifications may be changed with the new SET command: PAGELENGTH, PAGEWIDTH, and the fields of the stored address, including NAME, ADDRESS AND CITSTAZIP. The new MMALL feature, designating your preferred response to multi-meaning messages, may also be changed with the SET command. The form of the command is simple: SET variable=value.

Using the SET Command to Change Pagelength

An example for changing the online pagelength display temporarily to 50 lines is shown below:

```
USER:
SET PAGELENGTH=50

PROG:
PAGELENGTH    000050
SESSION COMPLETED.
```

The program response of "SESSION COMPLETED" means that the requested change has been activated for all searches performed in the current sesssion. When you log off, the values will return to the original settings that existed in the searcher's profile before the SET command was given.

Two PROFILE categories may not be changed using the SET command: password and the new GFILE (see pages 21-22 in this article).

Using SET to Change the Response to the Multi-meaning Message: MMALL Parameter

Currently when a user enters a search term resulting in a multi-meaning message, ELHILL responds in one of two ways. The response received depends on the number of meanings present in the database for the term . If there are ten or fewer meanings, the system will display the individual terms and offer an opportunity to select specific terms from the list as shown below:

```
SS 3 /C?
USER:
library:

PROG:
MM (LIBRARY:) (9)
    1  LIBRARY ADMINISTRATION (MH)
    2  LIBRARY ASSOCIATIONS (MH)
    3  LIBRARY AUTOMATION (MH)
    4  LIBRARY COLLECTION DEVELOPMENT (MH)
    5  LIBRARY SCHOOLS (MH)
    6  LIBRARY SCIENCE (MH)
    7  LIBRARY SERVICES (MH)
    8  LIBRARY SURVEYS (MH)
    9  LIBRARY TECHNICAL SERVICES (MH)
SPECIFY NUMBERS, ALL, OR, NONE-
```

If there are more than ten possible meanings for a term, the system will respond with the number of occurrences and the choice to take all or none of them as shown here:

```
USER:
coronary:

PROG:
MM (CORONARY:) (11)
ALL OR NONE?
```

In both cases, you must answer a system prompt in order to get retrieval. MMALL allows a user to change these interactions **permanently** with the PROFILE MODIFY command or **temporarily** for a single session with the SET command. The user may specify three different values for MMALL:

- **L or LIST**

to have the system generate the full display, as described in the previous paragraph, and then automatically OR all the terms in the list. This is the same result as the user typing ALL in response to the original program prompt. An example of the command followed by a typical online display follows:

```
SS 1 /C?
USER:
SET MMALL=L        • To set temporarily for a
                     single session
PROG:
MM REPLY ALL   LIST
SESSION COMPLETED.
```

```
SS 1 /C?
USER:
RENNER H: (AU)

PROG:
MM (RENNER H:) (3)
        1  RENNER H (AU)
        2  RENNER HJ (AU)
        3  RENNER HW (AU)
SS (1) PSTG (8)
```

- **Y or YES**

to have the system generate the list and OR the results behind the scenes, but show only the number of meanings (not the list itself) and the final postings.

```
SS 2 /C?
USER:
SET MMALL=Y              • To set temporarily for
                           a single session.
PROG:
MM REPLY ALL   T         • T stands for true; here
SESSION COMPLETED.         it means Yes.

SS 2 /C?
USER:
RENNER H: (AU)

PROG:
MM (RENNER H:) (3)
SS (2) PSTG (8)
```

- **N or NO**

(the default) to have the system return to the original functioning of showing all meanings (if fewer than 10) and prompting for a user choice before giving any postings.

```
SS 3 /C?
USER:
SET MMALL=N      • To set temporarily for a single
                   session
PROG:
MM REPLY ALL   *** REMOVED ***
SESSION COMPLETED.
        • Profile is returned to default setting.

SS 3 /C?
USER:
RENNER H: (AU)

PROG:
MM (RENNER H:) (3)
        1  RENNER H (AU)
        2  RENNER HJ (AU)
        3  RENNER HW (AU)
SPECIFY NUMBERS, ALL, OR, NONE-
USER:
ALL

PROG:
SS (3) PSTG (8)
```

Using the PROFILE MODIFY Command

The PROFILE MODIFY command is used to **permanently** change a variable shown in your profile, as opposed to the SET command which changes a profile for just the search session in which it's issued. For most variables shown in a user's profile you may use either SET or PROFILE MODIFY. The two exceptions are your password and the Greetings File; these two can be changed only with the PROFILE MODIFY command and such changes are permanent until another PROFILE MODIFY command is given.

Using PROFILE MODIFY to Change the Response to the Multi-meaning Message: MMALL Parameter

Searchers may want to change their profile **permanently** so that ELHILL will automatically OR all the terms in a multi-meaning list. The command is:

```
profile modify mmall    • To modify permanently
```

The system will prompt for MMALL, and the user will respond with either L, Y, or N. Or avoid the prompt by entering:

```
profile modify mmall,  mmall=L          (or Y or N)
```

Using PROFILE MODIFY to Change the the Greetings File: GFILE Parameter

The file that you are initially connected to is called the 'greetings file'. Most users receive the message or greeting shown below when they connect to ELHILL:

```
WELCOME TO THE NATIONAL LIBRARY OF
MEDICINE'S ELHILL SYSTEM.
YOU ARE NOW CONNECTED TO THE MEDLINE
(1992 - 95) FILE.
```

You now have the capability of modifying your profile so that you connect to a different 'greetings file' (or

GFILE) when you login. For example, if you want to connect to AIDSLINE everytime you login, at any USER: prompt enter: prof modify gfile as shown below.

```
USER:
prof modify gfile

PROG:
GREETINGS FILE?

USER:
aidsline


PROG:
PASSWORD              Apple
NAME                  Jane Doe
ADDRESS               123 Water St.
CITSTAZIP             Bethesda,MD 20892
PAGELENGTH            000025
PAGEWIDTH             000072
GREETINGS FILE        AIDSLINE
OK? (Y/N/C/LIST)

USER:
y

PROG:
PROFILE COMPLETED.
```

Then the next time you login, you will receive the greeting shown below.

```
WELCOME TO THE NATIONAL LIBRARY OF MEDICINE'S ELHILL SYSTEM.
YOU ARE NOW CONNECTED TO THE AIDSLINE (1980 FORWARD) FILE.
```

You may wish to consider setting your greeting file to either ALERT or AIDSLINE, where the charges are reduced or free so that you can read the ELHILL news in a less expensive environment without having to issue the file command to get to one of these two files. If you do make this modification, then remember to switch back to your database of choice before starting your search!

Of course, you may continue to switch files at any USER: prompt by using the FILE command. ❑

--prepared by Iris Renner and Toby Port
MEDLARS Management Section

AIDSLINE Update

AIDSLINE was rebuilt with 1995 MeSH and made available on January 30, 1995. As of that date, the file contained 107,833 citations. It is made up from the following subfiles:

- MEDLINE
- HEALTH PLANNING & ADMINISTRATION (HEALTH)
- CANCERLIT
- CATLINE
- AVLINE
- Meeting abstracts from the Fifth through Tenth International Conference on AIDS
- Meeting abstracts from the 8th through 11th Symposium on Nonhuman Primate Models for AIDS
- AIDS-related abstracts from the 1990-1994 annual meetings of the American Society for Microbiology
- 5th Annual Conference of the Australasian Society for HIV Medicine

During the 1994 indexing year, AIDS-related, non-journal records from the BIOETHICSLINE database, (SI) KIE, were added to AIDSLINE. The 1995 AIDSLINE was built without the BIOETHICS subset because BIOETHICSLINE has not yet been rebuilt with the 1995 MeSH vocabulary. Once the BIOETHICSLINE file is rebuilt with 1995 MeSH, the AIDS-related records will be added to AIDSLINE. Watch the ELHILL NEWS for an announcement of the update.

For those searchers interested in searching for information on the early years of HIV/AIDS, please note that MeSH Headings were deleted from 1980-1981 CANCERLIT citations this year. This should have little impact on what was pulled from the CANCERLIT file, since mostly textwords were used to formulate early AIDSLINE strategies, however it could have resulted in some records not being pulled as candidates into the new 1995 AIDSLINE file.

New MeSH Terms Added to the AIDSLINE Search Strategy

Every year the AIDSLINE strategy is updated to reflect MeSH vocabulary changes that describe the HIV/AIDS pandemic. This year the following terms were added to the 1995 AIDS stored strategy:

CD4 Lymphocyte Count
CD8-Positive T-Lymphocytes
Disease Notification
Disease Progression
Explode Disease Transmission
Needle-Exchange Programs
SAIDS Vaccines
Th1 Cells
Th2 Cells

To display the complete search strategy used to create the AIDSLINE database, at any USER: prompt type: **display medlars.aids**. To save money, use the display command in AIDSLINE, where no charges are billed.

Future Plans

The National Library of Medicine is planning to index and abstract articles from 20 HIV/AIDS newsletters and two new journal titles beginning with the January 1995 issues of the titles listed in Figure 1.

Both newsletter and journal titles indexed for AIDSLINE contain an LI value of X in the SERLINE record. The titles will appear in the *List of Serials Indexed for Online Users*.

During the year, meeting abstracts from additional NIH supported AIDS-related meetings will be indexed for AIDSLINE. ❑

--prepared by Anne White-Olson
MEDLARS Management Section

Title	Title Abbreviation
AIDS Action Update	TA not yet available
AIDS Alert	AIDS Alert
AIDS Clinical Care	AIDS Clin Care
AIDS Patient Care	AIDS Patient Care
AIDS Policy and Law	AIDS Policy Law
AIDS Treatment News	AIDS Treat News
AMFAR REPORT	AMFAR Rep
BETA: Bulletin of Experimental Treatments for AIDS	BETA
Common Factor	Common Factor
Focus, A Guide to AIDS Research and Counseling	Focus
HIV/AIDS Surveillance Report	HIV AID Surveill Rep
J of the Physicians Association for AIDS Care	J Physicians Assoc AIDS Care
NIAID AIDS Agenda	NIAID AIDS Agenda
Notes from the Underground	Notes Undergr
Pediatric AIDS and HIV Infection	Pediatr AIDS HIV Infect
PI Perspective	PI Perspect
Positively Aware	Posit Aware
SIDAhora	Sidahora
Step Perspective News	Step Perspect
Treatment Issues	Treat Issues
Treatment Review	Treat Rev
UPDATE/NMAC	Update/Natl Minor COUNC

Figure 1 - Newsletter and New Journal Titles to be Indexed for AIDSLINE in 1995

Changes to CATLINE and AVLINE

One clarification and one addition are required to the article "Rebuilding CATLINE/AVLINE" which appeared in the September-October 1994 *Technical Bulletin* on page 14.

Clarification

The information below clarifies item 3 under "Data Changes Applicable to CATLINE and AVLINE."

All values except "A" (for Government Publication) have been removed from the MARC Indicators (MA) field in CATLINE and AVLINE.

The values shown in the list in the next column are no longer searchable values in the MARC Indicators (MA) field.

"B" (Festschrift)
"D" (Main Entry in Body)
"F" (Translated work)
"G" (Publisher in Entry)
"P" (Periodical)

These values were primarily used for internal purposes. The values "C" (Indexed Materials) and "E" (Fiction) were deleted previously.

Addiitional Information

The Publication Type (PT) field can now be used to locate all CATLINE or AVLINE records that are Festschriften. A Festschrift is a collection of essays or other writings contributed by students, teachers, colleagues, and admirers to honor a scholar, physician, or other scientist on a special occasion noting an event of importance in his or her life. The field is searchable as: Festschrift (PT). ❑

--prepared by Alice Jacobs
Technical Services Division

Name Authority File® Going Offline

On April 7, 1995, the Name Authority File (NAF) will be removed from the set of databases available through the MEDLARS system. This decision is based on a number of factors, not the least of which is the low usage of the NAF overall, both by the public and inhouse NLM staff. In response to an electronic query on the impact of taking the NAF offline, medical librarians verified that the use of this file is minimal and removing it from the MEDLARS database family will not have serious adverse effects.

Internally at NLM, the NAF is no longer needed for printing names and series references in the *NLM Current Catalog* or the *NLM Audiovisuals Catalog*, since these publications ceased with the 1993 production year. Inhouse use of the NAF is minimal because NLM staff create and verify name and series headings in an authority file component of the Technical Services System, TESS, the internal online cataloging system used at NLM.

Usage of the ELHILL NAF for Fiscal Year 1994 dropped by nearly 50% as compared to FY 1993. Medical catalogers now have access to NLM name and series authority records in bibliographic utilities such as the Research Libraries Information Network (RLIN) and the Online Computer Library Center (OCLC). NLM name authority records created for full level cataloging appear in these utilities through NLM's significant contributions to the National Cataloging Operations (NACO) program of the Library of Congress. NLM series authority records created for full level cataloging also appear in these utilities for those series headings contributed as part of NLM's participation in the Co-operative Online Serials Program (CONSER) and in the Library of Congress' Cataloging-in-Publication (CIP) program.

The titles below are selected sources used by the NLM Reference Section to locate addresses for audiovisual

and computer software producers previously accessible in the ELHILL NAF.

1. *AV MP: Audio Video Market Place, The Complete A/V Business Directory*. New York: R.R. Bowker; 1994. (annual)

2. *The Video Sourcebook*. 16th ed. Detroit: Gale Research; 1995. (annual)

3. 3 Stewart Directories (annual):

   1994 Healthcare CAI (Computer Assisted Instruction) Directory. Alexandria (VA): Stewart Publishing; 1994.

   1994 Healthcare CD-ROM Directory. Alexandria (VA): Stewart Publishing; 1994.

   1994 Healthcare Videodisc Directory. Alexandria (VA): Stewart Publishing; 1994.

4. *Healthcare Media Locator* (computer file). West Park (NY): Olympic Media Information; 1994. (for videos only)

5. *Medical and Health Information Directory 1994-95*. 7th ed. 3 vols. (Vol.2 has AV Producers and Services Section) Detroit: Gale Research; 1994. ❑

--prepared by Alice Jacobs
Technical Services Division

Internet E-Mail Address for Technical Services Questions

The NLM Technical Services Division (TSD) has established a specific Internet e-mail address -- tsd@nlm.nih.gov -- to serve our outside library clientele who may have technical questions related to the selection, acquisitions, and cataloging at the National Library of Medicine. TSD offers this new "customer" access to provide an improved channel for communication with users of any TSD bibliographic services and products.

Queries addressed to this new e-mail address will be monitored by TSD senior staff on a daily basis and routed to the appropriate TSD program area for timely response.

In offering this service, we recognize that it is increasingly important to take advantage of electronic avenues for the exchange of information and we welcome your questions, comments, or suggestions related to technical services topics. ❑

--prepared by Alice Jacobs
Technical Services Division

More on the New FTS2000 Network

The November-December 1994 issue of the *Technical Bulletin* introduced the schedule for switching over from the existing telecommunications providers, Tymnet, SprintNet, and CompuServe, to NLM's new provider, FTS2000. The new FTS2000 number, 1-800-525-0216, will eventually replace the existing phone numbers for access to the NLM databases. (See pages 23-26 of the November-December 1994 issue for the complete schedule for the transition and page 7 of this issue for an abbreviated version of that schedule.) This article shows two sample login scripts for FTS2000 access to MEDLARS; Figure 1 shows sample parameters and a sample script for SMARTCOM and Figure 2 illustrates the same features for PROCOMM. If you are using some other telecommunications software, you may use the information shown below as a guide. Grateful Med users need only select the FTS2000 network in SETUP and key in the 1-800-525-0216 number and choose the appropriate baud rate. All the necessary settings are already scripted in the Grateful Med software program. Internet users are not affected by FTS2000.

Appreciation for Help in Testing MEDLARS Access

NLM sought the assistance of medical librarians to help test access to MEDLARS and DOCLINE using the AT&T Packet Switched Network offered under the Federal government's FTS2000 Federal Telephone System contract award. Following the scripts is a table listing all the people who helped to test the new FTS2000 system. The Library would like to take this opportunity to thank everyone who has helped to make the transition as smooth as possible. ❑

--prepared by Carolyn Tilley
MEDLARS Management Section

A. Sample Parameters:

PARAMETERS

Name of Set: FTS2000 Press F2 For Help

TRANSMISSION PARAMETERS	
Duplex:	FULL
Connection Type:	CCITT 2400
Character Processing:	FORMATTED
Show Control Codes:	NO
Page Pause:	NO
Show Status Lines:	YES
Confidential:	NO
Include Line Feeds:	NO
Character Delay:	0 (0.001 sec.)
Line Delay:	0 (0.01 sec.)
Character Format:	7 DATA + EVEN + 1 STOP
Emulator:	TTY

TELEPHONE PARAMETERS	
Answer On Ring:	1
Remote Access:	NONE Password:
Phone Number:	9,1-800-525-0216

KEYBOARD DEFINITIONS	
Escape Key:	128 (F1)
Help Key:	129 (F2)
Printer Key:	130 (F3)
Capture Key:	131 (F4)
Macro Prefix Key:	132 (F5)
Break Key:	133 (F6)
Break Length:	35 (0.01 sec.)
Protect Key:	134 (F7)

PROTOCOL PARAMETERS	
Receive Time-out:	60 (sec.)
Send Time-out:	10 (sec.)
Error-Free Protocol:	HAYES
Stop/Start-Stop Char:	19 (DC3) or use 0 (off)
Start Char:	17 (DC1)
Send Lines-EOL Char:	10 (LF)
Prompt Char:	32 (" ")

NOTE: **9,** in front of the phone number shows how to indicate an outside line is needed. You may not need this or you may need to substitute another number/character string.

Figure 1 - SMARTCOM II

B. Sample Script:

MACRO DEFINITION Press F2 For Help

Name of Macro: Z - Automatic Log-On Set: FTS2000

Time-out	Prompt	Data	Send CR
2	0 (off)		YES
5	110 (“n”)	nlmmed	YES
5	100 (“d”)	medlars	YES
5	82 (“R”)	login	YES
5	68 (“D”)	User ID code/password	YES

NOTES:
For DOCLINE script: use **docline code/password** all on one line in place of **login** and remember to use your DOCLINE code and password NOT your ELHILL User ID code and password. Then, omit the last line of the script above.

Use FILE command from ELHILL databases (MEDLINE, CATLINE, etc.) to access TOXNET databanks.

Figure 1 - SMARTCOM II cont.

A. Sample Parameters:

DIALING DIRECTORY: PCPLUS

	NAME	NUMBER	BAUD	P D S D	SCRIPT
__	FTS2000	9,1-800-525-0216	2400	E- 7- 1 F	FTS.ASP

.
.
.

Select Entry	R Revise Entry	C Clear Marked	:
PgDn Scroll Dn	Space Mark Entry	E Erase Entry(s)	L Print Directory
Home First Page	Enter Dial Selected	F Find Entry	P Dialing Codes
End Last Page	D Dial Entry(s)	A Find Again	X Exchange Dir
Esc Exit	M Manual Dial	G Goto Entry	T Toggle Display

Choice:

PORT: COM2 SETTINGS: 2400 E-7-1 DUPLEX: FULL DIALING CODES:

Figure 2 - PROCOMM PLUS

B. Sample Script:

```
;
;   PROCOMM PLUS generated ASPECT script file - Editing may be required.
;
PAUSE 1
TRANSMIT “^M”
PAUSE 1
WAITFOR “login:”
PAUSE 1
TRANSMIT “nlmmed^M”
WAITFOR “password:”
PAUSE 1
TRANSMIT “medlars^M”
WAITFOR “ENTER   LOGIN^S^Q^M^J”
PAUSE 1
TRANSMIT “login^M”
WAITFOR “$$$$$$$$$$”
TRANSMIT “code/password^M”
```

NOTES:
For DOCLINE script: use “**docline code/password^M”** in place of **“login^M”** and remember to use your DOCLINE code and password NOT your ELHILL User ID code and password. Then, omit the last 2 lines of the script above.

Use FILE command from ELHILL databases (MEDLINE, CATLINE, etc.) to access TOXNET databanks.

Name	Affiliation	Location

Figure 2 - PROCOMM PLUS cont.

Sara Andrews	University of Nebraska Medical Center	Omaha, NE
Kathy Artuis	Swedish Medical Center	Englewood, CO
Helen Asher	St. Joseph Hospital	Orange, CA
Phyllis Askey	Harvard Medical School	Boston, MA
Barbara Ballew	Trinity Lutheran Hospital	Kansas City, KS
Mark Barbaree	Piedmont Hospital	Atlanta, GA
April Bennington	MD Anderson Cancer Center	Houston, TX
Linda Bradshaw	Cottage Hospital	Woodsville, NH
Lisa Brehm	Houston Academy of Medicine	Houston, TX
Fredrica Buckman	University of Illinois	Chicago, IL
Mary Ann Camp	Spartanburg Regional Medical Center	Spartanburg, SC
Jerry Carlson	Poudre Valley Hospital	Fort Collins, CO
Susan Cavanaugh	Cooper Hospital	Camden, NJ
Mary Clevenger	Bethany Medical Center	Kansas City, KS
Barbara Crain	McLaughlin Research Institute	Great Falls, MT
Jay Daly	Beth Israel Hospital	Boston, MA

Table of the FTS2000 Testers

Janice Debose	Singing River Hospital	Pascagoula, MS
Kathleen Dorf	Mercy Hospital	Des Moines, IA
Jose Elacate	Community Hospital	Roanoke, VA
Pamela Elwell	Mount Carmel Medical Center	Columbus, OH
Rochelle Flowers	Boston College	Chestnut Hill, MA
Mary Lou Froelich	Hawaii Medical Library	Honolulu, HI
Jackie Gagne	Group Health Cooperative	Seattle, WA
Anna Gieschen	Sioux Valley Hospital	Sioux Falls, SD
Joanna Gillcinski	University of Southern California	Los Angeles, CA
Nancy Golden	Boston University	Boston, MA
Mary Lou Goldstein	Scottsdale Memorial Hospital	Scottsdale, AZ
Carmel Gram	Lawrence General Hospital	Lawrence, MA
Kim Granath	St. Patrick Hospital	Missoula, MT
Leza Hamby	Rocky Mountain Lab	Hamilton, MT
Dottie Hawthrone	Mayo Foundation	Rochester, MN
Gene Haynes	Jewish Hospital	Louisville, KY
Head, ILL	Boston University School of Medicine	Boston, MA
Head, ILL	Boston College	Chestnut Hill, MA
Head, ILL	University of Connecticut	Farmington, CT
Head, ILL	New York Academy of Medicine	New York, NY
Head, ILL	Columbia University	New York, NY
Head, ILL	SUNY Buffalo	Buffalo, NY
Head, ILL	University of Pennsylvania	Philadelphia, PA
Head, ILL	University of Washington	Seattle, WA
Leslie Herman	John Peter Smith Hospital	Temple, TX
Susan Hill	Case Western Reserve University	Cleveland, OH
Suzy Holt	Shodair Childrens Hospital	Helena, MT
Evelyn Hughes	Jackson General Hospital	Ripley, WV
Gary Ives	University of Texas	Galveston, TX
Carole Jordan	Community Hospital	Roanoke, VA
Dorothy Kalahan	University of Connecticut	Farmington, CT
Alice Karasick	University of Southern California	Los Angeles, CA
Kathi Kreie	Kaiser Permanente Medical Center	Hollywood, CA
Edie Lacy	Piedmont Hospital	Atlanta, GA
Connie Littleton	University of Tennessee Memorial Research Center & Hospital	Knoxville, TN
Jean Mackey	John Peter Smith Hospital	Temple, TX
Peggy Mauldin	Medical University of South Carolina	Columbia, SC
Kathleen McClure	Bethany Medical Center	Kansas City, KS
Dan McCollum	Vanderbilt University	Nashville, TN
Faye McCracken	Scott & White Hospital	Temple, TX
Martha Michaels	Sistersville General Hospital	Sistersville, NY
Barbara Miller	Cooper Hospital	Camden, NJ

Table of the FTS2000 Testers cont.

Carolyn Mills	Memorial Hospital	Pawtucket, RI
Lucy Moor	AMI Brookwood Medical Center	Birmingham, AL
Tonia Owenby	Spartanburg Regional Medical Center	Spartanburg, SC
Sandra Parker	Swedish Medical Center	Englewood, CO
George Paul	George Washington University	Washington, DC
Donna Phillips	Marian Health Center	Sioux City, IA
Beshia Popescu	Loma Linda University	Loma Linda, CA
Jane Potee	Ball Memorial Hospital	Muncie, IN
Neville Prendergast	SUNY Buffalo	Buffalo, NY
Doris Prichard	University of Tennessee	Knoxville, TN
Lynette Ralph	University of Maryland	Baltimore, MD
Judy Reingold	Elliot Hospital	Manchester, NH
Florence Ruby	Sacred Heart Hospital	Pensacola, FL
Marie Scheing	UCLA	Los Angeles, CA
Bridget Scheing	St. Francis Hospital	Wilmington, DE
Kathy Schrag	Newton Medical Center	Newton, KS
Kerry Skidmore	VA Medical Center	Cheyenne, WY
Patricia Solin	Cooper Hospital	Camden, NJ
Dawn Stilphen	Parkview Memorial Hospital	Brunswick, ME
Marty Stoltz	St. Alphonsus Regional Medical Center	Boise, ID
Debbie Subke	John Peter Smith Hospital	Temple, TX
Marika Szabo	North Country Hospital	Newport, VT
Candace Thayer	St. Mary's Health Center	St. Louis, MO
Cynda Tipple	Community Hospital	Roanoke, VA
Shirley Toth	University of Maryland	Baltimore, MD
Lisa Traditi	Swedish Medical Center	Englewood, CO
Gerry Wagner	University of Cincinnati	Cincinnati, OH

Table of the FTS2000 Testers cont.

SERIALS UPDATE

INDEXED TITLES UPDATED, NOVEMBER-DECEMBER 1994

The following titles cited in MEDLINE, HEALTH, and HSTAR have recently been selected for indexing, undergone a title change, or ceased publication. This list is not cumulative; the information provided is only for titles whose status has changed since the last UPDATE. More detailed information may be found in SERLINE. For further information, please contact MMS or Ms. Esther Baldinger, Technical Services Division at 301-496-3784 or elb@nlm.nih.gov.

Serials Update information may also be obtained by anonymous ftp from the host nlm.pubs.nlm.nih.gov. The file is in the subdirectory /online/journals. The same Update information may also be obtained from the NLM Gopher; first gopher to gopher.nlm.nih.gov, then select Online Services, then select Journal Title Lists. Questions about ftping to NLM should be addressed to ftpadmin@nlmpubs.nlm.nih.gov and questions about the NLM Gopher should be addressed to admin@gopher.nlm.nih.gov.

TITLES SELECTED FOR INDEXING, NOVEMBER-DECEMBER 1994

HLI BEHAVIORAL HEALTHCARE TOMORROW
BEHAV HEALTHC TOMORROW
1N1,NOV/DEC 1992—
KNOLLS PUBLISHING
CEDAR KNOLLS NJ UNITED STATES
FIRST ISSUE CALLED PREMIER ISSUE; LACKS OTHER DESIGNATION.
INDEXING BEGAN WITH V3N1,JAN/FEB 1994.
W1 BE13I 1063-8490
SR0075919 JC: B7R
KNOLLS PUBLISHING GROUP,240 CEDAR KNOLLS ROAD SUITE 220,CEDAR KNOLLS NJ 07927-1627

HLI HEALTH SYSTEM LEADER
HEALTH SYST LEAD
VOL. 1, NO. 1 (MAR. 1994)-
BADER AND ASSOCIATES
ROCKVILLE MD UNITED STATES
TEN ISSUES IN 1994.
INDEXING BEGAN WITH V1N1,MAR 1994.
W1 HE585 1075-1807
SR0082658 JC: B7P
BADER AND ASSOCIATES INC.,PO BOX 2106, ROCKVILLE MD 20847-2106

HLI INFOCARE
INFOCARE
NOV,1993—
HEALTH DATA ANALYSIS
EVERGREEN CO UNITED STATES
INFORMATION STRATEGIES FOR HEALTHCARE NETWORKS.
INDEXING BEGAN WITH APR 1994.
ON ORDER
SR0082645 JC: B7L
HEALTH DATA ANALYSIS INC. (HDA),BOX 2830, 2902 EVERGREEN PKWY.,STE. 100,EVERGREEN CO 80439

HLI MANAGED CARE
MANAG CARE
1,1992—
STEZZI COMMUNICATIONS
YARDLEY PA UNITED STATES
IMPRINT VARIES. FREQUENCY VARIES: QUARTERLY, 1992; MONTHLY, 1993- .
INDEXING BEGAN WITH V3N1,JAN 1994.
W1 MA559G 1062-3388
SR0075872 JC: B7N
STEZZI COMMUNICATIONS INC.,301 OXFORD VALLEY RD.,STE. 603-B,YARDLEY PA 19067

HLI NATIONAL NETWORK
NATL NETW
1,197?—
HOSPITAL LIBRARIES SECTION, MEDICAL LIBRARY ASSOCIATION
CHICAGO IL UNITED STATES
OFFICIAL NEWSLETTER OF THE HOSPITAL LIBRARIES SECTION OF THE MEDICAL LIBRARY ASSOCIATION.
INDEXING BEGAN WITH V19N1,AUG 1994.
ON ORDER 1075-3753
SR0070641 JC: B7O
MEDICAL LIBRARY,METHODIST HOSPITAL OF DALLAS,P.O. BOX 1201,LUBBOCK TX 79410

TITLE CHANGES, NOVEMBER-DECEMBER 1994

IM ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY
ARTERIOSCLER THROMB VASC BIOL
15,1995—
AMERICAN HEART ASSOCIATION
DALLAS TX UNITED STATES
CONTINUES: ARTERIOSCLEROSIS AND THROMBOSIS.
INDEXING BEGAN WITH V15N1,1995.
ON ORDER-TITLECHANGE 1079-5642
SR0082891 JC: B89

IM BEITRAGE ZUR INFUSIONSTHERAPIE UND TRANSFUSIONSMEDIZIN
BEITR INFUSIONSTHER TRANSFUSIONSMED
32,1994—
KARGER
BASEL SWITZERLAND
CONTINUES: BEITRAGE ZUR INFUSIONSTHERAPIE.
INDEXING BEGAN WITH V32,1994.
W1 BE343
SR0082647 JC: B7I

IM EUROPEAN JOURNAL OF VASCULAR AND ENDOVASCULAR SURGERY
EUR J VASC ENDOVASC SURG
9,1995—
W.B. SAUNDERS
LONDON ENGLAND
CONTINUES: EUROPEAN JOURNAL OF VASCULAR SURGERY.
INDEXING BEGAN WITH V9,1995.
ON ORDER-TITLECHANGE 1078-5884
SR0082770 JC: B8N

HLI IHSM NETWORK
IHSM NETW
1,1995—
INSTITUTE OF HEALTH SERIVES MANAGEMENT
LONDON ENGLAND
FORMED BY THE MERGER OF: HEALTH SERVICE MANAGEMENT, AND: HEALTH SERVICE JOURNAL.
INDEXING BEGAN WITH V1,1995.
ON ORDER-TITLECHANGE
SR0082690 JC: B78

IM INFLAMMATION RESEARCH
INFLAMM RES
44,1995—
BIRKHAUSER VERLAG
BASEL SWITZERLAND
HAS SUPPLEMENT: AGENTS AND ACTIONS. SUPPLEMENTS. SUPPLEMENTS ACCOMPANY SOME ISSUES. CONTINUES: AGENTS AND ACTIONS.
INDEXING BEGAN WITH V44N1,JAN 1995.
ON ORDER-TITLECHANGE 1023-3830
SR0082594 JC: B8U

IM JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES AND HUMAN RETROVIROLOGY
J ACQUIR IMMUNE DEFIC SYNDR HUM RETROVIROL
8,1995—
RAVEN PRESS
NEW YORK NY UNITED STATES
CONTINUES: JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES.
INDEXING BEGAN WITH V8N1,JAN. 1995.
ON ORDER-TITLECHANGE 1077-9450
SR0082538 JC: B7J

HLI JOURNAL OF AMERICAN HEALTH CARE
J AM HEALTH CARE
4N5,SEP/OCT 1994—
FAULKNER AND GRAY
NEW YORK NY UNITED STATES
THE TRENDS, POLICIES, AND MARKET REFORMS SHAPING HEALTH CARE IN THE UNITED STATES.
CONTINUES: JOURNAL OF AMERICAN HEALTH POLICY.
INDEXING BEGAN WITH V4N5,SEP/OCT 1994.
IN PROCESS 1078-6856
SR0082595 JC: B6U

HLI JOURNAL OF HEALTHCARE RESOURCE MANAGEMENT
J HEALTHC RESOUR MANAG
13,1995—
MAYWORM ASSOCIATES
LIBERTYVILLE IL UNITED STATES
CONTINUES: JOURNAL OF HEALTHCARE MATERIAL MANAGEMENT.
INDEXING BEGAN WITH V13,1995.
ON ORDER-TITLECHANGE 1078-9537
SR0082769 JC: B8M

IDL JOURNAL OF THE ISRAEL DENTAL ASSOCIATION
J ISR DENT ASSOC
11N1,MAY 1994—
ISRAEL DENTAL ASSOCIATION
HERZELIA PIITUAH ISRAEL
CONTINUES: REFUAT HA-SHINAYIM.
INDEXING BEGAN WITH V11N1,MAY 1994.
ON ORDER-TITLECHANGE
SR0082806 JC: B8S

IM JOURNAL OF MOLECULAR MEDICINE
J MOL MED
73,1995—
SPRINGER INTERNATIONAL
BERLIN GERMANY
CONTINUES: CLINICAL INVESTIGATOR.
INDEXING BEGAN WITH V73,1995.
ON ORDER-TITLECHANGE
SR0082736 JC: B8C

TITLE CHANGES, NOVEMBER-DECEMBER 1994

IM JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE
J OCCUP ENVIRON MED
37,1995—
WILLIAMS AND WILKINS
BALTIMORE MD UNITED STATES
OFFICIAL PUBLICATION OF THE AMERICAN COLLEGE OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE. CONTINUES: JOURNAL OF OCCUPATIONAL MEDICINE.
INDEXING BEGAN WITH V37N1,JAN 1995.
ON ORDER-TITLECHANGE 1076-2752
SR0081408 JC: B7H

IM JOURNAL OF TRACE ELEMENTS IN MEDICINE AND BIOLOGY
J TRACE ELEM MED BIOL
9,1995—
DE GRUYTER
BERLIN GERMANY
CONTINUES: JOURNAL OF TRACE ELEMENTS AND ELECTROLYTES IN HEALTH AND DISEASE.
INDEXING BEGAN WITH V9,1995.
ON ORDER-TITLECHANGE
SR0082633 JC: B7Q

IM METHODS. IMMUNOMETHODS
METHODS IMMUNOMETHODS
6N1,FEB 1995—
ACADEMIC PRESS
SAN DIEGO CA UNITED STATES
CONTINUES: IMMUNOMETHODS.
iNDEXING BEGAN WITH V6N1,FEB 1995.
ON ORDER-TITLECHANGE 1078-151X
SR0082892 JC: B9B

HLI PFCA REVIEW
PFCA REV
FALL 1993—
PFCA INC
ATLANTA GA UNITED STATES
CONTINUES: REVIEW / PATIENT FOCUSED CARE ASSOCIATION.
INDEXING BEGAN WITH FALL 1993.
IN PROCESS
SR0082932 JC: B9G

IM PSYCHIATRIC SERVICES
HLI PSYCHIATR SERV
46,1995—
AMERICAN PSYCHIATRIC ASSOCIATION
WASHINGTON DC UNITED STATES
CONTINUES: HOSPITAL AND COMMUNITY PSYCHIATRY.
INDEXING BEGAN WITH V45N1,JAN 1995.
ON ORDER-TITLECHANGE 1075-2730
SR0082840 JC: B8T

IM SCIENCE AND JUSTICE
SCI JUSTICE
35,1995—
FORENSIC SCIENCE SOCIETY
HARROGATE ENGLAND
CONTINUES: JOURNAL - FORENSIC SCIENCE SOCIETY.
INDEXING BEGAN WITH V35,1995.
ON ORDER-TITLECHANGE 1355-0306
SR0082699 JC: B73

TITLES NO LONGER INDEXED, NOVEMBER-DECEMBER 1994

IM ACTA MORPHOLOGICA HUNGARICA
ACTA MORPHOL HUNG
31,1983-40,1992
AKADEMIAI KIADO
BUDAPEST HUNGARY
SPINE TITLE: ACTA MORPHOLOGICA. ISSUED BY THE HUNGARIAN ACADEMY OF SCIENCES.
CONTINUES: ACTA MORPHOLOGICA ACADEMIAE SCIENTIARUM HUNGARICAE.
W1 AC8643 0236-5391
A07096000 JC: 18C

IM BEITRAGE ZUR TROPISCHEN LANDWIRTSCHAFT UND VETERINARMEDIZIN
BEITR TROP LANDWIRTSCH VETERINARMED
11,1973-30,1992
KARL MARX UNIVERSITAT
LEIPZIG GERMANY
CONTINUES BEITRAGE ZUR TROPISCHEN UND SUBTROPISCHEN LANDWIRTSCHAFT UND TROPENVETERINARMEDIZIN.
W1 BE461L 0301-567X
B03900000 JC: 9OP

TITLES NO LONGER INDEXED, NOVEMBER-DECEMBER 1994

IM CANCER DETECTION AND PREVENTION
CANCER DETECT PREV
1N1,1976-18N5,1994
CRC PRESS
BOCA RATON FL UNITED STATES
PUBLISHER VARIES: DEKKER, VOLS. 1-4 (1976-79); LISS, VOLS. 5-13 (1980-88); CRC PRESS, VOL. 14 (1989)- . VOLS. 10 AND 11 REPRINTED AS: DEVELOPMENTS IN PREVENTIVE ONCOLOGY, PARTS A AND B. HAS SUPPLEMENT: CANCER DETECTION AND PREVENTION. SUPPLEMENT.
INDEXING BEGIN WITH V3N1,1980.
W1 CA6785K 0361-090X
C05440000 JC: CNZ

IM DEUTSCHE ZAHN-, MUND-, UND KIEFERHEILKUNDE
IDL MIT ZENTRALBLATT
DTSCH ZAHN MUND KIEFERHEILKD ZENTRALBL
79,1991-80,1992
BARTH
LEIPZIG GERMANY
CONTINUES: ZAHN-, MUND-, UND KIEFERHEILKUNDE MIT ZENTRALBLATT.
INCORPORATED INTO: DEUTSCHE ZAHNARTZLICHE ZEITSCHRIFT.
INDEXING BEGAN WITH V79N1, 1991.
W1 DE877 0303-6464
SR0071394 JC: A38

IM GIORNALE ITALIANO DI CHEMIOTERAPIA
G ITAL CHEMIOTER
1,1954-39,1993
EDIZIONI MINERVA MEDICA
TORINO ITALY
PUBLICATION SUSPENDED 1959-61. SOME VOLS. HAVE SUPPLEMENTS.
INDEXING FOR ONLINE FILES BEGAN WITH 11N4,OCT-DEC 1964.
W1 GI769 0017-0445
G08580000 JC: FBJ

IM HEART DISEASE AND STROKE
HEART DIS STROKE
1N1,JAN/FEB 1992-3N6,NOV/DEC 1994
AMERICAN HEART ASSOCIATION
DALLAS TX UNITED STATES
INDEXING BEGAN WITH V1N1,JAN-FEB 1992.
W1 HE654L 1058-2819
SR0072152 JC: B08

IM JOURNAL OF EXPERIMENTAL PATHOLOGY
J EXP PATHOL
1N1,1983-6N1/2,1992
MARY ANN LIEBERT
NEW YORK NY UNITED STATES
NO ISSUES PUBLISHED IN 1988.
INDEXING BEGAN WITH V1N1,1983.
W1 JO644R 0730-8485
J20615000 JC: JEX

IM TRANSACTIONS OF THE AMERICAN ACADEMY OF INSURANCE MEDICINE
TRANS AM ACAD INSUR MED
76,1993
AMERICAN ACADEMY OF INSURANCE MEDICINE
NEW YORK NY UNITED STATES
CONTINUES: TRANSACTIONS OF THE ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA.
INDEXING BEGAN WITH V76,1993.
W1 AM125R 1064-4709
SR0078624 JC: BWJ

Effective January 1, 1995

APPENDIX A

NLM *ONLINE* PRICING ALGORITHM CHARGES TO DOMESTIC USERS

File	Connect Charge (Per Hour)	Search Statement Charge	Online Citation Charge	Interaction Charge (Carriage Returns)	Computer Resources Disk Accesses (Per 100)	Online Character Charge (Per 1,000)
			ELHILL COMPUTER			
MEDLINE® & Backfiles	$2.40	$.06	$.01	—	$.04	$.05
AIDSLINE®, AIDSTRIALS, AIDSDRUGS & DIRLINE®	FREE	FREE	FREE	—	FREE	FREE
TOXLIT® & TOXLIT65	2.40	1.66*	1.15*	—	.04	.05
TOXLINE® & TOXLINE65	2.40	.06	.01	—	.04	.05
CHEMLINE®	2.40	1.00**	.69**	—	.04	.05
ALERT & LOAN STATUS	2.40	.06	—	—	.04	—
All Others	2.40	.06	.01	—	.04	.05
PDQ®	18.00	—	—	—	—	—
DOCUSER®	FREE	FREE	FREE	—	FREE	FREE
			TOXNET COMPUTER			
All Files	3.80	.08	—	.02	—	.08

- When calculated across the online algorithm, an average MEDLINE search costs about $1.25; the hourly rate is around $18.00.
- The charge to ftp online search results via the Internet follows this algorithm. There are no additional charges.
- NLM has a Student Code Program for domestic users. Student codes are charged at online rates that are approximately 50% of the regular, domestic online rates.

* Includes royalties of $1.60 per Search Statement, $1.14 per Online Citation Charge.
** Includes royalties of $0.94 per Search Statement, $0.68 per Online Citation Charge.

NLM *OFFLINE* CHARGES TO DOMESTIC USERS

Pages	Per Page for PRT OFFLINE, OFFSEARCH, or Automatic SDIs	Per 2,000 Characters Transmitted via ftp*** for Automatic SDIs only
MEDLINE & Other Databases	$0.30	$0.10
AIDSLINE, AIDSTRIALS, AIDSDRUGS, DIRLINE & DOCUSER	FREE	FREE
TOXLIT & TOXLIT65	$2.98 (includes $2.68 royalty charge per page)	$2.78 (includes $2.68 royalty)
CHEMLINE	$1.83 (includes $1.53 royalty charge per page)	Not applicable
TOXNET Files	$0.30	Not applicable

Offsearches	Per File
MEDLINE & Other Databases	$1.00 (plus page charges)
AIDSLINE, AIDSTRIALS, AIDSDRUGS, DIRLINE & DOCUSER	FREE

Automatic SDI Searches	Per Search
SDILINE®, AVLINE®, BIOETHICSLINE®, CANCERLIT®, CATLINE®, HEALTH, HSTAR, POPLINE®, TOXLINE	$1.50 (plus page charges or ftp character charges)
AIDSLINE	FREE
TOXLIT	$7.00 (plus page charges or ftp character charges; includes $5.50 royalty charge)

***The Internet ftp data charge is applied per unit of 2,000 characters transmitted (a low estimate of how many characters fit on a page of NLM's offline print paper) using the rate of $0.05/1,000 characters from the online pricing algorithm.

NOTES: Non-U.S. online users incur charges under the NLM online pricing algorithm and are charged $ .75 extra on the connect charge (per hour) portion and $0.02/1,000 characters transmitted extra (the equivalent of $3.75/hour). There is a $0.10/page surcharge for offline print pages and a surcharge of $0.10/2,000 characters transmitted via ftp for Automatic SDI Searches. The foreign surcharge does not apply for the following databases: AIDSDRUGS, AIDSLINE, AIDSTRIALS, AVLINE, CATLINE, DIRLINE, DOCUSER, MeSH VOCABULARY FILE®, NAME AUTHORITY FILE® and SERLINE®.

NLM 1/95 Rev.

TABLE I

New NLM Rates for CHEMLINE, TOXLIT, TOXLIT65

Effective January 1, 1995

NLM ONLINE PRICING ALGORITHM CHARGES TO DOMESTIC USERS

Prices apply 24 hours per day

Files	Connect Charge (Per Hour)	Search Statement Charge	Online Citation Charge	Interaction Charge (Carriage Returns)	Computer Resources (Disk Accesses) (Per 100)	Online Character Charge (Per 1,000)
CHEMLINE	$2.40	$1.00*	$0.69*	——	$0.04	$0.05
TOXLIT & TOXLIT65	$2.40	$1.66**	$1.15**	——	$0.04	$0.05

* Includes royalties of $0.94 per Search Statement, $0.68 per Online Citation Charge.
** Includes royalties of $1.60 per Search Statement, $1.14 per Online Citation Charge.

OFFLINE CHARGES TO DOMESTIC USERS

Pages	Per Page for PRT OFFLINE, OFFSEARCH, or Automatic SDIs	Per 2,000 Characters Transmitted via ftp*** for Automatic SDIs only
CHEMLINE	$1.83 (includes $1.53 royalty charge)	Not applicable
TOXLIT & TOXLIT65	$2.98 (includes $2.68 royalty charge)	$2.78 (includes $2.68 royalty)

Offsearches	Per File
All Databases	$1.00 (plus page charges)

Automatic SDI Searches	Per Search
TOXLIT	$7.00 (plus page charges or ftp character charges; includes $5.50 royalty charge)

***The Internet ftp data charge is applied per unit of 2,000 characters transmitted (a low estimate of how many characters fit on a page of NLM's offline print paper) using the rate of $0.05/1,000 characters from the online pricing algorithm.

NOTES: Non-U.S. online users incur charges under the NLM online pricing algorithm and are charged $0.75 extra on the connect charge (per hour) portion and $0.02/1,000 characters transmitted extra (the equivalent of $3.75/hour). There is a $0.10/page surcharge for offline print pages and a surcharge of $0.10/2,000 characters transmitted via ftp for Automatic SDI Searches. The foreign surcharge does not apply for the following databases: AIDSDRUGS, AIDSLINE, AIDSTRIALS, AVLINE, CATLINE, MeSH VOCABULARY FILE, NAME AUTHORITY FILE and SERLINE.

APPENDIX B

The GPO Order Form is not available in electronic form.

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APPENDIX C

The NTIS order form is not available in electronic form.

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Retrieving NLM Publications in Electronic Format

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If you prefer to get your copy of the *Technical Bulletin* routinely via ftp, gopher, or e-mail, please notify MMS so that we do not continue to mail you a *Technical Bulletin*. Use the Comment/Concern form included in the back of any issue or send an e-mail to mms@nlm.nih.gov. Please include your User ID code.

Technical Bulletin

ftp: PostScript files
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in the directory online/techbull

gopher: PostScript files
gopher.nlm.nih.gov
in the directory Online Services/MEDLARS Information/NLM Technical Bulletin

e-mail:
Send an e-mail message to: files@mailserv.nlm.nih.gov. In the body of the message, enter the commands:

```
SEND /nlminfo/newsletters/techbull/mmmmmm9y.ps
END
```

Note: mmmmmm9y.ps should be substituted with the proper months and year of the *Technical Bulletin* to be e-mailed, e.g., octsep94.ps.

Note: Commands must be sent in the body of the e-mail message; anything in the subject line is ignored.

After receiving the message, the e-mail file server will mail the PostScript file mmmmmm9y.ps back to you.

Online Services Reference Manual -- Updated Chapters

ftp: WordPerfect and PostScript files
anonymous ftp to nlmpubs.nlm.nih.gov
in the directory online/medlars/manuals

gopher: WordPerfect files
gopher.nlm.nih.gov
in the directory Online Services/MEDLARS Information/Online Services Reference Manuals

NLM Serials Publications: LSIOU, LJI, and updates for indexed titles

ftp: WordPerfect, PostScript and Text files
anonymous ftp to nlmpubs.nlm.nih.gov
in the directory online/journals

gopher: WordPerfect and Text files
gopher.nlm.nih.gov
in the directory Online Services/Journal Title Lists

Questions?

ftp: ftpadmin@nlm.nih.gov
gopher: admin@gopher.nlm.nih.gov
e-mail: admin@mailserv.nlm.nih.gov

NLM Internet Directory

The following Internet addresses may be used for specific questions and comments to NLM:

Anonymous ftp Service Assistance	ftpadmin@nlm.nih.gov
Fixed-Fee and Flat-Rate Special Agreements	ginter@nlm.nih.gov
GenBank Molecular Sequence Database Information	info@ncbi.nlm.nih.gov
Gopher and e-mail File Server Assistance	admin@gopher.nlm.nih.gov
Grateful Med	gmhelp@gmedserv.nlm.nih.gov
History of Medicine Division	hmdref@nlm.nih.gov
Interlibrary Loan (ILL)/DOCLINE Assistance	ill@nlm.nih.gov
International Programs Office	hsieh@nlm.nih.gov
MEDLARS Management Section	mms@nlm.nih.gov
MeSH Heading Suggestions	meshsugg@nlm.nih.gov
National Center for Biotechnology Information (NCBI)	info@ncbi.nlm.nih.gov
National Information Center on Health Services Research and Health Care Technology (HSTAR/HSTAT):	nichsr@nlm.nih.gov
Office of Public Information	publicinfo@occshost.nlm.nih.gov
Online Images from the History of Medicine	oli@nlm.nih.gov
Planning and Evaluation Office	siegel@nlm.nih.gov
Preservation Information	pres@nlm.nih.gov
Reference Assistance	ref@nlm.nih.gov
Technical Services Division	tsd@nlm.nih.gov
Toxicology Information Program	toxmail@tox.nlm.nih.gov

NLM Internet Access

TELNET	
MEDLARS, PDQ & TOXNET	medlars.nlm.nih.gov
Locator	locator.nlm.nih.gov
HSTAT	text.nlm.nih.gov
FTP	
MEDLARS Server	medlars.nlm.nih.gov
NLM Anonymous Server	nlmpubs.nlm.nih.gov
TOOLS	
Mosaic (WWW)	http://www.nlm.nih.gov/
Gopher	gopher.nlm.nih.gov
e-mail Based File Server	files@mailserv.nlm.nih.gov

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We'd like to hear your compliments and concerns.

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ADDRESS:

COMMENTS:

We work for you. Please tell us what is right and what you would like to see changed.

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National Library of Medicine
Bethesda, MD 20894 (FAX 301-496-0822)

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Billing Information, if different:

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Daytime Phone:

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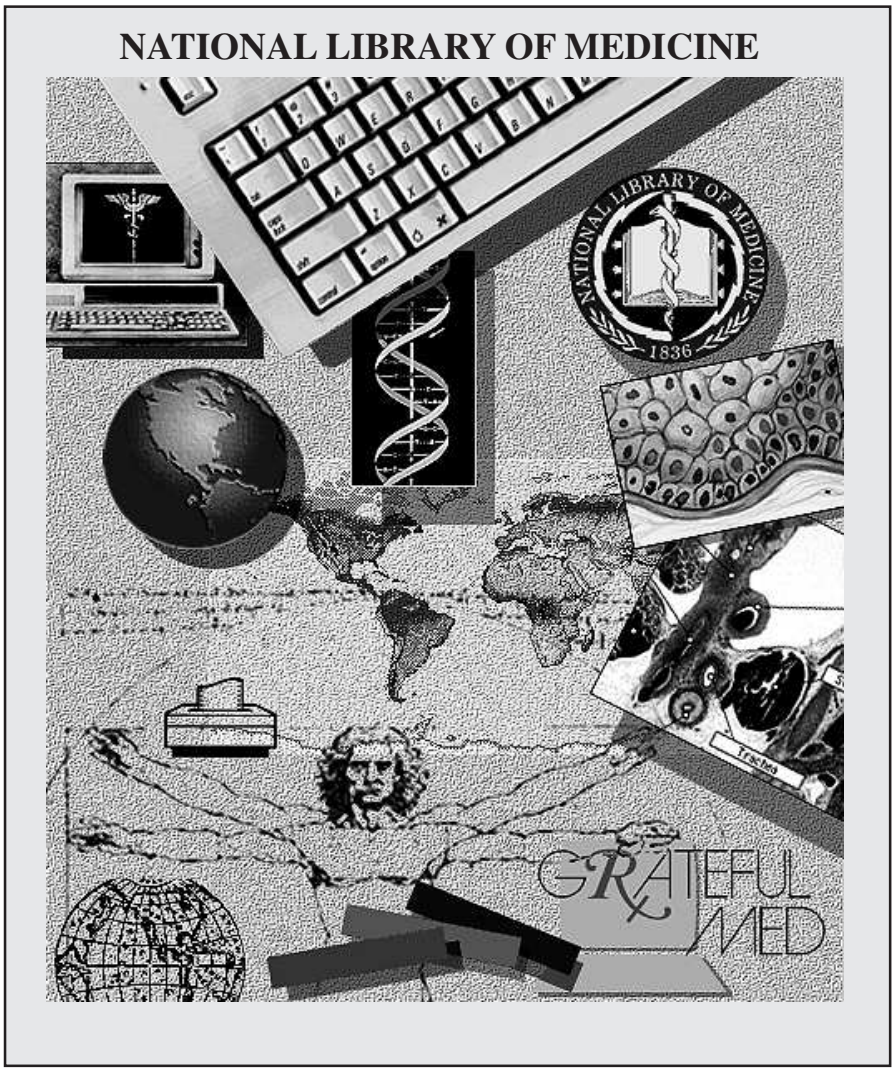
National Library of Medicine
Bethesda, MD 20894 (FAX 301-496-0822)



NLM Phone Numbers: Public Information 800-272-4787 MEDLARS Service Desk 800-638-8480
Internet E-Mail Addresses: publicinfo@occshost.nlm.nih.gov mms@nlm.nih.gov

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