

# The NLM Technical Bulletin

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## In This Issue

Introducing Gopher .....	1
Establishing an Internet Connection ...	12
New \$DSFILE Command Allows Ftping of Online Search Results ....	13
New Full Text Retrieval Offers Clinical Practice Guidelines .....	18
Online Message from MEDLARS Management .....	20
Wit and Humor in MEDLINE .....	24
More on MeSH .....	26
Gold Standard Search .....	30
Deleting a STORESEARCH Using the PURGESEARCH Command .....	36
Grateful Med IBM Version 6.5 Installation Update .....	37
Pollution Prevention and Searching TOXNET'S TRI91/92: Part 3 .....	38
Appendices:	
HLI Order Form .....	51A
Regular Features:	
Databases .....	2
Technical Notes .....	3
Serials Update .....	46

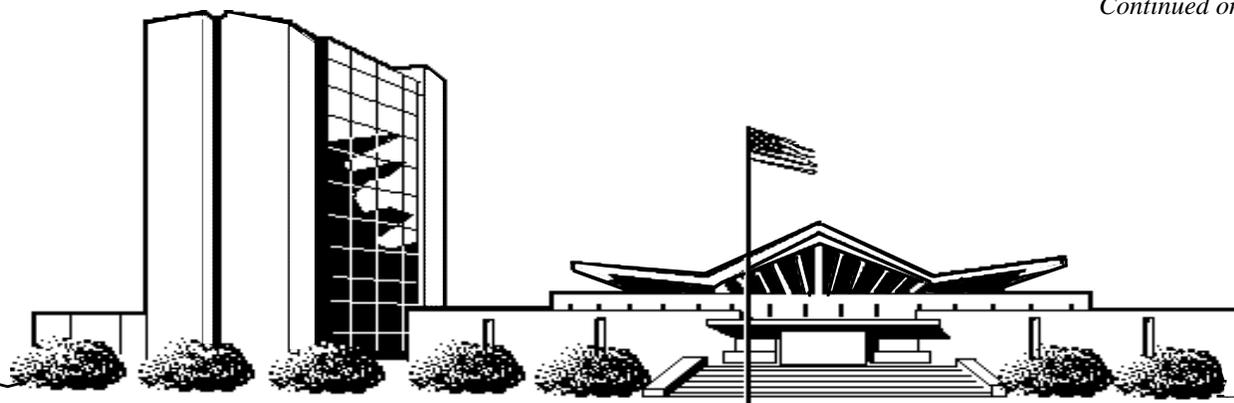
## Introducing Gopher

Imagine a world in which computers storing a wide variety of information are spread throughout the nation and the globe. Imagine that all of these computers are connected together by a network and that a user connected to this network can access any of these computers. Imagine facilities that assist you to search and retrieve public documents of interest to you, regardless of where they exist.

The network is called the Internet, and consists of tens of thousands of computers and networks linked throughout the world. The facilities are called gophers. If you have Internet access and a terminal or workstation, you can access gopher sites throughout the Internet. Your local hardware, software, and the chosen method for accessing a gopher will determine which gopher features will be available to you. Welcome to the world of information at your fingertips.

The name "gopher" is a pun, combining the concept of "going fer" things with its development at the University of Minnesota, home of the "Golden Gophers." Originally conceived as a distributed document search and retrieval system, gophers now boast databases allowing users to search for documents that contain certain words or phrases; browsing menus of documents; and many

*Continued on page 7*



<b>NLM TECHNICAL BULLETIN</b>	<b>MEDLARS® DATABASE</b>	<b>TOTAL RECORDS</b>	<b>DATES COVERED</b>	<b>DATE LAST UPDATED</b>	<b>LATEST UPDATE TAG</b>
<b>Head, MMS</b> Carolyn B. Tilley	<b>ELHILL® COMPUTER</b>				
<b>Co-Editor</b> Toby G. Port	AIDSDRUGS	205		12 APR 94	9403(EM)
	AIDSLINE®**	96,342	JAN 80-JUN 94	16 APR 94	9406(EM)
	AIDSTRIALS	580		12 APR 94	9404(EM)
	AVLINE®	26,855	THRU APR 94	14 APR 94	
	BIOETHICSLINE®	41,649	JAN 73-APR 94	31 MAR 94	9404(EM)
	BIOTECHSEEK	4,493	JAN 90-MAY 94	02 APR 94	9405(EM)
	CANCERLIT®	1,027,128	JAN 63-APR 94	02 APR 94	9404(EM)
	CATLINE®	728,005	THRU APR 94	14 APR 94	
	CHEMID	267,994		06 FEB 93	
	CHEMLINE®	1,258,634		10 MAR 94	9402(EM)
	DENTALPROJ™	786		02 MAY 92	
	DIRLINE®	15,385		17 FEB 94	
	DOCUSER®	14,032		09 APR 94	
	HEALTH	732,694	JAN 75-MAY 94	02 APR 94	9405(EM)
	HISTLINE®	114,772		16 APR 94	9404(EM)
	HSTAR	1,349,713	1985-JUN 94	16 APR 94	9406(EM)
	MEDLINE®*	1,123,818	JAN 91-JUN 94	16 APR 94	9406(EM)
	MED89	743,884	JAN 89-DEC 90	26 MAR 94	
	MED85	1,319,067	JAN 85-DEC 88	26 MAR 94	
	MED80	1,388,746	JAN 80-DEC 84	16 APR 93	
	MED75	1,278,801	JAN 75-DEC 79	19 FEB 94	
	MED66	1,986,408	JAN 66-DEC 74	09 APR 94	
	MESH VOCABULARY FILE®	94,319	1994	14 APR 94	
	NAME AUTHORITY FILE®	547,892		09 APR 94	
	PDQ®		THRU APR 94	01 APR 94	
	POPLINE®	206,854	1970-MAR 94	12 MAR 94	9403(EM)
	SDILINE®	30,794	MAY 94	24 MAR 94	9405(EM)
	SERLINE®	83,567	THRU MAR 94	05 APR 94	
	TOXLINE®	1,251,777	1981-1994	15 JAN 94	9401(EM)
	TOXLINE65	705,394	PRE 1965-1980	03 APR 93	
	TOXLIT®	1,236,728	1981-1994	15 JAN 94	9401(EM)
	TOXLIT65	586,405	1965-1980	01 SEP 87	
	*N.B. FILE IS UPDATED WEEKLY; THIS IS PART 3 OF 5.				
	**N.B. FILE IS UPDATED WEEKLY; THIS IS PART 3 OF 4.				
	<b>TOXNET® COMPUTER</b>				
	CCRIS	5,517		07 MAR 94	
	DART™	19,962		14 MAR 94	
	EMIC	7,401		14 MAR 94	
	EMICBACK	75,886		08 SEP 92	
	ETICBACK	49,591		08 JUL 90	
	GENE-TOX	2,957		23 DEC 93	
	HSDB®	4,437		20 MAR 94	
	IRIS	661		01 MAR 94	
	RTECS®	122,921		27 FEB 94	
	TRI87	80,136		18 MAR 94	
	TRI88	87,151		18 MAR 94	
	TRI89	86,812		27 MAR 94	
	TRI 90	85,711		27 MAR 94	
	TRI91	83,876		17 MAR 94	
	TRI92	81,075		16 MAR 94	
	TRIFACTS	326		10 APR 92	

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

**CONTENTS  
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## Technical Notes

### 1994 NLM Meetings at MLA

The NLM Update at the Annual Meeting of the Medical Library Association (MLA) in San Antonio, TX will be held on Monday, May 16, in the Convention Center Theater from 10:30 a.m. until Noon.

The NLM Online Users' Meeting will be a "Lunch and Learn" session on Monday, May 16, from 12:30 to 1:15 p.m. in Fiesta Rooms A & B of the Convention Center.

An NLM Fixed-Fee User Group meeting will be held at MLA on Tuesday, May 17, from 2:00 to 3:30 p.m. in Salon E of the Marriott Riverwalk. Current subscribers to the MEDLARS Fixed-Fee Access Programs will be there to discuss their implementations, and interested persons are invited to attend. A SERHOLD meeting will also be held on Tuesday, May 17, from 2:00 to 3:30 p.m. The SERHOLD meeting will be held in Salon B of the Marriott Riverwalk.

MLA attendees are invited to "mosey on over" to Island G in the MLA Exhibit Hall where people can visit with NLM and NN/LM staff and see various NLM products and services. The exhibit will be focusing on:

- NLM and increased information access for librarians
- NLM and the Internet
- NLM and High Performance Computing and Communications (HPCC)

Also featured at the booth will be: NLM's new health services research databases (HSTAR and HSRPROJ); full text searching of clinical practice guidelines; NLM free AIDS and DIRLINE databases; online updating of SERHOLD; NLM Locator; NLM's gopher; Mosaic applications being built by NLM (such as Mosaic Coach Metathesaurus Browser and the HyperDoc hypertext/multimedia service, which includes online images from the History of Medicine and more); the NLM History of Medicine Videodisc; HPCC grants; segments of the NLM satellite broadcast; and much more. "Y'all come!"

### New Clinical Alert Available Online

On February 22, 1994, the Clinical Alert entitled: Important Therapeutic Information on the Benefit of Zidovudine (AZT) for the Prevention of the Transmission of HIV from Mother to Infant (from the National Institute of Allergy and Infectious Diseases) became available in ELHILL. This is the tenth Clinical Alert placed in the ALERT file. To retrieve the full text of this alert, type **FILE ALERT** at any USER: prompt, then type **alert (tf)** at the next USER: prompt. The command PRINT 1 DL will print out the full record for this current Alert. The latest alert always prints out first. For more detailed instructions and examples for searching in FILE ALERT, see the article on pages 17-26 of the January-February 1992 *Technical Bulletin*. Announcements of new Clinical Alerts and instructions for retrieving the full text of new NIH Clinical Alert are also in the NEWS portions of the ELHILL and TOXNET databases for thirty days after their announcement.

NLM makes new Clinical Alerts available in three ways in addition to the ALERT file: 1) electronically via the Grateful Med Bulletin Board and the NLM anonymous ftp server; 2) by faxing copies to NN/LM Regional Medical Libraries and NN/LM Resource Libraries; and 3) by mailing copies to NN/LM member libraries. To obtain the alert electronically from the NLM anonymous ftp server, do an anonymous ftp to [nlmpubs.nlm.nih.gov](ftp://nlmpubs.nlm.nih.gov). Once connected, change directory to `nlmpubs/alert`.

### MEDLINE and Backfiles Database Postings in the MeSH File

The MEDLINE and Backfiles Database Postings in the MeSH file were updated to reflect the reconfigured files in December 1993. The Backfiles Database Postings elements give the number of postings for each MeSH descriptor and subheading for the Backfiles as of December 13, 1993, which equates to data through the 9401 (EM) update for the MEDLINE file. Because the Backfiles postings are not updated during the year, the numbers continue to reflect the counts as of December 13, 1993 for the closed Backfiles and through the 9401 Entry Month (EM) of data for the MEDLINE file. MEDLINE postings reflected in the MeSH file serve as an estimate, not as an exact count, because NLM adds citations weekly to MEDLINE. Counts are given for

both Index Medicus (IM) postings (starred number) and total postings (unstarred number) for MeSH headings in the databases. For MeSH subheading records, only total counts are given.

Following are examples of MEDLINE and Backfiles postings as they appear with the records for PAIN (MH) or Drug Therapy (SH) in the MeSH file. MED, M89, M85, M75 and M66 are short aliases that represent the file names for MEDLINE, MED89, MED85, MED75, and MED66. (For further explanation of the MeSH file and its record elements, type EXPLAIN MeSH online or consult Chapter 6 of the [Online Services Reference Manual](#)).

<b>MH - Pain</b>	
MED - 5113	
MED - *3218	<b>SH - drug therapy</b>
M89 - 3791	MED - 74822
M89 - *2483	M89 - 56954
M85 - 7391	M85 - 98731
M85 - *4413	M80 - 103365
M80 - 7176	M75 - 87627
M80 - *3915	M66 - 144440
M75 - 5410	
M75 - *2485	
M66 - 8063	
M66 - *2947	

## New Online EXPLAIN Added

A new online EXPLAIN has been added to ELHILL. Enter file ALERT and type EXPLAIN \$COMMANDS for brief explanations of new commands which have been added to the system for 1994. Users are reminded that by viewing EXPLAINs in the ALERT file, they will not be charged for characters. The \$commands will be discussed in greater detail in future *Technical Bulletin* articles.

## Geographic Subject Headings in the AIDS Bibliography

New for 1994! Geographic subject headings have been added to the [AIDS Bibliography](#). The [AIDS Bibliography](#) contains citations to all preclinical, clinical, epidemiologic, diagnostic, and prevention areas added to NLM's MEDLINE, HEALTH, CANCERLIT, CATLINE, and AVLINE databases for a given month. It is a continuation in part of the National Library of

Medicine's Literature Search Series, which ceased in 1987 with No. 87-15. Within that series, seventeen bibliographies titled [Acquired Immunodeficiency Syndrome \(AIDS\)](#) were published. The new series became a monthly publication beginning with January 1989. You can now easily find citations discussing the spread of AIDS in New York City or the incidence of AIDS/HIV in pregnant women in Uganda. This is done simply by looking under the relevant city, country, or region of the world. All journal articles, books, and audiovisuals in the [AIDS Bibliography](#) that discuss a particular geographic area are indexed to the specific area. For example, NLM has subject headings for London, England, Great Britain, and Europe. The individual states of the U.S. and Australia and the provinces of Canada are also index terms, as well as the regions of the U.S. For example, NLM has subject headings for San Francisco, California, and the Southwestern United States. Please note that NLM has always indexed to the most specific term, so that an article on AIDS in San Francisco would not also be indexed to California or to the Southwestern United States unless the article specifically discussed the state and/or region.

## TOXLINE Regeneration

The TOXLINE and TOXLINE65 files are expected to be regenerated in May, and should be made available online shortly thereafter. After the rebuild, 1994 MeSH vocabulary will be present on records in the TOXBIB, BIOSIS, and DART subfiles. In addition, the TSCATS subfile will be replaced with a version that includes additional abstracts on records that were already present without abstracts. Updated Fiscal Year 1992 records for the CRISP subfile will also be found in TOXLINE, as well as the newest year of the CRISP toxicology research project reports from the Public Health Service, Fiscal Year 1993. The Federal Government Fiscal Year runs October-September. A large May update, 9405 (EM), is anticipated and will include records intended for the February, and March and April updates.

By late May NLM will have processed TOXLINE/TOXLIT Automatic SDI searches after the updates have been completed. The TOXLIT file did not need to be rebuilt, but Automatic SDIs for this database were held for processing in conjunction with TOXLINE.

## LIFENET Access to NLM

LIFENET is an electronic network integration system provided by NASA for the Life Sciences Community. It is used by some MLA-member librarians for e-mail and Internet access, including access to NLM databases and DOCLINE. While **LIFENET is no longer accepting new members**, a person who has already established an account with them will find that this service can be used to access NLM's ftp servers as well as Locator, NLM's public access catalog. Locator provides access to CATLINE, AVLINE, and SERLINE. Those who use LIFENET may also ftp online print files (see \$DSFILE article on page 9 of this issue of the *Technical Bulletin*) or may ftp Automatic SDI search results (see September-October 1993 *Technical Bulletin*, pages 25-33). The MEDLARS Management Section now has a handout detailing how to use LIFENET to access the NLM anonymous ftp server, the MEDLARS ftp server (to ftp Automatic SDI search retrievals and search results), and NLM Locator. If you would like a copy of this handout, please send a request to the MEDLARS Management Section via fax, 800-638-8480, or e-mail, [mms@nlm.nih.gov](mailto:mms@nlm.nih.gov), or stop by the NLM booth at the MLA meeting in May.

## 1994 MeSH Supplementary Chemical Records Available from NTIS

The Medical Subject Headings—Supplementary Chemical Records, 1994 is now available from the National Technical Information Service (NTIS). The publication contains records of approximately 23,000 chemicals which, since 1970, have been mentioned in a significant way in journals indexed for MEDLINE and have been incorporated as a subset of the MeSH file. Note that these chemicals are in addition to the thousands of chemicals that are formal MeSH headings in Category D - Chemicals and Drugs of MeSH. To order documents from NTIS, you may use the order form in Appendix D of the January-February 1994 issue of the *Technical Bulletin*. Orders should be sent to:

National Technical Information Service (NTIS)  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161  
Order Number: PB94-121993

Hardcopy Price: \$ 50.00 (U.S./Canada/Mexico)  
\$100.00 (other countries)  
Microfiche Price: \$23.00 (U.S./Canada/Mexico)  
\$46.00 (other countries)

Individuals with an NTIS deposit account or a major credit card who wish to order publications by phone may call 800-423-9255 or 703-487-4650. There is a \$3.00 (U.S./Canada/Mexico) shipping and handling charge required for each order (\$4.00 for other countries), and an additional charge of \$7.50 for orders placed with a purchase order. Remittance or deposit account numbers should be sent with all mail orders.

## Updated MEDLINE and MeSH Pocket Cards

Updated MEDLINE and MeSH pocket cards for 1994 are available from your Regional Medical Library (RML). Supplies may be limited, but the pocket cards are not copyrighted and may be reproduced freely. Please call your RML at 800-338-7657 to receive 1994 copies.

## Hospital Literature Index

The American Hospital Association (AHA) Resource Center announces the availability of both the 1993 hardbound cumulation (Volume 49) and the first 1994 quarterly issue of the Hospital Literature Index (HLI). HLI is produced from NLM's Health Planning and Administration (HEALTH) database, and is the primary printed guide to literature on hospital and health services administration, including health systems, health care policy and reform, integrated community health delivery networks, health planning, and health services research. Nineteen ninety-four is a milestone anniversary year for HLI; it marks the fiftieth consecutive year of publication.

Single quarterly issues, including the casebound annual cumulation, will not be sold at a price less than the annual subscription rate. The order numbers and prices follow. For your convenience, an order form is included as Appendix A of this issue of the *Technical Bulletin*.

Hospital Literature Index  
Volume 49, 1993 (Cumulation)

Catalog Number: HL-121490  
Price: \$225.00 (AHA member)  
\$290.00 (non-member)

Hospital Literature Index

1993 (Subscription)

Item Number: HL-M0940  
Price: \$240.00 (AHA member)  
\$310.00 (non-member)

Billed orders should be sent to:

Hospital Literature Index  
American Hospital Publishing, Inc.  
737 North Michigan Avenue, Suite 700  
Chicago, IL 60611

phone: 800-621-6902 or 312-440-6800

Prepaid orders, with check or money order, should be made payable to and sent to:

American Hospital Publishing, Inc.  
P.O. Box 92567  
Chicago, IL 60675-2567

## Corrections

On page 7 of the January-February 1994 *Technical Bulletin* article about HSTAR "NLM launches HSTAR..." (continued from page 1), the parenthetical statement in the first column's database description paragraph (that reads "See No. 6 below") should read "See No. 5 below." The unique HSTAR record feature discussed is that there are two fields related to source information: PROCUREMENT SOURCE (PC) and ORDER NUMBER (OD).

Also, the Internet address for NLM's Office of Public Information was given incompletely on page 5 of the January-February 1994 *Technical Bulletin*. The correct address is:

publicinfo@occhost.nlm.nih.gov. □

*Continued from page 1*

additional features. Before gophers, Internet users could only access resources they knew about or “go prospecting” for useful resources. Now, although each gopher site uses its own organization for the materials in its domain, gopher menus are like a directory listing of information sources. The user can browse through the directory via an on-screen menu display and request items of interest. If the user doesn’t find everything desired in one gopher “library,” gopher allows the user to pass electronically to the next gopher library and check there.

Gopher supports a great diversity of data, some of the most popular are:

- **Directories**

A directory is a menu of documents and services. The user can easily browse the menus, following pathways which may transparently bridge many different computers thousands of miles apart. Selecting a document retrieves and displays it for the user who may save a local copy. Services are described below.

- **Searching**

Rather than browsing, the user can enter a text word search against the document collection known to a local gopher or multiple gopher sites across the Internet. The user specifies keywords and, optionally, search logic. A menu display of documents matching the search is returned.

- **Text Files**

Most documents are provided as ASCII text files. Some gophers provide documents in additional formats, such as Word Perfect or PostScript (which are ASCII program files), to “power users” set up to deal with them.

- **Multimedia**

Gophers support image, audio, and video file formats. Images such as weather maps; digitized audio such as the 1992 presidential debates; and video movies are available to “power users.”

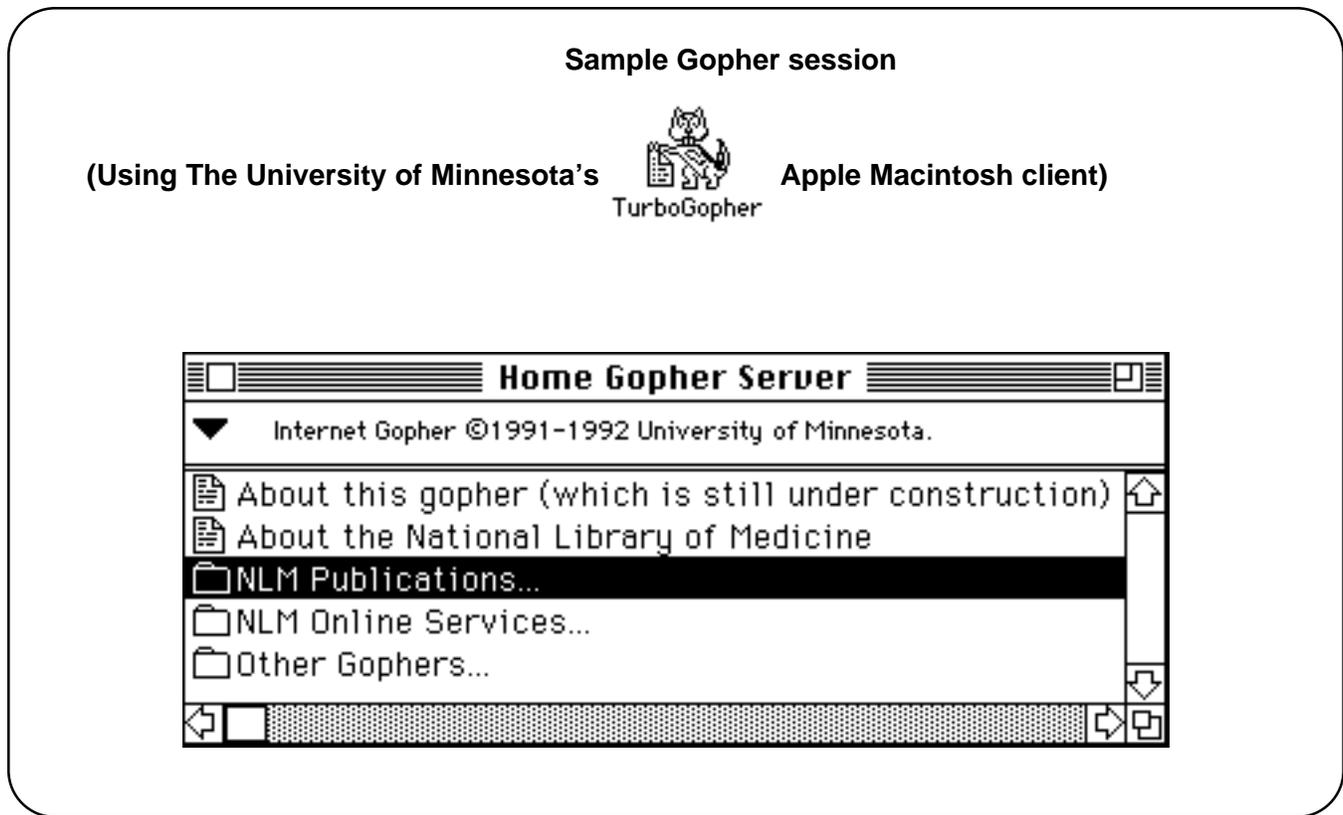
- **Phone Books**

This gopher facility allows you to search for other Internet users. Some common search fields are phone number, e-mail address, and name.

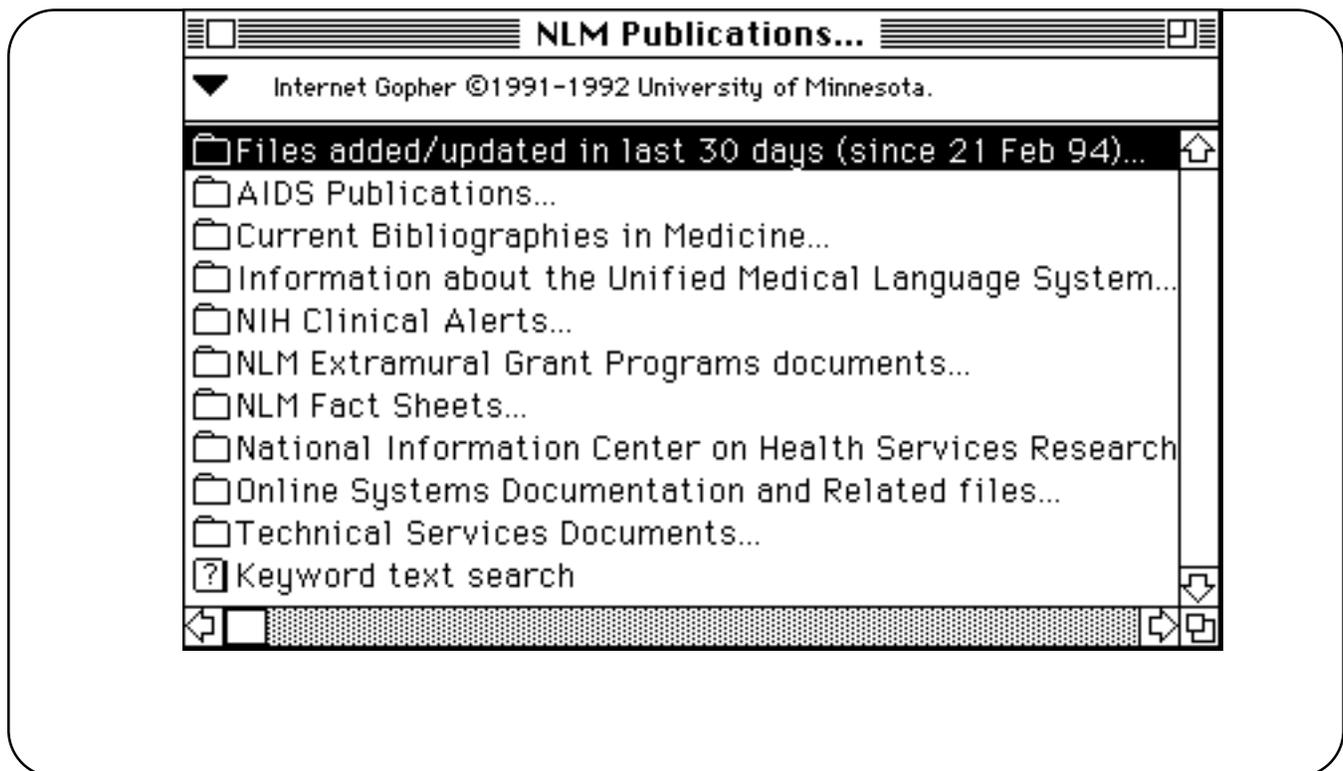
- **Terminal Sessions**

Some gophers allow users to start terminal sessions with available applications. For example, the NLM Gopher allows the user to connect to NLM Locator (the NLM public access catalog), or to MEDLARS. MEDLARS access requires a User ID code and most MEDLARS services are fee-based.

NLM is currently constructing several gophers. The address of the main NLM Gopher, available since November 16, 1993, is [gopher.nlm.nih.gov](http://gopher.nlm.nih.gov). Access is free and use is unlimited. Users can obtain biomedical subject bibliographies, NIH Clinical Alerts, NLM Fact Sheets, AIDS information, gene sequence information and many other resources from NLM’s Gophers. See Figures 1-5 for sample screens. These screens pick up at the point where you have connected via Internet and logged onto the NLM Gopher. NLM sees Gopher and related systems as an important new way to make its documents available to the public. We welcome your use and solicit your comments; e-mail sent to [admin@gopher.nlm.nih.gov](mailto:admin@gopher.nlm.nih.gov) will be routed to appropriate personnel.



**Figure 1 - The NLM Gopher home screen (gopher.nlm.nih.gov). The NLM Publications folder has been selected.**



**Figure 2 - The NLM Publications folder. The "Files Added" folder has been selected.**

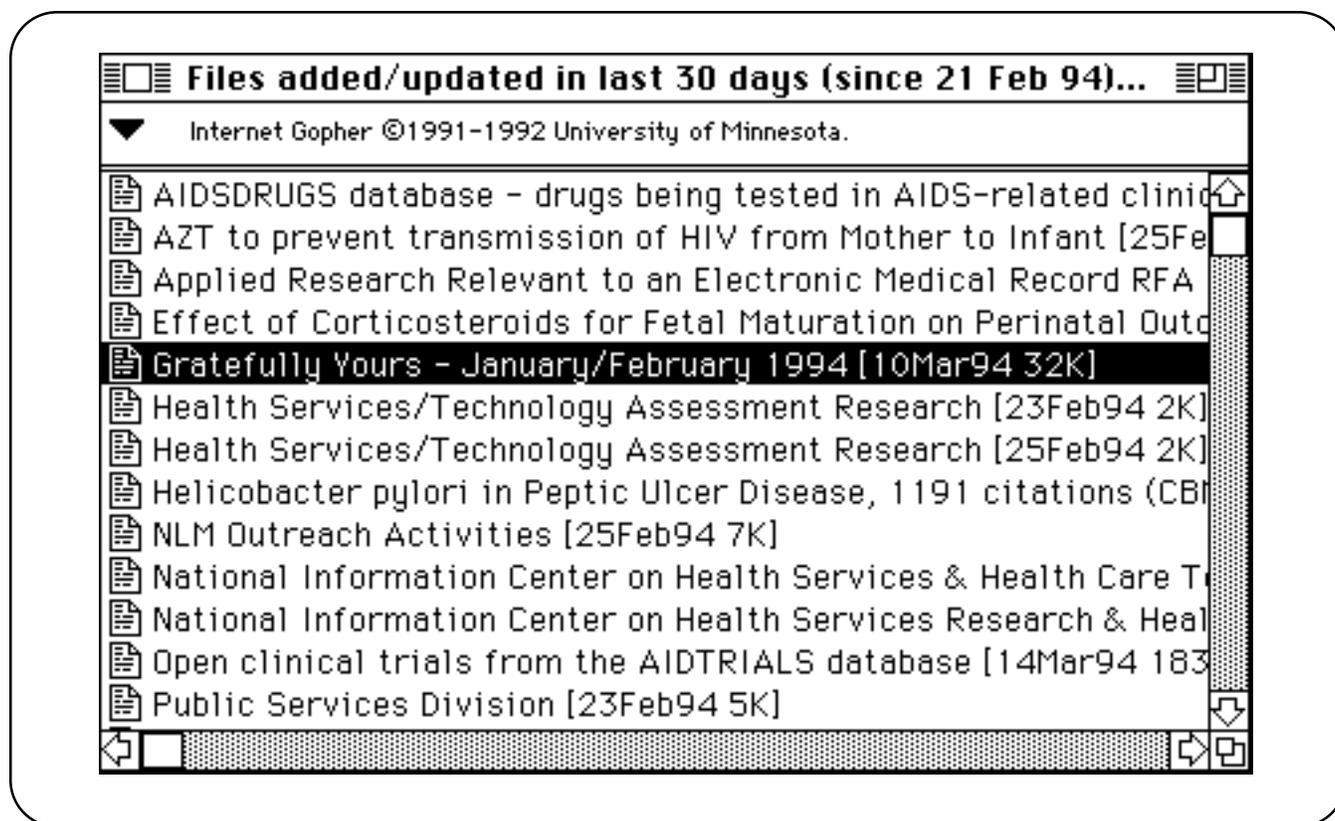


Figure 3 - The "Files Added" folder. A "Gratefully Yours" document has been selected.

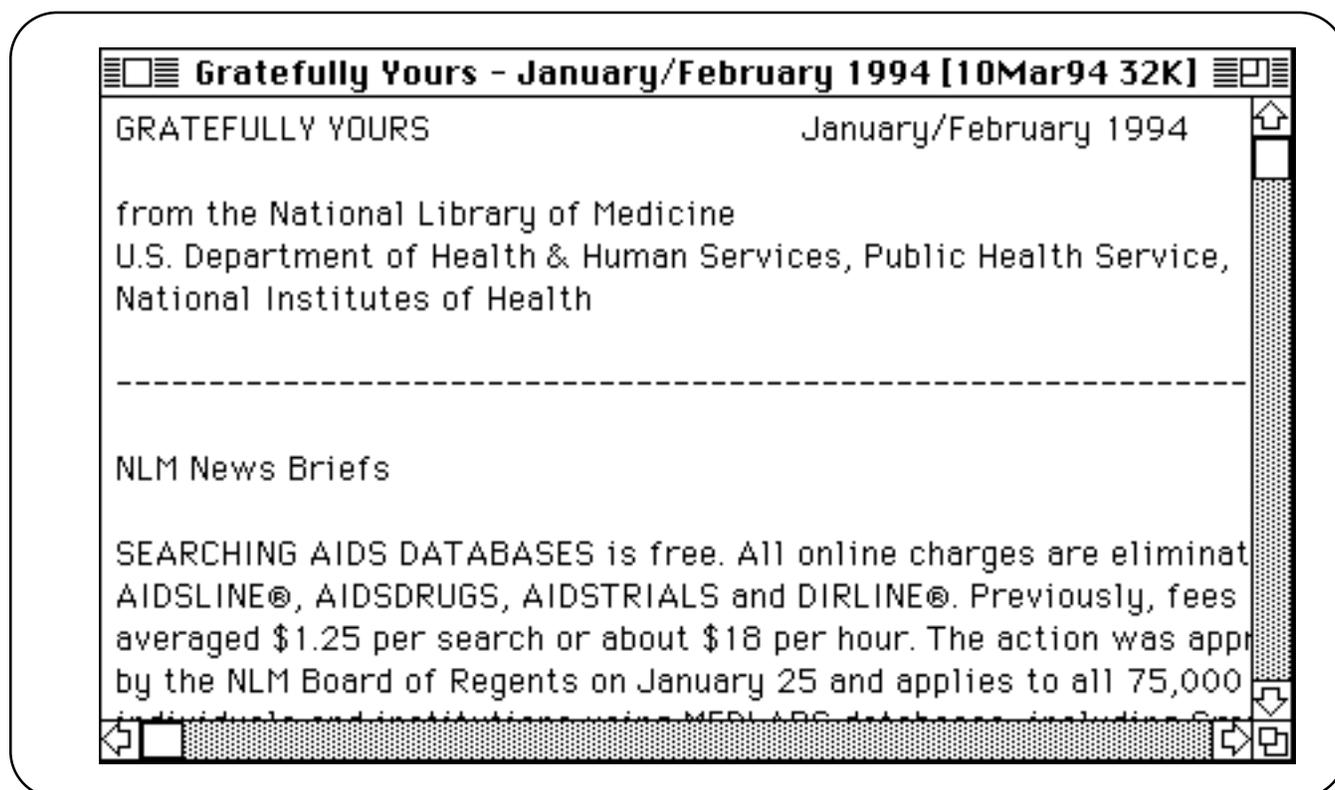
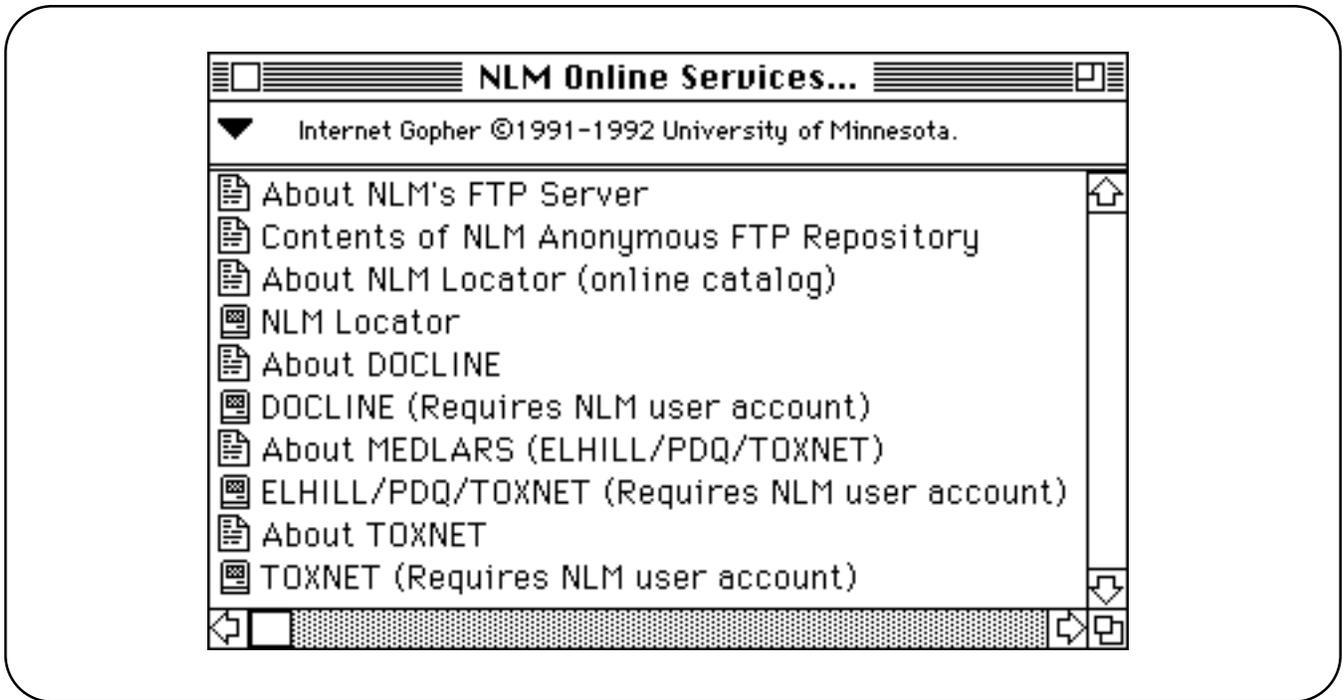


Figure 4 - The "Gratefully Yours" document is displayed and may be saved by the user.



**Figure 5 - The “NLM Online Services” screen, selected from the menu in Figure 1.**

In this sample session (Figures 1 - 4) you have connected to NLM’s main Gopher server, moved through several menus, and selected/retrieved a document. The document has been downloaded to your computer system where you can save a local copy of this document. Notice that the icons at the left of the windows tell you what the menu items are. Folders indicate embedded menus and document icons represent textual documents. The icon at the bottom of Figure 2 accesses the user search facility; users can enter a text word search against all of the public documents available at the NLM Gopher. Figure 5 contains an icon that looks like a Macintosh Classic computer. This represents connecting to an application; note that Locator is a free service whereas

DOCLINE, MEDLARS, and TOXNET all require NLM user accounts because most of their services are fee-based.

Gophers generally use a client-server method for online interaction. A variety of gopher clients are available free-of-charge for most computer systems. By loading gopher client software on your own computer you will be able to access other gopher servers and ftp files. Gopher client software is maintained in several archives on the Internet and can be obtained in multiple ways (including downloading over the Internet). For example, Gopher client software can be obtained via anonymous ftp from:

boombox.micro.umn.edu (134.84.132.2) in the following directories:

Unix Curses & Emacs	:	/pub/gopher/Unix/gopher+2.0.tar.Z
Xwindows (athena)	:	/pub/gopher/Unix/xgopher.1.3.tar.Z
Xwindows (Motif)	:	/pub/gopher/Unix/moog
Xwindows (Xview)	:	/pub/gopher/Unix/xvgopher
Macintosh Hypercard	:	/pub/gopher/Macintosh-TurboGopher/old-versions
Macintosh Application	:	/pub/gopher/Macintosh-TurboGopher/ *
DOS w/Clarkson Driver	:	/pub/gopher/PC_client/
NeXTstep	:	/pub/gopher/NeXT/
VM/CMS	:	/pub/gopher/Rice_CMS/ or /pub/gopher/VieGOPHER/
VMS	:	/pub/gopher/VMS/
OS/2 2.0	:	/pub/gopher/os2/
MVS/XA	:	/pub/gopher/mvs/

Users lacking gopher client software can also access gopher servers but they cannot save local copies of documents. These users TELNET to a special gopher site that supports a public gopher client. You select the

public gopher client and it mediates your access to all other gopher servers. Sites that will allow you to TELNET into a public gopher client include:

<u>Hostname</u>	<u>IP#</u>	<u>Login</u>	<u>Area</u>
consultant.micro.umn.edu	134.84.132.4	gopher	North America
ux1.cso.uiuc.edu	128.174.5.59	gopher	North America
panda.uiowa.edu	128.255.40.201	panda	North America
gopher.msu.edu	35.8.2.61	gopher	North America
gopher.ebone.net	192.36.125.2	gopher	Europe
info.anu.edu.au	150.203.84.20	info	Australia
gopher.chalmers.se	129.16.221.40	gopher	Sweden
tolten.puc.cl	146.155.1.16	gopher	South America
ecnet.ec	157.100.45.2	gopher	Ecuador
gan.ncc.go.jp	160.190.10.1	gopher	Japan

For further assistance send an e-mail message to [admin@gopher.nlm.nih.gov](mailto:admin@gopher.nlm.nih.gov). □

## ***NLM Technical Bulletin Available via ftp***

Issues of the *NLM Technical Bulletin* are being made available as PostScript files on the NLM anonymous ftp server. ASCII text versions are currently not available. At this time most 1993 issues and all 1994 issues are available. We will be adding each issue as it goes to print; look for a new one on the server during the last week of June, August, October, December, February, and April.

Issues currently available include:

<u>Issue</u>	<u>File Name</u>
May-June 1993	mayjun93.ps
July-August 1993	julaug93.ps
September-October 1993	sepoct93.ps
November-December 1993	novdec93.ps
January-February 1994	janfeb94.ps
March-April 1994	marapr94.ps

The January-February 1993 and March-April 1993 issues will be available soon.

To get the *Technical Bulletin* files users may anonymous ftp to [nlmpubs.nlm.nih.gov](ftp://nlmpubs.nlm.nih.gov) and then change directory to [nlmpubs/online/techbull](ftp://nlmpubs/online/techbull). **If you would rather use ftp routinely to get your issue faster, please notify MMS so we can remove your address from our mailing list and save on resources. Use the Comment/Concern form included in the back of this issue or send an e-mail to [mms@nlm.nih.gov](mailto:mms@nlm.nih.gov). Please include your User ID code.** □

## Establishing an Internet Connection

Regular readers of the *Technical Bulletin* may have noticed an increase in the number of articles detailing the new services and access methods for users with Internet connections. Many of you are undoubtedly asking "How can I get access to the Internet?" A little investigative work on your part should solve this problem.

Those of you working for a large organization should begin by contacting your computer or telecommunications department. You may find that you already have Internet access within your organization and simply need guidance from these departments in order to connect your office computer.

If you are not part of a large organization or if your organization is not connected to the Internet you still have many options. You should start by visiting your local public library or bookstore. The number of books available discussing the Internet is growing rapidly; many books are specifically written to help people connect to the Internet. Not only do these books list the different access providers available nationwide, they also provide a list of questions to ask yourself before contacting the access providers. These questions will help you determine what you are looking for as you shop around to find the best arrangement for your situation. Many books also discuss the equipment necessary for various types of Internet use.

Another source of information is large, cooperative, institutions in your area. While some institutions will be able to provide you with an Internet connection, others will be able to help you contact the regional network providers in your area. Some of the Regional Medical Libraries are able to provide this type of information; you may contact your Regional Medical Library at 800-338-7657.

Connecting to the Internet is becoming easier everyday. With a little research and persistence, you will find that you are among those able to benefit from the growing resources available on the Internet.

### Note for Medical Librarians

The Medical Library Association is urging MLA members to seek avenues for Internet access other than LIFENET (see page 5 of the Technical Notes in this issue for information concerning LIFENET). On page 24 of the January 1994 issue of the MLA News, MLA offers to send a national list of public access service providers that offer dial-up access to the Internet, including ftp and telnet capabilities. MLA requests that you call them at 312-419-9094 and ask for the "PDIAL list." There are also instructions on the same page of the MLA News for obtaining the national Public Dialup Internet Access List (PDIAL) if you have e-mail capabilities. In addition, many NN/LM libraries have lists of Internet providers for regional areas. □

--prepared by Vivian Auld  
MEDLARS Management Section

## New \$DSFILE Command Allows Ftping of Online Search Results

The National Library of Medicine is pleased to announce the availability of a new VTAM (Virtual Telecommunications Access Method) command for ELHILL searchers: \$DSFILE. VTAM commands differ from regular ELHILL commands only in that they begin with a dollar sign (\$). The VTAM command, \$DSFILE allows users to store information obtained from ELHILL on our mainframe computer, then download the file to their local computer using file transfer protocol (ftp) via the Internet. This new feature will be especially useful for users who might otherwise frequently use offline prints and/or users with large retrieval sets.

Regular readers of the *Technical Bulletin* will notice the similarity between this article and "Automatic SDI Service: Retrieving Results Through ftp" published in the September-October 1993 issue of the *Technical Bulletin*. While the two subjects are closely related, there are significant differences. Given that approximately 1,000 new users per month subscribe to the MEDLARS databases and to avoid repeatedly referring our readers to the SDI article, this \$DSFILE article was written to stand alone and thus repeats some of the information about ftping discussed in the first article.

### Command Overview

Typing a \$DSFILE command instructs the NLM computer to redirect the output of the **next command** to the MEDLARS ftp server rather than displaying the output on the screen. What you will see on the screen instead is the last few lines of the output as well as a message telling you the name of your file and its directory location.

\$DSFILE was intended to be used in combination with print commands; however, you will find that the command works with any other ELHILL command, such as NEWS, EXPLAIN, DISPLAY (stored search name), etc. While the remainder of this article deals with print commands, feel free to experiment, particularly with items that you refer to on a regular basis, such as online EXPLAINS.

### Requirements

Anyone with a valid MEDLARS User ID code and Internet access may use the new \$DSFILE command. You specifically need the ability to ftp files.

Please note that \$ commands, including \$DSFILE, are not available on the TOXNET or PDQ systems. \$ commands are a feature of VTAM, software that is not available on the computers used to provide access to TOXNET or PDQ.

### File Structure

The files you will create with \$DSFILE are ASCII text files. The information will be displayed exactly as you would have seen it on the screen if you had chosen to view the information online. Nothing else is added to the file.

### Costs

The charge to ftp online search results from ELHILL is based on the regular online billing algorithm; there are no additional charges on the ELHILL side of this procedure and no cost to login to the MEDLARS ftp server via the Internet to capture the data subsequently to your computer. You will be charged for the connect time to enter the search and transfer the citations to the server, the characters of data transferred, and the computer work units needed to perform the search as usual. Because the time to transfer data to the server is considerably less than the time to print the citations line-by-line to your computer/printer, the connect hour portion of the charge will be less. The major portion of the online cost is often the character charge which is the same to ftp as to print online. (The charging for ftp of Automatic SDI searches is based only on a character charge because the search itself is done in batch mode offline and not associated with the online algorithm.)

### Time Period for Retrieving Files and Notification

Once you have created a file for ftping, the file remains on the MEDLARS ftp server for 5 business days. The message:

You have # Online prints available to FTP.  
Please type     \$DSLST to view your files and/or  
                  \$DSPURGE to delete your files.

will appear when you login to ELHILL whenever there are online files associated with your User ID code on the MEDLARS ftp server. This message will appear each time you login until you remove the file from the server or until 7 calendar days have elapsed and the file is automatically purged. Saturdays, Sundays and holidays are not included as "business days."

## Confidentiality and File Naming Convention

The results from online prints available through ftp are linked to the User ID code. Searchers accessing the MEDLARS ftp server can move into the directory of any user and see the list of filenames; however, searchers cannot see the contents of the files (i.e., the citations themselves). Below is a description of the file-naming conventions.

1) The file names are cryptic indicating only that the contents were generated from a \$DSFILE command combined with a print request, for example, DS01245. This is an online print file (indicated by the leading DS, which stands for Data Set). The numbers 01245 represent a job number generated by the computer. Please note that these numbers will change for every file you create thus making the file names unique.

2) Online files stored on the MEDLARS ftp server can only be displayed in ELHILL by someone with the User ID code and ELHILL password used to generate the online print file.

3) Online files on the MEDLARS ftp server can only be downloaded via ftp by someone with the same User ID code and PDQ or DOCLINE password associated with the MEDLARS User ID code used to generate the online print file(s).

## Citation Limit

As with all online print commands, users are only allowed to print 1,165 citations per print statement. If your retrieval is greater than 1,165 you will need to issue multiple print commands, typing \$DSFILE prior to each print command.

## Using \$DSFILE (Creating an Online File)

Using \$DSFILE is actually straightforward. Begin by logging into ELHILL, searching, and creating a retrieval set. For example, if you want a sampling of articles written about motor neuron diseases, your interaction might look like this:

**PLEASE ENTER LOGIN**

**login**

**PLEASE ENTER USERID/PASSWORD**

**abc44/parsley\$\$\$\$\$\$**

**WELCOME TO THE NATIONAL LIBRARY OF MEDICINE'S ELHILL SYSTEM.  
YOU ARE NOW CONNECTED TO THE MEDLINE (1991 - 94) FILE.**

**SS 1 /C?**

**USER:**

**motor neuron disease**

**PROG:**

**SS (1) PSTG (287)**

You have found 287 citations that match your search criteria. You are now ready to print your results, but you

want to transfer the results in electronic format via the Internet all in one file rather than download line-by-line. To send the output to the MEDLARS ftp server, you issue the \$DSFILE command at the next USER: prompt. The system acknowledges the command by responding with another USER: prompt as shown in the box below. Next, enter your print command. You might choose PRT AR if you just want the basic elements for

MEDLINE plus abstracts. Since you already issued a \$DSFILE command, the system will send all print results to the MEDLARS ftp server. So that you know your online print has been completed, the system will display the last record (or last few records) along with a message telling you where your file is located. You are ready to proceed when you have another USER prompt:

**SS 2 /C?**

**USER:**  
\$dsfile

**USER:**  
prt ar

**activity detected by electromyography. Focal and systemic neuropathies showed no differences in ultrasound pathology. Six cases with central motor palsy had normal sonograms. Poor spatial resolution of real-time ultrasonography—as compared with CT and MRI—is compensated by its bedside availability, frequent repeatability without patient risk and discomfort, and its in vivo correlation of muscle morphology with muscle function.**

**SO - Muscle Nerve 1991 Jul;14(7) :654-64**

**SS 2 /C?**

**Your data is in DSPRINT.ABC44.DS01775**

**USER:**

Your file, DS01775, is now on the MEDLARS ftp server in the DSPRINT.ABC44 directory. You are now ready to look at your results and/or ftp your file.

### Viewing Files Before Downloading Via Ftp

Whenever you create a file of online search results, you have the option of viewing the file from any ELHILL USER: prompt. This feature also allows you to check the size of your file before downloading; while you are charged for your online time, there is no character charge associated with the use of the \$DSLIS command. To view your file:

1) You need to be logged in to ELHILL under the same User ID code and ELHILL password used to create the online search file, or for this example, ABC44/parsley.

2) Type: **\$DSLIS** at the USER: prompt. You will see your directory on the MEDLARS ftp server. A sample directory is shown below.

DSID	-----	Dataset-Name	-----
Lines		Chars	-----

Created -----

1775	DSPRINT.ABC44.DS01469	6723	318780	03/30/94-14:44:06
------	-----------------------	------	--------	-------------------

This shows you the filename(s) (e.g., DS01775), its directory location on the MEDLARS ftp server (DSPRINT.ABC44),

the file size (6723 lines and 318780 characters), and the date and time the file was created. The DSID number (e.g., 1775) is a computer-assigned job number for the file; this number is only useful when logged into a MEDLARS database, where you may choose to look at the file as shown below.

3) If you wish, you may view the first 100 lines of your file by typing:

**\$DSLIST [DSID number] 100**

For example, to look at file DS01775 (which has a DSID number of 1775) type:

**\$DSLIST 1775 100**

(Please note that including the DS0 will cause an error message to be displayed.)

You should see the same directory listing you saw in #2 above, as well as the first 100 lines of your file. Any

number can be used in place of the 100. If you don't specify 100 or any other number of lines, the program defaults to showing you the first 50 lines of your file. Feel free to experiment.

### Downloading Your Files

The online print files are located on the MEDLARS ftp server. To access these files, you need to know the **PDQ** password or **DOCLINE** password associated with the User ID code used to create the file. In most cases, this password is different from the ELHILL password. Please contact the MEDLARS Service Desk if you are unsure of your password. After creating and checking your files on ELHILL, logoff ELHILL and follow the login procedure as shown in Figure 1 to ftp the data from the server.

Step	Explanation/Comments
------	----------------------

<b>ftp medlars.nlm.nih.gov</b>	Connect to the MEDLARS ftp server.
login: [User ID code] e.g., <b>ABC44</b>	Depending on your ftp software, you may have a different prompt such as "logon" or "user". In some cases you will not have any prompt; you just have to know to type the appropriate word. The User ID code keyed in must be the same User ID code under which you issued the \$DSFILE command. Check with your system administrator if you are having problems.
password: [your password] e.g., <b>PDQA</b>	Remember, this is either your PDQ password OR your DOCLINE password, NOT your ELHILL password.
<b>cd ['dsprint.userid']</b> e.g., <b>cd 'dsprint.abc44'</b>	Substitute your User ID code for userid. This will change you into the correct directory where your files are located. <b>YOU MUST INCLUDE THE SINGLE QUOTES!!</b>
<b>dir</b>	This will provide a listing of files available for ftping. Remember, online print files all start with DS.
<b>get [filename]</b> e.g., <b>get ds01469</b>	Many systems will prompt you for a destination filename as well. If so, specify the entire filename including the drive and path (for example c:\results\DS01469). Check with your system administrator if you are having problems.
	Note: If you have more than one file to download you can substitute the mget command for the individual "get filename" command exactly as shown below: <b>mget *</b>
<b>bye</b>	To exit from the ftp session.

### Purging Your Online File

Figure 1 - Procedure for ftping your online print files

When you have completed downloading your online print file to your local computer, you should delete the file from the MEDLARS ftp server. The system is set up to delete online print files automatically after five business days. However, these files consume NLM system resources and could be confused with subsequently produced output and thus the files should be deleted as soon as they are no longer needed. There is no character charge associated with the use of the \$DSPURGE command, however you will be charged for online time.

To purge your online print file from the MEDLARS ftp server:

- 1) Login to ELHILL using the User ID code and ELHILL password under which you issued the \$DSFILE command.
- 2) Type \$DSLST to see a directory of files available to you for ftp. You don't need to do this if you remember the DSID of the file.
- 3) To purge your file type:

**\$DSPURGE [DSID number]**

for example, to purge file DS01469 (which has a DSID

number of 1469) type:

**\$DSPURGE 1469**

(Please note that including the DS0 will cause an error message to be displayed.)

The computer will respond with:

**DSPRINT.ABC44.DS01469 - Purged**

The file will be removed from the MEDLARS ftp server immediately.

## Conclusion

\$DSFILE provides Internet users with an additional avenue for obtaining information in a more timely manner. We think you will find this method to be flexible, and easier to manage and manipulate.

NLM welcomes your feedback. For additional information, questions, comments or suggestions about this new system, please contact the MEDLARS Service Desk at 800-638-8480 or at [mms@nlm.nih.gov](mailto:mms@nlm.nih.gov) (e-mail) or at MEDLARS Management Section, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894. □

*--prepared by Vivian Auld  
MEDLARS Management Section*

## New Full-Text Retrieval Service Offers Clinical Practice Guidelines

### Health Care Decision-Making Tools Now Available at No Charge

NLM is pleased to announce HSTAT (Health Services/Technology Assessment Text)—a free, electronic service which provides access to the full-text of clinical practice guidelines developed under the auspices of the Department of Health and Human Services, Agency for Health Care Policy and Research (AHCPR).

HSTAT also includes the following other documents useful in health care decision making: NIH Consensus Statements, NIH Technology Assessments, and the U.S. Preventive Services Task Force Guide to Clinical Preventive Services. AHCPR Technology Assessments will be added in the future.

Developed by the Information Technology Branch of the Lister Hill National Center for Biomedical Communications, HSTAT is the latest component of the expanded health services research information program coordinated by NLM's new National Information Center on Health Services Research and Health Care Technology (NICHSR). (See *NLM News*, September-October 1993.) The Fiscal Year (FY) 1994 increase in NLM's appropriation which accompanied the establishment of NICHSR allows the Library to offer this new service free of charge. NICHSR works closely with AHCPR to improve the organization and dissemination of the results of health services research, including practice guidelines and technology assessments. From FY 1990-1993, NLM's health services research information program was funded by AHCPR via an interagency transfer of funds.

To accommodate users with a range of computing and communications environments, HSTAT is available via

a number of different electronic access methods. The NLM Full-Text Retrieval System (FTRS) provides a menu-driven interface to the text of the guidelines and other sources, a table of contents for each document from which a particular section can be selected, and the ability to search by words or phrases. Mosaic, a multi-media information access program developed by the University of Illinois's National Center for Supercomputer Applications (NCSA), provides access to hypertext documents composed of text, images, and sound. Through Mosaic, it is possible to view the text, graphics, and tables of clinical guidelines in a form which is very similar to the printed copy published by AHCPR. The Mosaic version will eventually make use of the basic retrieval capabilities of NLM's Full-Text Retrieval System. In addition to the interactive access to the contents of HSTAT provided by the NLM FTRS or Mosaic, users may also use ftp or gopher to transfer the text of particular guidelines to their local systems. (See box for technical details.)

The current forms of HSTAT are an initial step toward more user-friendly, integrated access to the full text of practice guidelines in the context of a MEDLINE search or a computer-based patient record system. Individuals affiliated with a health sciences library may wish to consult their librarians for advice and assistance in making use of this new information source. For additional information, contact:

National Information Center on Health Services  
Research and Health Care Technology (NICHSR)  
National Library of Medicine  
8600 Rockville Pike  
Bethesda, MD 20894

Or phone: 800-272-4787 (Select 1,6,3)  
or 301-496-0176  
e-mail: nichsr@nlm.nih.gov □

*--prepared by Betsy L. Humphreys  
Assistant Director for  
Health Services Research Information*

## Accessing HSTAT

- **NLM's Full-Text Retrieval System: To access HSTAT via NLM's FTRS:**

Users of the PC version of Grateful Med (6.0 or greater) may obtain a script that will load a Grateful Med menu option for HSTAT; see the Grateful Med Bulletin Board or contact NICHSR for instructions, or use the Internet to ftp the script from the nlmpubs/hstat/gmhstat directory on nlmpubs.nlm.nih.gov. This script will accommodate modem access only. If you use a Novell communication server, if you use the Internet and do not have a modem locally attached to your computer, or if you are using Grateful Med for the Macintosh, you should use the other options for access to HSTAT outlined below. (Access to HSTAT will be built into Grateful Med (with a user-friendly form screen) beginning in 1995.

Modem access: dial 1-800-952-4426

The basic terminal settings for modem access are: 8 data bits; 1 stop bit; and parity - none.

Searchers not using Grateful Med may access HSTAT through their modems at the number shown above or through Internet.

Internet access: telnet to text.nlm.nih.gov

Note: With both Internet and modem access, users login as hstat or HSTAT, and emulate a VT100 or VT102 terminal.

Internet users have three additional ways to access HSTAT, each with different functions:

- **Mosaic:** specify this URL—<http://www.nlm.nih.gov/>, select NLM Online Information Services, and then select HSTAT (Public domain Mosaic client software is available from NCSA for UNIX workstations, Macintoshes, and PCs with Windows; effective use of Mosaic requires a fast Internet connection.)
- **File Transfer Protocol (ftp):** ftp to nlmpubs.nlm.nih.gov and obtain HSTAT documents from the hstat directory
- **NLM Gopher:** once connected to the NLM Gopher server ([gopher.nlm.nih.gov](http://gopher.nlm.nih.gov)), select HSTAT from the menu (Gopher is a program developed at the University of Minnesota to facilitate access to Internet resources through a series of hierarchically structured menus.) □

*--prepared by Marj Cahn  
Special Expert  
National Information Center on  
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Health Care Technology*

## Online Messages from MEDLARS Management

Someday, in the near future, you may be surprised to find a message when you login to ELHILL:

---

You have 1 Message from MEDLARS Management.  
Please type \$DSLST to view your files and/or  
\$DSPURGE to delete your files.

---

This message means that someone in the MEDLARS Management Section at NLM has sent an online note to your User ID code. This capability became available in March 1994. MMS staff will use this messaging capability when the need arises to assist you in successfully using ELHILL. Subjects covered may include naming problems for stored searches in the Automatic SDI program that prevent your searches from running or "bad" addresses for delivering offline prints. Whatever the topic, these messages will be specific to

you. This may also be a good way for MMS to respond to any inquiries you have sent via the system COMMENT command. Also, you may use the COMMENT command to answer MMS messages. Unfortunately, the COMMENT facility does not have two-way messaging capability - it is only one way - from you to MMS. Please see the boxed item following this article for a refresher on sending MMS a COMMENT. Overall system messages will still be found in the system broadcast and online NEWS. Please note, there is no character charge associated with the use of the \$DSLST or \$DSPURGE commands; online connect time is charged, though.

### Finding Your Message

Finding your message is straightforward. Type \$DSLST at a USER: prompt to determine the message number (referred to as the **DSID** number). You will see your directory on the MEDLARS ftp server, where all messages are stored. You do not need to access the server; stay connected to ELHILL. A sample directory is shown below.

#### Sample Directory

DSID	—Dataset-Name—	Lines	Chars	—Created—
1562	DSPRINT.ABC44.MSG01562	55	513	03/08/94-10:53:59

The directory provides you with the filename(s) (e.g., MSG01562), the directory location on the MEDLARS ftp server (DSPRINT.ABC44), the file size (55 lines and 513 characters), and the date and time the file was created. The DSID number (e.g., 1562) is a computer-assigned job number for the file.

The two items that you should note are the DSID number and the number of lines in the message. Although the MEDLARS ftp server is utilized to store the message, users do not need Internet access in order to read the message. You will read and delete your messages while connected to ELHILL.

### Reading Your Message

Once you know the DSID number and the number of lines, you are ready to read your message while connected to ELHILL by typing:

**USER:**  
**\$DSLST [DSID number] [number of lines]**

The number of lines only needs to be included if your message is over 50 lines.

For example, to look at the message MSG01562 you would type:

**USER:  
\$DSLST 1562 55**

(Please note that including the MSG0 will cause an error message to be displayed.)

You will see the same directory listing you saw above as well as the entire 55 lines of the message. That's all there is to it.

**Deleting Your Message**

Once you have read your messages from MEDLARS we ask that you delete them from the system. Messages will be deleted automatically after 10 business days; however, we would appreciate you deleting them when they are no longer needed in order to conserve NLM system resources.

To purge your messages:

1) Login to ELHILL using the same User ID code and ELHILL password under which you received the message from MEDLARS Management Section.

2) Type **\$DSLST** to see a directory of your files. This step is not necessary if you remember the DSID number.

3) To purge your file type:

**USER:  
\$DSPURGE [DSID number]**

For example, to purge file MSG01562 (which has a DSID number of 1562) type:

**USER:  
\$DSPURGE 1562**  
(Please note that including the MSG0 will cause an error message to be displayed.)

The computer will respond with:

**PROG:  
DSPRINT.ABC44.MGS01562 - Purged**

The file will be removed from the MEDLARS ftp server immediately; you do not need Internet access to purge your message file.

**The COMMENT Command**

You can type in a message to the MEDLARS Management Section staff at NLM by using the ELHILL COMMENT command. You can use the COMMENT command in any file, but to avoid online character charges send your comment to us from the ALERT file. Begin by typing the word COMMENT at a USER: prompt and press the Enter key. The system will ask you to specify Yes or No to the question of whether you wish a reply. If you do, it will ask you to type in your name and mailing address; include your User ID code here as well so MEDLARS Management Staff can reply to you with the new messaging feature. Otherwise, the comment is anonymous (please note that MEDLARS Management cannot respond to anonymous comments), and the ELHILL program will proceed by prompting you to insert each line of your comment/message. Follow each typed-in line by pressing the Enter key. When you are finished, indicate this by typing the word FINISHED (not case-sensitive) alone, as the last line of your message. You may also use the word DONE instead of FINISHED. Don't include anything else as part of this last line. Press the Enter key and you will be returned to a search statement. Figure 1 shows an example of how to send a comment to MEDLARS Management.

SS 1 /C?

USER:

file alert

- Switch to the ALERT file to avoid online character charges.

PROG:

YOU ARE NOW CONNECTED TO THE ALERT (INFORM) FILE.

SS 1 /C?

USER:

comment

PROG:

DOES YOUR COMMENT REQUIRE A RESPONSE FROM NLM? (YES/NO)

USER:

y

PROG:

NAME & TELEPHONE NUMBER:

USER:

Jane Doe - ABC24 - 301/555-1212

- Including the User ID code will allow MEDLARS Management to respond online.

PROG:

ADDRESS?

USER:

Any Medical Center

PROG:

CITY, STATE, AND ZIP-

USER:

Anytown, XX 44444

PROG:

CONTINUE YOUR COMMENT OR TYPE THE WORD FINISHED.

USER:

Please send me the prices and order numbers for the

PROG:

CONTINUE YOUR COMMENT OR TYPE THE WORD FINISHED.

USER:

latest MeSH tools—the Annotated, the Trees, and the

**Figure 1 - Using the COMMENT Command to Send a Message to MEDLARS**

```
PROG:
CONTINUE YOUR COMMENT OR TYPE THE WORD FINISHED.

USER:
Permuted. Thanks.

PROG:
CONTINUE YOUR COMMENT OR TYPE THE WORD FINISHED.

USER:
finished      • You may also type done.

PROG:

SS 1 /C?
USER:
```

**Figure 1 - Using the COMMENT command to send a message to MEDLARS cont.**

### Conclusion

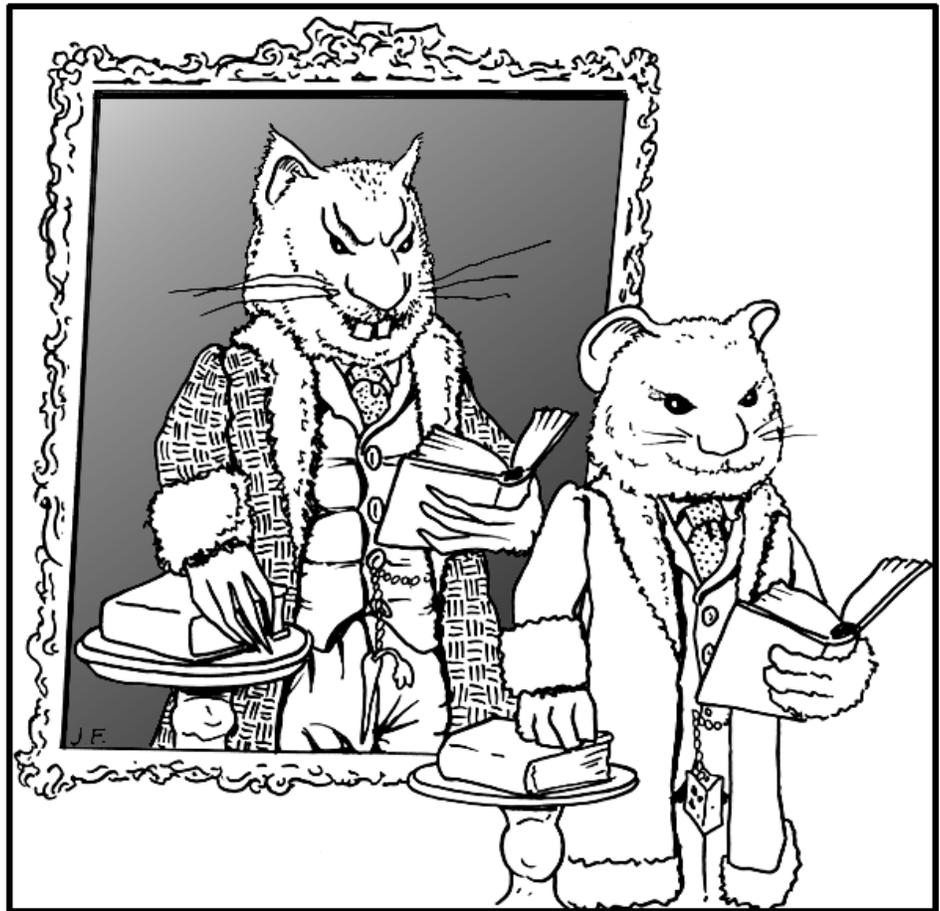
The new messaging ability will enable us to improve our service to you. We will now have a direct method for reaching our ELHILL users to provide them with instructions for improved use of our system.

As always, if you have any comments, questions or concerns about this or any other ELHILL feature, feel free to contact us at the MEDLARS Management Section at 800-638-8480 or e-mail to [mms@nlm.nih.gov](mailto:mms@nlm.nih.gov). □

*--prepared by Vivian Auld  
MEDLARS Management Section*

# Wit and Humor in MEDLINE

Don't be fooled! If a published article or substantive letter in a journal indexed by NLM for MEDLARS is the product of an author's wit (and not scientific methodology), NLM indexers will apply the \*WIT AND HUMOR MeSH heading. Other relevant subject headings will also be included. Two examples are "Psychopharmacology of lycanthropy" (UI=92208802) and "Autoradiology: patient heal thyself" (UI=90195822). The abstract of the first example discusses a quadruple-blind, Rubik's Cube matrix analysis to study the psychopharmacology of becoming a wolf by magic or delusion. The second's abstract suggests that a benefit of autoradiology is more free time for radiologists to perfect a golf swing. If abstracts alone do not identify certain articles as spoofs, the WIT AND HUMOR (MH) indexing may help. Because April 1 is traditionally a time that journals publish such quasi-scientific works for fun, a STRINGSEARCH of the Date of Publication



**Portrait of Dorian Gray Mouse**

(DP) field will help a searcher find more examples, such as the one shown below in Figure 1.

SS 1 /C?  
 USER:  
 \*wit a#d humor

PROG:  
 SS (1) PSTG (223)

SS 2 /C?  
 USER:  
 ts (dp) :apr 1 :

**Figure 1 - Article on Dorian Gray Mice Indexed with WIT AND HUMOR**

```

PROG:
(215) SCHD (5) QUAL; CONT? (Y/N)

USER:
y

PROG:
SS (2) PSTG (5)

SS 3 /C?
USER:
prt 1 include mh

PROG:

1
UI - 93218711
AU - Weiss RA
TI - Developmental biology. Dorian gray mice [news] [see comments]
CM - Comment in: Nature 1993 Jun 24;363(6431):666
MH - Aging/GENETICS
MH - Animal
MH - Apoptosis
MH - Carp/GENETICS
MH - Cattle
MH - Longevity
MH - Mice
MH - Mice, Transgenic/GROWTH & DEVELOPMENT
MH - *Wit and Humor
SO - Nature 1993 Apr 1;362(6419):411

```

**Figure 1 - Article on Dorian Gray Mice Indexed with WIT AND HUMOR cont.**

In keeping with this theme of humor, we want to thank readers who share amusing ideas with us by phone or letter. While we do not routinely pass on the wit and humor sent to MMS by users, we thoroughly enjoy and appreciate these "day brighteners." Here are a couple of lighter looks at MeSH, courtesy of Dr. Robert Aubin in Montreal.

ASPERGILLUS FUMIGATUS (MH) - Fancy smoked asparagus

EXTRAPYRAMIDAL TRACTS - Remote regions of Egypt ☐

--prepared by Marcia Zorn  
 MEDLARS Management Section  
 --cartoon by Joe Fitzgerald  
 Audiovisual Program Development Branch

## More on MeSH

This article covers changes implemented with the 1994 Medical Subject Headings. Included are:

- I. Major Tree changes
- II. Changes in the Allowable Qualifiers lists
- III. New Short Forms and
- IV. Changes to the 1994 Permuted MeSH.

### I. Major Tree changes

Routine or expected Tree changes that are required by the addition of new main headings are not shown here. The following are some of the most notable Tree changes.

#### Category A8 - NERVOUS SYSTEM

The headings were analyzed and made consistent with standard current neurology textbooks. The introduction of the new term, PERIPHERAL NERVOUS SYSTEM, required major re-trees; the AUTONOMIC NERVOUS SYSTEM, which lives just underneath it, had to be further modified in order to accommodate a new indentation ENTERIC NERVOUS SYSTEM.

#### Category B2 - ANIMALS, INBRED STRAINS

This new term required the re-trees of MICE, INBRED STRAINS and RATS, INBRED STRAINS under it.

#### Category B2 - SALMONIFORMES

This new term and many specifics required re-trees.

#### Category B4 - VIRUSES

There was considerable re-trees of B4 as a result of the new virus names and name changes in the 1994 MeSH. See page 15 of the September-October 1993 *Technical Bulletin* for more details.

#### Category C2 - VIRUS DISEASES

Consonant with the changes of the Category B viruses, there were considerable changes required in the corresponding Virus Diseases tree (C2).

#### Category C4 - NEOPLASMS

There was extensive re-trees in this category to reflect the preferred International Classification of Diseases - Oncology terminology. See page 15 of the September-October 1993 *Technical Bulletin* for more details.

#### Category C8 - LUNG DISEASES, INTERSTITIAL

This new heading now gathers together from various parts of the C8 Tree 15 old lung diseases classifiable as interstitial as well as two new specific interstitial lung diseases.

#### Category C16 - LIMB DEFORMITIES, CONGENITAL (NON MESH)

This new heading shows a group of old congenital limb deformities and one new disease fitting into this group.

#### Category D - DRUGS AND CHEMICALS

This category had a very large number of changes which are briefly touched on in the following paragraphs. A philosophical change is also worthy of mention here. In the past, ION CHANNELS and its indentions were in Category A as subcellular structures, and ION PUMPS and its indentions were in Category G as physiological concepts as were RECEPTORS and its indentions. Beginning with the 1994 MeSH, these headings and their indentions will be found only in Category D.

#### D1 - INORGANIC CHEMICALS

Virtually all headings in this tree were examined and modified to bring them into proper tree placement and agreement with authoritative designations for preferred terms. This project also generated a significant number of new headings. The following headings are pre-coordinated element/compound terms created for the indexing and searching of **inorganic compounds** only. Be reminded that many organic compounds of the specific element will be indexed under ORGANOMETALLIC COMPOUNDS or one of its specific indentions.

ALUMINUM COMPOUNDS  
 ARSENIC COMPOUNDS  
 BARIUM COMPOUNDS  
 BROMINE COMPOUNDS  
 CALCIUM COMPOUNDS  
 CHROMIUM COMPOUNDS  
 FLUORINE COMPOUNDS  
 GOLD COMPOUNDS  
 IODINE COMPOUNDS  
 IRON COMPOUNDS  
 LITHIUM COMPOUNDS  
 MAGNESIUM COMPOUNDS  
 MANGANESE COMPOUNDS  
 MERCURY COMPOUNDS  
 NITROGEN COMPOUNDS  
 OSMIUM COMPOUNDS  
 PLATINUM COMPOUNDS

POTASSIUM COMPOUNDS  
 RUTHENIUM COMPOUNDS  
 SELENIUM COMPOUNDS  
 SILICON COMPOUNDS  
 SILVER COMPOUNDS  
 SODIUM COMPOUNDS  
 TECHNETIUM COMPOUNDS  
 THORIUM COMPOUNDS  
 TIN COMPOUNDS  
 TUNGSTEN COMPOUNDS  
 URANIUM COMPOUNDS  
 VANADIUM COMPOUNDS  
 ZINC COMPOUNDS

### D8 - ENZYMES

Several areas of the D8 tree underwent major revision to conform more closely to the recommended nomenclature in the 1992 edition of Enzyme Nomenclature. Areas of the trees were changed from seven to nine levels and many headings underwent form changes. Listed below is a discussion of the major changes that were made:

#### HYDROLASES

The heading ACID ANHYDRIDE HYDROLASES was created and several of the indentions that had been under PHOSPHATASES were moved here.

The nucleases (DEOXYRIBONUCLEASES, ENDONUCLEASES, EXONUCLEASES, and RIBONUCLEASES) were moved out from under PHOSPHATASES and into the tree headed by ESTERASES.

#### PHOSPHOTRANSFERASES

The heading PHOSPHOTRANSFERASES, ATP was deleted and a series of new phosphotransferase group terms was created for 1994. All other headings under PHOSPHOTRANSFERASES have been treed under one of the new headings or under NUCLEOTIDYLTRANSFERASES (a heading since 1968). Note that the heading PHOSPHOTRANSFERASES (PHOSPHOMUTASES) is an isomerase not a transferase, and is treed accordingly.

### D12 - RECEPTORS

The 1993 MeSH carried close to 100 main heading entries beginning with the word RECEPTORS; the 1994 edition has added 55 new receptor terms.

The most significant change involves dividing the receptors into two classes using the headings RECEPTORS, CELL SURFACE (previously RECEPTORS, ENDOGENOUS SUBSTANCES) and RECEPTORS, CYTOPLASMIC AND NUCLEAR. RECEPTORS, DRUG has been re-treed under PROTEINS, having been moved from under MEMBRANE PROTEINS since some of these may be found in the cytosol or nucleus of a cell. RECEPTORS, DRUG should be used only when the functions and/or endogenous ligand for a receptor has not been determined.

The receptors are no longer treed in Category G but they remain in various locations in Category D12 and several are in D24.

Under MEMBRANE PROTEINS in D12.776.543.750 is RECEPTORS, CELL SURFACE (formerly RECEPTORS, ENDOGENOUS SUBSTANCES) under which most 1994 receptors are treed.

### New Category D main headings derived from the Supplementary Chemical Records

Of the many new Category D main headings added to the 1994 MeSH, there were 66 chemicals and 35 receptors that may be familiar to users of the 1993 Supplementary Chemical Records, because these headings were entries here before they became elevated to MeSH headings in 1994.

### New Category D Non MeSH headings

CARBON COMPOUNDS, INORGANIC (NON MESH)  
 CHALCOGENS (NON MESH)  
 CHLORINE COMPOUNDS (NON MESH)  
 OXYGEN COMPOUNDS (NON MESH)  
 PHOSPHORUS COMPOUNDS (NON MESH)

### Category E2 - ALTERNATIVE MEDICINE

This heading has been in MeSH since 1986. With the creation of the Office of Alternative Medicine (OAM) at the National Institutes of Health in 1992, the decision was made to demote the heading THERAPEUTIC CULTS from a main heading to a see reference to ALTERNATIVE MEDICINE. All of its indentions and more from the categories were placed instead under ALTERNATIVE MEDICINE. The authority for the treatments indented under ALTERNATIVE MEDICINE

is a statement from OAM entitled "Classification of Unconventional Medical Practices."

### **Category E2 - RENAL REPLACEMENT THERAPY**

This new term gathers under it the old and new terms for the methods of substituting for kidney function (e.g., HEMODIALYSIS, HOME) scattered in the E tree.

### **Category F3, I1 - DOMESTIC VIOLENCE**

This new heading gathers together related terms separated earlier: CHILD ABUSE, ELDER ABUSE, and SPOUSE ABUSE.

### **Category Z - CITIES (NON MESH)**

The individual cities shown at CITIES (NON MESH) had been shown also as indentions under UNITED STATES BY INDIVIDUAL STATE (NON MESH). For 1994 they all have been added also under the pertinent state at UNITED STATES BY REGION (NON MESH).

DISTRICT OF COLUMBIA is treed under UNITED STATES BY INDIVIDUAL STATE (NON MESH) and under MID-ATLANTIC REGION. Despite its being the Federal district and synonymous with the city of Washington, users requested that it also be indented under CITIES (NON MESH) and this change was made for 1994.

### **Category Z - AFRICA**

With the introduction of AFRICA SOUTH OF THE SAHARA all the locational geographic headings (e.g., AFRICA, CENTRAL; AFRICA, EASTERN) were rearranged into only two large groups: AFRICA, NORTHERN and AFRICA SOUTH OF THE SAHARA. Except for five countries under AFRICA, NORTHERN (Algeria, Egypt, Libya, Morocco and Tunisia), the rest of the African locational designations with the proper nations indented under each, will be found under the new term AFRICA SOUTH OF THE SAHARA.

### **Category Z - WEST INDIES**

With the creation of CARIBBEAN REGION in 1994 for the Caribbean Sea, the Caribbean region, the islands in the Caribbean and the peoples, WEST INDIES and all of its indentions were re-treed at CARIBBEAN REGION.

## **II. Allowable Qualifier Lists Changes**

The list of subheadings that indexers are permitted to use with specific terms and trees changes each year, reflecting the changes in knowledge, information, and scientific and social trends. These lists are documented on pages I-169 - 179 of the 1994 Annotated MeSH. However, it may take a while before these permissions to use these new main heading/subheading combinations actually yield retrievable data. MeSH online is still the final authority for the allowable qualifiers for a specific term and using the NEIGHBOR DETAILED command (NBRDET) with a MeSH heading in a bibliographic file like MEDLINE, will show you which subheadings have actually been used with it. The above mentioned caveats notwithstanding, below are several of the changes new for 1994.

For 1994 the subheading **/classification** has been added to the qualifiers that apply to the A11 CELLS AND SUBCELLULAR ELEMENTS LIST (page I-170 of the 1994 Annotated MeSH). This subheading will be used only with terms that are plural and which lend themselves to classification by cytologists. A11 is the only tree in Category A in which **/classification** may be used.

With the advances of research in the function of receptors in molecular science, it has become possible to delineate the effect of deficient numbers of receptors on normal function. For this reason the subheading **/deficiency** has been made available for use with the D12 RECEPTORS LIST (page I-174 of the 1994 Annotated MeSH). The subheading **/economics** however, has been removed from this same list because it is an unlikely combination.

The subheading **/mortality** has always been used with headings for diseases in Categories C and F3. For 1994 **/mortality** has been added to the list of allowable qualifiers for the following trees: E1 PROCEDURES AND TECHNIQUES - DIAGNOSTIC, E2 PROCEDURES AND TECHNIQUES - THERAPEUTIC, E3 ANESTHETIC, and E5 PROCEDURES AND TECHNIQUES - MISCELLANEOUS.

Two subheadings, **/ethnology** and **/psychology** have been added to the I1 SOCIAL PROBLEMS LIST, making it possible to index a title of "The psychodynamics of the abuse of the elderly" as ELDER ABUSE/PX.

### III. New Short Forms

Commonly used terms in the MeSH vocabulary often have short forms (also called data form abbreviations)

which may be used for searching. The short form is shown in the annotation after the DF:. Figure 1 shows the short forms added for 1994.

**CLIN** for CLINICAL

e.g., CLINICAL MEDICINE is searchable as CLIN MED

**OL** for OLOGY, OLOGIC, OLOGICAL and OLOGOUS

e.g., DERMATOLOGY is searchable as DERMATOL

DERMATOLOGIC AGENTS is searchable as DERMATOL AGENTS

BIOLOGICAL CLOCKS is searchable as BIOL CLOCKS

TRANSPLANTATION, AUTOLOGOUS is searchable as TRANSPL AUTOL

**HETEROL** for HETEROLOGOUS

e.g., TRANSPLANTATION, HETEROLOGOUS is searchable as TRANSPL HETEROL

**REPLACE** for REPLACEMENT

e.g., RENAL REPLACEMENT THERAPY is searchable as RENAL REPLACE THER

**PHARM** for PHARMACY and PHARMACEUTICAL

e.g., PHARMACY ADMINISTRATION is searchable as PHARM ADMIN

CHEMISTRY, PHARMACEUTICAL is searchable as CHEM PHARM

**Figure 1 - New Short Forms Added in 1994**

### IV. Changes to the 1994 Permuted MeSH

In 1992 the Permuted MESH introduced the new feature of listing entries by selected roots. So, in addition to the standard permutations of MeSH headings, there were entries at forms like -GRAPHY, -ITIS and 18 other such combining forms. Thus, under -GRAPHY was a host of headings like AUTORADIOGRAPHY, ECHOCARDIOGRAPHY, and FIRST-PASS VENTRICULOGRAPHY -terms which could not possibly have been approachable from the first letter of the word. Five new root forms have been added for 1994. A listing follows of all such forms listed by the year of introduction.

**1994**

-GENIC  
-DYSPLASIA  
-DYSTROPH-  
-SCLEROSIS  
-URIA

**1993**

-ALGIA  
-ARTHR-  
-CELE  
-CYTOSIS  
-FISH  
-GENESIS  
-LYSIS  
-METR-  
-PENIA  
-PLASIA  
-PLASTY  
-SCOPY  
-THERAPY  
-TOMY  
-TROPH-

**1992**

-ADENOMA-  
-ANGIO-  
-BIOL-  
-CARCINOMA-  
-CARDI-  
-CUTAN-  
-DERM-  
-ECTOMY  
-EMIA  
-EMIC  
-ENCEPH-  
-GASTR-  
-GRAPHY-  
-IMMUN-  
-ITIS  
-ODONT-  
-OSTOMY  
-PATH-  
-PNEUMO-  
-PULM-  
-SARCOMA- □

## Gold Standard Search

Thank you to everyone who mailed in search strategies in response to the "Gold Standard Search" article in the November-December 1993 issue of the *Technical Bulletin*. This feature offers searchers a chance to match wits with the NLM staff on a search strategy formulation. The Gold Standard search strategies are developed here at NLM. The search request published in the November-December 1993 issue was:

**How many of the articles published in 1993 on the subject of AIDS in Italy are from Italian publications?**

### The Winner

There was one winner! Our congratulations go to Patricia Nolan, a reference librarian from Louisiana State University Medical Center Library, New Orleans, who ran her search in AIDSLINE using the ELHILL command language. There were several runners-up, including Marianne E. Doherty of the Library at Rush-Presbyterian-St. Luke's Medical Center, Chicago, and previous winners Hazel Benson, Paul Tobin, and Julie Smith.

### Analysis of the Search Strategies

The Gold Standard Search retrieved 13 citations. The basic strategy was to access the AIDSLINE file and combine ITALY (MH) as a subject with ITALY (CY) as the place of publication, and 93 (YR). And, in fact, all the runners-up used this strategy. However, Ms. Nolan went one step further; she not only searched ITALY as a MeSH heading, she also searched for Italy, Rome, Milan and Sicily as Text Words. This results in the retrieval of some additional materials. In order for an article to be indexed with the MeSH heading for a country, the article must be either a statistical study or epidemiological in nature. In other words, a case study on a patient with AIDS, published in an Italian journal would not be indexed with the MeSH heading ITALY. However, for the purposes of a particular search, one could define all articles about Italians as being relevant. And if this were the standard, then the search would have to be expanded to include searching for place names in

the Address (AD) field in addition to the Text Words (TW) field. Ms. Nolan's search is shown in Figure 2 and the expanded version of a search to include the Address field is shown in Figure 3.

### Choosing a File

There was no question that, for this search, AIDSLINE was the correct file and in fact almost all the entries received were searches performed in AIDSLINE. However, there were two errors in this area. One was searching in MEDLINE first, then going into AIDSLINE and eliminating the MEDLINE overlap. This is inefficient. AIDSLINE provides comprehensive, one-stop, database searching for the subject of AIDS; there is no need to look anywhere else before or after going into AIDSLINE. The second mistake was to key in any AIDS terms once in AIDSLINE. Every article in this database is AIDS-related; therefore, it was only necessary to search for Italy as a subject and Italy as the place of publication.

### Search Strategy Suggestions

The basic search strategy for this search was simple. Combine ITALY, the MeSH heading, with Italy as the country of publication of the journal (CY) and limit the retrieval to 1993. Of course, you must remember to EXPLODE ITALY (only in the computer, please). However, although the search was drawn up with this one particular strategy in mind, the winning entry showed that even the most seemingly basic request is open to interpretation. Therefore, clearly defining the requester's real information need is always the first challenge that must be met.

Once again, thanks to all who submitted entries and thank you for the kind comments about how much you enjoy this feature.

### The Next Gold Standard Search

The search question is:

**The requester is concerned about the safety of milk from cows being given a hormone to increase milk production. What information can you find?**

Results will be published in the July-August 1994 *Technical Bulletin*. Entries must be received by June 10, 1994 to be considered.

If you mail us a copy of your search strategy with a printout of citations and abstracts and your strategy is selected for publication you could win either a copy of Grateful Med or one hour of free search time. In cases of multiple submissions of identical winning strategies, the prize winner will be either the person who has never won this contest before or the first winning strategy received. [Editor's note: This AIDSLINE search was the first one to produce multiple identical entries in the runners-up entries. In the previous contests, all the search strategies received, winners and non-winners, were unique.]

### Search Hints for Direct Searchers

Select your database carefully. Limit your retrieval to English language citations.

### Search Hints for Grateful Med Users

Select your database carefully. Remember to use the F10 key to look at MeSH headings. Users with the Macintosh version of Grateful Med should view MeSH headings by clicking on Find MeSH Term on the search screen. Limit your retrieval to English.

### Reminder

There are no exact answers or absolutely correct strategies, only best approximations, just like real life. Good luck!

Please send a copy of your search strategy with the retrieval, including printed abstracts, which database was searched and whether you searched directly or used Grateful Med to:

Gold Standard Search  
MEDLARS Management Section  
National Library of Medicine  
8600 Rockville Pike  
Bethesda, MD 20894 ☐

--prepared by Toby Port  
MEDLARS Management Section

```

SS 1 /C?
USER:
file aidsline

PROG:
YOU ARE NOW CONNECTED TO THE AIDSLINE (1980 FORWARD) FILE.

SS 1 /C?
USER:
exp italy          • EXPLODing includes MHs Rome and Sicily.

PROG:
SS (1) PSTG (916)

SS 2 /C?
USER:
italy (cy)

PROG:
SS (2) PSTG (4349)

```

**Figure 1 - Gold Standard Search**

SS 3 /C?

USER:

1 and 2 and 93 (yr)

PROG:

SS (3) PSTG (13)

- Sample titles retrieved - note the epidemiological or statistical nature of the retrieval.

TI- [The incidence, etiology and clinical significance of visceral mycoses in patients with AIDS]

TI- [The seroprevalence of HIV, HBV and HCV infections in patients coming to the departments of general surgery of a public hospital (S. Camillo, Rome)]

TI- HIV seroprevalence at the Obstetrics Hospital in Turin, Italy [letter]

TI- Toxoplasma gondii pneumonia in Italian patients infected with HIV.

TI- Prognostic factors of early fatal outcome and long-term survival in patients with Pneumocystis carinii pneumonia and acquired immunodeficiency syndrome.

TI- Counselling and testing for HIV infection in Rome 1985-1990: analysis of client characteristics and seroprevalence.

TI- [AIDS patients in Italian prisons: a burning issue with no easy solution (editorial)]

**Figure 1 - Gold Standard Search cont.**

SS 1 /C?

USER:

file aidsline

PROG:

YOU ARE NOW CONNECTED TO THE AIDSLINE (1980 FORWARD) FILE.

SS 1 /C?

USER:

exp italy

PROG:

SS (1) PSTG (916)

SS 2 /C?

USER:

(tw) italy or all italian# or rome or all roman# or sicily or all sicilian# or all sardinia#

**Figure 2 - Patricia Nolan's Search**

PROG:  
SS (2) PSTG (1208)

SS 3 /C?  
USER:  
1 or 2

PROG:  
SS (3) PSTG (1208)

SS 4 /C?  
USER:  
3 and 93 (yr)

PROG:  
SS (4) PSTG (243)

SS 5 /C?  
USER:  
4 and italy (cy)

PROG:  
SS (5) PSTG (16)

- The three additional titles retrieved by Ms. Nolan's search strategy. Notice they are not specifically about the epidemiology of AIDS and that's why they aren't indexed with ITALY (MH).

TI- [Acute pneumonia and cell-mediated immunity in patients with HIV infection]

TI- [Solid tumors associated with HIV infection]

TI- HTLV-1 sequences in lymphocytes of a patient with non-tropical spastic tetraparesis and her asymptomatic husband.

**Figure 2 - Patricia Nolan's Search cont.**

SS 1 /C?

USER:  
file aidsline

PROG:

YOU ARE NOW CONNECTED TO THE AIDSLINE (1980 FORWARD) FILE.

SS 1 /C?

USER:  
exp italy

PROG:

SS (1) PSTG (916)

SS 2 /C?

USER:  
(tw) all ital: or rome or all roma# or milan or milano or all sicil:

PROG:

SS (2) PSTG (1236)

- Remember to search place names in Italian as well as English.

SS 3 /C?

USER:  
(ad) all ital: or rome or roma or milan or milano

- You could search on as many city or place names in the Address and Text Words fields as you wished.

PROG:

SS (3) PSTG (2877)

SS 4 /C?

USER:  
1 or 2 or 3

PROG:

SS (4) PSTG (3344)

SS 5 /C?

USER:  
4 and italy (cy)

PROG:

SS (5) PSTG (908)

SS 6 /C?

USER:  
5 and 93 (yr)

PROG:

SS (6) PSTG (43)

**Figure 3 - Searching for references about Italians with AIDS that are not indexed with ITALY (MH)**

SS 7 /C?

USER:

6 and not exp italy

- This is to eliminate the retrieval from the Gold Standard search and show the unique citations retrieved from searching in the Text Words and Address fields.

PROG:

SS (7) PSTG (30)

- Sample titles retrieved. Notice they are not specifically epidemiological and the fact that the persons involved are Italian does not appear to be central to the article; however, titles like these might still be relevant for the end user, depending on his/her information needs.

TI- [The psychological impact of HIV infection and the burn-out syndrome amongst health care workers dealing with HIV seropositive and AIDS patients]

TI- Sexual transmission of hepatitis C virus and HIV-1 infection in female intravenous drug users.

TI- Erythropoietin and the anemia of chronic diseases.

TI- [Dissecting pseudomembranous coliocytic vaginitis caused by HPV in a HIV positive patient]

TI- Specificity and sensitivity of 3rd generation EIA for detection of HCV antibodies among intravenous drug-users.

TI- Thyroid hypofunction related with the progression of human immunodeficiency virus infection.

TI- Rapid methods for microbial diagnosis of mycobacterial infections.

TI- [Vascular complications in drug addicts. Intermittent claudication in a HIV seropositive heroin addict]

TI- Myopathy in long-term AZT therapy: clinical, electrophysiological and biopsy study in 67 HIV+ subjects.

**Figure 3 - Searching for references about Italians with AIDS that are not indexed with**

**ITALY (MH) cont.**

## Deleting a STORESEARCH Using the PURGESEARCH Command

STORESEARCH is an ELHILL procedure that stores a search formulation so that it can be used again later. (See the [Online Services Reference Manual \(OSRM\)](#) Section 5.2 for more detailed information.) It enables the searcher to store a search that will be performed repeatedly at intervals, such as for an Automatic SDI. The search is given a name, and is stored in the evening. After the search has been stored in the computer it may be executed.

A disadvantage of a STORESEARCH is that the strategy contained within it cannot be edited. Whenever the searcher wishes to add or delete terms, or change the searchname, the entire STORESEARCH must be deleted, reformulated, and restored. Also, STORESEARCHes cannot be used the same day that they are entered because the search is not stored immediately as it is input, but rather during the night or the night of the next business day after the system has been brought down.

The PURGESEARCH command (OSRM 5.2.6) may be used to eliminate a stored search from MEDLARS. To use the command, type PURGESEARCH. The program will ask for the searchname, and it will ask for a second verification of the purge command. Or, PURGESEARCH may be typed followed by the name of the stored search as in the following example:

```
USER:
PURGESEARCH S001 LIVER DISEASE IN CHILD
```

```
PROG:
OK? (Y/N/C/ADDRESS)
USER:
Y
```

```
PROG:
PURGESEARCH COMPLETED
```

Purging a search, similarly to storing a search, is a process that takes place at night. **Therefore, never store a new search with the same name as an old search unless you have verified that the "old" STORESEARCH has indeed been purged.** The "PURGESEARCH COMPLETE" message seen online is misleading because the search is not deleted immediately, but is put instead into queue to be deleted as part of postprocessing. Postprocessing is when the computer is brought down for 10-15 minutes at 11:00 p.m. ET.

### Verifying a Search Has Been Deleted

Try to display the search (no sooner than the following business day) to be sure it has been purged from the system. If it has not been deleted, wait and check again the next day before storing a new search strategy by the same name. The total number of stored searches that can be purged from a single copy of ELHILL in one night's processing has been raised to 300 from 25. If the number of PURGESEARCH commands should exceed this limit of 300, the excess PURGESEARCH commands will go into queue for processing on the following evening. This situation may occur at the end of the year, when many searchers purge and reenter their STORESEARCHes to reflect changes in MeSH.

A better STORESEARCH practice would be not to store a new search with the same name as the old stored search being purged. Changing a search name by just one character makes the name different. If you follow this advice and alter the name by at least one character, then you can store the new strategy on the same day as the PURGESEARCH of the old strategy without complications. You should still follow through with the DISPLAY command to check on the old strategy to be sure it was deleted. □

*--prepared by Marcia Zorn  
MEDLARS Management Section*

## Grateful Med IBM Version 6.5 Installation Update

You only need to read this article if you have received error number 2116 when starting to update Version 6.0 to 6.5 with the update disks mailed in March 1994. Affected are:

8086 or 8088 processors,  
original PC monochrome adapter (this does not mean all monochrome monitors), or  
CGA video adapter.

Some laptop PC's may also be affected.

This error message is specific to the update program itself and has nothing to do with the functioning of Grateful Med Version 6.5. If you have any other questions about Grateful Med, they can be answered by contacting the MEDLARS Service Desk as indicated at the end of this article.

### The Problem

You get an 'Error code 2116' message at the beginning of the Version 6.5 update installation process — before the first message from NLM that tells you the purpose of the installation program.

### The Solution

Change one line (line 391) in the file GM6P5U.INF that is on Disk 1 of the installation package, then rerun the installation program. You may use TED or EDIT (DOS version 5 and up) to make the change. TED doesn't show you line numbers, so it can be less convenient in this case.

If you are using TED, or a text editor that makes a backup file after editing, you must do steps 1 -5.

If you are using EDIT, or a text editor that does not make a backup file, you do not need to do steps 2 and 4.

Steps:

- 1) Put Disk 1 in the A> drive.
- 2) Copy the file GM6P5U.INF from Disk 1 to your hard disk. For example, from your hard drive type:

```
copy a:gm6p5u.inf
```

- 3) Use a text editor to change line #391 of GM6P5U.INF. Line 391 now reads:

```
Do PrepareSystemReport
```

You need to put two semicolons at the beginning of the line so that it looks like this:

```
;; Do PrepareSystemReport
```

The important thing is to have the ';;' as the first thing in this line.

- 4) Copy the file GM6P5U.INF to Disk 1 in the A> drive. For example:

```
copy gm6p5u.inf a:
```

- 5) Start the updategm program again by typing a:updategm

If you are using TED and have trouble finding line 391, page down to the end of the file (press the Page Down key about 23 times). On the last screen, the 4th line in the block of text is the one you want to change. The block of text starts like this:

```
Procedure SetupInstalit
```

```
Set ScreenAttrTo [ScreenColors]
```

```
SetBackgroundCharTo [BackgroundCharacter]
```

```
Do PrepareSystemReport • Change this line.
```

```
SetShadows Off
```

```
NoSysFileConfirmation
```

### Side Effects

When you run the updategm program again, if you press 'F3' to get a 'System Report' you will be shown a blank screen instead of a System Report.

### For More Information Contact the MEDLARS Service Desk at:

Mail: MEDLARS Management Section  
National Library of Medicine  
8600 Rockville Pike  
Bethesda, MD 20894

Phone: 1-800-638-8480

GM-BBS: 1-800-525-5756

e-mail: gmhelp@gmedserv.nlm.nih.gov ☐

--prepared by Catherine Soehner  
MEDLARS Management Section

# Pollution Prevention and Searching TOXNET's TRI91/92: Part 3

Two articles in previous issues of the *Technical Bulletin* discussed the new source reduction and recycling data (Category 6) in the TOXNET TRI91 database (page 1 of the March-April 93 *Technical Bulletin*) and special print options created for their tabular display (page 7 of the July-August 93 *Technical Bulletin*). This article will

review several of the numeric search features (RANGING, SORTING, CALCULATE, PRT COMPUTE) developed especially for the TRI databases, with an emphasis on their use with the pollution prevention data in Category 6 of TRI91 and the forthcoming TRI92. Search examples, using TOXNET's direct search mode, are included in Figure 1. Many of the capabilities illustrated are also available through the use of TOXNET's TRI menus.

## Ranging

Ranging operations permit users to search for numeric

data greater or less than a given value, or between two values as shown in the box below.

GREATER THAN 0 (WT)	Searches for records with total water releases greater than 0.
LESS THAN 10 (OFTTF)	Searches for records with quantities less than 10 pounds for total off-site treatment in the future year.
FROM 50000 to 100000 (ONCCC)	Searches for records with on-site (ONCCC) recycling amounts between 50,000 and 100,000

## Ranging

not work.

## **SORTing**

Retrieved records are often more useful if displayed in

an alphabetic or numeric arrangement. The SORT command allows you to order your retrieved records.

Sample SORT commands are shown in the box below.

SORT FNM	Sorts retrieved records alphabetically by facility name.
SORT ONRVP	Sorts retrieved records by the quantities used in on-site energy recovery for the prior year, from lowest values to highest.
SORT ARELT D	Sorts retrieved records by the quantities released accidentally, from highest values to lowest (i.e.,

## Sample SORT Commands

sequence).  
 descending

**CALCULATING**

Numeric calculations allow users to carry out basic statistical operations, such as adding (SUM), finding the

mean (MN), finding the average (AVG), taking the standard deviation (SD), etc. A numeric calculation, using the CALC command, is carried out on the complete retrieved set of records and results in a single number. The command DISPLAY CALC will review your CALC

commands and results for a given search session. Some CALC commands are shown in the box below.	
CALC SUM (ERELT)	Adds up the total environmental releases of all the retrieved records.
CALC AVG (QRELC)	Finds the average of the quantities released in the current year of the retrieved records.
CALC MAX (ONRVC OFRVC)	Identifies the maximum value from among all the

**Sample CALCULATE Commands**

on- and off-site energy recovery values  
 retrieved records.

**PRINT COMPUTE**

current year  
 of the

Both commands, CALC and PRT COMPUTE, perform statistical operations and display results. The difference is that, whereas CALC displays only the result of the calculation, PRT COMPUTE also allows you to display data from the retrieved records. Also, the option PRT

OFFLINE COMPUTE allows you to generate an offline print of your retrieval and calculation results. Below are sample PRT COMPUTE commands.	
PRT EREL COMPUTE (SUM) OF ERELT	Prints the data elements from the EREL category and displays the sum of all ERELT values.
PRT OFFLINE TABLE COMPUTE (SUM) OF	Prints the source reduction and recycling table offline and

**Sample PRINT COMPUTE Commands**

ONTPP displays the  
 sum of the ONTPP values.

**PRINT COMPUTE with SORT (for Subtotals) - Online Display**

Sorts the retrieval set of the chemical you searched on by Facility State (FST).

Step 2: PRT FST QRELC COMPUTE (SUM) OF QRELC BREAK ON FST

Using the SORT option in conjunction with a PRT COMPUTE command permits you to get subtotals. Let's say you search on a particular chemical and then want to add up all the quantities released for the current year (QRELC), except that you also want to see QRELC subtotals on a state-by-state basis. The following two steps would be required:

Prints the retrieved records in alphabetical order by Facility State (FST), displays FST and QRELC for each record, adds up the QRELCs for each state and prints the sub-total results, and finally, displays the grand total of the QRELCs at the very end. Note that to subtotal on a field, you must first SORT on that field, and then include that field mnemonic (in this case, FST) in the PRT

Step 1: SORT FST

COMPUTE command, after the words BREAK ON.

You will subsequently be prompted for your name and mailing address.

**PRT COMPUTE with SORT (for subtotals)  
- Offline Display**

For an offline printout, identical to what you would get online, in the above example, you combine the two steps into one, and insert the word OFFLINE as follows:

PRT OFFLINE FST QRELC COMPUTE (SUM) OF  
QRELC BREAK ON FST SORT FST

**Conclusion**

More details on the above commands are available in the TRI Reference Guide or by using the EXPLAIN command online in TOXNET. TRI's numeric operation commands allow users to generate a variety of statistical reports and explore environmental release trends across the years. Also, source reduction and recycling data can be compared for TRI91 and TRI92, the latter due online early this Spring. □

*--prepared by Philip Wexler and Dorothy Stroup, Ph.D.  
Division of Specialized Information Services*

**1. Have there been any accidental releases of sulfuric acid in amounts greater than one million pounds, in 1991?**

[TRI91] SS 1 /cf?

USER:  
(name) sulfuric acid and greater than 1000000 (arelt)  
Search in progress

SS (1) PSTG (3)

- Searches for the chemical in amounts exceeding one million pounds.

[TRI91] SS 2 /cf?

USER:  
prt fac hits cont indented

- Displays hits and facility id information.

1 - TRI91	
EPA FACILITY NUMBER	90746STFFR20720
FACILITY NAME	RHONE-POULENC BASIC CHEMICALS CO.
NAME OF SUBSTANCE	SULFURIC ACID
CAS REGISTRY NUMBER	7664-93-9
EPA SUBMISSION NUMBER	13-91-05523271-6-CA
FACILITY STREET ADDRESS	20720 S. WILMINGTON AVE.
FACILITY CITY	CARSON
FACILITY STATE	CA (CALIFORNIA)
FACILITY ZIP CODE	90746
FACILITY COUNTY	LOS ANGELES
FIPS STATE/COUNTY CODE	06037
ACCIDENTAL RELEASE TOTAL	1,549,970 lbs./rep yr - 1991

2 - TRI91	
EPA FACILITY NUMBER	84006KNNCT8362W
FACILITY NAME	KENNECOTT UTAH COPPER
NAME OF SUBSTANCE	SULFURIC ACID
CAS REGISTRY NUMBER	7664-93-9
EPA SUBMISSION NUMBER	13-91-05558978-8-UT
FACILITY STREET ADDRESS	12000 W. 2100 S. & 11500 W. 2100 S.
FACILITY CITY	MAGNA
FACILITY STATE	UT (UTAH)
FACILITY ZIP CODE	84044
FACILITY COUNTY	SALT LAKE
FIPS STATE/COUNTY CODE	49035
ACCIDENTAL RELEASE TOTAL	6,000,000 lbs./rep yr - 1991

**Figure 1 - Search Examples**

```

3 - TRI91
EPA FACILITY NUMBER      68064VLMNTWESTH
FACILITY NAME            VALMONT INDUSTRIES INC.
NAME OF SUBSTANCE        SULFURIC ACID
CAS REGISTRY NUMBER      7664-93-9
EPA SUBMISSION NUMBER    13-91-05550382-5-NE
FACILITY STREET ADDRESS  US HWY. 275
FACILITY CITY            VALLEY
FACILITY STATE           NE (NEBRASKA)
FACILITY ZIP CODE        68064
FACILITY COUNTY          DOUGLAS
FIPS STATE/COUNTY CODE   31055
ACCIDENTAL RELEASE TOTAL 1,455,000 lbs./rep yr - 1991
    
```

**2. What facilities were recycling large amounts of arsenic on-site in 1991?**

[TRI91] SS 1 /cf?

USER:  
 arsenic (name) • Searches for arsenic.  
 Search in progress

SS (1) PSTG (55)

[TRI91] SS 2 /cf?

USER:  
 1 and greater than 0 (onccc) • Eliminates records with zero  
 Search in progress recycling amounts.

SS (2) PSTG (24)

[TRI91] SS 3 /cf?

USER:  
 sort onccc d • Sorts recycling amounts from  
 Sort in progress highest to lowest, i.e., descending order (d).  
 SORT COMPLETED ON 24 RECORDS

[TRI91] SS 3 /cf?

USER:  
 prt hits • Displays the hits.

```

1 - TRI91
FACN - 55121GPHRS3385S
FNM - GOPHER SMELTING & REFINING CO.
NAME - ARSENIC
RN - 7440-38-2
SUBN - 13-91-05557528-4-MN
    
```

---

o ONCC - ON-SITE RECYCLING

CURRENT(91)

---

ONCC | 290,000 |

---

**Figure 1 - Search Examples cont.**

2 - TRI91  
FACN - 90058GNBNC2717S  
FNM - GNB INC. RESOURCE RECYCLING DIV.  
NAME - ARSENIC  
RN - 7440-38-2  
SUBN - 13-91-05550043-7-CA

---

o ONCC - ON-SITE RECYCLING

CURRENT(91)

---

ONCC | 83,000 |

---

3 - TRI91  
FACN - 75034GNBNCSOUTH  
CONTINUE PRINTING? (YES/NO/CONT)  
USER:  
y  
FNM - GNB INC. RESOURCE RECYCLING DIV.  
NAME - ARSENIC  
RN - 7440-38-2  
SUBN - 13-91-05573808-8-TX

---

o ONCC - ON-SITE RECYCLING

CURRENT(91)

---

ONCC | 41,000 |

---

4 - TRI91  
FACN - 31901GNBNCJOYRO  
FNM - GNB INC. RESOURCE RECYCLING DIV.  
NAME - ARSENIC  
RN - 7440-38-2  
SUBN - 13-91-05552269-8-GA

---

o ONCC - ON-SITE RECYCLING

CURRENT(91)

---

ONCC | 32,000 |

---

.  
. .  
. . .

Figure 1 - Search Examples cont.

**3. How much freon 113 was recycled offsite in 1990 by the semiconductor industry (sic code = 3674)? Note: 1990 is considered the "prior" year for TRI91.**

[TRI91] SS 1 /cf?

USER:

freon 113 (name) and 3674 (sic)  
Search in progress

- Searches for freon 113 and sic code 3674.

SS (1) PSTG (62)

[TRI91] SS 2 /cf?

USER:

calc sum (ofccp)  
Calc processing  
SUM(OFCCP) = 1057014  
Calc completed

- Adds up off-site recycling amounts for the prior year, i.e., 1990.

**4. What amounts did each facility retrieved in question 3 recycle offsite in 1990 and how does this break down by state?**

[TRI91] SS 2 /cf?

USER:

sort fst  
Sort in progress

- Facility states sorted in preparation for calculating state subtotals and displaying online.

SORT COMPLETED ON 62 RECORDS

[TRI91] SS 2 /cf?

USER:

prt hits ofccp fst compute (sum) of ofccp break on fst cont

- This command prints the hits continuously (i.e., NAME and SIC), OFCCP, and FST. It also adds up the OFCCP values (i.e., COMPUTE (SUM) OF OFCCP) taking subtotals by state (i.e., BREAK ON FST), and finally adds up all the individual OFCCP values.

```

1      -      TRI91
FACN  -      85281LTTNS1215S
FNM   -      LITTON SYSTEMS INC. ELECTRON DEVICES DIV.
NAME  -      FREON 113
RN    -      76-13-1
SUBN  -      13-91-05502044-0-AZ
    
```

---

o OFCC - OFF-SITE RECYCLING

- Records display alphabetically by state, with an insert of the OFCCP sub-total at the end of each state, followed by a display of the grand total.

PRIOR(90)

---

OFCC | 12,540 |

---

```

FST   -      AZ (ARIZONA)
SIC   -      (3674) Semiconductors and related devices
    
```

**Figure 1 - Search Examples cont.**

2 - TRI91  
 FACN - 85706BRRBR6730S  
 FNM - BURR-BROWN CORP.  
 NAME - FREON 113  
 RN - 76-13-1  
 SUBN - 13-91-05502324-4-AZ

---

o OFCC - OFF-SITE RECYCLING

PRIOR(90)

---

OFCC | 8,700 |

---

FST - AZ (ARIZONA)  
 SIC - (3674) Semiconductors and related devices  
 .  
 .  
 .

10 - TRI91  
 FACN - 923RCKWL3370M  
 FNM - ROCKWELL INTERNATIONAL CORP. DEFENSE ELECTRONICS  
 OPERATIONS  
 NAME - FREON 113  
 RN - 76-13-1  
 SUBN - 13-91-05500469-9-CA

---

o OFCC - OFF-SITE RECYCLING

PRIOR(90)

---

OFCC | 36,000 |

---

FST - CA (CALIFORNIA)  
 SIC - (3674) Semiconductors and related devices  
 .  
 .  
 .

19 - TRI91  
 FACN - 95014DGTLQ10500  
 FNM - DIGITAL EQUIPMENT CORP.  
 NAME - FREON 113  
 RN - 76-13-1  
 SUBN - 13-91-05574211-2-CA

---

o OFCC - OFF-SITE RECYCLING

PRIOR(90)

---

OFCC | 3,486 |

---

Figure 1 - Search Examples cont.

FST - CA (CALIFORNIA)  
 SIC - (3674) Semiconductors and related devices  
 FST = CA  
 \*\* SUM(OFCPP) - 120980 • Subtotal for California.

.  
 .  
 .

49 - TRI91  
 FACN - 02876MRPXLPROVI  
 FNM - PHILIPS COMPONENTS CO. FORMERLY AMPEREX  
 NAME - FREON 113  
 RN - 76-13-1  
 SUBN - 13-91-05551987-0-RI

---

o OFCC - OFF-SITE RECYCLING

PRIOR(90)

---

OFCC | 600 |

---

FST - RI (RHODE ISLAND)  
 SIC - (3674) Semiconductors and related devices  
 FST = RI  
 \*\* SUM(OFCPP) - 600 • Subtotal for Rhode Island.

.  
 .  
 .

62 - TRI91  
 FACN - 53216TN 4265N  
 FNM - EATON SPECIFIC INDUSTRY CONTROL DIV.  
 NAME - FREON 113  
 RN - 76-13-1  
 SUBN - 13-91-05514766-6-WI

---

o OFCC - OFF-SITE RECYCLING

PRIOR(90)

---

OFCC | NO DATA |

---

FST - WI (WISCONSIN)  
 SIC - (3674) Semiconductors and related devices  
 FST = WI  
 \*\* SUM(OFCPP) - 0

\*\*\* TOTAL SUM(OFCPP) - 1057014

• GRAND TOTAL - note, this number matches the SUM calculated in question 3.

**Figure 1 - Search Examples cont.**

## SERIALS UPDATE

### INDEXED TITLES UPDATED, JANUARY-FEBRUARY 1994

The following titles cited in MEDLINE and HEALTH, 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, (301) 496-1276, Technical Services Division, NLM.

### TITLES SELECTED FOR INDEXING, JANUARY-FEBRUARY 1994

- |     |  |     |  |
|-----|--|-----|--|
| INI | CLINICAL NURSING PRACTICE IN EPILEPSY<br>CLIN NURS PRACT EPILEPSY<br>1,1993?—<br>CHURCHILL RADIUS<br>CLIFTON NJ UNITED STATES<br>INDEXING BEGAN WITH V1N1,1993.<br>ON ORDER<br>SR0079995 JC: BZQ | INI | SOINS. FORMATION, PEDAGOGIE, ENCADREMENT<br>SOINS FORM PEDAGOG ENCADR<br>N1, TRIMESTRE 1992—<br>INTER EDITIONS<br>PARIS FRANCE<br>CONTINUES: INFIRMIERE ENSEIGNANTE, WHICH<br>IS NOT IN THE NLM COLLECTION. PRODUCED<br>WITH THE PARTICIPATION OF THE CEEIEC.<br>INDEXING BEGAN WITH N1, 1992.<br>W1 SO8862NL 1163-4723<br>SR0074766 JC: BZL |
| INI | REVOLUTION<br>REVOLUTION<br>1,1991—<br>A.D. VON PUBLISHERS<br>STATEN ISLAND NY UNITED STATES<br>INDEXING BEGAN WITH WINTER 1993.<br>W1 RE74M 1059-0927<br>SR0073228 JC: BZM                      | INI | VERPLEEGKUNDE<br>VERPLEEGKUNDE<br>1N1, MAY 1986?—<br>DE TIJDSTROOM<br>LOCHEM NETHERLANDS<br>QUARTERLY DESCRIPTION BASED ON: 6TH JAHRG.,<br>NR. 1 (MEI 1991); TITLE FROM COVER.<br>NEDERLANDS VLAAMS TIJDSCHRIFT FOOR<br>VERPLEEGKUNDIGEN. INI<br>INDEXING BEGAN WITH V8N1, MAY 1993.<br>W1 VE785D 0920-3273<br>SR0071582 JC: BZN             |

### TITLE CHANGES, JANUARY-FEBRUARY 1994

- |           |  |    |   |
|-----------|--|----|---|
| IM<br>HLI | AMERICAN JOURNAL OF RESPIRATORY AND<br>CRITICAL CARE MEDICINE<br>AM J RESPIR CRIT CARE MED<br>149,1994—<br>AMERICAN LUNG ASSOCIATION<br>NEW YORK NY UNITED STATES<br>AN OFFICIAL JOURNAL OF THE AMERICAN<br>THORACIC SOCIETY, MEDICAL SECTION OF THE<br>AMERICAN LUNG ASSOCIATION. CONTINUES:<br>AMERICAN REVIEW OF RESPIRATORY DISEASE.<br>INDEXING BEGAN WITH V149N1, JAN 1994.<br>ON ORDER 1073-449X<br>SR0080213 JC: BZS | IM | IN VITRO CELLULAR AND DEVELOPMENTAL<br>BIOLOGY. ANIMAL<br>IN VITRO CELL DEV BIOL ANIM<br>29AN3, PT II MAR 1993—<br>TISSUE CULTURE ASSOCIATION<br>COLUMBIA MD UNITED STATES<br>CONTINUES IN PART: IN VITRO CELLULAR AND<br>DEVELOPMENTAL BIOLOGY.<br>INDEXING BEGAN WITH V29AN4, 1993.<br>W1 IN106C 1071-2690<br>SR0079742 JC: BZE |
|-----------|--|----|---|

## TITLE CHANGES, JANUARY-FEBRUARY 1994

- |    |   |     |   |
|----|---|-----|---|
| IM | JOURNAL OF IMMUNOTHERAPY WITH EMPHASIS ON TUMOR IMMUNOLOGY<br>J IMMUNOTHER EMPHASIS TUMOR IMMUNOL 13,1993—<br>RAVEN PRESS<br>NEW YORK NY                      UNITED STATES<br>OFFICIAL JOURNAL OF THE SOCIETY FOR BIOLOGICAL THERAPY. CONTINUES: JOURNAL OF IMMUNOTHERAPY. SPINE TITLE: JOURNAL OF IMMUNOTHERAPY.<br>INDEXING BEGAN WITH V13N1,JAN 1993.<br>W1 JO679G                      1067-5582<br>SR0079809                      JC: BZH | IM  | MEDICAL ENGINEERING AND PHYSICS<br>MED ENG PHYS<br>16,1994—<br>BUTTERWORTH-HEINEMANN<br>LONDON                      ENGLAND<br>CONTINUES: JOURNAL OF BIOMEDICAL ENGINEERING.<br>INDEXING BEGAN WITH V16N1,JAN 1994.<br>ON ORDER                      1350-4533<br>SR0080279                      JC: BZU                      |
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| IM  | ACTA MEDICA POLONA<br>ACTA MED POL<br>1N1,1960-31N1/2,1990?<br>POLSKA AKADEMIA NAUK<br>WARSZAWA                      POLAND<br>INCLUDES REVIEWS OF POLISH SCIENTIFIC PUBLICATIONS. ABSORBED IN 1977: ANNALS OF THE MEDICAL SECTION OF THE POLISH ACADEMY OF SCIENCE.<br>INDEXING FOR ONLINE FILES BEGAN WITH V6N2,1965.<br>W1 AC851                      0001-608X<br>A06690000                      JC: 13U  | IDL | ARCHIVOS DE ODONTO ESTOMATOLOGIA<br>ARCH ODONTO ESTOMATOL<br>1N1,DEC 1985-5N1,JAN 1989?<br>EDICIONES ERGON<br>BARCELONA                      SPAIN<br>CALLED ALSO: ARCHIVOS DE ODONTO-ESTOMATOLOGIA. VOL. 1 (1985)<br>COMPLETE IN ONE ISSUE.<br>INDEXING BEGAN WITH V1N1,DEC 1985.<br>W1 AR703F                      0213-4144<br>SR0057842                      JC: 7ZD |
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SAN ANTONIO TX UNITED STATES  
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SOCIETY FOR HUMAN RESOURCE MANAGEMENT  
ALEXANDRIA VA UNITED STATES  
CONTINUES: PERSONNEL ADMINISTRATOR,  
WHICH IS NOT IN THE NLM COLLECTION.  
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W1 HR817 1047-3149  
SR0067915 JC: ARH
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J N H DENT SOC  
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NEW HAMPSHIRE DENTAL SOCIETY  
CONCORD NH UNITED STATES  
CALLED ALSO: JOURNAL OF THE NEW HAMPSHIRE  
DENTAL SOCIETY. RUNNING TITLE: JOURNAL NH  
DENTAL SOCIETY. JOURNAL SUSPENDED:  
1978-1983; SUMMER 1985-SUMMER 1988.NLM  
ACQUIRES FROM 1988. FREQUENCY VARIES: 6Y,  
VOLS. 1-4?, (1973-1977); ANNUAL, (1988)-  
NONE PUBLISHED 1989-1990. CONTINUES:  
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W1 JO22MH 1044-4114  
J31400000 JC: JDL
- IDL JOURNAL D ODONTOLOGIE CONSERVATRICE  
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RUNNING TITLE: J.O.C.  
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J TOXICOL CLIN EXP  
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NEW YORK NY UNITED STATES  
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W1 SO8547 0886-9278  
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