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NCBI Webinar: Using NCBI Resources and Variant Interpretation Tools for the Clinical Community on June 15, 2016

NCBI Webinar: Using NCBI Resources and Variant Interpretation Tools for the Clinical Community on June 15, 2016. NLM Tech Bull. 2016 May-Jun;(410):b8.

2016 June 02 [posted]

NCBI will present a Webinar that will show you how to use three clinical variant interpretation tools geared to clinicians through an overview of NCBI variation and medical genetics databases. A demonstration using a clinical case to show a phenotype-driven whole-genome sequence analysis using tools from Golden Helix, Omicia and SimulConsult will follow the overview.

Date and time: Wednesday, June 15, 2016 1:00 pm EDT

To register: Go to <https://attendee.gotowebinar.com/register/6974809559951440644>

After registering, you will receive a confirmation email with information about attending the Webinar. After the live presentation, the Webinar will be uploaded to the NCBI YouTube channel. Any related materials will be accessible on the Webinars and Courses homepage where you can also learn about future Webinars on this page.

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Last updated: 02 June 2016

Permanence level:

Permanent: Stable Content

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NLM Tox Town: Farm Scene Updated

NLM Tox Town: Farm Scene Updated. NLM Tech Bull. 2016 May-Jun;(410):b7.

2016 June 02 [posted]

[Editor's Note: This is a reprint of an announcement published as an NLM Toxicology and Environmental Health Information email update from the NLM Division of Specialized Information Services. To automatically receive news on resources, services, and outreach in toxicology and environmental health please see the subscribe page.]

The National Library of Medicine (NLM) Tox Town Farm scene has been updated. Check it out if you're looking for possible environmental health risks on a typical farm or need information on agricultural runoff, feeding operations, or barns and silos.

The Farm joins previously updated Tox Town City, Town, and Southwest scenes with an updated photorealistic look that allows users to better identify real-life farm locations. Each scene was migrated from Flash to a HTML 5 platform so it can be viewed on a variety of personal electronic devices, including iPads, iPad minis, and tablets. All location and chemical information remains the same.

Regardless of where you live, check out the updated Tox Town for environmental health risks down on the Farm.

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Last updated: 02 June 2016

Permanence level:

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Webinar: Finding Systematic Reviews at PubMed Health and PubMed

Webinar: Finding Systematic Reviews at PubMed Health and PubMed. NLM Tech Bull. 2016 May-Jun;(410):b6.

2016 May 27 [posted]

2016 June 15 [Editor's note added]

[Editor's note added June 15, 2016: A recording of the Webinar is available.]

Join Hilda Bastian for a brief instructional Webinar on finding systematic reviews using PubMed Health and PubMed.

Date and time: Friday, June 10, 2016 from 12:00 pm-12:30 pm EDT

To register: Go to <https://nih.webex.com/nih/k2/j.php?MTID=tfa9ac8a2a377f6cece016f8dd1c9f6f5>

This is a free Webinar from the NLM Training Office.

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Last updated: 27 May 2016

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Permanent: Stable Content



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LiverTox: Learn How Medications and Supplements Impact Liver Health

LiverTox: Learn How Medications and Supplements Impact Liver Health. NLM Tech Bull. 2016 May-Jun;(410):b5.

2016 May 26 [posted]

[Editor's Note: This is a reprint of an announcement published as an NLM Toxicology and Environmental Health Information email update from the NLM Division of Specialized Information Services. To automatically receive news on resources, services, and outreach in toxicology and environmental health please see the [subscribe page](#).]

Use LiverTox, a database from the National Library of Medicine (NLM) Division of Specialized Information Services (SIS), to search or browse by common medication and supplement names, and learn how the medication or supplement affects liver health. For each drug or supplement, view a record that lists:

- **An overview** describing the use and history of the drug, as well as a brief description of how the drug may be toxic to the liver.
- **Product Information** about the drug, including a link to any product labeling available at DailyMed.
- **References and additional links** related to the drug or supplement on PubMed and ClinicalTrials.gov.

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Last updated: 26 May 2016
Permanence level:
 Permanent: Stable Content

Table of Contents: 2016 MAY–JUNE No. 410

New Twitter Account for NCBI Bookshelf

New Twitter Account for NCBI Bookshelf. NLM Tech Bull. 2016 May-Jun;(410):b4.

2016 May 25 [posted]

[Editor's Note: This is a reprint of an announcement from the National Center for Biotechnology Information (NCBI). To automatically receive the latest news and announcements regarding major changes and updates to NCBI resources and tools please see the subscribe page.]

NCBI has a new Twitter feed - @ncbibooks - to announce new books and documents available on the NCBI Bookshelf. An online resource providing free access to the full text of books and documents in life sciences and health care, the Bookshelf currently provides access to over 4,500 titles.

The Bookshelf is continuously expanding with new materials as well as receiving updates to existing books and documents. Between May 16 and May 20, 2016, for example, 19 new titles were added. Among the new titles are several Agency for Healthcare Research and Quality reports (for example, a comparative effectiveness report on imaging for pretreatment staging of small cell lung cancer), health technology assessments and systematic reviews from Canadian Agency for Drugs and Technologies in Health, and National Institute for Health Research (UK), and World Health Organization guidelines on daily iron supplementation.

Keep on top of the newest releases by following us on Twitter at @ncbibooks

For general NCBI news, follow us on Twitter, Facebook and LinkedIn.

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Last updated: 25 May 2016

Permanence level:

Permanent: Stable Content

Table of Contents: 2016 MAY–JUNE No. 410

Two SNOMED CT Releases Available

Two SNOMED CT Releases Available. NLM Tech Bull. 2016 May-Jun;(410):b3.

2016 May 23 [posted]

NLM is pleased to announce the availability of two SNOMED CT-related releases:

1. The Spanish Edition of the International Release (Edición en Español), April 2016, is available for download. The Spanish Edition of the International Release is updated each year in April and October. This release contains the Spanish translations of the January 2016 SNOMED CT International Release descriptions and documentation in both RF1 and RF2 versions.
2. An updated Clinical Observations Recording and Encoding (CORE) Problem List Subset is now available for download. The purpose of the UMLS CORE Project is to define a UMLS subset that is useful for documentation and encoding of clinical information at a summary level, such as a problem list, discharge diagnosis, or reason for encounter. This subset is based on the January 2016 International Release of SNOMED CT and the 2016AA UMLS Release.

Both releases are available for download by users with a UMLS Terminology Services login.

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Last updated: 23 May 2016

Permanence level:

Permanent: Stable Content

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NLM Theater Schedule for NLM @ MLA - 2016

NLM Theater Schedule for NLM @ MLA - 2016. 2016 May-Jun;(410):b2.

2016 May 10 [posted]

The NLM Theater schedule has a new, mobile-friendly design. Check out nlm.gov/mla to keep up with what's happening in the NLM Booth #427. Visit our booth often for the latest news on NLM products and services.

Please see NLM @ MLA - 2016 for complete event information and updates...See you in Toronto!

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Last updated: 10 May 2016

Permanence level:

Permanent: Stable Content

Table of Contents: 2016 MAY–JUNE No. 410

New SNOMED CT International Release Downloads Available

New SNOMED CT International Release Downloads Available. NLM Tech Bull. 2016 May-Jun;(410):b1.

2016 May 04 [posted]

NLM is pleased to announce the availability of new SNOMED CT International Release downloads:

- **LOINC-SNOMED CT Cooperative Project Alpha (Phase 3) Edition**

- The third release of the LOINC-SNOMED CT Cooperative project, which includes both the LOINC Term to SNOMED CT Expression reference set and the LOINC Part to SNOMED CT Map reference set. This Alpha release is dependent upon and should be evaluated in the context of the January 2016 International Release of SNOMED CT and LOINC Version 2.54, released in December 2015.
- Two additional file formats are available with this release including:
 - OWL file: for reviewing and classifying the content with an ontology reasoner using an ontology viewing/editing software.
 - Human Readable file: an Excel® spreadsheet for reviewing the map of LOINC Terms to SNOMED CT expressions in a human-readable tabular format.

- **General Practitioner/Family Practice Reference Sets and SNOMED CT to ICPC2 Map**

- An updated SNOMED CT International General/Family Practice subset (GP/FP Subset) and map from the GP/FP Subset to the International Classification of Primary Care (ICPC-2). This release is the resulting work from the harmonization agreement between the International Health Terminology Standards and Development Organisation (IHTSDO), and the World Organization of Family Doctors (WONCA). Users of the map must comply with the licensing agreements of both ICPC-2 and SNOMED CT.

- **ICNP to SNOMED CT (Interventions) Release**

- The International Classification of Nursing Practice (ICNP) to SNOMED CT International Release Nursing Interventions equivalency table is the product of an ongoing collaborative agreement between the International Council of Nurses (ICN) and the IHTSDO. This release contains ICNP to SNOMED CT nursing interventions from the July 2015 release of the ICNP and January 2016 International Release of SNOMED CT.

All downloads are available on the NLM SNOMED CT International Release downloads page with your UMLS Terminology Services login.

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Last updated: 04 May 2016

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Table of Contents: 2016 MAY–JUNE No. 410

PubMed Celebrates its 20th Anniversary!

Canese K. PubMed Celebrates its 20th Anniversary! NLM Tech Bull. 2016 May-Jun;(410):e12.

2016 June 21 [posted]

PubMed was first released two decades ago in January 1996 as an experimental database under the National Center for Biotechnology Information (NCBI) retrieval system. The word "experimental" was dropped from the Web site in April 1997, and on June 26, 1997, a Capitol Hill Press conference officially announced free MEDLINE access via PubMed.

See an outline of the early years in the article, *PubMed Celebrates its 10th Anniversary!*

PubMed continued to evolve and, in 2007, the NCBI retrieval engine was completely redesigned to provide a foundation for the discovery initiative. In 2008, highlights included a number of discovery tools such as, an "also try" feature, query terms in article titles display, and a drug sensor. Collections were added to the My NCBI user tools, automatic term mapping was enhanced, an advanced search feature was added, and citation and gene sensors were released. The PubMed citation sensor continues to be one of the most popular discovery features; users love it!

Highlights for 2009 included a recent activity feature that tracks up to 6 months of a user's NCBI database searches and viewed records, an autosuggest feature, and a totally revamped, user-friendly interface. Feedback from users on the redesigned interface was overwhelmingly positive.

From 2010 to 2011, the PubMed advanced search page was reformatted, a new limits page was released, search terms were modified to automatically display in bold, a CSV selection was added as a "send to file" option, and structured abstracts and images were added to the abstract display. PubMed Mobile was launched for users with limited screen size or on handheld devices. Enhancements were made to the My NCBI My Bibliography feature to assist NIH-funded investigators with tracking and reporting their peer-reviewed publications. The MeSH database and the Clinical Queries page were redesigned to provide the same streamlined interface previously released in PubMed.

In 2012, the My NCBI My Bibliography collection was enhanced with links to similar articles and cited in. Discovery tool additions included the popular "results by year" graph and a PubMed Central images display. A facet sidebar replaced the limits page and the abstract display "author link" was updated to display results using a computer ranking algorithm to facilitate author name disambiguation. The "send to" menu was augmented with an export to citation manager option. A "save items" widget was added to the abstract display to provide an expedient way to add citations to a My NCBI collection.

In 2013 to 2014, author keywords and social media icons were added to the abstract display and PubMed started accepting and displaying non-English abstracts. A new "relevance sort" option was released and a way to download your entire history was added to the advanced search page. PubMed began indexing multiple author affiliations. PubMed Commons was released as a way for authors to share opinions and information about scientific publications in PubMed. Additionally, PubMed increased the addition of new citations from five to seven days a week.

During 2015 to the present, the trending articles and "frequently viewed together" discovery tools were released. Fuzzy matching to rescue zero results was improved. Additional knowledge panels and sensors were released, for example, the query, "human genome blast" now presents a tool for the user to run a BLAST search from within PubMed. PubMed hit the milestone of 26 million citations; over 1 million citations are added every year.

The near future will include a new PubMed data management system that will streamline data submission for publishers and provide an interface for immediate correction of citation errors.

Cheers to PubMed - here's to another 20 years of excellence, evolution, and discovery.

By Kathi Canese
National Center for Biotechnology Information

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Last updated: 21 June 2016

Permanence level:

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Redesigned FTP Site for MeSH Downloads

Pash J. Redesigned FTP Site for MeSH Downloads. NLM Tech Bull. 2016 May-Jun;(410):e11.

2016 June 21 [posted]

The Medical Subject Headings (MeSH) FTP download site, <ftp://nlmpubs.nlm.nih.gov/online/mesh/>, has been updated to include separate directories for each release year of MeSH (see Figure 1).

The FTP directories include:

- A single directory for earlier files from 1999-2010 (see A in Figure 1).
- The yearly release directories from 2011 to the latest full release which occurs in November of the preceding year (for example, 2016 MeSH was released in November of 2015) (see B in Figure 1).
- The directory "MESH_FILES" with the latest release files that are updated every morning Monday – Friday (see C in Figure 1).
- File names ending with .nt and .ttl extensions that are for the MeSH RDF format (see D in Figure 1).

	MeSH FTP Entity	Description
A	1999-2010	Includes all annual release files from 1999-2010
B	2011	Separate folders for MeSH years 2011 through 2016
	2012	
	2013	
	2014	
	2015	
	2016	
C	MESH_FILES	The most recent MeSH files, updated Monday - Friday
D	mesh.nt	MeSH RDF format files
	mesh.nt.gz	
	service_description.ttl	
	vocabulary_0.9.3.ttl	
	vocabulary_0.9.ttl	
	void_0.9.3.ttl	
	void_0.9.ttl	
	gcm	Obsolete

Figure 1: Updated MeSH FTP directory.

The MESH_FILES directory and MeSH file naming conventions for previous years' data are shown below (Figure 2 and Figure 3).

Directory Name	Description
asciimesh	MeSH ASCII files
gcm	Obsolete
meshmarc	MeSH/MARC files
meshtrees	Headings with Tree Nodes
mtms	MeSH translation files
newterms	New MeSH terms and term changes
xmlmesh	MeSH files in XML format

Figure 2: MeSH subfolders included under MESH_FILES folder and individual year folders.

Location	ASCII MeSH File Names	Description
asciimesh	c2015.bin	Supplemental Records for year 2015
asciimesh	d2015.bin	Descriptor Records for year 2015
asciimesh	q2015.bin	Qualifier Records for year 2015
meshtrees	mtrees2015.bin	MeSH heading with tree nodes for 2015
newterms	mshnew2015.txt	New Descriptor preferred terms for 2015
newterms	mnchg2015.txt	Tree changes 2015
newterms	mshd2015.txt	All Descriptor preferred terms for 2015
newterms	replace2015.txt	Deleted and replaced Descriptor headings
Location	XML* MeSH File Names	Description
xmlmesh	desc2015.xml	Descriptor Records for year 2015
xmlmesh	supp2015.xml	Supplemental Records for year 2015
xmlmesh	qual2015.xml	Qualifier Records for year 2015
xmlmesh	pa2015.xml	Pharmacological Actions of MeSH chemicals
*Note: files ending with .gz and .zip are compressed XML files.		

Figure 3: MeSH data file naming convention using 2015 MeSH year.

We hope that making these archive copies more readily available to the public will be useful for those of us who are interested in studying the history of MeSH terminology as it has progressed over the years. Distributed MeSH files are freely available to the public provided that you agree to our Memorandum of Understanding.

Your questions and comments about MeSH are welcome. Please send them to NLM Customer Service.

By James Pash
MeSH Section

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Last updated: 21 June 2016

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PubMed Display Changes

Canese K. PubMed Display Changes. NLM Tech Bull. 2016 May-Jun;(410):e10.

2016 June 16 [posted]

2016 July 06 [Editor's note added]

[Editor's note: These changes were implemented in PubMed on June 29, 2016.]

A Digital Object Identifier (DOI) link when available will be added to the end of each PubMed abstract display (see Figure 1).

[PLoS Biol.](#) 2016 May 6;14(5):e1002459. doi: 10.1371/journal.pbio.1002459. eCollection 2016.

Platelets Guide Leukocytes to Their Sites of Extravasation.

[Zuchtriegel G](#)^{1,2}, [Uhl B](#)², [Puhr-Westerheide D](#)², [Pörmbacher M](#)², [Lauber K](#)³, [Krombach F](#)², [Reichel CA](#)^{1,2}.

+ Author information

Abstract

Effective immune responses require the directed migration of leukocytes from the vasculature to the site of injury or infection. How immune cells "find" their site of extravasation remains largely obscure. Here, we identified a previously unrecognized role of platelets as pathfinders guiding leukocytes to their exit points in the microvasculature: upon onset of inflammation, circulating platelets were found to immediately adhere at distinct sites in venular microvessels enabling these cellular blood components to capture neutrophils and, in turn, inflammatory monocytes via CD40-CD40L-dependent interactions. In this cellular crosstalk, ligation of PSGL-1 by P-selectin leads to ERK1/2 MAPK-dependent conformational changes of leukocyte integrins, which promote the successive extravasation of neutrophils and monocytes to the perivascular tissue. Conversely, blockade of this cellular partnership resulted in misguided, inefficient leukocyte responses. Our experimental data uncover a platelet-directed, spatiotemporally organized, multicellular crosstalk that is essential for effective trafficking of leukocytes to the site of inflammation.

PMID: [27152726](#) PMID: [PMC485936](#) DOI: [10.1371/journal.pbio.1002459](#)

[PubMed - in process] [Free PMC Article](#)




  

Figure 1: PubMed abstract display with new DOI link.

The "Items per page" selection will be removed from the top of the results page because it is infrequently used by searchers (see Figure 2). The selection will still be available at the bottom of the results page.

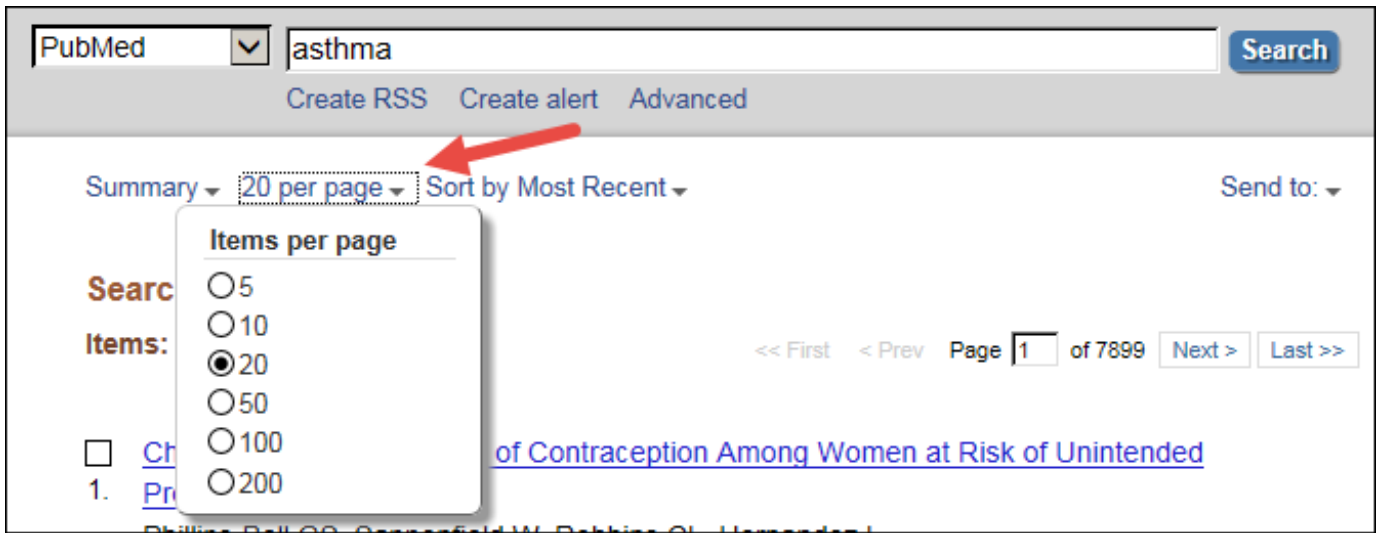


Figure 2: The “items per page” selection will be removed from the top of the results page.

To change the default "items per page" for all results consider using the My NCBI "Result display preferences" option (see Figure 3).

Result display preferences ✕

Result Display Settings for PubMed

Set the default values for display format, number of items to be displayed per page and sorting order.

Default format:

Summary

Abstract

Default items per page:

5

10

20

50

100

200

Default sort by:

Recently Added

Pub Date

First Author

Last Author

Journal

Title

Relevance

[Cancel](#)

Figure 3: My NCBI PubMed preference "Result display settings".

By Kathi Canese
National Center for Biotechnology Information

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Last updated: 06 July 2016

Permanence level:

Permanent: Stable Content

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Grant Funding Organizations New to MEDLINE and PubMed: ACL, EPA and Additional NASA Agencies

Tybaert S. Grant Funding Organizations New to MEDLINE and PubMed: ACL, EPA and Additional NASA Agencies. 2016 May-Jun;(410):e9.

2016 June 10 [posted]

The National Library of Medicine (NLM) is adding additional US Government agencies that will be participating in the NIH Manuscript Submission (NIHMS) system to meet their Public Access requirement. Both extramural and intramural authors from these agencies will be depositing manuscripts into PMC. The article's funding indication will appear in PubMed citations in the Grant Number [gr] field.

New Agencies: ACL and EPA

Institute Acronym	Full Institute/Organization Name	To Search PubMed
ACL HHS	Administration for Community Living	acl hhs [gr]
Intramural ACL HHS	Administration for Community Living, Intramural	intramural acl hhs [gr]
EPA	Environmental Protection Agency	epa [gr]
Intramural EPA	Environmental Protection Agency, Intramural	intramural epa [gr]

Additional NASA Agencies

NASA began participating in the NIHMS in the fall of 2015, see the October 2015 announcement for more information.

NASA has now added the following specific agencies as granting organizations:

Institute Name	To Search PubMed
Aeronautics NASA	aeronautics nasa [gr]
Ames Research Center NASA	ames research center nasa [gr]
Armstrong Flight Research Center NASA	armstrong flight research center nasa [gr]
Construction & Environmental Compliance and Restoration NASA	"construction & environmental compliance restoration nasa" [gr]
Exploration Systems NASA	exploration systems nasa [gr]
Glenn Research Center NASA	glenn research center nasa [gr]
Goddard Space Flight Center NASA	goddard space flight center nasa [gr]
Headquarters NASA	headquarters nasa [gr]

Johnson Space Center NASA	johnson space center nasa [gr]
Kennedy Space Center NASA	kennedy space center nasa [gr]
Langley Research Center NASA	langley research center nasa [gr]
Management Office at APL NASA	management office at apl nasa [gr]
Management Office at JPL NASA	management office at jpl nasa [gr]
Marshall Space Flight Center NASA	marshall space flight center nasa [gr]
Safety, Security and Mission Services NASA	safety, security and mission services nasa [gr]
Science Astrophysics NASA	science astrophysics nasa [gr]
Science Earth Science System NASA	science earth science system nasa [gr]
Science Heliophysics NASA	science heliophysics nasa [gr]
Science JWST NASA	science jwst nasa [gr]
Science Planetary Science NASA	science planetary science nasa [gr]
Shared Services Center NASA	shared services center nasa [gr]
Space Operations NASA	space operations nasa [gr]
Space Technology NASA	space technology nasa [gr]
Stennis Space Center NASA	stennis space center nasa [gr]

To retrieve all NASA citations with granting information search: nasa [gr]

Please refer to the NLM Web resource page, Grant Number Information Found in the GR Field in MEDLINE/PubMed, for explanations for grant number and agency acronyms.

By Sara Tybaert
MEDLARS Management Section

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Last updated: 10 June 2016

Permanence level:

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MLA 2016: NLM Theater Presentations

MLA 2016: NLM Theater Presentations. NLM Tech Bull. 2016 May-Jun;(410):e8a.

2016 June 01 [posted]

The NLM exhibit booth at the Annual Meeting of the Medical Library Association (MLA) featured theater presentations to bring users up-to-date on several NLM products and services.

The presentation recordings are listed below and are also accessible from the NLM Theater Presentations at the 2016 MLA Conference page.

Title	Runtime	Format
Commenting in PubMed: PubMed Commons Trends and Tips	17 min.	Video
DOCLINE: 2016 MLA Update	17 min.	Video
HSRIC & PHPartners: Getting trusted information to researchers and administrators	18 min.	Video
How Papers Get Into (and Out of) PMC: Public Access, Journal Review and Text Mining Resources	22 min.	Video
LinkOut Beyond Full Text: Linking to Data	22 min.	Video
Linked Data at NLM: Presentation to MLA	20 min.	Video
Mapping Your Community's Health	10 min.	Video
MedlinePlus and MedlinePlus Connect Update: MLA 2016	24 min.	Video
More and Better: New Digital Resources in the History of Medicine	18 min.	Video
NLM Learning Resources Database: One stop for training you can use and share	11 min.	Video
PubMed Rediscovered: Cool Tools That Make it Work	20 min.	Video
SciENcv & My Bibliography: Tools for NIH Biosketches, Grant Reporting, and Compliance	26 min.	Video
Using ClinicalTrials.gov Content for Analysis	18 min.	Video

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MLA 2016: NLM Update PowerPoint Presentations

MLA 2016: NLM Update PowerPoint Presentations. NLM Tech Bull. 2016 May-Jun;(410):e8b.

2016 June 09 [posted]

The NLM Update was held at the Annual Meeting of the Medical Library Association in Toronto, ON, Canada, on May 17, 2016. There were three speakers at this year's update.

Ms. Betsy Humphreys, Acting Director, gave an update on NLM-wide projects and the NLM Associate Fellows Program; Ms. Joyce Backus, Associate Director for Library Operations, gave an update on the Regional Medical Library Program and MEDLINE indexing; and Ms. Stacey Arneson, Chief, Disaster Information Management Research Center, Specialized Information Services Division, presented on how NLM Responds to Public Health Emergencies.

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Last updated: 09 June 2016

Permanence level:
Permanent: Stable Content

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Enhancement to MedlinePlus Connect Lab Test Responses

Robison R. Enhancement to MedlinePlus Connect Lab Test Responses. NLM Tech Bull. 2016 May-Jun;(410):e7.

2016 May 31 [posted]

MedlinePlus Connect is a National Library of Medicine (NLM) service linking patient portals and electronic health record systems to context-relevant information from MedlinePlus. The Connect service returns relevant information for a patient's specific diagnosis, medication, or lab test. In particular, since 2011 Connect has supported requests for lab test information using LOINC (Logical Observation Identifiers Names and Codes).

In April 2016, NLM released an enhancement to the responses to lab test queries. The response now names the source of the information and provides a short snippet of the content in addition to the hyperlinked title of the content page.

This contextual information was added to help end-users understand the differences between multiple links which will be useful as NLM expands its collection of lab test content. For example, responses will now include links to MedlinePlus health topics that are focused on lab tests.

The new format for the MedlinePlus Connect Web application includes the snippet (see A in Figure 1) and the source (see B in Figure 1). For the Web service, the response now includes the summary element (see A in Figure 2) and the author/name element (see B in Figure 2). These elements are already used in the responses to diagnosis and medication codes.

NLM U.S. National Library of Medicine

MedlinePlus
CONNECT
Trusted Health Information for You

2 results found. Español

MedlinePlus Connect found the following health information for your request. Always consult your health care provider about your specific situation.

Results in **MedlinePlus**

VLDL test (Medical Encyclopedia)
VLDL stands for very low density lipoprotein. Lipoproteins are made up of cholesterol, triglycerides, and proteins. They move... [More on VLDL test](#)

Cholesterol (National Library of Medicine) ← B
Cholesterol is a waxy, fat-like substance that occurs naturally in all parts of the body. Your body needs some cholesterol to work... [More on Cholesterol](#) ← A

Figure 1: New LOINC response as it appears in the MedlinePlus Connect Web application.

```
<entry>
  <title>Cholesterol</title>
  <link href="https://www.nlm.nih.gov/medlineplus/cholesterol.html" rel="alternate"/>
  <id>tag: https:, 2016-26-05:/medlineplus/cholesterol.html</id>
  <updated>2016-05-26T12:05:24Z</updated>
  <summary type="html">&lt;img alt="Cholesterol is a waxy, fat-like substance that occurs naturally in all parts of the body. Your body needs some cho</summary>
  <author>
    <name>National Library of Medicine</name>
  </author>
</entry>
```

Figure 2: New LOINC response as it appears in the MedlinePlus Connect Web service.

Your questions and comments about MedlinePlus Connect are welcome. Please send them to NLM Customer Service. To receive updates about MedlinePlus Connect, please join the email list.

By Rex Robison
Reference and Web Services Section

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National Network of Libraries of Medicine Training Office: New Name for the NLM Training Center

National Network of Libraries of Medicine Training Office: New Name for the NLM Training Center. NLM Tech Bull. 2016 May-Jun;(410):e6.

2016 May 31 [posted]

[Editor's Note: This is a reprint of an NN/LM Training Office blog post.]

On May 1, 2016, the NLM Training Center's name changed to the National Network of Libraries of Medicine Training Office (NTO) to reflect our role in the new 5-year Cooperative Agreement with the US National Library of Medicine (NLM). You can view the announcement here: <https://www.nlm.nih.gov/news/nlm-rml-coop-agreement-2016.html>

Our headquarters remain at the University of Utah Spencer S. Eccles Health Sciences Library, under the direction of Jean Shipman, Principal Investigator. Our current staff includes Jessi Van Der Volgen as the Assistant Director; Rebecca Brown and Cheryl Rowan as Training Development Specialists; Sarah Dickey, Program Manager; and Matt Steadman, Web Software Engineer & Media Developer.

The Cooperative Agreement ushers in a new era where the NTO will move the vast majority of its training online, collaborating with NLM and NN/LM to ensure broad access to continuing education designed to keep you up to date on NLM resources and maximize your contribution to your institutional missions. You can look forward to several new learning opportunities – available to you in flexible formats – on PubMed, TOXNET and other NLM resources. Stay tuned for announcements of future class offerings.

One of the most important pieces of news is that for the time being you can still find our blog and class offerings at the same URL: <http://nmlm.gov/ntc/>.

Our new Twitter name is @nmlmnto

Our new email address is nto@utah.edu and we welcome your comments, questions, and ideas.

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PubMed for Librarians: Online Training Opportunity

PubMed for Librarians: Online Training Opportunity. NLM Tech Bull. 2016 May-Jun;(410):e5.

2016 May 31 [posted]

[Editor's Note: This is a reprint of an NN/LM Training Office blog post.]

Join the National Library of Medicine (NLM) and the NN/LM Training Office (NTO) for the free online class “PubMed for Librarians.” Classes in June and July 2016 are now open for registration.

The PubMed for Librarians class is divided into five segments (90 minutes each). Each segment is a synchronous online session that includes hands-on exercises and is worth 1.5 hours of MLA (Medical Library Association) CE (Continuing Education) credit. Participants can choose any or all of the 5 segments that interest them.

The segments are as follows:

- **Introduction to PubMed:** Learn about the difference between PubMed and MEDLINE, how to run a PubMed search, assess your search retrieval, analyze search details, employ three ways to search for a known citation, and how to customize with My NCBI.
- **MeSH (Medical Subject Headings):** Learn about the NLM Medical Subject Headings (MeSH) database. Explore the four different types of MeSH terms and how searchers can benefit from using MeSH to build a search. Investigate the structure of the MeSH database and look at the components of a MeSH record.
- **Automatic Term Mapping (ATM):** Learn about Automatic Term Mapping (ATM) – the process that maps keywords from your PubMed search to the controlled vocabulary of the MeSH database. Learn why searching with keywords in PubMed can be an effective approach to searching. Look at the explosion feature, what is and is not included in search details, and explore how PubMed processes phrases.
- **Building and Refining Your Search:** Use some of the tools and features built into PubMed that are designed to help you search more effectively. Explore the filters sidebar and Topic-Specific Queries. Use History, tools in the NLM Catalog, and the Advanced Search Builder to build searches and explore topics.
- **Customization – My NCBI:** Learn about the advantages of creating a My NCBI account, managing and manipulating your My NCBI page content, locating and identifying available filters on PubMed filter sidebar, selecting and setting up to fifteen filters, and creating a custom filter.

Class space is limited, so register now at <http://nmlm.gov/training-schedule/all/NTC>

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UMLS News: 2016AA Data Available on UTS & New Authentication Option for API Users

Wilder V. UMLS News: 2016AA Data Available on UTS & New Authentication Option for API Users. NLM Tech Bull. 2016 May-Jun;(410):e4.

2016 May 17 [posted]

You now may browse the 2016AA UMLS Release on the UTS Metathesaurus Browser. You may also query the data through the UTS SOAP API and REST API.

In addition, the UTS SNOMED CT Browser now features the March 2016 US Edition of SNOMED CT.

New Authentication Option for API Users

Developers have expressed concerns about storing usernames and passwords in their code or configuration files.

To address those concerns, NLM now offers an additional method for generating ticket granting tickets (TGTs) in the UMLS SOAP and REST APIs.

You now have the option of generating an API Key in their UMLS Terminology Services Profile. To generate an API Key, follow these steps:

1. Log into the UMLS Terminology Services Web site (<https://uts.nlm.nih.gov>).
2. Click on **My Profile**.
3. Scroll down and click **Edit Profile**.
4. Check the **Generate new API Key** box.
5. Scroll down and click **Save Profile**.
6. See your API Key now is an alpha-numeric string with hyphens.

The API Key is now available for use to generate your TGT.

The REST and SOAP technical documentation provides details on implementing the API Key.

If you wish to use UMLS username and password for authentication, you may continue to do so without interruption.

By Victoria Wilder
MEDLARS Management Section

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Last updated: 17 May 2016

Permanence level:

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New NLM Learning Resources Database

Helson S. New NLM Learning Resources Database. NLM Tech Bull. 2016 May-Jun;(410):e3.

2016 May 12 [posted]

The National Library of Medicine (NLM) is pleased to announce the new NLM Learning Resources Database, making it easy to find educational resources for NLM products and services. These materials include videos, tutorials, and handouts on products such as PubMed, ClinicalTrials.gov, Unified Medical Language System, and many more. Now you can find resources using one interface rather than searching different areas of the NLM Web site. An API is also available to auto-populate NLM learning resources on your Web site.

The database currently holds all of the resources previously listed on the former Distance Education Resources Web page. There is a permanent redirect from this page to the NLM Learning Resources Database. Additional resources are being added on an ongoing basis.

Graphical User Interface

The NLM Learning Resources database can be searched or filtered using:

- keywords in the search box (see A in Figure 1)
 - to retrieve a list of all resources, search an asterisk (*) in the search box
 - a phrase in the search box is treated as separate words ORed together
- subject or product (see B Figure 1)
- Date Last Revised (see C Figure 1)
- archived materials (see D Figure 1)

The Date Last Revised option refers to the last time the learning resource was updated. If the resource has not been revised, the date filter will use the date the resource was created to filter results. The most recently updated resources automatically appear when the database is first accessed or all filters are reset in order to highlight new and interesting videos and materials. Further documentation on how to use the NLM Learning Resources Database is available through the Help button.



Use any of the following fields to search or browse resources.

All Fields Search: **A**

Search

Apply Filters

Reset Filters

Subjects and Products: **B**

- Bioinformatics
- Clinical Medicine
- ClinicalTrials.gov
- Consumer Health
- DOCLINE
- Disasters and Emergencies
- Drugs and Chemicals

Date Last Revised: **C**

From To

Include Archived Materials **D**

Results for: **Date Last Revised From 2016-01-01 To 2016-12-05 .**

Display 1 to 10 of 50 results.

1 2 3 4 5

1. [A Librarian's Guide to NCBI: Course Materials](#)

Description: Slides, notes and other materials from the Librarian's Guide to NCBI 5-day course.

Format: PowerPoint / Slides

Subjects: Bioinformatics, Genetics and Molecular Biology

Archived: No

Date Last Revised: 11-May-2016

2. [Advanced PubMed Tips, Tricks, and Tools: MeSH](#)

Description: This class covers several advanced concepts in the use of Medical Subject Headings (MeSH) for searching via PubMed. Topics include annual updates to MeSH, the effective use of subheadings, free floating subheadings, and commonly confused terms. This course is intended for those with at least beginning knowledge of PubMed and MeSH. To sign up for a live class, go to [the NN/LM Training Office](#).

Format: Silverlight Video / Webinar

Subjects: Medical Subject Headings (MeSH), PubMed

Archived: No

Date Last Revised: 11-May-2016

3. [ChemIDPlus® Guide on the Side Tutorial – ChemIDPlus Part 1](#)

Description: How to find basic chemical information using ChemIDplus.

Format: HTML (Web Tutorial)

Figure 1: NLM Learning Resources Database homepage.

Application Programming Interface (API)

Use the NLM Learning Resources API to auto-populate NLM learning resources on your Web site. Documentation on how to use the API is available through the [Help](#) button. Sample code and examples of pages currently utilizing the API are available under the API for Developers section in the [Help](#).

Finding the NLM Learning Resources Database

The database can be accessed directly using the URL <https://learn.nlm.nih.gov/> or the Web-based Training through the Learning Resources Database link on the Training and Outreach section of the NLM Web site (see [Figure 2](#)).

Training & Outreach

Education for Career Development:

- ▣ [Associate Fellowship Program for Librarians](#)
One-two year postgraduate program for librarians, providing comprehensive training in NLM's programs and services.
- ▣ [Biomedical Informatics Course](#)
Short course sponsored by NLM.
- ▣ [Funded Support for Academic Training in Biomedical Informatics & Bioinformatics](#)
Formal programs and individual fellowships are offered to assist medical informaticians in pursuit of a degree.
- ▣ [Medical Informatics Training Program](#)
Medical informatics and clinical informatics training and research opportunities at NLM's Lister Hill National Center for Biomedical Communications. This program is available to individuals at various stages in their careers.
- ▣ [NLM/AAHSL Leadership Fellows Program for Librarians](#)
Mid-career fellowship focused on preparing emerging leaders for director positions in academic health sciences libraries.

Training and Outreach for NLM Products and Information Services:

- ▣ [National Library of Medicine Training Center](#)
NLM database and databank training for librarians including instruction on MEDLINE/PubMed, TOXNET and more.
[Classroom Training Schedule](#)
- ▣ [Web-based Training through the Learning Resources Database](#)
Animated tours, tutorials and other online training material for NLM products and services.
[PubMed Tutorial](#) | [PubMed Quick Tours](#)
- ▣ [Training and Education from the National Center for Biotechnology Information](#)
Learn how to use the genomic, molecular biology and literature-based tools and resources.



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[Lister Hill National Center for Biomedical Communications](#)
[National Center for Biotechnology Information](#)
[National Information Center on Health Services Research and Health Care Technology](#)
[National Network of Libraries of Medicine \(NN/LM\)](#)

Figure 2: NLM Learning Resources accessed from the Training & Outreach Web page.

See a Presentation of the Database

See a presentation and demonstration of the database at the NLM Theater at the Annual Meeting of the Medical Library Association meeting on May 16 and May 17, 2016. The presentation will be available from the NLM Learning Resources Database.

Questions

Your questions and comments about the NLM Learning Resources Database are welcome. Please send them to NLM Customer Service.

By Sarah Helson
MEDLARS Management Section

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Last updated: 12 May 2016

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UMLS 2016AA Release Available

Wilder V. UMLS 2016AA Release Available. NLM Tech Bull. 2016 May-Jun;(410):e2.

2016 May 12 [posted]

The 2016AA release of the Unified Medical Language System (UMLS) Knowledge Sources is available for download as of May 9, 2016.

In the new UMLS Release there are:

- More than 3.25 million concepts and nearly 13 million unique concept names from over 190 source vocabularies
- 2 new sources
 - CCS (Clinical Classifications Software)
 - NANDA-I (NANDA-I Taxonomy II)
- 1 new LOINC (LNC) translation source
 - LNC-DE-AT (German, Austria)
- 1 source removed
 - NAN (NANDA nursing diagnoses: definitions and classification). *Note: Use NANDA-I in its place.*
- 2 new content views
 - LOINC Top 300+ Lab Orders
 - LOINC Panels and Forms
- 2 content views removed
 - UMLS enhanced VA/KP Problem List Subset of SNOMED (Level 0+SNOMED)
 - UMLS enhanced VA/KP Problem List Subset of SNOMED (Level 0+SNOMED+MDR)
- 55 updated English sources and 38 updated translation sources including MeSH®, MedDRA, RxNorm, and SNOMED CT® (English and Spanish)
- SPECIALIST Lexicon and Lexical Tools 2016 Releases

The full Metathesaurus requires 25.5 GB of disk space; the active release requires 24.8 GB of disk space.

Release Information

For more information about the release, see the What's New and Updated Sources sections of the Release Documentation. Additional release statistics are published on the UMLS Web site.

To access the UMLS Release files, you must have an active UMLS Metathesaurus License and a valid UTS account. You will be prompted for your UTS username and password when downloading the files.

Additional information regarding the UMLS is available on the UMLS homepage. New users are encouraged to take the UMLS Basics Tutorial and to explore the UMLS Quick Start Guide, and other training materials.

Source Release Documentation

2016AA Source Release Documentation Web pages will be published following the release.

By Victoria Wilder
MEDLARS Management Section

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NLM Classification 2016 Edition Now Available

Willis SR. NLM Classification 2016 Edition Now Available. NLM Tech Bull. 2016 May-Jun;(410):e1.

2016 May 03 [posted]

The *NLM Classification*, available online at <http://www.nlm.nih.gov/class/>, incorporates all additions and changes to the schedules and index from May 2015 through April 2016. The PDF version will be updated with 2016 classification data by the end of May 2016.

The QY (Clinical Pathology) and QZ (Pathology) schedules were the major area of focus for the 2016 edition.

Changes Made to the QY Schedule Name and Outline Headers

The name of the QY schedule was changed from *Clinical Pathology* to *Clinical Laboratory Pathology*

- QY 50-110 *Laboratory Animals. Laboratory Techniques* was changed to QY 50-60 *Laboratory Animals*
- QY 80-110 *Laboratory Techniques* was added
- QY 120-350 *Diagnostic Tests* was changed to QY 118-350 *Specimen Analysis. Diagnostic Tests*
- QY 400-490 *Blood. Blood Chemistry* was changed to QY 400-490 *Hematologic Tests. Blood Chemical Analysis*

Revisions to QY Class Number Captions and Notes for Better Scope Definition of the Number

For example:

- At QY 25, the caption was changed from *Laboratory manuals. Technique to Laboratory manuals (General)*. The note was changed from "Classify works on specific tests by type" to "Classify works on specific tests by type. Classify laboratory manuals on specific clinical techniques with the technique."
- At QY 50, the note was changed from "Classify works on diseases of laboratory animals in SF 996.5; on vivisection as experimental surgery in WO 50; and on antivivisection in HV 4905-4959" to "Classify here works on animals used in research, testing, or teaching, including their anatomy and diseases. Classify general works on animals in QL."
- At QY 58, the note was changed from "Cf. QY 25 Laboratory manuals" to "Classify works on experimental neoplasms in QZ 206."
- At QY 110, the caption was changed from *Methods in medical mycology* to *Mycological techniques*.
- At QY 120, the caption was changed from *Sputum* to *Sputum culture*.
- At QY 160, the caption was changed from *Feces* to *Stool analysis*.
- At QY 265, the caption was changed from *Agglutination, precipitation, flocculation, and complement fixation tests* to *Serologic tests (General)*.

Changes Made to the QZ Outline Headers

- QZ 40-109 *Pathogenesis. Etiology* was changed to QZ 40-105 *Pathogenesis. Etiology*
- QZ 140-190 *Manifestations of Disease* was changed to QZ 140-190 *Pathologic Processes*
- QZ 200-380 *Neoplasms. Cysts* was changed to QZ 200-380 *Neoplasms*
- QZ 310-380 *Specific Types of Neoplasms* was added

Revisions to QZ Class Number Captions and Notes for Better Scope Definition of the Number

For example:

- At QZ 4, the note was changed from "Classify material on comparative pathology in QZ 33" to "Classify works on both the specialty and pathologic processes here. Classify works on the specialty only in QZ 21. Classify works on pathologic processes only in QZ 140. Classify material on comparative pathology in QZ

33."

- At QZ 52, the caption was changed from *Genetic testing* to *Genetic services*.
- At QZ 140, the caption was changed from *General manifestations of disease* to *Pathologic processes (General)*.
- At QZ 150, the caption was changed from *Local reactions to injury and disease* to *Inflammation*.
- At QZ 201, the note was changed from "Classify here popular works on all aspects of neoplasms" to "Classify here popular works on neoplasms in general. Classify popular works on neoplasms by site in the appropriate schedule."
- At QZ 206, the caption was changed from *Research (General)* to *Research (General). Experimental neoplasms*. The note was changed from "Classify works on specific topics by subject, e.g., on experimental work on the etiology of neoplasms in QZ 202" to "Classify here all works on experimental neoplasms regardless of type or site."

Changes to Other Class Schedules

For example:

- At QS 26, the note was changed from "Classify catalogs here" to "Classify catalogs here. Classify here all works on physical anatomic models even if used for educational purposes. Classify digital anatomic models in QS 26.5. Classify works on use of anatomic models for special subjects by subject."
- At WC 160, the note was added: "Classify works on syphilis serodiagnosis in QY 275."
- At WH 250, the note was deleted: "Classify works on histology and pathology of leukemia in QZ 350."
- At WI 950, the note was added: "Classify works on hernias in general in QZ 140."
- *Surveys* was added to the caption of form number 16 in most schedules.
- The form number for individual museums and exhibitions in each schedule now allows for Table G breakdown. No additional numbers for "Not Table G" were added. Form number 1 for societies and organizations now allows for Table G breakdown. No additional numbers for "Not Table G" were added.
- NOTE: The MeSH trees for Mental Disorders (F03) underwent major changes in 2016. The class numbers and corresponding index terms will be reevaluated with the 2017 edition of the NLM Classification.

Class Numbers Added and Canceled

Fifty-eight (58) new class numbers were added. Eight (8) class numbers were canceled. The form numbers for Tables. Statistics. Surveys in the schedules now permit use of Table G to allow geographic breakdowns, so new numbers for "Not Table G" were added to many of the schedules.

Class Numbers Added —2016

New Number	Class Name	Former Number(s)
QS 16.1	[Human Anatomy--Tables. Statistics. Surveys] General coverage (Not Table G)	QS 16
QS 516.1	[Histology--Tables. Statistics. Surveys] General coverage (Not Table G)	QS 516
QS 616.1	[Embryology--Tables. Statistics. Surveys] General coverage (Not Table G)	QS 616
QT 16.1	[Physiology--Tables. Statistics. Surveys] General coverage (Not Table G)	QT 16
QT 110	Regeneration (General or not elsewhere classified)	Various places
QU 16.1	[Biochemistry. Cell Biology and Genetics--Tables. Statistics. Surveys] General coverage (Not Table G)	QU 16
QU 19	Schools, departments, and faculties of biochemistry, cell biology, or genetics (Table G)	None
QU 19.1	[Schools, departments, and faculties of biochemistry, cell biology, or genetics] General coverage (Not Table G)	None
QV 16.1	[Pharmacology--Tables. Weights and measures. Statistics. Surveys] General coverage (Not Table G)	QV 16
QW 16.1	[Microbiology--Tables. Statistics. Surveys] General coverage (Not Table G)	QW 16
QW 516.1	[Immunology--Tables. Statistics. Surveys] General coverage (Not Table G)	QW 516
QW 525.5.L9	Lymphocyte activation	None
QX 16.1	[Parasitology--Tables. Statistics. Surveys] General coverage (Not Table G)	QX 16
QY 16.1	[Clinical Laboratory Pathology--Tables. Statistics. Surveys] General coverage (Not Table G)	QY 16
QY 80	Clinical laboratory techniques (General)	QY 25
QY 102	Molecular diagnostic techniques (General)	Various places
QY 118	Specimen handling (General)	QY 25

QZ 16.1	[Pathology--Tables. Statistics. Surveys] General coverage (Not Table G)	QZ 16
QZ 203	Neoplastic processes	QZ 202
QZ 210	[Neoplasms] Genetic aspects	QZ 200
QZ 250	[Neoplasms] Prevention and control	QZ 200
QZ 270	Combined modality therapy	Various places
QZ 360	Melanoma (General or not elsewhere classified)	QZ 200
W 16.1	[General Medicine. Health Professions--Tables. Statistics] General coverage (Not Table G)	W 16
W 616.1	[Forensic Sciences--Tables. Statistics. Surveys] General coverage (Not Table G)	W 616
WA 16.1	[Public Health--Tables. Statistics. Surveys] General coverage (Not Table G)	WA 16
WB 16.1	[Practice of Medicine--Tables. Statistics. Surveys] General coverage (Not Table G)	WB 16
WB 320.5	Rehabilitation research	None
WB 395	Sex reassignment procedures	None
WC 16.1	[Communicable Diseases--Tables. Statistics. Surveys] General coverage (Not Table G)	WC 16
WE 16.1	[Musculoskeletal System--Tables. Statistics. Surveys] General coverage (Not Table G)	WE 16
WF 16.1	[Respiratory System--Tables. Statistics. Surveys] General coverage (Not Table G)	WF 16
WG 16.1	[Cardiovascular System--Tables. Statistics. Surveys] General coverage (Not Table G)	WG 16
WH 16.1	[Hemic and Lymphatic Systems--Tables. Statistics. Surveys] General coverage (Not Table G)	WH 16
WI 16.1	[Digestive System--Tables. Statistics. Surveys] General coverage (Not Table G)	WI 16
WJ 16.1	[Urogenital System--Tables. Statistics. Surveys] General coverage (Not Table G)	WJ 16
WK 16.1	[Endocrine System--Tables. Statistics. Surveys] General coverage (Not Table G)	WK 16
WK 145	[Endocrine Gland] Neoplasms (General or not elsewhere classified)	WK 140
WL 16.1	[Nervous System--Tables. Statistics. Surveys] General coverage (Not Table G)	WL 16
WL 103.4	Cognitive neuroscience	None
WM 16.1	[Psychiatry--Tables. Statistics. Surveys] General coverage (Not Table G)	WM 16
WN 16.1	[Radiology. Diagnostic Imaging--Tables. Statistics. Surveys] General coverage (Not Table G)	WN 16
WO 16.1	[Surgery--Tables. Statistics. Case reports (General). Surveys] General coverage (Not Table G)	WO 16
WO 620	Sex reassignment surgery	None
WP 16.1	[Gynecology--Tables. Statistics. Surveys] General coverage (Not Table G)	WP 16
WQ 16.1	[Obstetrics--Tables. Statistics. Surveys] General coverage (Not Table G)	WQ 16
WQ 90	Reproductive health surveys	None
WQ 90.1	[Reproductive health surveys] General coverage (Not Table G)	None
WQ 105	Maternal health	WA 310
WR 16.1	[Dermatology--Tables. Statistics. Surveys] General coverage (Not Table G)	WR 16
WS 16.1	[Pediatrics--Growth tables. Statistics. Surveys] General coverage (Not Table G)	WS 16
WS 105.5.M8	[Normal mental growth and development. Child psychology] Music	None
WT 16.1	[Geriatrics. Chronic Disease--Tables. Statistics. Surveys] General coverage (Not Table G)	WT 16
WU 16.1	[Dentistry. Oral Surgery--Tables. Statistics] General coverage (Not Table G)	WU 16
WV 16.1	[Otolaryngology--Tables. Statistics. Surveys] General coverage (Not Table G)	WV 16
WW 16.1	[Ophthalmology--Tables. Statistics. Surveys] General coverage (Not Table G)	WW 16
WX 16.1	[Hospitals and Other Health Facilities--Tables. Statistics. Surveys] General coverage (Not Table G)	WX 16
WY 31.1	[Nursing--Tables. Statistics. Surveys] General coverage (Not Table G)	WY 31

The bracketed information is supplied for clarification to show the classification schedule and topic to which the class number pertains. The bracketed information is not supplied in the online database.

Class Numbers Canceled—2016

New Number	Class Name	Former Number(s)
QW 164	Vertebrate viruses	QW 160
QW 169	Vertebrate viruses, unclassified	QW 160
QY 35	Molding and casting of anatomic models. Moulages	QS 26; QS 26.5
QY 143	Bile pigments	QY 140
QY 147	Function tests	QY 140
QZ 109	Vitamin deficiencies	QZ 105
QZ 190	Local disorders of growth	n/a
QZ 350	Leukemia. Lymphoma. Hematologic neoplasms	WH 250; WH 525

All index entries pertaining to the aforementioned schedule additions and changes were modified.

Changes to Table G (Geographic Notations)

A systematic review was conducted of the Table G (Geographic Notations). As a result:

Changes to the Main Section:

Additions:

- GK6—Kosovo
- HS07—Sao Tome and Principe
- HS7—South Sudan

Revisions:

- DS2—*Salvador* changed to *El Salvador*
- FG9—*Guernsey* changed to *Channel Islands*
- HC4—*Cape Verde Islands* changed to *Cabo Verde*
- LE1—*East Timor* changed to *Timor-Leste*
- PA6—*Antarctic* changed to *Antarctic Regions*
- PA7—*Arctic* changed to *Arctic Regions*

Some cross references were added, e.g., *Mekong Valley* see *Southeastern Asia*. Several cross references were deleted because they were duplicative of MeSH cross references, e.g, *Basutoland* see *Lesotho*.

Additions to the Historical Geographic Locations section:

- GG4—East Germany
- GG4—West Germany
- JB9—Byzantium
- JI7—Persia
- JM4—Mesopotamia
- LP2—New Guinea
- JP2—Palestine (formerly in the Middle East and Asia section)

Additions to the Obsolete Table G Notations section:

- DG1—Greenland
- HA7—African Atlantic Islands
- HA71—Ascension
- HA72—St. Helena
- HA73—Tristan de Cunha
- HS8—South West Africa

The Table G Practices information has been extensively revised.

Additions and Changes to the Index

Additions:

One hundred and forty-two (142) new index entries were created of which forty-four (44) are from the 2016 MeSH; the remainder are MeSH terms from previous years. All main index headings are now linked to the 2016 vocabulary in the MeSH Browser.

Class numbers are included for one-to-one matches only.

1. Absorptiometry, Photon
2. Adenomyoma
3. Adolescent Health -- WS 460
4. alpha 1-Antitrypsin Deficiency
5. Angiogenesis Inhibitors
6. Animals, Exotic -- SF 997.5.E95
7. Antigens, Plant -- QW 573
8. Ape Diseases -- SF 997.5.A63
9. Arthrocentesis -- WE 312
10. Beloniformes
11. Callitrichinae
12. Carcinoma in Situ -- QZ 365
13. Carcinoma, Basal Cell -- WR 500
14. Carcinoma, Ductal, Breast -- WP 870
15. Carcinoma, Ehrlich Tumor -- QZ 206
16. Carcinoma, Intraductal, Noninfiltrating -- WP 870
17. Carcinoma, Non-Small-Cell Lung -- WF 658
18. Carcinoma, Small Cell -- QZ 365
19. Carcinoma, Squamous Cell -- QZ 365
20. Cebidae
21. Cervical Intraepithelial Neoplasia -- WP 480
22. Chemoradiotherapy -- QZ 270
23. Chemotherapy, Adjuvant -- QZ 270
24. Child Health -- WS 440
25. Cholangiocarcinoma -- WI 765
26. Cholesteatoma, Middle Ear -- WV 230
27. Chondrosarcoma -- QZ 345
28. Chromatography, Ion Exchange
29. Chromatography, Liquid
30. Clinical Decision-Making -- WB 141
31. Clinical Studies as Topic -- W 20.55.C5
32. Cognitive Aging -- WT 145
33. Cognitive Neuroscience -- WL 103.4
34. Cold Injury -- WD 670
35. Compassion Fatigue -- WA 495
36. Conjunctival Neoplasms -- WW 212
37. Cord Blood Stem Cell Transplantation -- WH 140
38. Cosmeceuticals -- QV 60
39. Criminal Behavior
40. Crystallography, X-Ray
41. Culture Techniques -- QS 525
42. Deer
43. Diet, Protein-Restricted -- WB 426
44. DNA, Plant -- QK 898.D44
45. Electrophoresis, Microchip -- QU 25
46. Electrophoresis, Polyacrylamide Gel
47. Environmental Psychology -- BF 353
48. Eyelid Neoplasms -- WW 205

49. Facial Recognition
50. Femoral Neoplasms -- WE 865
51. Fetal Blood -- WQ 210
52. Fibrin Fibrinogen Degradation Products
53. Fluorescence Resonance Energy Transfer -- QY 90
54. Food, Organic
55. Foreign-Body Reaction -- QZ 150
56. Fundoplication -- WI 250
57. Gastrostomy -- WI 380
58. Genes, Dominant -- QU 470
59. Genes, Recessive -- QU 470
60. Genes, Retinoblastoma -- QZ 210
61. Gorilla gorilla -- QL 737.P94
62. Grandparents
63. Graphic Novels
64. Health Equity -- W 76
65. Hereditary Breast and Ovarian Cancer Syndrome -- WP 870
66. HIV Long-Term Survivors -- WC 503.7
67. Hypovolemia
68. Infant Health -- WS 410-430
69. Intimate Partner Violence
70. Leukemia, Experimental -- QZ 206
71. Libraries, Special -- Z 675.A2
72. Luminescent Measurements -- TP 248.25.L85
73. Lymphoma, AIDS-Related -- WH 525
74. Machine Learning
75. Malignant Hyperthermia -- WO 245
76. Mammary Neoplasms, Animal
77. Maternal Health -- WQ 105
78. Medical-Surgical Nursing -- WY 150
79. Metacognition -- BF 311
80. Microarray Analysis
81. Military Family -- UB 403
82. Miners
83. Molecular Imprinting -- QT 37.5.P7
84. Multiple Endocrine Neoplasia -- WK 145
85. Mustelidae -- QL 737.C25
86. Neoplasms, Complex and Mixed -- QZ 310
87. Neoplasms, Connective and Soft Tissue -- QZ 340
88. Neoplasms, Plasma Cell -- WH 540
89. Neoplastic Syndromes, Hereditary -- QZ 210
90. Nerve Agents -- QV 663
91. Neuroendocrine Tumors -- QZ 310
92. Neurological Rehabilitation -- WL 140
93. Neuropathology -- WL 21
94. Neuroprotection -- WL 102
95. Nucleotide Mapping -- QU 25
96. Origin of Life -- QH 325
97. Oropharyngeal Neoplasms -- WV 410
98. Paranasal Sinus Neoplasms -- WV 340
99. Passeriformes -- QL 696.P2-.P298
100. Patch-Clamp Techniques -- QY 95

101. Personal Protective Equipment
102. Pharyngeal Neoplasms -- WV 410
103. Plant Breeding -- SB 123-123.5
104. Plasmacytoma -- WH 540
105. Point-of-Care Testing
106. Precipitin Tests -- QY 265
107. Primate Diseases -- SF 997.5.P7
108. Problem Behavior
109. Protein Array Analysis -- QU 25
110. Psychiatric Rehabilitation -- WM 30
111. Quantitative Trait, Heritable -- QU 475
112. Radiation Exposure
113. Radioimmunotherapy -- QZ 270
114. Radiotherapy, Adjuvant -- QZ 270
115. Ranidae -- QL 668.E27
116. Raw Foods -- WB 432
117. Rehabilitation Research -- WB 320.5
118. RNA, Plant -- QK 981
119. Sarcoma, Experimental -- QZ 206
120. Semen Analysis -- QY 190
121. Sex Reassignment Procedures -- WB 395
122. Sex Reassignment Surgery -- WO 620
123. Sheep, Domestic -- SF 371-379
124. Sleep Medicine Specialty -- WB 115
125. Small Cell Lung Carcinoma -- WF 658
126. Social Workers -- W 21
127. Surface Plasmon Resonance -- QT 36.4
128. Systemic Inflammatory Response Syndrome -- QZ 150
129. Teas, Medicinal -- WB 438
130. Telerehabilitation -- WB 320
131. Theory of Mind -- BF 441
132. Thoracentesis -- WF 980
133. Tissue Array Analysis -- QS 525
134. Transitional Care -- W 84.7
135. Urethral Neoplasms -- WJ 504
136. Ursidae -- QL 737.C27
137. Waterborne Diseases
138. X-Ray Diffraction
139. Yang Deficiency
140. Yin Deficiency
141. Zika Virus -- QW 168.5.F5
142. Zika Virus Infection -- WC 524

Modifications:

Numerous main index entries and cross references were modified to reflect changes in the MeSH vocabulary.

For example:

- *Black Pepper* was deleted as a main heading and made a cross reference to *Piper nigrum*.
- *Day Care* was changed to *Day Care, Medical*.
- *Delirium, Dementia, Amnestic, Cognitive Disorders* was changed to *Neurocognitive Disorders*.
- *Origin of Life*, formerly a cross reference to *Biogenesis*, is now a main index heading.

Deletions:

- Seventy-eight (78) index entries were deleted.

To learn more about the *NLM Classification* see the Fact Sheet.

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Last updated: 03 May 2016

Permanence level:

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