NIH NLM NCBI National Center for Biotechnology Information

Wednesday, August 15, 2018

EFFECTIVE AND EFFICIENT USE OF NCBI/PUBMED

- TOOLS TO HELP YOU DO WHAT YOU NEED TO DO -

This presentation has been designed for Nursing and Health Sciences educators who:

- develop and teach courses and labs
- coordinate and run journal clubs and seminars
- counsel/mentor students
- work in the clinic
- publish in scientific/clinical journals
- perform research and write grants
- and stay current on everything related to clinical practice, teaching, and research

NCBI has resources that would help most of these efforts,
but there is so much information available and so little time to find and organize it.

Sign up for a free NCBI Account and let us help you do what you need to do!

This an interactive workshop will show you how to:

- create effective searches - *a quick review, plus some tips & tricks*
- utilize filters & create your own custom filters - *quickly narrow down search results and speed up finding relevant information*
- customize your search results display - *dramatically speed up your finding of stuff (critical for clinical environments)*
- save searches and get automated updates - *be notified when new publications or database records are available*
- maintain custom collections of important records - *support course work, clinic work and research projects*
- create lists of publications or database records - *share a collection with students and colleagues in courses, journal clubs and research teams*
- maintain your bibliography and create a URL to share - *get a URL for your Faculty profile and/or webpage*
- use your NCBI account to help you with NIH Granting!

Some upcoming developments at NCBI will also be discussed….

MATERIALS FOR YOU!

FTP Folder:	https://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/
Workshop Handout:	https://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/Handout.pdf
PowerPoint Slides:	https://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/Slides.pdf
NIH Account Guidebook:	https://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/NCBIAccount_Guidebook.pdf

Presenter: **Rana Morris, PhD -** an NCBI Customer Experience team member and Team Lead for Educational Programs (Courses/Workshops, Webinars, Educational Materials). Since 2002, she has provided user support and training, as well as working with supervisors and development teams to improve NCBI resources based on user-centered design principles. Her doctoral, post-doctoral and research fellowship work integrated disciplines of computational and experimental biochemistry, molecular and cellular biology and genetics, and has included diagnostic development, drug design and coordination of genetics/genomics components of clinical trials.

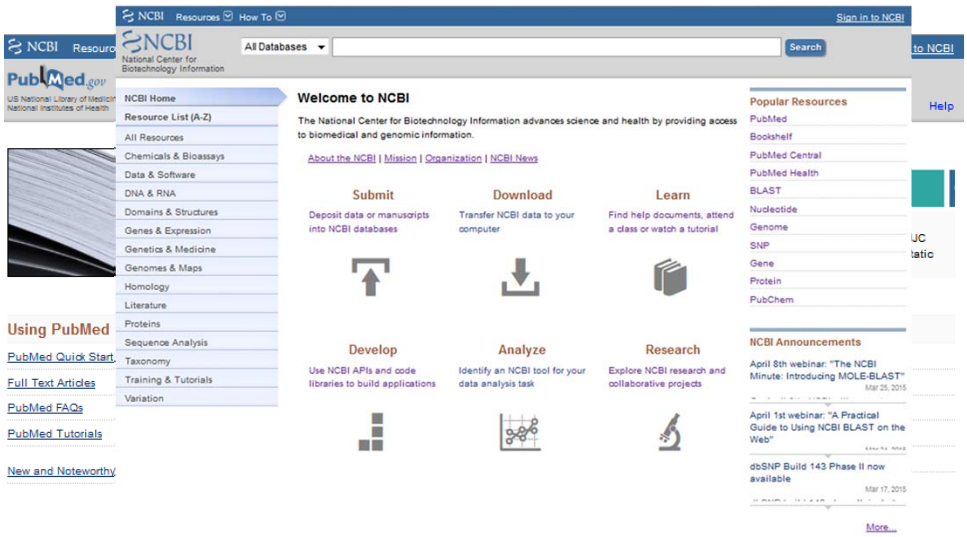
Effective and efficient use of NCBI/PubMed

- *tools to help you do what you need to do* -

Rana C. Morris, Ph.D.

U.S. National Library of Medicine
National Center for Biotechnology Information

"WHAT" IS NCBI?



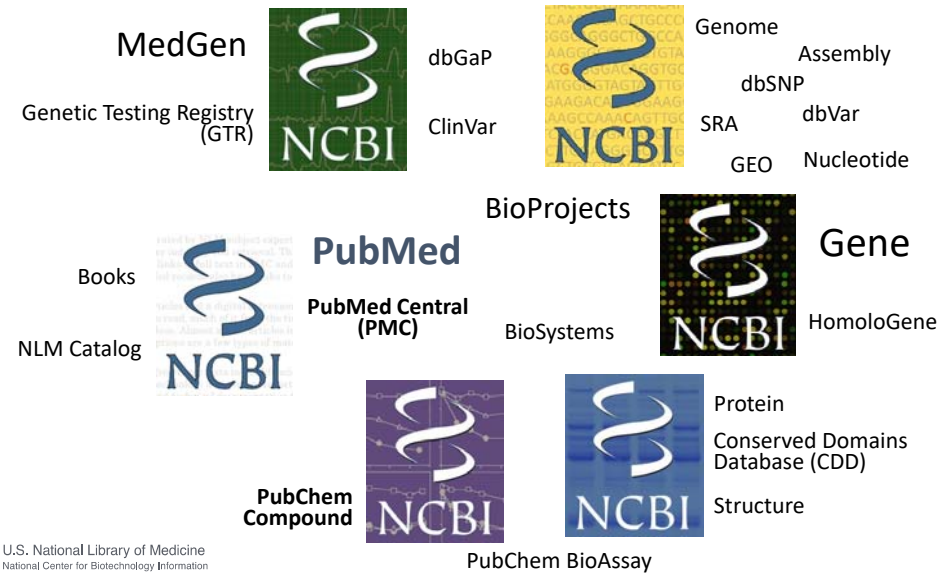
WHAT IS "NCBI"?

We are a "center" within the NLM responsible for creation, curation and maintenance of medical and scientific databases *and other things…*

We receive, create, archive & make available biomedical information, as well as perform computational biology & IT systems research…..

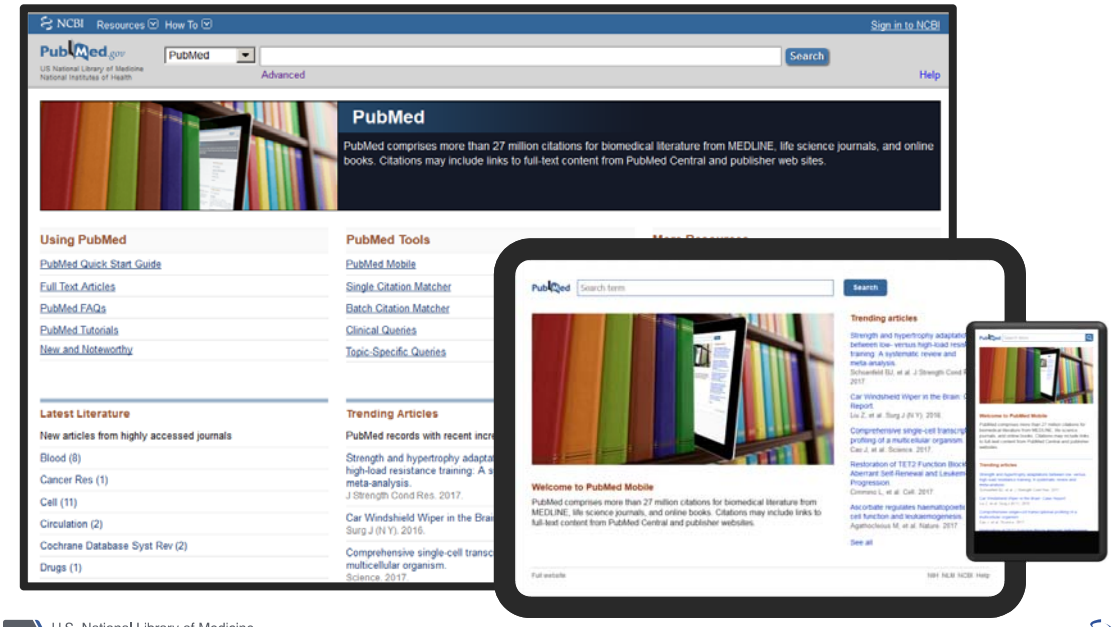
but we really aspire to help make sense of the information!

NCBI'S INFORMATION HUBS & SOME DATABASES



CLINICALLY-RELATED BIOINFORMATICS PROJECTS @NCBI
- MORE AND MORE DATA -

- **Clinical Literature Resources** (PubMed/PMC, MedGen, Books – *including* GeneReviews, Medical Genetics Summaries, AHRQ reports, etc.)
- **ClinicalTrials.gov**
- **Clinical Genomics/Genetics Resources**
  - ClinVar, Genetic Testing Registry (GTR)
- **Clinical Studies** (dbGaP)
  - Framingham, AREDS, Addiction treatment, etc.
- **Experimental Studies with Data**
  - 1000 Genomes, ExAc, HapMap, etc.
  - Human Microbiomes in SRA, Pathogen Detection Project, etc.
  - Gene Expression & Genotype Studies in GEO
  - Drug Design/Discovery Assays in PubChem BioAssay



The NCBI Account system was designed with customizable tools to support each user's specific needs.

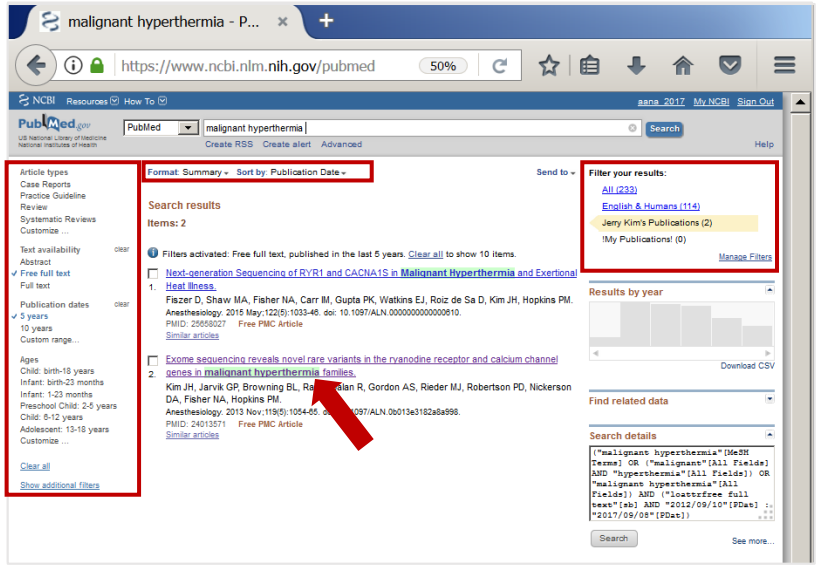
Both Curricular Development and Clinical Practice
have specific requirements & significant time constraints.

You need to be effective & efficient!

You need to be able to ***find relevant information quickly*** and
do something with it – ***read it, store it, share it***.

I will demonstrate how to set up and use the NCBI Account System
to improve your NCBI/PubMed use to assist in your role
as an educator of future healthcare practitioners or as a clinician, yourself.

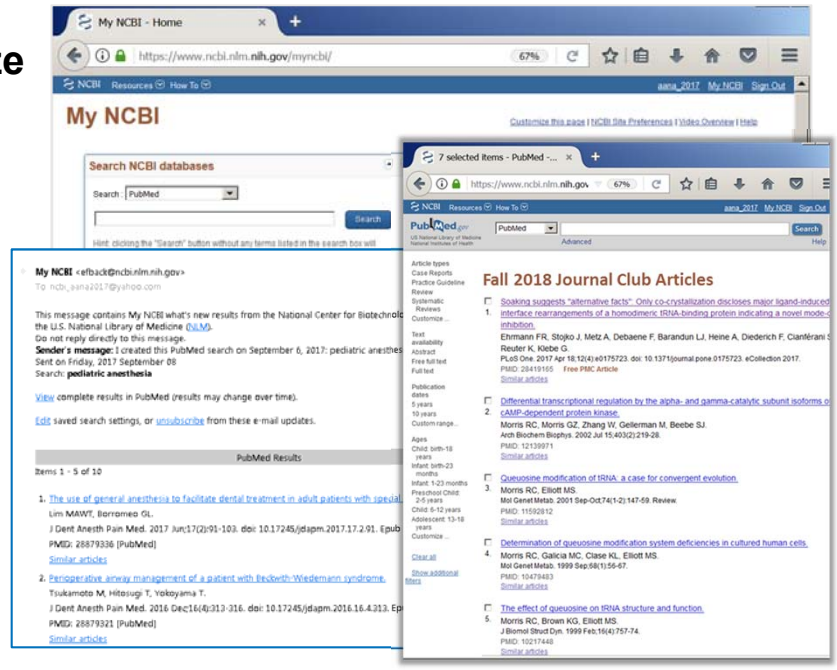
Wouldn't you like your PubMed screen to look like this?



Wouldn't you like to customize your personal dashboard?

And get
Email alerts for
new articles?

And create and
share collections
of articles?



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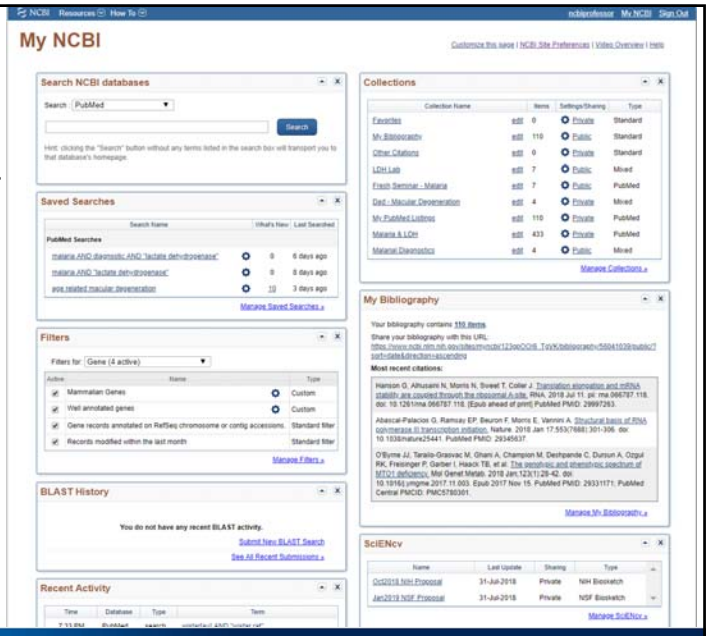
NCBI Professor's Account & My NCBI Dashboard

- Saved Searches that are done automatically for me every week/month.
- Saved Collections –
  - Reading list for the Freshman Seminar (PubMed/PMC articles)
  - Reference list for the LDH Biochem Lab (Mixed Collection)
  - Research for my Dad's AMD diagnosis
- Filters created and displayed for PubMed & Gene
- Other settings:
  - highlighting search terms in yellow
  - # results displayed increased to 100
  - sort order changed….



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NCBI Webinars

TODAY'S AGENDA

- Introduction
- Creating Effective Searches
- Using Filters
  & Creating Custom Filters
- Setting Display Preferences:
  - Suggesting queries
  - Highlighting search terms
  - Setting default sort criteria
  - Setting # records displayed
- Saving Search Strategies
  & Automating Searches
- Saving & Sharing Collections
  including My Bibliography
- NCBI Accounts & NIH Grants
- Upcoming Developments
- Recap &
  Where to find help!

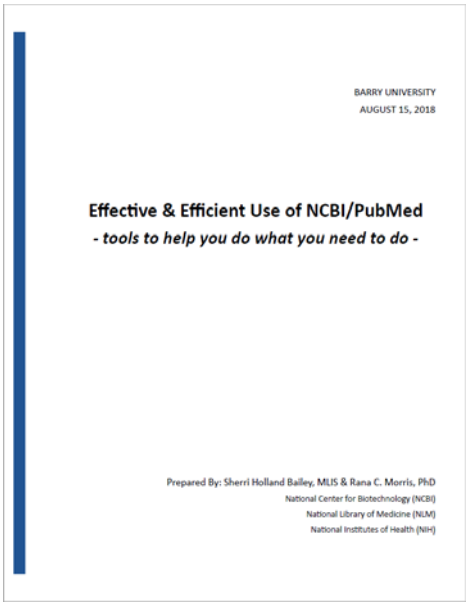
Whether you are serving in your capacity as an Educator training future Healthcare practitioners or a Clinician, yourself…
you need to be effective & efficient!

Today's presentation is designed to show you ways to help you do what you need to do.

DON'T WORRY!

You can get the NCBI Account Guidebook
with tips & tricks
step-by-step instructions
links to Help Documentation
& and links to YouTube videos!

ftp://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/NCBIAccount_Guidebook.pdf

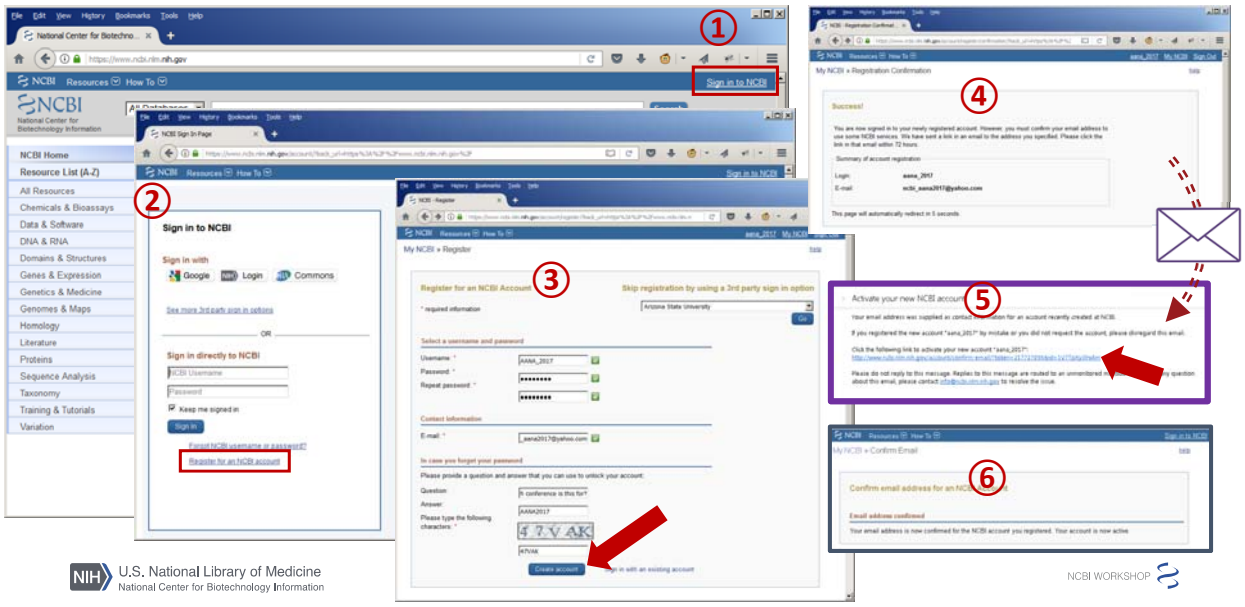


BARRY UNIVERSITY
AUGUST 15, 2018

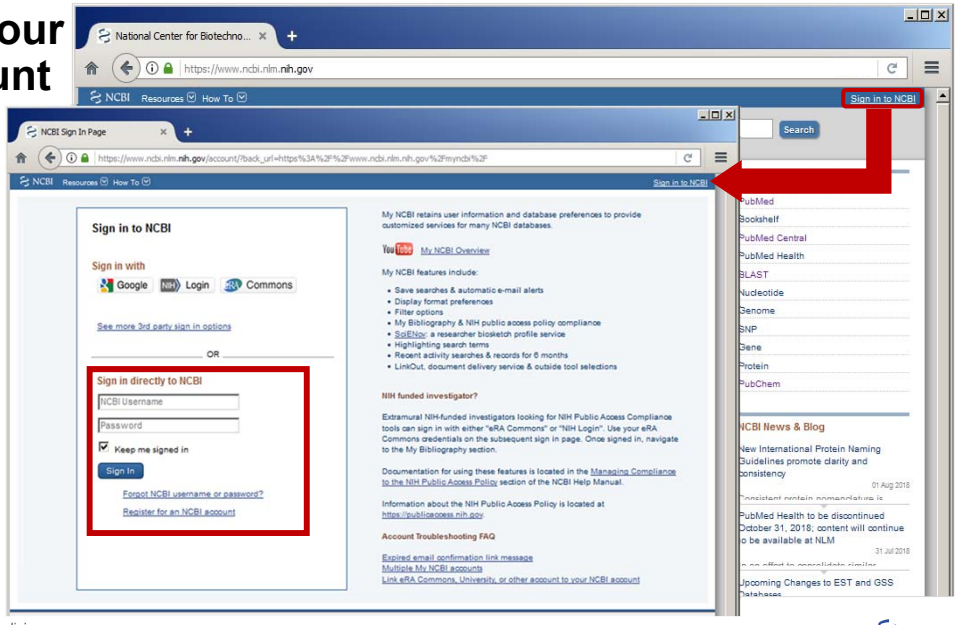
Effective & Efficient Use of NCBI/PubMed
- tools to help you do what you need to do -

Prepared By: Sherri Holland Bailey, MLIS & Rana C. Morris, PhD
National Center for Biotechnology (NCBI)
National Library of Medicine (NLM)
National Institutes of Health (NIH)

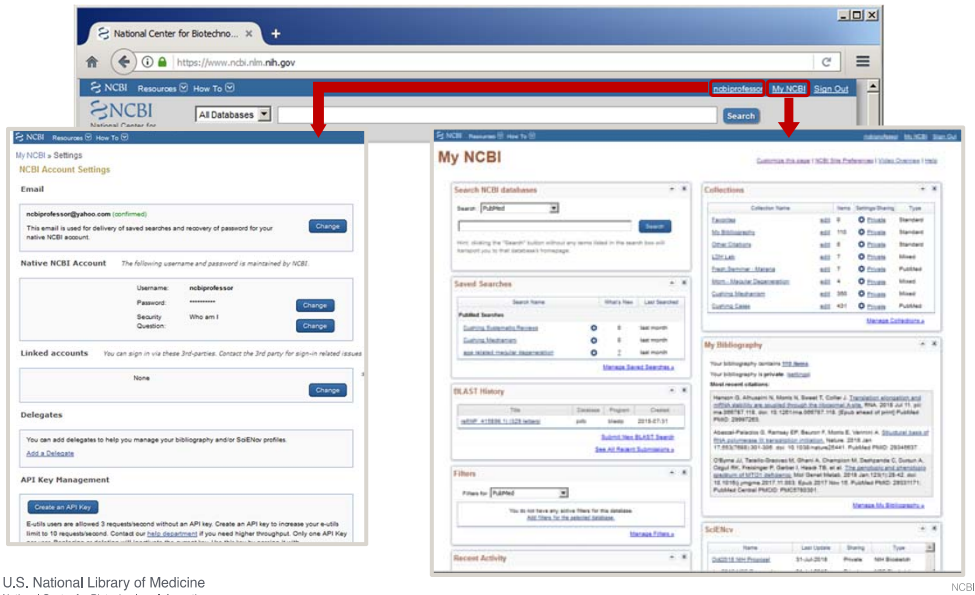
Getting a free NCBI Account



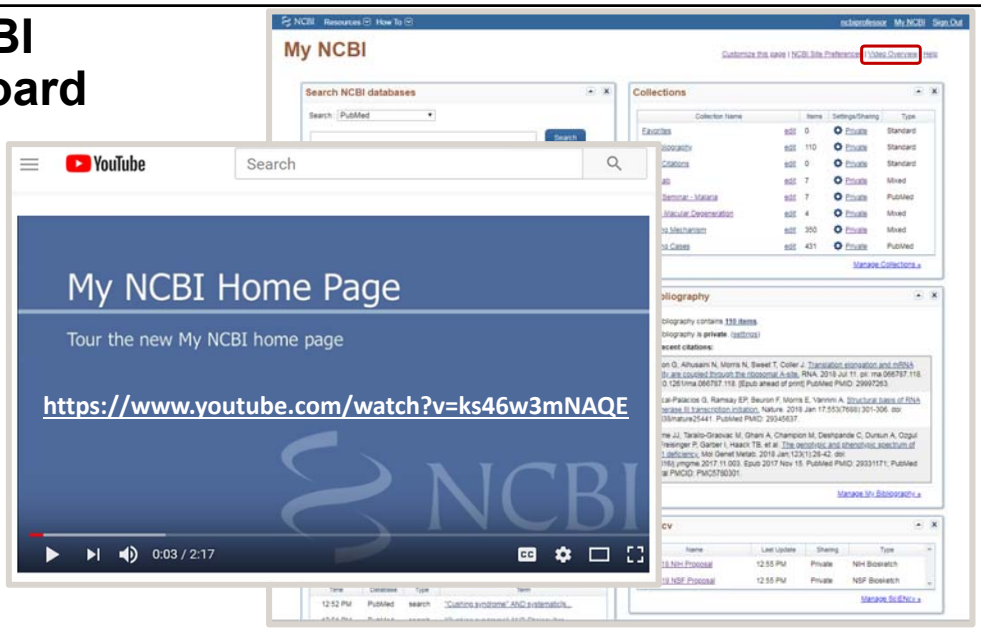
Sign in to your NCBI Account



NCBI Account Settings & MyNCBI Dashboard



My NCBI Dashboard



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Where to find help!

Creating Effective Searches

Use Phrases, Booleans, Ranges & specify Indexed Fields

Have you ever typed in a term like:

Alzheimer's Disease **(137,555)**

or

Malignant Hyperthermia **(5,940)**

or

Pediatric Anesthesia **(15,228)**

and were totally overwhelmed
with the number of records you found?

Search Query Syntax Example

`wistar rat`	**(266,075)**	anything with wistar **or** rat anywhere in the record
`"wistar rat"`	**(4,064)**	articles that include the wistar rat model organism
`wistar[au] AND rat`	**(5)**	articles written by an author with the name Wistar and include a rat/rats in the study
`wistar[au] AND rat AND 1968:1969[pdat]`	**(3)**	articles written by an author with the name Wistar include a rat/rats in the study and having a publication date between 1968 & 1969
`wistar[au] AND "wistar rat"`	**(0)**	articles written by an author with the name Wistar and include the wistar rat model organism

Creating Better/More Effective Searches!

Search with Phrases!

Use " " *around* or _ *between* words
(Caveat: *Entrez will break them up if they aren't found via *ATM.*)

Search with Booleans!

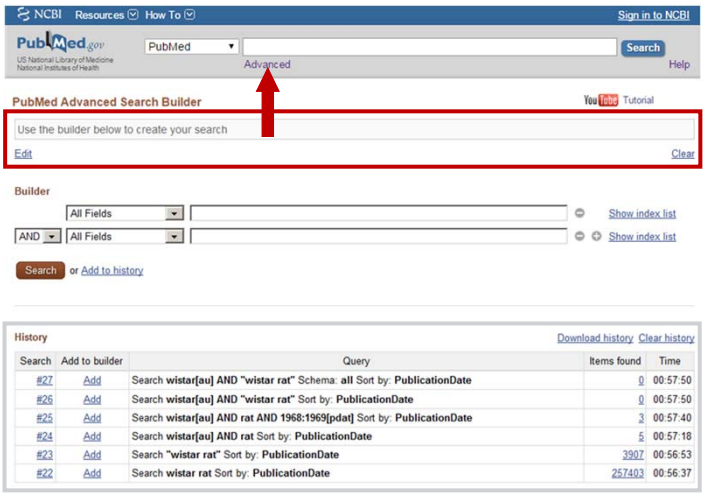
AND NOT OR

Search with Ranges!

1968:1969[Publication Date]
1968:1969[PDAT]

TO SEE WHAT YOU ARE ACTUALLY SEARCHING CHECK THE SEARCH DETAILS!

Use your Search History!



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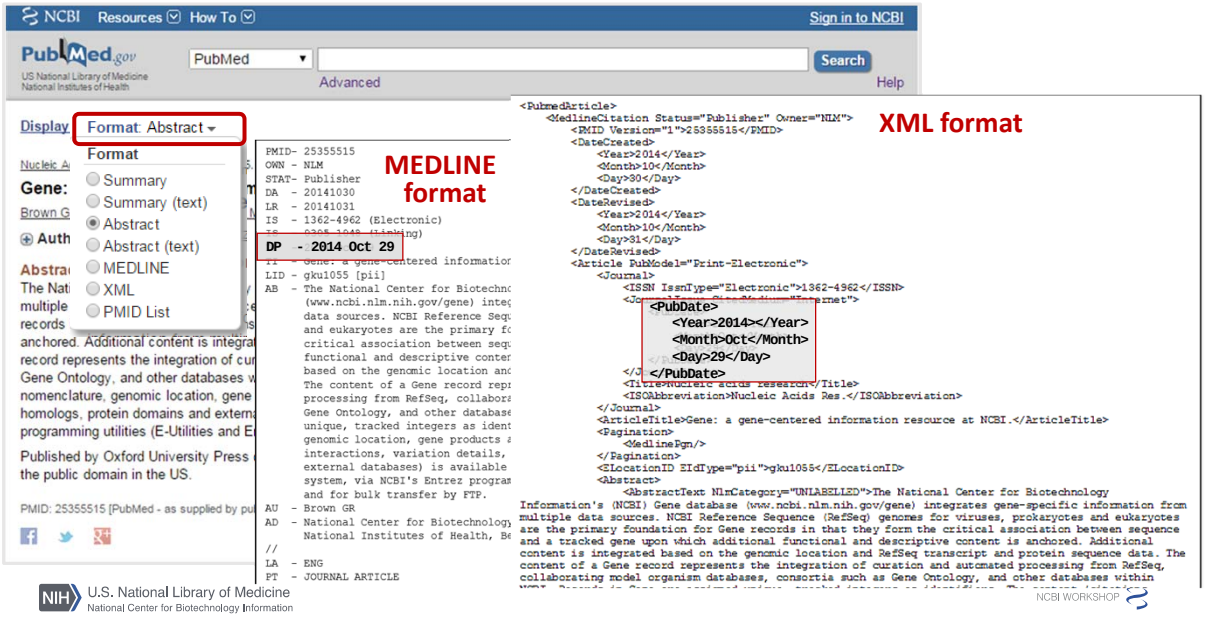
NCBI WORKSHOP

Where can I see those PubMed Index Fields?



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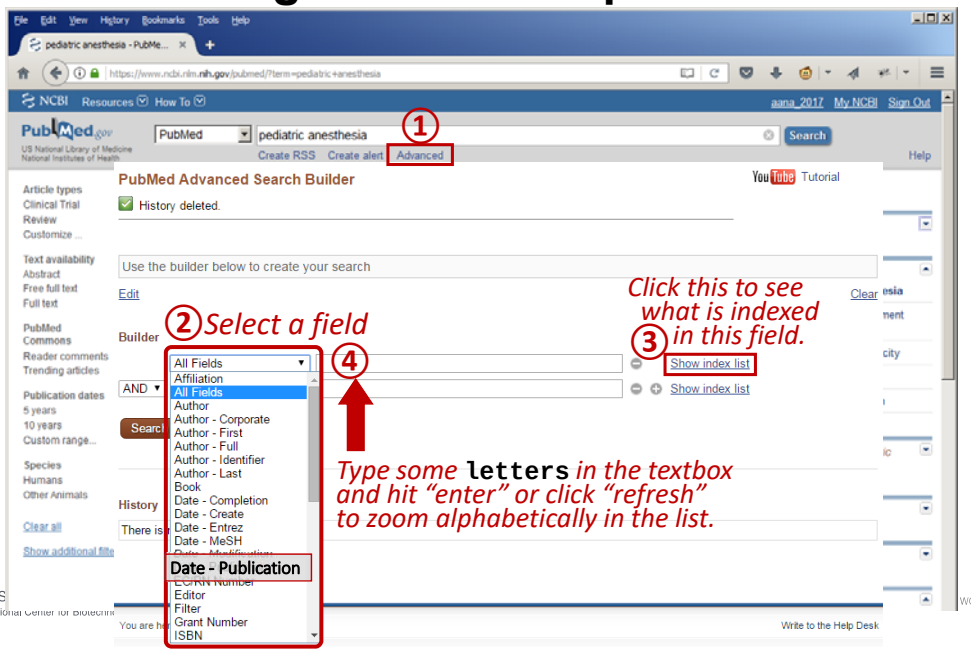
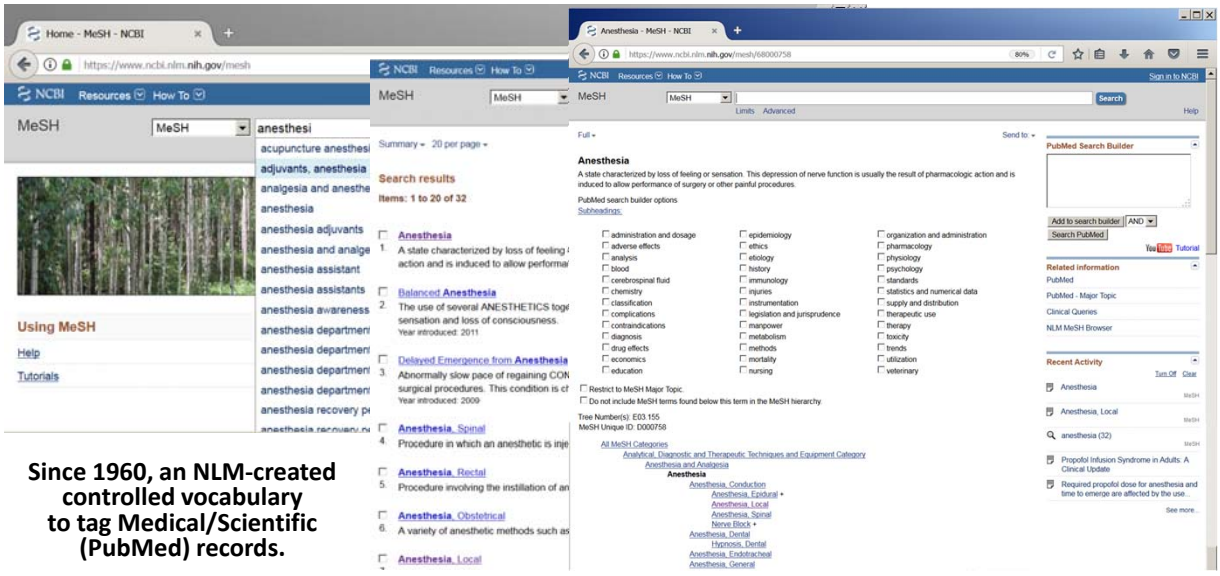
Searching PubMed in Specific Fields



Let Medical Subject Headers (MeSH) help you!



Since 1960, an NLM-created controlled vocabulary to tag Medical/Scientific (PubMed) records.

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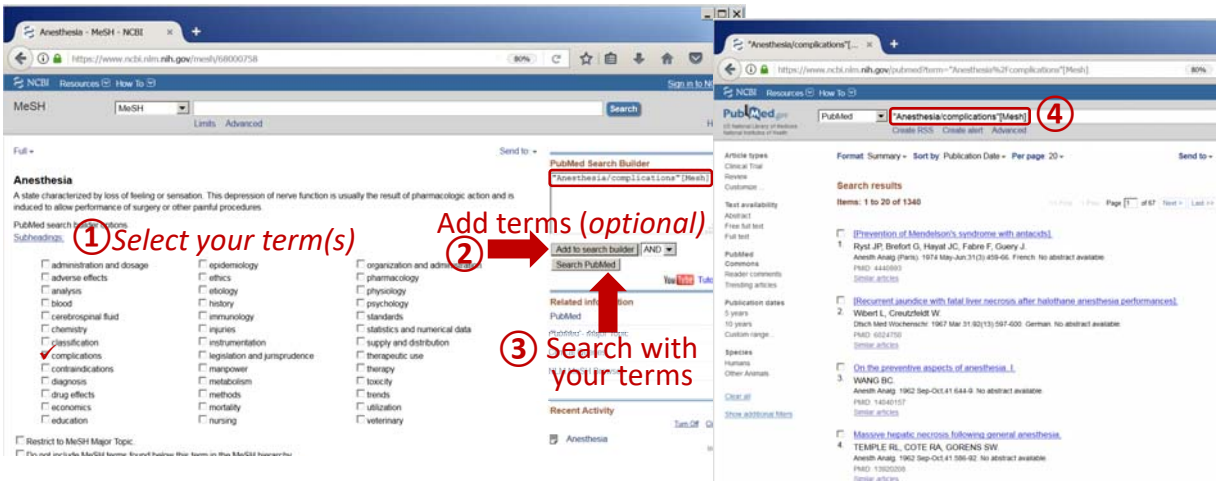
Use the MeSH Search Builder to help you create specific queries.



Caveat: *Human processing of MeSH terms is good, but a bit slow!*

Using the Filter Sidebar & Creating Custom Filters

Tips to quickly focus your search results!

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Speeding up the process….

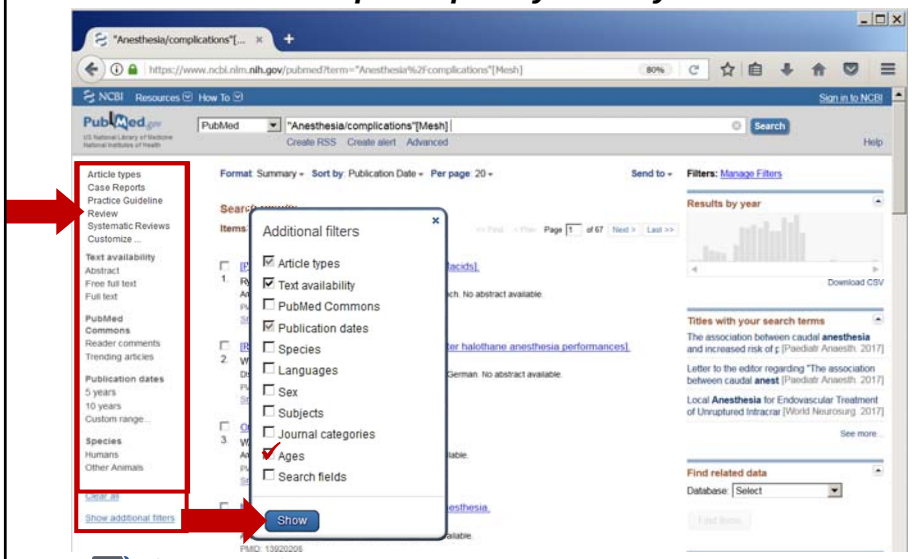
Browsing PubMed to find what you want
(what you really, really want)

Finding "systematic reviews" or
articles with available "free, full text"
is just a click-a-way.

And you can create your own customized clicks, too!

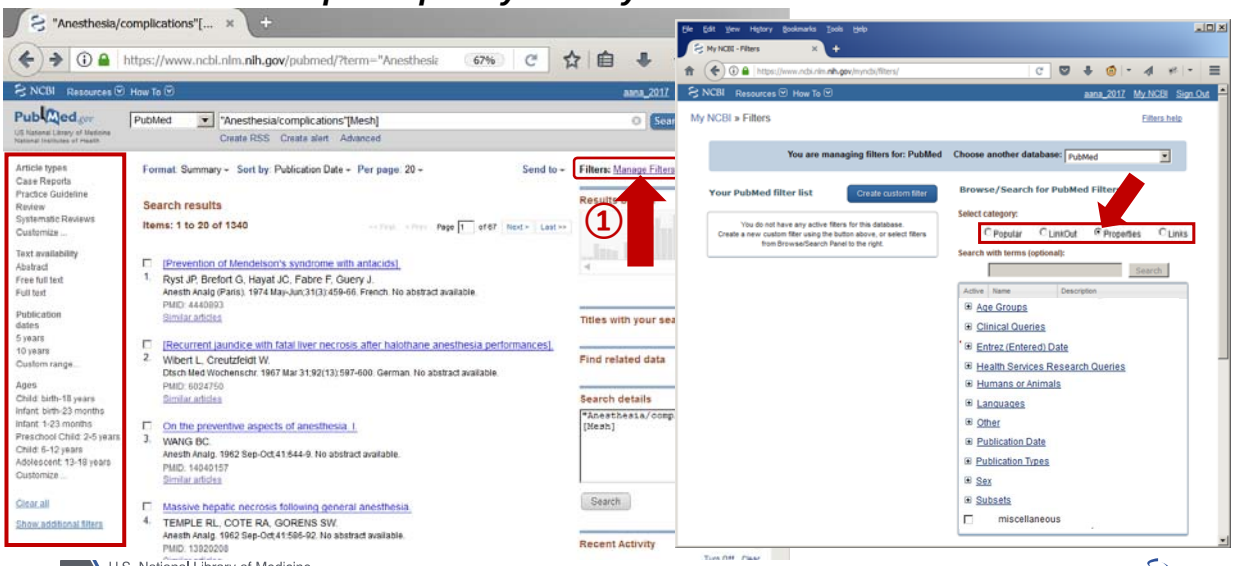
Using the Filter Sidebar

Tips to quickly focus your search results!



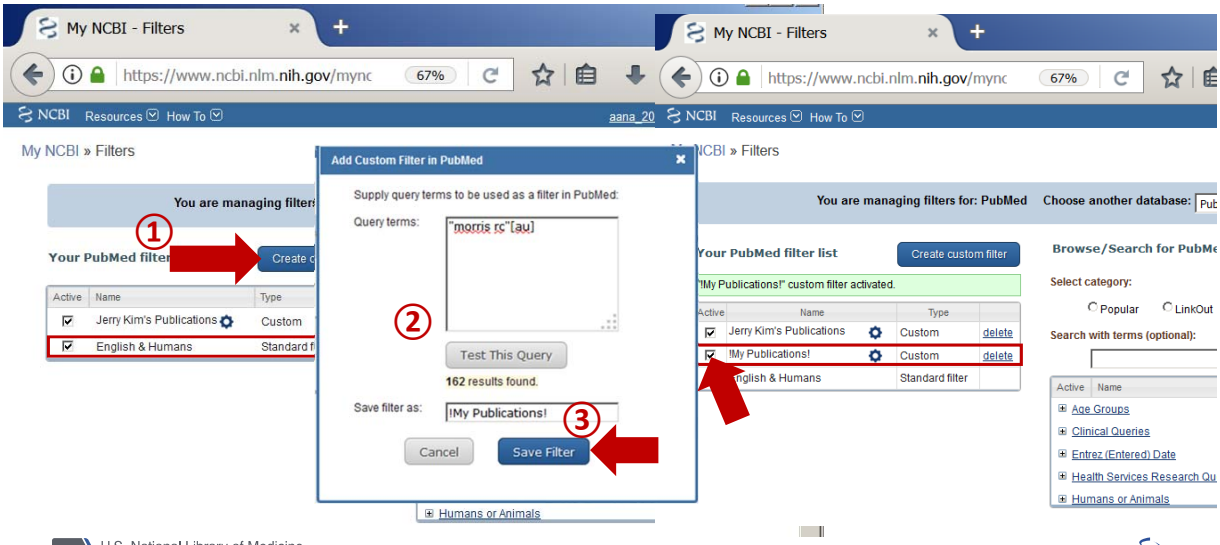
Adding Pre-set Filters

Tips to quickly focus your search results!



Creating Custom Filters

Tips to quickly focus your search results!



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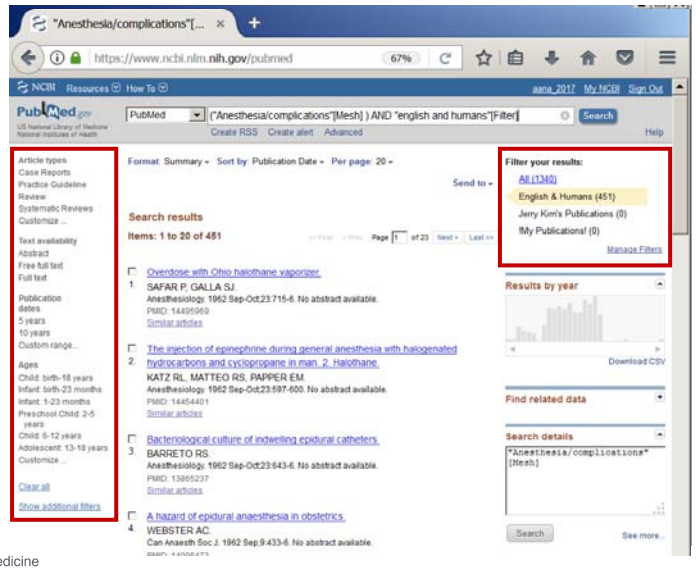
NCBI WORKSHOP

Using Pre-set & Custom Filters

Tips to quickly focus your search results!



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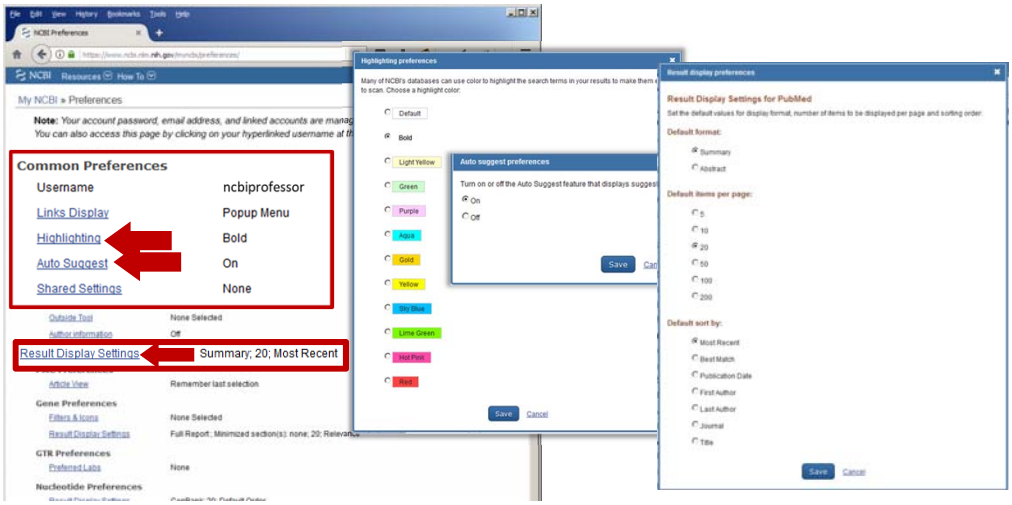
Customizing your PubMed Displays

Suggesting, Highlighting, Displaying & Sorting Record Lists

Quickly setting preferences
for how PubMed works
…and looks.

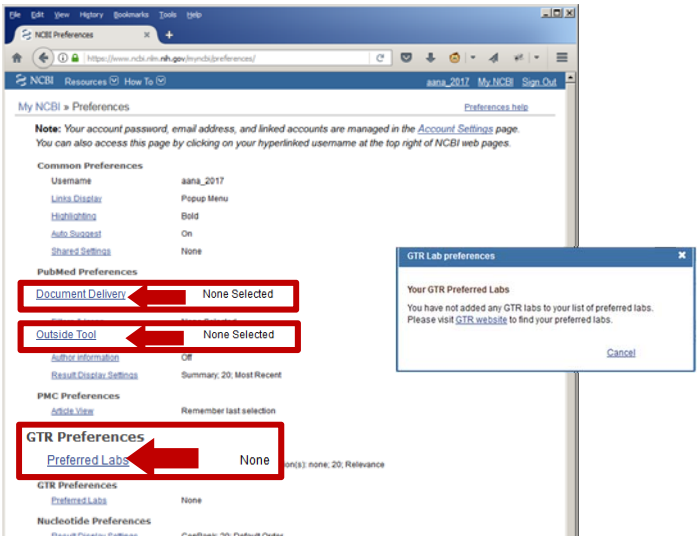
Setting your "Site Preferences"

Highlighting your Search Terms & Auto-Suggest Queries
Setting the Number of Records Shown in the List & Sort Criteria



Customizing your Preferred Vendors

Setting Document Delivery, Outside Tool & Clinical Genetic Testing Vendors



BONUS: *You can set your preferred laboratories for the NIH Genetic Testing Registry!*

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Saving Search Strategies & Automating Searches

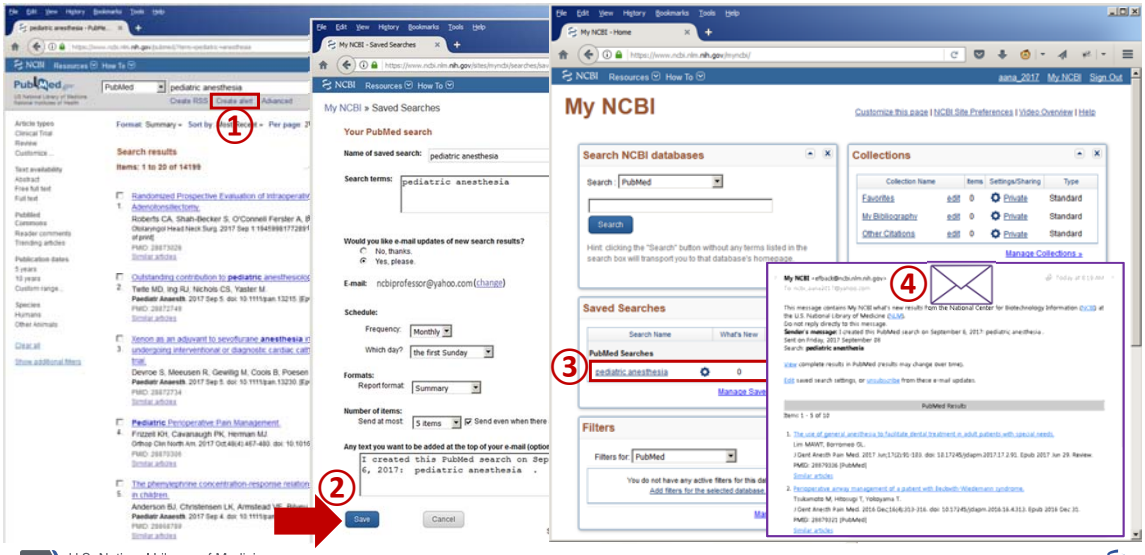
with Emailed Notifications of New Records

Keeping up-to-date with new stuff!

You've spent all that time creating
your perfect search.
Can't you just save it and reuse it?
(hint, hint…..YES!)

Wouldn't it be nice to have
someone else
do your search for you
and let you know if anything new has come out?

Saving Search Strategies & Automating Searches
with Emailed Notifications of New Records



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NCBI WORKSHOP

Saving & Sharing Search Results
Collecting Groups of Records & Sharing the List!

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Making & filling folders with
collections of articles for access later….

Keeping them “Private” for you
or making them “Public” to share!

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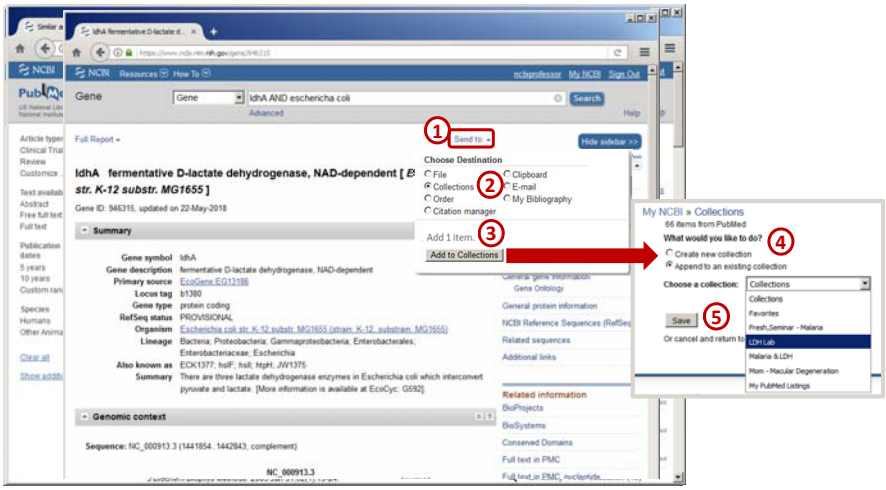
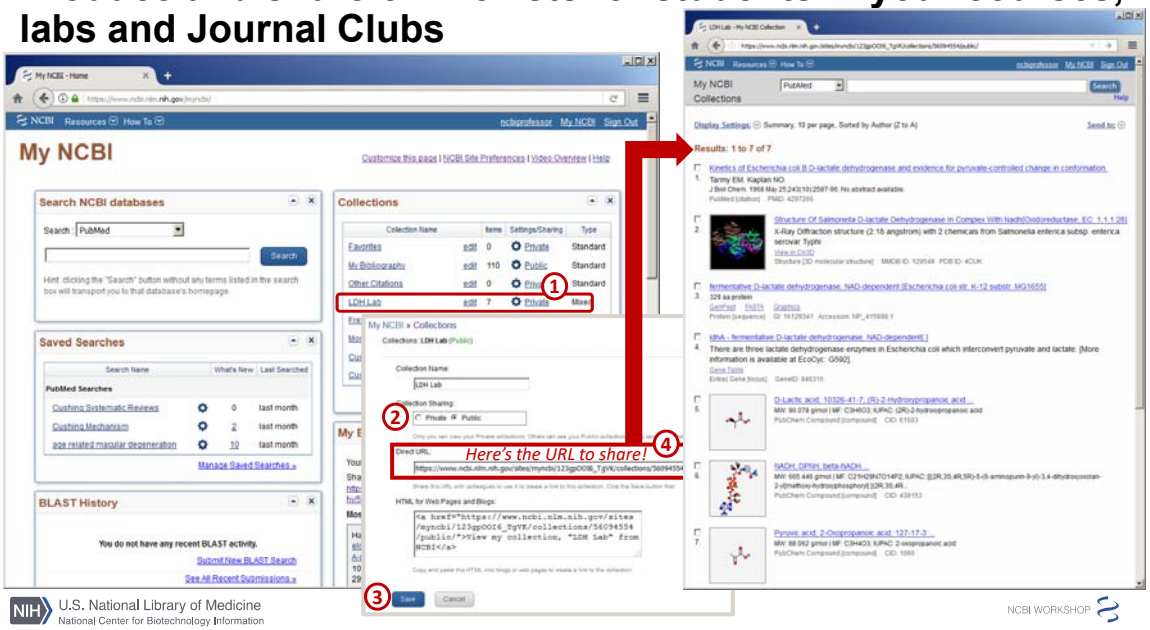
NCBI WORKSHOP

Saving & Sharing Search Results

Create online collections which you can access anywhere!



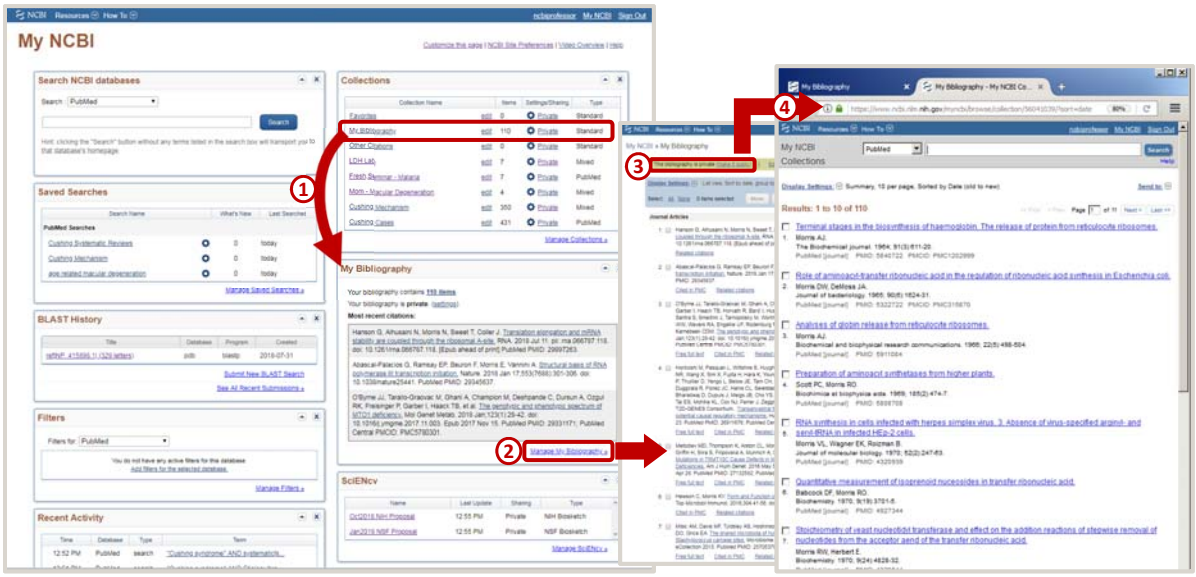
Produce and share online lists for students in your courses, labs and Journal Clubs



Interactive Demo

- Sign in to an NCBI Account
- Set some display settings
- Set some filters
- Do a search
- Save the search & create an alert
- Create a new collection
- Save a record to the collection
- Make collection public & share the URL

Maintain your online bibliography for your Faculty Profile



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NIH Granting

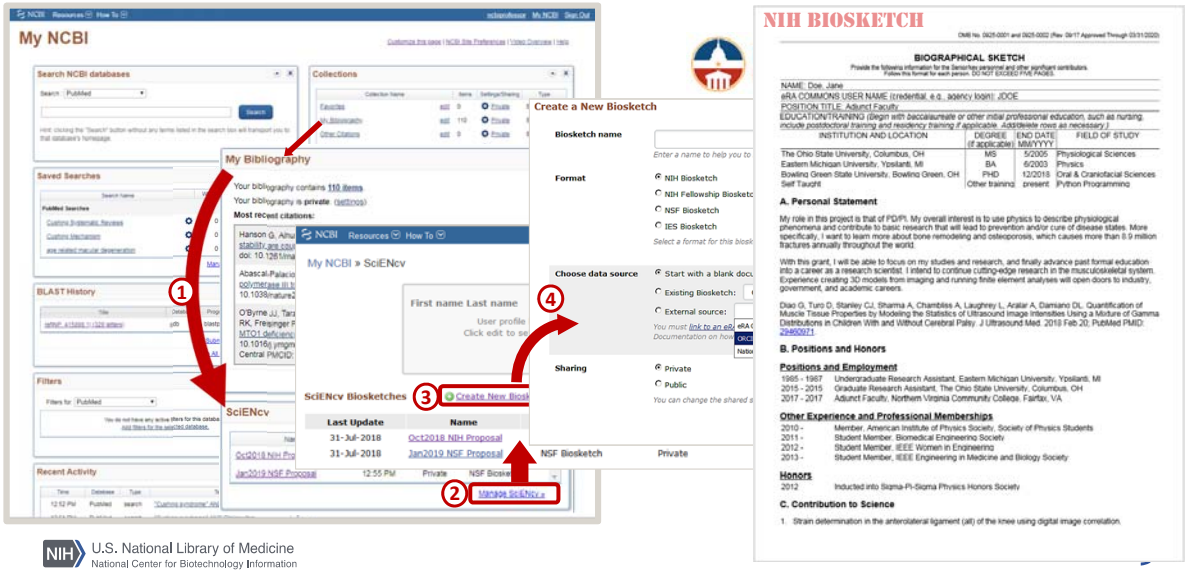
We can help pre- & post-awarding!

SciENcv will produce your biosketch!

Congratulations on your NIH grant!

Now you've got to comply
The NIH Public Access Policy
&
declare all funded publications
in your Annual & Final (RPPR) Reports

Repurpose your online bibliography to help create your federal grant proposals' biosketches.



Now that you've got your NIH Grant!

NIH Public Access Policy

1 Preparing a manuscript
When you select a journal to submit your manuscript to and before you sign a publication agreement or copyright transfer agreement, make sure that your paper can be submitted to PMC in accordance with the NIH Public Access Policy.
Make sure you know who will submit it to the NIHMS (Method A, B, C or D).

2 Accepted for publication
Make sure your accepted manuscript is submitted to the NIHMS right away - DON'T WAIT!
Track submission and processing in My Bibliography and make sure it is finally released in PMC.

3 Reporting to NIH
Use My Bibliography to produce the C.1 Publications table to include in your Annual/Final Report (RPPR).

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You are one of the first to know…

What we're doing at NCBI

(user-centered design & testing with real people!)

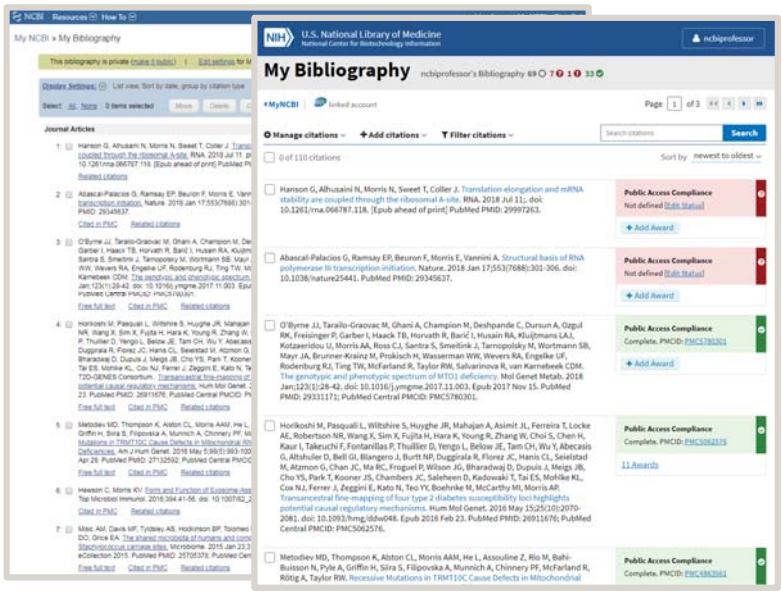
and

Upcoming developments that

you might want to be aware of….

Coming - Fall 2018, a new look for My Bibliography!

- A new look created with user-centered design & testing
  - to solve users concerns
  - other issues that we thought were important
- Everything you do now *will* be fully available in the new system!

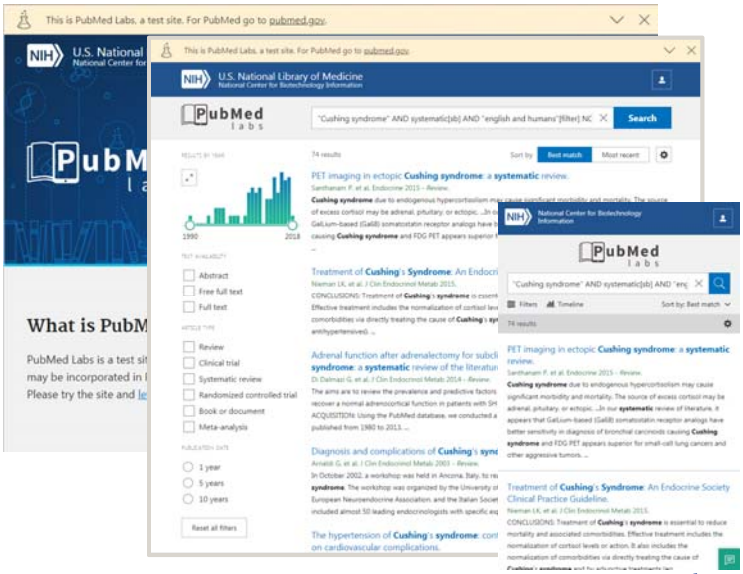


Try out PubMed Labs!

https://www.ncbi.nlm.nih.gov/labs/pubmed/

- A fully-functional sandbox for testing out layouts, features, functions…..with the full set of PubMed data.
- Cleaner, easier to read and use and with new functionality users have been asking for.
- Pretty nice for Desktops & great for Mobile devices

A glimpse into the future of PubMed!



Recap & Help!

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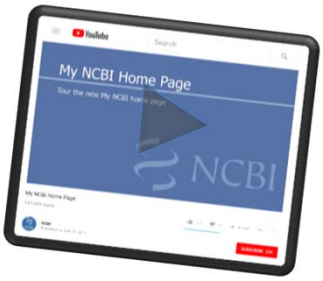
Recap &
Where to find help!



~~For help with any NCBI resource, send an Email to the HelpDesk: info@ncbi.nlm.nih.gov~~

Download the Presentation Booklet, the PowerPoint Slides, and/or the NCBI Account Guidebook

ftp://ftp.ncbi.nlm.nih.gov/pub/morris/BarryU_2018/

In a nutshell, you can find and use everything shown at:
https://www.ncbi.nlm.nih.gov

NCBI Presentation References & Resources

THE NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION, a.k.a. THE "NCBI"

https:///www.ncbi.nlm.nih.gov

ABOUT THE NCBI

"About the NCBI" FactSheet: ftp://ftp.ncbi.nih.gov/pub/factsheets/Factsheet_AboutNCBI.pdf
NCBI Handbook Chapter: https://www.ncbi.nlm.nih.gov/books/NBK148949/
List of many of NCBI's Databases: https://www.ncbi.nlm.nih.gov/gquery/
"NCBI Resources" Factsheet: ftp://ftp.ncbi.nih.gov/pub/factsheets/Factsheet_NCBI_Overview.pdf
NCBI's Outreach & Education Site: https://www.ncbi.nlm.nih.gov/home/learn/

NCBI NEWS & SOCIAL MEDIA:

NCBI Insights Blog: https://ncbiinsights.ncbi.nlm.nih.gov
Facebook: https://www.facebook.com/ncbi.nlm
Twitter: https://twitter.com/NCBI (@NCBI)
YouTube Channel: https://www.youtube.com/user/NCBINLM
LinkedIn: https://www.linkedin.com/company/3595640

HELP EMail Address: info@ncbi.nlm.nih.gov

NCBI ACCOUNTS & MyNCBI

NCBI Account – ***Login system for all NCBI services***
Homepage: https://www.ncbi.nlm.nih.gov/account/

NCBI Account Guidebook – ***Instructions and hints for how to effectively use your NCBI Account***
Download the .pdf file: ftp://ftp.ncbi.nih.gov/pub/morris/BarryU_2018/NCBIAccount_Guidebook.pdf

LITERATURE RESOURCES

PubMed – ***Catalog of research projects with links to publications and datasets***
Homepage: https://www.ncbi.nlm.nih.gov/pubmed

PubMed Labs – ***Test site for experimenting with and testing out new ideas, features and tools for PubMed***
Homepage: https://www.ncbi.nlm.nih.gov/labs/pubmed

PubMed Central (PMC) – ***Research studies with high-throughput sequence data***
Homepage: https://www.ncbi.nlm.nih.gov/pmc

Bookshelf/Books – ***Research studies with functional genomics data***
Homepage: https://www.ncbi.nlm.nih.gov/books

Other featured NCBI & NLM Resources: Medline Plus, GeneReviews (authored by U.Washington), Genetics Home Reference

CLINICAL RESOURCES

MedGen – ***Aggregated information about medical genetic conditions and phenotypes***
Homepage: https://www.ncbi.nlm.nih.gov/medgen

Genetic Testing Registry (GTR) – ***NIH's registry of genetic tests and laboratories***
Homepage: https://www.ncbi.nlm.nih.gov/gtr

ClinVar – ***Assertions about the relationships of genomic variations with human health***
Homepage: https://www.ncbi.nlm.nih.gov/clinvar

GLOBAL QUERY ("ALL NCBI DATABASES" PAGE)

Gquery – ***Listing of most of the databases at NCBI***
Homepage: https://www.ncbi.nlm.nih.gov/gquery