

Tips to Get the Most Out of PubMed (Medline)

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PubMed Searching

Objectives

Learn:

- How to **search PubMed**
- How to find **full-text** articles

Searching for Articles in PubMed

Topic { Review articles on warfarin resistance

Concepts

warfarin	resistance	review
coumadin	drug resistance	reviews
coumadine	resist*	

Keywords

Search Statement

(warfarin OR coumadin OR coumadine)
AND (resistance OR drug resistance OR resist*) **AND** (review OR reviews)

Accessing PubMed

Via Library Portal (LOGIN)

<http://www.lib.nus.edu.sg>

Why?

Advantage: Can directly access the **full-text** subscribed by NUS Libraries

How?

Display PubMed citations in **abstract**, **abstract-plus** or **citation format**.

Click on publisher's icon.

PubMed Record – MEDLINE Display Format

```

PMID- 10218756
.
IS 0003-9926
VI 159
IP 7
DE 1999 Apr 12
TI Impact of trace elements and vitamin supplementation
on immunity and infections in institutionalized elderly
patients: a randomized controlled trial. MIN. VIT. AQX
geriatric network.
AB BACKGROUND: Antioxidant supplementation is thought to
improve immunity and thereby reduce infectious morbidity.
AD Scientific and Technical Institute for Foods and
Nutrition, Conservatoire National des Arts et Metiers,
Paris, France.
AU Gironde F
AU Galan P
.
LA eng
PT Clinical Trial
PT Journal Article
PT Randomized Controlled Trial
  
```

PubMed Record – MEDLINE Display Format

```

...cont'd
.
TA Arch Intern Med
SB IM
MeSH MH Aged
* indicates MH Dietary Supplements
major MeSH, MH Double-Blind Method
focus of MH Female
article MH Human
MH Hypersensitivity, Delayed/prevention & control
/ indicates MH Immune System/*drug effects
start of MH Incidence
MeSH MH Infection/*immunology
subheading MH *Institutionalization
MH Male
source: journal MH Respiratory Tract Infections/prevention & control
Archives of MH Selenium/administration & dosage
Internal MH Support, Non-U.S. Gov't
Medicine, MH Trace Elements/*administration & dosage
year 1999, MH Urinary Tract Infections/prevention & control
volume 159, MH Vitamins/*administration & dosage
issue 7, MH Zinc/administration & dosage
pages 748-54 - SD Arch Intern Med 1999 Apr 12;159(7):748-54.
  
```

'IM' means journals indexed in Index Medicus, the electronic version of which is MEDLINE.

PubMed Search

- Keyword search
- MeSH search
- Refine a search

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Keyword Search (1)

- Automatic Term Mapping' (ATM) matches and searches keyword against:
 - MeSH (Medical Subject Headings) Table
 - Journals Table
 - Author Index
- If there is no match for a keyword, it is searched in all fields of PubMed record.

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Keyword Search (2)

Truncation/wildcard symbol * when used in keyword search,

- Retrieves first 600 variations
- Turns off Automatic Term Mapping

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MeSH Search (1)

- Uses MeSH Database of terms
- MeSH terms – controlled vocabulary for searching PubMed
- Definition of terms
- Tree structure - context
- MeSH subheadings – subtopics

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MeSH Search (2)

- “Restrict to MeSH Major Topic Heading”
 - concept is main topic discussed
- “Explode” MeSH term
 - comprehensive or specific search
 - Default: MeSH term is exploded (narrower terms are also searched)

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Keyword versus MeSH Search

Keyword	MeSH
Broader, less precise	Specific - Restrict Search to Major Topic headings only
Retrieves all kinds of records, including the <u>latest</u> (as supplied by publisher)	Retrieves citations indexed with MeSH terms (time lag, older) (indexed for <u>MEDLINE</u>)
Useful there is no MeSH term available to represent the concept	Consistent way to retrieve information that may use different terminology for the same concept

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Live PubMed Demo (via www.lib.nus.edu.sg)

Search	Most Recent Queries	Time	Result
#13	Search #4 NOT #11	04:06:34	107
#12	Search #7 AND #10 Limits Review	04:05:35	5
#11	Search #7 AND #10	04:04:34	39
#10	Search "Drug Resistance"[Majr]	03:58:13	63644
#7	Search "Warfarin"[Majr]	03:54:52	6181
#4	Search #1 AND #2 AND #3	03:53:24	113
#3	Search review OR reviews	03:52:56	1767234
#2	Search resistance OR drug resistance OR resist*	03:52:34	575951
#1	Search warfarin OR coumadin OR coumadine	03:51:39	15438
#0	pubmed clipboard	04:04:34	39

Limits narrow search. Certain concepts can be searched using limits.

MeSH Major Topic Search - specific, precise

keyword search - comprehensive, less precise

- Reading high impact journals? - **Sort** results by journal
- Finding full-text? - **Display** results in correct format

Tips to Refine Search (1)

Situation	Got too many citations	Got too few citations
Remedy	Narrow search	Broaden search
Brackets	Ensure correctly positioned	
Boolean	Ensure operators correctly used	
Spelling	Ensure correct	
Terms	<ul style="list-style-type: none"> •Use fewer synonyms •Use more specific terms 	<ul style="list-style-type: none"> •Use more synonyms •Use broader or related concept terms

Tips to Refine Search (2)

Situation	Got too many citations	Got too few citations
From known citations	Identify more specific concept	Click "Related article" feature
Search	Do MeSH search	Do keyword search
MeSH	<ul style="list-style-type: none"> •Restrict to Major MeSH •Search relevant subheadings •Do not explode 	<ul style="list-style-type: none"> •Identify more MeSH terms •Search all MeSH subheadings •Explode MeSH terms

Tips to Refine Search (3)

Situation	Got too many citations	Got too few citations
Limits	Apply limits <ul style="list-style-type: none"> •Publication type (review) 	Remove limits
Filters	Apply filters	Remove filters
Coverage	Search latest years	Also search earlier years
Alternative	Add another concept	Change database
Consult a subject librarian		

Managing Citations

PubMed Citations can be:

- Displayed -- several formats
- Sorted -- Author, Pub Date, Journal
- Selected &
 - Sent to Clipboard
 - Saved -- Collection in *myNCBI*, Disk
 - Emailed
 - Printed

Setting Alerts

What & Why?

Set Alerts -- Save search to get / access new citations

How?

1. Click 'History' tab.
2. Decide on the best search statement.
3. Click Search number e.g. #3
4. Select 'Save in my NCBI'.
5. Sign in to 'My NCBI' or Register (first-time user).
6. Click Save
7. Choose either to receive e-mail or access updates.

Getting to full-text from email alerts

Library Instruction ONLINE

How to search databases

Guides to searching databases A-Z:

Other Links | A - C | D - F | G - K | L - O | P - Z |

Library Instruction Online (LION)

Subject Guides

How use EndNote

How to use the Proxy bookmarklet to access full-texts from:
- email alerts
- external websites

A - C	Guide	Content by
ABI/Inform Complete	Help	ProQuest
ACM Digital Library	Using the ACM Digital Library Help & Support	ACM
AIDS and Cancer Research Abstracts	Help & Support	CSA
Arts & Humanities Citation Index	Help	Thomson
ASFA Aquatic Science and Fisheries Abstracts	Help & Support	CSA
Avery Index to Architectural Periodicals	Help	NISC

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Impact Factor of Journals

E-Resources

ABI/Inform ▪ BIOSIS ▪ Business Source Premier ▪ Compendex ▪ EconLIT ▪ EngineeringVillage 2 ▪ Expanded Academic ASAP ▪ Factiva ▪ IEEE Xplore ▪ INSPEC ▪ Jstor ▪ Lexis ▪ PsycINFO ▪ PubMed ▪ Scholar (Installation Science (AHCI, SCIE, SSCI) - more databases...

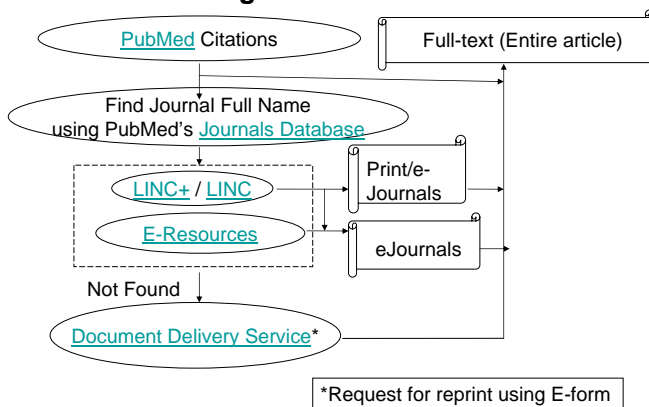
Use **Journal Citation Reports** database to find **impact factor of journals**

Search for E-Resources

journal citation reports

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Finding Full-text Articles



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Advisory Service

at Medical / Science Library

helps you strategize your search.

Approach Information Duty Officer or email mdlib@nus.edu.sg or scilib@nus.edu.sg

Wish you all the best in your studies and research!



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Library Tutorial for Life Sciences Honours & Dept. of Biological Sciences Graduate Students

Web of Science & BIOSIS Previews



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24 September 2009



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Image source: Stephen Ausmus, USDA

Session Outline

- Enhanced Library Services
- Evaluation of Resources
- Construction of a Search Statement
- Major Scientific Databases
 - Web of Science
 - BIOSIS Previews
 - Scopus
 - SciFinder Scholar
- Introduction to EndNote Bibliographic Software
- Guides, Tips & Tools

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Library Services

Loan Entitlement for Honours / Graduate Students



Loan entitlement = **30 items**

More Information:
<http://www.lib.nus.edu.sg/guides/rules/rulestab.html>

Type of materials	Main Shelves Books	Reserved Books/ Readings (RBR)	Bound periodicals	AV Items	Reference Items ("R")
Loan period	28 days	2 hours/ overnight	1 day*	View in library	Use in library
Online renewal	2 renewals	-		-	-

*Not applicable in C J Koh Law & Medical Bound Journals

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Library Services

Document Delivery Service (DDS)

- Request journal articles, book chapters or conference papers that are **not available** in NUS Libraries.
- Accessed via E-Forms after Library Portal Login.
- Needs to be approved by your Supervisor.
- Cost borne by NUS Libraries.
- Limited to 3 requests for Honours students.

More information:
<http://www.lib.nus.edu.sg/guides/dds nus.html>



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Image from: <http://img7281u.cdn.imageshack.us/content/userfiles/2008/09/300x148.jpg>

Library Services

Inter-Library and Intra-Library Loan Services (Graduates)

Inter-Library Loan - Request books **not owned** by NUS Libraries.

Intra-Library Loan – Request **circulating books & journals** found in other NUS Libraries to be collected at MD/SC Library

- Accessed via E-Forms after Library Portal Login.



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Image from: <http://img838img.com/content/userfiles/2009/03/300x200px/with-digital-delivery.jpg>



Guidelines for Evaluation of Resources

Criteria	Questions
Authority	Author's Credentials, Subject Expert?
Accuracy	Information is Valid and Reliable
Objectivity & Purpose	Any Bias?
Review process	Publication Peer-Reviewed?
Suitability	Academic /Scholarly Journal (<i>Journal Impact Factor, Immediacy Index</i>)
Timeliness	When was the Information published?

More information:
<http://libpweb1.nus.edu.sg/ion/s/evaluate.html>

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Construction of a Search Statement

Topic {

Altruism in Ants



Keywords {

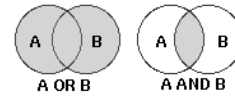
Concept 1	Concept 2
altruism	ant, ants
unselfish behaviour	hymenoptera
selfless	formicidae

Search Statement {

(altruis* OR unselfish behavio\$r OR selfless)
AND
(ant OR hymenoptera OR formicidae)

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Boolean Connectors



OR - any of the terms may be present

AND - both terms must be present

NOT - eliminate an unwanted concept or word

SAME or **NEAR**- terms must appear in the same sentence
e.g. Genetic **SAME** engineering

(altruis* OR unselfish behavio\$r OR selfless AND
(ant OR hymenoptera OR formicidae)

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Wildcards



★ - to represent any group of characters, including no characters
e.g. biol* - for biology, biologist, biologists, biological

? - to represent any single character
e.g. cat? - for cat, cats

\$ - represent one character or no characters
e.g. behavio\$r , colo\$r , vapo\$r
(useful for finding both British & American spellings)

(altruis* OR unselfish behavio\$r OR selfless AND
(ant OR hymenoptera OR formicidae)

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Overview of Web of Science

- Hosted on Web of Knowledge platform.
- Web of Science includes:

- **Science Citation Index Expanded (SCI-Expanded)**
- Social Science Citation Index (SSCI)
- Arts and Humanities Index (A&HCI)
- **Conference Proceedings Citation Index – Science (CPCI-S)**
- Conference Proceedings Citations Index – Social Science and Humanities Index (CPCI-SSH)

- SCI indexes over 2000 core journals cover to cover including the review articles. 40 million records.
- Coverage begins from 1900.
- NUS subscription commences from 1980 onwards.
- Updated weekly.

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Overview of BIOSIS Previews

- Hosted on Web of Knowledge platform.
- Important reference for Life Sciences and Biomedical Research.
- Literature in pre-clinical and experimental research, methods and instrumentation, animal studies, environmental and consumer issues.
- 5,000 journals (*Biological Abstracts*) and non-journal literature (Books, Patents, Meetings).
- Over 500,000 records added annually.
- Coverage begins from 1985.

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Overview of Scopus

- Content includes:
 - > 15,000 Peer-reviewed Journals
 - > 1,000 Open access journals
 - Conference proceedings, web resources, patents, trade publications, and book series.
 - 36 million records (Almost 50% include references going back to 1996)
- Worldwide coverage
 - > 50% of the content originating from European, Latin American and the Asia-Pacific region.
- Updated daily

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Overview of SciFinder



- Developed by Chemical Abstracts Service (CAS)
- Information from:
 - > 10,000 currently published journals
 - > 38 million organic and inorganic substances
 - Patents from > 57 patent authorities
- Explore database by:
 - Chemical structures or biological sequences
 - Substructures and reactions
 - Research topic, author, company, substance name
- [Client](#) & [Web*](#) version (* to be announced in Oct 2009)
 - Limited Seats
 - Off-Campus access via [NUS WebVPN](https://webvpn.nus.edu.sg)
<https://webvpn.nus.edu.sg>

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Introduction to EndNote X2



A bibliographic management software tool that:

1. **Collect** and **organizes** references found from many sources
2. Selectively **insert** these references into a Microsoft Word document
3. Automatically **formats** your references according to a predefined citation style

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Comparing EndNote X2 & EndNote Web

	EndNote X2	EndNote Web
Advantages	Work on references and cite independent of Web – less processing time	Web-based : longer processing & connection time
	Full installed on computer. No expiry.	Account expires after you leave NUS
	Stores unlimited no. of references	Max. 10,000 references only
	Store full-text (eg. PDF, sound files)	Unable to store full-text
Disadvantages	References stored on local computer. Needs to save and move references to another computer.	Can work on references anywhere with Internet (renew account every 12 months via NUSNET)

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EndNote X2 Library Features

- **Remove Duplicates**
 - **References > Find Duplicates**
- **Delete Unwanted References**
 - Select references, then, **References > Move References to Trash**
 - **Note:** To delete References permanently, **References > Empty Trash**
- **Attach Files (PDF, images, etc) to a reference**
 - Select a reference **References > File Attachments > Attach File ...**

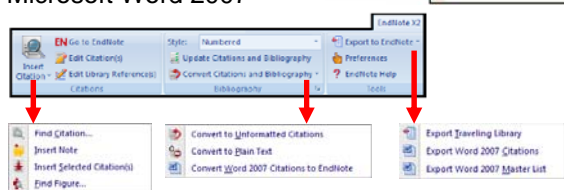
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CWYW Toolbars in Microsoft Word

• Microsoft Word 2003



• Microsoft Word 2007



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Cite While You Write: Searching References in Word

- In Microsoft Word, place cursor at insertion point.
- Look for the EndNote toolbar
 - For Word **2003**, click on 2nd button **Find Citation(s)**
 - For Word 2007, click on the button **Insert Citation**. Click **Find Citation...** In the dropdown menu.
- The EndNote X2 Library will open.
- Enter the search term in the **Find** box and click the **Search** button.
- Click on the reference to select the term and click the **Insert** button.

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Cite While You Write: Citing References in Word

- a) In an EndNote X2 library, highlight a reference.
- b) In Microsoft Word, place cursor at insertion point.
- c) Look for the EndNote toolbar
 - i. For Word **2003**, click on 4th button **Insert Selected Citation(s)**
 - ii. For Word **2007**, click on the button **Insert Citation**. Click **Insert Selected Citation(s)**.
- d) The reference is inserted.

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Editing Citations in Word



- a) For Word 2003 & below, click on the 5th button on the toolbar **Edit Citation(s)**
- b) Select the reference which is to be removed and click **Remove**
- c) The reference will be removed and all other references will be **automatically re-arranged**

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Changing Reference Styles



- a) In Microsoft Word, look for the EndNote toolbar
 - i. For Word 2003 & below, click on the 3rd button **Format Bibliography**.
 - ii. For Word 2007, go to **Style: > Select another style**
- b) Under **With output style**, click **Browse...**
- c) Select the desired journal style. Eg. **CBE/CSE** (Council of Biology/Science Editors)
- d) The references are now re-formatted.

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What is Plagiarism?

ACADEMIC CULTURE

Home - Academic Ethics - Plagiarism - Introduction

What is Plagiarism?

Plagiarism (noun)

- 1: a piece of writing that has been copied from someone else and is presented as being your own work.
- 2: the act of plagiarizing: taking someone's words or ideas as if they were your own.

Source: WordNet 2.0. © 2003 Princeton University

More information:
<http://www.cit.nus.edu.sg/plagiarism-prevention/>

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Library Software Tools

- NUS Libraries Proxy Bookmarklet
<http://www.lib.nus.edu.sg/ion/d/proxybkmrklet.html>
- InfoGate – Federated Search Engine
<http://www.lib.nus.edu.sg/ion/infogate/index.html>



- LibX – Browser Plug-in for Libraries (for NUS)
<http://www.libx.org/editions/03/9C/039CA547/libx.html>



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Additional Guides & Resources

- Biological Sciences Subject Guide
<http://www.lib.nus.edu.sg/ion/sg/sc/biol/biol.html>
- SciFinder Resources
<http://www.cas.org/support/academic/sf/index.html>
- Web of Science / BIOSIS Resources
<http://scientific.thomsonreuters.com/training/wos/>
<http://scientific.thomsonreuters.com/training/biosis/>
- Scopus Resources
http://help.scopus.com/robo/projects/schelp/tutorials/sc_menu.html
- EndNote X2 Desktop Guides
<http://lib.nus.edu.sg/ion/e/endnoteGuide.html>



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