

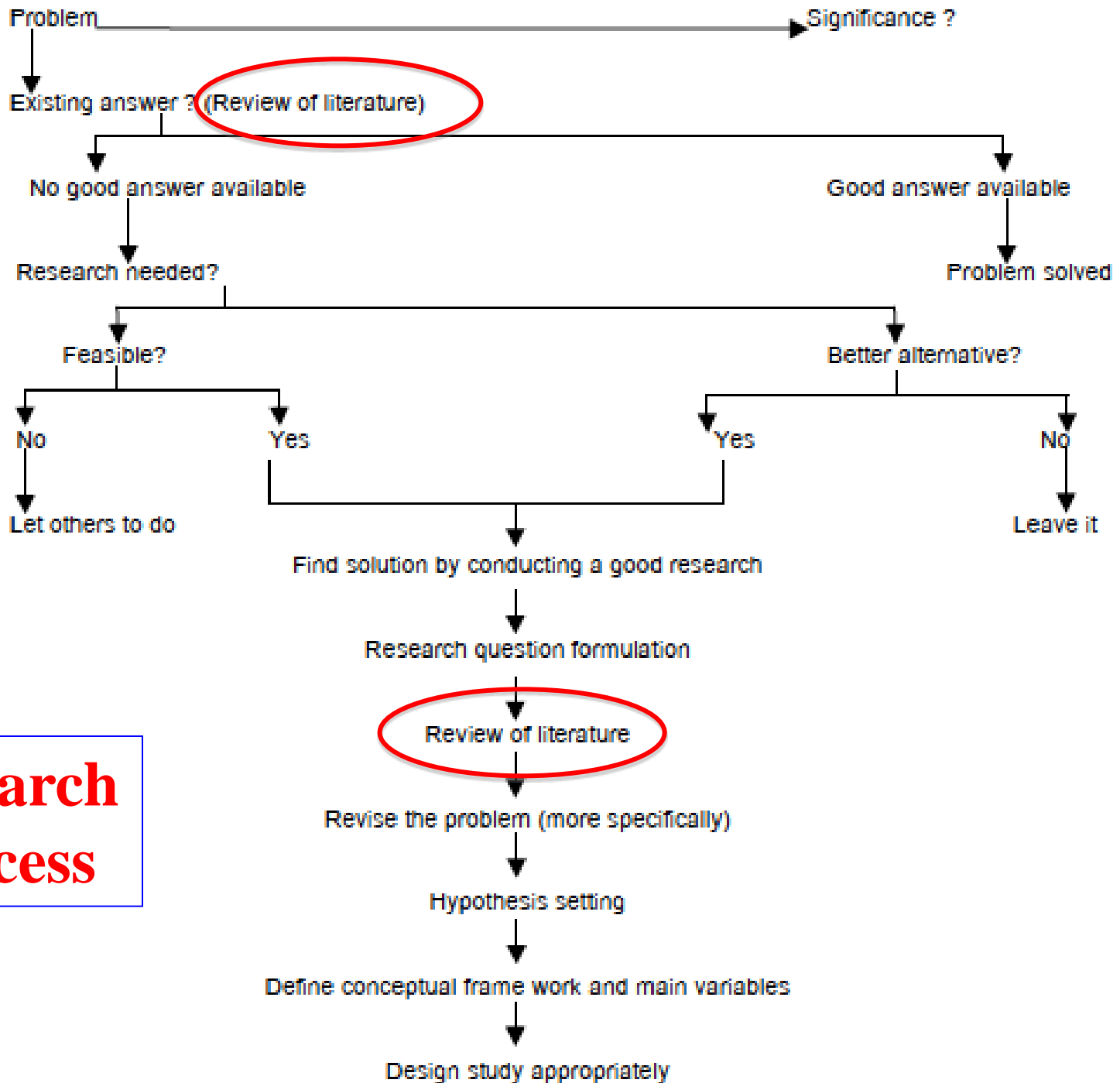
Literature Review

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To Conduct a Research

Two elements are essentially required:

1. Knowledge on the field/area/you will do
2. Knowledge on research methodology



**Research
Process**

Significance of Literature Review (1)

Since a complete and deep understanding on the research field/area/topic to be conducted is required, a literature review on such field/area/topic is extremely vital and it is a very important step before starting to conduct such study.

Significance of Literature Review (2)

In addition to what we will learn from the review, the followings will be acquired:

1. Skill and experience on searching information
2. Skill and experience on critical appraisal of the literatures (we usually acknowledge a reliable article with no biases).

What is a Review of Literature ?

- An account of what has been published on a topic
- Part of the introduction to research report or paper or thesis
- To convey to the readers what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are.

Objectives of Literature Review (1)

1. To review and see if there are any published articles / topics similar or related to what we will do.
 - * Can previous work sufficiently answer what we would like to know?
 - * If good answers are available or if we think we would not be able to conduct a research to provide a better answer, then what we plan to do should not be conducted.

Objectives of Literature Review (2)

2. To help us to formulate a research question more appropriately and specifically

General question: Is drug A better than drug B for the treatment of typhoid fever?

Research questions:

- a. Is fever clearance time among patients who receive drug A shorter than that of those who receive drug B ?
- b. Is drug A better than drug B in terms of reducing stool carriage?
- c. Does drug A produce fewer side effects than drug B?

Objectives of Literature Review (3)

3. Research question (s) may only emerged during a literature review.

- Existing answer (s) we would like to know may not be good or clear enough, therefore this could lead to a new research question

- Previous research work has some limitations or not well conducted.

Objectives of Literature Review (4)

4. Review of literature may tell us whether previous work is reliable or not in terms of:

- Sample size: big enough ?
- Study design: bias ?
- Measurement: good to answer research question?
- Measurement tool: precise and reliable?
- Data analysis and interpretation: correct or not?
- Validity and applicability ?

Objectives of Literature Review (5)

5. To obtain basic information in planning further research:

- Information / data for sample size calculation (enough power to find difference)
- Information / data to compare with those of our research

Sources for Literature Review

- Text books (most updated)
- Published journals (Medicine, public health)
- Published reviews
- Websites on internet
- Opinion from experts

How and What to Review ?

Points to consider:

- Make sure that you understand your research topic / thesis
- Identify what is known and what is unknown
- Identify unclear or controversial areas in your review
- Use all above to further formulate your research question (s)

Ask Yourself the Followings (1)

- What are is your research title ? What are the specific problems you want to address and solve ? What are your specific research questions ?
- What type of literature review you will do ?
- What is the frame of your review ? What literature you are searching for ? (Journals, books, official documents, general mass media)?
- What field of research you will do ? (Medicine, nursing, psychology, social sciences etc.).

Ask Yourself the Followings (2)

- How good is your review ? Broad enough or narrow ? Is the review source appropriate for your research topic ?
- Has critical appraisal been done on the papers reviewed ? Have limitations been identified ?
- Any papers that are controversial to your concept ?
- Will the readers be happy and agreed with your review ? (Is your review relevant, appropriate, and useful ?)

Literature Review with Critical Appraisal (1)

- Has the author formulated a problem/issue ?
- Is the problem/issue clearly defined ? Is its significance (scope, severity, relevance) clearly established?
- Could the problem have been approached more effectively from another perspective ?
- What is the author's research orientation (e.g., interpretive, critical science, combination) ?
- What is the author's theoretical framework (e.g., psychology, developmental, feminist) ?

Literature Review with Critical Appraisal (2)

- What is the relationship between the theoretical and research perspective ?
- Has the author evaluate the literature relevant to the problem/issue ? Does the author include literature taking positions she or he does not agree with ?
- In a research study, how good are the basic components of the study design (e.g., population, intervention, outcome)?
 - ⊕ How accurate and valid are the measurements ?
 - ⊕ Is the analysis of the data accurate and relevant to the research questions ?
 - ⊕ Are the conclusions validly based upon the data and analysis ?

Literature Review with Critical Appraisal (3)

- In material written for a popular readership, does the author use appeals to emotion, one sided examples, or rhetorically charged language and tone ? Is there an objective basis to the reasoning, or is the author merely “proving” what he or she already believes ?
- How does the author structure the argument ? Can you “deconstruct” the flow of the argument to see whether or where it breaks down logically (e.g., in establishing cause effect relationships) ?

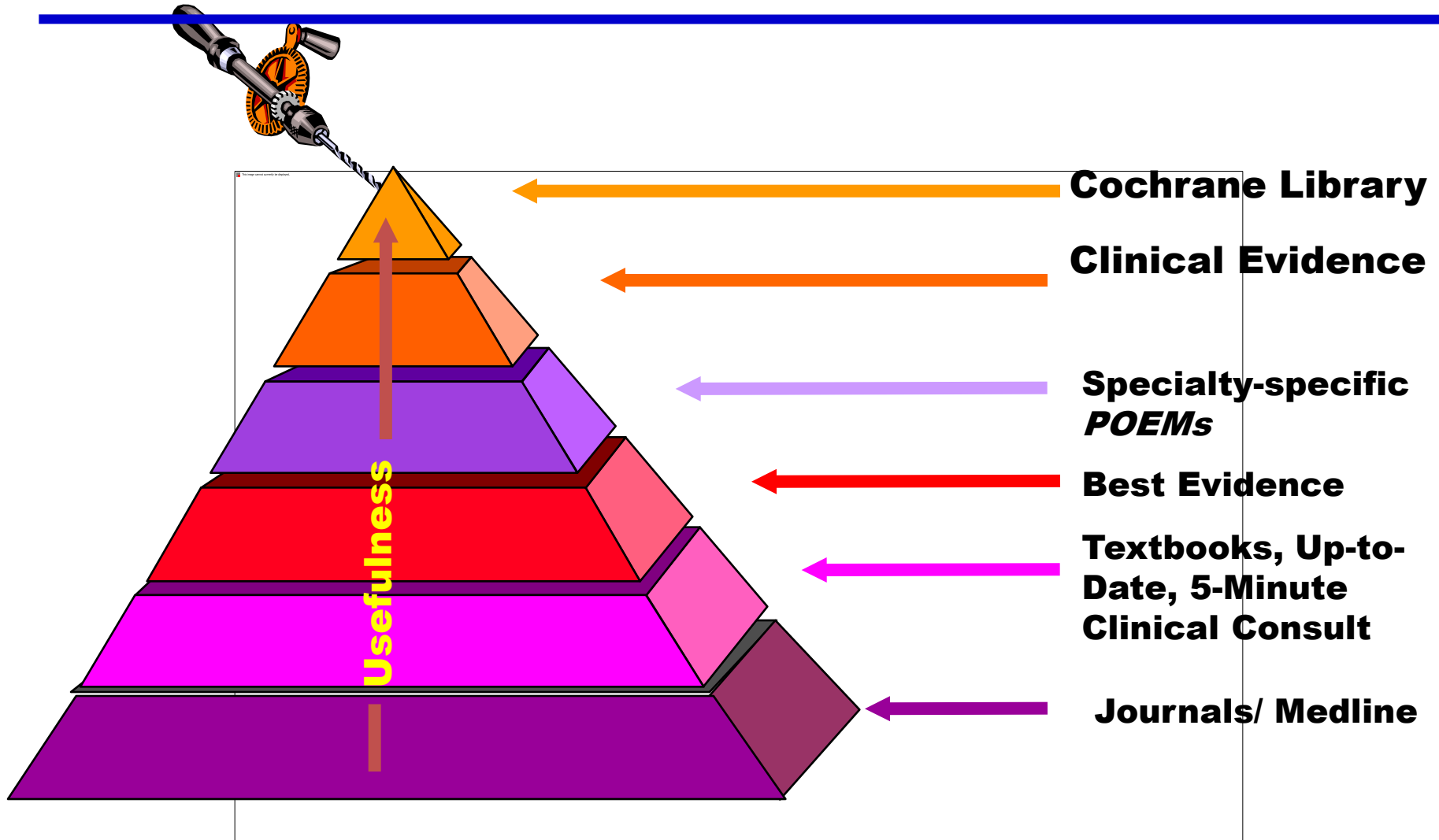
Literature Review with Critical Appraisal (4)

- In what ways does this book or article contribute to our understanding of the problem under study, and in what ways is it used for practice ?
What are the strengths and limitations ?
- How does this book or article relate to the specific thesis or question you are developing ?

Do and Do Not Do

- Do not copy all sentences in the article into yours
- Use or refer to the most updated published papers or articles
- Select only papers / articles that are relevant to your research objectives
- Do not refer to others' of others' references

What are the Sources of Good Evidence?



- [National Guideline Clearinghouse](#)^{***} -
- [Cochrane](#)^{***} - Systematic reviews of literature
- [TRIP - CeRes](#)^{***} - British meta-search engine
- [Clinical Queries - PubMed](#)^{***} - Evidence-based medicine
- [UpToDate](#)^{***} - Topic reviews on specific clinical questions
- [MD Consult](#) - Practice guidelines, clinical decision support
- [Clinical Evidence Online](#)^{**} - Provides a searchable database of clinical evidence
- [Best Evidence](#) - Provides a searchable database of clinical evidence
- [CAT Bank](#)^{*} - 63 Critically Appraised Topics
- [SUM Search - Univ. of Texas](#) - Meta-search engine
- [Bandolier](#) - Reviewed literature, offers search filters

National Guideline Clearinghouse

[Website](#)

National Guideline Clearinghouse

[\[HOME\]](#) [\[NGC RESOURCES\]](#) [\[HELP\]](#) [\[WHAT'S NEW\]](#) [\[SITE MAP\]](#) [\[CONTACT NGC\]](#) [\[ABOUT NGC\]](#)

In Memoriam

Tribute to John M. Eisenberg, M.D., 1946-2002

Search NGC: 10 results [Search Help](#) [Detailed Search](#)

Browse NGC: [Disease/Condition](#) [Treatment/Intervention](#) [Organization](#)

Guideline Comparison: [View Guideline Collection](#) [Guideline Syntheses](#)

Wednesday, March 20, 2002

Welcome! You are connected to the **National Guideline Clearinghouse™ (NGC)**, a public resource for evidence-based clinical practice guidelines. NGC is sponsored by the [Agency for Healthcare Research and Quality](#) (formerly the Agency for Health Care Policy and Research) in partnership with the [American Medical Association](#) and the [American Association of Health Plans](#). Click on [About NGC](#) to learn more about us.

www.guideline.gov

- [National Guideline Clearinghouse***](#) -
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Cochrane

[Website](#)

The screenshot shows the Cochrane website's search interface. At the top, there are navigation links: CLEAR, TOPICS, RECORDS, MeSH, HISTORY, and HELP. Below these is a search bar with the text "atrial fibrillation" and a "Go" button. A "Refine your search" dropdown menu is also visible. The search results are displayed in a list with checkboxes and the following items:

- The Cochrane Database of Systematic Reviews (2935 out of 2935)
- Database of Abstracts of Reviews of Effects (4006 out of 4006)
- The Cochrane Central Register of Controlled Trials (CENTRAL) (362540 out of 362540)
- The Cochrane Database of Methodology Reviews (16 out of 16)
- The Cochrane Methodology Register (CMR) (4553 out of 4553)
- About the Cochrane Collaboration (84 out of 84)
- Health technology assessment database (HTA) (3138 out of 3138)
- NHS Economic evaluation database (NHS EED) (11485 out of 11485)

On the left side of the screenshot, there is a sidebar with navigation links: Home | Support | Links. Below this, there is a section for "The Cochrane Library" with links for About, Log on, What's in, Abstracts of Cochrane Reviews, and Subscribe. There is also a section for "La Cochrane Library Plus en español".

TRIP Database

[Website](#)

The screenshot shows the TRIP Database website interface. At the top left is the TRIP Database logo. Below it is a navigation menu with links: Virtual Learning Centre, What's New, About the TDB, Add the TDB your site, Contact Us, Virtual Learning Centre, and Disclaimer. The main content area is split into two columns. The left column contains a description of the TRIP Database and search options: 'SEARCH BY TITLE' (selected), 'SEARCH TITLE & TEXT', a search input field containing 'atrial fibrillation', and a 'GO' button. Below the search field is a 'WARNING' section stating: 'The TRIP Database accepts no responsibility for external links'. The right column contains a welcome message: 'Welcome to the Trip database, please enter some search criteria.'

(75 resources...)

www.tripdatabase.com

Getting to PubMed



PubMed Response

for atrial fibrillation

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#)

Display

Show: Items 1-20 of 15894 Page 1 of 795

- 1: [Kalaria RN.](#)
Small vessel disease and Alzheimer's dementia: pathological considerations.
Cerebrovasc Dis. 2002;13 Suppl 2:48-52.
PMID: 11901243 [PubMed - in process]
- 2: [Bertomeu Martinez V, Morillas Blasco PJ, Gonzalez Juanatey JR, Alegria Ezquerro Gonzalez Maqueda I, Frutos Garcia A, Valero Parra R, Rodriguez Ortega JA.](#)
[Antithrombotic treatment in hypertensive patients with chronic atrial fibrillation].
Med Clin (Barc). 2002 Mar 16;118(9):327-31. Spanish.
PMID: 11900700 [PubMed - in process]
- 3: [Chinushi Y, Chinushi M, Toida T, Aizawa Y.](#)
Class I antiarrhythmic drug and coronary vasospasm-induced T wave alteration in
tachyarrhythmia in a patient with Brugada syndrome and vasospastic angina.
J Cardiovasc Electrophysiol. 2002 Feb;13(2):101-4.

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PubMed Clinical Query

NCBI

National Library of Medicine PubMed

PubMed Nucleotide Protein Genome

Search PubMed for [] Go Clear

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About Entrez

Entrez PubMed
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PubMed Services
Journal Browser
MeSH Browser
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Related Resources

PubMed is the National Library of Medicine's search service that provides access to over 10 million citations in MEDLINE, PreMEDLINE, and other related databases, with links to participating online journals.

Books linked to PubMed

In collaboration with book publishers, NCBI is adapting [books](#) for the web and linking them to PubMed. The first book, *Molecular Biology of the Cell* by Alberts et al., is now available.

The New PubMed!

This new version of PubMed has a single search interface with pull-down menus that display search field limits, indexes, your search history, and a clipboard for gathering selected articles. See [help](#) and [FAQ](#) for more information.

PubMed, Clinical Query, cont'd

[Website](#)

PubMed

[Nucleotide](#) [Protein](#) [Genome](#) [Structure](#) [Pop Set](#)

Clinical Queries using Research Methodology Filters

This specialized search is intended for clinicians and has built-in search "filters" based largely upon [Haynes RB et al.](#) Four study categories--therapy, diagnosis, etiology, prognosis--are provided, and you may indicate whether you wish your search to be more sensitive (i.e., include most relevant articles but probably including some less relevant ones) or more specific (i.e. including mostly relevant articles but probably omit a few). See [this table](#) for details regarding filtering.

Indicate the category and emphasis below:

Category: therapy diagnosis etiology prognosis

Emphasis: sensitivity specificity

Enter subject search (do not repeat any of the words above):

Question

Context

Subject matter

- [National Guideline Clearinghouse](#)*** -
- [Cochrane](#)*** - Systematic reviews of literature
- [TRIP - CeRes](#)*** - British meta-search engine
- [Clinical Queries - PubMed](#)*** - Evidence-based medicine
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UpToDate

[Website](#)



[New Search](#)

[Table of Contents](#)

[Help](#)

135 titles matching: **Atrial fibrillation**

Most Relevant Topics (30 titles)

- [Causes of atrial fibrillation](#)
- [Overview of the presentation and management of atrial fibrillation](#)
- [Paroxysmal atrial fibrillation](#)
- [Antiarrhythmic drugs to maintain sinus rhythm after cardioversion in atrial fibrillation: Clinical trials](#)
- [Antiarrhythmic drugs to maintain sinus rhythm after cardioversion in atrial fibrillation: Recommendations](#)
- [Anticoagulation during restoration of sinus rhythm in atrial fibrillation](#)
- [Anticoagulation to prevent embolization in chronic atrial fibrillation: Clinical trials](#)
- [Anticoagulation to prevent embolization in chronic atrial fibrillation: Recommendations](#)
- [Arrhythmic after cardiac surgery: Atrial fibrillation and atrial flutter](#)

CISMeF

[Website](#)

CISMeF

Catalogue et Index des Sites Médicaux Francophones

Ce catalogue s'adresse en priorité aux professionnels de santé. On y trouve également des informations destinées aux patients et à leurs familles. Pour déclarer un nouveau site Web, remplir SVP le [formulaire](#).

[Index alphabétique](#) [Index thématique](#)

[Recommandations & consensus](#) [Enseignement & formation](#) [Informations pour les patients](#)

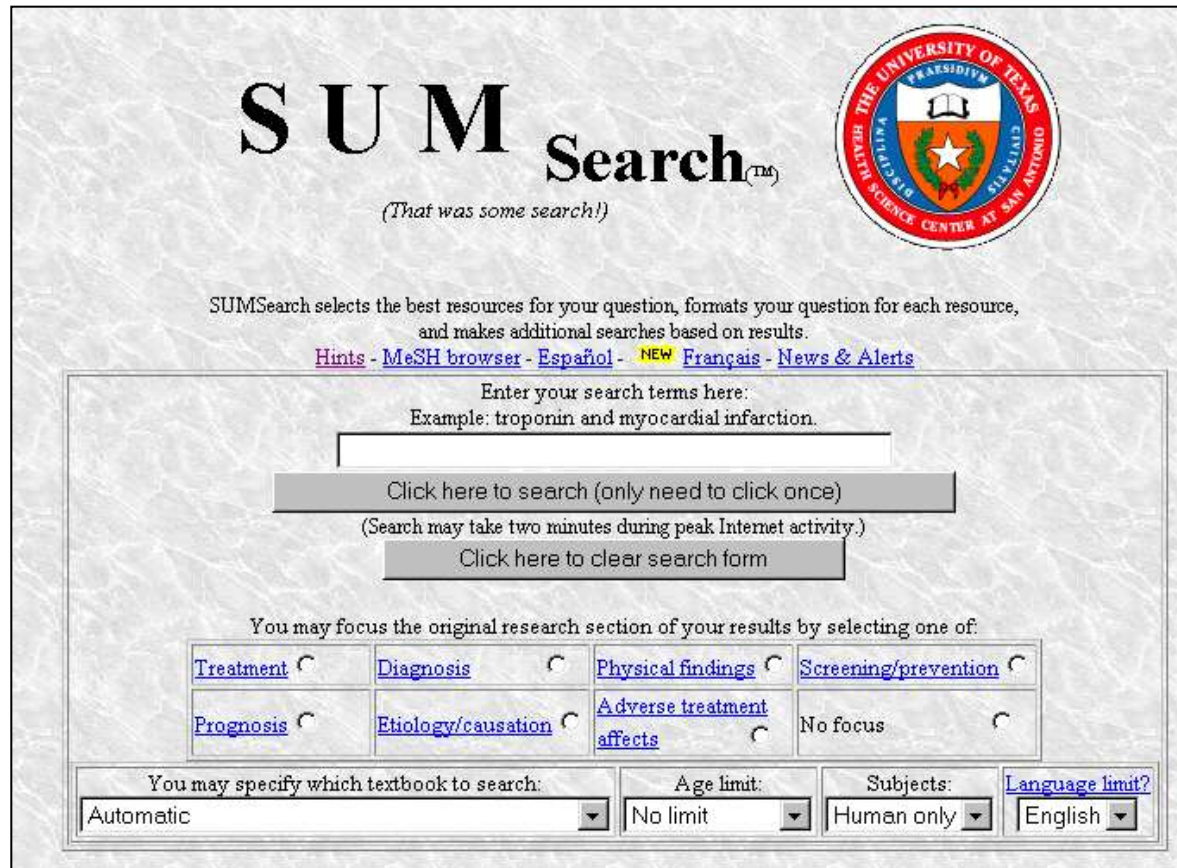
Accès par [type de ressource](#)

www.chu-rouen.fr/cismef/

Dynamic Meta-Searching

- [National Guideline Clearinghouse](#)*** -
- [Cochrane](#)*** - Systematic reviews of literature
- [TRIP - CeRes](#)*** - British meta-search engine
- [Clinical Queries - PubMed](#)*** - Evidence-based medicine
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[Website](#)



SUM SearchTM
(That was some search!)

SUMSearch selects the best resources for your question, formats your question for each resource, and makes additional searches based on results.

[Hints](#) - [MeSH browser](#) - [Español](#) - [NEW Français](#) - [News & Alerts](#)

Enter your search terms here:
Example: troponin and myocardial infarction.

Click here to search (only need to click once)
(Search may take two minutes during peak Internet activity.)

Click here to clear search form

You may focus the original research section of your results by selecting one of:

Treatment	Diagnosis	Physical findings	Screening/prevention
Prognosis	Etiology/causation	Adverse treatment affects	No focus

You may specify which textbook to search:

Automatic	Age limit: No limit	Subjects: Human only	Language limit? English
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sumsearch.uthscsa.edu/searchform45.htm

Clinically Appraised Topic

Websites

ATRIAL FIBRILLATION, NON-VALVULAR, AND STROKE

Clinical Bottom Line:

If you have a patient with non-valvular atrial fibrillation:

1. Identify validated risk factors:
2. Clinical Features:
 1. hypertension? (BP >160 and/or >90 or chronic Rx)
 2. heart failure within 100 days? (orthopnea, dyspnea on exertion or edema responding to diuretics; S3 gallop + rales; CXR cardiomegaly or redistribution; or elevated LV or wedge at catheterization)
 3. prior arterial thromboembolism? (ischemic stroke of any cause, TIA, or systemic embolism).
3. Echocardiographic Features:
 1. Global left ventricular dysfunction
 2. Left atrial size >2.5 cm/m² by M-mode
4. Translate this into an annual risk for thromboembolism (stroke plus peripheral arterial embolism; almost all will be strokes):

CAT Content

The Evidence:

Taken from:

1. the placebo group in the SPAF (Stroke Prevention in Atrial Fibrillation) Trial¹; so that they would get an estimate of the risks without treatment.
2. the average efficacy from warfarin (Relative Risk Reduction of about 80% from both the SPAF² and BATAF³ [Boston Area Anticoagulation Trial for Atrial Fibrillation] trials).
3. the pooled estimate of the efficacy of aspirin from the SPAF (RRR=42%) and Scandinavian⁴ (RRR=16%) trials (Relative Risk Reduction of about 35%).

References:

1. SPAF Investigators: Predictors of thromboembolism in atrial fibrillation: I. Clinical features in patients at risk. *Ann Intern Med* 1992;116:1-5. SPAF Investigators: Preliminary report of the SPAF study. *NEJM* 1990;322:863-8.
2. SPAF Investigators: Stroke prevention in atrial fibrillation: final results. *Circulation* 1991;84:527-39.
3. The BATAF Investigators: The effect of low-dose warfarin on the risk of stroke in patients with non-rheumatic atrial fibrillation. *NEJM* 1990;323:1505-11.
4. Petersen P, Boysen G: Prevention of stroke in atrial fibrillation. *NEJM* 1990;323:482.

CAT Synthesis












Risk Factors	Annual Risk without Rx	Absolute Risk Reduction		NNT: 1 yr to prevent 1 event	
		Warfarin	Aspirin	Warfarin	Aspirin
Clinical Only					
None	0.025	0.017	0.009	60	115
One	0.072	0.048	0.025	21	40
2 or all 3	0.176	0.118	0.062	8	286
Clinical plus Electrocardiographic					
None	0.01	0.007	0.004	149	286
1 or 2	0.06	0.04	0.021	25	48
3 to all 5	0.186	0.125	0.065	8	16

* assumes that the 67% RRR from warfarin and the 35% RRR from aspirin apply to all sub-groups

**and remember that the NNH to produce a major haemorrhage from a year of Rx with warfarin (1-2%) is 50-100.

EBM Sites

Website

Home	
Library	
Searching	
Appraising	
Implementing	
Software	
Journals	
Databases	
Organisations	
Search	
A-Z Index	

www.nettingtheevidence.org.uk

A SchARR Introduction to Evidence Based Practice on the Internet

Netting the Evidence is intended to facilitate evidence-based healthcare by providing support and access to helpful organisations and useful learning resources, such as an evidence-based virtual library, software and journals.

[Further Information](#)

The resources can be browsed alphabetically or by type and a search facility is available.

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Last updated March 2001
If you have any comments or suggestions please contact [Andrew Booth](#)

Washington University: PedsCCM

Website

[What is EBM?](#)

[Critical Appraisal of the Literature](#)

[Statistics and Trial Design](#)

[Systematic Reviews](#)

[EBM in Critical Care](#)

[EBM Groups on the Web](#)

[EBM Databases](#)

[MEDLINE Search Strategies](#)

[Pediatric and General Online Journal Clubs, Teaching Resources & Tutorials](#)

IntensiveCare.com
Supporting Evidence-Based Practice in Critical Care

PedsCCM and IntensiveCare.com:
Resources for Practicing Evidence-based Medicine

What is Evidence Based Medicine?

- [Evidence-based medicine: a new approach to teaching the practice of medicine](#) (also at JAMA 1992; 268: 2420-25)
- [Evidence-based medicine: What it is and what it isn't](#), by David Sackett from the [NHS \(UK\) Research and Development Centre for Evidence-Based Medicine](#)
- Evidence-based Medicine: A New Science or an Epidemiologic Fad? Bauchner H. Pediatrics 1999; 103: 1029-1031. [[Full-text](#) for AAP members/subscribers]
- [Glossary of EBM Terms](#) also from the [NHS \(UK\) Research and Development Centre for Evidence-Based Medicine](#)
- [The Medical Literature as a Resource for Evidence Based Care](#), by McKibbon, K.A.
- [Medicine based evidence, a prerequisite for evidence based medicine](#). Knottnerus JA, Dinant GJ. Br Med J 1997; 315: 1109-10. (full-text editorial)
- [Clinical Epidemiology & Evidence-Based Medicine Glossary](#), from [Washington State University College of Veterinary Medicine](#)
- Werk L, Bauchner H, Chessare JB. Medicine For The Millenium: Demistifying EBM. Contemporary Pediatrics December 1, 1999. [[full-text](#) with free registration]
- Christakis DA, Davis R, Rivara FP. Pediatric evidence-based medicine: Past, present, and future. J Pediatr 2000;136:383-389. [[citation](#)] [[full-text](#) for subscribers]. Accompanied by an editorial by Moyer VA, Elliott EJ. J Pediatr 2000;136:282-4. [[full-text](#)]
- [Qualitative research and evidence based medicine](#). Green J, Britton N. Br Med J 1998; 316: 1230-1232.
- [Ethics and evidence based medicine](#). Kerridge I, Lowe M, Henry D. Br Med J 1998; 316: 1151-1153

Glossary

[Website](#)

CENTRE FOR EVIDENCE BASED **MENTAL HEALTH**

Incorrect Base URL Registration

ENGLISH GLOSSARY OF EBMH TERMINOLOGY

[A](#)[B](#)[C](#)[D](#)[E](#)[F](#)[G](#)[H](#)[I](#)[J](#)[K](#)[L](#)[M](#)[N](#)[O](#)[P](#)[Q](#)[R](#)[S](#)[T](#)[U](#)[V](#)[W](#)[X](#)[Y](#)[Z](#)

GLOSSARY OF EBMH TERMINOLOGY

The glossary aims to provide you with a comprehensive list of mental health terminology. Along the way you will find links to glossaries, interactive tools, journals and books.

We have translated the glossary into several languages:

| [English](#) | [Español](#) | [L'italiano](#)

Absolute benefit increase (ABI)

The ABI is the absolute arithmetic difference in event rates of a desired positive outcome. This can be calculated by subtracting the Control Event Rate from the Experimental Event Rate. An absolute benefit increase is found when the experimental intervention does more good than the control.

Absolute risk increase (ARI)

The ARI is the absolute arithmetic difference in event rates of an adverse outcome. This can be calculated by subtracting the Control Event Rate from the Experimental Event Rate. An absolute risk increase is found when the experimental intervention harms more patients than the control.

Absolute risk reduction (ARR)

The ARR is the absolute arithmetic difference in event rates of an adverse event of interest between control group (CER) and experimental group (EER) when the experimental treatment prevents harm occurring to more patients than the control treatment.

Allocation concealment

Allocation concealment refers to the employment of strategies to reduce the risk of the clinician

Details

[Website](#)




- Therapy/prevention
- Diagnostic test
- Prognosis
- Harm
- CPG
- Systematic review
- Economic analysis
- Outcomes research



Therapy

Website

Will the results help me in patient care?

- Can the results be applied to my patients? 
- Were all clinically relevant outcomes considered? 
- Are the benefits worth the harms and costs? 

Estimating the Size of the Treatment Effect

	Outcome Event	
	+	-
Treated	a	b
Untreated	c	d

The **absolute risk reduction** (ARR) is the difference in risk between the control group (x) and the treated group (y): $ARR = X - Y$

The **relative risk** (RR), or risk ratio, is the ratio of risk in the treated group (y) to the risk in the control group (x): $RR = Y/X$

Worksheet for Using an Article About Therapy or Prevention

Comments

of the Study Valid?

1. Was the assignment of patients to treatment randomized?

- Yes
- No
- Can't Tell

2. Were all patients who entered the trial properly accounted for and attributed at its conclusion?

- was follow-up complete?
- were patients analyzed in the groups to which they were randomized?

Apply the Evidence to the Individual

Statistical Tools and Calculators

- [Bayesian Calculator](#) - Bayesian Calculator plus other clinical formulas
- [Likelihood Ratio](#) - Calculator requires Shockwave
- [Numbers Needed to Treat](#) - Provides formulas for ratio calculations
- [Sensitivity and Specificity](#) - Explanation and calculations for SpPins and SnNouts

Test Calculator

[Website](#)

Enter **PREVALENCE**, **SENSITIVITY**, and **SPECIFICITY**:

PREV: SENS: SPEC:

Calculate

Reset

Or enter **TP**, **FN**, **TN**, and **FP**:

<input type="text" value="N = 1000"/>	Disease	No Disease
Positive Test	TP: <input type="text" value="75"/>	FP: <input type="text" value="45"/>
Negative Test	FN: <input type="text" value="25"/>	TN: <input type="text" value="855"/>

Calculate

Reset

(+) PREDICTIVE VALUE =

(-) PREDICTIVE VALUE =

(+) LIKELIHOOD RATIO =

(-) LIKELIHOOD RATIO =