

# Evidence-Based Medicine Reports' Preparation 實證醫學報告的準備

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2006/12/06

# What evidence-based medicine is:

Evidence-based medicine 結合

最好的研究證據

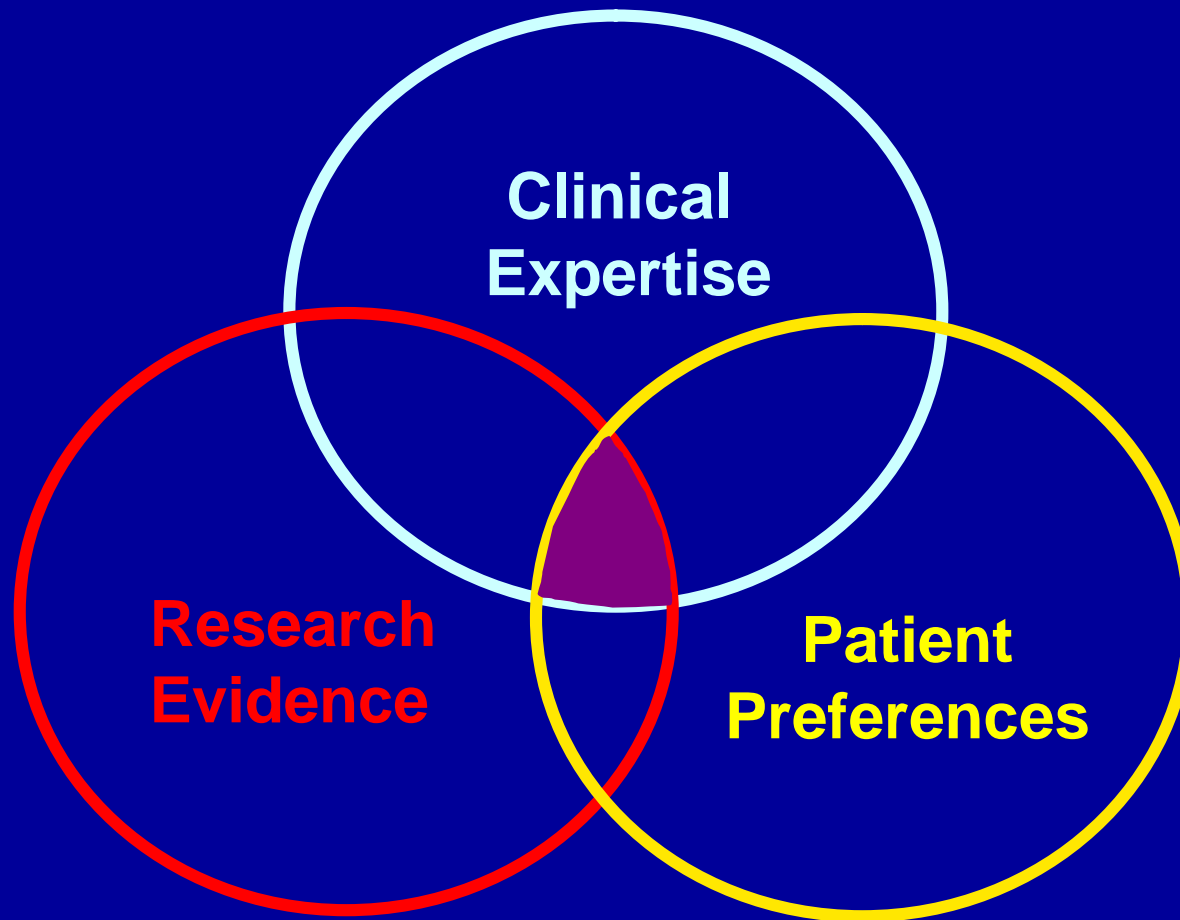
臨床專門的知識和技術

以及

病患的價值

- *Sackett, et al 2001*

# EBM - What is it?



# Patients' Values & Expectations

- Have always played a central role in determining whether and which interventions take place
- We're getting better at quantifying and integrating them

# EBM focuses on **Patient Focused Outcomes**

Which of the following is a PFO?

1. Using HMG CoA RI (statins) lowers Apolipoprotein (a) levels.
2. Screening CXRs identify Lung Cancer
3. Smoking Cessation counseling leads to increased quit rates

# EBM focuses on Patient Focused Outcomes

Which of the following is a PFO?

1. Using HMG CoA RI (statins) lowers Apolipoprotein (a) levels.
2. Screening CXR's identify Lung Cancer
- 3. Smoking Cessation counseling leads to increased quit rates**

PFO: Actual Benefits, rather than theoretical or intermediate benefits

# Its practice requires:

- Asking 臨床提問
- Acquiring 資料搜尋
- Appraising 評析證據
- Applying 用回患者
- Assessing 監測果效

# Evidence-based Practice

Q: Ask a clinical question 問

S: Search evidences 搜

A: Appraise those evidences 評

P: translated into actions 行

O: evaluate our performance 果



# Clinical Scenario-example

A 30-year-old woman comes in for an annual examination and Papanicolaou (Pap) smear. You want to collect the sample in a way that ensures the best possibility of finding any abnormal cells.

**What collection device should you choose to get the best sample for detecting any cervical abnormality?** Is the presence of endocervical cells important for detection of disease?

# Evidence-Based Answer

- The combination of an extended-tip spatula with an endocervical brush (Cytobrush) is the most effective method for obtaining cervical cells. Detection of endocervical cells is a good indication of adequate smears and detection of disease.

Martin-Hirsch P, et al. Collection devices for obtaining cervical cytology samples. Cochrane Database Syst Rev 2004:CD001036.

# Clinical Scenario-example

- Mrs. Bai is a new patient who recently moved to the area to be closer to her son and his family. She is 67 years old and has a history of congestive heart failure brought on by several myocardial infarctions.
- She has been hospitalized twice within the last 6 months for worsening of heart failure. At the present time she remains in normal sinus rhythm. She is extremely diligent about taking her medications (enalapril, aspirin and simvastatin) and wants desperately to stay out of the hospital. She lives alone with several cats.
- You think she should also be taking digoxin but you are not certain if this will help keep her out of the hospital. You decide to research this question before her next visit.

The structure of the question might look like this:

<b>Patient / Problem</b>	congestive heart failure, elderly
<b>Intervention</b>	digoxin
<b>Comparison, if any</b>	none, placebo
<b>Outcome</b>	primary: reduce need for hospitalization; secondary: reduce mortality

# Evidence-Based Medicine: The Practice

When caring for patients creates the need for information:

- 1 Translation to an answerable question (patient/maneuver/outcome).
- 2 Efficient track-down of the best evidence
  - secondary (pre-appraised) sources  
e.g., Cochrane; E-B Journals
  - primary literature



# Educational Prescription

Patient's Name

Learner:

## 3-part Clinical Question

Target Disorder:

Intervention (+/- comparison):

Outcome:

Date and place to be filled:

Presentation will cover:

1. search strategy;
2. search results;
3. the validity of this evidence;
4. the importance of this valid evidence;
5. can this valid, important evidence be applied to your patient;
6. your evaluation of this process.



# Educational Prescription

Patient's Name

歐陽XX

Learner:

Dr. 公孫 xx (R2)

## 3-part Clinical Question

Target Disorder:

48歲女性乳癌患者將接受Rt MRM

Intervention (+/- comparison):

Prophylactic antibiotics vs no prophylaxis

Outcome:

Surgical wound infection

Date and place to be filled:

2006/05/16, 開刀房討論室

Presentation will cover:

1. search strategy;
2. search results;
3. the validity of this evidence;
4. the importance of this valid evidence;
5. can this valid, important evidence be applied to your patient;
6. your evaluation of this process.

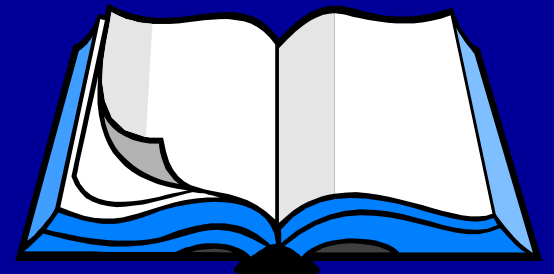
# Evidence-Based Medicine: The Practice

- 3 Critical appraisal(評析) of the evidence for its validity and clinical applicability → generation of a 1-page summary.
- 4 Integration of that critical appraisal with clinical expertise and the patient's unique biology and beliefs → action.
- 5 Evaluation of one's performance.



# Steps in Developing a Search Strategy

1. Formulate a question
2. Choose the appropriate database
3. Define your search strategy
4. Select the best Subject Headings
5. Select Textwords (if needed)
6. Combine search terms
7. Limit your search (if needed)
8. View and save results



<b>PICO:</b>	<b>Our Question:</b>	<b>Search Terms:</b>
Patient Population	congestive heart failure, elderly	congestive heart failure
Intervention	digoxin	digoxin
Outcome	rate of hospitalization	hospitalization

**Clinical Question** → **Clinical Scenario** → **MEDLINE Strategy**

Patient Population	congestive heart failure, elderly	heart failure, congestive Limit to Aged
Intervention	digoxin	digoxin
Comparison (if any)	none or placebo	
Outcome	rate of hospitalization	hospitalization
Type of Question	therapy	
Type of Study	RCT	Limit to randomized controlled trial as publication type

# Literature sources and searching

# Information Resources

## Review of sources

- Expert opinion
- Textbooks
- Internet
- Synthesis journals
- Cochrane Library
- Medical journals

# *The Cochrane Library*

- The Cochrane Database of Systematic Reviews (CDSR)
- The Database of Abstracts of Reviews of Effectiveness (DARE)
- The Cochrane Central Register of Controlled trials (CENTRAL)
- The Cochrane Review Methodology Database (CRMD)
- Health technology assessment database (HTA)
- NHS Economic evaluation database (NHS EED)

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# The Cochrane Library

Evidence for healthcare decision-making



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Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)  
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## SEARCH

Enter search term  Title, Abstract or Keywords

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## Product Descriptions

The Cochrane Library is a collection of databases that contain high-quality, independent evidence to inform healthcare decision-making. Cochrane reviews represent the highest level of evidence on which to base clinical treatment decisions. In addition to Cochrane reviews, The Cochrane Library provides other sources of reliable information, from other systematic review abstracts technology assessments, economic evaluations, and individual clinical trials – all the current evidence in one single environment.

### Record Counts

Database	Total Records
Cochrane Database of Systematic Reviews (Cochrane Reviews) *	4539
Database of Abstracts of Reviews of Effects (Other Reviews)	5758
Cochrane Central Register of Controlled Trials (Clinical Trials)	479,462
Cochrane Database of Methodology Reviews (Methods Reviews) †	22
Cochrane Methodology Register (Methods Studies)	8790
Health Technology Assessment Database (Technology Assessments)	6175
NHS Economic Evaluation Database (Economic Evaluations)	19,722
About The Cochrane Collaboration and the Cochrane Review Groups (Cochrane Groups) ‡	91

\* Comprises 2893 Complete Reviews and 1646 Protocols, of which 108 are new reviews, 57 updated reviews, 121 new protocols and 8 updated protocols

† Comprises 12 Reviews and 10 Protocols, of which 1 is a new review

‡ The Cochrane Collaboration: 1; Cochrane Review Groups (CRGs): 51; Fields: 13; Methods Groups: 11; Networks: 1; Centres: 12; Possible Cochrane entities: 2

Cochrane Database of Systematic Reviews (Cochrane Reviews) – browse: [by topic](#) | [new reviews](#) | [updated reviews](#) | [A-Z](#) | [by review group](#)

A systematic review identifies an intervention for a specific disease or other problem in health care, and determines whether or not this intervention works. To do this authors locate, appraise and synthesize evidence from as many relevant scientific studies as possible. They summarize conclusions about effectiveness, and provide a unique collation of the known evidence on a given topic, so that others can easily review the primary studies for any intervention.

Systematic reviews differ from other types of review in that they adhere to a strict design in order to make them more comprehensive, thus minimizing the chance of bias, and ensuring their reliability. Rather than reflecting the views of the authors, or being based on a partial selection of the literature, (as is the case with many articles and reviews that are not explicitly systematic), they contain all known references to trials on a particular intervention and a comprehensive summary of the available evidence. The reviews are therefore also valuable sources of information for those receiving care, as well as for decision makers and researchers.

From 2006 Issue 2, [Methods Reviews](#) are included in the browse lists for Cochrane Reviews, although they retain their own 'tab' in the search results.

Database of Abstracts of Reviews of Effects (Other Reviews) – [browse](#)


DARE is the only database to contain abstracts of systematic reviews that have been quality assessed. Each abstract includes a summary of the review together with a critical commentary about the overall quality.

## RELATED WILEY PRODUCTS

- Databases
- EBM Guidelines: Evidence-Based Medicine
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  - Movement Disorders 1986-1998
  - Phytochemical Analysis 1990-1995
- Online Books
- Autism: Neural Basis and Treatment Possibilities
  - Genomic Imprinting and Uniparental Disomy in Medicine
  - Information Technologies in Medicine, Volume I
  - Stem Cell Transplantation
  - Textbook of Clinical Trials
- Reference Works
- Encyclopedia of Molecular Cell Biology and Molecular Medicine
  - Encyclopedia Of Molecular Medicine


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# The Cochrane Library

Evidence for healthcare decision-making



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 Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

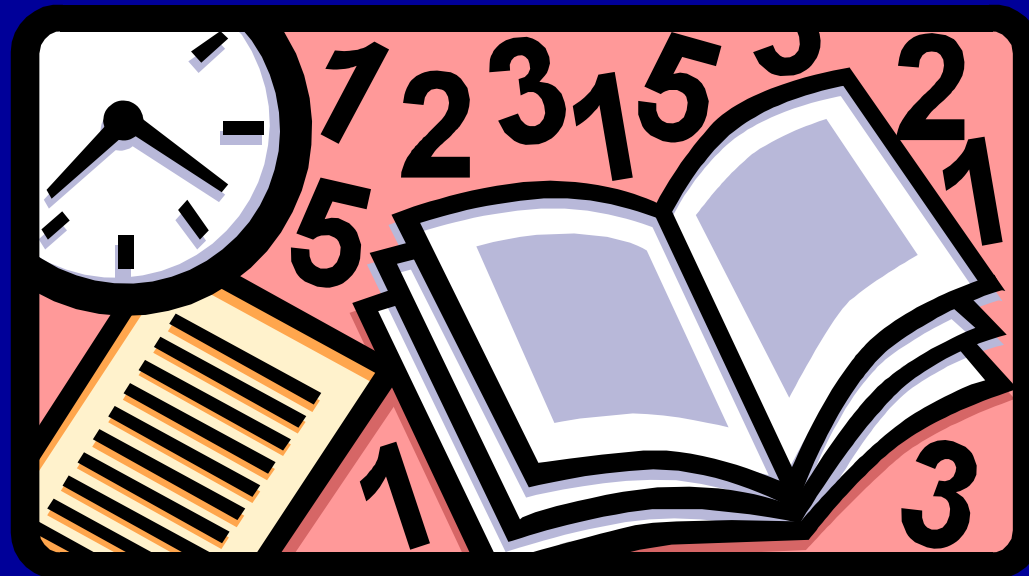
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The Cochrane Central Register of Controlled Trials (CENTRAL) 2006 Issue 4  
 Copyright © 2006 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

Title	Usefulness of a pediatric colonoscope for routine colonoscopy in women who have undergone hysterectomy. <a href="#">Links</a> <a href="#">Export Central Citation</a>
Author(s)	Marshall JB, Perez RA, Madsen RW
Source	Gastrointestinal endoscopy.
Date of Publication	2002 Jun
Volume	55
Issue	7
Pages	838-41
Abstract	BACKGROUND: Colonoscopy can be difficult in some women who have undergone hysterectomy, which can be associated with a fixed, angulated sigmoid colon caused by postoperative pelvic adhesions. Our goal was to determine whether colonoscopy is easier and more comfortable for women after hysterectomy when performed with a pediatric colonoscope, which is thinner in diameter and more flexible than a standard "adult" colonoscope. METHODS: One hundred women with a history of hysterectomy undergoing outpatient colonoscopy were randomized in unblinded fashion to colonoscopy with a standard colonoscope (CF-100L or CF-Q140L, Olympus) or with a pediatric colonoscope (PCF-100, Olympus). All procedures were performed by a faculty endoscopist and timed. After examination, the endoscopist graded procedure difficulty, and patients were given a questionnaire that assessed their experience. RESULTS: The cecum was intubated more frequently in the pediatric colonoscope group than in the standard colonoscope group (96.1% vs. 71.4%, p < 0.001). Success increased in the standard colonoscope group to 89.8% when the pediatric colonoscope was used to complete the examination. There were no differences in the two groups in terms of mean total procedure times (21.4 minutes vs. 22.6 minutes), mean doses of meperidine administered (57 mg both groups), mean doses of midazolam administered (1.5 mg vs. 1.7 mg), scales of procedure difficulty as graded by the endoscopists, and comfort scales as graded by patients. For the cases in which the cecum was intubated, the mean time to reach the cecum (11.7 minutes for the pediatric colonoscope group vs. 12.7 minutes for the adult) was similar. CONCLUSIONS: The pediatric colonoscope is a reasonable choice for colonoscopy in women who have had a hysterectomy. Alternatively, if the endoscopist elects to start the procedure with a standard colonoscope, it is helpful to have a pediatric colonoscope available for use should a fixed, angulated sigmoid colon be encountered that cannot be easily or safely traversed with the standard colonoscope.
Medical Subject Headings (MeSH)	<a href="#">Adhesions [etiology, pathology]</a> ; <a href="#">Cecum [*pathology]</a> ; <a href="#">Colonoscopes [*adverse effects]</a> ; <a href="#">Colonoscopy [*adverse effects; *methods]</a> ; <a href="#">Diagnostic Tests, Routine [*adverse effects; *methods]</a> ; <a href="#">Hysterectomy [*adverse effects]</a> ; <a href="#">Pain [*etiology, *prevention &amp; control]</a> ; <a href="#">Pain Measurement</a> ; <a href="#">Patient Satisfaction</a> ; <a href="#">Prospective Studies</a> ; <a href="#">Sex Factors</a>



Journals are an important information tool for physicians to use to keep them up-to-date with new research as well as professional news. When selecting journals to read on a regular basis.



The best way to find information in medical journal is to search bibliographic databases that will provide abstracts of journal articles. Then you will need to visit your campus library to get the full-text of the article.

It is important to emphasise the need to look at all related bibliographic databases when searching for information.

***MEDLINE*** - is produced by the US National Library of Medicine (NLM) that covers the biomedical literature from 1966 to the present. The primary focus is on English language journals, although the scope is international. More than 10.8 million records from more than 3,900 journals are indexed. It also includes records formally indexed in the HealthSTAR, Bioethicsline and AIDSLINE databases.

## OTHER DATABASES

***PubMed*** – includes the MEDLINE database plus out-of-scope references from some MEDLINE journals (primarily general science and chemistry journals), for which the life sciences articles are indexed for MEDLINE. PubMed.

It is searchable at

<http://www.ncbi.nlm.nih.gov/entrez/>.

When searching bibliographic databases, it is important to first create a search strategy. When creating this strategy, it is useful to divide your subject into concepts.

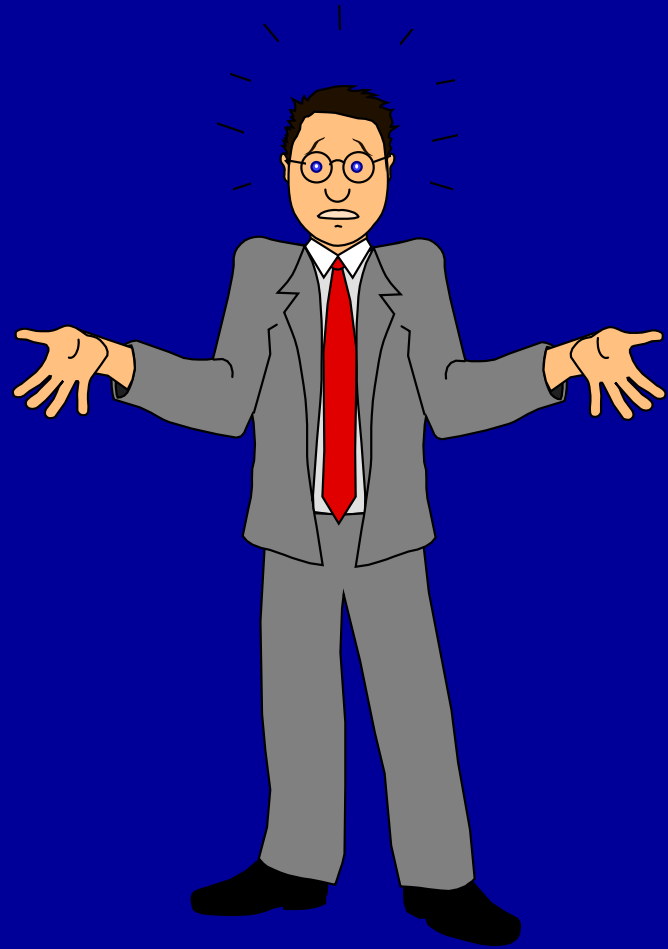


The **search filter** is used to screen through the content part of the search, leaving specific types of articles. Filters may be used to limit articles to publication types such as meta-analysis or randomized controlled clinical trials.

# MeSH Subject Headings

Aged  
Animal  
Chronic Disease  
Confidence Intervals  
Controlled Clinical Trials  
Female  
Human  
Leg Ulcer/pp [Physiopathology]  
\*Leg Ulcer/th [Therapy]  
Male  
Middle Age  
Prognosis  
Time Factors  
Treatment Outcome  
\*Ultrasonic Therapy

It is necessary to understand the controlled vocabulary of the database that you are searching. For example in NLM databases, like MEDLINE, the controlled vocabulary is MeSH.





## WHAT IS *exp* ?

Exploding a MeSH heading will allow inclusion of narrower terms. For example, *exp* myocardial infarction also includes *myocardial stunning* and shock, cardiogenic.

- **WHAT IS RESTRICT TO FOCUS?**

**It means that you only retrieve documents in which the MeSH term is considered a focus. This feature is not recommended.**

In addition to using controlled vocabularies like MeSH, you may also want to include textwords - word(s) that search the title and abstract fields.

osteoporosis/

osteroporosis.tw.

Angiography/

angiography.tw.

- The “publication type” field is also important to understand. Be careful to understand the differences between field and their usage.
- For example “meta-analysis” is used in MEDLINE as a MeSH term and a publication type. If you use it as a MeSH term, you will find articles about meta-analysis. However, used as a publication type, it describes a study type.

# Viewing the Results

- Results are displayed in title format
- Citations are shown in groups of ten with the most recent references displayed first.
- The “Results Manager” allows you to print, e-mail or download your results.

# Medical Literature

Descriptive

Explanatory

Case Studies

Observational

Experimental

Cohort Study

RCT

Case Control Study

Cross Sectional Study

# Study Types



Clinical Trial

Prospective === *Absolute Risks*

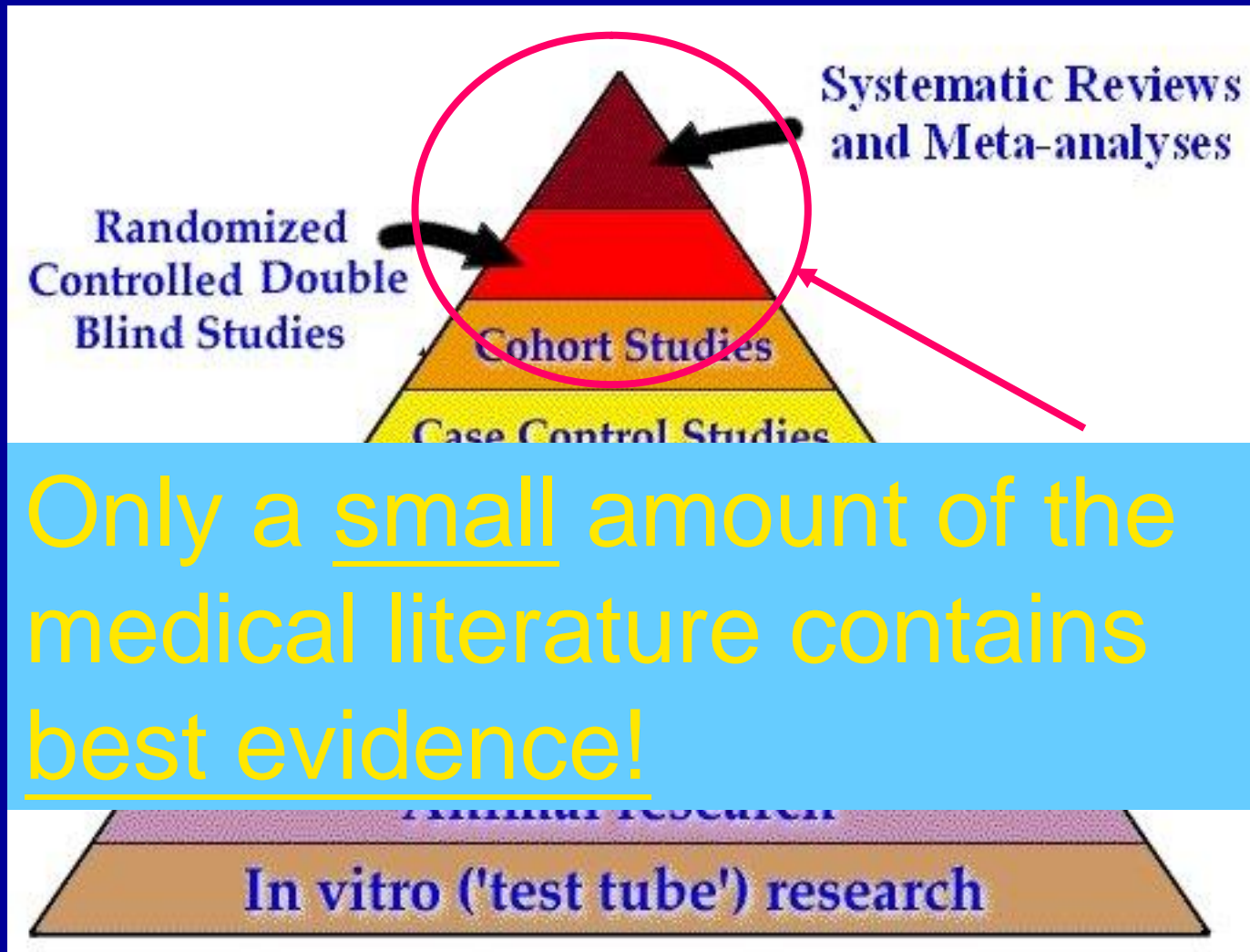
Cohort Study

Prospective Study === *Relative Risks*

Case Control Study

Retrospective Study == *Odds of Risk*

# Evidence Pyramid



**MOST  
evidence**

Only a small amount of the  
medical literature contains  
best evidence!

**LEAST  
evidence**



# Confusing ratios?

- Risk ratio
- Odds ratio
- Hazard ratio

# Risk ratio

- = relative risk
- Used in **cohort studies** (prospective studies that follow a group (cohort) over a period of time and investigate the effect of a treatment or risk factor)
- Calculated by dividing the risk in the treated or exposed group by the risk in the control or unexposed group.

Diggle L, Deeks J (2000). Effect of needle length on incidence of local reactions to routine immunisation in infants aged 4 months: **randomised controlled trial**.  
BMJ 321:931-3

# Odds ratio

- Initially used in **case-control** study
- Used by epidemiologists in studies looking for factors which do harm
- Calculated by dividing the odds of having been exposed to a risk factor by the odds in the control group.

Taylor F, Cohen H, Ebrahim S (2001). **Systemic review** of long term anticoagulation or antiplatelet treatment in patients with non-rheumatic atrial fibrillation. BMJ 322: 321-6

# Hazard ratio

- The Cox regression model = Proportional hazards survival model
- The model is used to investigate the relationship between an event (usually death) and possible explanatory variables, eg, smoking status or weight.
- The 'HR' is the ratio of **the hazard (chance of something harmful happening)** of an event in one group of observations divided by the hazard of an event in another group.

# 以PubMed搜尋的操作

- 臨床提問：

乳癌患者手術前預防性抗生素作為防止手術傷口感染的系統性文獻回顧為何？

- To get started, enter one or more search terms.
- Search terms may be [topics](#), [authors](#) or [journals](#).

### Love books? Love Bookshelf!



Read the World Bank's Disease Control Priorities Project  
books on the [NCBI Bookshelf](#)

PubMed is a service of the [U.S. National Library of Medicine](#) that includes over 16 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources.

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This page provides the following specialized PubMed searches for clinicians:

- [Search by Clinical Study Category](#)
- [Find Systematic Reviews](#)
- [Medical Genetics Searches](#)

After running one of these searches, you may further refine your results using PubMed's [Limits](#) feature.

Results of searches on these pages are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

## Search by Clinical Study Category

This search finds citations that correspond to a specific clinical study category. The search may be either broad and sensitive or narrow and specific. The search filters are based on the work of [Haynes RB et al.](#) See the [filter table](#) for details.

Search

Category	Scope
<input type="radio"/> etiology	<input checked="" type="radio"/> narrow, specific search
<input type="radio"/> diagnosis	<input type="radio"/> broad, sensitive search
<input checked="" type="radio"/> therapy	
<input type="radio"/> prognosis	
<input type="radio"/> clinical prediction guides	

- therapy
- prognosis
- clinical prediction guides

## Find Systematic Reviews

For your topic(s) of interest, this search finds citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines.

For more information, see [Help](#). See also [related sources](#) for systematic review searching.

Search

Go

## Medical Genetics Searches

This search finds citations and abstracts related to various topics in medical genetics. See the [filter table](#) for details.

Search

Go

### Category

- All
- Diagnosis
- Differential Diagnosis
- Clinical Description
- Management
- Genetic Counseling
- Molecular Genetics
- Genetic Testing



## Find Systematic Reviews

For your topic(s) of interest, this search finds citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines.

For more information, see [Help](#). See also [related sources](#) for systematic review searching.

Search

## Medical Genetics Searches

This search finds citations and abstracts related to various topics in medical genetics. See the [filter table](#) for details.

Search

### Category

- All
- Diagnosis
- Differential Diagnosis
- Clinical Description

Search PubMed for (prophylactic antibiotics surgery breast cancer) AND s   [Save Search](#)

Display Abstract Show 20 Sort by Send to

All: 1 Review: 0

1: [Cochrane Database Syst Rev.](#) 2006 Apr 19;(2):CD005360.

[Related Articles, Links](#)



## Prophylactic antibiotics to prevent surgical site infection after breast cancer surgery.

[Cunningham M](#), [Bunn F](#), [Handscorn K](#).

**BACKGROUND:** Surgery has been used as part of breast cancer treatment for centuries; however any surgical procedure has the potential risk of infection. Infection rates for surgical treatment of breast cancer are documented at between three and 15%, higher than average for a clean surgical procedure. Pre and peri-operative antibiotics have been found to be useful in lowering infection rates in other surgical groups, yet there is no current consensus on prophylactic antibiotic use in breast cancer surgery. **OBJECTIVES:** To determine the effects of prophylactic antibiotics on the incidence of surgical site infection after breast cancer surgery. **SEARCH STRATEGY:** We searched the Cochrane Wounds and Breast Cancer Groups Specialised Registers, the Cochrane Central Register of Controlled Trials (CENTRAL) issue 1 2006. MEDLINE 2002-2005, EMBASE 1980-2005, NRR issue 1 2005, CINAHL 1982-2004 and SIGLE 1976-2004. Companies and experts in the field were contacted and reference lists were checked. No language restrictions were applied. **SELECTION CRITERIA:** Randomised controlled trials of pre and peri-operative antibiotics for patients undergoing surgery for breast cancer were included. Primary outcomes were, incidence of breast wound infection and adverse reactions to treatment. **DATA COLLECTION AND ANALYSIS:**

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Level	Therapy/Prevention, Aetiology/Harm	Prognosis	Diagnosis	Differential diagnosis/symptom prevalence study	Economic and decision analyses
1a	SR (with <u>homogeneity*</u> ) of RCTs	SR (with <u>homogeneity*</u> ) of inception cohort studies; CDR† validated in different populations	SR (with <u>homogeneity*</u> ) of Level 1 diagnostic studies; CDR† with 1b studies from different clinical centres	SR (with <u>homogeneity*</u> ) of prospective cohort studies	SR (with <u>homogeneity*</u> ) of Level 1 economic studies
1b	Individual RCT (with narrow <u>Confidence Interval†</u> )	Individual inception cohort study with ≥ 80% follow-up; CDR† validated in a single population	Validating** cohort study with <u>good†††</u> reference standards; or CDR† tested within one clinical centre	Prospective cohort study with good follow-up****	Analysis based on clinically sensible costs or alternatives; systematic review(s) of the evidence; and including multi-way sensitivity analyses
1c	All or none§	All or none case-series	Absolute SpPins and SnNouts††	All or none case-series	Absolute better-value or worse-value analyses ††††
2a	SR (with <u>homogeneity*</u> ) of cohort studies	SR (with <u>homogeneity*</u> ) of either retrospective cohort studies or untreated control groups in RCTs	SR (with <u>homogeneity*</u> ) of Level >2 diagnostic studies	SR (with <u>homogeneity*</u> ) of 2b and better studies	SR (with <u>homogeneity*</u> ) of Level >2 economic studies
2b	Individual cohort study (including low quality RCT; e.g., <80% follow-up)	Retrospective cohort study or follow-up of untreated control patients in an RCT; Derivation of CDR† or validated on split-sample§§§ only	Exploratory** cohort study with <u>good†††</u> reference standards; CDR† after derivation, or validated only on split-sample§§§ or databases	Retrospective cohort study, or poor follow-up	Analysis based on clinically sensible costs or alternatives; limited review(s) of the evidence, or single studies; and including multi-way sensitivity analyses
2c	"Outcomes" Research; Ecological studies	"Outcomes" Research		Ecological studies	Audit or outcomes research
3a	SR (with <u>homogeneity*</u> ) of case-control studies		SR (with <u>homogeneity*</u> ) of 3b and better studies	SR (with <u>homogeneity*</u> ) of 3b and better studies	SR (with <u>homogeneity*</u> ) of 3b and better studies
3b	Individual Case-Control Study		Non-consecutive study; or without consistently applied reference standards	Non-consecutive cohort study, or very limited population	Analysis based on limited alternatives or costs, poor quality estimates of data, but including sensitivity analyses incorporating clinically sensible variations.
4	Case-series (and <u>poor quality cohort and case-control studies§§</u> )	Case-series (and <u>poor quality prognostic cohort studies****</u> )	Case-control study, poor or non-independent reference standard	Case-series or superseded reference standards	Analysis with no sensitivity analysis
5	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on economic theory or "first principles"

## Grades of Evidence for the Purported Quality of Study Design.

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**TABLE 1.** GRADES OF EVIDENCE FOR THE PURPORTED QUALITY OF STUDY DESIGN.\*

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- I Evidence obtained from at least one properly randomized, controlled trial.
- II-1 Evidence obtained from well-designed controlled trials without randomization.
- II-2 Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.
- II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.
- III Opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees.
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\*The grades are those of the U.S. Preventive Services Task Force.<sup>7</sup>



# 主治醫師EBM演講的內容

- 從臨床發掘一個Clinical Scenario
- 決定一組PICO
- 選擇Search Strategy，並作記錄
- 進行Literature Search
- 進行Critical Appraisal
- Level of Evidence & Grade of Recommendation
- 如何應用在患者

Thanks for your attention!