文獻搜尋簡介

盧亮均 呼吸治療師

大綱

- 實證問題類型
- 實證文獻的搜尋技巧
- 常用資料庫的介紹

實證醫學5步驟


1.Ask: 將臨床情況轉換為可以回答的問答
2.Acquire: 搜尋最佳證據，以回答問題
3. Appraise: 嚴格評讀證據之正確性、影響力及適用性
4. Apply: 將評讀結果與臨床專業、病人獨特的生理特性、價值觀與情境結合
5. Audit: 評估步驟1-4的成效，並尋求改善方案

Background vs. foreground questions

"Background" questions

Ask for general knowledge about a condition, test, or treatment

Have two essential components:

1. A question root (who, what, where, when, how, why) and a verb.
2. A disorder, test, treatment, or other aspect of health care.

Examples:

"How does heart failure cause pleural effusions?"
"What causes swine flu?"

"Foreground" questions

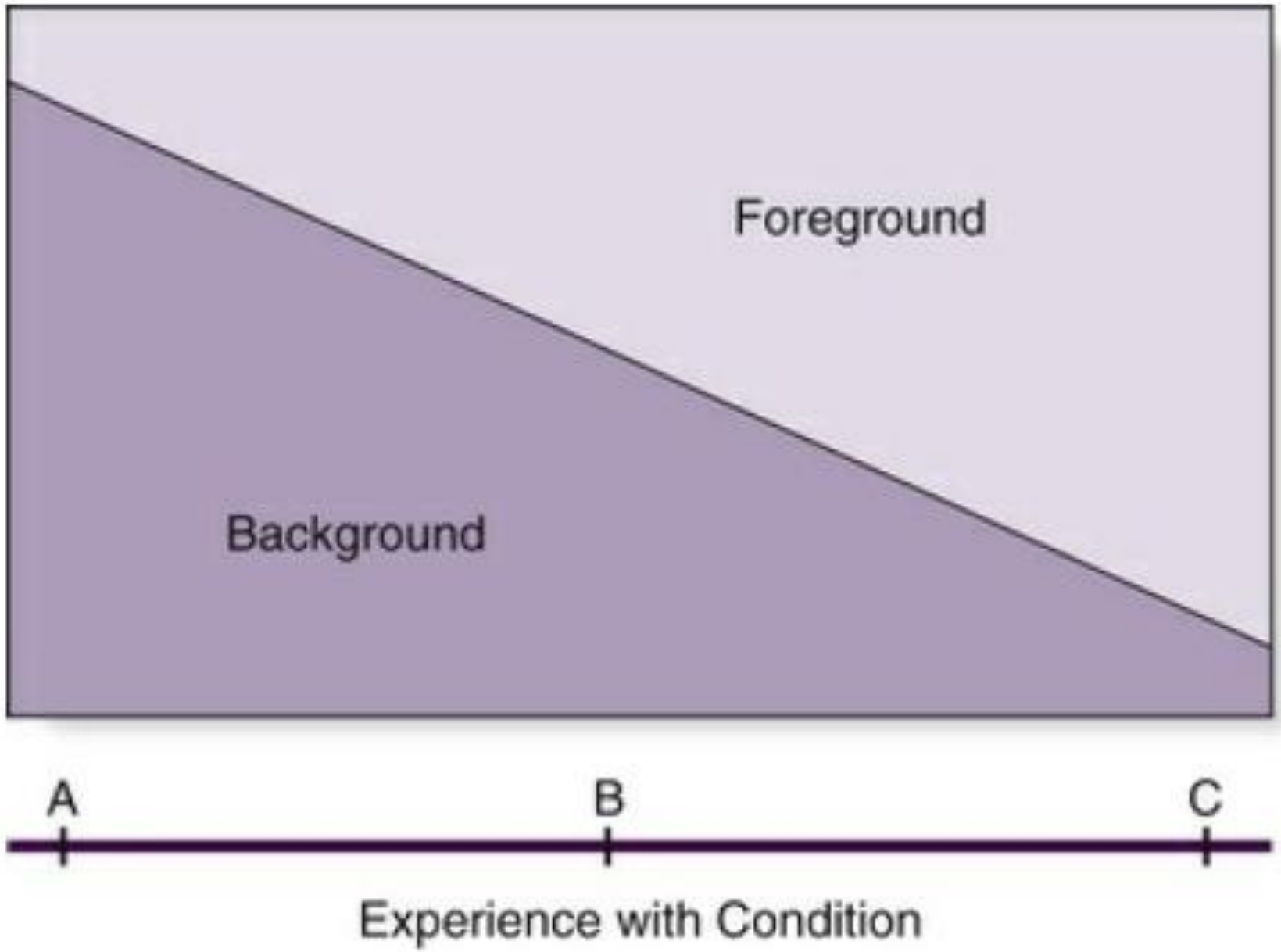
Ask for specific knowledge to inform clinical decisions or actions

Have four essential components:

1. P: Patient, population, predicament, or problem.
2. I: Intervention, exposure, test, or other agent.
3. C: Comparison intervention, exposure, test, and so on, if relevant.
4. O: Outcomes of clinical importance, including time, when relevant.

Example:

"In adults with heart failure and reduced systolic function, would adding the implantation of an electronic resynchronization device to standard therapy reduce morbidity or mortality enough over 3 to 5 years to be worth the potential additional harmful effects and costs?"


Foreground
Background
A
B
C
Experience with Condition

臨床問題中衍生而來的臨床工作中心議題

- 1. 臨床發現
- 2. 病因/風險
- 3. 疾病的臨床表現
- 4. 鑑別診斷
- 5. 診斷性檢查
- 6. 預後
- 7. 治療
- 8. 預防
- 9. 經驗與意義
- 10. 改善

Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or *n*-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, *n*-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or *n*-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non -randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

*** Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size.**

**** As always, a systematic review is generally better than an individual study.**

如何執行搜尋步驟

- 1. 區別問題的種類(前景或背景問題）
- 2. 將臨床狀況/問題定義成可回答的問題(e.g. 前景問題以PICO的方式呈現），了解其屬於哪種類型問題(e.g. 介入、傷害、診斷、或是預後）
- 3. 標示出關鍵字並思考是否有相關的同義字
- 4. 將關鍵字以布林邏輯(Boolean operators)連行連接，形成檢索策略

P	Patient/Problem/Population – meaning the individual, the condition or the group that is the subject of the clinical question
I	Intervention – the treatment that might be applied to the patient, problem, or population
C	Comparison – an alternative treatment that might provide similar if not greater benefits to the intervention. Please note: there may not always be a comparative intervention
O	Outcome – the expected result of the intervention (sometimes referred to as Exposure)

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同義字(Synonym)

Spelling	Research published in English may have spelling differences, depending on whether it is UK English or US English
Terminology	Different databases use different indexing terms. Medline and CINAHL index's use the term Allied Health Personnel, while Embase uses Paramedical Personnel for paramedics
Colloquial phrases	Deep vein thrombosis is sometimes referred to as 'economy-class syndrome', while bird flu is also known as avian influenza, or fowl plague

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自然語言(Free text) vs. 索引典(Thesaurus)

自然語言(Free text)搜尋

- 好處：對於尚未被編入索引的字詞，有利於該字詞搜尋(e.g. high flow nasal cannula)
- 缺點：找出不適當的搜尋結果、容易忽略單複數拼字差異、容易忽略英式/美式英語的拼字差異(e.g. edema vs. oedema; esophagus vs. oesophagus)

截斷字(Truncation)及通用字元(Wildcards)

- 常用於輔助自然語言(Free text)的搜尋
- 截斷字：例如oscilla*可搜尋出oscillate, oscillated, oscillation, oscillatory…etc.
- 通用字元：例如p?ediatric：pediatric, paediatric

Symbol	Definition	Cochrane	Dialog	EBSCO	Ovid	ProQuest	PubMed
*	All words beginning with a particular stem e.g. nurs*	✓	✓	✓		✓	✓
$	All words beginning with a particular stem e.g. nurs$		✓		✓		
:	All words beginning with a particular stem e.g. nurs:				✓		
?	Replaces exactly the number of characters specified by the number of ? used e.g. nurs?, nurs???		✓			✓	
*	All words ending with the same root e.g. *glycemic (hypo or hyper)	✓	✓				
*	Overcoming spelling differences and searching for singular and plural e.g. colo*r	✓					
#	Overcoming spelling differences and searching for singular and plural e.g. colo#r			✓	✓		
?	Overcoming spelling differences and searching for singular and plurals e.g. colo?r.		✓	✓	✓		
*	Use between words to match any word			✓			

Searching Skills Toolkit: Finding the Evidence, 2nd edtion

索引典(Thesaurus)

- e.g. PubMed MeSH

全稱：「Medical Subject Headings」，一套生物醫學領域的主題詞表，是一種索引典，每個主題詞 (以下稱 MeSH Term) 代表特定的主題範疇。

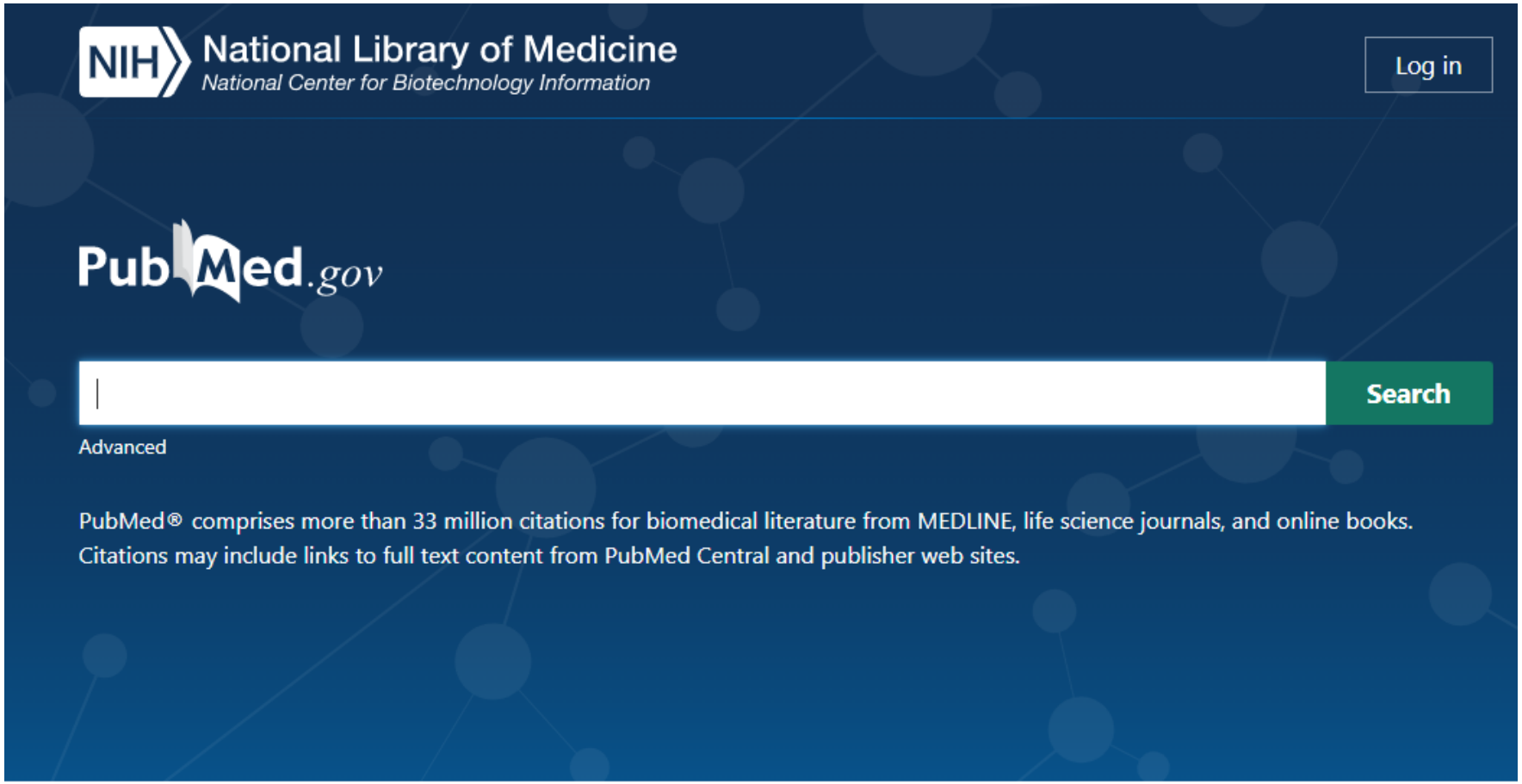
建置單位：美國國家醫學圖書館(NLM)。

MeSH 用來作什麼：從兩種角度來說

1.組織文獻：用於標示文獻內容主題。專家閱讀文獻後，根據內容，標註適當的 MeSH Terms 。

2.查詢文獻：使用者可透過 MeSH Terms 查詢文獻。

http://tul.blog.ntu.edu.tw/archives/7180



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Finding Full Text

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Advanced Search
Clinical Queries
Single Citation Matcher

Download

E-utilities API
FTP
Batch Citation Matcher

Explore

MeSH Database
Journals

NCBI
National Center for Biotechnology Information

All Databases | Search

- Gene
- Genome
- GEO DataSets
- GEO Profiles
- GTR
- HomoloGene
- Identical Protein Groups
- MedGen
- MeSH
- NCBI Web Site
- NLM Catalog
- Nucleotide
- OMIM
- PMC
- PopSet
- Protein
- Protein Clusters
- Protein Family Models
- PubChem BioAssay
- PubChem Compound

COVID-19

Public health in ... information (NIH) | SARS-CoV-2 data (NCBI) | Prevention and treatment information (HHS) | Español

...end structural racism and achieve racial equity in the biomedical research enterprise.

- NCBI Home
- Resource List (A-Z)
- All Resources
- Chemicals & Bioassays
- Data & Software
- DNA & RNA
- Domains & Structures
- Genes & Expression
- Genetics & Medicine
- Genomes & Maps
- Homology
- Literature
- Proteins
- Sequence Analysis
- Taxonomy
- Training & Tutorials
- Variation

... NCBI

...ter for Biotechnology Information advances science and health by providing access to ...enomic information.

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Submit
Deposit data or manuscripts into NCBI databases

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Transfer NCBI data to your computer

Learn
Find help documents, attend a class or watch a tutorial

Develop
Use NCBI APIs and code libraries to build applications

Analyze
Identify an NCBI tool for your data analysis task

Research
Explore NCBI research and collaborative projects

Popular Resources

- PubMed
- Bookshelf
- PubMed Central
- BLAST
- Nucleotide
- Genome
- SNP
- Gene
- Protein
- PubChem

NCBI News & Blog

New RefSeq annotations!
17 Feb 2022
In December and January, the NCBI Eukaryotic Genome Annotation

New Gene Information from the Alliance

Full

Send to:

Pulmonary Disease, Chronic Obstructive

A disease of chronic diffuse irreversible airflow obstruction. Subcategories of COPD include CHRONIC BRONCHITIS and PULMONARY EMPHYSEMA.

Year introduced: 2002

PubMed search builder options

Subheadings:

- analysis
- anatomy and histology
- blood
- cerebrospinal fluid
- chemically induced
- chemistry
- classification
- complications
- congenital
- diagnosis
- diagnostic imaging
- diet therapy
- drug therapy
- economics
- embryology
- enzymology
- epidemiology
- ethnology
- etiology
- genetics
- history
- immunology
- legislation and jurisprudence
- metabolism
- microbiology
- mortality
- nursing
- organization and administration
- parasitology
- pathology
- physiology
- physiopathology
- prevention and control
- psychology
- radiotherapy
- rehabilitation
- statistics and numerical data
- surgery
- therapy
- urine
- veterinary
- virology

Restrict to MeSH Major Topic.

Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): C08.381.495.389, C23.550.291.500.875

MeSH Unique ID: D029424

Entry Terms:

- Chronic Obstructive Lung Disease
- Chronic Obstructive Pulmonary Diseases
- COAD
- COPD
- Chronic Obstructive Airway Disease
- Chronic Obstructive Pulmonary Disease
- Airflow Obstruction, Chronic
- Airflow Obstructions, Chronic
- Chronic Airflow Obstructions
- Chronic Airflow Obstruction

PubMed Search Builder

Add to search builder | AND

Search PubMed

YouTube Tutorial

Related information

PubMed

PubMed - Major Topic

Clinical Queries

NLM MeSH Browser

dbGaP Links

MedGen

Recent Activity

Turn Off | Clear

Pulmonary Disease, Chronic Obstructive MeSH

"pulmonary disease, chronic obstructive" [MeSH Terms] OR chronic o... (2) MeSH

chronic obstructive pulmonary disease (2) MeSH

chronic obstructive lung disease (1) MeSH

high flow nasal cannula (0) MeSH

See more...

Automatic term mapping in PubMed

- 可以比對出 MeSH 中的主題詞

雙引號”“、截切符號*會讓automatic term mapping無法啟動

Search: **"chronic obstructive pulmonary disease"**

"chronic obstructive pulmonary disease"[All Fields]

Search: **chronic obstructive pulmonary disease**

"pulmonary disease, chronic obstructive"[MeSH Terms] OR ("pulmonary" [All Fields] AND "disease"[All Fields] AND "chronic"[All Fields] AND "obstructive"[All Fields]) OR "chronic obstructive pulmonary disease"[All Fields] OR ("chronic"[All Fields] AND "obstructive"[All Fields] AND "pulmonary"[All Fields] AND "disease"[All Fields])

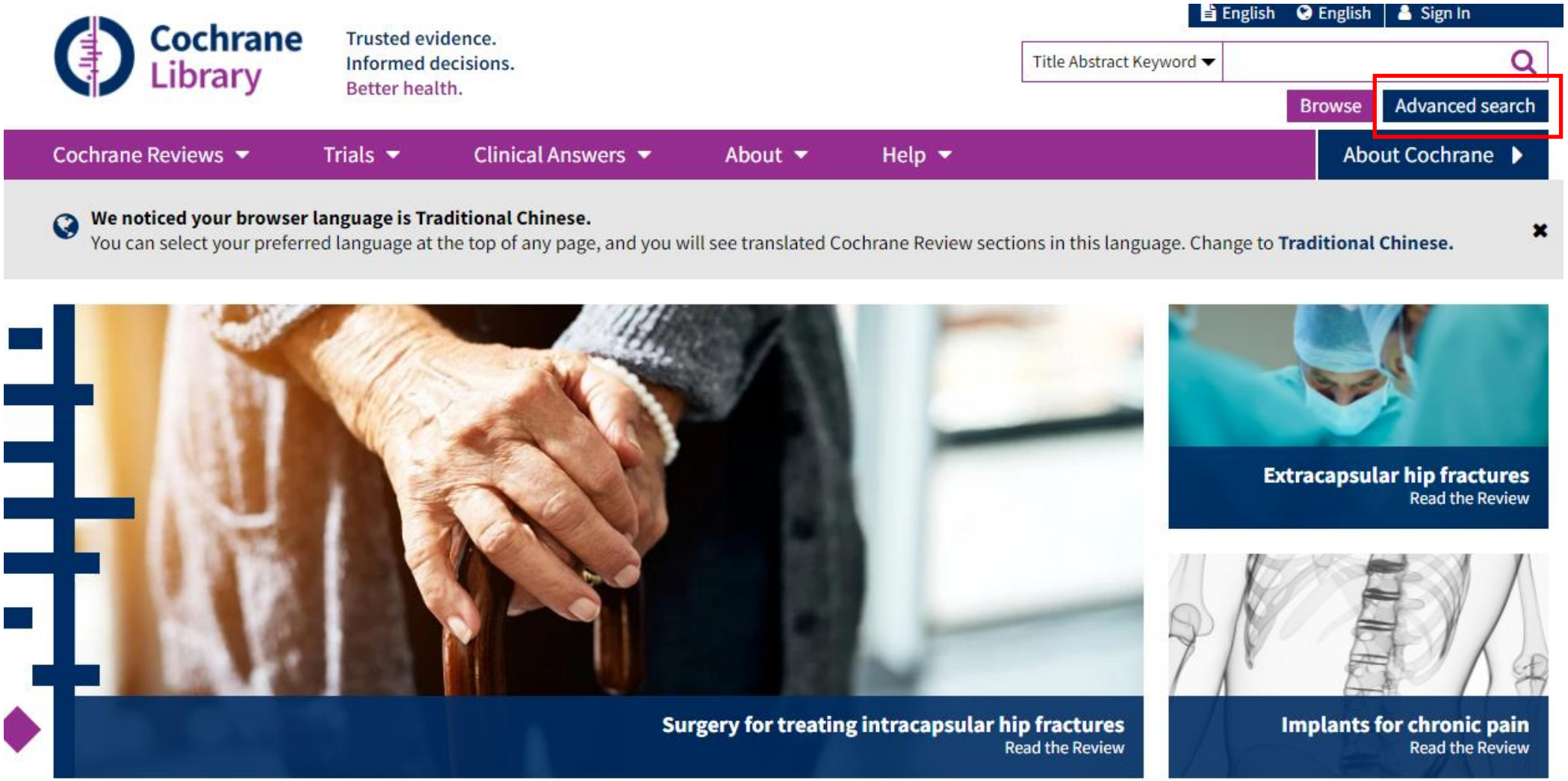
Search: **cannula***

"cannula*"[All Fields]

Search: **cannula**

"cannula"[MeSH Terms] OR "cannula"[All Fields] OR "cannulae"[All Fields] OR "cannulas"[All Fields] OR "cannula s"[All Fields]

MeSH in Cochrane library



Advanced Search

Search | Search manager | Medical terms (MeSH) | PICO search

Save this search | View saved searches | ? Search help

Print

\+

− + #1 Type a search term or use the S or MeSH buttons to compose S MeSH Limits N/A

Did you know the MeSH browser features are also available on the Search manager tab by selecting the MeSH button?
Search manager lets you add unlimited search lines, view results per line, and select fields using the S button (next to the search box).

Enter MeSH term | Select subheadings / qualifiers | Look up | Clear

✖ Clear all

Highlight orphan lines

Pulmonary Disease, Chronic Obstructive | Select subheadings / qualifiers | Look up | Clear

Definition

Pulmonary Disease, Chronic Obstructive - A disease of chronic diffuse irreversible airflow obstruction. Subcategories of COPD include CHRONIC BRONCHITIS and PULMONARY EMPHYSEMA.

Thesaurus Matches

Exact Term Match

Pulmonary Disease, Chronic Obstructive

Synonyms: Chronic Obstructive Airway Disease; COAD; Chronic Obstructive Lung Disease; COPD; Chronic Obstructive Pulmonary Diseases; Chronic Obstructive Pulmonary Disease; Airflow Obstruction, Chronic; Chronic Airflow Obstructions; Chronic Airflow Obstruction; Airflow Obstructions, Chronic

Phrase Matches

Asthma-Chronic Obstructive Pulmonary Disease Overlap Syndrome

Synonyms: Overlap Syndrome, Asthma-COPD; Asthma COPD Overlap Syndrome; Asthma-COPD Overlap Syndrome; Asthma-COPD Overlap Syndromes

MeSH Trees

MeSH term - **Pulmonary Disease, Chronic Obstructive**

- (●) Explode all trees
- ( ) Single MeSH term (unexploded)
- ( ) Explode selected trees — Select

Tree number 1

Respiratory Tract Diseases [+15]
- **Lung Diseases [+27]**
  - **Lung Diseases, Obstructive [+3]**
    - **Asthma [+1]**
    - **Bronchitis [+2]**
    - **Pulmonary Disease, Chronic Obstructive [+3]**
      - **Asthma-Chronic Obstructive Pulmonary Disease Overlap Syndrome**
      - **Bronchitis, Chronic**
      - **Pulmonary Emphysema**

Search Results

There are ***6194*** results for your search on
- MeSH descriptor: Pulmonary Disease, Chronic Obstructive
- Explode all trees

Trials	6090
Cochrane Reviews	104

Add/Edit search line

Emtree in Embase

What is Emtree

樹狀結構的生物醫學詞庫

✓ 精準搜尋符合主題的文章

✓ 濾除不需要閱讀的文章

	Emtree	MeSH
收錄詞彙	> 75,400 (Include all MeSH term)	> 27,800
收錄同義詞 (Entry terms)	> 314,000	> 87,000
藥物相關	32,000 preferred terms, 200,000 synonyms	9,250 preferred terms
醫療器材相關	3,000 specific terms for general and devices	Fewer and more general terms
Subheadings	82, including: 17 drug subheadings 47 routes of drug administration 14 disease subheadings 4 device subheadings	70, including: 23 main subheadings 47 children subheadings
No. of term per article	3–4 major terms, and up to 50 minor terms	10–20
更新頻率	一年3次	一年1次

Quick Search

Query Builder ▼

Build a multi-term search query

Find Term | Browse by Facet

Type word or phrase (without quotes)

high flow nasal X

Find Term >

HFNC (high flow nasal cannula)
use preferred term: high flow nasal cannula therapy

HFNCT (high flow nasal cannula therapy)
use preferred term: high flow nasal cannula therapy

HHFNC (humidified high flow nasal cannula)
use preferred term: humidified high flow nasal cannula therapy

high flow high humidity (HFHH) nasal cannula therapy
use preferred term: humidified high flow nasal cannula therapy

high flow high humidity nasal cannula
use preferred term: humidified high flow nasal cannula therapy

high flow humidified nasal cannula
use preferred term: humidified high flow nasal cannula therapy

high flow humidified nasal cannulae
use preferred term: humidified high flow nasal cannula therapy

high flow nasal cannula
use preferred term: high flow nasal cannula therapy

high flow nasal cannula respiratory support
use preferred term: high flow nasal cannula therapy

Type word or phrase (without quotes)

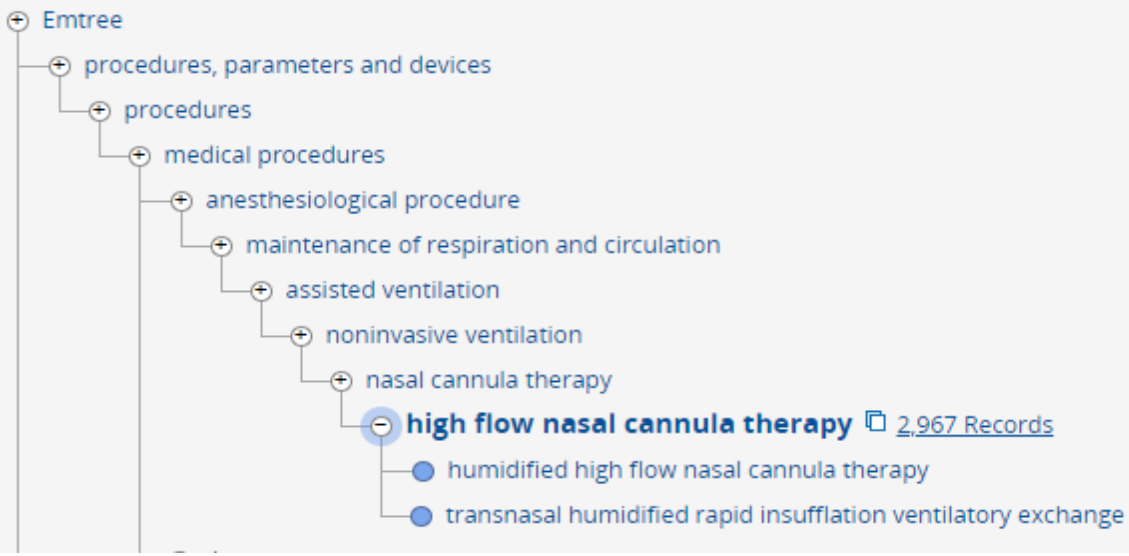
high flow nasal cannula therapy X

Find Term >

For term: **'high flow nasal cannula therapy'**

Extend your search: ☑ Explode ☐ As major focus

Take this query to Advanced Search > | Add to Query Builder >



History

This term was added to Emtree in 2020

Synonyms

HF oxygen therapy; HFNC (high flow nasal cannula); HFNC assisted ventilation; HFNC therapy; HFNC ventilation; HFNCT (high flow nasal cannula therapy); high flow nasal cannula; high flow nasal cannula respiratory support; high flow nasal canula; high flow nasal prong therapy; high flow nasal therapy; high flow oxygenation therapy; high-flow (HF) oxygen therapy; high-flow oxygen therapy; high-flow oxygen treatment; highflow nasal cannula; highflow nasal cannula therapy; nasal high flow

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JUNE 4, 2015 VOL. 372 NO. 23

High-Flow Oxygen through Nasal Cannula in Acute Hypoxemic Respiratory Failure

Jean-Pierre Frat, M.D., Arnaud W. Thille, M.D., Ph.D., Alain Mercat, M.D., Ph.D., Christophe Girault, M.D., Ph.D., Stéphanie Ragot, Pharm.D., Ph.D., Sébastien Perbet, M.D., Gwénael Prat, M.D., Thierry Boulain, M.D., Elise Morawiec, M.D., Alice Cottereau, M.D., Jérôme Devaquet, M.D., Saad Nseir, M.D., Ph.D., Keyvan Razazi, M.D., Jean-Paul Mira, M.D., Ph.D., Laurent Argaud, M.D., Ph.D., Jean-Charles Chakarian, M.D., Jean-Damien Ricard, M.D., Ph.D., Xavier Wittebole, M.D., Stéphanie Chevalier, M.D., Alexandre Herbland, M.D., Muriel Fartoukh, M.D., Ph.D., Jean-Michel Constantin, M.D., Ph.D., Jean-Marie Tonnelier, M.D., Marc Pierrot, M.D., Armelle Mathonnet, M.D., Gaëtan Béduneau, M.D., Céline Delétage-Métreau, Ph.D., Jean-Christophe M. Richard, M.D., Ph.D., Laurent Brochard, M.D., and René Robert, M.D., Ph.D., for the FLORALI Study Group and the REVA Network*

Drug terms

Find term in Emtree

oxygen

Disease terms

Find term in Emtree

acute hypoxemic respiratory failure **acute respiratory failure** **hypoxemia**

Show all subheadings

Device terms

Find term in Emtree

face mask oxygen analyzer **oxygen nasal cannula** ventilator **oxygen nasal cannula**

Show all subheadings

Other terms

Find term in Emtree

adult arterial oxygen tension article controlled study endotracheal intubation female human major clinical study male mortality multicenter study noninvasive ventilation **oxygen therapy** positive end expiratory pressure ventilation priority journal prospective study randomized controlled trial treatment outcome

- ‘Emtree term’/exp： Emtree term展開搜尋

e.g. ‘high flow nasal cannula therapy’/exp

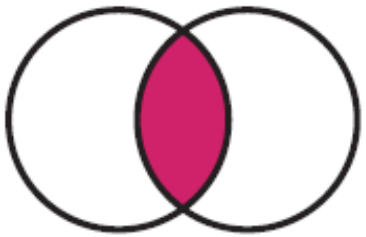
- ‘Emtree term’/br= ‘Emtree term’/exp OR ‘Emtree term’

e.g. 'high flow nasal cannula therapy’/br=‘high flow nasal cannula therapy’/exp OR ‘high flow nasal cannula therapy’

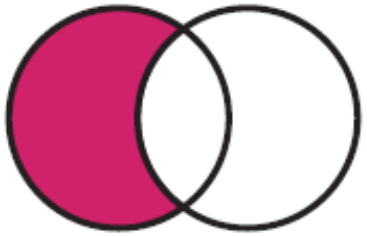
- ‘high flow nasal cannula therapy’/syn= ‘high flow nasal cannula therapy’/exp OR ‘該Emtree term所有同義詞’

布林邏輯(Boolean operators)

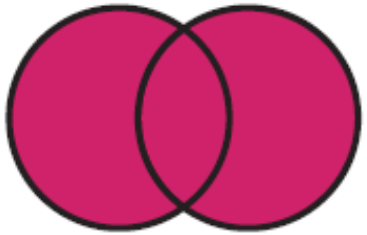
AND



NOT



OR



Boolean operator	Definition
and/AND	Narrows the search results; all terms are searched for e.g. measles AND children AND adults
or/OR	Broadens the search results, one or more of the search terms are found, e.g. venous thrombosis OR DVT OR deep vein thrombosis
not/NOT	Limits the searches by restricting the terminology searched for, e.g. children NOT adults. Use this with caution, as it would exclude papers about children and adults
adj/ADJ	Searches for all the words side by side (adjacent), as a phrase, in any order, e.g. deep ADJ1 vein ADJ1 thrombosis. If you add a number after 'ADJ', the database searches for all occurrences where the two words appear separated by the number of words matching the number, e.g. chronic ADJ3 syndrome, would find 'chronic fatigue syndrome' and 'chronic fatigue immune deficiency syndrome'
()	Brackets can be used in two ways: **1)** when combining with two Boolean operators, e.g. measles AND (children OR adults), so the database will look for articles about children or adults with measles **2)** when searching for a phrase – some databases use brackets, e.g. (assertive community treatment)
""	By putting the keywords in inverted commas, some databases will search for the words as phrases, e.g. "assertive community treatment"

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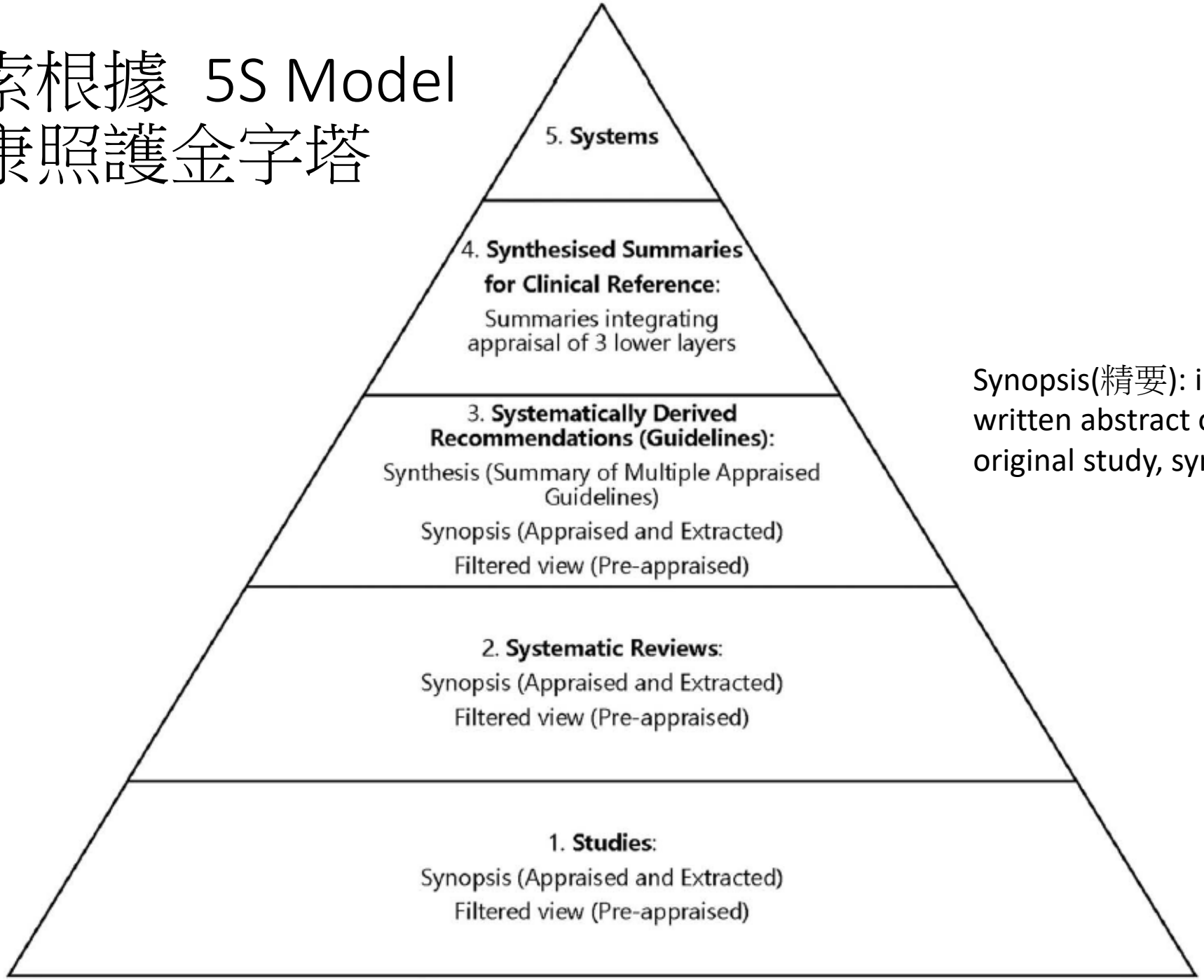
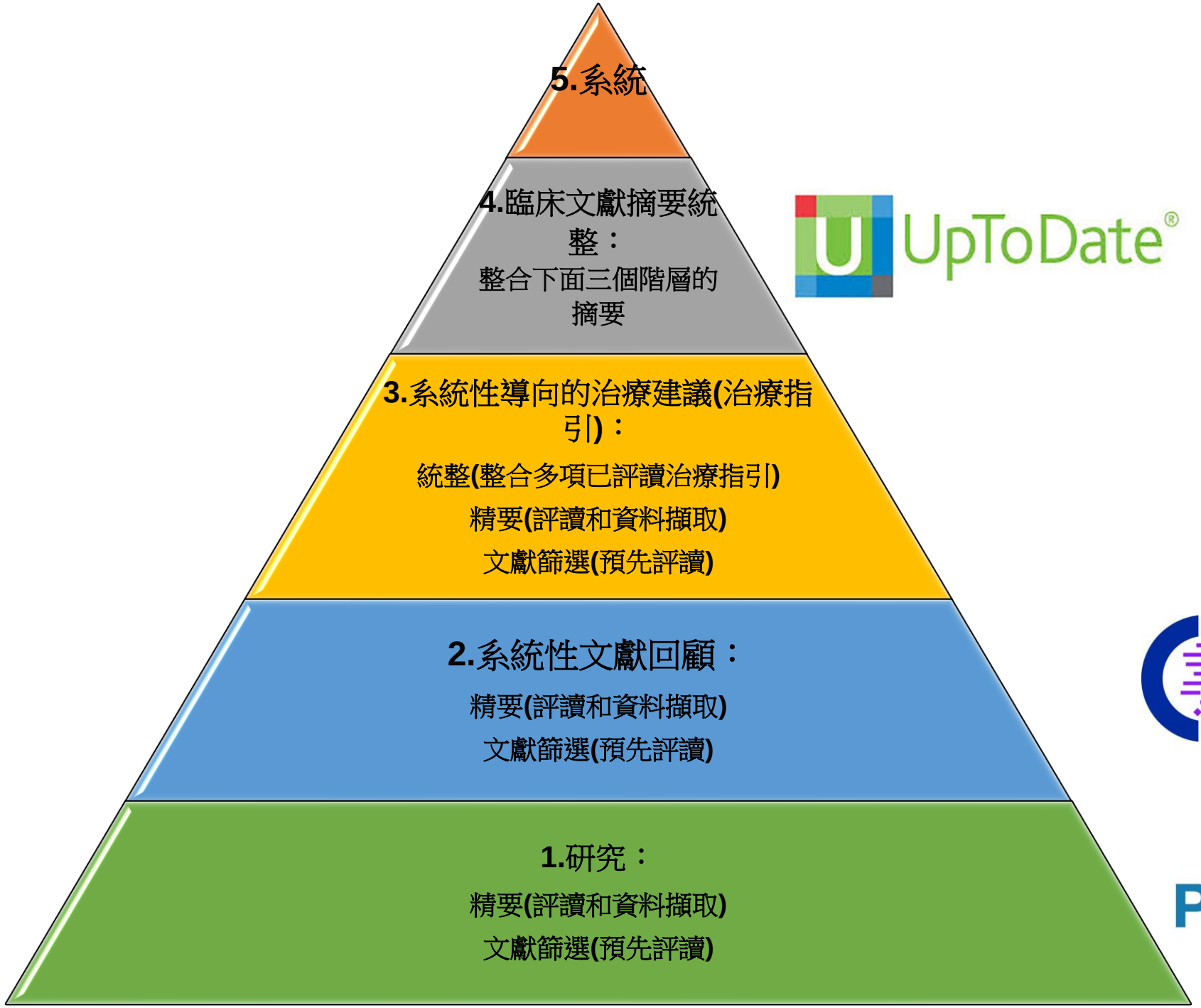
文獻檢索根據 5S Model
實證健康照護金字塔



Synopsis(精要): independently written abstract of a highly rated original study, synthesis, or guideline

Evid Based Med. 2016;21:123–125



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Cochrane Library

PubMed Embase®

臨床文獻摘要統整(Synthesized summaries for clinical reference)

- 這些臨床文獻摘要統整的資料庫就臨床運用提供各種背景資料和前景證據：包括該狀況下的基本知識、基於證據的治療、各學會各領域專家的治療準則

系統性導向的治療建議(治療指引)

- 類似摘要統整，但範圍要狹窄，更聚焦在討論主題，例如單一疾病狀況，或是疾病狀況了的特殊問題
- Guideline中須標示引用的證據來源，且各項建議應指出建議強度(strength of the recommendation)說明；及該建議的證據品質等級graded quality of the evidence)

AiCPG
ALLIANCE FOR THE IMPLEMENTATION OF CLINICAL PRACTICE GUIDELINES

https://aicpg.org/resources/

系統性文獻回顧(又名”綜合”<Syntheses>)

- 基於詳盡的證據搜尋，且有明確的科學回顧，發現該領域的相關研究並系統性地整合證據，往往包括統合分析(meta-analysis)
- Cochrane Collaboration提供最大量的單一綜合文獻來源，但僅占全世界供應量的30-40%。

臨床情境

- 一位65歲罹患慢性肺阻塞疾病(chronic obstructive pulmonary disease; COPD)的男性，因急性惡化住院。除COPD外，他還罹患冠狀動脈血管疾病。住院後，胸腔科醫師予支氣管擴張劑、抗生素、靜脈注射類固醇(glucocorticoid)治療，目前已經治療5天，病情逐漸好轉。跨領域病例討論會時，報告的住院醫師表示：指引建議，治療急性惡化時，可以用類固醇治療7至14天。這位病人已經好轉，還需要用類固醇到14天嗎?還是治療5天就可以?治療14天相較於5天，可以改善病人預後嗎? 治療5天可以減少副作用嗎?

- 一位65歲罹患慢性肺阻塞疾病(chronic obstructive pulmonary disease; COPD)的男性，因急性惡化住院。除COPD外，他還罹患冠狀動脈血管疾病。住院後，胸腔科醫師予支氣管擴張劑、抗生素、靜脈注射類固醇(glucocorticoid)治療，目前已經治療5天，病情逐漸好轉。跨領域病例討論會時，報告的住院醫師表示：指引建議，治療急性惡化時，可以用類固醇治療7至14天。這位病人已經好轉，還需要用類固醇到14天嗎?還是治療5天就可以?治療14天相較於5天，可以改善病人預後嗎? 治療5天可以減少副作用嗎?

背景知識介紹

- Google??
- 線上資料庫 e.g. Uptodate, dynamed, clinical key, access medicine …etc.
- 藥物部分可查詢Micromedex、Lexicomp

臨床問題-PICO 1

P	65歲罹患慢性肺阻塞疾病(chronic obstructive pulmonary disease; COPD)的男性，因急性惡化住院，還罹患冠狀動脈血管疾病
I	已經接受支氣管擴張劑、抗生素、靜脈注射類固醇(glucocorticoid) 治療5天
C	靜脈注射類固醇(glucocorticoid) 治療14天
O	改善病人預後

臨床問題-PICO 2

P	65歲罹患慢性肺阻塞疾病(chronic obstructive pulmonary disease; COPD)的男性，因急性惡化住院，還罹患冠狀動脈血管疾病
I	已經接受支氣管擴張劑、抗生素、靜脈注射類固醇(glucocorticoid) 治療5天
C	靜脈注射類固醇(glucocorticoid) 治療14天
O	減少副作用

Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or *n*-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, *n*-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or *n*-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non -randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

*** Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size.**

**** As always, a systematic review is generally better than an individual study.**

OCEBM: The Oxford 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or *n*-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
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本PICO為治療型問題，回答問題的最佳文獻為Systematic review of RCTs

PICO-2 關鍵字-組織檢索策略

	主要詞彙(PubMed, Cochrane Library)	EMBASE-Emtree
P	(("pulmonary disease, chronic obstructive"[MeSH Terms] OR chronic obstructive pulmonary disease) AND (("Symptom Flare Up"[Mesh] OR "Disease Progression"[Mesh]) OR (exacerbat*))	'chronic obstructive lung disease'/syn AND 'disease exacerbation'/syn
		AND
I	("Glucocorticoids"[Mesh])	('glucocorticoid'/syn
		AND
C	("Drug Administration Schedule"[Mesh]) OR ("Duration of Therapy"[Mesh])	'treatment duration'/syn
		AND
O	"Glucocorticoids/adverse effects"[MeSH]	'side effect'/syn OR 'adverse event'/syn

搜尋歷程-UpToDate®

- 關鍵字: COPD exacerbation

treatment failure was no greater with the lower dose. As this was an observational study and did not include objective measures of airflow limitation, it is possible that less ill patients were more likely to receive oral treatment.

On the other hand, for patients with impending or actual acute respiratory failure due to a COPD exacerbation, many clinicians use an intravenous formulation at a higher dose, such as the equivalent of methylprednisolone 60 mg intravenously, one to four times daily, although outcomes data to support this practice are limited. In an observational cohort study, among 17,239 patients admitted to an intensive care unit with an exacerbation of COPD, a dose of methylprednisolone of 240 mg/day or less, compared with a higher dose (methylprednisolone >240 mg/day), was not associated with a mortality benefit, but was associated with slightly shorter hospital (-0.44 days, 95% CI -0.67 to -0.21) and ICU (-0.31 days; 95% CI -0.46 to -0.16) lengths of stay [38]. Length of mechanical ventilation and need for insulin therapy were also lower in the lower dose group. As this was an observational study, further research is needed to determine the optimal glucocorticoid dose in this setting.

- **Duration** – The optimal duration of systemic glucocorticoid therapy is not clearly established and often depends on the severity of the exacerbation and the observed response to therapy [1,12,39-41]. The GOLD guidelines suggest that glucocorticoids (eg, prednisone 30 to 40 mg/day) be given for five days [1], while the European Respiratory Society/American Thoracic Society guidelines suggest a course of therapy up to 14 days in duration [12]. Thus, a range of 5 to 14 days appears reasonable.

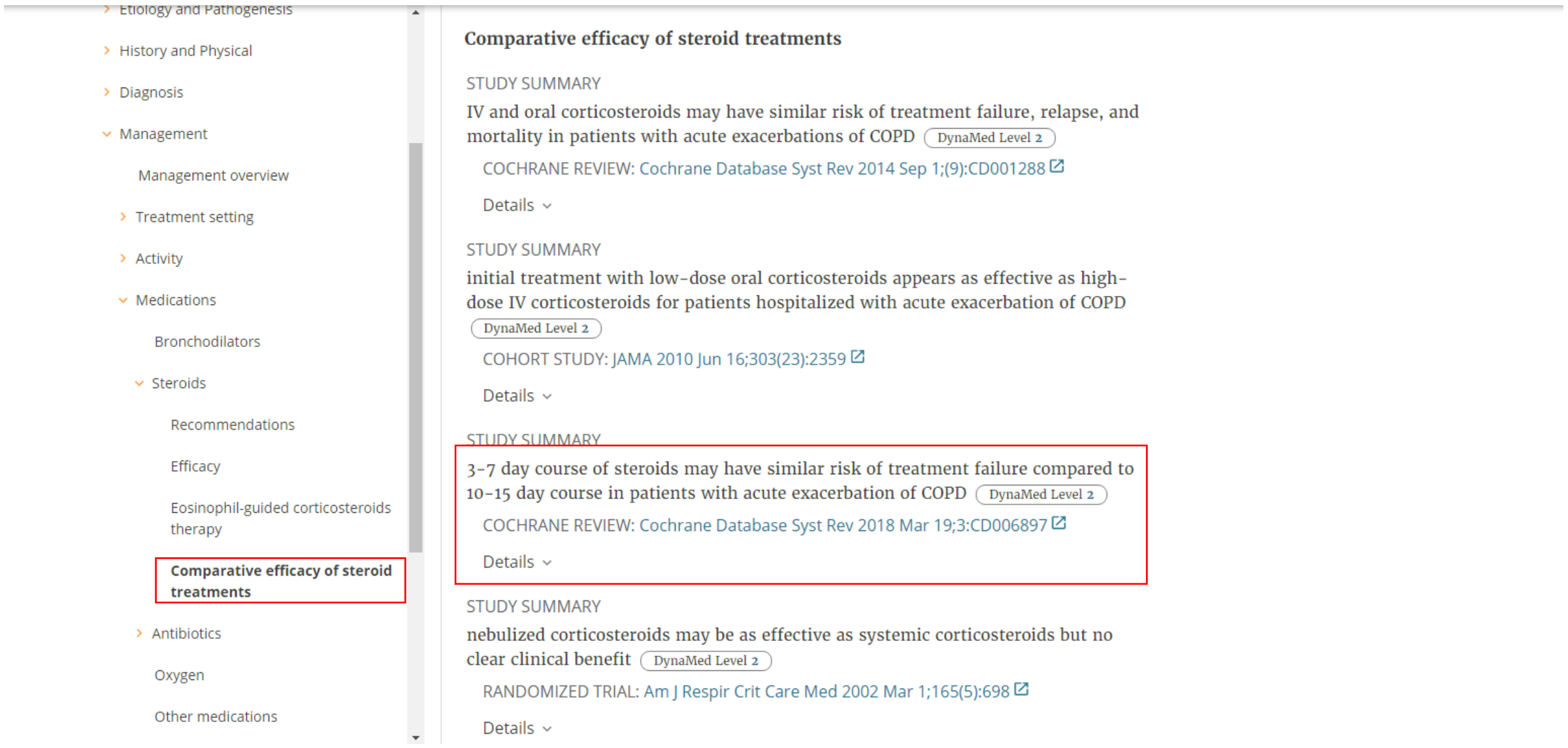
  - Data in support of a 14-day course, rather than a longer duration, come from the Systemic Corticosteroids in COPD Exacerbations (SCCOPE) trial, which compared two and eight week regimens and did not find any additional benefit to the longer course [42]. Patients in the eight week group experienced more glucocorticoid-related side effects.

  - Other studies have examined whether courses shorter than 14 days are also effective for COPD exacerbations. As an example, the Reduction in the Use of Corticosteroids in Exacerbated COPD (REDUCE) trial randomly assigned 314 patients with exacerbations of COPD, of whom 289 required hospitalization, to prednisone 40 mg daily for 5 or 14 days [37]. No difference was noted in the time to the next exacerbation, the likelihood of an exacerbation in the subsequent 180 days, or the recovery of lung function. The mean cumulative prednisone dose was significantly higher in the 14-day group, but treatment-related adverse effects, such as hyperglycemia and hypertension, were not different between the groups. While this study suggests that a five-day course may be comparable to 14 days for many patients, further study is needed to determine whether some patients might do better with the longer course.

  - A systematic review compared different durations of systemic glucocorticoid therapy (8 studies, 457 participants) and found no difference in the risk of treatment failure with courses of three to seven days compared with longer courses of 10 to 15 days (OR 1.04, 95% CI 0.70-1.56) [39]. Including the data from the REDUCE trial above, the systematic review concluded that a five-day course of oral glucocorticoids is probably comparable to a 14-day or longer course, but that further research is needed to conclude equivalence.

搜尋歷程- DynaMed®

- 關鍵字: COPD exacerbation



搜尋歷程-Cochrane Library

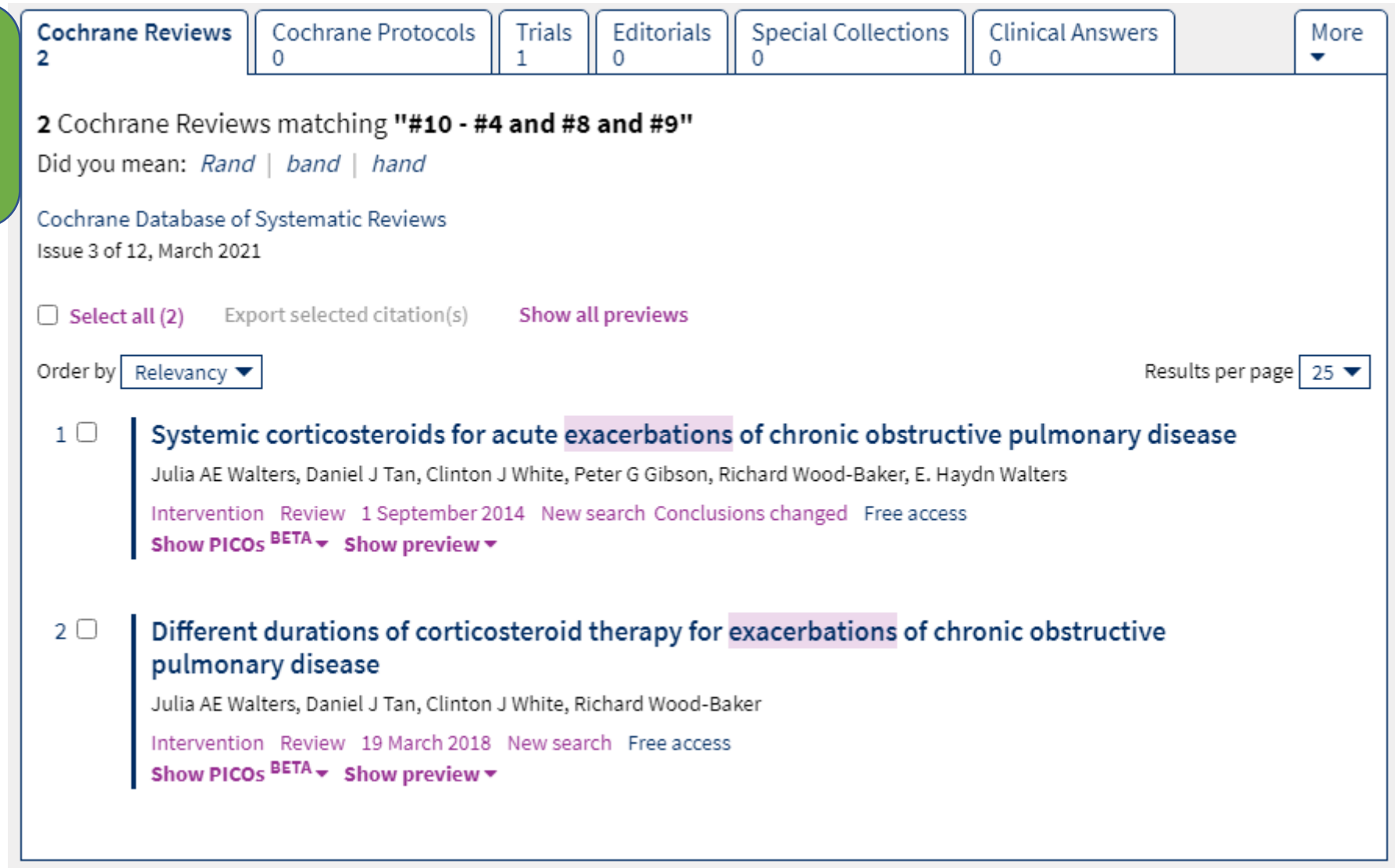
View fewer lines | Print

#1	MeSH descriptor: [Pulmonary Disease, Chronic Obstructive] explode all trees	MeSH		6194
#2	MeSH descriptor: [Disease Progression] explode all trees	MeSH		7825
#3	MeSH descriptor: [Symptom Flare Up] explode all trees	MeSH		91
#4	exacerbat*	Limits		21996
#5	#2 or #3 or #4	Limits		29122
#6	MeSH descriptor: [Glucocorticoids] explode all trees	MeSH		4748
#7	MeSH descriptor: [Duration of Therapy] explode all trees	MeSH		46
#8	MeSH descriptor: [Drug Administration Schedule] explode all trees	MeSH		24433
#9	#7 or #8	Limits		24475
#10	MeSH descriptor: [Glucocorticoids] explode all trees and with qualifier(s): [adverse effects - AE]	MeSH		783
#11	#1 and #5 and #6 and 9 and #10	Limits		10
#12	MeSH descriptor: [Taiwan] explode all trees	MeSH		1041
#13	#11 and #12	Limits		0
#14	Type a search term or use the S or MeSH buttons to compose	S	MeSH	Limits	N/A

利用關鍵字及MeSH進行文獻搜尋，並同時搜尋台灣本土相關發表文獻

搜尋歷程-Cochrane Library

搜尋結果
依研究類型
進行篩選



搜尋歷程- PubMed

Search	Actions	Details	Query	Results	Time
#15	•••	›	Search: **taiwan**	268,081	09:57:08
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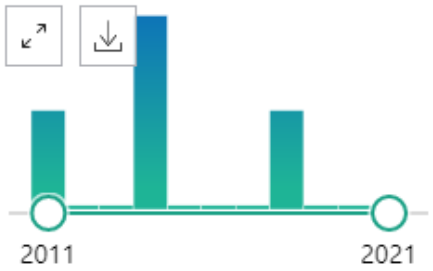
#13	•••	›	Search: **((((chronic obstructive pulmonary disease) AND (("Symptom Flare Up"[Mesh] OR "Disease Progression"[Mesh]) OR (exacerbat*))) AND ("Glucocorticoids"[Mesh])) AND (("Drug Administration Schedule"[Mesh]) OR ("Duration of Therapy"[Mesh]))) AND ("Glucocorticoids/adverse effects"[Mesh])**	11	09:56:17
#12	•••	›	Search: **("Symptom Flare Up"[Mesh] OR "Disease Progression"[Mesh]) OR (exacerbat*)**	318,710	09:55:14
#11	•••	›	Search: **exacerbat***	124,921	09:54:59
#10	•••	⌄	Search: **("Drug Administration Schedule"[Mesh]) OR ("Duration of Therapy"[Mesh])** "Drug Administration Schedule"[MeSH Terms] OR "Duration of Therapy"[MeSH Terms]	106,015	09:52:36
#8	•••	›	Search: **"Glucocorticoids/adverse effects"[Mesh]** Sort by: **Most Recent**	9,481	09:51:27
#7	•••	›	Search: **"Duration of Therapy"[Mesh]** Sort by: **Most Recent**	549	09:50:42
#6	•••	›	Search: **"Symptom Flare Up"[Mesh] OR "Disease Progression"[Mesh]** Sort by: **Most Recent**	201,372	09:50:18
#5	•••	›	Search: **"Drug Administration Schedule"[Mesh]** Sort by: **Most Recent**	105,496	09:48:53
#4	•••	›	Search: **"Glucocorticoids"[Mesh]** Sort by: **Most Recent**	68,380	09:47:53
#3	•••	›	Search: **chronic obstructive pulmonary disease**	90,518	09:46:07

結合關鍵字及MeSH進行文獻搜尋，並嘗試以”Taiwan”[Mesh]，搜尋本土資料

搜尋歷程-PubMed

最後依據證據等級及研究類型自定Filter進行篩選

RESULTS BY YEAR



TEXT AVAILABILITY

- [ ] Abstract
- [ ] Free full text
- [ ] Full text

ARTICLE ATTRIBUTE

- [ ] Associated data

ARTICLE TYPE

- [ ] Books and Documents
- [ ] Clinical Trial
- [ ] Meta-Analysis
- [ ] Randomized Controlled Trial
- [ ] Review
- [x] Systematic Review

Filters applied: Systematic Review. Clear all

1 Cite Share

Different durations of corticosteroid therapy for exacerbations of chronic obstructive pulmonary disease.

Walters JA, Tan DJ, White CJ, Wood-Baker R.

Cochrane Database Syst Rev. 2018 Mar 19;3(3):CD006897. doi: 10.1002/14651858.CD006897.pub4.

PMID: 29553157 **Free PMC article.** Review.

2 Cite Share

Systemic corticosteroids for acute exacerbations of chronic obstructive pulmonary disease.

Walters JA, Tan DJ, White CJ, Gibson PG, Wood-Baker R, Walters EH.

Cochrane Database Syst Rev. 2014 Sep 1;(9):CD001288. doi: 10.1002/14651858.CD001288.pub4.

PMID: 25178099 Review.

3 Cite Share

Different durations of corticosteroid therapy for exacerbations of chronic obstructive pulmonary disease.

Walters JA, Tan DJ, White CJ, Wood-Baker R.

Cochrane Database Syst Rev. 2014 Dec 10;(12):CD006897. doi: 10.1002/14651858.CD006897.pub3.

PMID: 25491891 **Updated.** Review.

4 Cite Share

Different durations of corticosteroid therapy for exacerbations of chronic obstructive pulmonary disease.

Walters JA, Wang W, Morley C, Soltani A, Wood-Baker R.

Cochrane Database Syst Rev. 2011 Oct 5;(10):CD006897. doi: 10.1002/14651858.CD006897.pub2.

PMID: 21975757 **Updated.** Review.

搜尋歷程-Embase®

Quick | PICO | PV Wizard | Medical device | Advanced | Drug | Disease | Device | Citation information

利用內建PICO搜尋功能進行快速搜尋

Find best term

- Emtree
  - anatomical concepts
  - biological functions
  - biomedical disciplines, science and art
  - chemical, physical and mathematical phenomena
  - chemicals and drugs
  - diseases
  - geographic names
  - groups by age and sex
  - health care concepts
  - named groups of persons
  - organisms
  - procedures, parameters and devices
  - society and environment
  - types of article or study

Population

chronic obstructive lung disease /exp ▼ | + 18 synonyms :all ▼ | AND ▼ | disease exacerbation /exp ▼ | + 6 synonyms :all ▼

Intervention

glucocorticoid /exp ▼ | + 12 synonyms :all ▼

Comparison

treatment duration /exp ▼ | + 6 synonyms :all ▼

Outcome

adverse event /exp ▼ | + 5 synonyms :all ▼ | OR ▼ | side effect /exp ▼ | + 2 synonyms :all ▼

搜尋歷程- Embase®

('chronic obstructive lung disease'/exp OR 'chronic airflow obstruction' OR 'chronic airway obstruction' OR 'chronic obstructive bronchopulmonary disease' OR 'chronic obstructive lung disease' OR 'chronic obstructive lung disorder' OR 'chronic obstructive pulmonary disease' OR 'chronic obstructive pulmonary disorder' OR 'chronic obstructive respiratory disease' OR 'chronic pulmonary obstructive disease' OR 'chronic pulmonary obstructive disorder' OR 'copd' OR 'lung chronic obstructive disease' OR 'lung disease, chronic obstructive' OR 'obstructive chronic lung disease' OR 'obstructive chronic pulmonary disease' OR 'obstructive lung disease, chronic' OR 'pulmonary disease, chronic obstructive' OR 'pulmonary disorder, chronic obstructive') AND ('disease exacerbation'/exp OR 'aggravation, disease' OR 'disease aggravation' OR 'disease exacerbation' OR 'disease flare' OR 'disease progression' OR 'exacerbation, disease') AND ('glucocorticoid'/exp OR 'glucocorticoid' OR 'glucocorticoid drug' OR 'glucocorticoid hormone' OR 'glucocorticoid steroid' OR 'glucocorticoids' OR 'glucocorticoids, synthetic' OR 'glucocorticoids, topical' OR 'glucocorticoidsteroid' OR 'glucocorticosteroid' OR 'glucocortoid' OR 'glycocorticoid' OR 'glycocorticosteroid') AND ('treatment duration'/exp OR 'duration of therapy' OR 'duration of treatment' OR 'length of therapy' OR 'length of treatment' OR 'therapy duration' OR 'treatment duration') AND ('adverse event'/exp OR 'adverse effect' OR 'adverse effects' OR 'adverse event' OR 'adverse events' OR 'adverse reaction' OR 'side effect'/exp OR 'side effect' OR 'side reaction') AND ([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim)

Search > | Mapping ∨ | Date ∨ | Sources ∨ | Fields ∨ | Quick limits ∨ | EBM ∧ | Pub. types ∨ | Languages ∨ | Gender ∨ | Age ∨ | Animal ∨ | Search tips ∨

Evidence Based Medicine

Clear page selections | Collapse

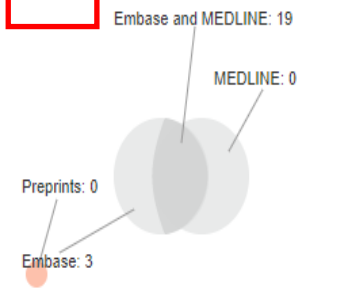
- [x] Cochrane Review
- [x] Systematic Review
- [x] Meta Analysis
- [ ] Controlled Clinical Trial
- [ ] Randomized Controlled Trial

利用EBM功能就文獻類型/等級進行篩選

Results Filters

+ Expand | — Collapse all | Apply >

Sources ∧



Drugs ∨

History | Save | Delete | Print view | Export | Email | Combine > | using (•) And ( ) Or | ∧ Collapse

#5	#2 AND #4	0
#4	('chronic obstructive lung disease'/exp OR 'chronic airflow obstruction' OR 'chronic airway obstruction' OR 'chronic obstructive bronchopulmonary disease' OR 'chronic obstructive lung disease' OR 'chronic obstructive lung disorder' OR 'chronic obstructive pulmonary disease' OR 'chronic obstructive pulmonary disorder' OR 'chronic obstructive respiratory disease' OR 'chronic pulmonary obstructive disease' OR 'chronic pulmonary obstructive disorder' OR 'copd' OR 'lung chronic obstructive disease' OR 'lung disease, chronic obstructive' OR 'obstructive chronic lung disease' OR 'obstructive chronic pulmonary disease' OR 'obstructive lung disease, chronic' OR 'pulmonary disease, chronic obstructive' OR 'pulmonary disorder, chronic obstructive') AND ('disease exacerbation'/exp OR 'aggravation, disease' OR 'disease aggravation' OR 'disease exacerbation' OR 'disease flare' OR 'disease progression' OR 'exacerbation, disease') AND ('glucocorticoid'/exp OR 'glucocorticoid' OR 'glucocorticoid drug' OR 'glucocorticoid hormone' OR 'glucocorticoid steroid' OR 'glucocorticoids' OR 'glucocorticoids, synthetic' OR 'glucocorticoids, topical' OR 'glucocorticoidsteroid' OR 'glucocorticosteroid' OR 'glucocortoid' OR 'glycocorticoid' OR 'glycocorticosteroid') AND ('treatment duration'/exp OR 'duration of therapy' OR 'duration of treatment' OR 'length of therapy' OR 'length of treatment' OR 'therapy duration' OR 'treatment duration') AND ('adverse event'/exp OR 'adverse effect' OR 'adverse effects' OR 'adverse event' OR 'adverse events' OR 'adverse reaction' OR 'side effect'/exp OR 'side effect' OR 'side reaction') AND ([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim)	22
#3	#1 AND #2	4
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搜尋歷程-本土資料

airiti Library 華藝線上圖書館

除外文資料庫外，也利用中文關鍵字(COPD+惡化+類固醇)搜尋本土資料庫以搜尋中文發表文獻

搜尋結果

排除原則：
❖不符合臨床問題 ❖沒有全文❖文獻年限太舊

資料庫	找到篇數	Systematic revies及meta-analysis篇數	符合PICO篇數
Cochrane Library	3	2	1
Embase®	168	22	3
PubMed	11	1	1
airiti Library 華藝線上圖書館	0	0	0

挑選文獻的理由

題名	符合臨床問題與研究族群	年份	類型	納入試驗	outcome
Different durations of corticosteroid therapy for exacerbations of chronic obstructive pulmonary disease	Yes	2018	Systematic review with meta-analysis	8 studies with 582 participants met the inclusion criteria	treatment failure, relapse, Time to the next COPD exacerbation, adverse event

選擇文獻的原因：符合臨床問題、最佳研究設計、年代最新、證據等級較高

最佳文獻

[Intervention Review]

Different durations of corticosteroid therapy for exacerbations of chronic obstructive pulmonary disease

Julia AE Walters[1], Daniel J Tan[2], Clinton J White[2], Richard Wood-Baker[2]

[1]La Trobe University, Melbourne, Australia. [2]School of Medicine, University of Tasmania, Hobart, Australia

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Editorial group: Cochrane Airways Group.
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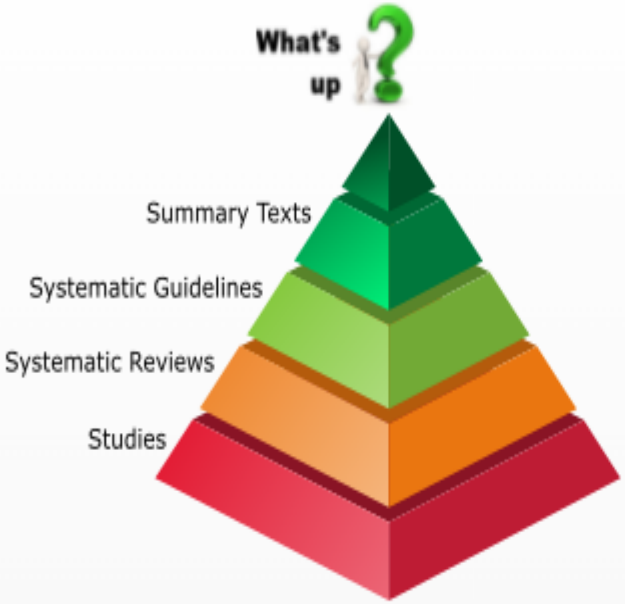

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臨床情境

63歲女性診斷支氣管擴張症，有使用長效型支氣管擴張劑及化痰藥，及不定時使用抗生素。有大量黃濁痰及喘的問題，在夜晚有家人幫忙拍痰；但她不想太依賴別人，經網路查詢後，考慮Oscillatory positive expiratory pressure device，復健或運動，練氣功等是否對她有所幫助。

臨床情境

王先生45歲，平常工作忙碌沒有運動習慣，身高170cm但體重接近90公斤。已有高血壓5年的病史目前規則服藥中。近三年日間工作時總是精神不濟，同時還發現他工作中有時會打瞌睡的情況，老婆也一直抱怨先生晚上打呼厲害，嚴重影響到她的睡眠，因此要求分房睡。因此，經同事介紹至胸腔科睡眠門診就診，檢查發現有睡眠中止及扁桃腺腫大，耳鼻喉科醫生建議可以考慮進行扁桃腺切除手術。胸腔科醫生建議若不想手術可以考慮先規則運動及減重，或是自費購買CPAP呼吸器。王先生聽同事說，這類問題不治療可能增加心血管疾病甚至是猝死的風險，這樣的風險到底多高？王先生想進一步了解運動及減重要到什麼樣的程度才會有效，是不是可以減少前面提到的風險，或是只能減少症狀，改善生活品質。使用CPAP或是手術兩者對於以上問題的改善程度又有多少？如何抉擇才最合算？