EBM簡介及臨床應用

高雄醫學大學附設醫院
一般醫學訓練示範中心 主治醫師
中華民國 胸腔暨重症專科醫師
台灣實證醫學學會 實證健康照護教師

王程遠
ayuan73@gmail.com
(07) 3121101轉6831

大綱

- 實證醫學的演進
- 實證醫學步驟
- 實證醫學的臨床應用

實證醫學的演進

醫療專業角色的演進

由毉到醫

「醫」的古字「毉」

- 「巫」，乃是指擁有醫病、算卦等技能之士
-  也。女能事無形，以舞降神者也。象人兩褒舞形

藥學引進--說文解字裏的「醫」

- 「医殳」，惡姿也；即是人們生病時的狀態
- 「酉」，酒，古人認為酒可治病及通經活絡

由經驗到實驗

- 華佗年代，黃疸病流行，他花了三年時間對茵陳蒿的藥效作了反複試驗，決定用「春三月的茵陳蒿嫩葉」施治，救治了許多病人
- 民間因此而流傳一首歌謠：“三月茵陳四月蒿，傳於後世切記牢，三月茵陳能治病，五月六月當柴燒”。

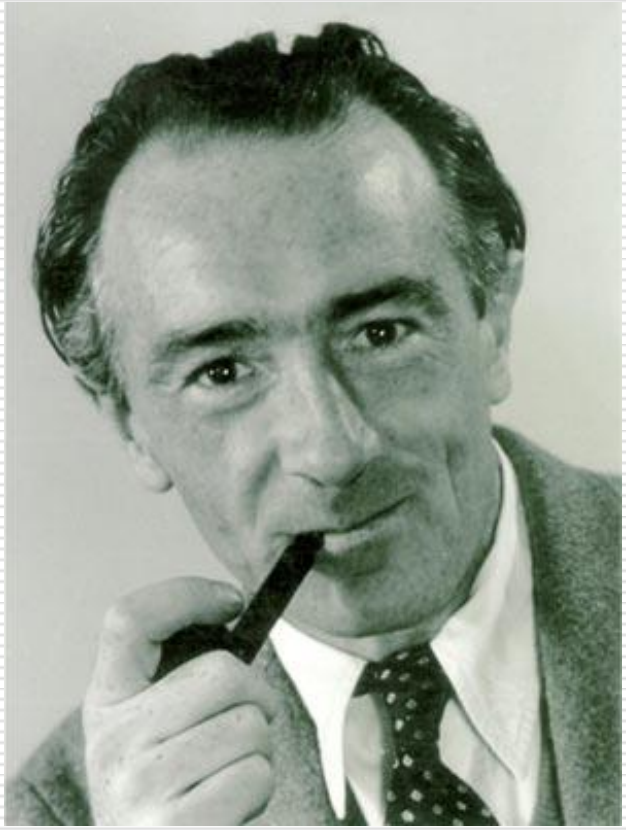
克勞德.班納 (Claude Bernard)(1813-1878)

- 法國生理學家
- 「實驗醫學」的先驅
- 提出生理實驗的三大原則：觀察，假說，實驗
- 使醫學正式由「經驗醫學」進展至「實驗醫學」

- 西方醫學史 ，葉頌壽、葉頌熙醫師合譯，橘井文化事業股份有限公司出版

Archie Cochrane (1908-1988)

- 英國著名流行病學學家及醫師
- 1971年著作「Effectiveness and Efficiency, Random Reflections on Health Services」
- 主張經RCT證實好處大於壞處才是有效的治療
- 產生深遠影響，RCT 成為檢驗醫療效果的金科玉律



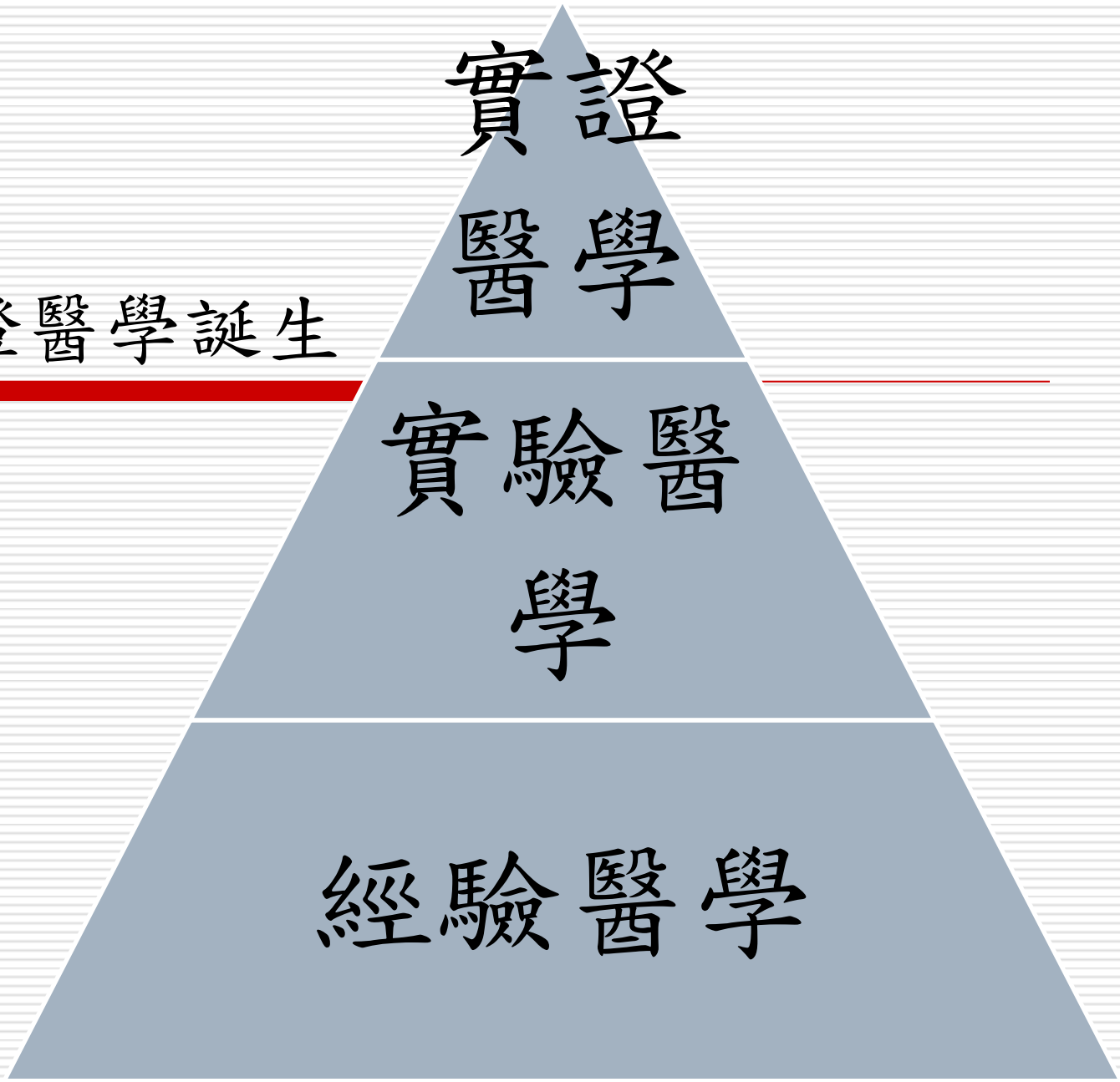
EBM what it is and what it isn't

誠實的、清楚的、明智的使用目前最佳證據來做出醫療決策。

是臨床專業，病人價值，以及最佳研究實證的整合，缺一不可！

BMJ 1996;312:71-72 (13 January)

現代實證醫學誕生



- 2006年8月1 日台灣正式成立「實證醫學臨床指引知識平台」發展委員會及指引專家小組
  - 近期目標：「實證臨床指引平台」資訊系統之建置，提供資訊交流場所
  - 中期目標：整合國內所有醫學專科之臨床診療指引
  - 長期目標：成立「台灣臨床診療指引中心」，進行國內臨床診療指引之外部審核

http://ebpg.nhri.org.tw/

Taiwan Evidence-Based Medicine Association

- 2007年8月15日「台灣實證醫學學會」成立
  - http://www.tebma.org.tw/e107_plugins/list_new/list.php

實證醫學步驟

實證醫學六大步驟-六個A

- 臨床場景分析(Analysis)
- 提出臨床問題(Asking)： background及foreground question
- 搜尋最有用的資料(Acquire)： 5S model
- 嚴格評讀文獻(Appraisal)
- 應用到病人身上(Apply)
- 自我評估(Audit)

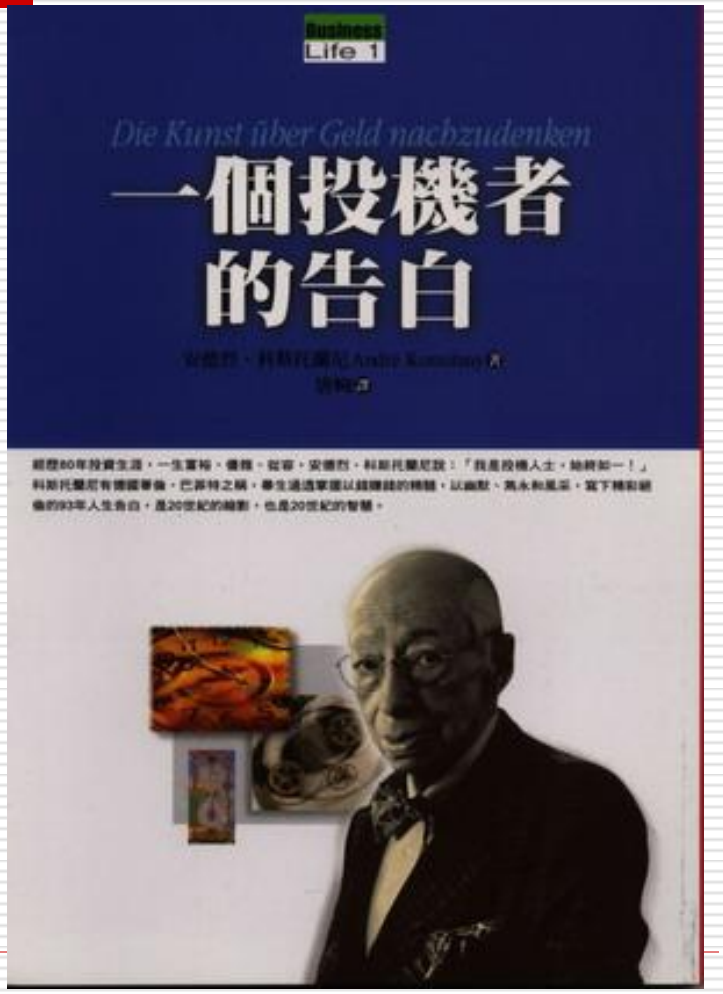
第一步：臨床場景分析 Analysis

不會分析

就看不出問題

臨床分析的邏輯

- 「投機家像新聞記者一樣，靠著自己追踪收集來的新聞為生，又必須像醫生一樣作出診斷。投機家、醫生、記者，三種人當中，只有新聞記者可以一再出錯，還能一直擔任記者一職。如果醫生不斷出錯，總有一天會失去病人，而投機家則會破產。」



收集資料、分析統合資料、做出結論

由推論而結論

分析的邏輯

- Etiology
- Diagnosis
- Treatment
- Prognosis
- Prevention
- Harm
- Benefit
- Cost-effectiveness
- Alternative

Asking:

Background question
Foreground question

第二步：問一個可以回答的問題

問了一個無法回答的問題

- 案例：
- 30歲男性患者，主訴bone pain及fever，診斷為dengue fever，想比較moxifloxacin和levofloxacin那一個比較有效？

- 老師：我找不到答案！

寫成PICOT

Patient	30歲男性患者，主訴bone pain及fever，診斷為dengue fever
Intervention	moxifloxacin
Compare	levofloxacin
Outcome	有效
Time	?

缺乏邏輯
不夠精確

問的問題不具臨床重要性

Background knowledge不足
改進方法：先解決background questions

- What
- Who
- Where
- When
- Which
- How

What is dengue fever?

How to treat dengue fever?

實證醫學步驟

第三步：搜尋資料

Search strategy

Keyword

5S model

Keywords from PICOT item

- Scenario - You are interested in whether statin is effective in reducing CV risk in DM patients

Question

- Population – in DM patients does
- Intervention –statin therapy
- Comparator – placebo
- Outcome – reduce CV event risk?
- Time—10 years

1. Underline the key terms
2. Number the order of importance from 1-4

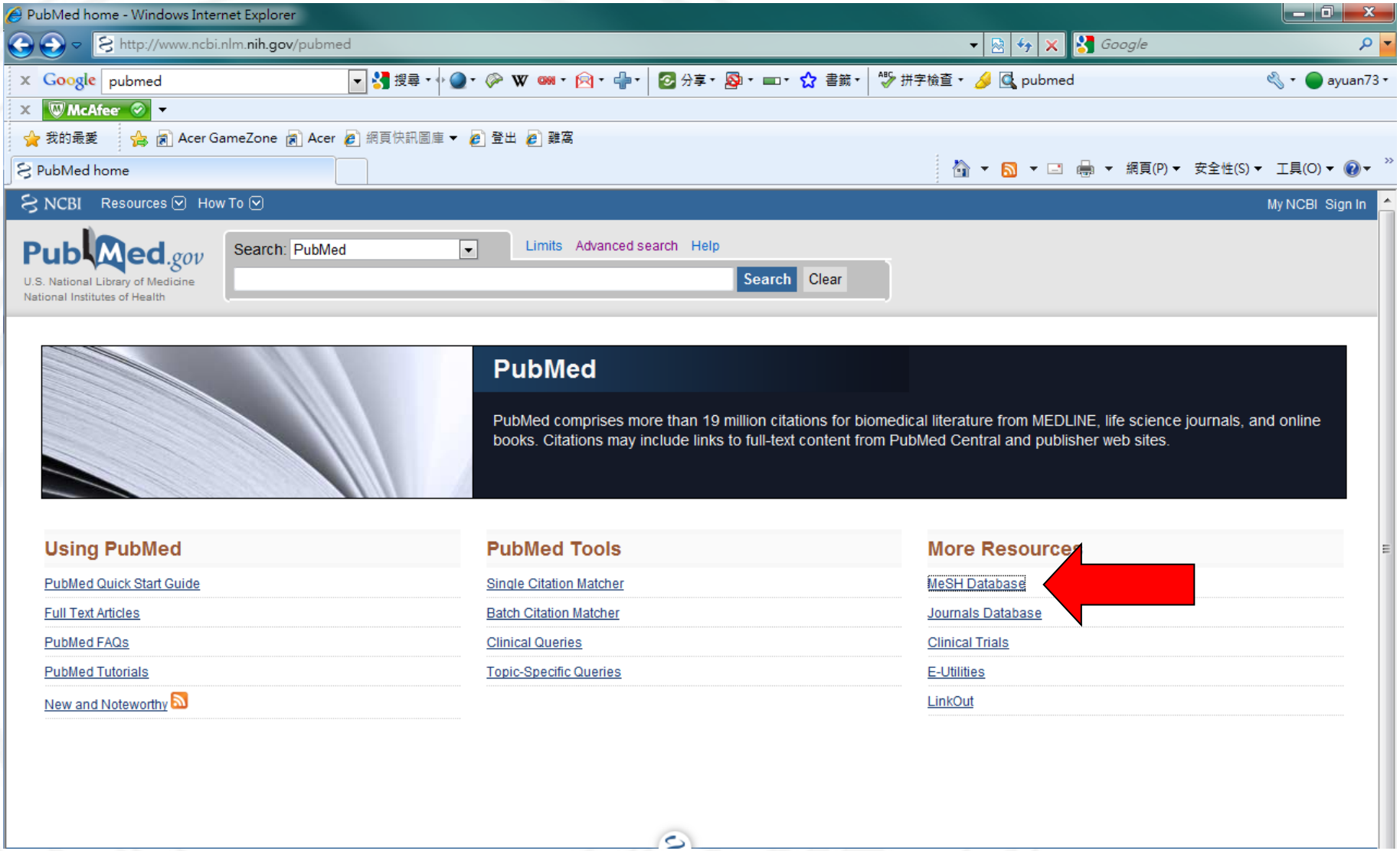
Keywords from PICOT item

- Scenario - You are interested in whether statin is effective in reducing CV risk in DM patients

Question

- Population – in DM patients does (3)
- Intervention –statin therapy (1)
- Comparator – placebo
- Outcome – reduce CV event risk? (2)

使用MeSH term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http://www.ncbi.nlm.nih.gov/pubmed
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NCBI Resources How To
My NCBI Sign In
PubMed.gov
U.S. National Library of Medicine
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Search MeSH for qigong Go Clear Save Search

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Special Queries
LinkOut
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Related Resources
Order Documents
NLM Mobile
NLM Catalog
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Suggestions: Qigong, Qindan, Qidan, Qingyi, Qingbi, Qingdu, Qinpi, Yigong, Qiqi, Dugong, More...

Display Full Show 20 Send to

All: 1

- If making selections (e.g., Subheadings, etc.), use the Send to Search Box feature to see PubMed records with those specifications.
- Select PubMed under the Links menu to retrieve records for the MeSH Term.
- Select NLM MeSH Browser under the

1: **Breathing Exercises**

Therapeutic exercises aimed to

Subheadings: This list includes those paired with this heading in MEDLINE and may not reflect current rules for allowable combinations.

adverse effects history instrumentation methods standards

Restrict Search to Major Topic headings only.
Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).

Entry Terms:

- Exercise, Breathing
- Respiratory Muscle Training
- Muscle Training, Respiratory
- Training, Respiratory Muscle
- Qigong
- Qi Gong
- Gong, Qi
- Ch'i Kung
- Kung, Ch'i

氣功叫做breathing exercise！

氣功=qigong

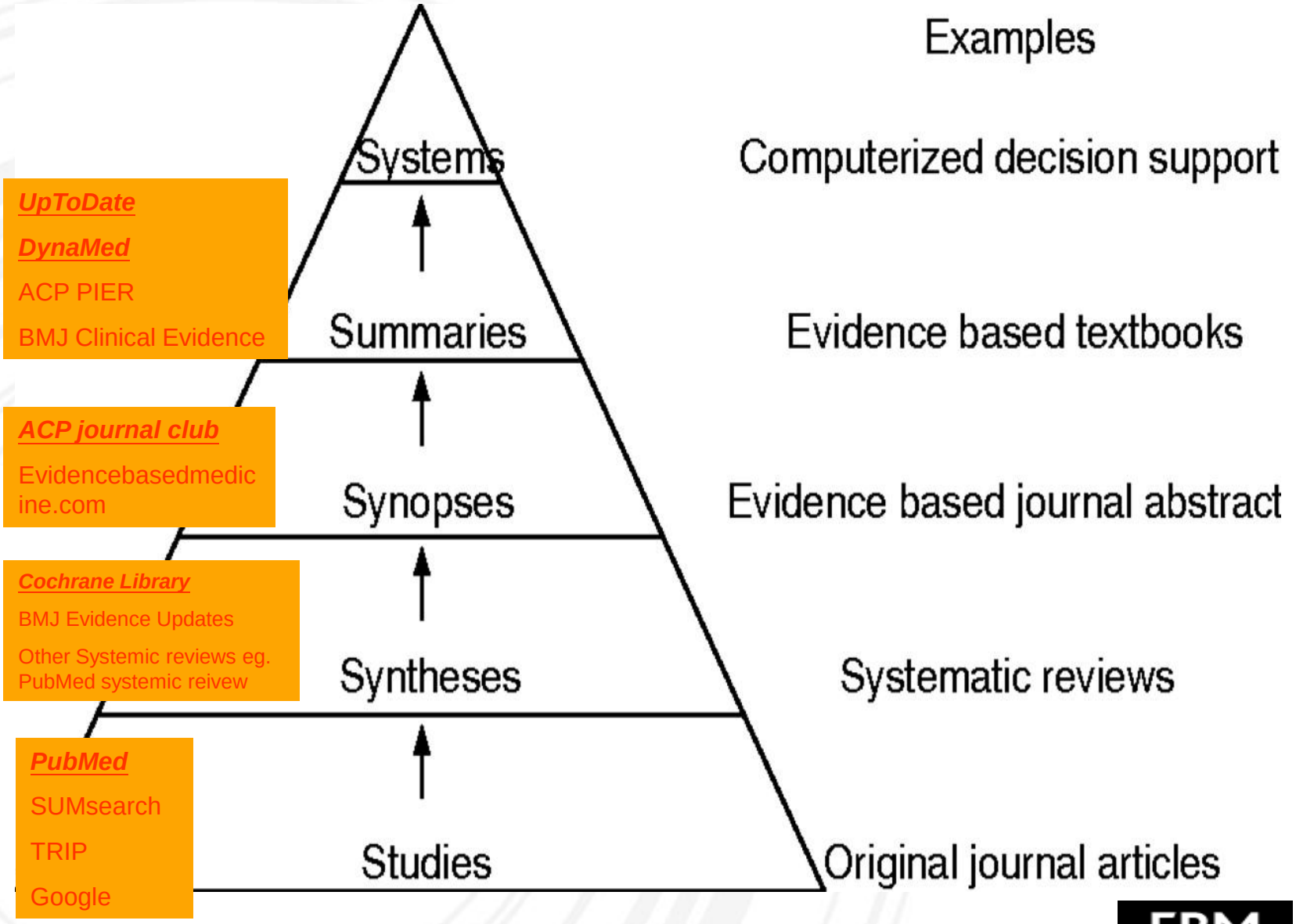
The 5S model

Primary database

Secondary database

The "5S" levels of organisation of evidence from healthcare research

Brian Haynes, R Evid Based Med 2006;11:162-164



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ACP Journal Club - Search Results

Search for: pancreatitis Go

Phrases must be in "quotes"

Article type: All / Therapeutics / Diagnosis / Clinical Prediction Guide / Prognosis

Don't use synonyms

Search Help

打入關鍵字pancreatitis

Found 23 matches. Showing 1 - 10.

1. 2007 - Surgical drainage was more effective than endoscopic drainage in obstruction of the pancreatic duct in chronic pancreatitis

2. OAN: 2005 - 2004 MacLean-Mueller prize enteral or parenteral nutrition for severe pancreatitis: a randomized controlled trial and health technology assessment.

3. OAN: 2008 - Early endoscopic retrograde cholangiopancreatography versus conservative management in acute biliary pancreatitis without cholangitis: a meta-analysis of randomized trials.

4. OAN: 2008 - Probiotic prophylaxis in predicted severe acute pancreatitis: a randomised, double-blind, placebo-controlled trial.

5. OAN: 2007 - Randomised, double blind, placebo controlled trial of intravenous antioxidant (n-acetylcysteine, selenium, vitamin C) therapy in severe acute pancreatitis.

6. OAN: 2007 - Effect of octreotide administration in the prophylaxis

Surgical (pancreaticojejunostomy) vs endoscopic drainage in patients with distal obstruction of the pancreatic duct in chronic pancreatitis at median 2 years†

Outcomes	Surgery	Endoscopy	Difference (95% CI)	
Mean Izbicki pain score‡	25	51	−24 (−36 to −11) ‖	
Mean SF-36 physical health scores§	47			
Mean SF-36 mental health scores§	45			
Median number of procedures	3	8	−5 (−8 to	
			RBI (CI)	NNT (CI)
Pain relief	75%	32%	138% (26 to 404)	3 (2 to 9)

Number need to treat 也算出來了

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Issue 8 of 12, Aug 2010

- Anaesthesia & pain control (148)
- Blood disorders (98)
- Cancer (303)
- Consumer & communication strategies (30)
- Dentistry & oral health (109)
- Developmental, psychosocial, & learning problems (77)
- Ear, nose, & throat (94)
- Effective practice/health systems (62)
- Endocrine & metabolic (80)

expand

Other Browse Options

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Search for trials **Issue 3 of 4, Jul 2010**

SPECIAL COLLECTIONS


Neglected tropical diseases


Telemedicine


Neurological cancers

View all

EDITORIAL

Telemonitoring for chronic heart failure: not ready for prime time by Dr Juan-Pablo Casas & colleagues

Chronic heart failure (CHF) is life-threatening condition that is becoming more common in most countries due to improved treatments for acute coronary syndromes (Kushner 2009). In addition, with ageing of the population, the number of people at risk of developing CHF has also increased. Improving the management of CHF is a high and growing priority for cardiovascular health services...

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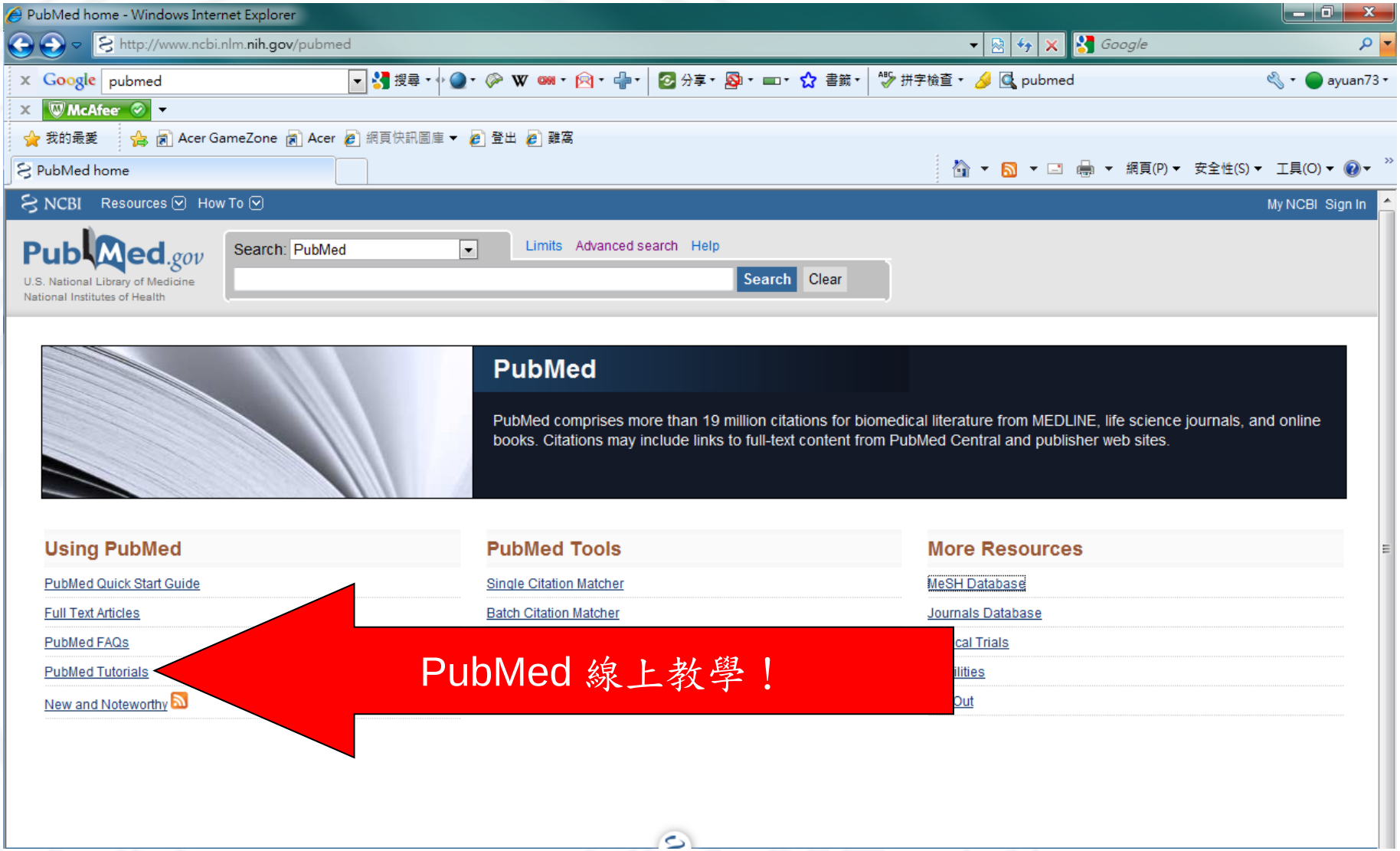
HIGHLIGHTED NEW AND UPDATED COCHRANE REVIEWS

- Outreach strategies for expanding health insurance coverage in children
- Allergen immunotherapy for asthma
- Oxygen therapy for acute myocardial infarction

Study: 四大 primary databases

- MEDLINE
  - 是美國國家醫學圖書館整理的，涵蓋了健康照護研究各領域，著重於基礎科學和臨床醫學
- EMBASE/ Excerpta Medica
  - 相當於歐洲版的MEDLINE，特別注重藥理學文獻，健康團隊領域,尤其是歐洲的文獻。
- PsyINFO
  - Psychological Abstracs 的同義詞，由美國心理學協會整理，包括心理學，精神醫學，照會醫學和其他有關心理衛生的學科。
- CINAHL (Cumulative Index to Nursing and Allied Health Literature)
  - 是個商業產品，強調護理，物理治療，職能治療，另類療法與其他相關領域

Study: Primary database



中文資料庫：華藝線上圖書館

查詢條件：(氣功)=所有欄位
限制條件：限有電子全文

簡易查詢　進階查詢　查詢

排序方式：最新出版在前　共1頁 1

第1筆　全文下載(10點)　加入追蹤清單　加入購物車

篇名	自發功的自我導向學習經驗探討——一個修鍊過程的案例
並列篇名	Exploration of the Self-Directed Learning on Self-generated Chi Kung-Case Study on the Cultivation Procedure One Has Experienced
作者	王立文(Lin-Wen Wang)
關鍵字	自發功；自我導向學習；修鍊；self-generated chi kung；self-directed learning；cultivation
出版品名稱	佛學與科學
卷期/出版年月	11卷1期(2010/02/01)
頁次	6 -10
內容語文	繁體中文
中文摘要	氣功有益於健康，有時甚至可以治病，這是國人大半能接受的命題，而氣功醫學也是耳熟能詳的名詞。不同的功法治不同的病，某些氣功書對此亦有敘述。氣功教學的訊息在報章、在網上相當的多，不少人都曾嘗試去交錢上課，學成的固然不少，但半途而廢的更是所在多有，原因是招式變化太多，難於記憶，挫折感一生便停止了學習。不過在諸多氣功中，有一種氣功叫自發功，習自發功者很少須要交大把學費的，大多時間是自己探索、自己練習，在適當時機請教一些有經驗的人，避開走火入魔的可能性，就可以打通不少經脈，身體狀況得到改善，這個過程十分類似終身教育界提倡的自我導向學習，在學習心理學中亦很重視自我調節學習。在這種學習中，目標、進度、評估、尋找資源、投入多少時間皆主要由自我掌控，整個過程呈現高度地自我導向學習。如果我們知道自己在使用自我導向學習"學"自發功，就不會太慌亂，因為自發功常給人不可思議的感受，心生畏懼，有的停止練習，搞不好的會走火入魔。其實若以平常心配上對自我導向學習的瞭解，自發功的奧秘就會逐步解開，我們亦能因之可以讓全身經脈通暢，達到健康的效果。 佛陀在成道前，曾在身體下過極大的功夫，執苦行修鍊之道，因太努力而至虛脫，終於體會過與不及皆無法成道。自發功亦可視爲修鍊的一種，練的不夠，效果不大，但過度的操練與預期亦可能陷入迷失，學佛主要還是心性的修鍊，過度相信在身體上修鍊而能有什麼神奇的功效，反倒會錯過了明心見性的機會。

《孟子·盡心下》

盡信書，則不如無書

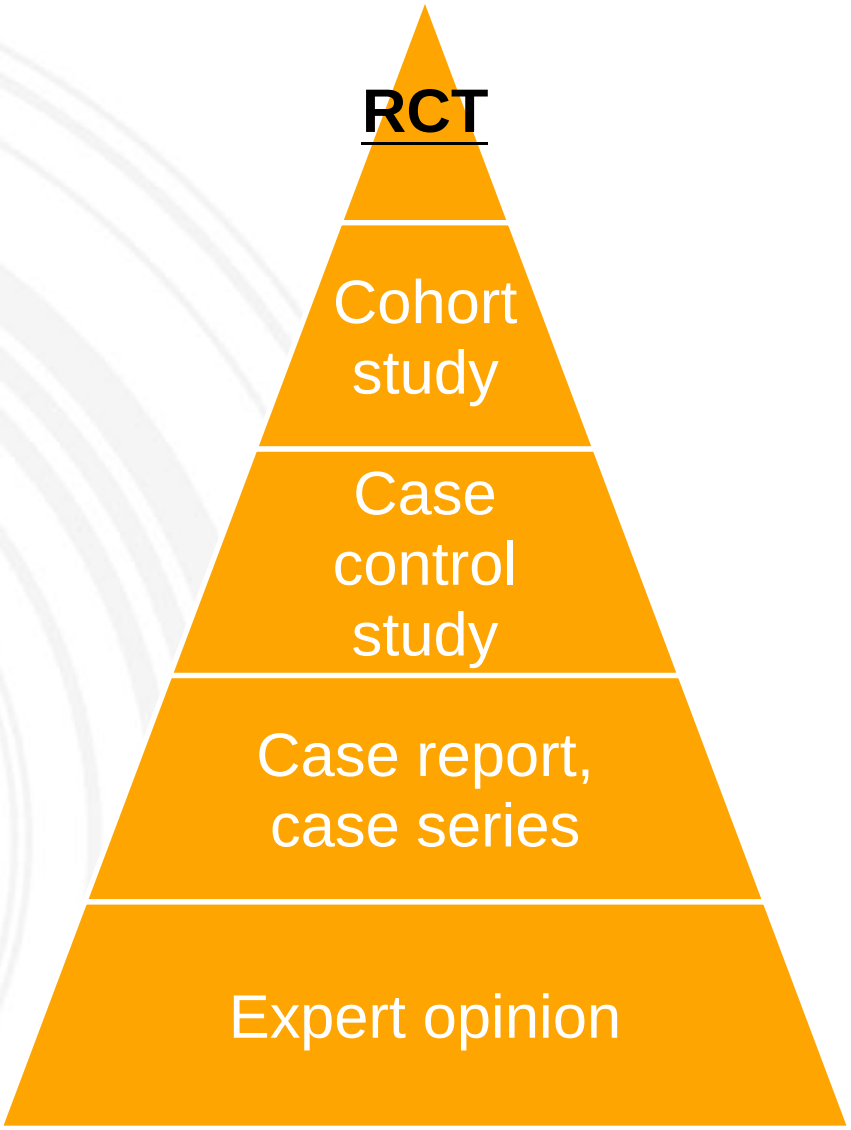
第四步：嚴格評讀

文獻的解剖：AAMPICOT

Worksheet :V.I.P

Method

- 介入性研究(RCT)
  - Level 1
- 分析性研究
  - Level 2 (cohort study, outcome research, ecological studies)
  - Level 3 (case control study)
- 描述性研究
  - Level 4 (case report, case series)
- 專家意見：Level 5



Expert opinion

- 建生中醫關心你的坐骨神經痛…
- 坐骨神經痛就是…
- 有這款情形，請卡免錢電話0800-092-000

Reviews

- Narrative Review：專家結合實作經驗及文獻，文獻搜尋廣度、選用理由不明
- Systematic Review：詳述搜尋文獻廣度、說明評讀篩選文獻的方法、做成結論、討論limitations
- Meta-analysis：使用統計學方法將以上結果統合在一起就叫meta-analysis

Answer	文獻試圖回答什麼問題？	是否回答我的問題？
Authors	作者是誰，他們的立場如何，能信任他們嗎？	有無利益衝突
Method	RCT,cohort, case-control	case report, case series , expert opinion
Patients (papers)	是否隨機取樣(randomization)	取樣是否具代表性(representative)
Intervention	是否有清楚的描述(Ascertain) 是否實際可行	
Comparasion		
Outcome	是否有客觀雙盲的測量(MBO) αβ	是否有統計學及臨床上的意義？
Time	1、發表時間2、是否清楚描述研究取樣、操作、結果測量的時間點，追蹤時間是否夠長	

	單篇文獻	Systemic Review
P	Representative(selection bias) Randomization(confounding bias) Blind (observer bias)	What databases are searched Inclusion criteria Exclusion criteria
I	Ascertain, practical	Ascertain, practical, homogeneous
C		
O	Measureable(統計量，P值，95%信賴區間，檢力) ，Objective(information bias) α ：偽陽性機會多大？ β：偽陰性機會多大？	Funnel plot(是否有publication bias), Forest plot
T	1、發表時間2、是否清楚描述研究取樣、操作、結果測量的時間點，3、追蹤時間是否夠長	

使用「 Worksheets 」來評讀文獻

CEBM
CENTRE FOR EVIDENCE BASED MEDICINE

UNIVERSITY OF OXFORD

Quickfinder Go

Welcome to CEBM

Welcome to the web site of the Centre for Evidence-Based Medicine in Oxford in the UK.

Our broad aim is to develop, teach and promote evidence-based health care and provide support and resources to doctors and health care professionals to help maintain the highest standards of medicine.

Learn more about EBM and the CEBM.

What's New

- 5th International EBHC Conference
- Read the latest 'Journal Watch'
- What is EBM? Latest Blog
- PaT Plot, graphic presentation of trials
- EBM in Practice video (P Glasziou)
- Diagnostic Tests video (C Heneghan)

EBM Journal

Evidence-based medicine is published by the BMJ bi-monthly. It alerts clinicians to the latest EBM advances.
Find out more

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The latest FREE tools for effective practice and teaching of evidence-based medicine.

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- PowerPoint presentations

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We offer a range of courses to clinicians and other healthcare professionals seeking to develop their EBM skills.

Title: hing Evidence-Based Practice
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Duration: 1 d
Dates: 26th June 2009
Venue: Department of Continuing Education, Ewert House, Ewert Place, Summertown, Oxford

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Journal Watch

JOURNALWATCH

ersonal comment on articles from main medical journals selected heir interest to doctors (and ers).
See the latest issue

EBM Discussion G

For teachers and practitioners in EBHC to communicate with colleagues, announce meetings and courses, stimulate discussion, air controversies and aid the implementation of EBH.
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Masters Degree in EBHC

This Oxford MSc is part of the Oxford International Programme in Evidence-Based Health Care.
More Information

EBM Tools

EBM tools

嚴格評讀文獻(appraisal)

口訣：V,I,P

此文獻是否是令人信服的(valid)？RAMBO

- **(Representative)**？研究族群是否具有代表性
  - 隨機選擇(***random*** *selection*)
  - 隨機分派(***random*** *allocation*)
    - 樣本是如何選出來的？
    - 有用最合適的抽樣方法嗎？
    - 如何收集資料？
    - 是最好的方法嗎？

此文獻是否是令人信服的(valid)？RAMBO

- **(Ascertainment/follow-up)**？
  - 是否有足夠的確認和追蹤
  - （反應率/追蹤/確認＞80%）

- 結果的估計值**(Measurement)**是否公正？恰當？
  - 使用盲法**(Blinded)**或客觀的**(Objective)**估計

Important

- 統計學上的重要性
- 臨床上的重要性

Applicable

- 可否應用到病人身上？

“…is the integration of best research evidence with clinical expertise and patient values. “

“…是臨床專業，病人價值，以及最佳研究實證的整合”

第五步：運用到病人身上

結合醫學倫理的分析方式

醫療現況(臨床專業+最佳研究實證)	病人意願
台灣許多醫院，包括多家指標性醫學中心都依然對沒有過敏史的病人進行檢查，進行檢查的方式與世界公認的goal standard penicillin skin test完全不相符。	無意義的檢查，又頗為疼痛，病人應該不會喜歡。
生活品質	**社會經濟脈絡**
病人無意義的挨針，生活品質下降 增加醫護的loading 下降醫護的生活品質。	浪費醫療資源 醫師顧慮有關盤尼西林相關法律案件之判例 實習醫師過勞死

Everyone already is doing it?

實證醫學的臨床應用

實證醫學的臨床應用

- Etiology
- Diagnosis
- Treatment
- Prognosis
- Prevention
- Benefit
- Harm
- Cost-effectiveness
- Alternative

Etiology 案例

- 34歲男性，因右側Pleural effusion被診斷為肺結核服用結核藥物，起初pleural effusion partial resolution，1個月後發生fever及leukopenia及兩側耳垂瘀血。

- 家族史也是診斷工具之一
  生：我終於了解家族史的重要了！

Diagnosis 案例

- 74歲女性無過去病史，主訴頭暈頭痛併左耳痛及耳鳴入院，體溫38度C。電腦斷層懷疑中風，神經內科照會認為中風無法排除，建議入院觀察
- 入院後因頭痛加重，病房醫師認為是腦膜炎再次照會，照會醫師評估病人沒有meningeal sign不像meningitis，要求取消照會

Diagnosis 案例

- nuchal rigidity 敏感度30~88%
- Kernig's sign, Brudzinski's sign：敏感度5%(只有在嚴重後期的腦膜炎才有)
- Jolt accentuation of headache(搖動頭痛：以每秒3下的速度水平搖頭而加重頭痛)：敏感度97%，特異度60%

王程遠

18歲男性，6歲時有在側水腎並開過刀，無其他疾病。早上突然雙下肢無力，K=2.1。一個月前曾因同樣的症狀掛急診。
有吃大餐加cola的習慣數年了。thyroid np，無高血壓，無吐無拉，無服用任何藥物。CPK 506。venous gas np。請問是什麼病？

讚 · 留言 · 8月29日 9:39

Debbie Huang 、林謂文和其他 2 人都說讚。

Jason Tsai Hypokalemic periodic paralysis
8月29日 9:46 · 讚 · 2

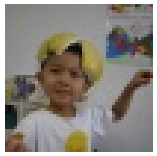
Jason Tsai 太有趣了，第一次聽到這個病，記起來！
8月29日 23:15 · 讚 · 1

Mh Hsieh Hypokalemic periodic paralysis
8月29日 9:49 · 讚 · 2

王程遠 此病人無特殊家族史。詳問發現每日可樂至少2000毫升，可口可樂標示每100毫升<20mg caffeine，加上不定量的茶，因此病人每日caffeine攝取量可能超過400mg。查文獻發現有不少喝大量可樂造成低血鉀的case report及review。
Mechanisms of cola-induced hypokalaemia: caffeine intoxication was thought to
play the most important role
(1) Glucose-induced hypokalaemia: osmotic diuresis
(2) Fructose-induced hypokalaemia: osmotic diarrhea
(3) Caffeine-induced hypokalaemia: potassium redistribution into cells(caffeine-induced respiratory alkalosis and beta-adrenergic stimulation), increased renal excretion of potassium(caffeine mediated increase in diuresis, caffeine-induced increase in renin release)
Symptoms of caffeine toxicity may occur in adults at doses of as little as 500–600 mg per day
8月29日 21:38 · 讚 · 5

Treatment 案例

- 55歲病人右腳踝痛風發作
- 生：用colchicine 治療
- 師：
  - 如何給法？
  - number need to treat是多少？
  - number need to harm 各多少？
  - 有無其他更好的方法？
  - 符合經濟效益嗎？
- 生：(查藥典中…) 劑量有一個範圍
- 師：給得高效果也較好嗎？



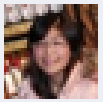
王程遠

本週高醫一般醫學內科ebm問題：急性痛風發作時，高劑量Colchicine給法(1.2 mg followed by 0.6 mg every hour for 6 hours , total 4.8mg)與低劑量colchicine給法(1.2 mg followed by 0.6 mg in 1 hour, total 1.8mg)分別與placebo相比，高劑量給法的NNT=6, NNH=3，也就是每治療6個有一個會有效(換句話說有5個病人繼續痛)，每治療3個有一個會產生腹瀉、噁心、吐的副作用；低劑量給法的NNT=5,副作用和placebo無統計上的差別。看來低劑量的給法反而好。
level 1b.
出處：Arthritis Rheum. 2010 Apr;62(4):1060-8.
High versus low dosing of oral colchicine for early acute gout flare: Twenty-four-hour outcome of the first multicenter, randomized, double-blind, placebo-controlled, parallel-group, dose-comparison colchicine study

讚 · 留言 · 8月17日 21:55

Mh Hsieh 、劉嘉美、美中以及其他 19 人都說讚。

查看全部 5 則留言



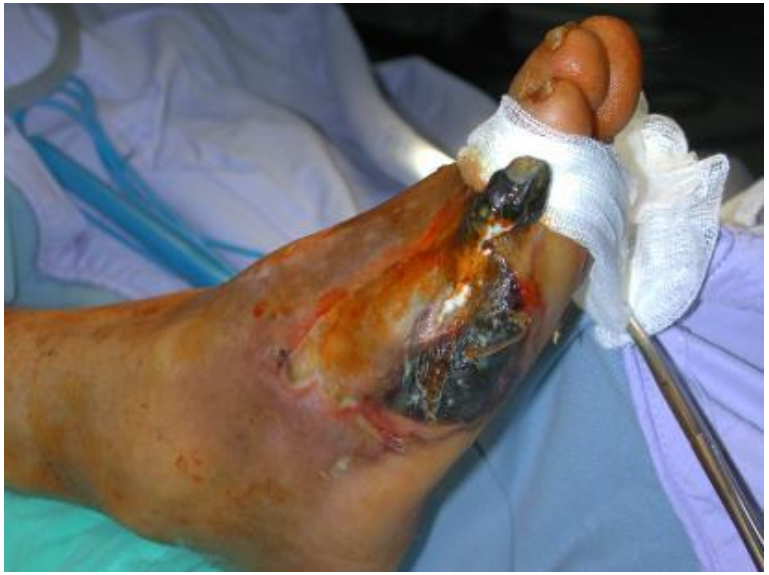
林奕萱 如果林宜欣醫師同意的話 是否也可將報告放在高醫實證醫學中心網站 非內科醫師亦有興趣學習 謝謝~
8月18日 0:31 · 收回 · 1

詹智鈞 FB也可以upload
不過最大只到25MB
8月18日 0:59 · 收回 · 1

- 73歲女性週邊動脈阻塞病人有肢端疼痛併傷口感染，但家屬拒絕手術
- 照會醫師建議alprostadil 40ug iv qd+cilostazol 50mg bid+ clopidogrel 75 mg qd
- 但以上三種藥皆有抗血小板作用，病人有上消化道出血病史
- 內科醫師想知道alprostadil是否必要？

Alporstadil即是PGE1，有血管擴張及抗血小板凝集的作用

Cilostazol為phosphodiesterase III (PDE III) 抑制. 劑，作用機轉為造成血管擴張及抑制血小板凝集



Prostanoids for critical limb ischaemia (Review)

Ruffolo AJ, Romano M, Ciapponi A

THE COCHRANE COLLABORATION®

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2010, Issue 3

http://www.thecochranelibrary.com

Analysis 2.1. Comparison 2 PGE1 vs placebo, Outcome 1 Rest-pain relief.

Review: Prostanoids for critical limb ischaemia

Comparison: 2 PGE1 vs placebo

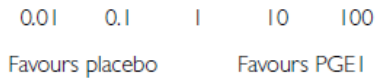
Outcome: 1 Rest-pain relief

Study or subgroup	PGE1 n/N	Placebo n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Diehm 1987	10/14	4/9		83.6 %	1.61 [0.72, 3.58]
Diehm 1988	1/22	1/24		16.4 %	1.09 [0.07, 16.41]
Total (95% CI)	**36**	**33**		**100.0 %**	**1.52 [0.69, 3.34]**

Total events: 11 (PGE1), 5 (Placebo)

Heterogeneity: $Chi^2 = 0.08$, df = 1 (P = 0.78); $I^2 = 0.0\%$

Test for overall effect: Z = 1.05 (P = 0.29)



Analysis 2.2. Comparison 2 PGE1 vs placebo, Outcome 2 Reduction in analgesics consumption.

Review: Prostanoids for critical limb ischaemia

Comparison: 2 PGE1 vs placebo

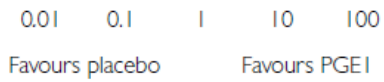
Outcome: 2 Reduction in analgesics consumption

Study or subgroup	PGE1 n/N	Placebo n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Diehm 1987	9/14	4/9		42.8 %	1.45 [0.63, 3.31]
Diehm 1988	12/19	6/16		57.2 %	1.68 [0.82, 3.46]
Total (95% CI)	**33**	**25**		**100.0 %**	**1.58 [0.92, 2.72]**

Total events: 21 (PGE1), 10 (Placebo)

Heterogeneity: $Chi^2 = 0.07$, df = 1 (P = 0.79); $I^2 = 0.0\%$

Test for overall effect: Z = 1.66 (P = 0.098)



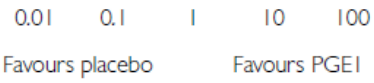
Analysis 2.3. Comparison 2 PGE1 vs placebo, Outcome 3 Ulcer healing.

Review: Prostanoids for critical limb ischaemia

Comparison: 2 PGE1 vs placebo

Outcome: 3 Ulcer healing

Study or subgroup	PGE1 n/N	Placebo n/N	Risk Ratio M-H,Random,95% CI	Risk Ratio M-H,Random,95% CI
Stiegler 1992	6/36	2/37		3.08 [0.67, 14.28]
Telles 1984	0/9	3/10		0.16 [0.01, 2.68]
Subtotal (95% CI)	**0**	**0**		**0.0 [0.0, 0.0]**
Total events: 6 (PGE1), 5 (Placebo)				
Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 0.0$, df = 0 ($P<0.00001$); $I^2 = 0.0\%$				
Test for overall effect: $Z = 0.0$ ($P < 0.00001$)				



Analysis 2.4. Comparison 2 PGE1 vs placebo, Outcome 4 Total Amputations.

Review: Prostanoids for critical limb ischaemia

Comparison: 2 PGE1 vs placebo

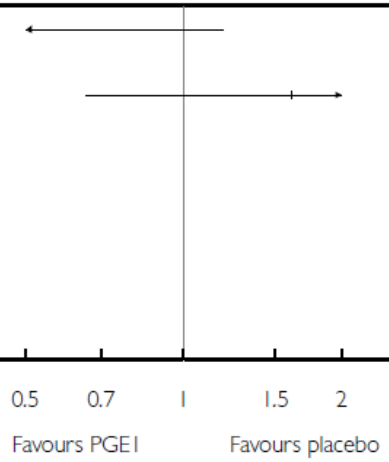
Outcome: 4 Total Amputations

Study or subgroup	PGE1 n/N	Placebo n/N	Risk Ratio M-H,Random,95% CI	Risk Ratio M-H,Random,95% CI
Stiegler 1992	4/36	10/37		0.41 [0.14, 1.19]
Telles 1984	7/14	5/16		1.60 [0.65, 3.92]
Subtotal (95% CI)	**0**	**0**		**0.0 [0.0, 0.0]**

Total events: 11 (PGE1), 15 (Placebo)

Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 0.0$, df = 0 ($P<0.00001$); $I^2 = 0.0\%$

Test for overall effect: $Z = 0.0$ ($P < 0.00001$)



Analysis 2.5. Comparison 2 PGE1 vs placebo, Outcome 5 Adverse events (patients).

Review: Prostanoids for critical limb ischaemia

Comparison: 2 PGE1 vs placebo

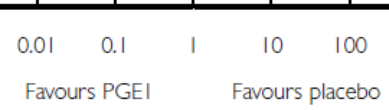
Outcome: 5 Adverse events (patients)

Study or subgroup	PGE1 n/N	Placebo n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Diehm 1987	6/14	0/9		23.9 %	8.67 [0.55, 137.33]
Diehm 1988	9/22	2/24		76.1 %	4.91 [1.19, 20.28]
Total (95% CI)	**36**	**33**		**100.0 %**	**5.81 [1.62, 20.86]**

Total events: 15 (PGE1), 2 (Placebo)

Heterogeneity: $Chi^2 = 0.13$, df = 1 (P = 0.71); $I^2 = 0.0\%$

Test for overall effect: Z = 2.70 (P = 0.0070)



Iloprost compared with placebo for critical limb ischaemia

Patient or population: patients with critical limb ischaemia
Settings:
Intervention: Iloprost
Comparison: placebo

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	placebo	Iloprost				
Rest pain relief Questionnaires Follow-up: mean 14 weeks	**Study population**		**RR 1.54** (1.19 to 1.99)	318 (3 studies)	⊕⊕◯◯ **low**[1,2]	
	366 per 1000	**564 per 1000** (436 to 728)				
	Medium risk population					
	328 per 1000	**505 per 1000** (390 to 653)				
Ulcer healing size of ulcer / granulation tissue at the base Follow-up: mean 14.7 weeks	**Study population**		**RR 1.8** (1.29 to 2.5)	367 (3 studies)	⊕◯◯◯ **very low**[1,3,4]	
	283 per 1000	**509 per 1000** (365 to 707)				
	Medium risk population					
	254 per 1000	**457 per 1000** (328 to 635)				
Total Amputations Follow-up: mean 21.3 weeks	**Study population**		**RR 0.79** (0.6 to 1.03)	318 (3 studies)	⊕⊕◯◯ **low**[1,2]	
	463 per 1000	**366 per 1000** (278 to 477)				
	Medium risk population					
	465 per 1000	**367 per 1000** (279 to 479)				
Major amputations Follow-up: mean 21.3 weeks	**Study population**		**RR 0.69** (0.52 to 0.93)	318 (3 studies)	⊕⊕◯◯ **low**[1,2]	
	443 per 1000	**306 per 1000** (230 to 412)				
	Medium risk population					
	442 per 1000	**305 per 1000** (230 to 411)				
Adverse events (patients) Follow-up: mean 21.3	**Study population**		**RR 2.05** (1.68 to 2.49)	378 (3 studies)	⊕⊕◯◯ **low**[1,2]	
	406 per 1000	**832 per 1000** (682 to 1000)				
	Medium risk population					
	415 per 1000	**851 per 1000** (697 to 1000)				

Prostanoids compared with placebo (highest quality studies) for critical limb ischaemia

Patient or population: patients with critical limb ischaemia
Settings:
Intervention: Prostanoids
Comparison: placebo (highest quality studies)

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	placebo (highest quality studies)	Prostanoids				
★ **Rest pain relief** Questionnaires Follow-up: mean 20.6 weeks	**Study population**		**RR 1.45** (1.15 to 1.82)	559 (5 studies)	⊕⊕◯◯ **low**[1,2]	
	297 per 1000	**431 per 1000** (342 to 541)				
	Medium risk population					
	308 per 1000	**447 per 1000** (354 to 561)				
★ **Ulcer healing** size of ulcer / granulation tissue at the base Follow-up: mean 23.2 weeks	**Study population**		**RR 1.35** (1.15 to 1.58)	843 (5 studies)	⊕⊕◯◯ **low**[1,3]	
	354 per 1000	**478 per 1000** (407 to 559)				
	Medium risk population					
	254 per 1000	**343 per 1000** (292 to 401)				
Amputations Follow-up: mean 27.3 weeks	**Study population**		**RR 0.91** (0.76 to 1.09)	1546 (6 studies)	⊕⊕◯◯ **low**[1,4]	
	243 per 1000	**221 per 1000** (185 to 265)				
	Medium risk population					
	304 per 1000	**277 per 1000** (231 to 331)				
Mortality Follow-up: mean 34 weeks	**Study population**		**RR 1.14** (0.7 to 1.85)	1363 (4 studies)	⊕◯◯◯ **very low**[1,2,5]	
	89 per 1000	**101 per 1000** (62 to 165)				
	Medium risk population					
	89 per 1000	**101 per 1000** (62 to 165)				
★ **Adverse events (patients)** Follow-up: mean 10.2 weeks	**Study population**		**RR 2.38** (1.91 to 2.96)	457 (5 studies)	⊕⊕◯◯ **low**[6,7]	
	280 per 1000	**666 per 1000** (535 to 829)				
	Medium risk population					
	83 per 1000	**198 per 1000** (159 to 246)				

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

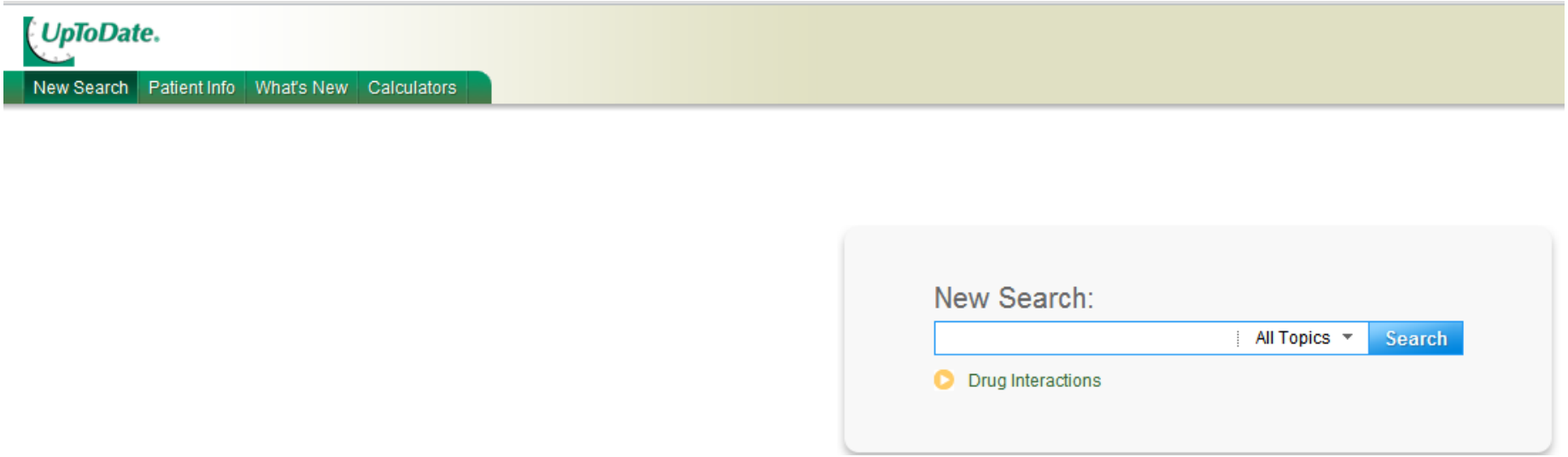
結論

- 就這篇cochrance看來，似乎iloprost是比alprostadil適合這個病人，至少對wound healing及rest pain relief是有證據有效的
- 值得與照會醫師討論一下，並再找找看有無PGE1, PGI2的 head to head study
- These results showed statistical homogeneity, though they should be considered with caution due to both **clinical heterogeneity** and moderate risk of bias.
- 我要實證藥典！榮神益人！

Treatment 案例

- 此外病人因其他疾病正在服用
- Theophylline
- Dilantin
- Nexium
- Clopidogrel
- Sodium bicarbonate
- Amlodipine
- Bisoprolol
- Diamicron
- Fosamax
- …….

- 病人問：我吃這麼多藥會不會有藥物交互作用？



- Lexi-Comp's Comprehensive Drug-to-Drug, Drug-to-Herb and Herb-to-Herb Interaction Analysis Program

- NOTE: Lexi-Interact does not address chemical compatibility related to I.V. drug preparation or administration.

Lexi-Comp Online™ Interaction Analysis

Lexicomp

Lexi-Interact™

Lookup

Enter item name to lookup.

Analyze | New List

- [x] AmLODIPine
- [x] Bisoprolol
- [x] Diamicron® MR (CAN)
- [x] Fosamax Plus D®
- [x] Sodium Bicarbonate

- Display complete list of interactions for an individual item by clicking item name.
- Add another item(s) [Lookup] to Analyze for potential interactions between items in the list.
- Remove item from the list by clicking the check mark next to the item name.

Customize Analysis

Only interactions at or above the selected risk rating will be displayed. A:

View interaction detail by clicking on link.

AmLODIPine
[C] Bisoprolol (Beta-Blockers)

Bisoprolol
[C] AmLODIPine (Calcium Channel Blockers (Dihydropyridine))
[C] Diamicron® MR (CAN) (Sulfonylureas)
[B] Sodium Bicarbonate (Antacids)

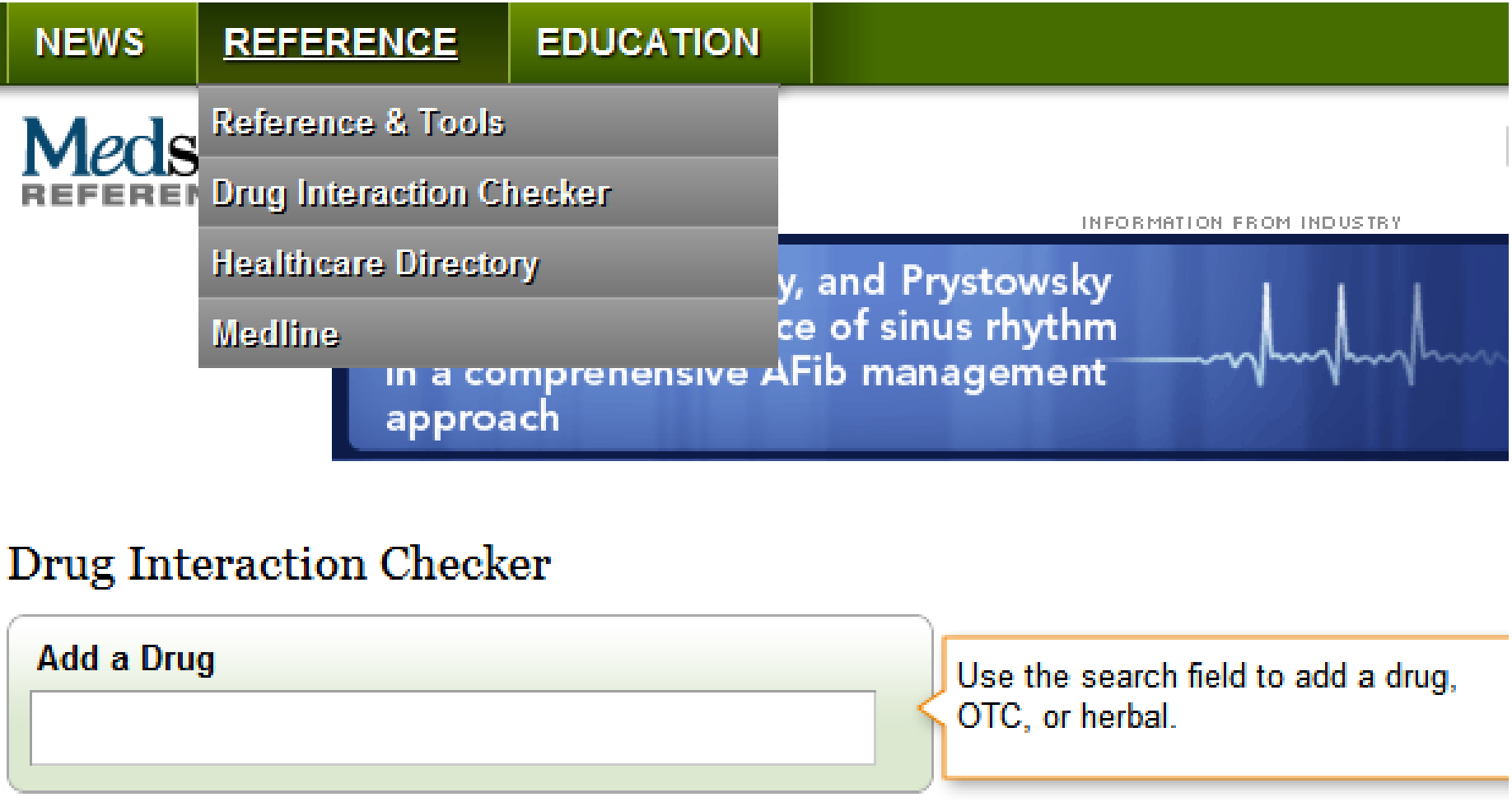
Diamicron® MR (CAN) (Gliclazide)
[C] Bisoprolol (Beta-Blockers)
[B] Sodium Bicarbonate (Antacids)

Fosamax Plus D® (Alendronate and Cholecalciferol)
No interactions identified with others in the selection list.

Sodium Bicarbonate
[B] Bisoprolol (Beta-Blockers)
[B] Diamicron® MR (CAN) (Sulfonylureas)

Date April 7, 2012

http://reference.medscape.com/drug-interactionchecker



Drug Interaction Checker

Medscape

Print

Add a Drug

3 Interactions Found

Patient Regimen

Clear All

- amlodipine
- bisoprolol
- alendronate
  - Fosamax Plus D
- sodium bicarbonate

3 Interactions Found

Significant - Monitor Closely

sodium bicarbonate + alendronate

sodium bicarbonate decreases levels of alendronate by inhibition of GI absorption. Applies only to oral form of both agents. Significant - Monitor Closely. Separate by 2 hours.

sodium bicarbonate + bisoprolol

sodium bicarbonate decreases levels of bisoprolol by inhibition of GI absorption. Applies only to oral form of both agents. Significant - Monitor Closely. Separate by 2 hours.

bisoprolol + amlodipine

bisoprolol and amlodipine both increase anti-hypertensive channel blocking. Significant - Monitor Closely.

跟UpToDate說的差不多

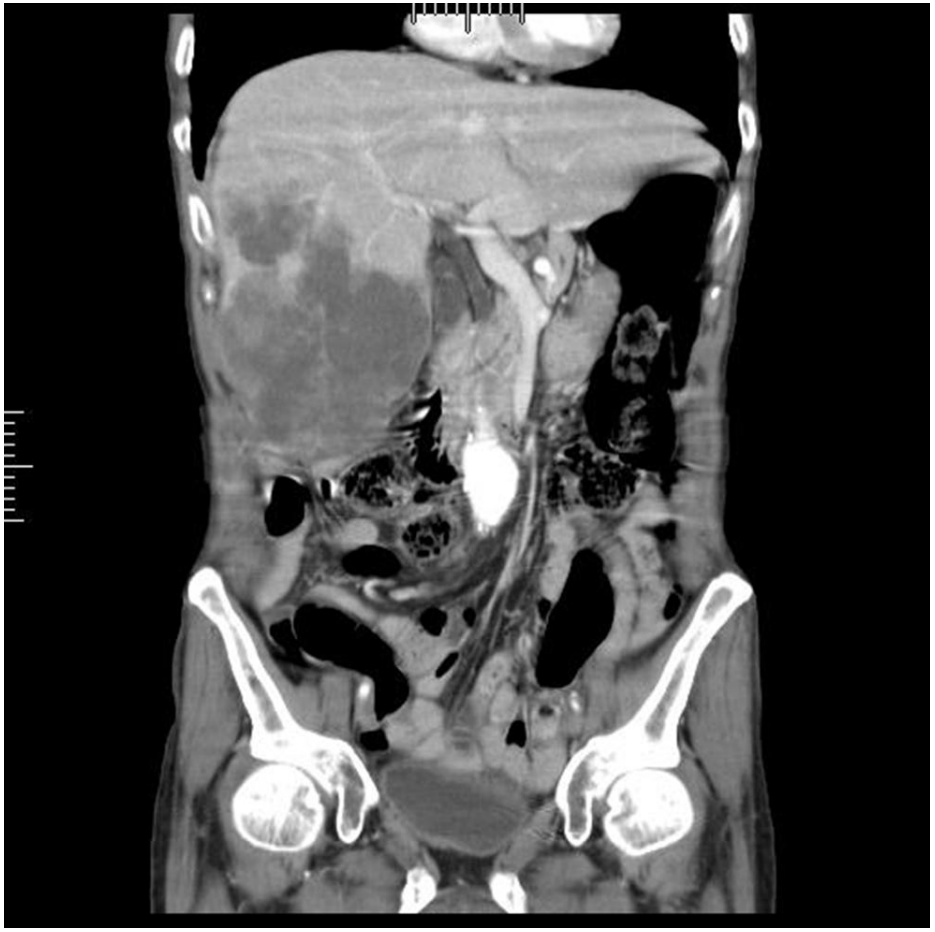
http://reference.medscape.com/drug-interactionchecker

Prognosis(預後) 案例

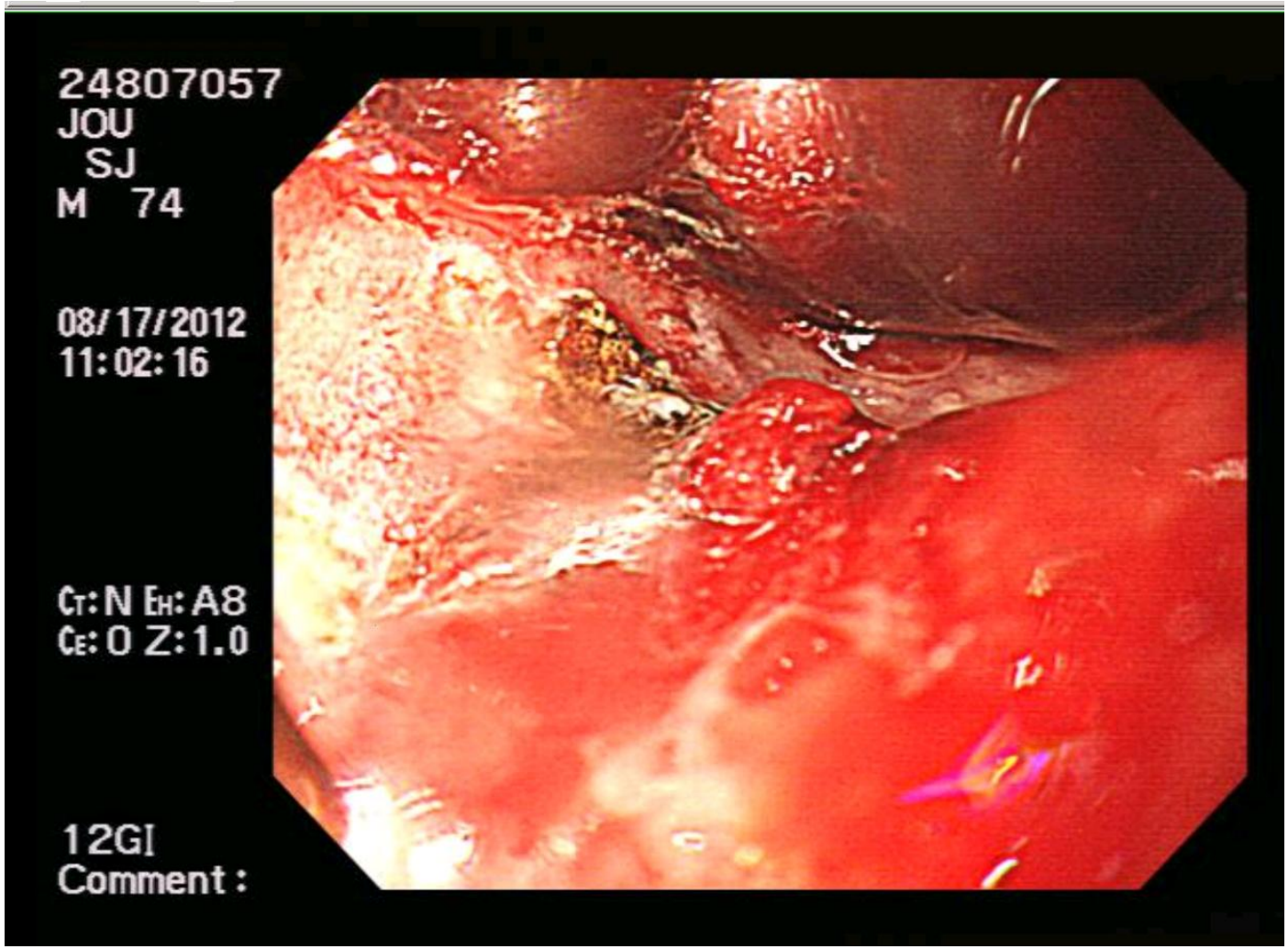
- 生：老師，此病人BNP 2825, FS 3%。目前肺炎繼續用抗生素治療。
- 師：此病人預後如何？
- 生：…，(趕緊翻書中)
- 師：會猝死。提前告知家屬並討論是否急救。
- 3天後病人sudden death，CPR不回來
- 請猜猜主治醫師的prognosis為何？

Prognosis(預後) 案例

- 74歲男性大腸癌末期併肝轉移，因解大量黑便而住院



胃鏡看到十二指腸潰瘍及暴露在外的血管正在滲血



照會醫師的建議

1. Keep NPO for 72hrs except for water
2. Keep PPI pump for 72hrs

3. 問題：會不會再出血？禁食72小時夠嗎？藥打72小時夠嗎？什麼狀況下需再做胃鏡再看一次？

5天後...

- 11:45AM: 在浴室吐
- 12:05AM: 昏迷、血壓量不到 、心跳 20~30bpm
- 因 DNR signed（全拒）
- On central line with fluid challenge
- Ambu bagging, Epinephrine 7 amps, Aropine 1 amp
- 家屬要求插管、留一口氣回家

EBM review

- 內視鏡止血失敗去開刀的病人，其出血血管的平均直徑是0.7mm (0.1-1.8 mm)。

- 老鼠動物實驗，血管直徑超過2㎜者，內視鏡止血幾乎會失敗。人類Cohort study發現血管直徑超過2㎜的確是再出血的危險因子。

改進策略

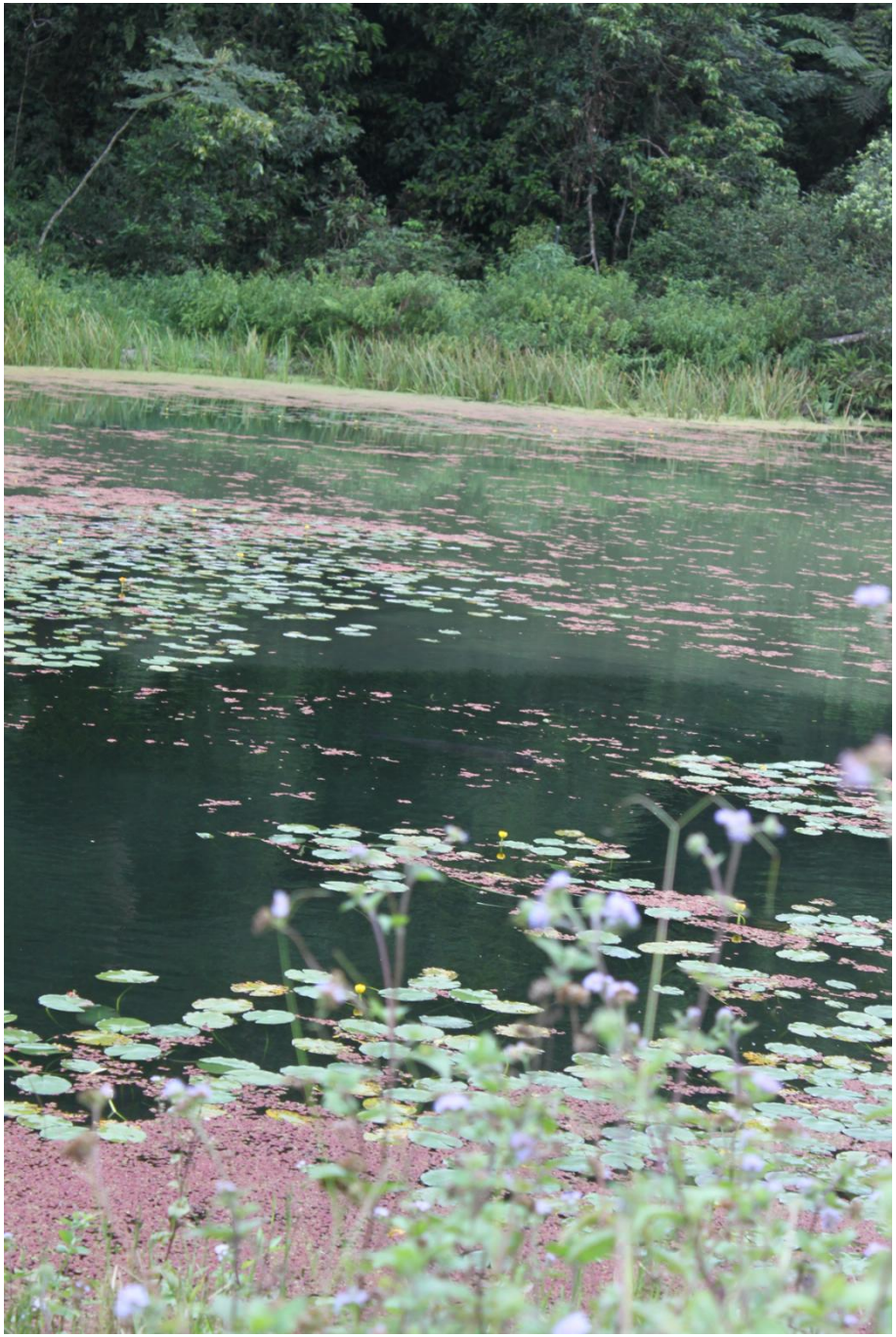
- 內視鏡報告儘可能標明出血血管直徑，做為預後的參考
- 禁食解除時機及藥物使用方式進行ebm並與專家討論

Prevention 案例

- 56歲陳女士氣喘某日氣喘發作前來門診，抱怨已經按醫囑用藥，為什麼仍常常發作？
- 家中每日拜拜燒香
- 鄰居聚賭抽煙，經過會順便朝家中噴煙
- 到太平山旅遊被遊覽車怠速廢氣嗆到
- 上了山坐「蹦蹦車」後，病況再次急轉直下，緊急回高雄…

結論

- EBM的思考模式讓臨床思路更全面、清楚
- 證據等級的高低與其臨床價值的高低是兩回事
- 誠實的、清楚的、明智的使用目前最佳證據並結合臨床經驗及病人價值來做出醫療決策



- 風微微　風微微
- 孤單悶悶在池邊
- 水蓮花滿滿是
- 靜靜等待露水滴

謝謝聆聽