

Evidence-based medicine in general practice 全科中的循证医学

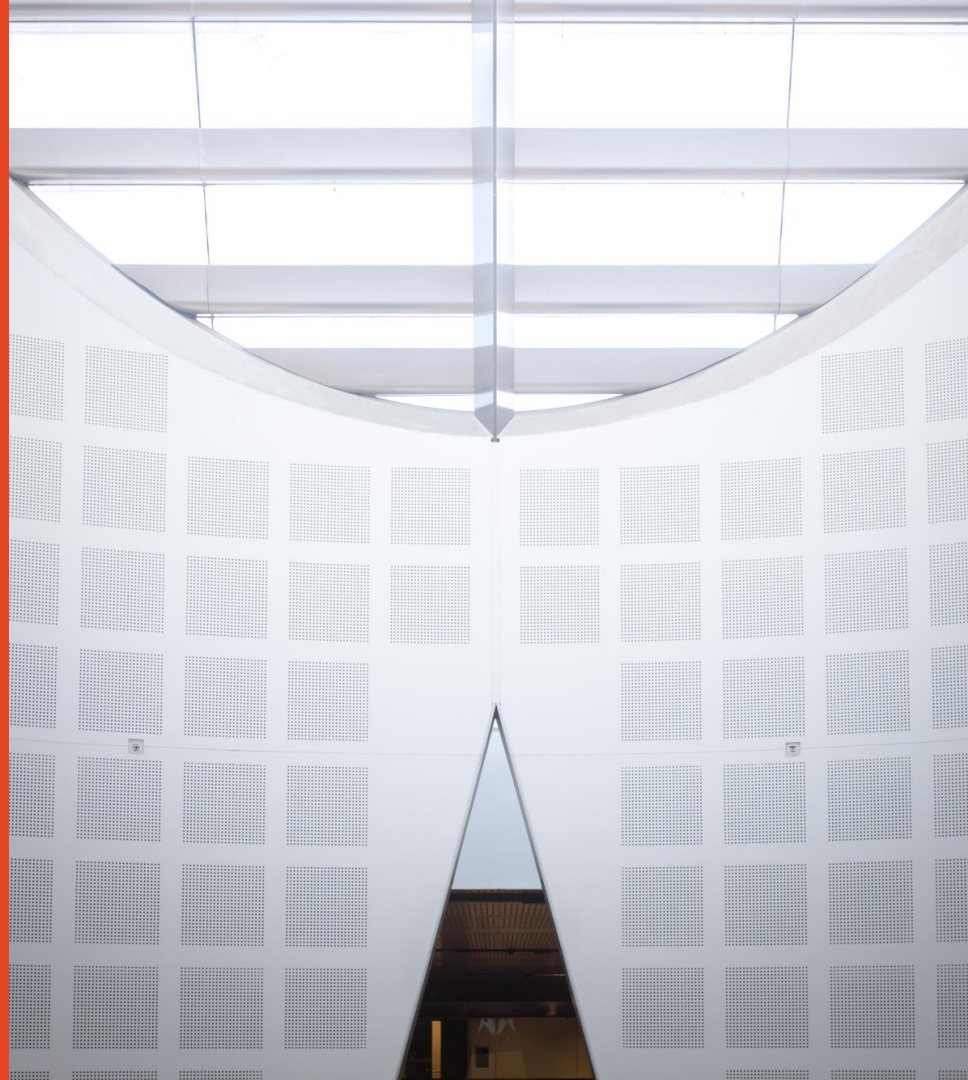
Presented by

Dr Michael Tam 谭俊华

BSc(Med), MBBS, MMH(GP), FRACGP

Senior Lecturer 高级讲师

Discipline of General Practice 全科医学



Mr K, K先生

- 56 year old factory worker 56岁的工人
- a long-term patient of the GP clinic
是一家全科诊所的长期患者
- alcohol dependence 酒精依赖
- 1 bottle of Jimmy Walker, 4 times a week
一瓶尊尼获加威士忌，一周四次



Q: How much alcohol in a bottle?

问：一瓶中有多少量的酒精呢？

**A: 22 standard units (1 unit = 10 g)
220 grams**

答：22 个标准单位 (1单位=10克)
220克



Mr K, K 先生

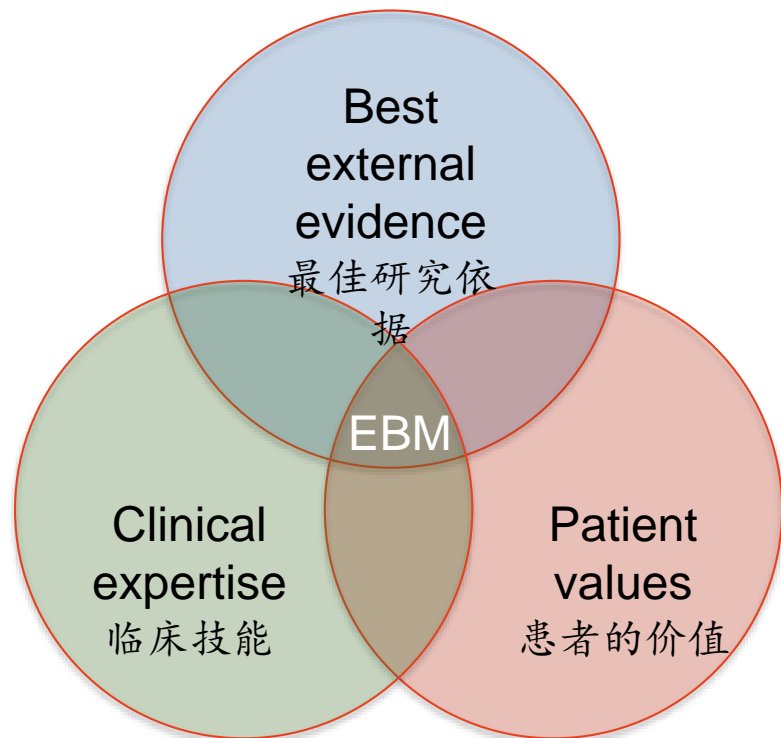
- Mr K read stories about baclofen to stop drinking on the internet
K先生有在网上读到吃巴氯芬片戒酒的故事
- He wanted advice from his GP
他想咨询他的全科医生
- What is the evidence?
证据是什么?
- How do you make a decision?
你怎么做决定?



Q: How do you find the information?

问： 你是怎么找有关的信息呢？

What is evidence-based medicine? 什么是循证医学?



“Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.”

“慎重、准确和明智地应用当前所能获得的最好的研究依据来对每一个病人制定医疗服务决策。”

Sackett DL, et al. Evidence based medicine: what it is and what it isn't. BMJ 1996;312:71

But how do we do this? 但是我们怎么做呢?



Over 2.5 million scientific papers published per year!

每年有超过250万篇科学论文发表!

“Drinking from a fire hose”

“用消防水管喝水”



Confidence in appraising research papers?

评价研究文章的信心？

- The training we received on evaluating evidence at medical school can seem hard to apply in real clinical practice
我们在医学院所接受的评价证据方面的培训似乎很难在实际临床实践中应用。
- We might not have practiced this rigorously for years
我们可能很多年都没有严格的实践过怎么去评价临床证据
- Doctors often feel uncomfortable with research statistics
研究统计数据通常让医生们感到不舒服
- Result: many doctors do not have confidence to critically appraise a research paper
结果： 很多医生都没有信心去严格的评价一篇研究文章



Q: Who feels they could be more confident?

Overview 概述

Five steps of evidence-based
practice

循证医学的五个步骤

Suggestions and tips

建议和提示

Resources

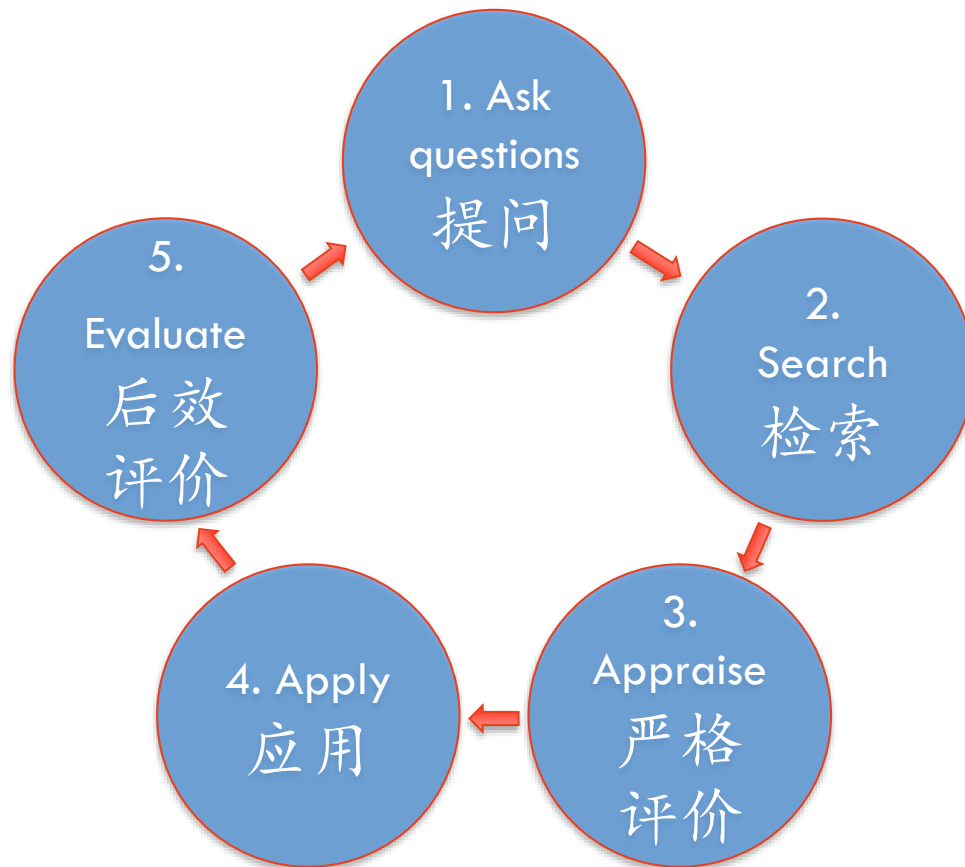
资源

Aim 目的

**To improve your
confidence and ability to
be an evidence-based
practitioner**

提高您作为循证医学人员的信心和
能力

5 steps of evidence-based practice 循证医学5个步骤



Asking good questions is the most important step!

提一个好的问题是非常重要的一个步骤!

A good question is 一个好的问题是:

- Answerable 可以回答的
- Focussed 有重点的
- relevant to your patient scenario 与你的患者场景相关

1. Ask
questions
提问

PICO approach PICO 程式

Participants

患者

alcohol use disorder

酒精使用紊乱

Intervention

干预

oral baclofen

口服巴氯芬

Comparator

对照

placebo

安慰剂

Outcomes

结果

abstinence

戒酒



1. Ask
questions
提问

PICO approach PICO程式

In patients with a diagnosis of **alcohol use disorder [P]**, what is the effect of **oral baclofen [I]**, as compared to **placebo [C]**, on the rates of alcohol **abstinence [O]**.

在患有**酒精使用障碍的患者 [P]**当中，
与**安慰剂 [C]** 相比较，**口服巴氯芬 [I]**
能达到戒酒效果 [O] 的概率有多少？





Levels of evidence 证据等级

Systematic reviews

系统综述

Randomised trials

随机对照试验

Cohort studies

队列研究

Case-control studies

病例对照研究

Case series, Case reports

病例系列, 病例报告

Mechanism-based reasoning

基于生理病理机制的推理



Levels of evidence



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 <i>n</i> -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, <i>n</i> -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 <i>n</i> -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



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Vertebroplasty for fracture
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Percutaneous vertebroplasty for osteoporotic vertebral compression fracture
Rachelle Buchbinder, Renea V Johnston, Kobi J Rischin, Joanne Homik, C Allyson Jones, Kamran Golmohammadi, David F Kallmes
5 April 2018



www.cochranelibrary.com

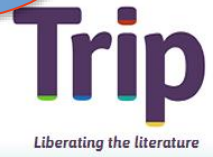
1. Ask
2. Search
检索

TripDatabase

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Sign Up or use your account



SEARCH PICO ADVANCED RECENT

Population:

Intervention:

Comparison:

Outcome:

Trusted Answers

Trip medical database, a smart, fast tool to find high quality clinical research evidence.

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TripDatabase

SEARCH

PICO

ADVANCED PRO

RECENT PRO

Population:

alcohol use disorder



Intervention:

baclofen

Comparison:

placebo

Outcome:

abstinence

www.tripdatabase.com

1. Ask
2. Search
检索

TripDatabase



Liberating the literature

SEARCH PICO ADVANCED RECENT

(alcohol use disorder)(baclofen)(placebo)(abstinence)

Language Settings

54 results for (alcohol use disorder)(baclofen)(placebo)(abstinence) by quality

Alerts Export

1. Baclofen as treatment for alcohol use disorders

Morsels of Evidence 2017

Tweet this Star this Report broken link

2. The Safety and Efficacy of Baclofen to Reduce Alcohol Use in Veterans with Chronic Hepatitis C: A Randomized Clinical Trial

Addiction (Abingdon, England) 2017

Tweet this Star this Report broken link

3. Baclofen and severe alcohol dependence: an uncertain harm-benefit balance as of early 2013

Prescrire 2014

Tweet this Star this Report broken link

4. Baclofen promotes alcohol abstinence in alcohol dependent cirrhotic patients with hepatitis C virus (HCV) infection.

Addictive behaviors 2012

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Evidence-based Synopses

low est. of bias

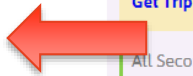
Primary Research

Evidence-based Synopses

high or unclear est. of bias

Primary Research




We will look at this later
我们稍后再看这个。




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- low est. of bias  Primary Research
- (HCV) infection.**
- high or unclear est. of bias  Primary Research
- okers.**
- high or unclear est. of bias  Primary Research
- ol Dependent Adults**
- (REDSTIM)**

All Secondary Evidence	
Systematic Reviews	0 +2
Evidence-based Synopses	4
Guidelines	
Aus & NZ	0
Canada	0
UK	1
USA	3
Other	0
Regulatory Guidance	0
Key Primary Research	1
Clinical Q&A	0
Controlled Trials	9
Primary Research	10
Ongoing systematic reviews	2
Ongoing clinical trials 	23
Open	9
Closed	13
Unknown	1
Patient decision aids	0
Patient information leaflets	0
RLnec	7



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8 results for **(alcohol use disorder)(baclofen)(placebo)(abstinence)** by **quality** ▾

Alerts Export ▾

- 1. The Safety and Efficacy of Baclofen to Reduce Alcohol Use in Veterans with Chronic Hepatitis C: A Randomized Clinical Trial.**
Addiction (Abingdon, England) 2017
[Tweet this](#) [Star this](#) [Report broken link](#) low est. of bias Primary Research
- 2. Baclofen promotes alcohol abstinence in alcohol dependent cirrhotic patients with hepatitis C virus (HCV) infection.**
Addictive behaviors 2012
[Tweet this](#) [Star this](#) [Report broken link](#) high or unclear est. of bias Primary Research
- 3. A preliminary double-blind, placebo-controlled randomized study of baclofen effects in alcoholic smokers.**
Psychopharmacology 2014
[Tweet this](#) [Star this](#) [Report broken link](#) high or unclear est. of bias Primary Research
- 4. Efficacy and safety of baclofen for alcohol dependence: a randomized, double-blind, placebo-controlled trial.**
Alcoholism, clinical and experimental research 2010 [Full Text: Link to full Text with Trip Pro](#)
[Tweet this](#) [Star this](#) [Report broken link](#) low est. of bias Primary Research
- 5. Baclofen for the Treatment of Alcohol Dependence and Possible Role of Comorbid Anxiety.**
Alcohol and alcoholism (Oxford, Oxfordshire) 2014
[Tweet this](#) [Star this](#) [Report broken link](#) high or unclear est. of bias Primary Research
- 6. The efficacy and biobehavioural basis of baclofen in the treatment of alcoholic liver disease (BacALD): study protocol for a randomised controlled trial.**
Contemporary clinical trials 2013
[Tweet this](#) [Star this](#) [Report broken link](#) low est. of bias Primary Research
- 7. Multi-center trial of baclofen for abstinence initiation in severe cocaine-dependent individuals.**
Drug and alcohol dependence 2009 [Full Text: Link to full Text with Trip Pro](#)
[Tweet this](#) [Star this](#) [Report broken link](#) high or unclear est. of bias Primary Research
- 8. Baclofen efficacy in reducing alcohol craving and intake: a preliminary double-blind randomized controlled study.**
Alcohol and alcoholism (Oxford, Oxfordshire) 2002

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3. Appraise
严格评价

Oxford Centre of EBM worksheets

The screenshot shows the CEBM website interface. At the top, the CEBM logo and 'Centre for Evidence-Based Medicine' are displayed. A navigation bar includes links for HOME, ABOUT, EDUCATION & TRAINING, RESOURCES, and EVIDENCE OXFORD. Below this, a secondary menu lists 'CEBM Talks', 'EBM Tools', 'Levels of Evidence', 'Medical Students', 'Presentations', 'Reading List', and 'YouTube Channel'. The 'EBM Tools' section is highlighted with a red arrow pointing upwards. Under 'EBM Tools', three categories are shown: 'Asking Focused Questions', 'Finding the Evidence', and 'Critical Appraisal tools'. A red arrow points to the 'Critical Appraisal tools' category. To the right, a sidebar titled 'In this section' lists various resources like 'DIY EBM Workshop' and 'Asking Focused Questions'. Below that, a 'Courses & events' section is partially visible.

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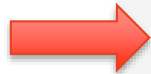
Oxford Centre of EBM worksheets

appraisal of different types of medical evidence. Example appraisal sheets are provided together with several helpful examples.

Critical Appraisal Worksheets

English

- [Systematic Reviews](#) Critical Appraisal Sheet
- [Diagnostics](#) Critical Appraisal Sheet
- [Prognosis](#) Critical Appraisal Sheet
- [Randomised Controlled Trials \(RCT\)](#) Critical Appraisal Sheet



Chinese – Translated by Chung-Han Yang and Shih-Chieh Shao

- [Systematic Reviews Critical Appraisal Sheet](#)
- [Diagnostic Study Critical Appraisal Sheet](#)
- [Prognostic Studies Critical Appraisal Sheet](#)
- [RCT Critical Appraisal Sheet](#)



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Critical appraisal worksheets 严格评价记录表

嚴格評議治療研究

研究問題為何？

患者 –
處置 –
對照 –
結果 –

研究結果是否有效？（內部效度）

1a. R- 患者是否採隨機分派進入治療組？	
何為最佳解答？	可以在哪兒找到資訊？
最理想的是中央電腦隨機分派，常用於多中心試驗。小型試驗可以由一位獨立者（如：醫院藥師）「監督」隨機分派過程。	方法部分應說明患者是如何被分派到各組，且隨機分派的資訊是否隱匿。
本研究： <input type="checkbox"/> 是 <input type="checkbox"/> 否 <input type="checkbox"/> 不清楚 評論：	
1b. R- 各組在試驗開始時是否相似？	
何為最佳解答？	可以在哪兒找到資訊？
如果隨機分派成功（即，各組具可比性），各組特徵應相近，各組資料越相似越好，應有某些指標顯示各組間是否有統計顯著差異（如：p 值）。	結果部分應有「基本資料表」，比較隨機分派各組間那些可能影響結果的多個變項（如：年齡，危險因子等），若無，則可能在結果第一段內描述各組的相似性。
本研究： <input type="checkbox"/> 是 <input type="checkbox"/> 否 <input type="checkbox"/> 不清楚 評論：	

Critical Appraisal for Therapy Articles

THERAPY STUDY: Are the results of the trial valid? (Internal Validity)

What question did the study ask?

Patients –
Intervention –
Comparison –
Outcome(s) –

1a. R- Was the assignment of patients to treatments randomised?	
What is best? <i>Centralised computer randomisation</i> is ideal and often used in multi-centred trials. Smaller trials may use an <i>independent person</i> (e.g. the hospital pharmacy) to "police" the randomization.	Where do I find the information? The Methods should tell you how patients were allocated to groups and <u>whether or not</u> randomisation was concealed.
This paper: Yes <input type="checkbox"/> No <input type="checkbox"/> Unclear <input type="checkbox"/> Comment:	
1b. R- Were the groups similar at the start of the trial?	
What is best? If the randomisation process worked (that is, achieved comparable groups) the groups should be similar. The more similar the groups the better it is. There should be some indication of whether differences between groups are statistically significant (i.e. p values).	Where do I find the information? The Results should have a table of "Baseline Characteristics" comparing the randomized groups on a <u>number of variables</u> that could affect the outcome (i.e. age, risk factors etc). If not, there may be a description of group similarity in the first paragraphs of the Results section.
This paper: Yes <input type="checkbox"/> No <input type="checkbox"/> Unclear <input type="checkbox"/> Comment:	
2a. A – Aside from the allocated treatment, were groups treated equally?	
What is best? Apart from the intervention the patients in the different groups should be treated the same, e.g. additional treatments or tests.	Where do I find the information? Look in the Methods section for the follow-up schedule, and permitted additional treatments, etc and in Results for actual use.
This paper: Yes <input type="checkbox"/> No <input type="checkbox"/> Unclear <input type="checkbox"/> Comment:	
2b. A – Were all patients who entered the trial accounted for? – and were they analysed in the groups to which they were randomised?	
What is best? Losses to follow-up should be minimal –	Where do I find the information? The Results section should say how many

3.

Appraise

严格
评价

Before starting 开始之前

Always appraise the methods before looking at the results

在看科学论文研究结果之前，总是要先严格评价它的研究方法

- **Methodological problems result in biased results, or they may be inapplicable to your patient.**

研究方法上出现的问题可能会导致研究结果偏倚，或者研究结果不适用于你的患者

- **Critical appraisal requires using clinical judgement**

严格评价需要用临床判断力

- **The limitations and problems of most papers don't lie with the statistics.**

大多数论文局限性和问题不在于统计数据



What question did the study ask?

这项研究提出的问题是什么？

患者 **P**atients – how similar to your patient?

患者-跟你的病人有多相似？

干预 **I**ntervention – what was actually done?

干预-实际干预了什么？

对照 **C**omparison – is this reasonable?

对照-合理吗？

结果 **O**utcome(s) – focus on the primary outcome

结果—注重主要的结局指标

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3. **Are the results valid? 研究结果有效吗?**

1a. 患者是否随机分配到试验组?

Was the assignment of patients to treatment randomised?

1b. 各组在试验开始时是否相似?

Were the groups similar at the start of the trial?

www.cebm.net



3. **Are the results valid? 研究结果有效吗?**

2a. 除了接受被分配的试验之外， 各组收到的待遇是否相似？

Aside from the allocated treatment, were groups treated equally?

2b. 是否所有参加试验的患者都被纳入统计分析？ 而且是否都根据原来所分配的试验组而被分析？

Were all patients who entered the trial accounted for? – and were they analysed in the groups to which they were randomised?

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3. Are the results valid? 研究结果有效吗?

3. 测量是否客观? 或病患和医师不知道接受的治疗为何?
Were measures objective or were the patients and clinicians kept “blind” to which treatment was being received?

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Interpreting results

Focus on the primary outcome. 注重主要的结局指标

1. 治疗效果有多大?

How large was the treatment effect?

2. 治疗效果估计值的精确性如何?

How precise was the estimate of treatment effect?

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3. External validity 外部效度 / 应用

我的患者是否与研究族群明显不同，以致于结果不能应用呢？ (differences in patients?)

这个治疗在我的工作场景时候合适？ (feasible in my context?)

对我的患者而言，这个治疗可能的益处显著大于可能的害处吗？ (do benefits outweigh harms?)

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3.
Apply
应用
评价



Liberating the literature

SEARCH

PICO

ADVANCED PICO

RECENT PICO

(alcohol use disorder)(baclofen)(placebo)(abstinence)



Language Settings

54 results for (alcohol use disorder)(baclofen)(placebo)(abstinence) by quality ▾

Alerts Export ▾

1. **Baclofen as treatment for alcohol use disorders**

Morsels of Evidence 2017

Tweet this Star this Report broken link



We will look at this later
我们稍后再看这个。

Evidence-based Synopses

2. **The Safety and Efficacy of Baclofen to Reduce Alcohol Use in Veterans with Chronic Hepatitis C: A Randomized Clinical Trial.**

Addiction (Abingdon, England) 2017

Tweet this Star this Report broken link

low est. of bias

Primary Research

3. **Baclofen and severe alcohol dependence: an uncertain harm-benefit balance as of early 2013**

Prescrire 2014

Tweet this Star this Report broken link

Evidence-based Synopses

4. **Baclofen promotes alcohol abstinence in alcohol dependent cirrhotic patients with hepatitis C virus (HCV) infection.**

Addictive behaviors 2012

Tweet this Star this Report broken link

high or unclear est. of bias

Primary Research

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Canada

UK

3.
Appraisal
严格
应用
评价

4. Apply

Morsels of Evidence
Evidence-based medicine for general practitioners

Home About Contact Authors EBM ▾ FAQ Contribute! Subscribe! GP Synergy EBM Online Course ▾

Do vitamin D supplements reduce falls in older people living in the community? Do oral sweets reduce injection pain in children?

NOV 06 **Baclofen as treatment for alcohol use disorders**
By Michael Tam in Drugs and Alcohol, Psychiatry, Randomised controlled trial

Journal reference: Garbutt JC, Kampov-Polevoy AB, Gallop R, Kalka-Juhl L, Flannery BA. Efficacy and safety of baclofen for alcohol dependence: a randomized, double-blind, placebo-controlled trial. *Alcohol Clin Exp Res* 2010 Nov;34(11):1849-57

Link: <http://dx.doi.org/10.1111/j.1530-0277.2010.01273.x>

Published: November 2010

Baclofen cannot be recommended as a routine treatment for alcohol use disorders

- the quality of the evidence is low overall
- some randomised trials demonstrate a beneficial effect, while others demonstrate no effect
- the larger trials have tended to demonstrate no effect

Evidence cookie says...

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blog admin

CATEGORIES
Select Category ▾

RECENT POSTS
Do oral sweets reduce injection pain in children?
Baclofen as treatment for alcohol use disorders
Do vitamin D supplements reduce falls in older people living in the community?
Should DRIs be routinely prescribed with

evidencebasedmedicine.com.au

3.

4. Apply

应用

评价

Baclofen cannot be recommended as a routine treatment for alcohol use disorders

- the quality of the evidence is low overall
- some randomised trials demonstrate a beneficial effect, while others demonstrate no effect
- the larger trials have tended to demonstrate no effect

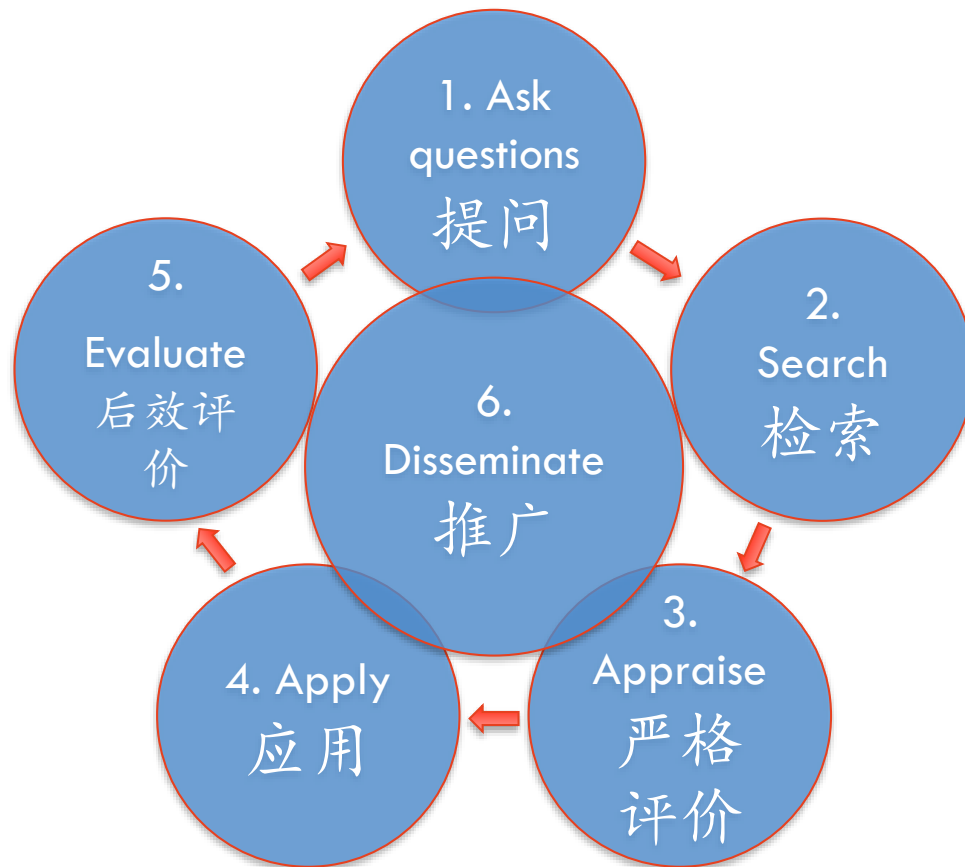
5.

Evaluate

后效
评价

- Patient follow-up
患者随访
- Clinic audits
临床审核
- Participation in research
参与研究

5 steps of evidence-based practice 循证医学5个步骤



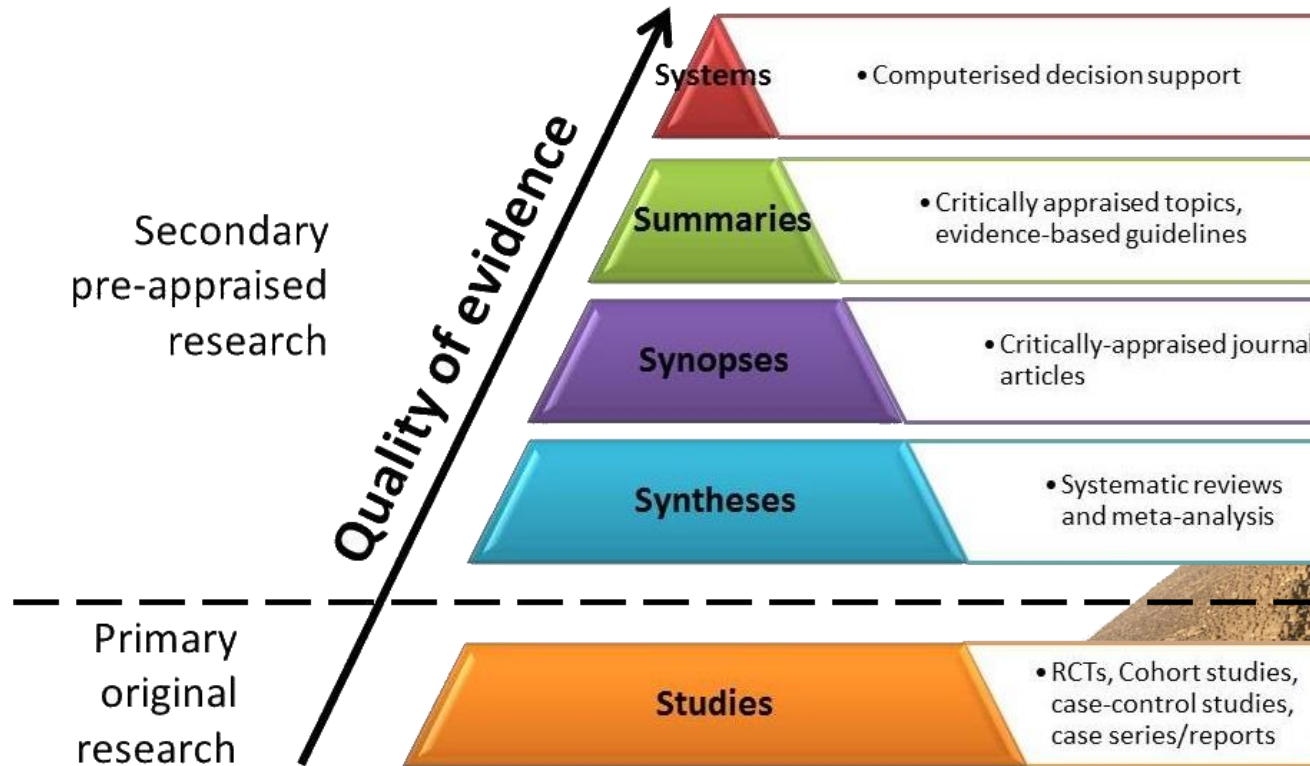
6.

Disseminate

推广

- **Talk to colleagues**
与同事进行交流
- **Evidence-based journal clubs**
循证期刊俱乐部
- **Local clinical newsletter and publications**
当地的临床通讯报和期刊
- **Publish evidence-based summaries on a website**
网上发布循证概要
- **Be part of teams creating clinical guidelines**
成为临床指南编写组一员

Suggestions and tips 建议和提示



Suggestions and tips 建议和提示

- Integrate computer decision support tools into GP clinic systems
把电子决策辅助工具结合到全科系统。这些工具提供已被严格评价的循证综述和指南 -比如
 - e.g., DynaMed Plus – www.dynamed.com
- Use TripDatabase to do PICO searches
使用TripDatabase来进行PICO检索
- Use pre-appraised evidence syntheses when available
如有，使用已被评价的循证综述
- Use critical appraisal worksheets – methods before results!
使用严格评价记录表-方法优先于结果!
- Practice asking good questions 练习怎么问一个好问题

Suggestions and tips 建议和提示

Be pragmatic, and use your judgement!

注重实用性， 使用你的判断力！

**The evidence tells us what we KNOW,
not what we SHOULD DO.**

临床证据只告诉我们我们知道什么，
而不是我们应该做什么

Resources

Cochrane Library: <http://www.cochranelibrary.com>

University of Oxford, Centre for Evidence-based Medicine: <https://www.cebm.net/>

DynaMed Plus: <http://www.dynamed.com/home/>

EBM search engine:

Trip Database: <https://www.tripdatabase.com/>

EBM pre-appraised syntheses:

BestBETs: <https://bestbets.org/>

University of York, Centre for Reviews & Dissemination: <https://www.york.ac.uk/crd/>

Prescrire (in English): <http://english.prescrire.org/en/>

BMJ Evidence-Based Medicine (journal): <http://ebm.bmj.com/>

ACP Journal Club: <http://annals.org/aim/journal-club>

Morsels of Evidence: <http://evidencebasedmedicine.com.au>

谢谢

Thank you!



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