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

Presented by

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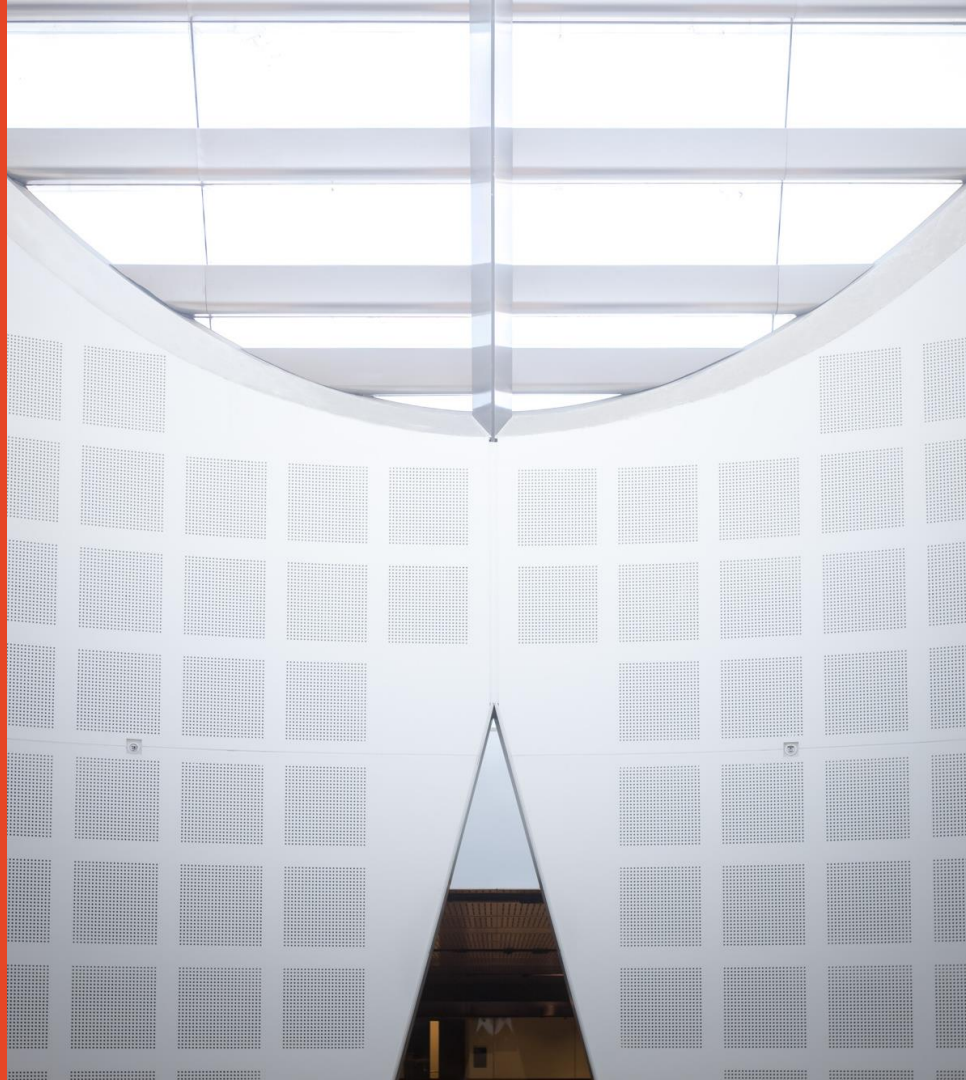


Mr K, K先生

- 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

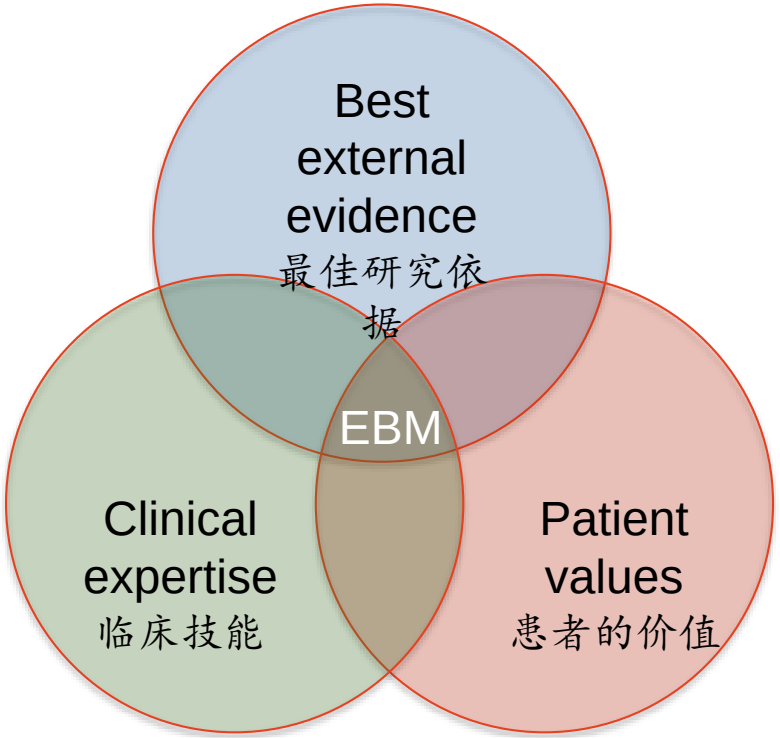
Mr K, K 先生

- 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

1. Ask questions
提问

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？

2. Search
检索

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

2. Search
检索

Levels of evidence

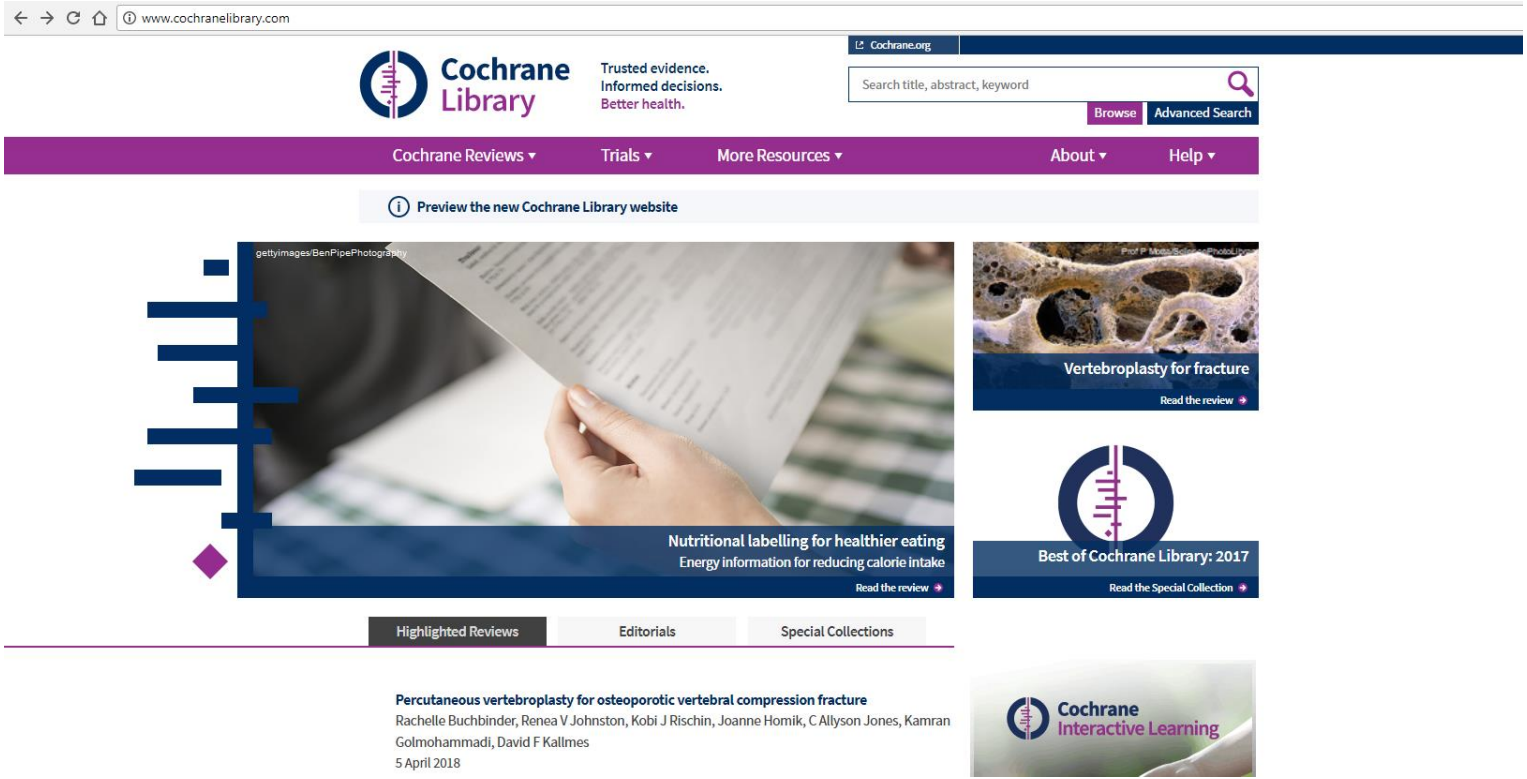
Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

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 *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

www.cebm.net/index.aspx?o=5653

2. Search
检索

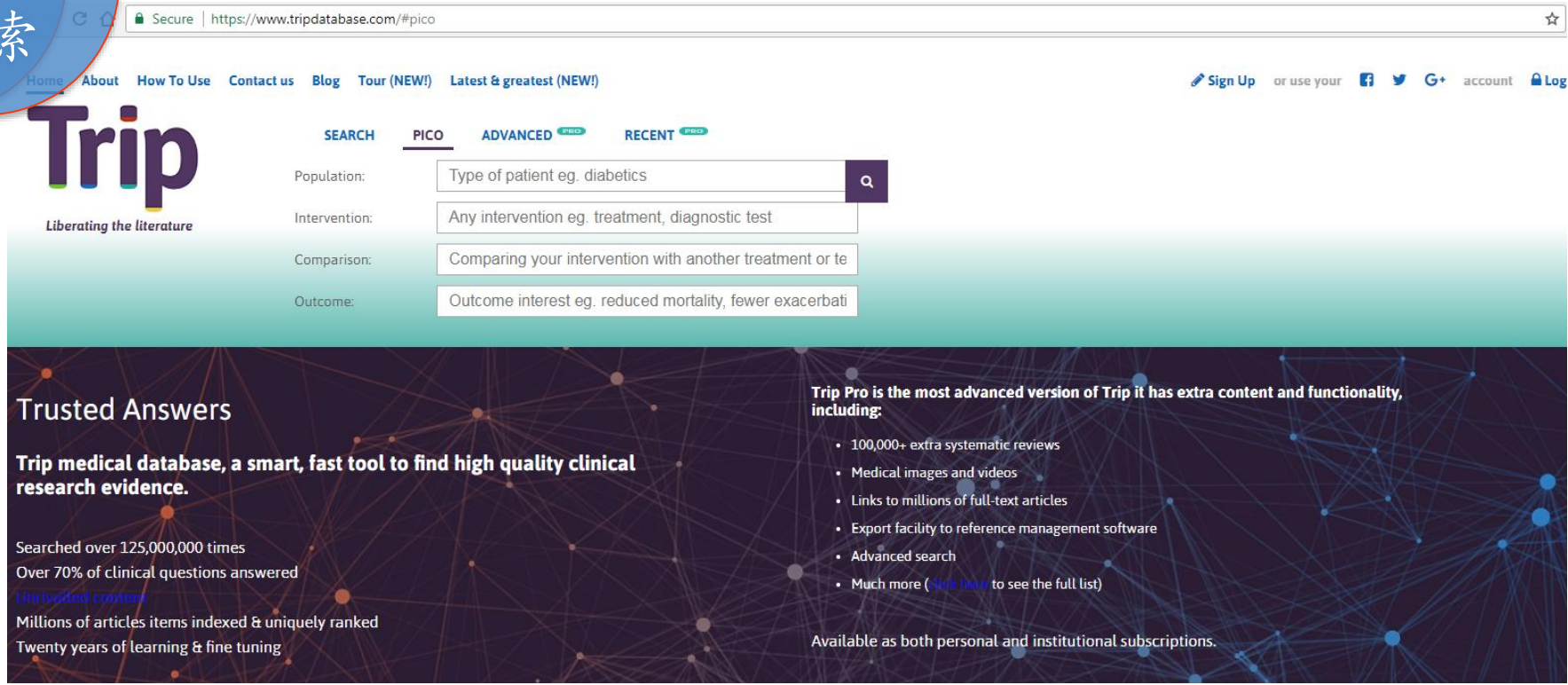
Cochrane Library



www.cochranelibrary.com

2. Search
检索

TripDatabase



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2. Search 检索

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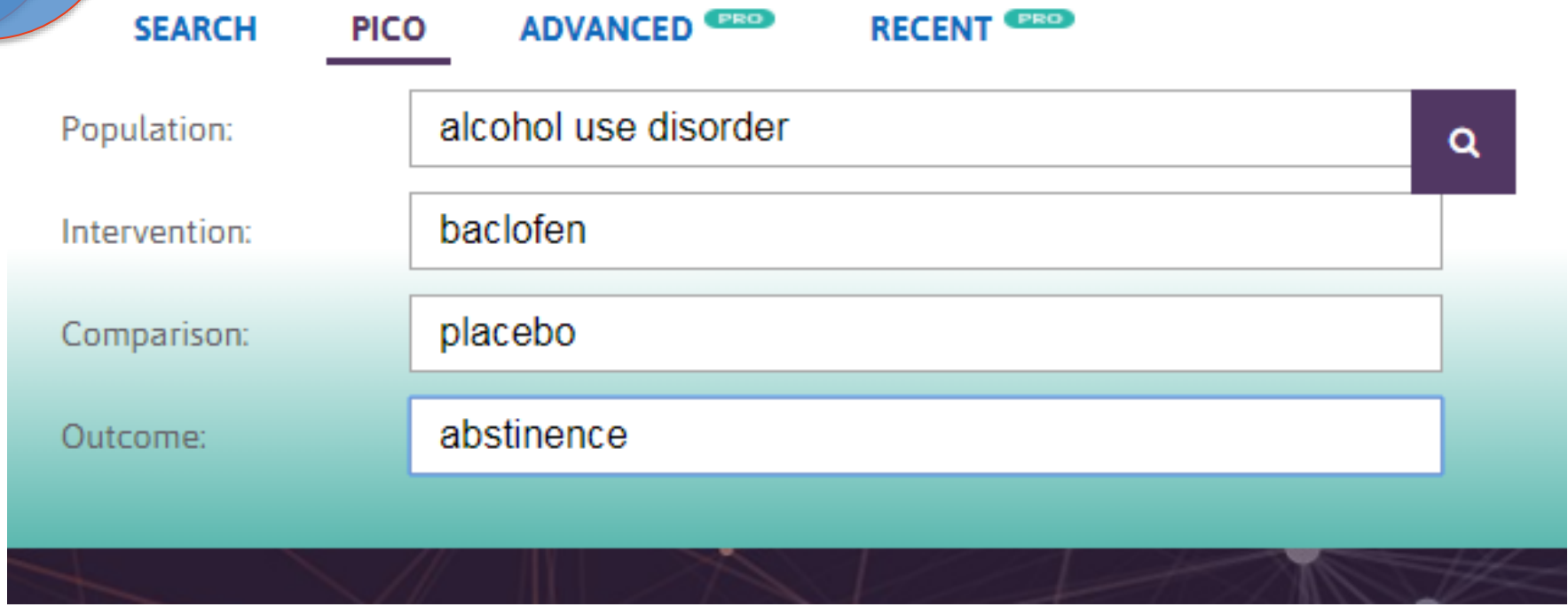

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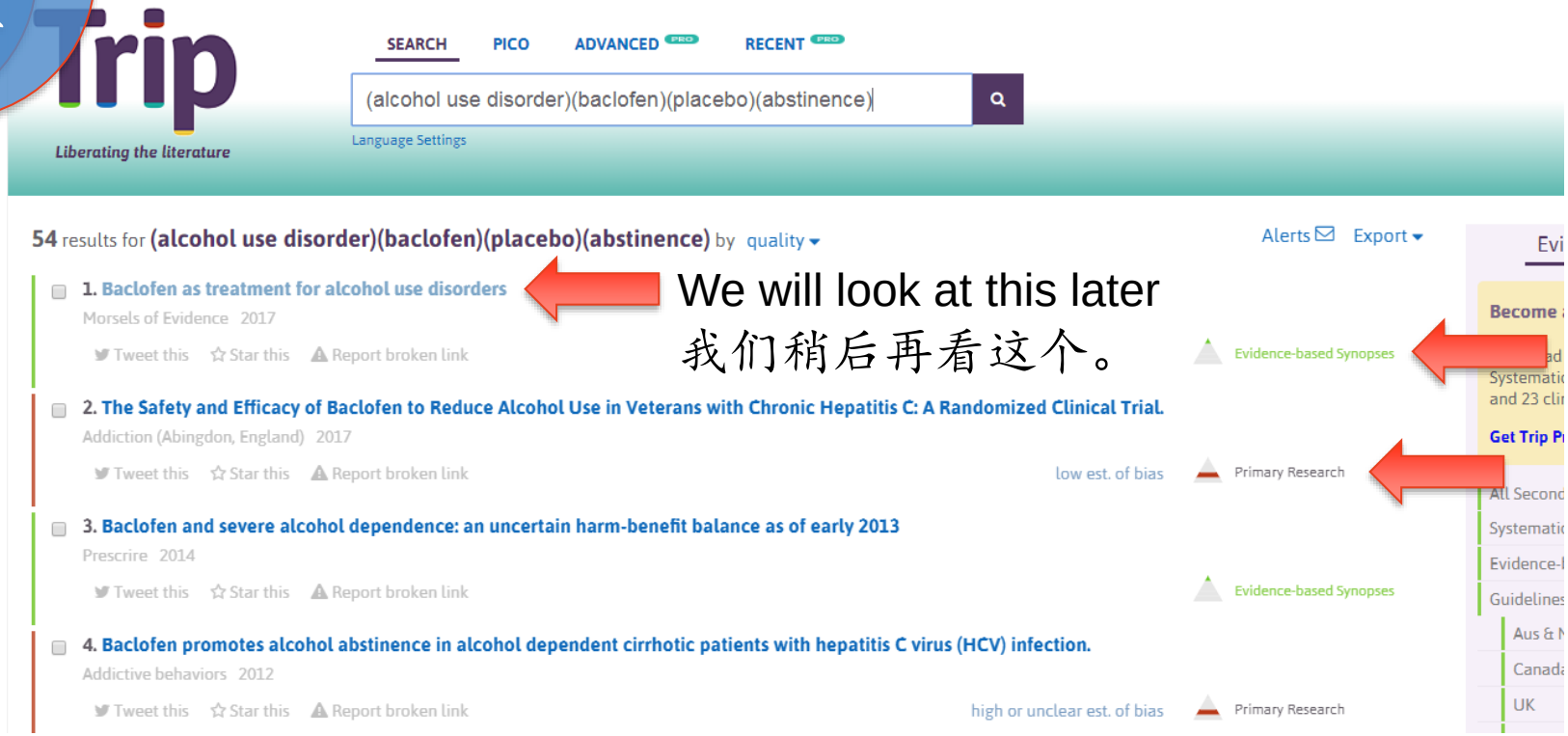

We will look at this later
我们稍后再看这个。

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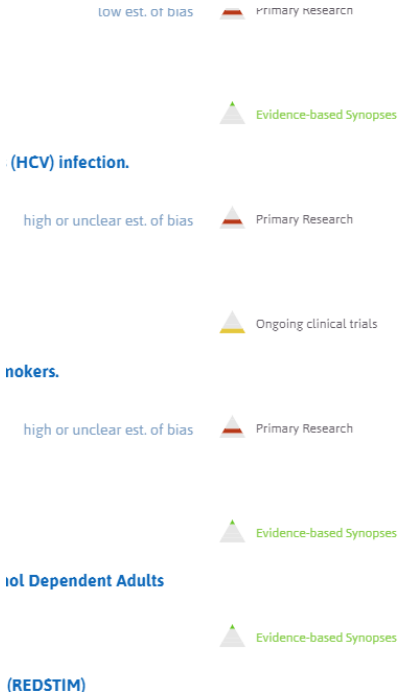
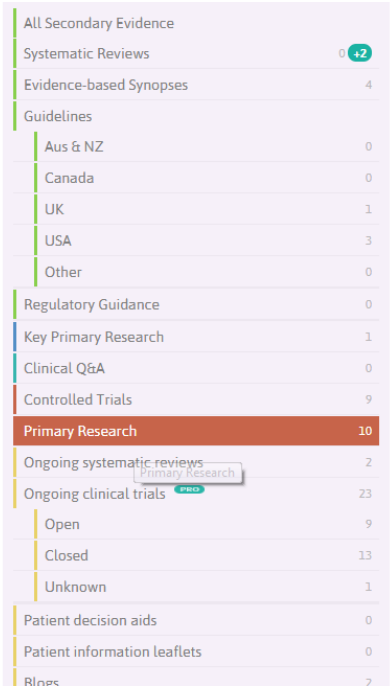
2. Search 检索

TripDatabase





www.tripdatabase.com

2. Search
检索

TripDatabase

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 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 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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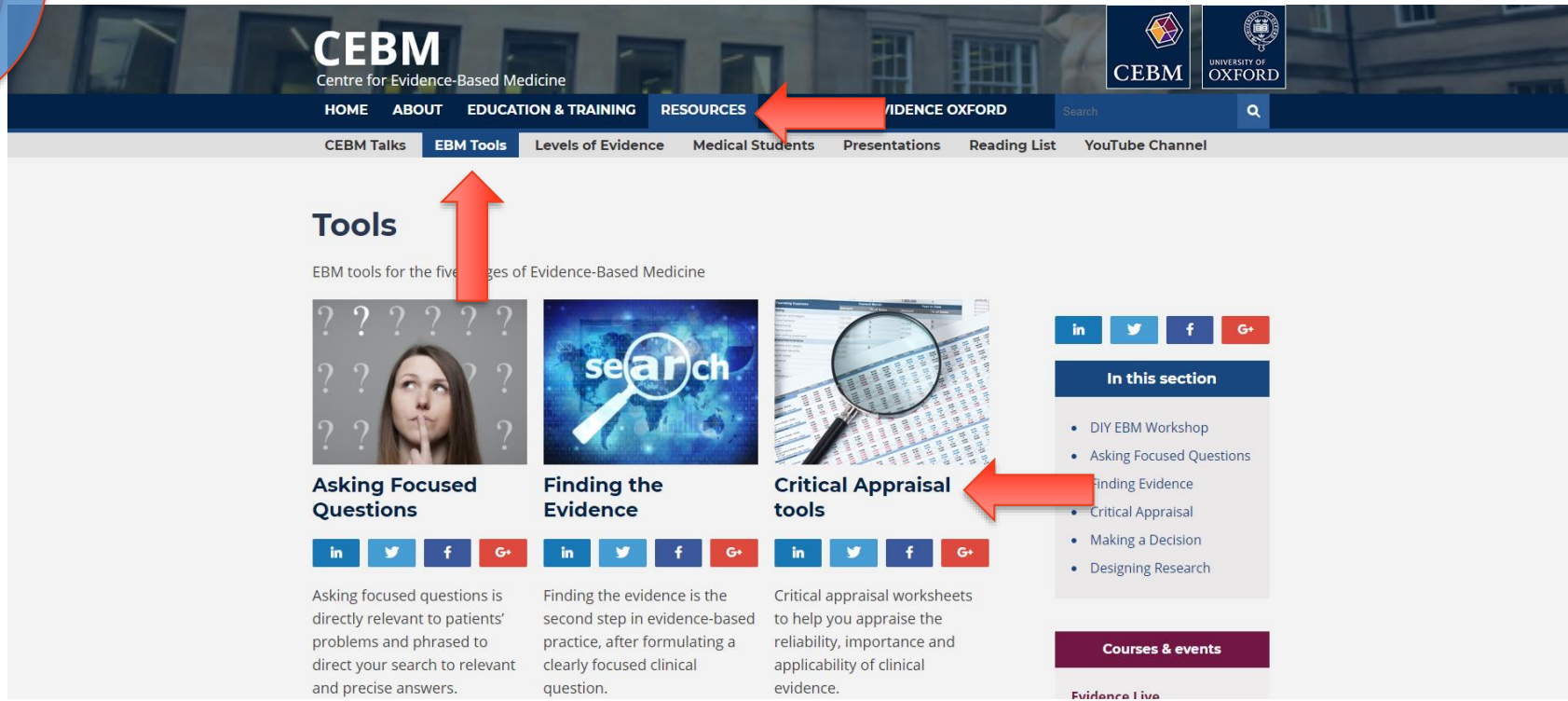
3.
Appraise
严格
评价

Oxford Centre of EBM worksheets



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3. Appraise 严格评价

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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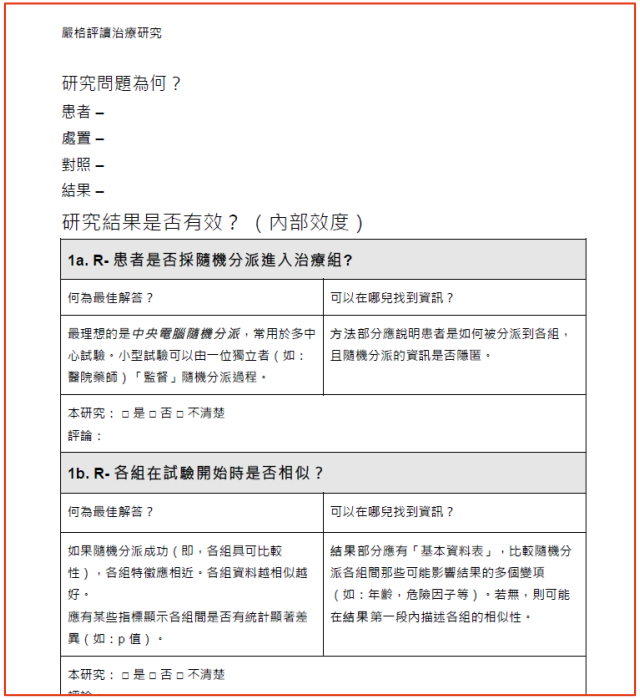
3. Appraise 严格评价

Critical appraisal worksheets 严格评价记录表



嚴格評讀治療研究

研究問題為何？

患者 –

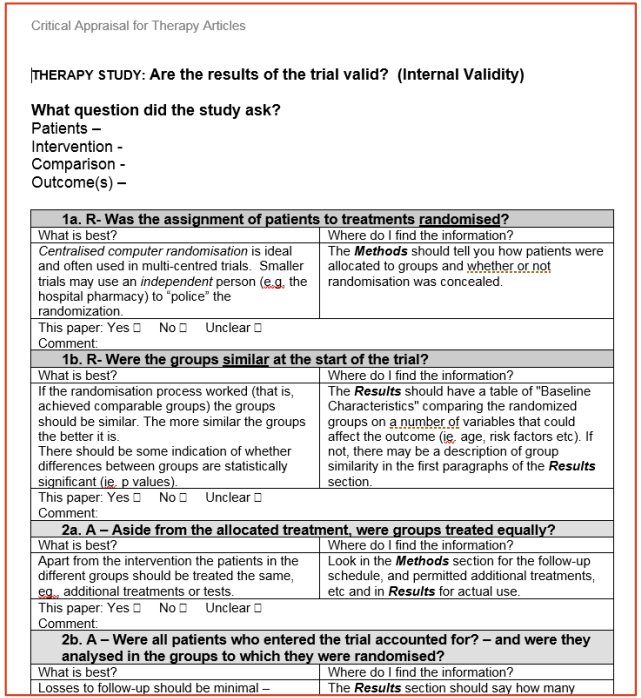
處置 –

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：□ 是 □ 否 □ 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，各組具可比較性），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：□ 是 □ 否 □ 不清楚	



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?	Where do I find the information?
Centralised computer randomisation is ideal and often used in multi-centred trials. Smaller trials may use an *independent* person (e.g. the hospital pharmacy) to "police" the randomization.	The ***Methods*** should tell you how patients were allocated to groups and whether or not randomisation was concealed.
This paper: Yes □ No □ Unclear □ Comment:	
1b. R- Were the groups similar at the start of the trial?	
What is best?	Where do I find the information?
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 (ie. p values).	The ***Results*** should have a table of "Baseline Characteristics" comparing the randomized groups on a number of variables that could affect the outcome (ie. 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 □ No □ Unclear □ Comment:	
2a. A – Aside from the allocated treatment, were groups treated equally?	
What is best?	Where do I find the information?
Apart from the intervention the patients in the different groups should be treated the same, eg., additional treatments or tests.	Look in the ***Methods*** section for the follow-up schedule, and permitted additional treatments, etc and in ***Results*** for actual use.
This paper: Yes □ No □ Unclear □ 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?	Where do I find the information?
Losses to follow-up should be minimal –	The ***Results*** section should say how many

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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.
大多数论文的局限性和问题不在于统计数据

3. Appraise 严格评价

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. Appraise 严格评价

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?

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3. Appraise 严格评价

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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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. Appraise 严格评价

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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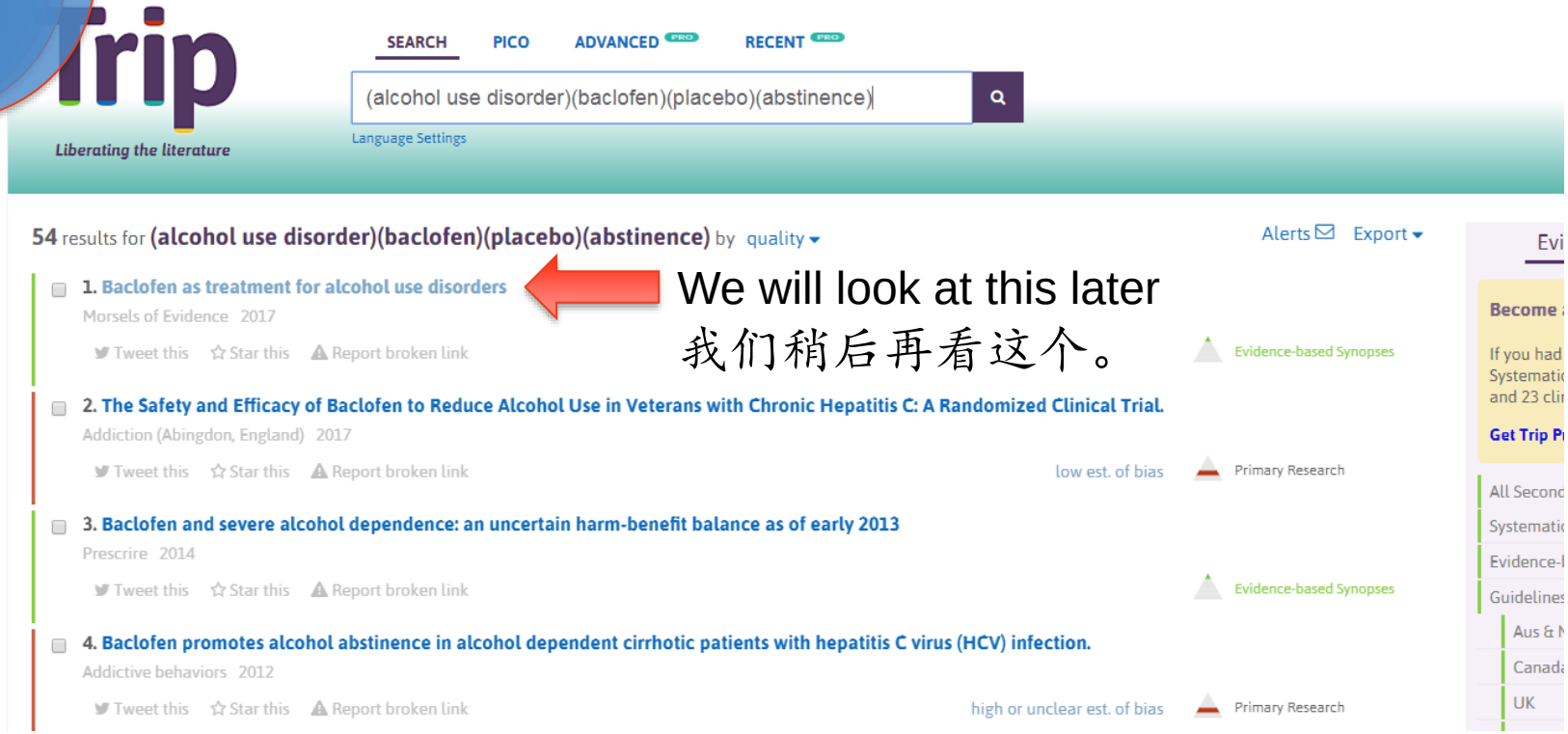
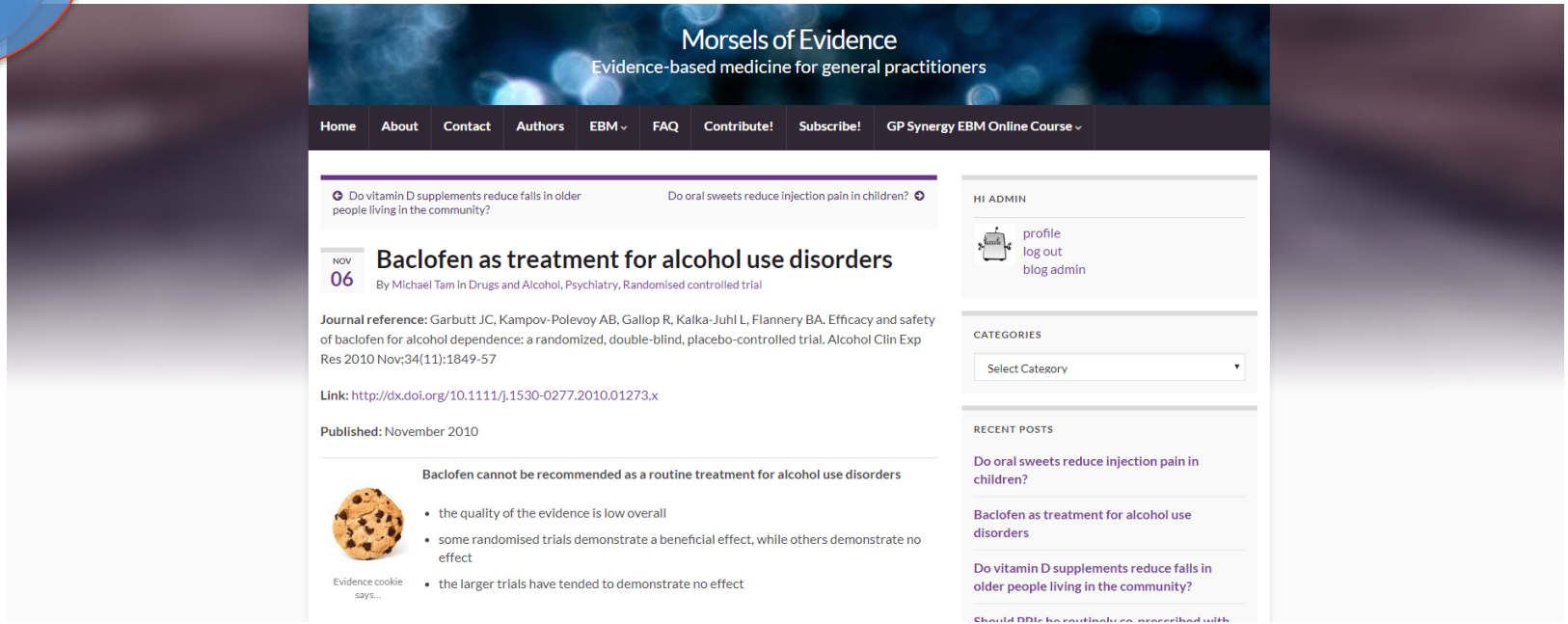
4. Apply
应用

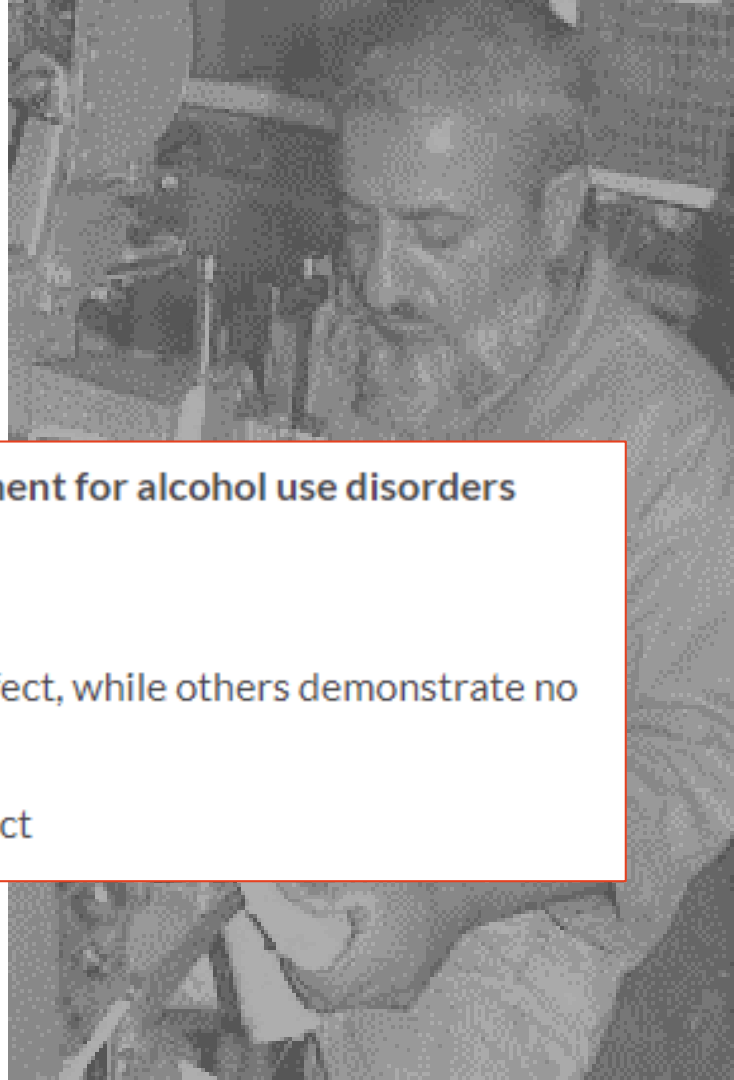

Trip
Liberating the literature
SEARCH
PICO
ADVANCED
RECENT
(alcohol use disorder)(baclofen)(placebo)(abstinence)
Language Settings
54 results for (alcohol use disorder)(baclofen)(placebo)(abstinence) by quality
Alerts
Export
1. Baclofen as treatment for alcohol use disorders
Morsels of Evidence 2017
Tweet this
Star this
Report broken link
Evidence-based Synopses
We will look at this later
我们稍后再看这个。
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
low est. of bias
Primary Research
3. Baclofen and severe alcohol dependence: an uncertain harm-benefit balance as of early 2013
Prescrire 2014
4. Baclofen promotes alcohol abstinence in alcohol dependent cirrhotic patients with hepatitis C virus (HCV) infection.
Addictive behaviors 2012
high or unclear est. of bias

4. Apply
应用



evidencebasedmedicine.com.au

4. Apply
应用



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

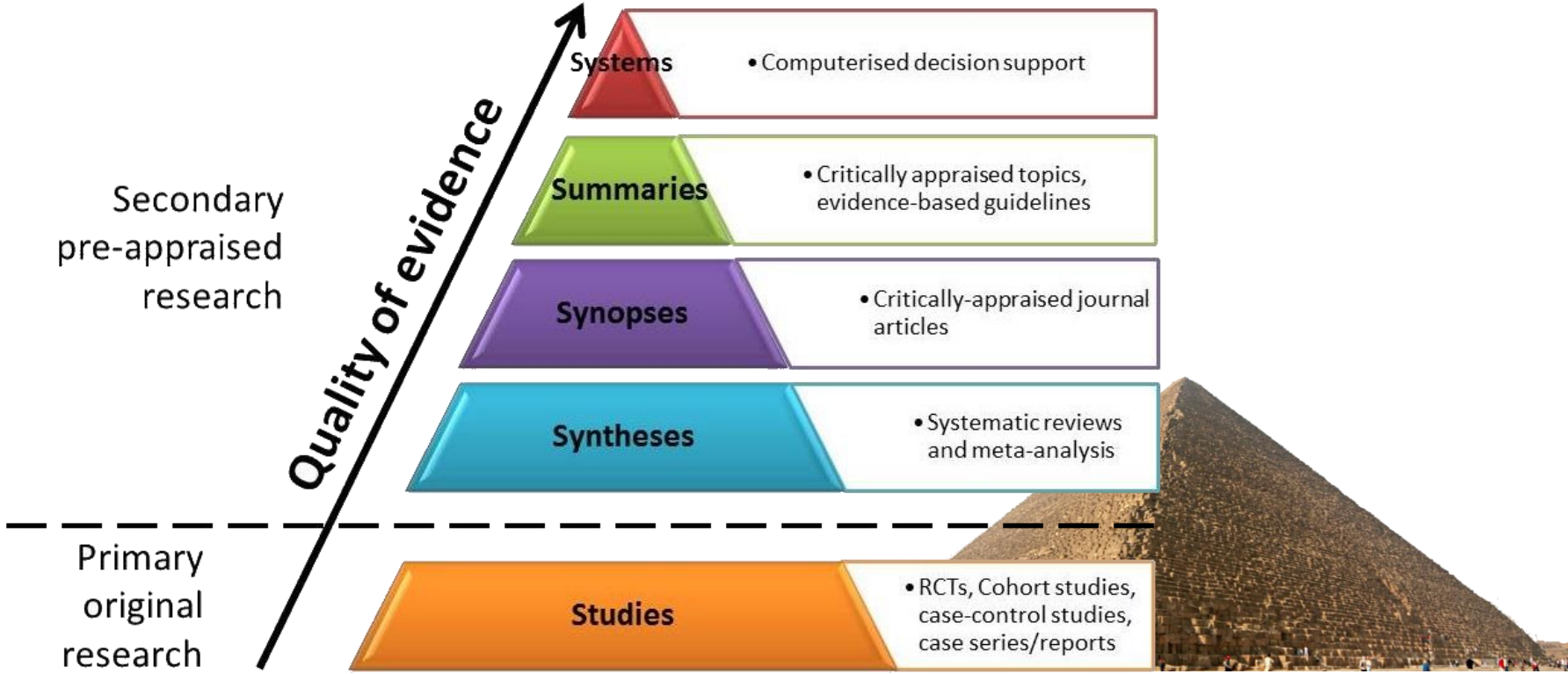
- Participation in research
  参与研究

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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