Evidence Based Medicine Conference

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臨床場景(Clinical scenario)分析

- 病人基本資料:
  - A 42-year-old woman who has the diagnosis of schizophrenia, paranoid type for 30 years.
- 主訴
  - Exacerbated persecutory delusion and homicidal ideation for 3 months
- 診斷
  - Schizophrenia, paranoid type
- 治療
    - Zotepine 300mg, Sulpiride 1200mg, (Lamotrigine 25mg)
    - Risperidone 6mg, Quetiapine 600mg
    - Risperidone 6mg, Quetiapine 1350mg, and Haloperidone 10mg
    - Clozapine 450mg
    - Persistent delusion and homicidal ideation

Asking background question

- What is the pathogenesis of schizophrenia?

- the pathogenesis of the disorder is unknown
  - schizophrenia represents a syndrome comprised of multiple diseases that present with similar signs and symptoms
  - a complex interaction between genes and the environment

- Genetic risk
- Environmental risk
  - Obstetrical complication
  - Infection
  - Inflammation
  - Cannabis use
  - Immigration
- Neurotransmitter
  - Dopamine
  - Glutamine
  - Gamma-amino-butyric acid
  - Acetylcholine

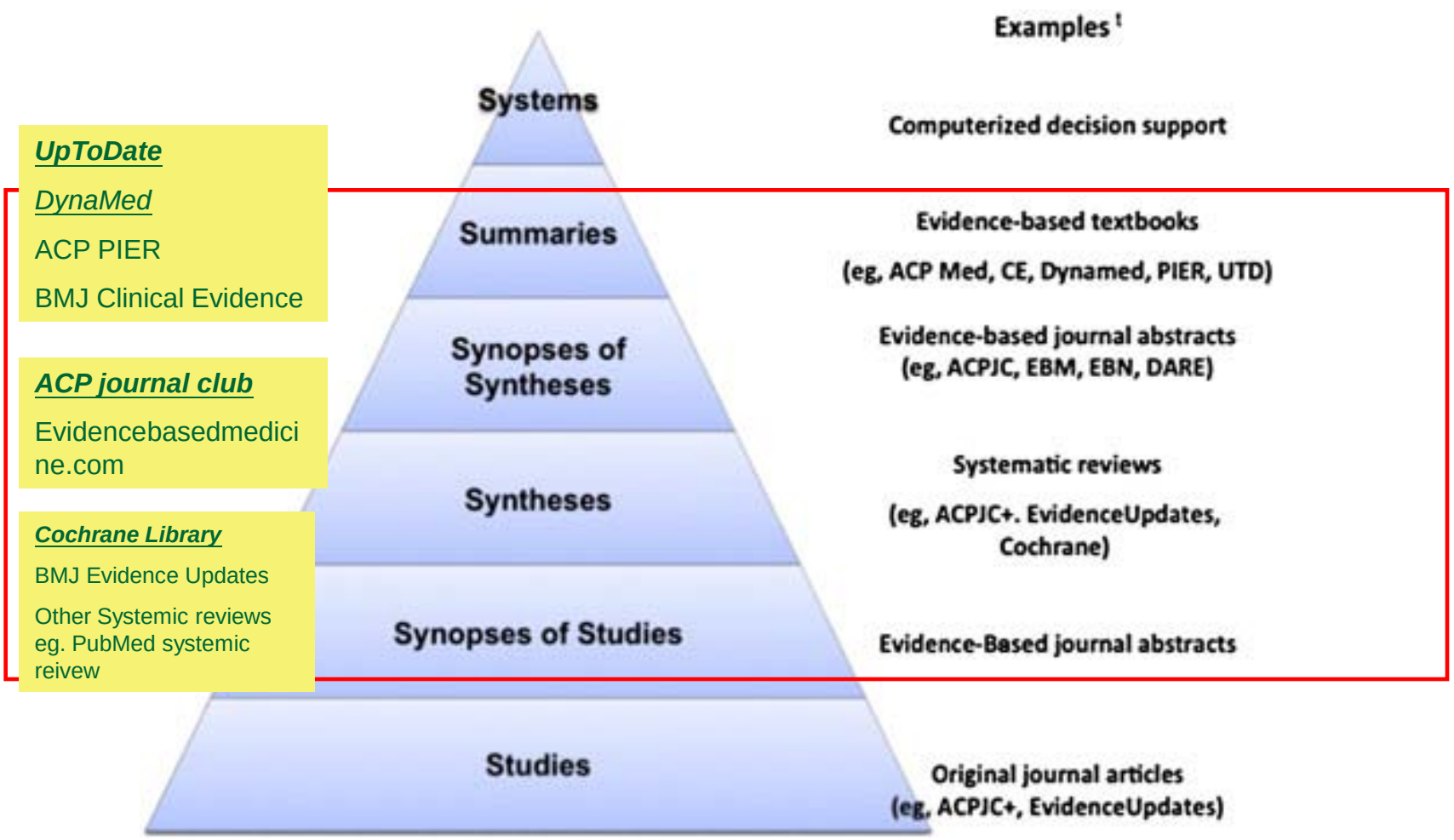
Foreground question

- 對於難治型精神分裂症患者(treatment refractory schizophrenia)合併使用電痙攣療法(Electroconvulsive therapy)是否可改善臨床症狀

P	treatment refractory schizophrenia
I	ECT+antipsychotics
C	antipsychotics
O	Clinical Symptom relief

Searching for useful Database

Search strategy: 6S model



Searching result

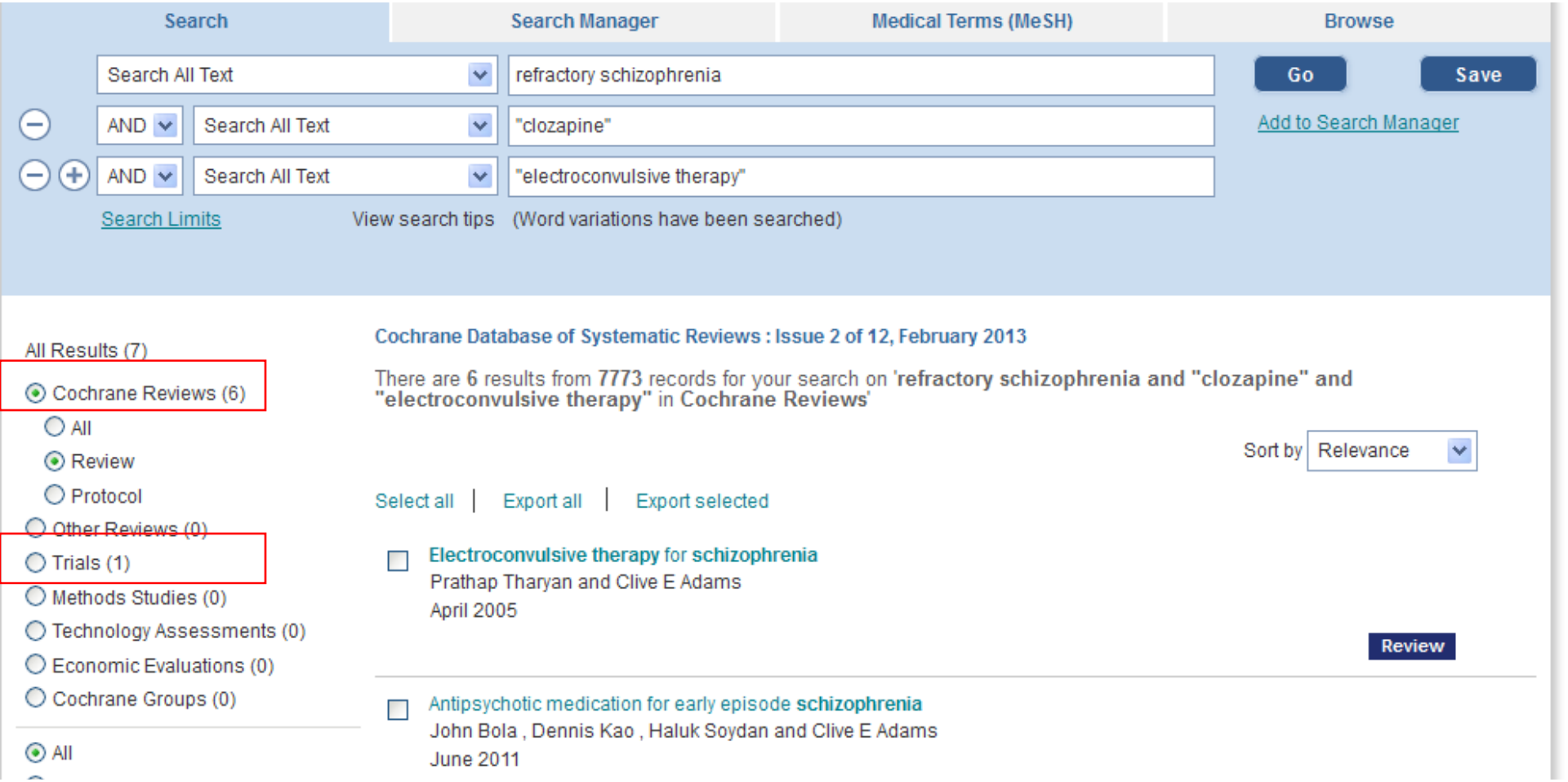
- electroconvulsive therapy (ECT) may provide short term symptom relief in schizophrenia but no evidence of long-term benefit

Searching result

ACP Journal Club®
The Best New Evidence for Patient Care℠

- Key words
  - Schizophrenia, electroconvulsive therapy
  - did not match any documents.

Searching result



A randomized controlled trial of ECT in clozapine-refractory schizophrenia

- ECT+clozapine vs. clozapine
- Response rates
  - 20% and 40% reduction on the BPRS psychosis items.
    - BPRS 20% reduction: 57.1% vs. 5.7% (p<0.001)
    - BPRS 40% reduction: 47.6% vs. 0% (p<0.001)
- The combination of ECT and clozapine was generally well tolerated and no unusual side effects were observed.

The Cochrane Central Register of Controlled Trials (CENTRAL) 2011 Issue 4

Electroconvulsive therapy for schizophrenia

- Background
  - The effects of its use in people with schizophrenia are unclear.
- Search methods
  - We undertook electronic searches of Biological Abstracts (1982-1996), EMBASE (1980-1996), MEDLINE (1966-2004), PsycLIT(1974-1996),SCISEARCH (1996) and the Cochrane Schizophrenia Group's Register (July 2004). We also inspected the references of all identified studies and contacted relevant authors.

The Cochrane Central Register of Controlled Trials (CENTRAL)
2012 Issue 2

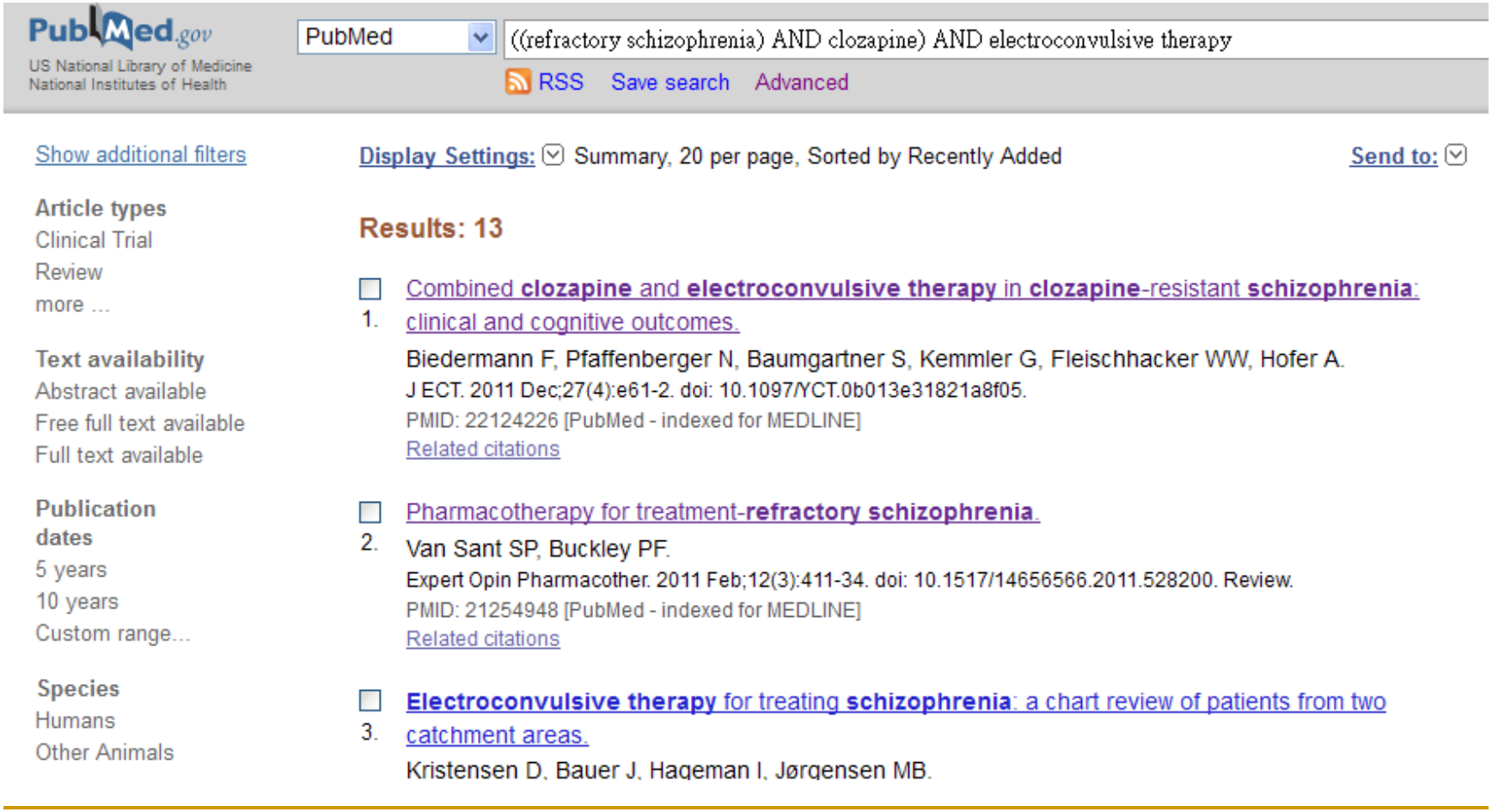
- Selection criteria
  - randomised controlled clinical trials
    - ECT with placebo, 'shamECT', non-pharmacological interventions and antipsychotics
    - for people with schizophrenia, schizoaffective disorder or chronic mental disorder.
- Data collection and analysis
  - critically appraised studies, extracted data and analysed on an intention-to-treat basis.
  - calculated risk ratios (RR) and their 95% confidence intervals (CI) with the number needed to treat (NNT).
  - For continuous data Weighted Mean Differences (WMD) were calculated.
  - We presented scale data for only those tools that had attained pre-specified levels of quality. We also undertook tests for heterogeneity and publication bias.

- Main results
  - ECT vs. placebo or sham ECT, more people improved in the real ECT group
  - ECT resulted in less relapses in the **short term** than sham ECT and a greater likelihood of being discharged from hospital
  - no evidence that this early advantage for ECT is maintained over the medium to long term.
  - When ECT is directly compared with antipsychotic drug treatments (total n=443, 10 RCTs) results favour the medication group
  - ECT combined with antipsychotic drugs results in greater improvement in mental state than with antipsychotic drugs alone.
  - continuation ECT was added to antipsychotic drugs, the combination was superior to the use of antipsychotics alone (n=30, WMD Global Assessment of Functioning 19.06 CI 9.65 to 28.47), or CECT alone

The Cochrane Central Register of Controlled Trials (CENTRAL) 2012 Issue 2

- Conclusion
  - ECT, combined with treatment with antipsychotic drugs, may be considered an option for people with schizophrenia
    - For those with schizophrenia who show limited response to medication alone.

Searching results



搜尋過程與結果

- DynaMed: 1篇(不符合PICO)
- ACP journal club: 0篇
- Cochrane library: 2篇 → 評讀一篇(符合PICO且有全文)
- PubMed: 2篇(不符合PICO)

Critical appraisal

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

文獻評讀的工具

- Systemic Review appraisal worksheet (CEBM, 2010)

Final choice

[Intervention Review]

Electroconvulsive therapy for schizophrenia

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Editorial group: Cochrane Schizophrenia Group.
Publication status and date: Edited (no change to conclusions), published in Issue 4, 2009.
Review content assessed as up-to-date: 15 February 2005.

- SYSTEMATIC REVIEW: Are the results of the review valid?
  - What question (PICO) did the systematic review address?
    - 應清楚闡明文章想要回答的問題，暴露因子(包括治療、檢驗等)與結果的因果關係簡單明瞭
    - Yes
  - Is it unlikely that important, relevant studies were missed?
    - 沒有遺漏重要的文獻
    - Yes
  - Were the criteria used to select articles for inclusion appropriate?
    - 選擇文獻的準則適當
    - Yes
  - Were the included studies sufficiently valid for the type of question asked?
    - 選擇的文獻有效回答所問的問題
    - Yes
  - Were the results similar from study to study? Not clear

Apply

醫療現況	病人意願
個案對於目前之抗精神病藥物無論是單線或多線使用效果皆無明顯改善	考慮接受電痙攣治療
生活品質	社會脈絡
目前個案因長期與症狀共存,無法有良好之社會職業功能,但是否能增進生活品質上無定論	電痙攣療法非第一線治療方法,一般在藥物效果已達極限時,考慮合併使用

Audit（自我評估）

在「提出臨床問題」方面的自我評估

- 我提出的問題是否具有臨床重要性？有
- 我是否明確的陳述了我的問題？是
- 我是否清楚的知道自己問題的定位？（亦即可以定位自己的問題是屬於診斷上的、治療上的、預後上的或流行病學上的），並據以提出問題？知道，屬於治療範疇
- 對於無法立刻回答的問題，我是否有任何方式將問題紀錄起來以備將來有空時再找答案？有

在「搜尋最佳證據」方面的自我評估

- 我是否已盡全力搜尋？是
- 我是否知道我的問題的最佳證據來源？是
- 我是否從大量的資料庫來搜尋答案？是
- 我工作環境的軟硬體設備是否能支援我在遇到問題時進行立即的搜尋？是
- 我是否在搜尋上愈來愈熟練了？是
- 我會使用「斷字」、布林邏輯、同義詞、MeSH term，限制 (limiters)等方法來搜尋？會
- 我的搜尋比起圖書館人員或其他對於提供病人最新最好醫療有熱情的同事如何？普通

關於「嚴格評讀文獻」方面的自我評估

- 我是否盡全力做評讀了？是
- 我是否了解worksheet每一項的意義？是
- 評讀後，我是否做出了結論？是

關於「應用到病人身上」的自我評估

- 我是否將搜尋到的最佳證據應用到我的臨床工作中？是
- 當搜尋到的最佳證據與實際臨床作為不同時，我如何解釋？會參考文獻證據但仍以實際臨床為主

改變「醫療行為」的自我評估

- 當最佳證據顯示目前臨床策略需改變時，我是否遭遇任何阻止改變的阻力？否
- 我是否因此搜尋結果而改變了原來的治療策略？沒有
- 做了那些改變？沒有

效率評估

- 這篇報告，我總共花了多少時間？兩天
- 我是否覺得這個進行實證醫學的過程是值得的？值得，疑問得到解答，也更熟悉EBM的操作
- 我還有那些問題或建議？評讀paper的方法須再熟練

Thanks for your attention~~