

Evidence Based Medicine

2008.11.24.Intern 陳家如

5A of EBM

- **1. Asking**
 - Converting the clinical uncertainties into an answerable question.
- **2. Accessing**
 - Search the database and tracking down the best available evidence.
- **3. Appraising**
 - Critical appraising that evidence for its validity and importance.

5A of EBM

■ 4. **A**pplying

- Integrating the critical appraising with our clinical expertise and our patient's unique biology, values and circumstances.

■ 5. **A**uditing

- Evaluating our effectiveness and efficiency in executing step 1- 4 and seeking ways to improve them both for next time.



Step 1
Asking

Question

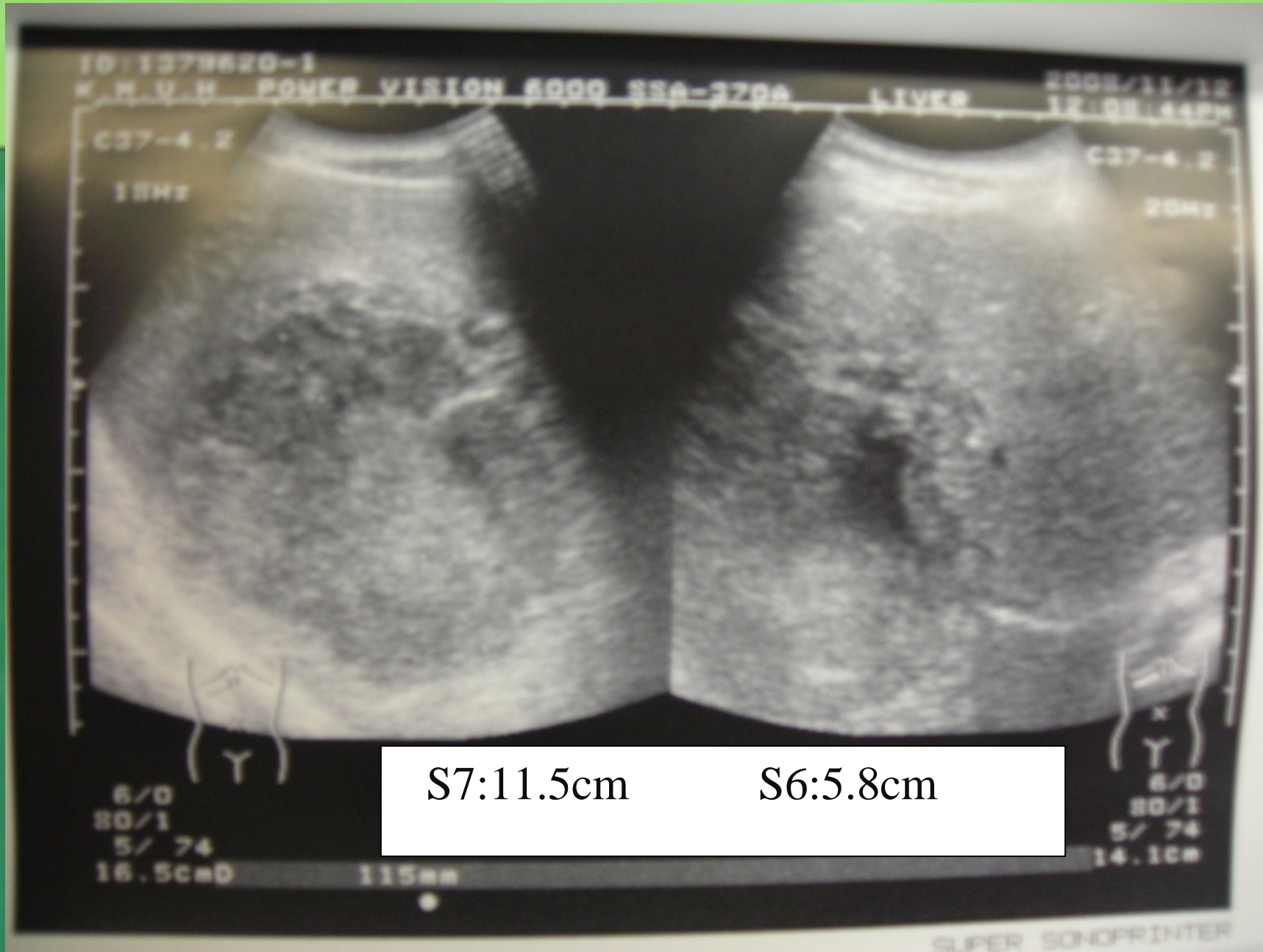
Question :

Do percutaneous drainage have more advantages than surgery to liver abscess ?

Propose PICO

Problem	This 49-year-old male who suffer from a liver abscess(11.5cm in diameter)
Intervention	percutaneous drainage
Comparison	surgery
Outcome	Prognosis and advantage

11/12 abdominal echo



11/12 CT





Step 2-4

Assessing

Appraising

Apply

Searching Database

- Key word:

liver abscess,percutaneous drainage

- Database:

- Medline(pubmed)

- Up-to-date

Levels of Evidence According to Type of Research Question

Level	Intervention	Diagnosis	Prognosis	Etiology
I	A systematic review of level II studies	A Systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomized controlled trial	Cross-sectional study among consecutive patients	A prospective inception cohort study	A prospective cohort study
III-1	A pseudo-randomised controlled trial (eg alternate allocation or some other method)	Cross-sectional study among non-consecutive patients	Untreated control patients in a randomized controlled trial	A retrospective cohort study
III-2	A comparative study with concurrent control group: <ul style="list-style-type: none"> ❖ Nonrandomized experimental study ❖ Cohort study, case-control study, interrupted time series with a control group 	Diagnostic case-control study	A retrospectively assembled cohort study	A case-control study
III-3	A comparative study without concurrent control group: <ul style="list-style-type: none"> ❖ Historical control study ❖ Comparison of 2 or more single arm studies (ie case series from 2 studies) ❖ Interrupted time series without a parallel control group 			
IV	Case series	Case series	Case series, or cohort study of patients at different stages of disease	A cross-sectional study

Paper Review: I

Percutaneous and surgical treatment of pyogenic liver abscesses: observation over a 21-year period in 148 patients.

Level: III-1

From 2008 Aug, Infectious and Tropical Diseases Division, IRCCS S. Matteo, University of Pavia, Pavia, Italy. ferraiol

Methods

- Data of 148 patients (90 males; 58 females; mean age, 61 yrs; range, 30-86 yrs) were **retrospectively analysed**.
- Patients' outcomes, including the length of hospital stay, procedure-related complications, treatment failure and death, were recorded.

RESULTS:

- 104 patients (83 with solitary and 21 with multiple abscesses) were treated percutaneously, either by needle aspiration (91 patients) or catheter drainage (13 patients) depending on the abscess's size, and 44 patients (30 with solitary and 14 with multiple abscesses) were treated surgically.

RESULTS:

- There was no statistically significant difference in patients' demographics or abscess characteristics between groups.
- Hospital stay was longer, and costs were higher in patients treated surgically ($p < 0.001$).
- There was statistically significant difference in morbidity rate between groups ($p < 0.001$).

CONCLUSIONS:

- Percutaneous and surgical treatment of pyogenic liver abscesses are both effective, nevertheless percutaneous drainage carries lower morbidity and is cheaper.

Paper Review: II

**Management of pyogenic liver abscesses -
percutaneous or open drainage?**

Level:III-3

From 2007 Dec ,Department of General Surgery, Singapore General Hospital,
Outram Road, Singapore

Methods:

- Articles on the treatment of pyogenic liver abscess, accessed through a MEDLINE search using PubMed, were reviewed

Results:

- Intravenous antibiotic is the first line, and mainstay, of treatment.
- Drainage is necessary for large abscesses, equal to or larger than 5 cm in size, to facilitate resolution.
- While percutaneous drainage is appropriate as first-line surgical treatment in most cases, open surgical drainage is prudent in cases of rupture, multiloculation, associated biliary or intra-abdominal pathology.

Conclusions:

- in current good clinical practices, the choice of therapy needs to be individualised according to **patient's clinical status** and **abscess factors**.
- They are complementary in the management of liver abscesses.

Paper Review: III

**Pyogenic liver abscess: interventional
versus surgical therapy: technique, results
and indications**

Level:III-3

From 2001 Jul , Institut für Diagnostische und Interventionelle
Radiologie, Klinikum der Johann Wolfgang Goethe Universität, Frankfurt am Main.

Methods:

- For the therapy planning of liver abscesses both etiological factors and clinical symptoms have to be evaluated, with visualization via ultrasound, CT, or MRI.
- The indication for a percutaneous abscess drainage (PAD) is a solitary or complicated abscess with a safe drainage access.

Results:

- percutaneous abscess drainage (PAD): The success rate varies between 70 and 93%, the mortality rate between 1 and 11%.
- For complex abscesses, surgical therapeutic techniques (OSD) or liver resection have to be discussed. The OSD success rate varies between 51 and 70%, the mortality rate between 11 and 43%.

Conclusions:

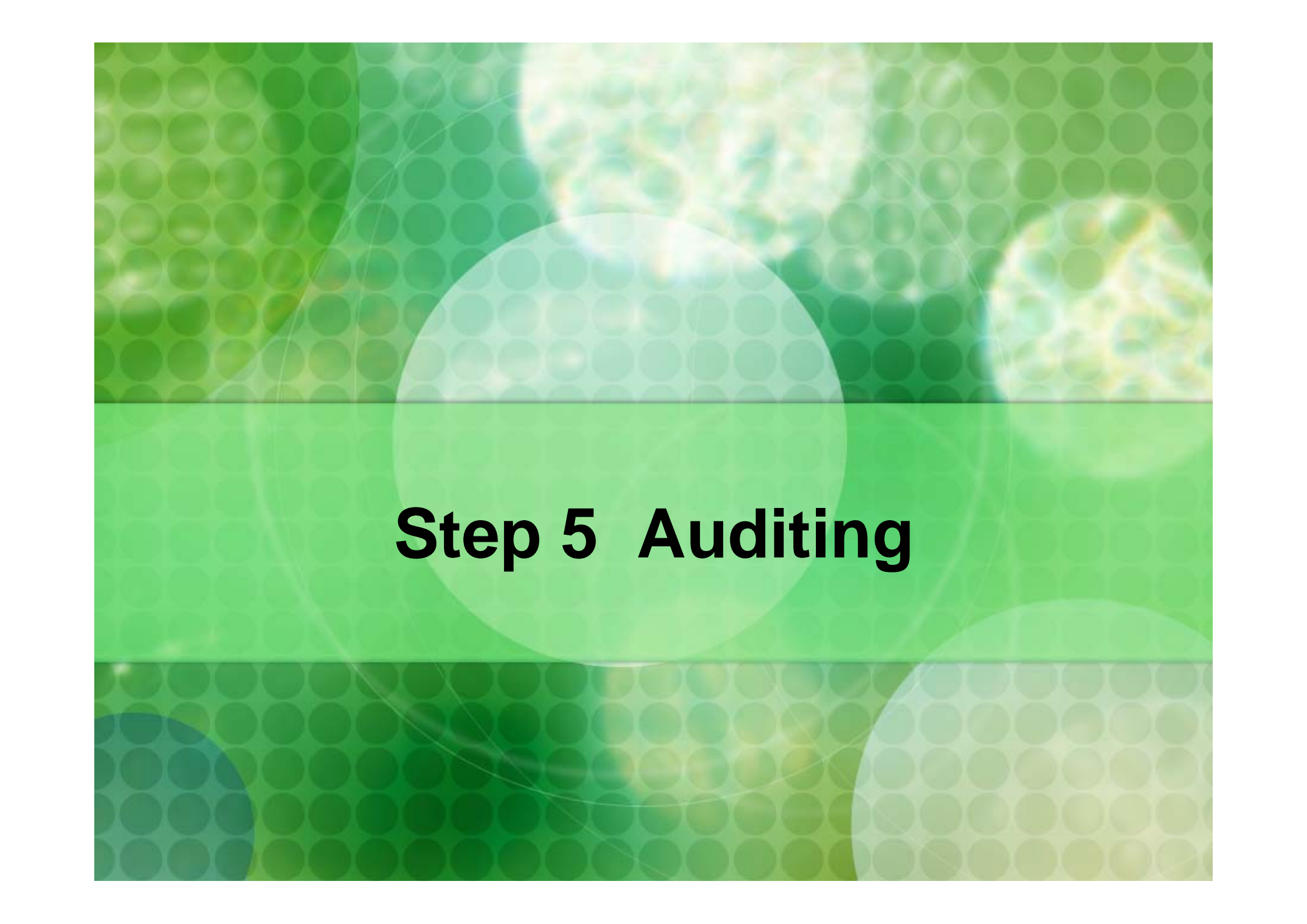
- In summary PAD is characterized by low complication and mortality rates, reduced risk of anesthesia, low cost, and short stay in the hospital.

The image features a green background with a pattern of small, semi-transparent circles. A large, semi-transparent circle is centered in the middle, containing the word "Conclusion" in a bold, black, sans-serif font. The background is divided into three horizontal bands of varying shades of green, with the central band being the lightest. There are also some faint, abstract shapes and patterns in the background, including what looks like a stylized globe or a network of lines in the upper right corner.

Conclusion

Conclusion:

- Percutaneous and surgical treatment of pyogenic liver abscesses are both effective, nevertheless percutaneous drainage carries lower morbidity and is cheaper.
- in current good clinical practices, the choice of therapy needs to be individualised according to patient's clinical status and abscess factors.

The background is a vibrant green with a repeating pattern of small, semi-transparent circles. Overlaid on this are several larger, semi-transparent circles of varying shades of green and light blue. In the upper right and lower right areas, there are abstract, glowing patterns of light blue and yellow, resembling a network or a complex structure. The overall aesthetic is modern and digital.

Step 5 Auditing

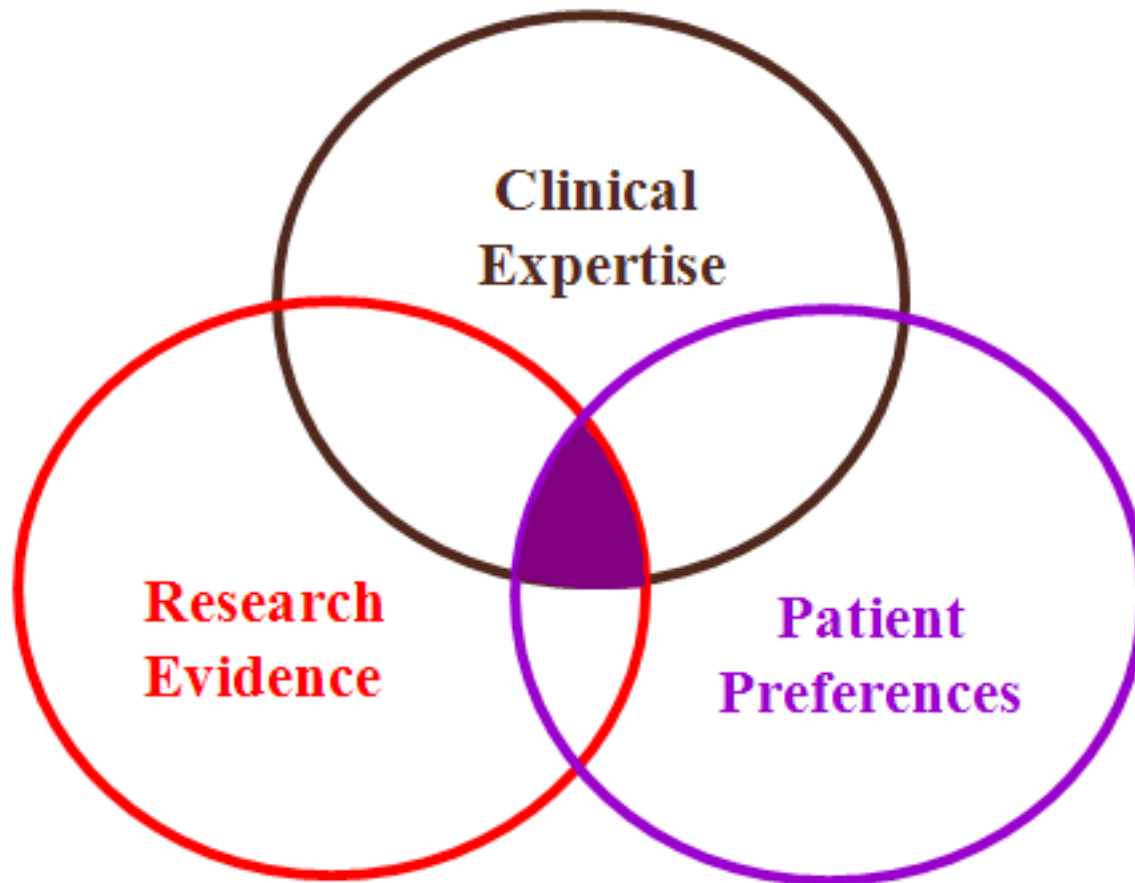
■ 5. **A**uditing

- Evaluating our effectiveness and efficiency in executing step 1- 4 and seeking ways to improve them both for next time.

Step 5

- Some article can't get full text, so we can't appraise it correctly
- We need to find higher levels of evidence

Evidence-based Decision Making



Thanks for your attention ☺