

Introduction to **Evidence Based** **Medicine**

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Link to download videos

<https://www.onlinevideoconverter.com/youtube-converter>

<https://youtu.be/2pJvBNszxIU>

Outline

- **Introduction**
- **Definition of EBM**
- **Steps of EBM**
- **Sources of Evidence**
- **Practical search**
- **Conclusion**
- **Closure**

- 1. Definition**
- 2. How to construct a clinical question using PICO**
- 3. Sources of Evidence:**
 - A. Clinical evidence**
 - B. Guidelines**
 - C. Up-to-date**
 - D. Cochrane**
- 4. Skills in searching for evidence**

Clinical Scenario

Ibrahim is a 30 years old teacher, he is known to have allergic rhinitis. He presented with a flare up of rhinitis symptoms, and he wants to get refills of the antihistamine pills.

■ You wonder should you prescribe intranasal steroids or refill the antihistamines?!

When confronted with a
clinical question,

Whom would you consult?

- A. Experts**
- B. Colleagues**
- C. Textbooks**
- D. Others**

What are the Others?

Colleagues- experts

- **A great source of information.**
- **Quick, affordable and accessible.**
- **But potentially very biased:**
 - **Not updated**
 - **Variability**

Textbooks

- **Rapidly out-of-date (2-4y).**
- **A good source of background information (pathophysiology).**
- **But a poor source of information for most foreground questions (clinical).**

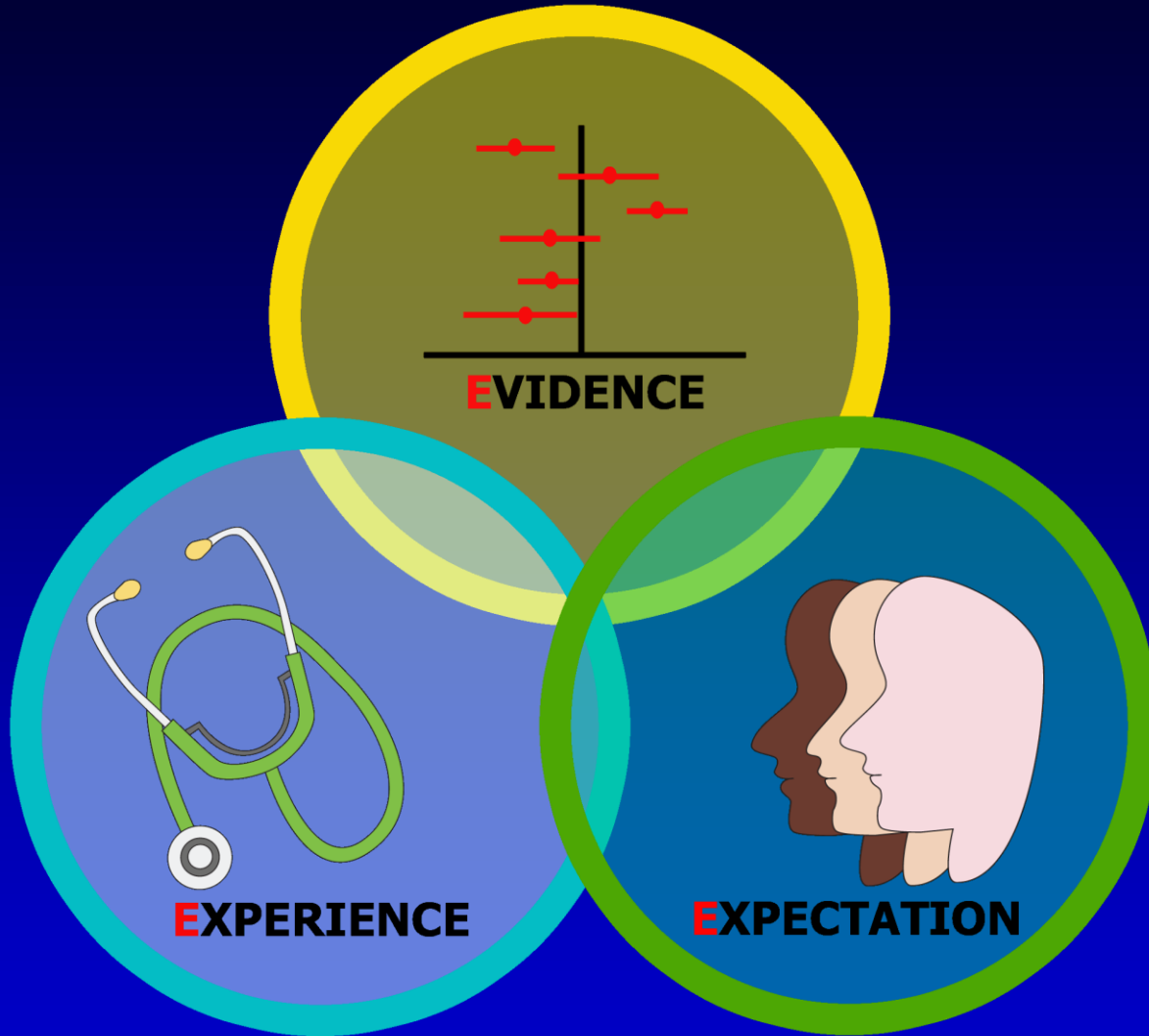
Burn your traditional textbooks

What is EBM?

EBM is

The integration of the current best evidence (from research) with our clinical expertise and patients' values.

Three (*Es*)- EBM Components



Rules of Evidence

- All evidence is not created equal.
- Evidence alone never makes clinical decisions.

Hierarchy of Evidence

Meta-analysis of RCTs
Multi-centric large RCTs



Single Centre RCT



Observational studies
Patient-important outcomes

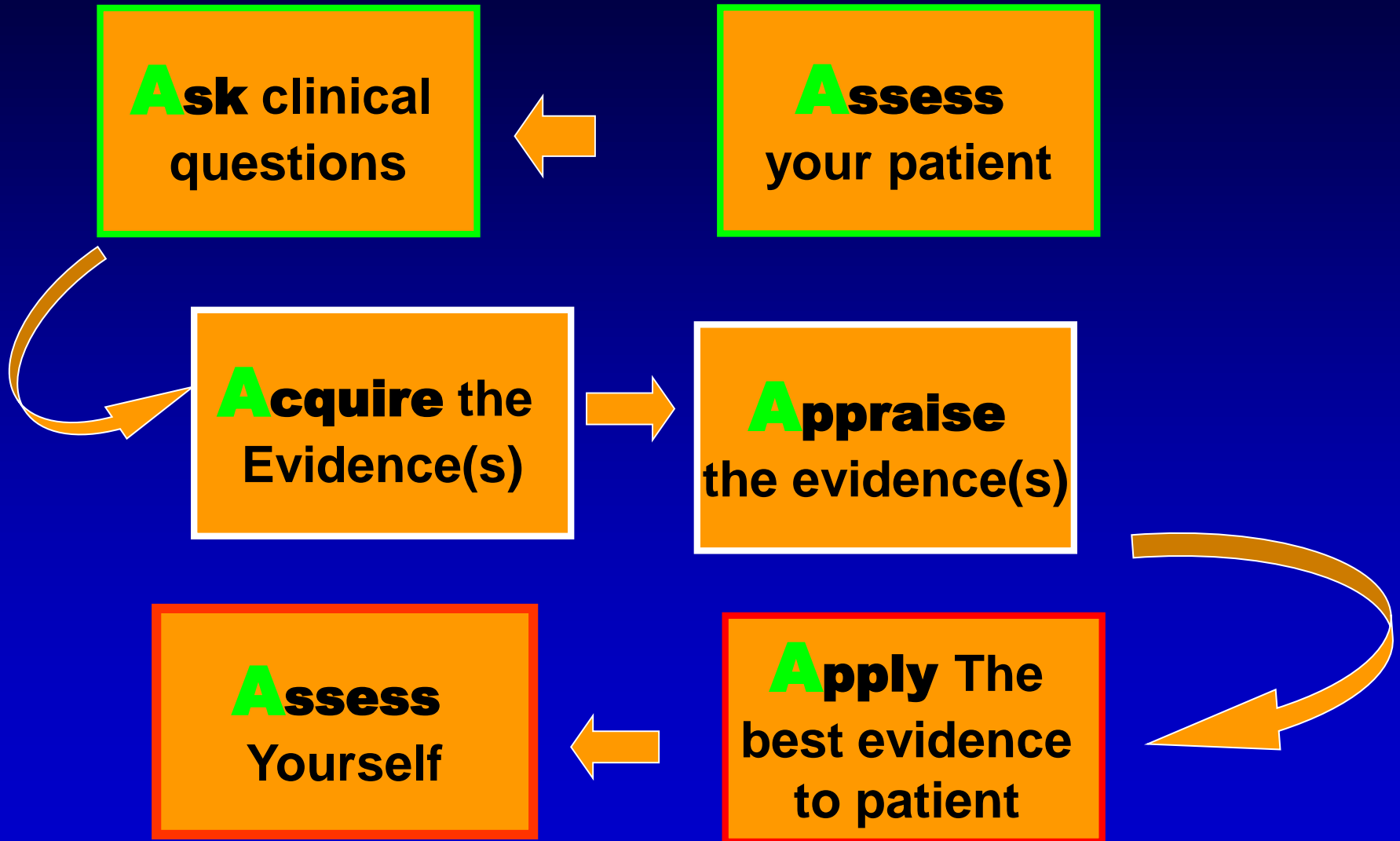


Clinical experience



Basic research
test tube, animal, human

6 **A**s to practice EBM



Assess Your Patient

- **History**
 - **Physical examination**
 - **Objective data – labs, x-rays**
- **Formulate differential diagnosis**
 - **Pretest probability of disease**

To answer a clinical question effectively

First, turn your scenarios into *'well-built' clinical Q.*

Four domains: PICO

- 1) the **P**atient (**P**roblem)
- 2) the **I**ntervention or exposure
- 3) the **C**omparison (intervention)
- 4) the clinical **O**utcomes

Ibrahem

1. Patient population.

Patients attending with
allergic rhinitis

2. Intervention.

intranasal steroids

3. Comparison
intervention.

antihistamines

4. Otcomes.

???

“In Patients attending the family medicine clinic with allergic rhinitis , is the use of intranasal steroids as compared to antihistamines?”

For healthy adults is it worthwhile to give aspirin as a prophylaxis to reduce MI and or stroke ?

Aspirin and Primary Prevention

1. Patient population.

Asymptomatic adults
with no risk factors

2. Intervention.

Aspirin

3. Comparison
intervention.

Placebo

4. Otcomes.

Incidence of CV events

“In asymptomatic adults no risk factors, would the use of aspirin reduce the incidence of cardiovascular events?”

Clinical Scenario

Khalid is a 60 years old teacher, he is known to have hypertension. He presented to the ED with severe chest pain for the last two hours.

- In addition to history / exam and ECG, you wonder should you request for a timely diagnosis: troponin or creatine kinase- MB or both?**

Troponin or creatine kinase- MB

1. Patient population.

Patients attending the ED
with chest pain

2. Intervention.

Troponin

3. Comparison
intervention.

creatine kinase-MB

4. Otcomes.

Accuracy of diagnosis of IHD

“In Patients attending the ED with chest pain, is troponin as compared to creatine kinase-MB more valid for the diagnosis of ischemic heart disease?”

Ask Clinical Questions (PICO)

Components of Clinical Questions (PICO)

Patient/ Population	Intervention/ Exposure	Comparison	Outcome
In patients with acute MI	does early treatment with a statin	compared to placebo	decrease cardiovascular mortality?
In women with suspected coronary disease	what is the accuracy of exercise ECHO	compared to exercise ECG	for diagnosing significant CAD?
In post-menopausal women	does hormone replacement therapy	compared to No HRT	increase the risk of breast cancer?



Educational Prescription

Patient's Name

Learner:

3-part Clinical

Target Disorder:

Intervention (+/- comparison):

Outcome:

Date and place to be filled:

Presentations will cover:

1. search strategy;
2. search results;
3. the validity of this evidence;
4. the importance of this valid evidence;
5. can this valid, important evidence be applied to your patient;
6. your evaluation of this process.

Types of clinical questions

- **Therapy and harm: how to select treatments to offer patients that do more good than harm**
- **Diagnostic tests: how to select and interpret diagnostic tests, in order to confirm or exclude a diagnosis**
- **Prognosis: how to estimate the patient's likely clinical course over time**

Acquire the Best Evidence

- Prefiltered Sources:
 - UpToDate
 - **Best practice**
 - Dynamed
 - Physicians Information and Education Resource (PIER)
 - **Clinical Practice Guidelines**
 - **Cochrane Library ?**
 - Medscape
 - MD Consult
- Unfiltered Sources
 - **MEDLINE**
(www.pubmed.gov)
 - **Google scholar**
(www.google.com)

We need to focus and familiarize ourselves with few of them

A comparison of answer retrieval.

Ahmadi SF Med Teach - 2011

	UpToDa te	Clinical key	PIER	Essenti Evid +
Rate retriev	<u>86%</u>	69%	49%	45%
The mean time	<u>14.6 min</u>	15.9 min	17.3 min	16.3 min

Other Prefiltered Sources:

- **ACP Journal Club** www.acpjc.org
- **The database of abstracts of reviews of effects (DARE)** www.crd.york.ac.uk
- **Evidence Based Medicine** ebm.bmj.com
- **Evidence Based mental health**
ebmh.bmj.com

Tripdatabase

Conclusion

