



# **Evidence-Based Medicine Journal Club: Introduction**

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# Peds EBM Teaching Slides: Credits and Advertisements

- Adapted from Dr. Susan Guralnick's Stony Brook EBM teaching PowerPoint slides; 2002 APPD EBM workshop
- EBM Workshop for Peds Eds at UIC (Dr. Jordan Hupert et al) and website resources (diagnostic test calc) <http://ebm.peds.uic.edu/>
- JAMA's Users' Guides to EBM on-line [www.cche.net/usersguides/main.asp](http://www.cche.net/usersguides/main.asp)
- UMD Dept of Epidemiology and Prev. Med.

# Introduction: What is EBM?

- Evidence-Based Medicine: the integration of best research evidence with clinical expertise and patient values
- Practicing EBM:
  - Framing the question to care for your patient
  - Searching and finding the evidence
  - Validating the evidence
  - Evaluating the evidence
  - Applying the evidence to your patient

# EBM Overview

- Answerable Clinical Questions
- Critically Appraised Topics
- Analyzing Articles About:
  - Diagnosis
  - Therapy or Treatment
  - Prognosis
  - Harm/Association
  - Special Topics (Meta-analysis, CPG's)

# EBM: Framing the Question

- Developing a well framed Answerable Clinical Question (ACQ) allows an efficient and effective search for evidence.
- 4 parts of an ACQ: PICO
  - P = Patient and Problem
  - I = Intervention
  - C = Comparison (to another intervention)
  - O = Outcomes of interest

**ACQ example:** The mother of a child with frequent febrile seizures asks if her son can be placed on an anticonvulsant so her son “won’t have any more seizures.”

- P (Patient/ problem) = In a child with febrile seizures
- I (Intervention) = Does an anticonvulsant
- C (Comparison) = Compared to no treatment
- O (Outcomes of interest) = Decrease the risk of further seizures?

## ACQ example 2:

- Your patient, a 13 mo girl with fever and sores in her mouth for 2 days, is uncomfortable and has decreased oral intake. You've heard about acyclovir use for primary herpes gingivostomatitis but you don't know the details.
- What is an answerable clinical question (ACQ) for this case?

# An Answerable Clinical Question

- P = In children with probable herpes gingivostomatitis
- I = what is the therapeutic efficacy of oral acyclovir
- C = compared to placebo
- O = on rate of cure?

## ACQ example 3:

- A 2 month old girl with a first episode of wheezing and signs of respiratory distress is being admitted to your service for presumed bronchiolitis. You aren't sure if you should use nebulized epinephrine to treat her illness.
- What's an Answerable Clinical Question for this case?

## ACQ example 3:

- P = In infants with presumed bronchiolitis
- I = does use of nebulized epinephrine
- C = compared with placebo, no treatment (or an alternate treatment)
- O = make a difference in the course of illness for these patients (ie in severity of illness, in length of hospitalization)

# How to Use an Article about Therapy

- Are the results likely to be valid?
  - Was the assignment of patients to treatment randomized?
  - What was the method of randomization?
  - Were patients and clinicians kept blind to treatment?

# How to Use an Article about Therapy

- Are the results likely to be valid?
  - Were all the patients who entered the trial properly accounted for and attributed?
    - Follow-up sufficiently complete?
    - **“Intention to treat”**: the principle of attributing all patients to the group to which they were randomized
      - Preserves value of randomization
      - Prognostic factors equally distributed btw 2 groups

# How to Use an Article About Therapy

- Are the results Clinically Significant?
  - Number Needed to Treat
- Are the results applicable to my patient?
  - Is our patient similar to those in the study?
  - Is the treatment feasible in our setting?