

Methods for searching the literature: why and how?



Dr. Evi Nagler
Ghent University Hospital

Conflict of interest

No ties with industry

No interest in systems discussed

BUT



Professional ties with guideline organisation

N° Questions



Q every 2 to 3
patients

≈

10 questions
every day!

N° Questions

If it works, we're right

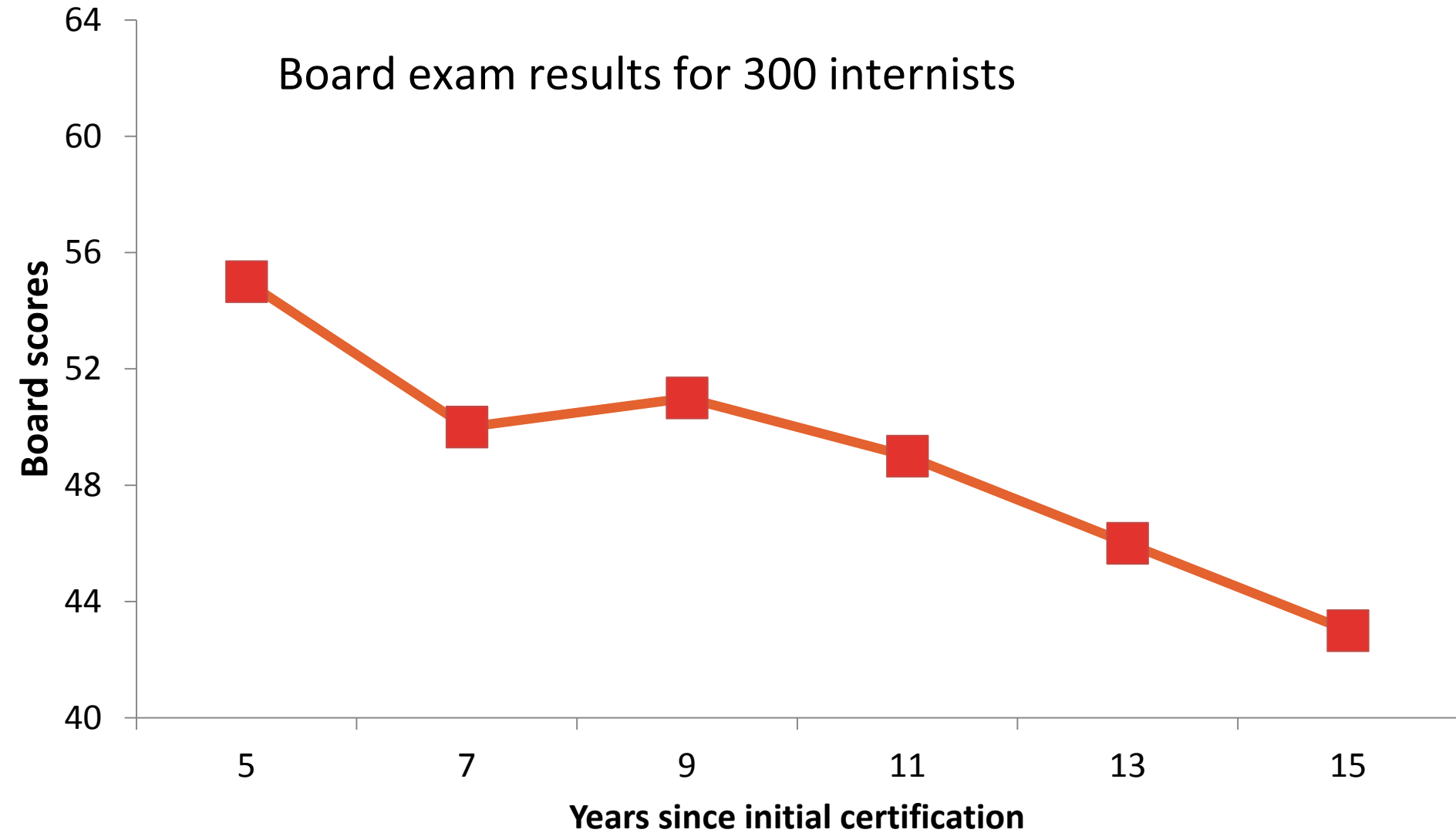
If he dies, it was
something else



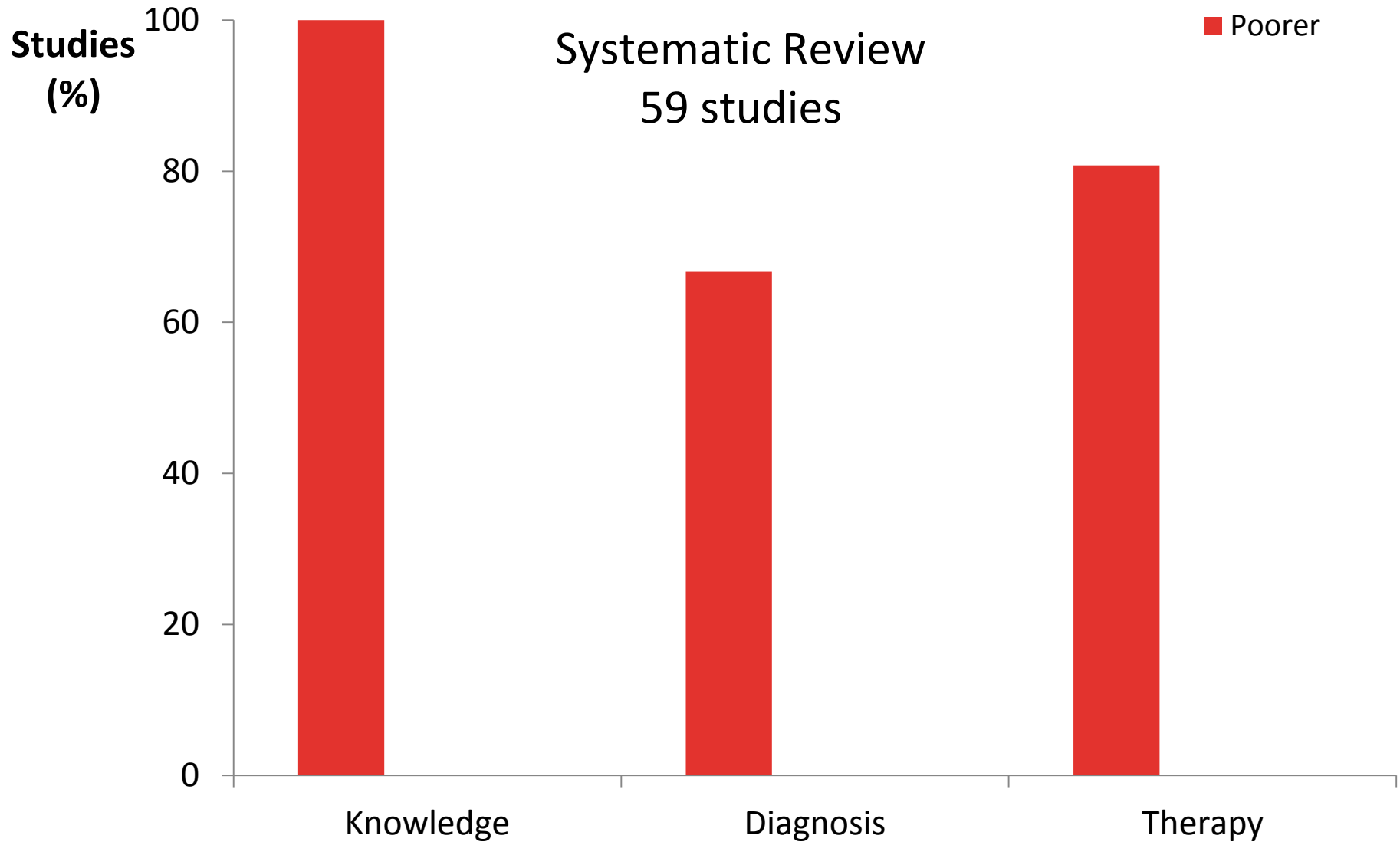
Experience = Knowledge?



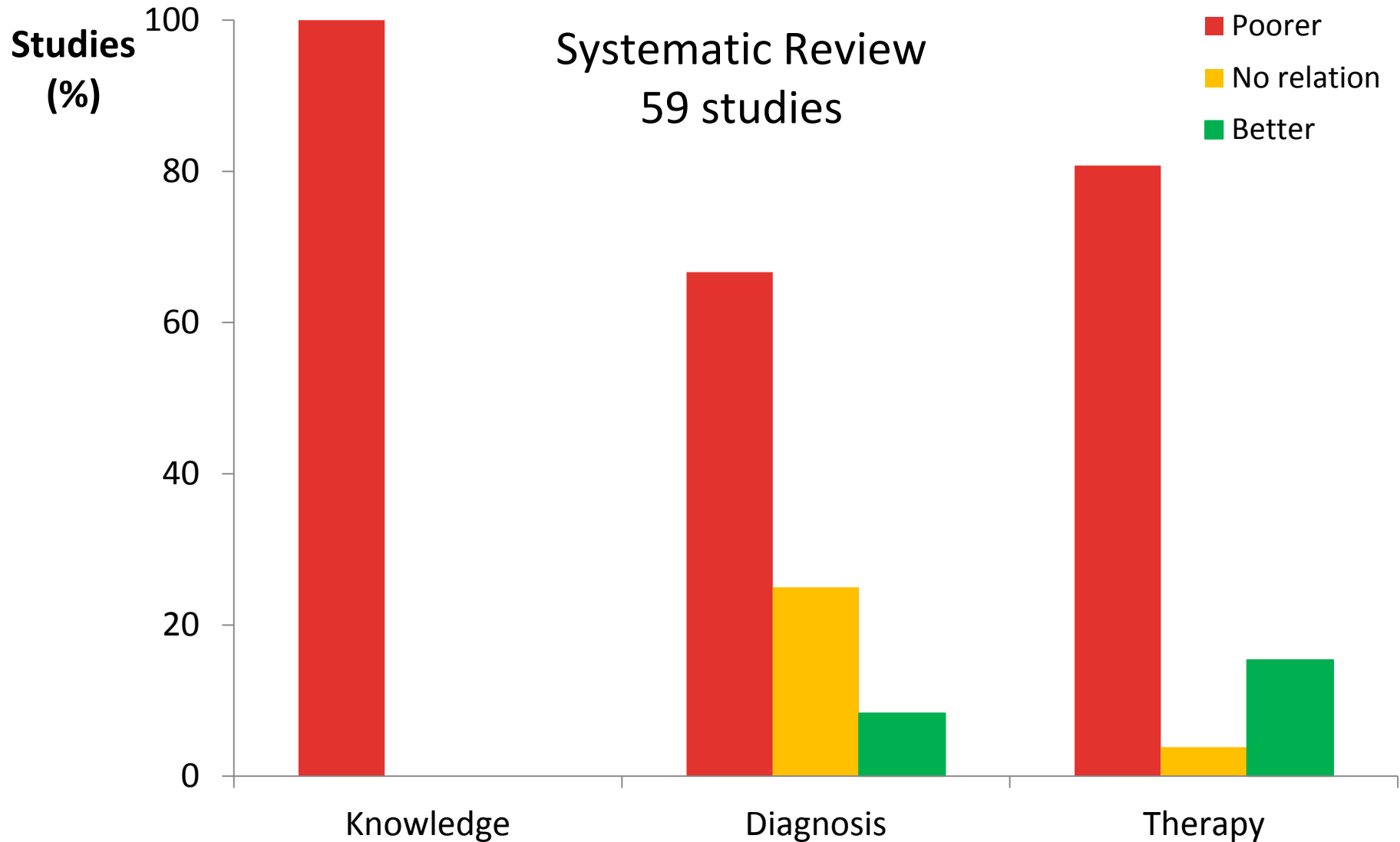
Board exam results for 300 internists



Experience = Knowledge?



Experience = Knowledge?



N° Questions

10 questions?

maybe more



N° Answers?



In 4 /10 questions

- Time
- Inability to navigate available data
- Forget the question...

Difference between physicians?

- Trainee \approx Specialists
- Nephrologists \approx Other internists
- Academic hospitals \approx Community hospitals

Where do we look?



PD and peritonitis

Search

Results: 1 to 20 of 11400

<< First < Prev Page 1 of 570 Next > Last >>

[Peritonitis in patients on peritoneal dialysis: analysis of a single Brazilian center based on the](#)

1. [International Society for Peritoneal Dialysis.](#)

Figueiredo AE, Poli-de-Figueiredo CE, Meneghetti F, Lise GA, Detofoli CC, Silva LB.
J Bras Nefrol. 2013 Sep;35(3):214-219. English, Portuguese.

PMID: 24100741 [PubMed - as supplied by publisher] [Free Article](#)

[Related citations](#)

[Bacteria-Derived DNA Fragment in Peritoneal Dialysis Effluent as a Predictor of Relapsing](#)

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Szeto CC, Lai KB, Kwan BC, Chow KM, Leung CB, Law MC, Yu V, Li PK.

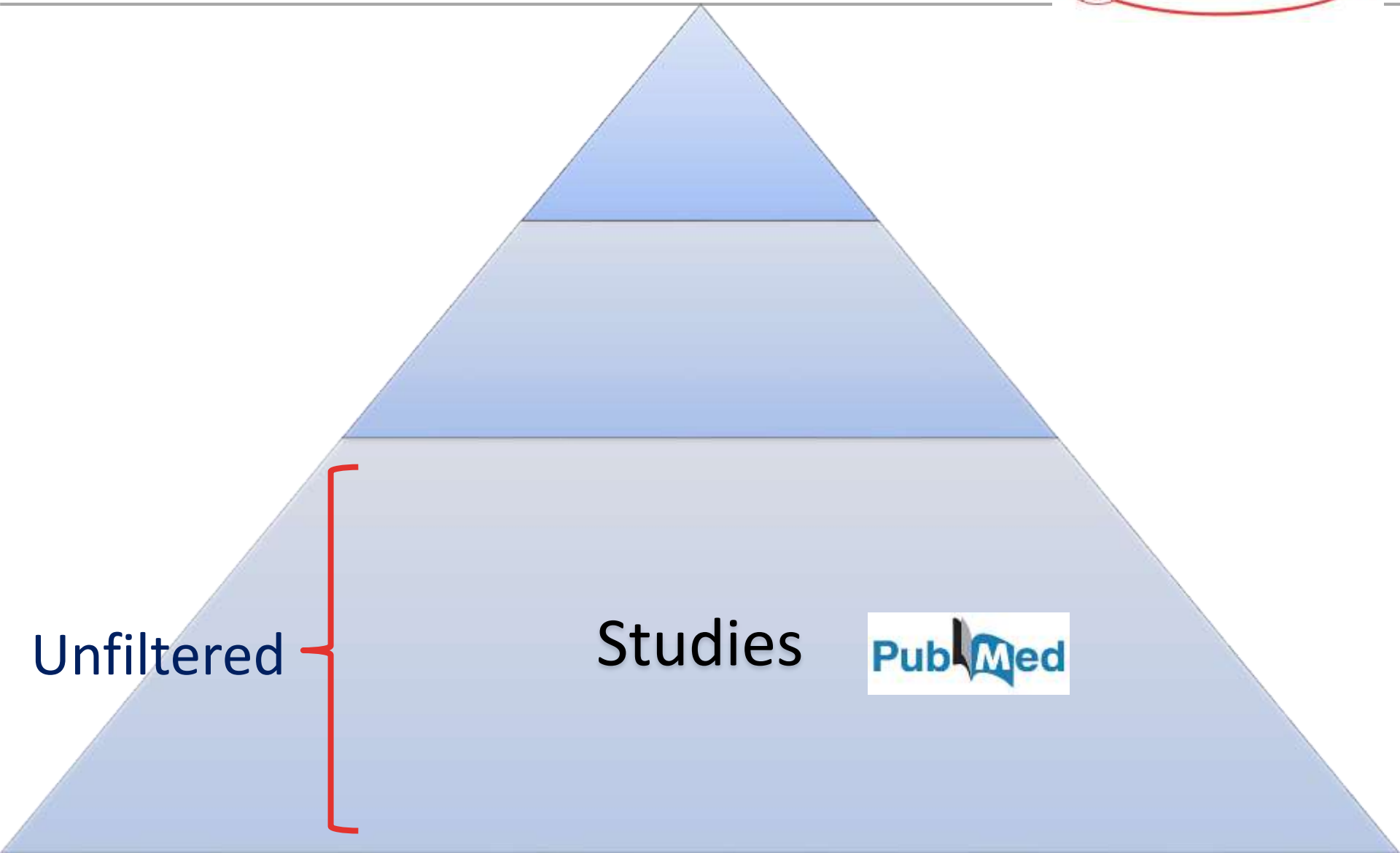
Clin J Am Soc Nephrol. 2013 Oct 3. [Epub ahead of print]

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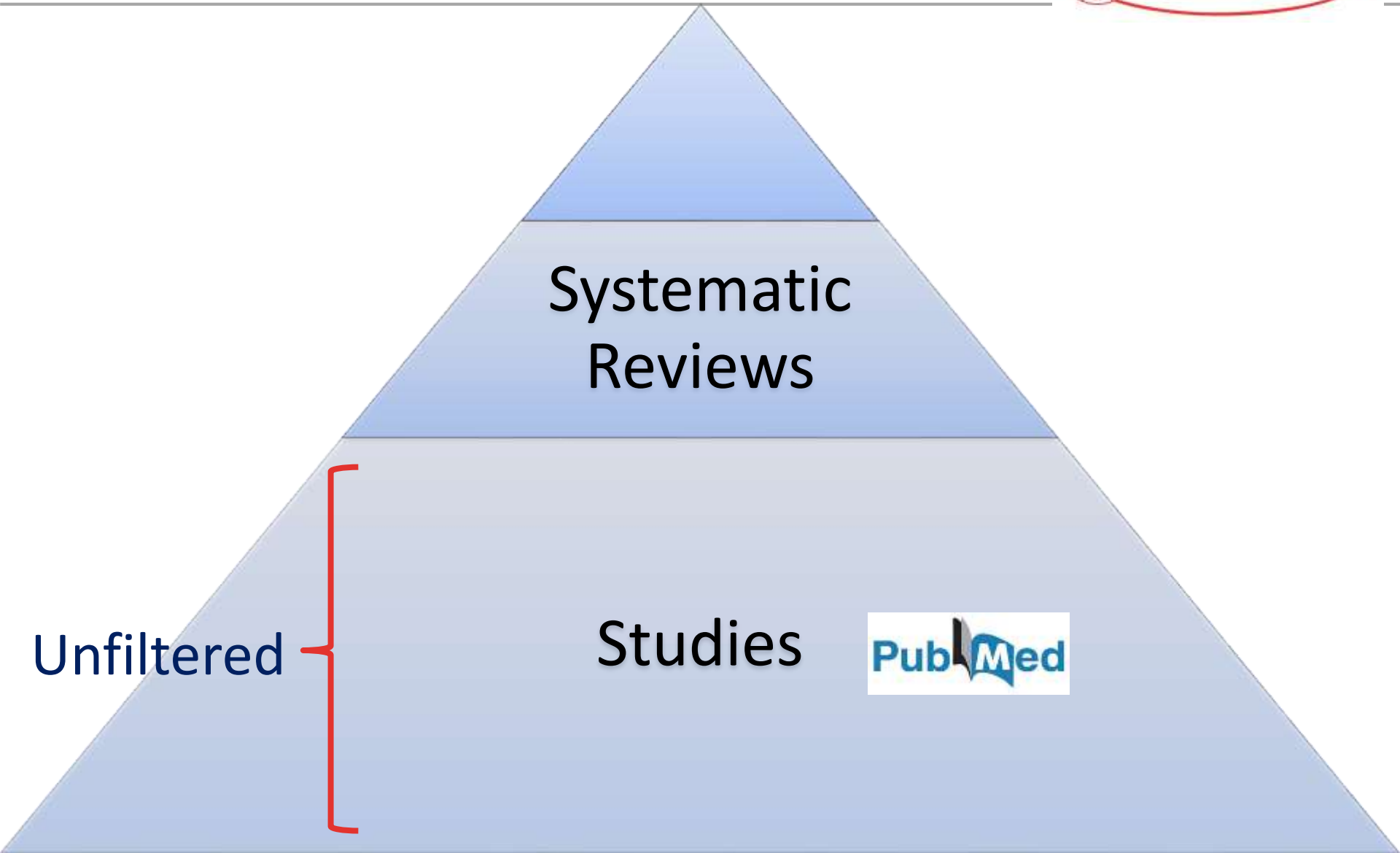
[Related citations](#)

- First 40 citations
- 2 minutes

Evidence pyramid



Evidence pyramid



Systematic Review Methods



Question definition

Systematic search

Study selection

Data extraction

Critical appraisal

Data synthesis

 ≈ 6 months

Usefulness equation



$$Usefulness = \frac{Relevance * Validity}{Work}$$

- Little work
- Highly relevant
- Highly valid

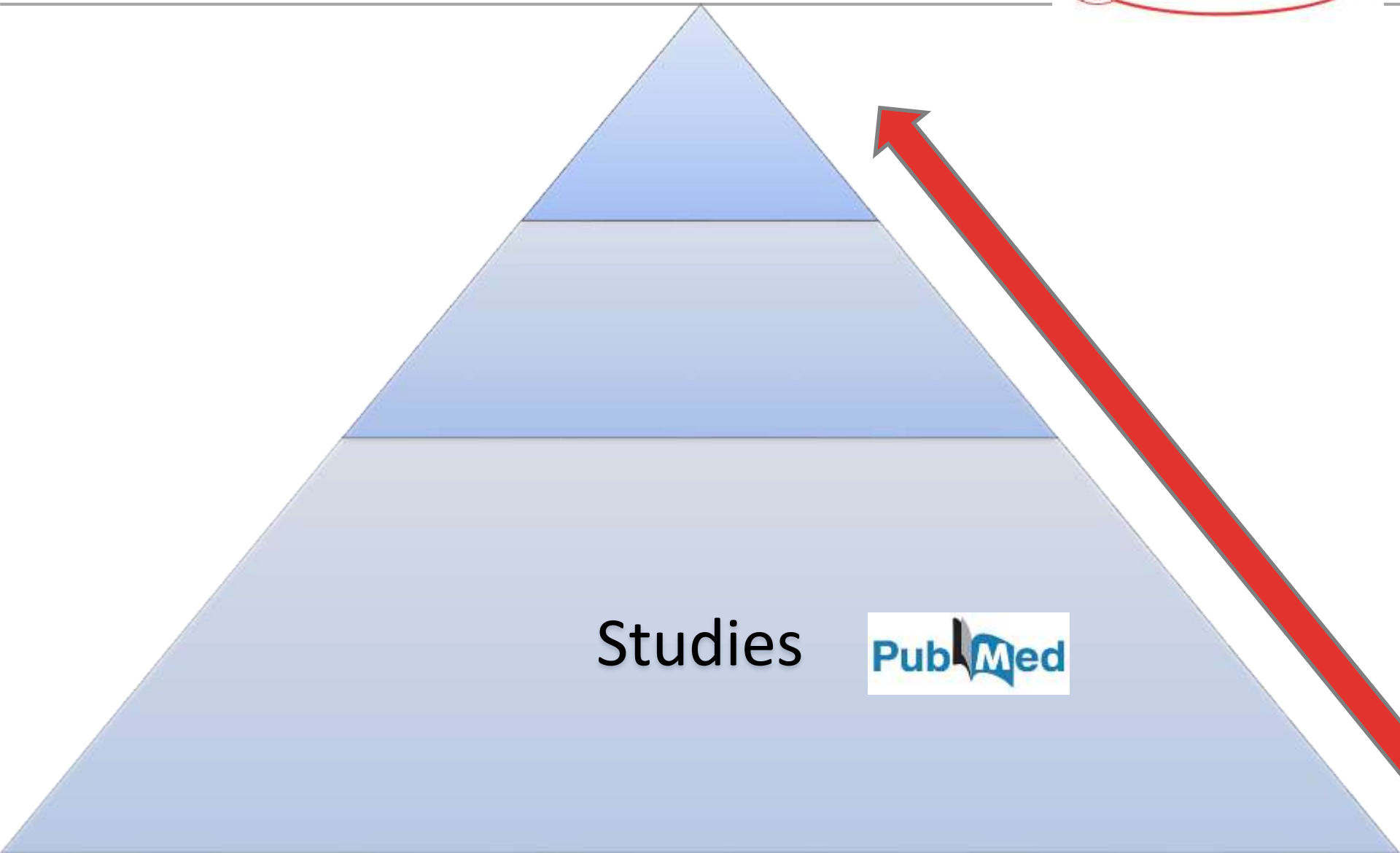
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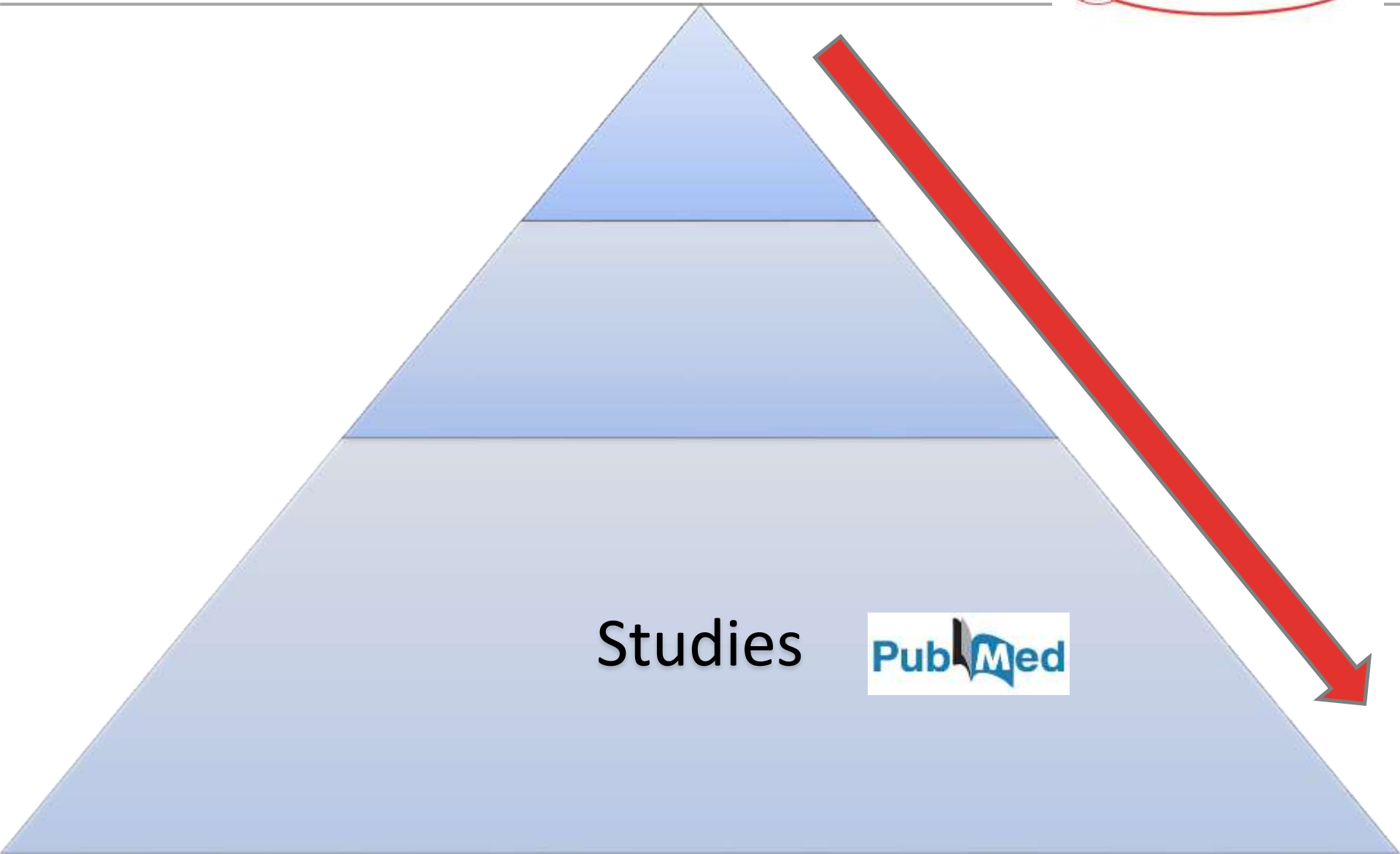
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Evidence pyramid



Adapted from Haynes RB. EBM 2001; 6: 36-38.

Evidence pyramid



Studies



Evidence pyramid



Summaries



Systematic Reviews



Studies



Where do we look?



PD and peritonitis

Search

1-33 of 33

Page: 1

Bacterial peritonitis

Dialysis for chronic kidney disease

Ascites

Renal replacement therapy for acute renal failure

Dialysis for chronic kidney disease

Related Summaries

Overview

Definitions

Indications and Timing

Vascular Access

Hemodialysis

Peritoneal Dialysis

Infection Prevention and Treatment

Infections in hemodialysis patients

Peritoneal dialysis-associated peritonitis prevention and treatment

Management of Comorbidities

Prognosis

Additional Considerations

Quality Improvement

Guidelines and Resources

References

International guidelines

United States guidelines

European guidelines

Where do we look?



PD and peritonitis

Search

Treatment of peritonitis:

- **International Society of Peritoneal Dialysis 2010 guidelines for treating peritoneal dialysis-related infections**
 - peritonitis should be presumed in peritoneal dialysis patients with cloudy effluent; confirm with effluent cell count, differential and culture
 - start empiric antibiotics for peritoneal dialysis-associated peritonitis as soon as possible
 - empiric antibiotics must cover both gram-positive and gram-negative bacteria
 - empiric antibiotic selection should be center-specific based on local history of sensitivities of organisms causing peritonitis
 - gram-positive organisms may be covered by [vancomycin](#) or a cephalosporin
 - gram-negative organisms may be covered by third-generation cephalosporin or aminoglycoside



15 seconds !

Where do we look?



- **Microbiology and therapy of peritonitis in continuous peritoneal dialysis**
- Clinical manifestations and diagnosis of peritonitis in peritoneal dialysis
- Pathophysiology and prevention of peritonitis in peritoneal dialysis
- Fungal peritonitis in continuous peritoneal dialysis

Where do we look?



PD and peritonitis

Search



TREATMENT AND RECOMMENDATIONS — Treatment of any episode of peritonitis impacts the patient's well-being and may influence the ability to continue on peritoneal dialysis. The majority of episodes resolve with outpatient antibiotic treatment alone. Overall cure rates are approximately 75 percent.

The principal approach to the management of peritonitis in peritoneal dialysis relies upon appropriate antimicrobial therapy. Additional therapies may include fibrinolytic agents, peritoneal lavage, and catheter removal.

It is important to note that bacteremia is uncommon with typical PD-associated peritonitis. Therefore the treatment goal for routine PD-associated infections is to have an optimal local tissue concentration of antibiotic, but not necessarily an adequate systemic level. As a result many of the recommended dosing regimens are specifically for treatment of peritonitis, not systemic infections. It turns out that if using intermittent dosing, there usually is an adequate systemic concentration of the drug which acts as the “reservoir” for the drug which allows intermittent IP dosing and maintains a continuous tissue level. However, if the goal is to treat a systemic infection such as osteomyelitis or endocarditis, the published dosing for PD associated peritonitis may need to be adjusted.

To assess the efficacy of the management of peritonitis, a systematic review of 36 randomized controlled trials was performed [39], with 30, 4, 1, and 1 addressing the efficacy of antimicrobials, urokinase, peritoneal lavage, and intraperitoneal immunoglobulins, respectively. In general, no specific antimicrobial regimen was superior, and intermittent and continuous dosing were largely equivalent. Additional findings include the following:

- First generation cephalosporins and glycopeptides had equivalent efficacy (387 patients from three studies, RR 1.84, 95% CI 0.95-3.58).
- In clinical situations (such as relapsing peritonitis and suspected catheter infection), treatment success was more common with simultaneous catheter removal/replacement than with urokinase (37 patients in one trial, RR 2.35, 95% CI 1.13-4.91).

Trials were limited by suboptimal method quality, inconsistent outcome definitions, and small patient numbers.

A working group for the International Society of Peritoneal Dialysis (ISPD) published a series of peritonitis treatment guidelines that were updated in 2010 for the initial approach to a patient with peritonitis and the treatment of specific infections once the culprit organism has been identified [12,21,40-42]. (See '[Empiric initial therapy for peritonitis](#)' below.)



15 seconds !

Usefulness equation



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- **Little work**
- **Highly relevant**
- **Highly valid**

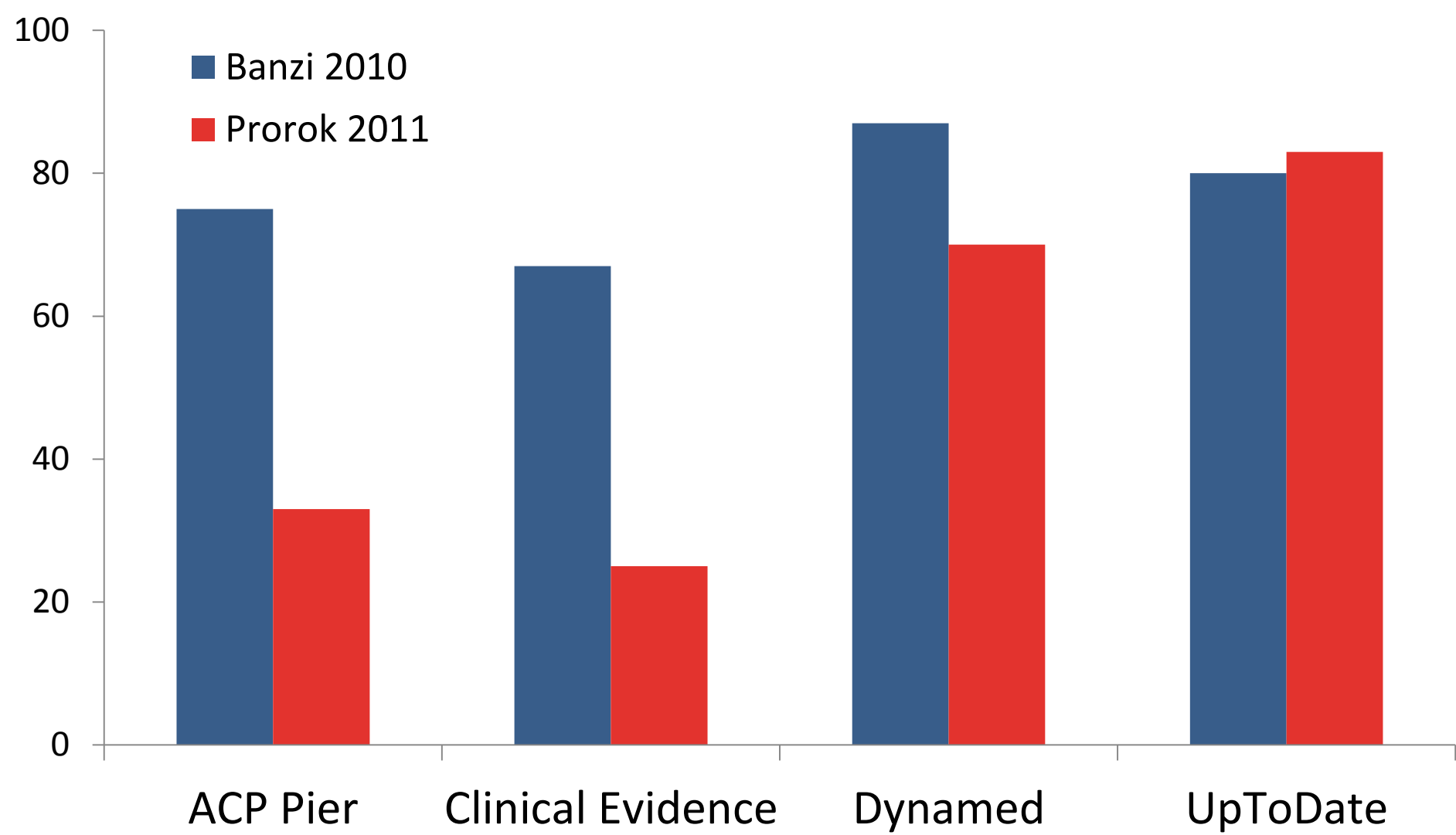
Usefulness equation



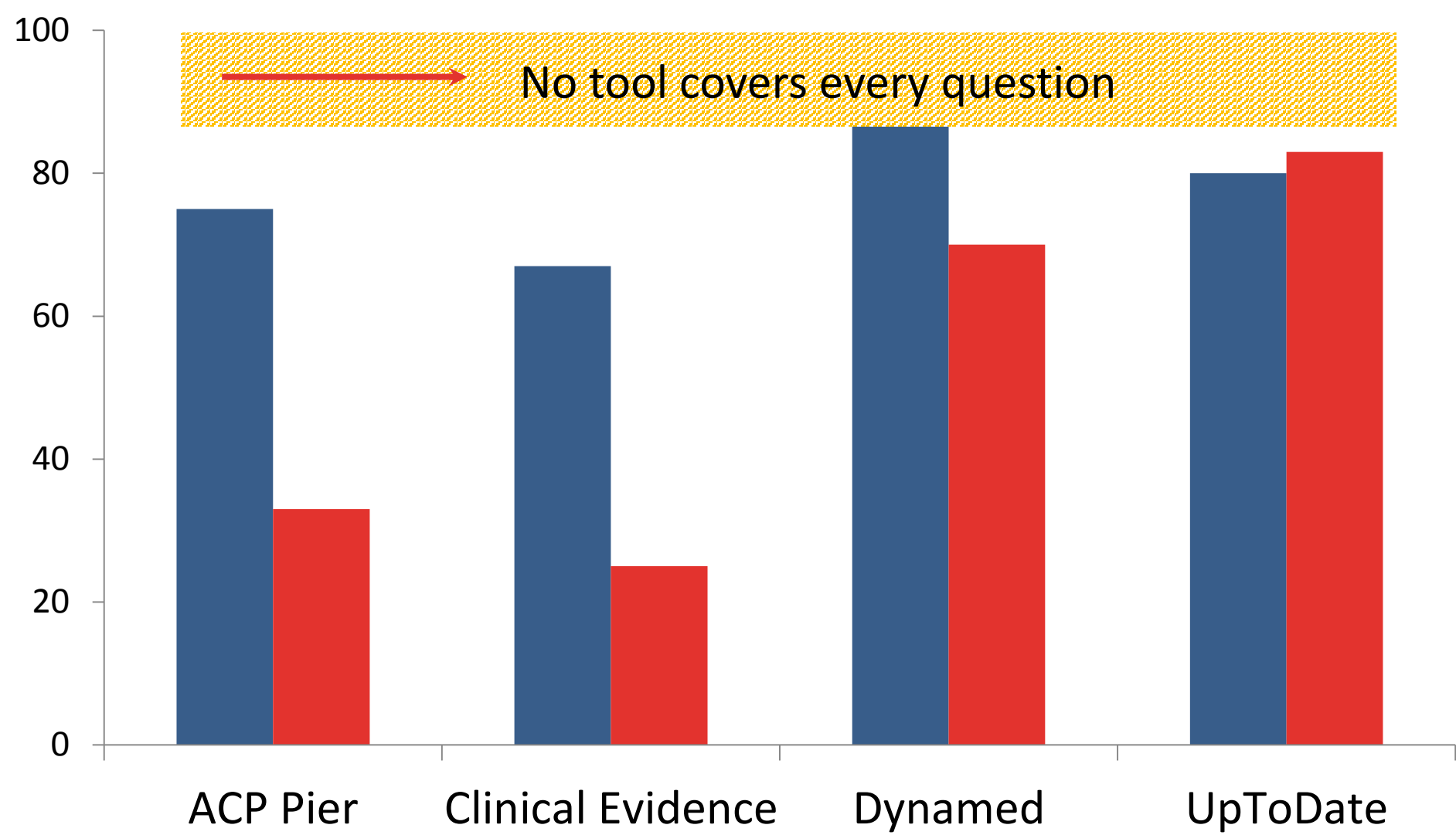
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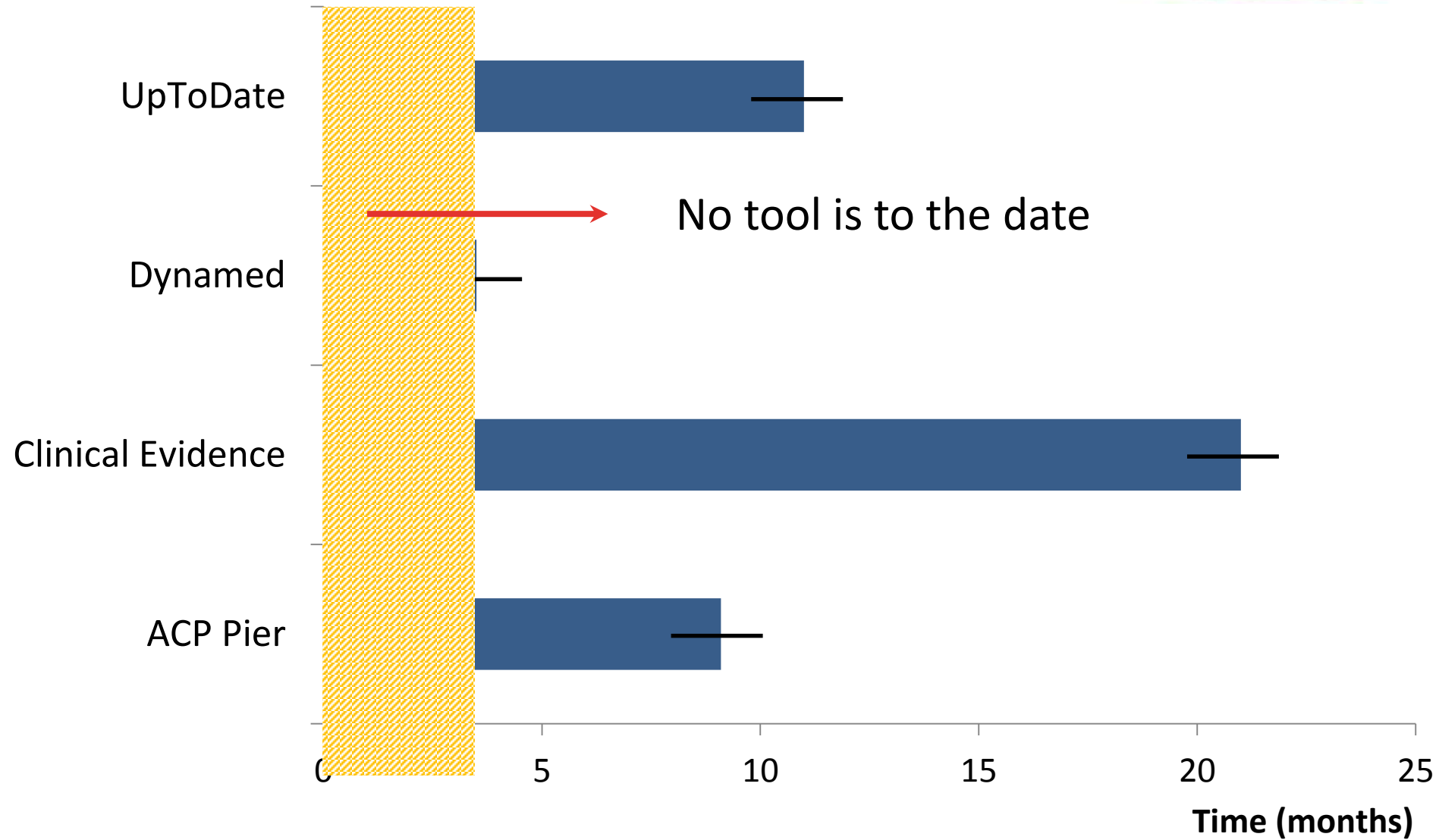
Relevance - coverage



Relevance - coverage



Relevance - Timeliness



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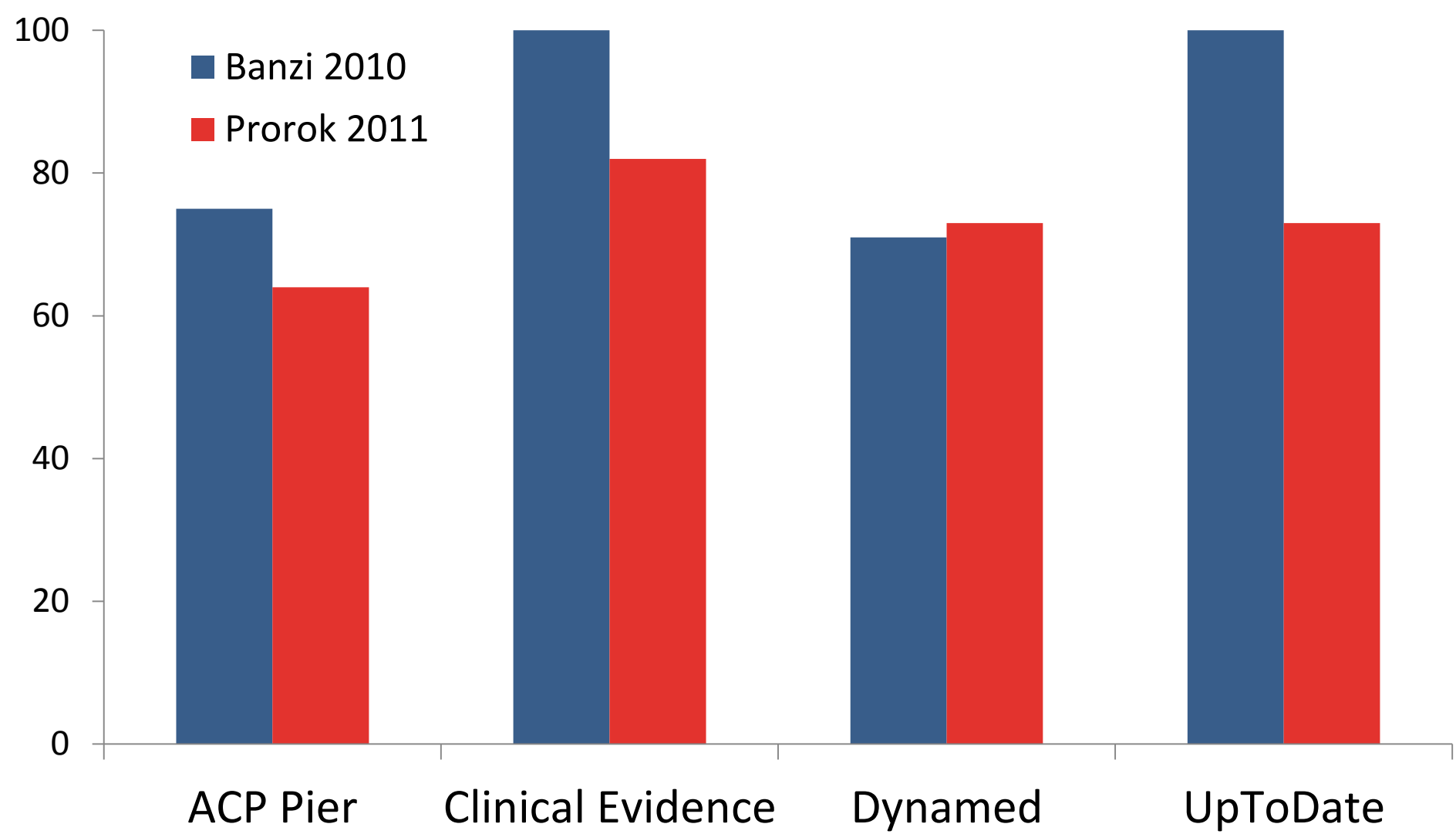
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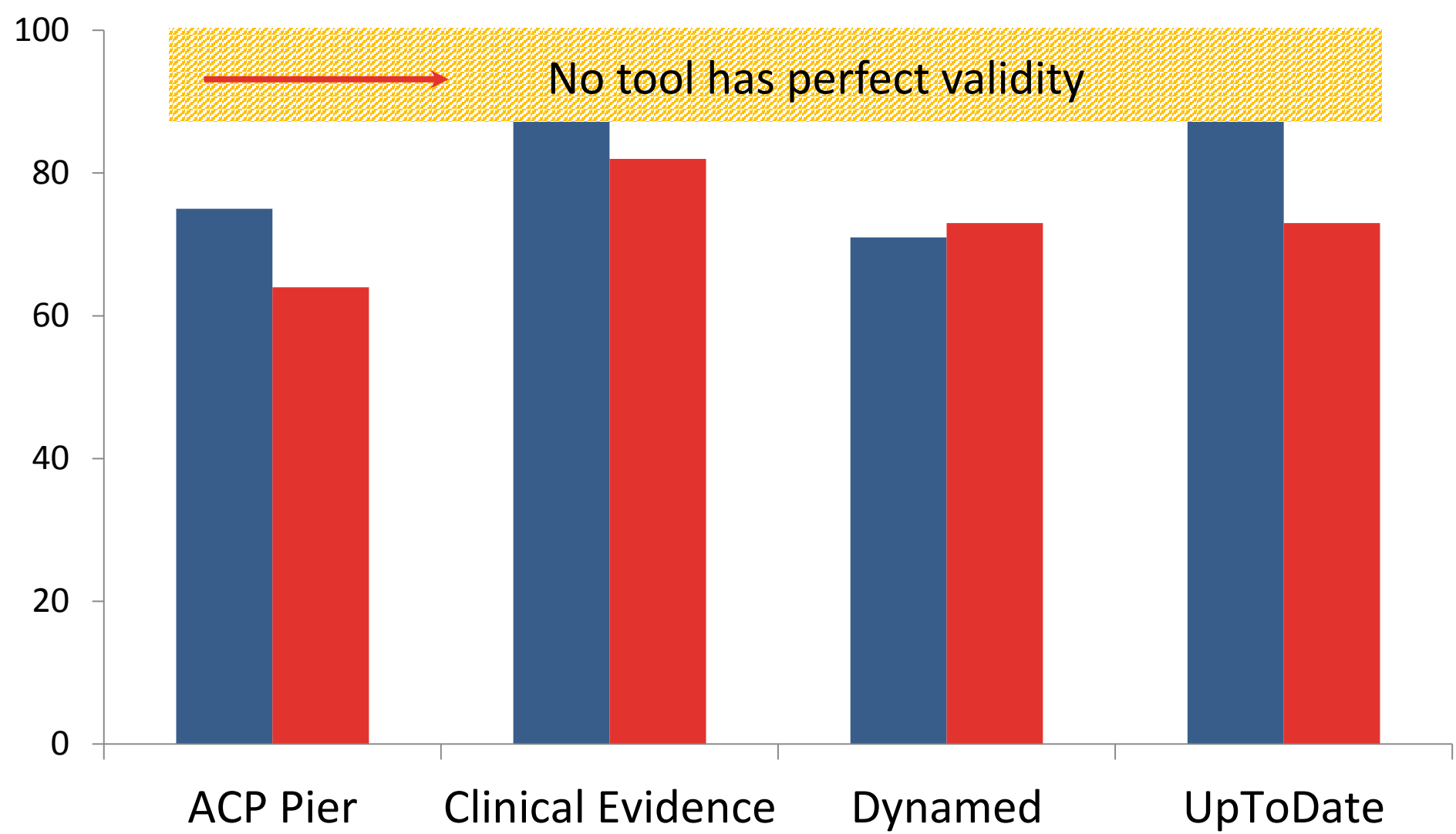
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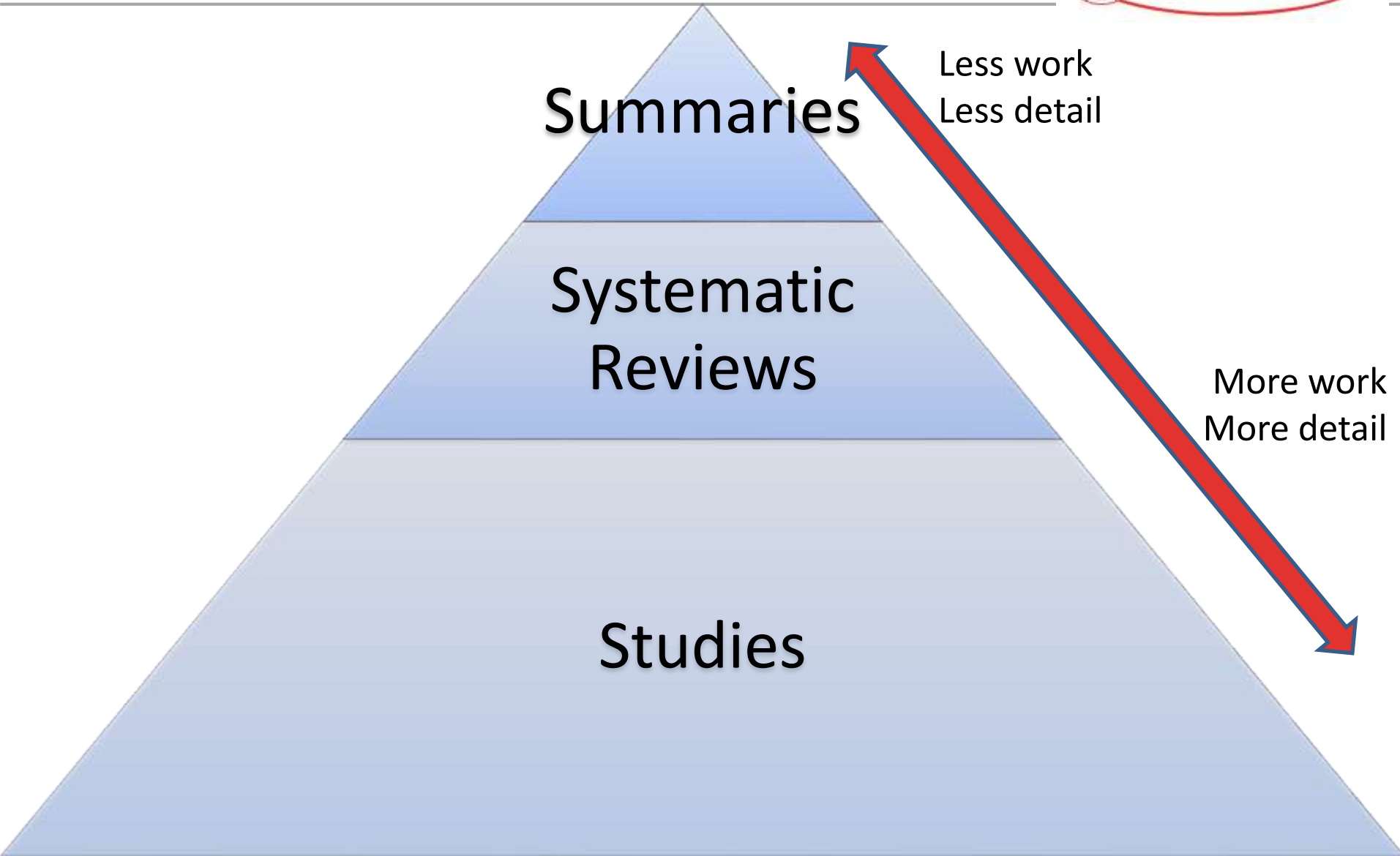
Validity



Validity

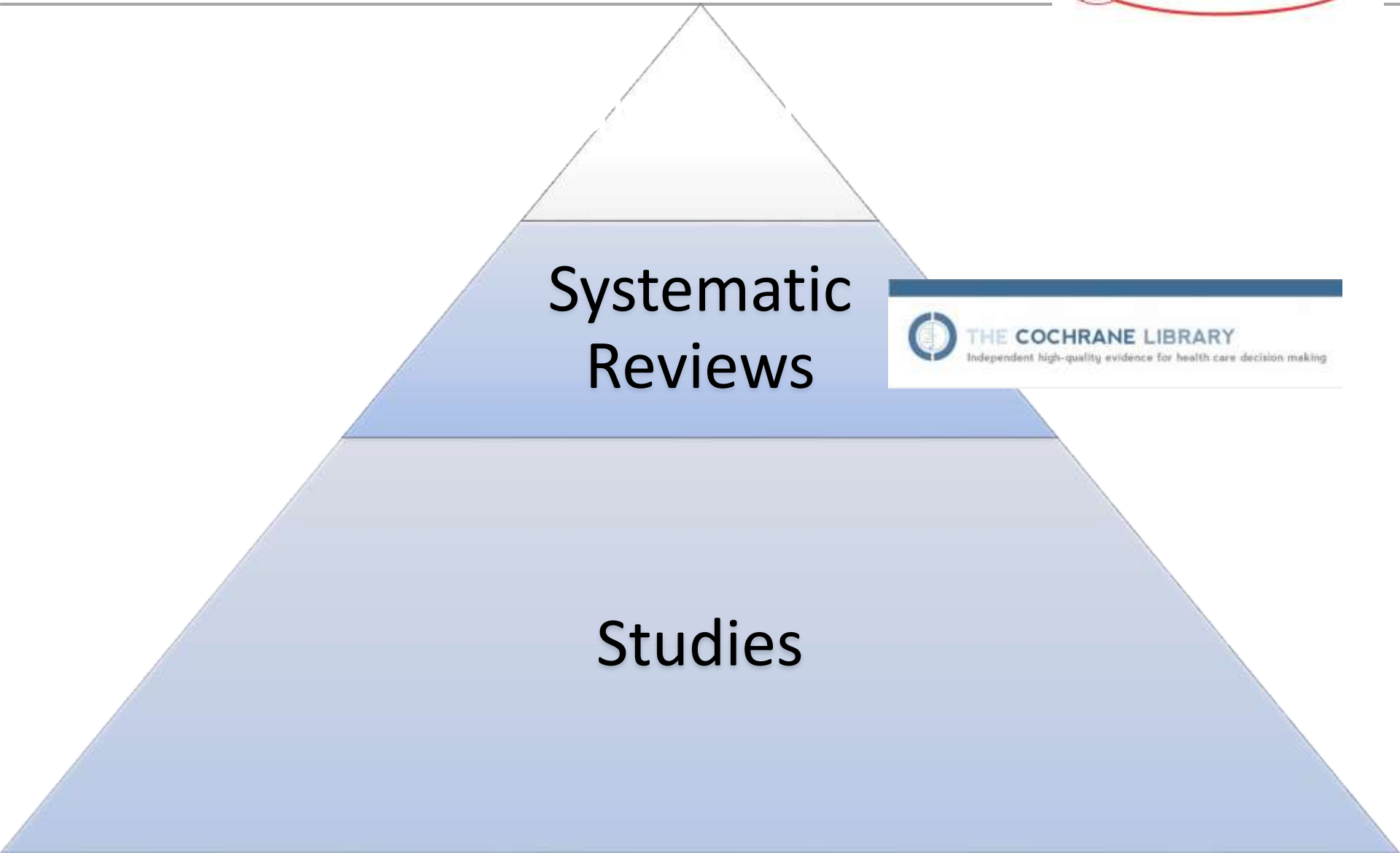


Evidence pyramid



Adapted from Haynes RB. EBM 2001; 6: 36-38.

Evidence pyramid



Systematic
Reviews



THE COCHRANE LIBRARY

Independent high-quality evidence for health care decision making

Studies

Where do we look?



THE COCHRANE LIBRARY

Independent high-quality evidence for health care decision making

Cochrane Reviews (5)

SEARCH THE COCHRANE LIBRARY

Title, Abstract, Keywords

PD and peritonitis

GO

or try an [Advanced Search](#)

- Catheter type, placement and insertion techniques for preventing **peritonitis** in peritoneal dialysis patients
Giovanni FM Strippoli , Allison Tong , David W Johnson , Francesco Paolo Schena and Jonathan C Craig
February 2010

Review

- Antimicrobial agents for preventing **peritonitis** in peritoneal dialysis patients
Giovanni FM Strippoli , Allison Tong , David W Johnson , Francesco Paolo Schena and Jonathan C Craig
April 2010

Review

- Treatment for peritoneal dialysis-associated **peritonitis**
Kathryn J Wiggins , Jonathan C Craig , David W Johnson and Giovanni FM Strippoli
April 2010



15 seconds !

Review

Evidence pyramid



Summaries

Systematic
Reviews



■ Randomised trials

Where do we look?



THE COCHRANE LIBRARY

Independent high-quality evidence for health care decision making

Cochrane Reviews (5)

All

Review

Protocol

Other Reviews (0)

Trials (64)

SEARCH THE COCHRANE LIBRARY

Title, Abstract, Keywords

PD and peritonitis

GO

or try an [Advanced Search](#)

- Comparison of vancomycin versus cefazolin as initial therapy for **peritonitis** in peritoneal dialysis patients. Khairullah Q , Provenzano R , Tayeb J , Ahmad A , Balakrishnan R and Morrison L
Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis, 2002, 22(3), 339



10 minutes

Evidence pyramid



Summaries

Systematic
Reviews



- Randomised trials
- Cohort studies
- Case-control studies
- Case-series
- Case reports

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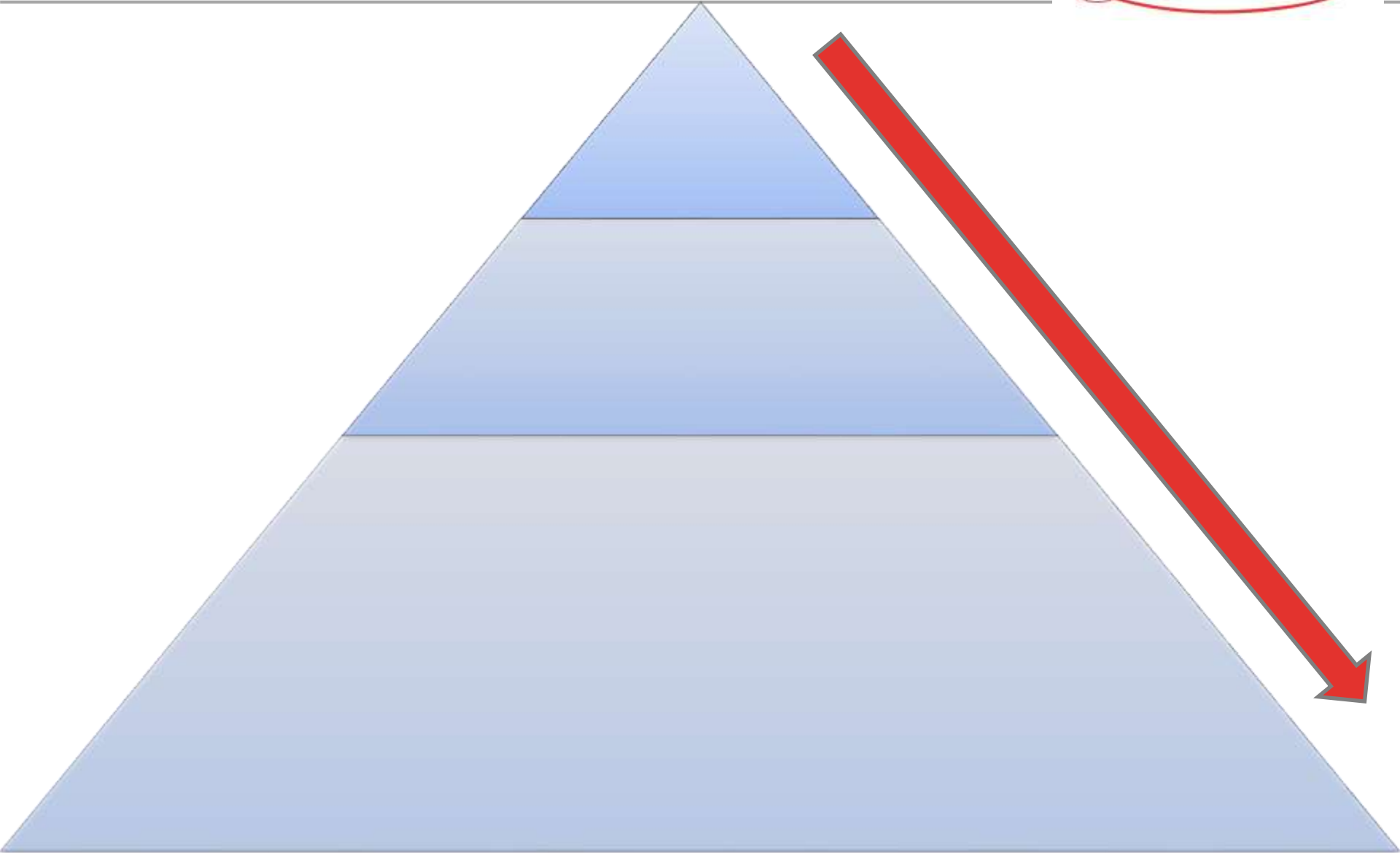
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[Related citations](#)



Hours

General advise



Adapted from Haynes RB. EBM 2001; 6: 36-38.

Criticisms

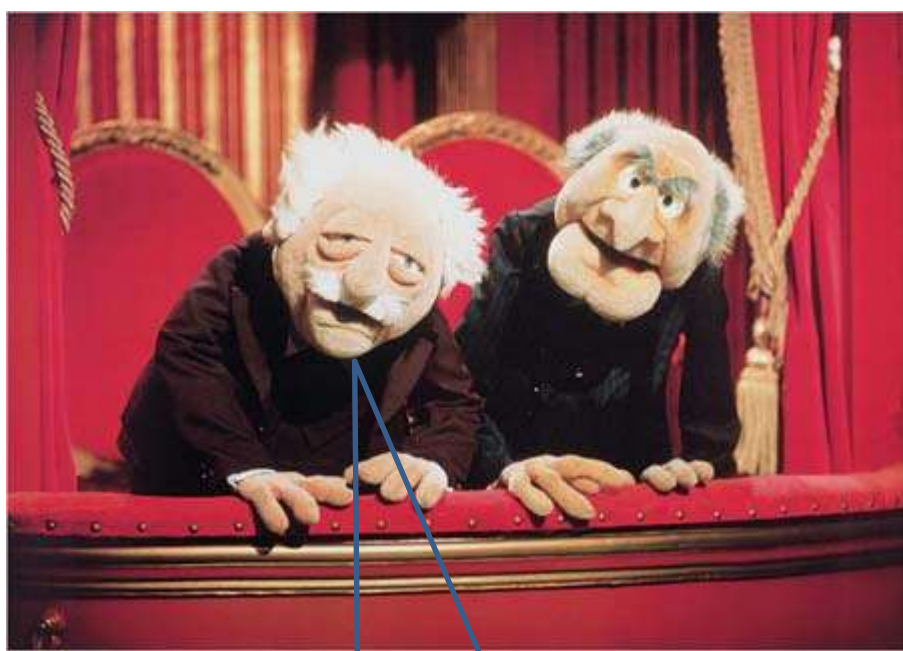


Some questions I KNOW
are not covered!

If you're right you'll lose
45 seconds
If you're wrong you could
spare yourself
embarrassment



Criticisms



Not detailed enough!

$$\text{Usefulness} = \frac{\text{Relevance} * \text{Validity}}{\text{Work}}$$



Criticisms



Dangerous if you ask me!!!

For > 50% of questions, we don't look for an answer, but we ALWAYS take a decision

Oh, and stupidity is always dangerous...



- Search strategically: top-to-bottom
- Don't be ashamed of using point-of-care tools
- Information you can search, but no-one can do the thinking for you!