Questions from Evidence-based Medicine

1) Evidence-based medicine (EBM) includes which of the following:

A. best external evidence  
B. individual clinical experience  
C. patient values  
D. all of the above

2) What is the first step in applying EBM concepts to answer a clinical question?

A. applying the evidence  
B. gathering the evidence  
C. defining the question  
D. critically appraising the evidence

3) How many true randomized controlled trials currently exist that talk about treatment of athletic injuries?

A. 17691  
B. 2264  
C. 705  
D. 23

4) According to Dr. Best, publication bias refers to the fact that:

A. studies sponsored by pharmaceutical companies are easier to get published than other studies.  
B. studies with positive results are easier to publish than studies with negative results  
C. studies from large, research universities are easier to publish than studies from smaller, teaching colleges  
D. studies with results supporting the organization that is associated with the journal are more likely to be published than studies that don’t

5) Dr. Best suggests that the evidence on pre-participation examinations suggests that ________.

A. they are a good tool for detecting asthma problems in young athletes  
B. they have minimal impact on mortality and morbidity in young athletes  
C. they are a cost-effective method of reducing mortality and morbidity in young athletes  
D. they have significantly reduced the incidence of death related to cardiovascular issues in young athletes
6) The evidence supporting the notion that stretching prevents injuries is ______.
   A. substantial
   B. overwhelming
   C. minimal
   D. moderate

7) Evidence-based medicine is a _____________ to field experience and patient preference when making patient care decisions.
   A. substitute
   B. challenge
   C. compliment
   D. alternative

8) What is the highest level of evidence (Level 1 – Sackett, 1993) that can be used in making clinical decisions?
   A. case studies
   B. randomized controlled trials with high power
   C. randomized controlled trials with low power
   D. non-randomized concurrent cohort comparisons between contemporaneous patients

9) The evidence supporting a clinical intervention can be graded for comparison. A grade of “A” (Sackett 1993) indicates that there is
   A. one or more Level I RCT supporting the intervention
   B. one or more Level II RCT supporting the intervention
   C. Level III, IV or V support of the intervention

10) Dr. Irrgang suggests that the first target, or source of evidence, when starting a search for evidence to support a treatment intervention should be _________.
    A. randomized controlled trials
    B. systematic reviews
    C. case studies
    D. case studies with historical controls

11) Which of the following data bases is a collection of systematic reviews?
    A. CINAHL
    B. PubMed
    C. Cochrane
    D. SPORTDiscus
12) Which of the following statistics provides an indication of the magnitude of effect of an intervention?

A. likelihood ratio  
B. absolute risk reduction  
C. relative risk reduction  
D. number needed to treat

13) Dr. Fritz discussed two studies where clinical prediction rules were used to identify low back pain patients that would favorably respond dramatically with manipulation. Manipulating every low back pain patient resulted in a dramatic favorable outcome in 45% of patients. In the two studies, at least ____________ of patients meeting 4 of 5 diagnostic criteria had dramatic favorable results.

A. 50%  
B. 75%  
C. 85%  
D. 90%

14) Which of the following medical interventions for the treatment of low back pain has the least risk of serious complications?

A. NSAIDS  
B. Spinal fusion surgery  
C. Spinal manipulation  
D. Epidural injection without fluoroscopy

15) Which of the following uses evidence is intended to outline how clinicians should treat patients with specific diagnoses?

A. Systematic reviews  
B. Meta-analysis  
C. Clinical practice guidelines  
D. Case studies

16) Which of the following statements offers the best rationale for selecting a treatment for a patient?

A. Treatment theory is unknown but clinical benefits have been demonstrated in the literature  
B. Treatment theory is known but clinical benefits have not been demonstrated in the literature  
C. Treatment theory is unknown and clinical benefits have not been demonstrated in the literature
17) Which of the following statements regarding the use of spinal manipulation in the treatment of low back pain is false?

A. Indiscriminate use of manipulation in patients with low back pain may show moderate improvements but may not be superior to other treatments
B. Manipulation is most beneficial when used as a part of a comprehensive program including exercise
C. Manipulation may be most beneficial for a subgroup of patients
D. The evidence to support the use of manipulation in the treatment of low back pain patients is worse than for other treatments

18) Sensitivity of a diagnostic test is its ability to ________________.

A. identify patients having a condition of interest as a percentage of all patients with the condition of interest.
B. identify patients having a condition of interest as a percentage of all patients without the condition of interest
C. identify patients not having a condition of interest as a percentage of all patients without the condition of interest
D. identify patients not having a condition of interest as a percentage of all patients with the condition of interest

19) According to a study presented by Dr. Worrell, which of the following diagnostic methods produced the highest likelihood ratio when looking as applied to rotator cuff tears?

A. Examination by an orthopedic surgeon who is a shoulder specialist
B. Examination by a physical therapist
C. Data from the history
D. Examination by a Certified Athletic Trainer

20) The ideal diagnostic test has a ____________________.

A. high sensitivity and high specificity
B. high sensitivity and low specificity
C. low sensitivity and high specificity
D. low sensitivity and low specificity