1. What does the letter “I” correspond to in the PICO format?
   A. Interdisciplinary
   B. Interference
   C. Intersession
   D. Intervention

2. Which step of the evidence-based practice process incorporates clinical expertise?
   A. Appraising the evidence
   B. Assessing the outcome of applying the evidence
   C. Integrating the evidence
   D. Searching the evidence

3. Which component of the PICO format can be excluded when developing a clinical question?
   A. Comparison
   B. Intervention
   C. Patient
   D. Outcome

4. Which of the following is the National Library of Medicine’s controlled vocabulary of biomedical terms?
   A. Boolean operators
   B. Keywords
   C. MeSH terms
   D. Truncated terms

5. Which PubMed tool will divide the results of a literature search into clinical studies, systematic reviews, and medical genetics?
   A. Clinical Queries
   B. Display settings
   C. My NCBI
   D. Results page

6. When searching the literature to answer a clinical question, multiple databases should be utilized
   A. True
   B. False

7. Which term refers to frequently occurring words that have little meaning and cannot be used alone in a search?
   A. Boolean operators
   B. Keywords
   C. Stop words
   D. Truncated words

8. The word “NOT” is an example of a Boolean operator.
   A. True
   B. False
9. Which EBSCOhost feature allows up to 5,000 characters to be typed or pasted into the search box then summarizes the text into the most relevant terms before conducting the search?
A. Boolean/Phrase
B. Find all search terms
C. Find any of my search terms
D. SmartText searching

10. When typing two keywords into the search bar that must appear together in the same document, which Boolean operator(s) should be inserted between them?
A. AND
B. NOT
C. OR
D. All of the above

11. Truncating refers to the retrieval of the subject heading and subheadings during the mapping process.
A. True
B. False

12. Which PubMed feature allows users to save search results and create personal search preferences?
A. Advanced search page
B. Basic search page
C. My NCBI
D. Results page

13. Which EBSCOhost feature allows personal notes to be typed and saved in a file for future viewing?
A. Create note
B. My NCBI
C. Search history
D. SmartText searching

14. The Cochrane Database of Systematic Reviews is free access to the general public
A. True
B. False

15. Google Scholar Beta ranks articles according to which of the following factors?
A. How many versions exist of the article
B. How often the article has been cited
C. Where it was published
D. B and C

16. EBSCOhost is a database where an individual can search multiple databases at once.
A. True
B. False
17. An article in which the author describes the evaluation and treatment of a football player with effort thrombosis in the nondominant arm is considered what type of research?
   A. Case-control
   B. Case report
   C. Case series
   D. Cohort

18. Which type of research compiles individual studies to increase statistical power?
   A. Case series
   B. Cohort study
   C. Meta analysis
   D. Systematic review

19. Case series is an example of a retrospective study
   A. True
   B. False

20. Which type of research collects evidence from multiple research studies through a rigorous literature searching and critical appraisal process?
   A. Case-control
   B. Literature review
   C. Randomized controlled trial
   D. Systematic review

21. Non-experimental research involves manipulation of one or more variables.
   A. True
   B. False

22. Which type of research involves observing a patient who has a particular condition while simultaneously observing like individuals who do not have the condition?
   A. Case-control
   B. Case report
   D. Randomized controlled trial
   E. Systematic review

23. Randomly assigning subjects into either a group of whole-body vibration and resistance training or a group of resistance training only in order to assess the effects of a novel vibration intervention directed at the upper extremity is an example of what type of research?
   A. Cohort study
   B. Meta analysis
   C. Randomized controlled trial
   D. Systematic review
24. In which type of study does the researcher develop research questions based upon available data?
A. Compilation study
B. Prospective study
C. Retrospective study
D. Systematic review

25. Which of the following is a number rating system that is assigned to assess the validity of a study?
A. Grade of recommendation
B. Grade of recommendation for patient oriented evidence
C. Level of evidence
D. All of the above

26. Which of the following examples is NOT representative of patient-oriented evidence?
A. Blood pressure
B. Cost reduction
C. Mortality
D. Quality of life

27. Which scale is commonly used to assess the quality of a randomized control trial?
A. Jadad
B. PEDro
C. Quorum
D. A & B

28. Which of the following best describes the purpose of the Quality of Reports of Meta-Analyses of Randomized Controlled Trials (QUORUM)?
A. To assess the methodological quality of the meta-analysis and provide a rating score
B. To provide a grade of recommendation for the randomized controlled trials included in the meta-analysis
C. To suggest a standardized guideline for authors to use when reviewing and reporting meta-analyses
D. All of the above

29. According to the Oxford Centre for Evidence-Based Medicine (CEBM), which of the following grading criteria is representative of a “B” grade of recommendation?
A. Evidence that comes from Level 4
B. Inconsistent Level 1 evidence that shows promise
C. Insufficient evidence to make a recommendation
D. Level 1 evidence with consistent results

30. The Jadad scale is based on three main criteria that include:
A. Blinding, randomization, withdrawals/dropouts
B. Number of participants, randomization, accuracy of results
C. Type of research design, withdrawals/dropouts, accuracy of results
D. Number of participants, blinding, outcome measurements
31. According to the Strength of Recommendation Taxonomy (SORT), which of the following research designs provides the highest level of evidence?
   A. Case report
   B. Clinical observation
   C. Prospective cohort
   D. Randomized controlled trial

32. Which of the following statements is considered to be an identified disadvantage of the Physiotherapy Evidence Database (PEDro) rating system?
   A. Criteria are not well defined therefore making the scale difficult to apply to a research article
   B. It includes the same criteria of another rating system (Jadad)
   C. Reliability has not been established at an acceptable level
   D. Three separate blinding criteria make it difficult to attain high quality

33. The Quality Assessment of Studies of Diagnostic Accuracy Included in Systematic Reviews (QUADAS) assesses which of the following criteria?
   A. Description of index test execution
   B. Description of reference standard execution
   C. Reporting of selection criteria
   D. All of the above

34. According to the Oxford Centre for Evidence-Based Medicine (CEBM) levels of evidence rating system, a rating of “5” is associated with which type of study?
   A. Case Control
   B. Cohort
   C. Expert Opinion
   D. Randomized controlled trial

35. The Jadad scale is a rating scale that assesses the methodological quality of which of the following research designs?
   A. Case report
   B. Clinical observation
   C. Prospective cohort
   D. Randomized controlled trial

36. What type of data is obtained from the numeric pain rating scale?
   A. Interval
   B. Nominal
   C. Ordinal
   D. Ratio

37. Which of the following best describes a normal distribution?
   A. Data clusters towards the left
   B. Data clusters towards the right
   C. Data clusters around the mean
   D. Data does not cluster in any area but is distributed evenly throughout
38. What type of statistic would you need to use if you were interested in determining whether ice reduced pain better than heat?
A. Descriptive
B. Frequency
C. Inferential
D. None of the above

39. What situation(s) would advocate the use of non-parametric tests?
A. Data that is skewed
B. Dependent variables that are nominal data
C. Studies with small samples
D. All of the above

40. What type of data is represented by Likert scale responses?
A. Interval
B. Nominal
C. Ordinal
D. Ratio

41. Which of the following is a common independent variable used in athletic training research?
A. Equilibrium score
B. Gender
C. Range of motion
D. Survey score

42. Which of the following describes the value that a researcher measures either directly or indirectly?
A. Dependent variable
B. Hypothesis
C. Independent variable
D. Null variable

43. Which of the following is an example of a null hypothesis?
A. Balance will be improved following training compared to the control group
B. Females will have greater memory composite deficits compared to males
C. The ultrasound group will regain more flexion range of motion compared to a heat application group
D. There will be no difference in peak torque following open chain compared to closed chain knee flexion exercise

44. A p-value of 0.18 indicates there is an 18% chance that differences between the study groups occurred by chance.
A. True
B. False

45. What type of error could occur in a study with a small sample size?
A. False negative
B. Type I error
C. Type II error
D. None of the above
46. Which of the following describes a range of values in which we can assume the population is estimated to fall?
   A. Confidence interval
   B. Homogenous variance
   C. P-value
   D. Type II error

47. Which of the following best describes what happens by making an incorrect decision to retain the null hypothesis?
   A. False positive
   B. Power analysis
   C. Type I error
   D. Type II error

48. Which of the following variables does not influence statistical power?
   A. Beta level
   B. Difference between group means and standard deviations
   C. Sample size
   D. Variability among subjects

49. Which of the following describes the magnitude of the difference between two variables?
   A. Alpha level
   B. Confidence interval
   C. Effect Size
   D. Power

50. Internal validity is the degree to which a research design allows generalizability of the research findings.
   A. True
   B. False

51. What term best describes the level of consistency in which an instrument or assessor measures a variable?
   A. External validity
   B. Reliability
   C. Statistical validity
   D. Variability