

Sample Questions Disease Process, Modalities, and Research, ANSWERS

1. c. PIP's, wrists, knees, feet
2. a. Bamboo Spine
3. d. 1st MTP joint
4. a. Ankylosing Spondylitis
5. c. Extension exercises and education about discontinuing usage of a pillow under his head while sleeping (these will assist in maintaining mobility and the discontinuation of using a pillow under his head assists in decreasing a kyphotic spine)
6. d. Arthritis, conjunctivitis, urethritis (Arthritis occurs most commonly in the weightbearing joints with an asymmetric presentation. There is a mild redness, tearing and burning of the eyes which lasts for a few days. There is an increased frequency and burning associated with urination (typically the first symptom). Reiter's syndrome is a self-limiting disease that typically resolves in 3-4 months)
7. d. Venereal Disease & Dysentery
8. c. Lumbar/SIJ deformity and chronic Plantar Fasciitis and Achilles tendonitis (Lumbar and SIJ deformity (assessed by radiograph) is common. Chronic Achilles tendonitis and Plantar Fasciitis occurs because the disease process makes inflammation at tendinous insertions common.)
9. a. Muscle endurance disorder
ADDITIONAL EXPLANATION
 - a. Correct. Fibromyalgia is a muscle endurance disorder resulting in muscle fibers becoming taut, fibrous bands that place a stretch on tendinous insertions and fascia. These painful sites are commonly known as "tender points".
 - b. Incorrect. Myofascial pain syndrome is typified by one or two trigger points within a single muscle with a characteristic pain referral pattern.
 - c. Incorrect. 70-90% of all Fibromyalgia patients suffer from an inability to attain stage 4 sleep. However, poor sleep is only a symptom and a contributing cause of Fibromyalgia.
 - d. Incorrect. Although once thought to be a suspect diagnosis, Fibromyalgia has very specific diagnostic criteria.
10. b. No
ADDITIONAL EXPLANATION
 - a. Incorrect. This patient has several criteria that fit the diagnosis of Fibromyalgia to include pain for greater than 3 months and poor sleep. She also has 11 tender points that are tender to palpation and the examiner used the appropriate amount of force (enough to turn the nailbed white, approximately 4kg of force). However, the diagnostic criteria of Fibromyalgia require that 11 of 18 specific tenderpoints be tender. The paraspinals of the lumbar spine are not among those tenderpoints. Also, the patient must complain of "widespread" pain that is bilateral, above and below the waist, and include the axial and appendicular skeletal pain.
 - b. Correct
11. a. Use ice
ADDITIONAL EXPLANATION
 - a. Correct. Cold modalities are indicated for acute contusions
 - b. Incorrect. Muscle contusions often have deep bruising associated with them. By applying heat, an increase in temperature can result in an increased bleeding which has been shown to result in Myositis Ossificans.

12. a. Contract/Relax stretches to his hamstrings

ADDITIONAL EXPLANATION

- a. Correct. Contract/Relax stretches will increase range of motion more rapidly than static stretches. While static stretches are effective, the patient can perform static stretches at home.
- b. Incorrect. The patient can perform static stretches at home. Doing these in the clinic is not the most effective use of time.

13. c. Too little medication on the active pad

ADDITIONAL EXPLANATION

- a. Incorrect. 40 mA-min is an ideal intensity for iontophoresis
- b. Incorrect. The pre-wrap is only covering the edges of the pad. Risk of burns increase when something is placed directly over the electrode, thus compressing it against the skin.
- c. Correct. One of the most common causes of burns associated with iontophoresis is an underfilled pad.
- d. Incorrect. Dexamethasone is negatively charged.

14. d. Iodine

ADDITIONAL EXPLANATION

- a. Incorrect. Acetic acid is used to treat calcific tendonitis
- b. Incorrect. Dexamethasone is used to treat inflammation
- c. Incorrect. Dexamethasone combined with Lidocaine is used to treat inflammation and pain
- d. Correct. Iodine is used as an anti-sclerotic agent

15. a. Manipulation

ADDITIONAL EXPLANATION

- a. Correct. Manipulation was the variable being studied
- b. Incorrect. This was the control treatment
- c. Incorrect. This was the dependent variable
- d. Incorrect. This was the statistical test

16. b. Stating there is no difference between two treatments when there is one

ADDITIONAL EXPLANATION

- a. Incorrect. This is the definition of a Type 1 Error. It means the researchers are afraid of "backing a loser".
- b. Correct. This typically occurs with a small sample size. It means "missing a winner".
- c. Incorrect. This is the definition of External Validity
- d. Incorrect. This is the definition of the Power of a Statistical Test

17. c. Sensitivity

ADDITIONAL EXPLANATION

- a. Incorrect. Power relates to the probability of reaching a correct decision with a statistical test
- c. Correct. Sensitivity pertains to the True Negatives of a test. A simple trick in remembering this is SnNOut: Sn *sensitivity* N *when negative* Out *rules out the pathology*
- d. Incorrect. Specificity pertains to the True Positives of a test. A simple trick in remembering this is SpPIn: Sp *specificity* P *when positive* In *rules in the pathology*

18. b. Neurapraxia

ADDITIONAL EXPLANATION

- a. Incorrect. She is showing signs of improvement after 3 weeks.
- b. Correct. This is a first-degree injury (least severe).
- c. Incorrect. This is a fifth-degree injury caused by a complete transection of the nerve.
- d. Incorrect. This is a component of an axonotmesis.

19. a. Bone

20. a. Chronic thickening and edema of the synovial lining

21. b. Eccentric calf raises 3x15 BID into painful threshold x 12 weeks (Alfredson et al)

22. b. Moderate shift in probability

23. a. Dependent on the power of the study

ADDITIONAL EXPLANATION

a. Correct. This is also a “con” of using p-values

b. Incorrect. This is a “con” of using p-values

c. Incorrect. This is a “pro” of using p-values

d. Incorrect. This is a “con” of using p-values

24. a. Attributing all patients to the group which they were randomized rather than the treatment that they actually received.

25. c. Generate a moderate shift in post-test probability

26. a. Experimenter

27. c. Spectrum bias

28. c. Ordinal

29. b. A single Level II study or a preponderance of Level III & IV studies including statements of consensus by content experts support the recommendation

30 d. 1

31. d. Prior medical history of cancer and no relief with bedrest

ADDITIONAL EXPLANATION

d. Correct PMH of Ca has +LR 14.7 and no relief with bedrest has –LR of 0.11