

PRACTICE TEST

ANKLE & LOWER LEG

1. b. excessive forefoot pronation

ADDITIONAL EXPLANATION

- a. Incorrect. This would most likely cause anterior lateral shin splints.
- b. Correct. This is mostly correlated with postero-medial shin splints
- c. Incorrect. This would be more likely associated with a supinated foot
- d. Incorrect. This may be present, but the increased pronation forces increases the shear on the postero-medial tendons.

2. a. acute exercise induced compartment syndrome

ADDITIONAL EXPLANATION

- a. Correct. This is activity level dependent, and typically a presentation of decreased sensation is a more pronounced finding indicating the syndrome has progressed.
- b. Incorrect. This would not be associated with neural findings, and more commonly is painful with the first few steps of walking
- c. Incorrect. There would likely be other symptoms associated down the extremity, and other lumbar movements may be provocative
- d. Incorrect. This would not likely be associated with sensory findings

3. b. advising the patient to seek emergent care to possibly include wick catheter measurements

ADDITIONAL EXPLANATION

- a. Incorrect. This would not be appropriate since a fracture is not expected
- b. Correct. Since these findings suggest more of an advance in condition, it is imperative to get the patient to the emergency room to have the pressures measured in his compartment. Otherwise the patient may risk permanent structural and functional damage. This is typically done with a Wick catheter pressure reading device.
- c. Incorrect. Wasting time here and treating the wrong diagnosis would cause tissue damage per above.
- d. Incorrect. Again not the appropriate test. A fracture is not likely

4. d. Tarsal Tunnel Syndrome

ADDITIONAL EXPLANATION

- a. Incorrect. There would not likely be arch pain associated with this
- b. Incorrect. This would result more from a drop in the 2nd and 3rd rays. Also, the pain would be more localized to the metatarsal heads
- c. Incorrect. This is commonly mistaken for tarsal tunnel syndrome. The patient does not report the classic morning pain associated with plantar Fasciitis.
- d. Correct. In this case the pain was reproduced with palpation posterior to the medial malleolus where the tarsal tunnel is usually compromised.

5. d. Supporting the transverse metatarsal arch with an appliance

ADDITIONAL EXPLANATION

ADDITIONAL EXPLANATION

- a. Incorrect. This would not alleviate the mechanical causes of the dysfunction
- b. Incorrect. This would probably increase the symptoms because of the increased shearing of the inflamed nerve between the metatarsals.
- c. Incorrect. Again does not best address the mechanical source of dysfunction
- d. Correct. Supporting the transverse metatarsal arch increases the space between the metatarsals, thus taking compression away from the inflamed digital nerve.

6. c. calcaneal inversion, plantar flexion, and forefoot adduction

ADDITIONAL EXPLANATION

- a. Incorrect. Calcaneal eversion would stress the medial structures and lateral ankle sprains are by far the most common.
- b. Incorrect. Same explanation as a.
- c. Correct. Most ankle sprains occur as a result of plantar flexion and calcaneal inversion. Typically the forefoot continues to get forced in forefoot adduction
- d. Incorrect. Forefoot abduction is typically not coupled with the other two force mechanisms.

7. a. anterior talofibular ligament

ADDITIONAL EXPLANATION

- a. Correct. This is the most commonly sprained ankle ligament
- b. Incorrect. This would likely compliment an anterior talofibular ligament injury
- c. Incorrect. This would be associated with an inversion, dorsi flexion mechanism of injury. In question 6, we established that plantar flexion and inversion, along with

forefoot adduction is the most common mechanism of injury.

d. Incorrect. This would result from an eversion mechanism which is much less common.

8. a. Achilles tendon rupture

ADDITIONAL EXPLANATION

a. Correct. The patient described the classic feeling of being kicked from behind. His calf is also deformed indicating the tendon may have retracted superiorly, and he cannot plantar flex the foot because of the loss of integrity of the Achilles tendon.

b. Incorrect. Not a common injury. Usually this is pretty protected from trauma. More likely would occur from forcing the big toe into hyperextension, thus the capsule would probably be injured first.

c. Incorrect. The patient reported pain posteriorly, not laterally. Likely he would be unable to evert his foot without difficulty.

d. Incorrect. This would result in a collapsed medial longitudinal arch, and occurs more over time versus a direct trauma.

9. d. Thompson's test

ADDITIONAL EXPLANATION

a. Incorrect. This would check the integrity of the anterior talofibular ligament

b. Incorrect. This would test for a suspected calcaneal fracture

c. Incorrect. This would test for a possible deep vein thrombophlebitis

d. Correct. By squeezing the calf and watching to see in plantar flexion of the foot is elicited, you are testing the integrity of the Achilles tendon.

10. b. Five weeks

ADDITIONAL EXPLANATION

a. Incorrect. Too early for any active motion to begin. Stretching may be initiated at this time however.

b. Correct. The specified time to begin active shortening is four to six weeks

c. Incorrect. Too long of a delay could promote adhesions, and decrease tensile strength of repair.

d. Incorrect. Same explanation as c.

11. c. Feiss Line Test

ADDITIONAL EXPLANATION

- a. Incorrect. This test is used to test for arterial insufficiency to the lower limb.
- b. Incorrect. This test is used to test for a lesion of the superficial peroneal nerve
- c. Correct. This test measures the degree of a fallen medial longitudinal arch
- d. Incorrect. This test is used to determine if a Morton's neuroma is present.

12. d. Navicular tuberosity

ADDITIONAL EXPLANATION

d. Correct. During this test, the examiner marks the apex of the medial malleolus, and the plantar aspect of the first metatarsophalangeal while non-weight bearing. A line is made between the two points. Then the examiner palpates the *navicular tuberosity*, noting where it is relative to the line previously drawn. The patient is then asked to stand and if the navicular tuberosity appears to fall towards the floor, this determines the degree of pes planus one may have.

13. d. Manual therapy

ADDITIONAL EXPLANATION

- a. Incorrect. Level of Evidence B (MODERATE EVIDENCE)
- b. Incorrect. Level of Evidence B (MODERATE EVIDENCE)
- c. Incorrect. Level of Evidence C (WEAK EVIDENCE)
- d. Correct. Level of Evidence E (THEORETICAL/FOUNDATIONAL EVIDENCE)

14. C. Tenderness to palpation Fibular just proximal to the lateral malleolus

ADDITIONAL EXPLANATION

C. Correct. Tenderness from the mid-point of the malleolus to a point 6cm proximal is an indication for x-rays.

15. B. Contact referring physician, recommend D-Dimer lab

ADDITIONAL EXPLANATION

B. Correct. The patient has 3% probability of proximal DVT. The swelling and tenderness are positive clinical findings in a clinical prediction rule for PDVT. The likelihood of this being postoperative swelling is a negative finding for this rule. The D-Dimer lab has a sensitivity of 0.99. If positive, a compressive ultrasound can be ordered. If negative, the diagnosis of PDVT has effectively been ruled out.

16. D. 16

ADDITIONAL EXPLANATION

D. Correct (Clark & Tanner)

17. A. Custom orthotic

ADDITIONAL EXPLANATION

A. Correct. According to Pfeffer (1999), custom orthotics only provided 68% improvement at 8 weeks compared to felt inserts (81%), rubber inserts (88%), silicone inserts (95%) and stretching only (72%)

18. B. Surgical intervention (Chevron procedure)

ADDITIONAL EXPLANATION

B. Correct. According to Torkki (2001) decreased pain and improved function occurred for both orthotics and surgical groups at 6 months but only the surgical group maintained these results at 12 months.

19. B. 12 months

ADDITIONAL EXPLANATION

B. Correct. No evidence supporting use of prefabricated or custom orthotics for patients with plantar fasciitis > 1 year

20. B. 2nd tier

ADDITIONAL EXPLANATION

B. Correct. Along with corticosteroid injection, custom orthotics, night splints and immobilization. By the way, there is no 4th tier.