

31. According to research, what is the effect on episodic memory of taking a 15 minute walk before a learning task? 4 points
-

32. According to research, what is the effect of daily walking in healthy young adults? 4 points
-

33. Based on the following history and examination results, (1) discuss which DDX can be ruled out (2) provide an explanation why you can rule the diagnosis out, (3) which type of information you would need for others. 8 points

Background: 16 year-old female basketball player

Mechanism of injury: jumping up and landing on a teammate's foot. Initial assessment found no deformity, swelling or ecchymosis; significant pain and dysfunction with walking was experienced. Point tenderness elicited over the navicular tubercle, medial and intermediate cuneiforms, and bases of first and second metatarsals. Neurological assessment was normal. Ankle active and resistive ROM was full, pain noted with inversion. Hallux and toe flexion/extension painful and limited. Special Tests: anterior draw and talar tilt both negative, Kleiger's Test and forefoot inversion and eversion rotation were positive for increased pain.

Differential Diagnosis: Turf toe sprain, metatarsal fracture, navicular fracture, tarsal-metatarsal joint dislocation, tarsal-metatarsal contusion, Lisfranc Joint sprain, tibialis posterior tendon rupture, and compartment syndrome.

34. The image shows a normal on the left and abnormal on the right. Focus on the midfoot region. Describe what you see in detail using anatomical vocabulary 4 points



35. What are key examination findings for a contusion? 2 points

36. What are findings for a posterior tibialis tendon tear? 2 points

37. What are key examination findings for a dislocation injury?

2 points

38. Based on the exam results below, discuss which ddx can be ruled out. (1) turf toe (2) metatarsal fracture (3) tarsal tunnel syndrome (4) tarsal-metatarsal contusion (5) Tibialis posterior rupture, (6) Compartment syndrome, (7) tarsal-metatarsal joint dislocation

Sex: M **F** NBN (non-binary)

Age: 27

Chief complaint: medial foot pain

Onset of pain: 4 months ago wearing high heels accident

Training hx: healthy, active, and running approx. 6 miles 3-5 times per week.

MOI: walking in high heeled shoes when slipping on floor with ankle eversion.

Initial ~~Xray~~ results: imaging were unremarkable

Self Rx: periodic ibuprofen

Symptoms progression: progressed with prolonged standing

Quality of Pain: pain continued and unable to run without intensifying pain.

Pain Provocation: standing for prolonged durations or running.

Self-Observed Findings: Foot pain is common in athletes who spend time in cleats or shoes. Most sprains occur on eversion.

Physical Examination:

- Gait: non-antalgic gait/normal balance with tandem gait - No echymosis but swelling

Neurological Examination: normal strength, reflexes, proprioception, and sensation except for mild weakness of foot.

Musculoskeletal exam:

- pes planus bilaterally, greater on the right, with a prominent navicular that, with palpation, did not reveal soft tissue swelling or tenderness

Palpatory Findings: no tenderness in the region of the posterior tibial tendon or deltoid ligament, no pain with passive eversion or with active resisted inversion of the plantar flexed ankle. Normal.

39. The goal of rehabilitation is the restoration of what?

4 points

40. What is proprioception

2 points

41. what information do vestibular organs provide towards proprioception? 2 points

42. What kind of specialized cells are around our muscles, joints and tendons that detect movement or change in position 2 points

43. Where are mechanoreceptors found within the body? 2 points

44. You are walking along with you airpods in your ears listening to your favorite song "I look real good today". You are so into your music as you are walking and grooving that your foot catches a bump on the road. You stutter step a little bit but catch your balance and continue mosying along. Describe in detail the unconscious reflex that occurred to prevent you from falling. Your foot will be one reference point. You must include information about (1) eyes (2) vestibular organs (3) mechanoreceptors, their location and their purpose, (4) pathway to which nerve signals are sent (5) result of reflex nerve signal sent from the spinal cord. 8 points

45. which joint has an abnormality in the xray?

2 points



46. we learned a basic ABC approach to reading xrays. What did the A and C stand for and what do you look for?

4 points

47. Describe two key findings? (1) Why might this patient have posterior inferior foot pain and (2) why this patient should consider cardiovascular examination.

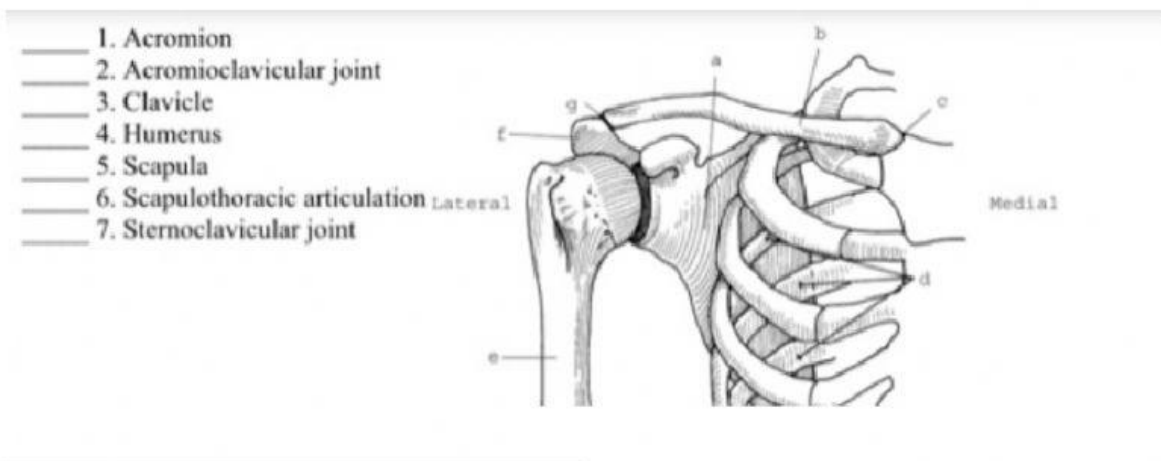
4 points

48. In examining the ankle you find increased laxity when performing AP glide of Talocrural joint. Which ligament may be suspect of injury? 4 points

49. Describe one female athlete that has impacted sports, their accomplishments, rise to fame, and legacy. 4 points

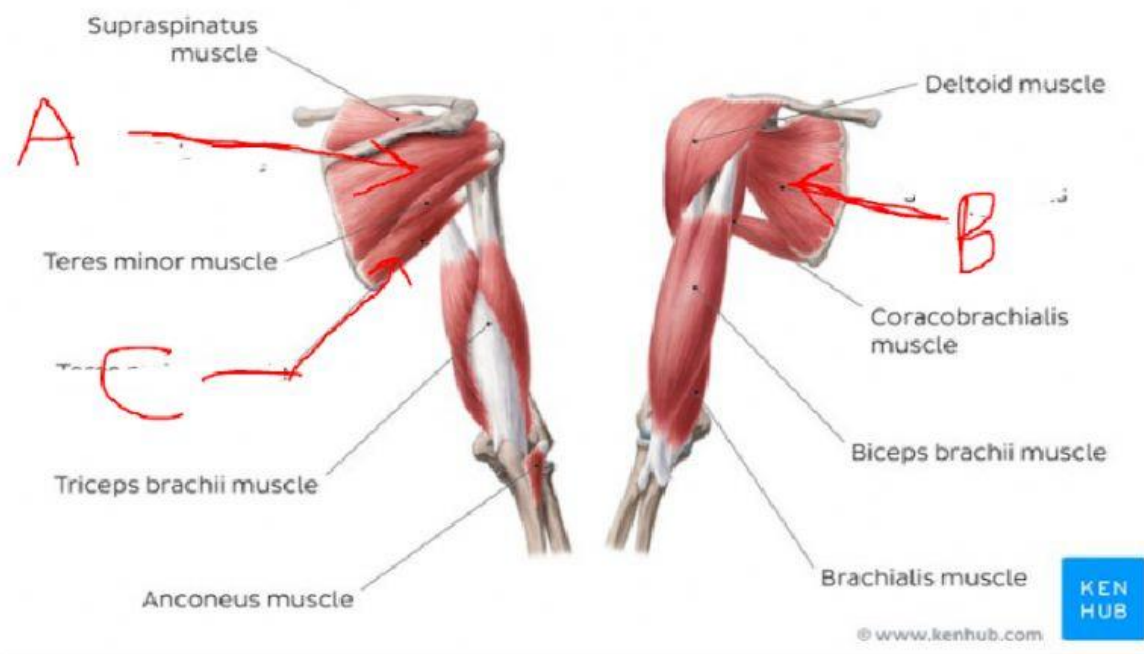
50. What is one test we learned that assesses lower and upper body movement deficiencies? 2 points

51. identify the landmarks on the picture 7 points



52. identify the muscles on the picture

7 points



53. What is the most common mechanism of injury for a shoulder dislocation?

4 points

54. What is a SLAP Tear?

2 points

55. SLAP stands for

2 points

56. CASE HISTORY: 27-year-old male complains of newly worsening left shoulder pain after playing an intense basketball tournament over the weekend. He denies a single incident that caused his pain and was able to finish playing the tournament. Patient is a recreational basketball player and has a daytime desk job. He complains of having pain while trying to sleep on the left shoulder, hence he only slept on his right shoulder. List 3 possible ddx 6 points
-

57. A 21-year-old volleyball player presents with a complaint of persistent left shoulder pain when she performs overhead activities. She continues to report pain despite conservative treatment with several weeks of physical therapy, rest, and anti-inflammatory medication. Coronal magnetic resonance imaging (Figure) shows a superior labral anterior-posterior (SLAP) tear. Which physical exam test would likely be positive for this patient? 2 points

Mark only one oval.

- ☐ yergason
- ☐ jobe
- ☐ hawkins kennedy
- ☐ obrien test

58. Rehabilitation care is oriented towards stabilizing muscles of the shoulder and shoulder girdle in order to regain 4 points
-

59. Based on the history and exam below, why can immediate AC joint separation, and rotator cuff tear be ruled out. 4 points

A 20-year-old Division III collegiate hockey player sustained a game-ending right shoulder injury midway through the second period from a body check into the boards. He described the impact to his shoulder as a high-energy collision into the boards and acrylic glass protective risers at a 90° angle. He felt immediate pain in his shoulder and had to leave the ice.

Physical examination

His initial examination was in the rink training room. He held his right arm tightly adducted against his body with his left arm holding his injured arm firmly against his abdomen. On inspection, there was neither an obvious bony deformity nor a step off at the acromioclavicular (AC) joint. There was pain to palpation at the AC joint and just distal to the joint on the acromion process. Pain was also pronounced over the deltoid muscle, the supraspinatus muscle, the trapezius muscle, and the bony spine of the scapula. Any movement of the scapula, including cross-body adduction, elicited intense pain in the shoulder area. Testing of the rotator cuff muscle function was difficult due to the player's level of pain but there did not appear to be any muscle or tendon disruption. He was given a sling for comfort and support while he watched the rest of the game. He was instructed to report to the local emergency department after the game for shoulder radiographs to rule out a fracture. En route to the facility, his father arranged for him to see his family physician.
