

1. Correction of excessively lordotic posture may help prevent the development of which lumbosacral spine injury?
 - A. spondylitis
 - B. spondylolysis
 - C. Scheuermann's disease
 - D. disc sequestration
2. In order to prevent posterior rotation of the pelvis and the low back pain that rotation may cause, this muscle group must have adequate flexibility.
 - A. hamstrings
 - B. external rotators
 - C. hip flexors
 - D. adductors
3. Internal lumbar disc pressure is greatest when an athlete is in this position.
 - A. standing & extended
 - B. sitting & extended
 - C. sitting & flexed
 - D. lying prone
4. Disruption of the L4-L5 and L5-S1 disc can result in decreased strength in this muscle.
 - A. Rectus femoris
 - B. Piriformis
 - C. Sartorius
 - D. Tibialis anterior
5. An athlete presents with pain and paresthesias radiating into the posterior thigh. Which test would be indicated in order to assess for lumbar disc injury?
 - A. Lasègue's test
 - B. Trendelenberg test
 - C. Fabere test
 - D. Hoover test
6. You have been treating a 17 yo baseball pitcher for low back pain for the past month. The athlete has had some relief with a hamstring stretching program but still complains of pain. He has a noted lordotic posture and states that he has the most pain in the cocking and acceleration phases of pitching. Based on this limited history, what injury are you most suspicious of?
 - A. facet syndrome
 - B. spondylolysis
 - C. disc herniation
 - D. spinal stenosis
7. An athlete is complaining of paresthesias in both legs. You saw this athlete's mechanism of injury and it involved a direct blow to the lower back from another athlete's helmet. What would be the most appropriate course of action in the on-field management of this injury?
 - A. spine boarding the athlete with the assistance of EMS personnel
 - B. removing the athlete from the field on a Gator
 - C. having the athlete walk from the field with assistance
 - D. removing the athlete from the field on a transport chair
8. Which type of electrical stimulation would be most appropriate during the immediate management of a lumbosacral strain?
 - A. low frequency TENS
 - B. NMES
 - C. high frequency TENS
 - D. interferential current

9. A 20 yo field hockey player is complaining of pain along the right side of her lower back. Your team physician has evaluated her; the diagnosis is lumbar facet syndrome. What modality would you use in order to manage this athlete's pain?
- A. spray and stretch
 - B. microcurrent electrical stimulation
 - C. moist heat and stretching
 - D. joint mobilizations using grade I AP oscillations
10. The rehabilitation of an athlete with spondylolysis should focus on strengthening of the _____ musculature in order to help control lumbar lordosis.
- A. abdominal
 - B. hamstring
 - C. hip flexor
 - D. spinal extensor
11. A normal lordotic curve is necessary for shock absorption in the lumbar spine. Tightness in these muscle groups must be addressed in the rehabilitation of an athlete who presents with decreased lumbar lordosis.
- A. hip flexors
 - B. knee flexors
 - C. trunk extensors
 - D. hip rotators
12. In postural training the neutral position of the pelvis is achieved when these structures are in alignment (when athlete is viewed from the side).
- A. ASIS & PSIS
 - B. greater trochanter and lateral malleolus
 - C. patella & ASIS
 - D. midline of trunk & chin
13. Which side of the arm receives the most frequent impact and therefore is where the majority of bruising occurs?
- A. Radial
 - B. Anterior
 - C. Ulnar
 - D. Posterior
14. A wrist fracture resulting from the radius and ulna being forced backward and upward (hyperextension), is called a:
- A. Bowler's fracture
 - B. Colles' fracture
 - C. De Quervain's fracture
 - D. Smith's fracture
15. The second and third digits are innervated by which cervical nerve root?
- A. C7
 - B. C8
 - C. C6
 - D. C5
16. Extension of the thumb and fingers test damage; to which nerve?
- A. Median
 - B. Radial
 - C. Ulnar
 - D. Volar

17. The tapping sign over the transverse carpal ligament tests for _____.
A. Artery impingement
B. Ganglions
C. Tenosynovitis of flexor tendons
D. Carpal tunnel syndrome
18. Which of the following tests may be used to determine the function of the radial and ulnar arteries supplying the hand?
A. Allen's test
B. deQuervain's test
C. Tinel's sign
D. Wrist press
19. To ensure the most complete healing of dorsal PIP dislocation, constant splitting must be maintained at a 30 degree angle of flexion for how long?
A. 1 week
B. 2 weeks
C. 3 weeks
D. 6 weeks
20. Which of the following results from a repeated static contraction of the forearm muscle that correlates to medial tibial stress syndrome?
A. Forearm splitting
B. Contusion
C. Forearm fracture
D. Triangular fibrocartilage injury
21. Which of the following tests for de Quervain's syndrome?
A. Tinel's test
B. Allen's test
C. Phalan's test
D. Finklestein's test
22. Which of the following is the most common cause of wrist sprain?
A. Forced hyperflexion
B. Forced torsion
C. Forced hyperextension
D. Force shearing
23. Which bone in the wrist is not commonly dislocated?
A. Lunate
B. Capitate
C. Scaphoid
D. Hamate
24. Which of the following tendons is involved with a mallet finger injury?
A. Extensor digitorum
B. Flexor digitorum profundus
C. Flexor digitorum superficialis
D. Lumbricals
25. The most common mechanism for a hip pointer is:
A. a direct hit to the greater trochanter
B. a direct hit the iliac crest
C. a direct hit to the ASIS
D. a direct hit to the AIIS
E. a direct hit to the ischial tuberosity

26. Abduction of the hip is approximately _____ degrees while adduction is approximately _____ degrees.
- A. 45/45
 - B. 30/45
 - C. 45/30
 - D. 45/75
 - E. 30/0
27. The very strong and thick ligament of the hip known as the “Y” ligament is the:
- A. pubofemoral ligament
 - B. iliofemoral
 - C. ligamentum teres
 - D. ischiofemoral ligament
 - E. ilioischial ligament
28. Gaenslen’s test checks for:
- A. pain in the hip joint
 - B. pain at the ischial tuberosity
 - C. pain at the SI region
 - D. pain over the trochanteric bursa
 - E. pain at the lesser trochanter of the femur
29. Runners who cross their feet over the midline during running increase the Q angle and can develop:
- A. a gluteus maximus strain
 - B. an iliopsoas bursitis
 - C. a pes anserine bursitis
 - D. a trochanteric bursitis
 - E. an iliopectineal bursitis
30. An individual who complains of a sharp groin pain and weakness when running sideways, but not when running straight ahead may have a strain of the:
- A. abductor muscles
 - B. adductor muscles
 - C. iliopsoas complex
 - D. rectus femoris
 - E. iliotibial band
31. The most effective strengthening exercise for the gluteus maximus muscle is:
- A. hip flexion
 - B. hip extension with the leg straight
 - C. hip extension with the knee flexed to 90 degrees
 - D. hip adduction
 - E. hip internal rotation
32. A football player has been cleared by your team physician after being out for over a month with a significant anterior thigh contusion. The athlete must be protected during all activities. Which of the following would be the most appropriate in this situation?
- A. a neoprene sleeve
 - B. a hip spica with continuation down the thigh
 - C. closed cell foam held in place with an elastic wrap
 - D. an elastic wrap over the thigh region
 - E. a large donut pad with orthoplast and foam

33. An athlete reports to you with a swollen quadriceps region. Upon examination by you and your team physician, it is determined that the athlete is suffering from an acute thigh contusion. Which would be the most appropriate treatment for this athlete?
- A. ice for 24 hours, then heat thereafter
 - B. ice for 48 hours, then heat thereafter
 - C. heat packs every 2-3 hours
 - D. ice until the hemorrhaging has stopped
 - E. ice and ultrasound
34. A 16 year old track athlete reports with acute upper hamstring pain. The team physician examines this athlete and refers him for x-rays. What is the physician trying to rule out by obtaining x-rays?
- A. myositis ossificans
 - B. stress fracture of the femur
 - C. avulsion of the ischial tuberosity
 - D. avulsion of the pubis
 - E. avulsion of the posterior superior iliac spine
35. Which of the following activities would be the most effective progressive resistance exercise for the gracilis muscle?
- A. leg extension
 - B. leg curls
 - C. squeezing a medicine ball between the knees
 - D. dead lifts
 - E. hip abduction exercises
36. The Thomas test assesses tightness of the flexors of the hip. Which of the following are assessed by this test?
- A. biceps femoris and gracilis
 - B. rectus femoris and vastus lateralis
 - C. iliopsoas and tensor fascia latae
 - D. iliopsoas and rectus femoris
 - E. vastus lateralis and iliopsoas
37. What structures are primarily responsible for providing stability to the knee joint?
- A. Muscles
 - B. Ligaments
 - C. Tendons
 - D. Bones
38. If a female has a Q angle greater than 23 degrees, she may be most susceptible to?
- A. Patellar tendonitis
 - B. Peritonitis
 - C. Medial collateral ligament sprain
 - D. Peroneal neuritis
39. A positive valgus stress test of the knee joint at 0 degrees would indicate damage to what structure?
- A. MCL
 - B. MCL & LCL
 - C. MCL & ACL
 - D. MCL & PCL
40. An athlete presents chronic lateral tilt of the patella. What tape job is indicated for correcting the orientation of the patella?
- A. Knee Spica
 - B. McConnell Technique
 - C. McMurray Technique
 - D. Lachman Technique
41. Larsen-Johansson disease affects what anatomical structure of the knee?

- A. Tibial Tubercle
 - B. Gerdy's Tubercle
 - C. Inferior Pole of the Patella
 - D. Popliteal Space
42. A distance runner presents to the athletic training room complaining of pain over the lateral aspect of his knee. Upon inspection, you suspect that he may have iliotibial band friction syndrome. What special test would help to confirm your suspicion?
- A. Noble Test
 - B. Patrick Test
 - C. Ober's Test
 - D. Thomas Test
43. An apophysitis characterized by pain at the attachment of the patella tendon at the tibial tubercle, usually seen in adolescents is called?
- A. Osgood-Schlatter
 - B. Larsen-Johansson
 - C. Osteochondritis Dissecans
 - D. Os Calsis Fracture
44. All of the following tests help determine if a meniscal tear is present except?
- A. Apley's Compression
 - B. Apley's Distraction
 - C. McMurray's
 - D. Yergason's
45. If an athlete has an unhappy triad, he/she has damage to what three structures?
- A. MCL, ACL, & Medial Meniscus
 - B. MCL, ACL, & Lateral Meniscus
 - C. MCL & PCL
 - D. MCL, LCL, & Medial meniscus
46. A synovial effusion in the gastrocnemius or semimembranosus bursa caused by lesion in posterior segment of medial meniscus is usually referred to as a?
- A. Pes Anserine bursitis
 - B. Baker's cyst
 - C. Bucket handle tear
 - D. Fabella syndrome
47. What is the name given to the common insertion of the sartorius, gracilis, & semitendinosus?
- A. Gerdy's insertion
 - B. Tibial plafond
 - C. Pes Anserinus
 - D. Tibial Tubercle
48. What is the most commonly injured bursa in the knee?
- A. Pre- patellar
 - B. Sub- patellar
 - C. Infra- patellar
 - D. Supra- patellar

49. Which of the following is not an example of a drug or drug therapy that enters the body through transdermal means?
- A. nitroglycerin
 - B. benzocaine
 - C. phonophoresis
 - D. dexamethasone
50. The amount of a drug that must be given to produce a particular response is considered to be the _____ of a drug.
- A. potency
 - B. dose
 - C. lipid solubility
 - D. bioavailability
 - E. diffusion
51. Drugs that are _____ enter cells in the brain more rapidly than drugs that are _____.
- A. nonlipid soluble, nonlipid soluble
 - B. lipidsoluble, lipid soluble
 - C. higher in potency, higher in potency
 - D. time released, time released
 - E. dose related, dose related
52. If a physician was having to suture a laceration to the thumb, the physician might use _____ for the anesthetic agent.
- A. xylocaine
 - B. flexeril
 - C. nuprin
 - D. benzocaine
 - E. Demerol
53. When an athlete receives one dose pack of an NSAID the person giving the drug to the athlete is:
- A. dispensing the drug
 - B. prescribing the drug
 - C. describing the drug
 - D. administering the drug
 - E. legending the drug
54. Gastrointestinal irritation, dizziness, drowsiness, and visual disturbances are examples of:
- A. a drug's toxicity level
 - B. a drug's maximal efficacy
 - C. a drug's therapeutic range
 - D. a drug's side effects
 - E. a drug's potency level
55. Rash, rubor skin, and itching are examples of:
- A. systemic adverse drug reaction
 - B. a local adverse drug reaction
 - C. a toxic drug reaction
 - D. an antipruritic reaction
 - E. a therapeutic effect of a drug
56. Which of the following will not produce local effects?
- A. a drug administered by ophthalmic routes
 - B. a drug administered by optic routes
 - C. a drug administered by topical routes
 - D. a drug administered by sublingual routes

57. Which of the following oral medications would be suggested for an athlete with Gastrointestinal irritation?
- enteric coated medication
 - powder medication
 - caplet medication
 - sustained-released medication
 - capsule medication
58. Acromegaly is associated with use of:
- Hgh
 - Clenbuterol
 - Chromium
 - Creatine phosphate
 - L-carnitine
59. The major concern(s) for athletic trainers when athletes are using creatine phosphate are (is):
- muscle cramping
 - heat related illnesses
 - increase heart-rate and blood pressure
 - decrease in anaerobic activity
 - increased anxiety
- 3 only
 - 2 & 3
 - 1 & 2
 - 1 & 4
 - 5 only
60. Which of the following would not be used to enhance strength and muscle bulk?
- clenbuterol
 - Hgh
 - Winstrol
 - Dinabol
 - Deca-durabolin
61. In preventing throwing related injuries:
- Minimize valgus stress of the elbow during throwing.
 - Minimize varus stress of the elbow during throwing.
 - Emphasize less than 90 degrees of shoulder abduction during throwing
 - Emphasize 90 degrees of shoulder abduction.
- 1, 4
 - 1, 3
 - 2, 4
 - 2, 3

62. What factors can assist in preventing the occurrence of lateral epicondylitis?

1. Intense flexibility programs for the elbow.
2. Intense strength programs for the forearm flexors.
3. Use of good body mechanics during the throwing motion.
4. Intense strengthening program for the forearm extensors.

- A. 2, 3
- B. 1, 2
- C. 3, 4
- D. All of the above

63. In the sport of tennis, lateral epicondylitis may be caused by:

1. Excessive supination while serving the ball
2. Excessive pronation while serving the ball
3. Poor biomechanics
4. Improper warm up

- A. 1, 3, 4
- B. 3, 4
- C. 2, 3, 4
- D. 3 only

64. An athlete falls on his/her outstretched arm with the result of pain in the elbow, numbness and tingling down to the ring and little finger. Evaluation would include:

1. Evaluation of the radial nerve along with C5, C6 assessment.
2. Evaluation of the ulnar nerve along with C8 assessment.
3. Evaluation of the median nerve along with C7, C8 assessment.
4. Evaluation of the radial nerve along with C7 assessment.
5. Evaluation of the median nerve along with T1 assessment.

- A. 1, 2
- B. 3, 4
- C. 2, 3, 4, 5
- D. All of the above

65. During evaluation of a suspected dislocated elbow, the athletic trainer should observe for:

1. Supination of the hand
2. The elbow slightly flexed with the forearm appearing shortened
3. Extension with forearm pronated
4. Tenderness medially and posteriorly.

- A. 1, 2
- B. 2, 4
- C. 2, 3
- D. 2, 3, 4

66. A football player falls on his elbow, he later complains of burning, tingling, or numbness to the fourth and fifth fingers. What structures may be damaged?

- A. Interosseus muscles of the hand
- B. Collateral Ligaments
- C. Ulnar nerve
- D. Extensors of the forearm

67. The management of a suspected fracture to the elbow/forearm should include:

- 1. Application of a sling.
- 2. Immobilization using an "Air" splint.
- 3. Application of a Vacuum splint to the elbow in the position it is found.
- 4. Allow the athlete to hold the elbow in a guarded position.
- 5. Activation of EMS for transportation.

- A. 1, 5
- B. 2, 4
- C. 3, 5
- D. NONE of the above

68. Following the application of a splint to a suspected elbow fracture, it is important to:

- 1. Check for circulatory problems to the wrist.
- 2. Perform a Hoover test to check circulation
- 3. Check for additional pain or numbness caused by a splint that is too tight.
- 4. If pain permits, place elbow in elevated or supported position

- A. 1, 2
- B. 1, 4
- C. 1, 3, 4
- D. All of the above.

69. Following the immobilization of a suspected elbow fracture and the arrival of EMS, the athletic trainer should:

- 1. Monitor the athlete for signs of shock.
- 2. Monitor the athlete for signs of increased pain or numbness caused by the immobilization.
- 3. Monitor the athlete's circulation to the distal arm.
- 4. Place the athlete in a comfortable position, supporting or elevating the injury.
- 5. Administer NSAIDS as needed.
- 6. Talk to the athlete in a reassuring/comforting manner

- A. 1, 2, 3, 5
- B. 1, 2, 3, 4, 6
- C. 2, 4, 5, 6
- D. All of the above

70. Some early goals in an elbow rehabilitation program would include:

1. Restoring of full ROM
2. Restoring strength to the upper arm and forearm
3. Restoring painfree ROM
4. Decreasing post injury inflammation and swelling

- A. 1, 2, 4
- B. 1, 4
- C. 2, 3, 4
- D. 1, 2, 3

71. Rehabilitation activities of a (8 wk) post surgical elbow would include:

1. Increasing strength
2. Increasing functional activities
3. Increasing closed kinetic chain activities
4. Increasing open kinetic chain activities
5. PNF activities within limits of the injury

- A. 1, 2, 4
- B. 1, 2, 3, 5
- C. 1, 3, 4
- D. 2, 3, 4

72. Functional Progressive activities in elbow rehabilitation are used to:

1. Improve muscular strength
2. Improve endurance
3. Improve mobility and flexibility
4. Improve cardiorespiratory endurance
5. Improve functional stability
6. Reduce post injury anxiety and apprehension

- A. 1, 2, 3, 4
- B. 1, 3, 4, 5
- C. 1, 2, 4, 6
- D. All of the above

73. A pro sport athletic trainer contacts a college athletic trainer about the medical records of a prospect. The student athlete is a senior and has a history of spondylolisthesis. The college athletic trainer should:

- A. Check to see if they need an assistant athletic trainer
- B. Refer all questions to the head coach and player agent
- C. Remove all back information from the file before forwarding
- D. Obtain a signed release form from the student athlete
- E. Refer the pro athletic trainer to the appropriate team physician

74. The eating disorder bulimia is characterized by each of the following signs except:

- A. Abuse of laxatives
- B. Increased incidence of caries
- C. Underachieving
- D. Poor body image
- E. Periods of starvation

75. The NCAA often utilizes the athletic trainer to perform which function relative to drug testing of student athletes?
- A. Collection and securing of specimens
 - B. Counseling of confirmed abusers
 - C. Observing their athletes during collection
 - D. Identifying suspected steroid users
 - E. Notification and verification of testing time
76. A student athlete with exercise induced asthma asks you to recommend a conditioning workout to supplement his team practices. You should:
- A. Refuse to make a suggestion
 - B. Suggest extra cross country running
 - C. Suggest indoor aerobic dancing
 - D. Discourage cardiovascular workouts
 - E. Suggest swimming
77. A minor athlete requests that the schools medical records be sent to a local HMO clinic. Prior to the materials being released to the clinic, you should:
- A. Obtain a signed release from the team physician
 - B. Obtain a signed release from the athlete's parents
 - C. Obtain a signed release from the athlete's position coach and head coach
 - D. All of the above
 - E. None of the above
78. A student athlete wanting to discuss his future job possibilities should be referred to:
- A. Guidance counselor on campus (when available)
 - B. Psychometrician and/or psychiatrist
 - C. President of the booster club
 - D. Team minister or religious counselor
 - E. Tutor that the student had as a sophomore
79. A severely injured star athlete may have some sort of psychological reaction working through:
- A. Weight gain
 - B. Loss of financial aid
 - C. Hyperthermia stage
 - D. Denial stage
 - E. Reconditioning stage
80. The certified athletic trainers responsibility in dealing with psychosocial problems is:
- A. Decreasing
 - B. Illegal
 - C. Increasing
 - D. Ambiguous
 - E. None of the above

81. If an athlete needs a prescription medication when the medical staff is unavailable, what should the head athletic trainer do:
- A. Provide an over the counter substitute
 - B. Buy, stock, and use recognized nongeneric drugs
 - C. Take the athlete to an ER or Instant Care
 - D. Insist that a physician prescribe and dispense the medication
 - E. Keep all medications under lock and key in the sports medicine office
82. Off campus substance abuse treatment is sometimes impossible at NCAA schools due to:
- A. NCAA rules
 - B. Cost factor
 - C. Athletic trainer's prejudice
 - D. Banned substance enforcement
 - E. Medical hardship regulations
83. Athletic trainers are often consulted for psychosocial problems due to:
- A. State regulations
 - B. Behavioral orientation to discipline
 - C. On campus statutes
 - D. Doctor's preference
 - E. Availability and access
84. An athlete complains to the athletic trainer of painful urination and confides that he had sexual contact one week earlier. What should the athletic trainer do?
- A. Refer to team chaplain for morality counseling
 - B. Refer to a physician due to suspicion of STDs
 - C. Refer to a Psychiatrist
 - D. Refer to Proctologist
 - E. Call the student athletic trainer that has been dating the student athlete
85. Muscles of expiration include:
- A. Diaphragm
 - B. Sternocleidomastoid
 - C. Transverse abdominis
 - D. A & B
 - E. A, B, & C
86. The liver is located in the _____ quadrant.
- A. Upper left
 - B. Lower left
 - C. Upper right
 - D. Lower right
 - E. A & B
87. A symptom of abdominal injury is:
- A. Increased thirst
 - B. Increased peristalsis
 - C. Decreased heart rate
 - D. Deep, slow breathing
 - E. Increasing blood pressure

88. An athlete with an isolated rib fracture will exhibit which of the following signs or symptoms?
- A. Slow, deep respiration
 - B. Positive rib compression test
 - C. Elevated blood pressure
 - D. A & B
 - E. A, B, & C
89. Painful menstruation is known as:
- A. Amenorrhea
 - B. Dysmenorrhea
 - C. Oligomenorrhea
 - D. Pelvic inflammatory disease
 - E. Ectopic pregnancy
90. Injury to the spleen:
- A. Refers pain to the left shoulder
 - B. Can lead to removal, necessitating periodic blood transfusions throughout the rest of the athlete's life
 - C. Diminishes the body's ability to store glucose
 - D. A & B
 - E. A & C
91. The systolic blood pressure:
- A. Represents the pressure in the artery when the heart is relaxed
 - B. Is read as the pressure when the first pulse sounds are heard
 - C. Is considered high when it exceeds 90 mmHG
 - D. A & C
 - E. None of the above
92. A spontaneous pneumothorax is characterized by:
- A. Visible trauma at the point of impact
 - B. Rapidly decreasing blood pressure
 - C. A solid sound with percussion to the affected side
 - D. A & B
 - E. A, B, & C
93. An athlete comes to you complaining of diffuse abdominal pain that is getting increasingly worse. Urination increases his abdominal pain. Your evaluation reveals rebound tenderness and rigidity in the lower right quadrant and a rapid pulse. What pathology do you suspect?
- A. Kidney infection
 - B. Kidney stones
 - C. Appendicitis
 - D. Spermatic cord torsion
 - E. Kidney contusion
94. A great danger with a ruptured spleen is its:
- A. Ability to increase the incidence of constipation
 - B. Ability to splint itself and then produce delayed hemorrhage
 - C. High incidence of infection
 - D. Ineffectiveness in producing antibodies and red blood cells
 - E. All of the above

95. Which of the following conditions can predispose an individual to injuries of the spleen?
- A. Cirrhosis
 - B. Eating right before competition
 - C. Hematuria
 - D. Mononucleosis
 - E. Ulcers
96. Any athlete who receives a severe blow to the abdomen or back region should be instructed to check for:
- A. Blood in the urine
 - B. Elevated blood pressure for several days afterwards
 - C. Elevated temperature for signs of internal infection
 - D. Visual acuity and headaches
 - E. Weight loss
97. Which is not a method to increase flexibility?
- A. Ballistic stretching
 - B. Static stretching
 - C. Contract – relax
 - D. Goniometric facilitation
 - E. A & B
98. Which is not true about plyometric training?
- A. The training should be sport specific
 - B. The quantity of work is more important than the quality
 - C. Greater intensity levels require longer recovery periods.
 - D. The session should continue 1 minute after proper technique could no longer be preformed to ensure the athlete gets the maximum benefit.
 - E. B & D
 - F. C & D
99. Functional stability is provided by which structures?
- A. Passive restraints of the muscles
 - B. Joint geometry
 - C. Active restraints of the ligaments
 - D. Joint distraction forces occurring about a joint
 - E. None of the above provide functional stability to the joint
100. What does the acronym SAID principle stand for?
- A. Specific Acquired Intensity Demands
 - B. Sport Adaptations to Imposed Demands
 - C. Specific Adaptation to Imposed Demands
 - D. Specific Adaptation to Increased Demands
101. Which are not anatomical factors limiting flexibility
- A. Muscles and their tendons
 - B. Bony structure
 - C. Adipose tissue
 - D. Skin
 - E. All of the above are limiting factors of flexibility
102. Relaxation of the antagonistic muscle during contractions is referred to as?
- A. Autonomic inhibition
 - B. Autonomic excitation
 - C. Autogenic inhibition
 - D. Autogenic excitation
103. By placing the joint in a relaxed or resting position, this allows the joint to assume the:

- A. closed packed position
- B. Open packed position
- C. Loose packed position
- D. Relaxed packed position

104. Which of the following functional activities pertains to the upper extremity:

- A. 180 degree pivot
- B. "Z" course
- C. Simulation of PNF patterns with rubber tubing
- D. Box runs

105. Which mechanoreceptors are involved with flexibility

- A. Nociceptors
- B. Muscle spindles
- C. Golgi tendon organ
- D. Meisner's corpuscles
- E. B & C

106. Which of the following massage techniques would be used to treat chronic tendonitis:

- A. Hoffa massage
- B. Friction massage
- C. Connective tissue massage
- D. Myofascial release

107. When should a rehabilitation program start following an injury?

- A. Immediately after a good physical exam
- B. Wait one week until the inflammatory phase is over
- C. Do not start a rehabilitation program until instructed to do so by the team physician
- D. When all of the swelling has dissipated from the injured site

108. Which are benefits of using functional progression?

- A. Improve functional stability
- B. Improve muscular strength
- C. Improve muscular endurance
- D. Increase flexibility
- E. All of the above are benefits of functional progression

109. Factors that affect rehab goals include all of the following except:

- A. Type of sport
- B. Time of season
- C. What is the specific injury
- D. Psyche of the athlete
- E. Athletes body weight

110. All of the following conditions warrant the use of Maitland's mobilization except?

- A. Vascular disorders
- B. Pain
- C. Stiffness
- D. Hypomobility
- E. A & B

111. The long thoracic nerve is involved in a condition known as "winged scapula", in which the athletic trainer should perform a muscle test for the:
- A. rhomboid major
 - B. serratus anterior
 - C. levator scapula
 - D. splenius capitis
112. If an athlete is able to perform shoulder flexion throughout the complete range of motion in a standing position without any resistance, they would be given a muscle grade of:
- A. normal
 - B. fair
 - C. good
 - D. poor
113. Any weakness demonstrated on manual muscle testing of the rotator cuff (supraspinatus, infraspinatus, teres minor, subscapularis) could be traced back to all of the following peripheral nerves except:
- A. upper subscapular
 - B. musculocutaneous
 - C. axillary
 - D. suprascapular
114. If an athlete complains of pain in the area of the AC joint, the athletic trainer should perform which of the following tests:
- A. Apprehension test
 - B. Shear test
 - C. Yergason test
 - D. Traction test
115. Using the injury above, if the _____ is point tender and appears to be injured, you should suspect injury to what structures:
- A. coracoacromial ligament, subacromial bursa, transverse ligament
 - B. acromioclavicular ligament, sternoclavicular ligament, deltoid
 - C. costoclavicular ligament, acromioclavicular ligament, conoid ligament
 - D. acromioclavicular ligament, conoid and trapezoid coracoclavicular ligaments
116. In performing an inspection of the posterior shoulder region, the athletic trainer should visualize the spine of the scapula is opposite:
- A. C5 vertebrae
 - B. T1 vertebrae
 - C. T3 vertebrae
 - D. C7 vertebrae
117. Which of the following is not considered part of the evaluation for impingement syndrome in the shoulder:
- A. forcible flexion of the shoulder with acromion stabilized
 - B. abduction and forcible external rotation of the GH joint with acromion stabilized
 - C. forcible internal rotation of a flexed shoulder
 - D. resistance against shoulder flexion with the forearm supinated
118. Which of the following is not true concerning the traumatic onset of shoulder instability?
- A. is usually a unidirectional, anterior instability
 - B. often associated with Bankhart lesions
 - C. a high percentage of good to excellent results occur with conservative, nonoperative rehabilitation in the younger, athletic population
 - D. in patients under 20 years old, there is a very high reoccurrence rate

119. Which of the following is true concerning conservative rehabilitation of the unstable shoulder?
- A. immobilization for 68 weeks is recommended to allow complete healing of the capsular and lateral structures
 - B. early, aggressive ROM including abduction and EROT is necessary in order to prevent contractures of the capsule
 - C. strengthening of the biceps is to be avoided because it places excessive strain on the glenoid labrum
 - D. establishing static, proximal stability through scapulothoracic strengthening activities is an essential component
 - E. all of the above are correct
120. During acute Phase I rehabilitation of nonoperative anterior shoulder dislocations the clinician must be careful not to place too much stress on the anterior capsule via:
- A. abduction and external rotation
 - B. horizontal extension
 - C. adduction and internal rotation
 - D. extension
 - E. flexion
121. Tissue that binds a fracture site together is referred to as a
- A. calcium deposit
 - B. myositis
 - C. callus
 - D. osteochondritis
 - E. myositis ossificans
122. A contusion to the middle third of the upper lateral humerus can lead to which of the following conditions if improperly treated:
- A. exostosis
 - B. myositis ossificans
 - C. deltoid atrophy
 - D. carpal tunnel syndrome
123. Which of the following modalities emits a type of energy with wavelengths and frequencies that would not be classified as an electromagnetic radiation?
- A. Electrical stimulating currents
 - B. Shortwave and microwave diathermy
 - C. Infrared modalities
 - D. Lowpower lasers
 - E. Ultrasound
124. Which is not a characteristic of electromagnetic energy produced by the different modalities?
- A. it may be produced when sufficiently intense electrical or chemical forces are applied to any material
 - B. it travels readily through dense tissue but at unequal velocity
 - C. its direction of travel is always in a straight line
 - D. when electromagnetic energy comes in contact with various biologic tissues it may be reflected, refracted, absorbed, or transmitted
125. Which of the following would not be an appropriate use for electrical stimulating currents
- A. Tissue temperature increase
 - B. Pain modulation
 - C. Muscle reeducation
 - D. Muscle strengthening
 - E. Facilitate healing
126. What is the primary purpose for using a conventional TENS treatment?
- A. pain modulation through stimulation of cutaneous sensory nerves
 - B. producing muscle contraction and relaxation or tetany
 - C. facilitating soft tissue and bone healing
 - D. producing a net movement of ions

127. EMG Biofeedback measures which of the following?
- A. Muscle contraction directly
 - B. Electrical activity associated with muscle contraction.
 - C. The movement of ions across the cell membrane.
 - D. The magnitude of a motor nerve depolarization
128. Which of the following is correct concerning the use of shortwave diathermy?
- A. It is considered to be a low frequency current
 - B. It is used for stimulation of either motor or sensory nerves
 - C. It may be either continuous or pulsed
 - D. It is used primarily for its nonthermal effects
129. Which of the following is not correct concerning the use of infrared modalities (i.e. thermotherapy or cryotherapy)?
- A. They are used to produce a local and occasionally either a generalized heating or cooling of the superficial tissues.
 - B. It is generally accepted that the infrared modalities have a maximum depth of penetration of 1 cm or less.
 - C. The infrared modalities can elicit either increases or decreases in circulation depending on whether heat or cold is used.
 - D. They are also known to have analgesic effects as a result of stimulation of sensory cutaneous nerve endings.
 - E. Only the use of cold can alter metabolic function in a localized area
130. Which of the following is a physiologic effect of using a cryotherapy technique?
- A. Increase in local metabolism
 - B. Decrease in vasoconstriction
 - C. Decrease in venous and lymphatic flow
 - D. Increase in nerve conduction velocity
 - E. Increase in muscle excitability
131. Therapeutic ultrasound
- A. Is classified as acoustic rather than electromagnetic energy
 - B. Is generally used for more superficial heating
 - C. Is capable of enhancing healing at the cellular level as a result of its thermal physiologic effects
 - D. Is the modality of choice for minimizing increases in cellular metabolism
132. Which would not be a function of using mechanical traction?
- A. Producing a separation of vertebral bodies
 - B. Causing a change in proprioceptive discharge of the spinal complex
 - C. Producing a stretch of connective tissue
 - D. Producing a stretch of muscle tissue
 - E. Producing an increase in intravertebral disk pressure
133. Which of the following is not true concerning intermittent compression units?
- A. They produce a form of mechanical energy rather than electromagnetic energy
 - B. They create external pressure that helps to move interstitial fluid from the injured area
 - C. They facilitate venous and lymphatic reabsorption of edema resulting from injury or trauma
 - D. Increasing local fluid pressure helps to decrease pain and increase range of motion
134. Which of the following forms of massage is most often used by athletic trainers?
- A. Hoffa Massage
 - B. Acupressure/Shiatsu
 - C. Connective Tissue Massage
 - D. Myofascial Release
 - E. Rolfing

135. The test for determining a rupture of the Achilles tendon is the:
- Thomas
 - Tinel
 - Thompson
 - Tensor
136. A ruptured Achilles tendon is immobilized best in what non weight bearing position of ankle:
- subtalar neutral
 - full inversion
 - dorsiflexion
 - mild plantar flexion
137. Plantar flexion of the ankle is a motion innervated from the _____ nerve root.
- L1
 - L2
 - S1
 - S4
138. The best determinant of class III ligament instability immediately following an inversion injury to the ankle is:
- laxity greater than the uninvolved ankle with no end point
 - laxity greater than the uninvolved ankle with an end point
 - ability to bear weight and walk with not limp
 - inability to bear weight and walk without a limp
- 1 & 2
 - 1 & 4
 - 2 & 3
 - 2 & 4
139. Onychomycosis is the medical term used to describe
- Athletes foot
 - Plantar wart
 - Nail fungus
 - Club foot
140. Medial tibial stress syndrome can be predisposed by the following tibia configuration abnormality.
- Tibia recurvatum
 - Tibia vara
 - Tibia valga
 - Tibia anteversion
141. Symptoms in the fractured leg that would be consistent with a neurovascular compromise are:
- Diminished distal pulse, cooler than other side, increasing numbness, delayed nailbed return.
 - Rapid distal pulse, no temperature difference, no neurologic deficit.
 - Rapid distal pulse, warmer than the other side, radiating nerve pain.
 - Slow distal pulse, cooler than the other side, pins and needles radiating to the hip.
142. A runner who has feet that are in forefoot _____ when placed in subtalar neutral will go into _____ when moving into full weight bearing.
- equinus, supination
 - valgus, supination
 - valgus, pronation
 - varus, pronation

143. When purchasing footwear for physical activity, the following items must be considered to prevent possible injury in a person with a pes cavus abnormality.
- nylon uppers, rigid forefoot, flexible heel counter, snug toe box, curved last
 - leather uppers, rigid forefoot, rigid heel counter, perpendicular heel counter, combo last
 - rigid rearfoot, flexible forefoot, perpendicular heel counter, straight last
 - flexible heel counter, extra midfoot cushioning, flexible forefoot, curved last
144. Ankle sprains are caused by damage to, hypomobility and/or poor flexibility of the:
- Posterior tibialis
 - Achilles tendon
 - Joint Capsule
 - Plantar fascia
 - Bifurcated ligament
- 1, 2, 4
 - 2, 3, 4
 - 1, 4, 5
 - 2, 3, 5
145. The most appropriate choice of therapeutic exercise progressions for ankle sprains would be:
- walk, jog, run, sprint, figure 8, soft cutting, hard cutting
 - isometrics, isokinetics, plyometrics, proprioception, isotonic, elastic
 - isotonic, isokinetics, manuals, plyometrics, elastic, proprioception
 - manuals, elastic, isotonic, isometric, proprioception, isokinetic
146. For tendinitis of the lower leg the best choice of resistance that offers the smallest chance of reinflammation in early programming is:
- Manual
 - Eccentric
 - Plyometric
 - Isometric
147. An epidural hematoma usually results from a _____ type injury.
- focal
 - diffused
 - centered
 - low velocity
148. Which of the following is not a biomechanical stress of head trauma
- compressive
 - tensile
 - shearing
 - focal
149. The artery most frequently involved with subdural hemorrhaging is the
- middle meningeal artery
 - lateral meningeal artery
 - superior cerebral vein
 - inferior cerebral vein
150. The Glasgow Coma Scale rates head trauma severity using:
- balance, motor response, verbal response
 - motor response, verbal response, eye response
 - amnesia, motor response, verbal response
 - eye response, amnesia, motor response
151. Athletes suffering from post-concussion syndrome should be examined in what three specific areas?

- A. reflexes, somatic, cognitive
- B. somatic, cognitive, motor skills
- C. concentration, balance, affective
- D. somatic, cognitive, affective

152. When using the SAC for assessment of an athlete with a possible concussion, the mental status testing includes the following:

- A. orientation tests, neurological tests, immediate memory
- B. orientation tests, immediate memory, concentration
- C. exertional provocative tests, orientation tests, concentration
- D. neurological tests, exertional provocative tests, orientation tests

153. If you and your team physician are following the CMS return to play guidelines, a player who sustains a grade 1 concussion may return to play:

- A. if no signs/symptoms occur at rest or exertion after 20 minutes of observation
- B. after one week with no headaches
- C. after one week of no signs/symptoms at rest or with exertion
- D. after 2 to 3 weeks of no signs/symptoms at rest or with exertion

154. Regardless of concussion grading scale used, athletes sustaining a grade 3 concussion:

- A. should return to play within two weeks
- B. may return to play following clearance by the ATC
- C. may return to play after two weeks even if still suffering minor headaches
- D. should be immediately referred to an appropriate medical facility

155. An athlete sustaining a grade 3 concussion:

- A. may be referred to the hospital after the game, if necessary
- B. may be provided food and drink on the sideline while waiting for the completion of the game
- C. should be appropriately secured and transported immediately to the nearest medical facility
- D. may be taken to the hospital by a friend

156. The use of sideline and follow-up serial examinations allows the ATC to:

- A. provide specific information to the team physician
- B. chart the recovery progress of the athlete
- C. note any abnormal recovery responses
- D. document all of the above for optimal care of the athlete

157. An athlete who sustains (3) three mild concussions in one season should:

- A. have their season terminated
- B. return to the sport following a week of asymptomatic status
- C. be held out for a minimum of 20 minutes
- D. return to the event that day

158. When testing eye response of an athlete suffering from head trauma, the ATC should examine several key responses. Those responses include:

- A. pupil size, light accommodation
- B. pupil shape, light accommodation, vision
- C. pupil size, pupil shape, light accommodation
- D. pupil size, light accommodation, vision, tracking

159. Post-traumatic amnesia results in the athlete's inability to:

- A. recall events after the head trauma
- B. recall his/her name
- C. recall events after referral to the hospital
- D. recall recent events that occurred before the injury

160. When using the SAC for assessment of an athlete with a possible concussion, the neurological examination includes:

- A. sensation, strength, and agility
- B. recollection of injury, strength, sensation, coordination and agility
- C. recollection of injury, coordination, exertional provocative tests
- D. concentration, agility, sensation, and vision

161. The Standardized Assessment of Concussion was developed in accordance with:

- A. AAN and Cantu
- B. CMS and AAN
- C. CMS and Galveston
- D. Cantu and CMS

SEATA Student Athletic Trainers *Competencies in Athletic Training Workshop* Multiple Choice Answer Key

1. B.	36. D.	71. B.	106.B.	141.A.
2. A.	37. B.	72. D.	107.A.	142.D.
3. C.	38. A.	73. D.	108.E.	143.C.
4. D.	39. D.	74. C.	109.E.	144.B.
5. A.	40. B.	75. E.	110.A.	145.D.
6. B.	41. C.	76. E.	111.B.	146.A.
7. B.	42. A.	77. B.	112.B.	147.A.
8. C.	43. A.	78. A.	113.B.	148.D.
9. D.	44. D.	79. D.	114.D.	149.C.
10. A.	45. A.	80. C.	115.D.	150.B.
11. A.	46. B.	81. D.	116.C.	151.D.
12. B.	47. C.	82. B.	117.B.	152.B.
13. C.	48. A.	83. E.	118.C.	153.A.
14. B.	49. B.	84. B.	119.D.	154.D.
15. A.	50. A.	85. C.	120.A.	155.C.
16. B.	51. B.	86. C.	121.C.	156.D.
17. D.	52. A.	87. A.	122.A.	157.A.
18. A.	53. C.	88. B.	123.E.	158.D.
19. C.	54. D.	89. B.	124.B.	159.A.
20. A.	55. B.	90. A.	125.A.	160.B.
21. D.	56. D.	91. B.	126.A.	161.B.
22. C.	57. A.	92. B.	127.B.	
23. A.	58. A.	93. C.	128.B.	
24. A.	59. C.	94. B.	129.E.	
25. B.	60. A.	95. D.	130.B.	
26. C.	61. A.	96. A.	131.A.	
27. B.	62. D.	97. D.	132.E.	
28. C.	63. B.	98. E.	133.D.	
29. D.	64. C.	99. B.	134.A.	
30. B.	65. A.	100.C.	135.C.	
31. C.	66. C.	101.E.	136.D.	
32. E.	67. C.	102.C.	137.C.	
33. D.	68. C.	103.C.	138.B.	
34. C.	69. B.	104.C.	139.C.	
35. C.	70. C.	105.E.	140.B.	