

Q35. In distinguishing between forms of exercise induced urticarial rash:

1. Classical exercise induced anaphylaxis is associated with urticarial lesions 10-25mm in diameter, and wheeze is common
2. Variant exercise induced anaphylaxis is associated with urticarial lesions 2-4mm in diameter, rarely associated with wheeze, but frequently progresses to haemodynamic compromise
3. Cholinergic urticaria is associated with urticarial lesions 2-4mm in diameter, and rarely progresses to haemodynamic compromise
4. Exercise induced anaphylaxis is thought to be associated with co-precipitants such as shellfish, celery, and cabbage

Q36. Patients with exercise-induced anaphylaxis should:

1. Always train with a buddy who understands their condition and what to do
2. May benefit from the use of an antihistamine
3. Carry an epinephrine auto-injector when ever they train
4. Should use the epinephrine auto-injector at the first sign of a rash

Q37. With regard to growth plate fractures:

1. Salter Harris type I fractures traverse the growth plate but do not involve the physis or metaphysis
2. Salter Harris type 2 fractures are important because they involve the joint surface
3. Salter Harris type 3 fractures cross the zone of proliferation
4. Salter Harris type 4 fractures are the most common growth plate fracture

Q38. With regard to tumours presenting to sports medicine practices:

1. An osteochondroma is characterised by a pedunculated mass with a cartilaginous cap, that points away from the joint-line.
2. Enchondroma are a result of hyaline cartilage forming within bone
3. Giant cell tumours cause large lytic lesions that develop right up to the edge of subchondral bone
4. Osteoblastomas are aggressive malignant tumours of the osteoblast cell line

Q39. With regard to tumours that metastasise to bone:

1. Stomach cancer more commonly metastasises to bone than lung
2. Two thirds are from either breast or prostate
3. The rates of breast cancer are the same in men as women
4. One sixth have no identifiable primary

Q40. With regard to bone density:

1. Z-scores use age matched bone densities
2. T-scores represent standard deviations above or below Young Normal Mean
3. The World Health Organisation defines osteopenia as occurring with T-scores between -1 and -2.5
4. The World Health Organisation defines osteoporosis as occurring with a T-score less than 2.5

Q41. In a diabetic patient who wants to start exercising:

1. Exercise increases the number and sensitivity of insulin receptors and can therefore increase the amount of insulin required
2. Hyperglycaemia is the most common metabolic complication seen in exercising patients with type 1 diabetes
3. Hyperosmolar hyperglycaemic non-ketotic crisis is exclusive to type 1 diabetes, and it leads to dehydration and hypernatraemia
4. Autonomic dysfunction can lead to impaired thermoregulation

Q42. With regard to concussion in collision sports:

1. Loss of consciousness may not occur
2. Application of the Glasgow Coma Scale at the time of injury is the best prognostic indicator
3. In the unconscious athlete, cervical spine injury must be assumed to be present
4. If all symptoms have resolved except for a mild head-ache, a player may return to sport that day

Q43. When comparing female and male athletes:

1. If the females and males have the same total body weight and training level, females have the same coordination and dexterity as males
2. If the females and males have the same total body weight and training level, females have a lower mean VO<sub>2</sub>max because they have less lean muscle mass and a higher %body fat

3. If the females and males have the same lean muscle mass and training level, females still have a slightly lower VO<sub>2</sub>max because they have to mobilise more fat
4. If the females and males have the same total body weight and training level, and the males are handicapped with a weighted vest to compensate for the difference in %fat, then females have the same VO<sub>2</sub>max.

**Q44.** Sports that are classically defined as being associated with a higher risk of developing an eating disorder include sports that are:

1. Subjectively scored – dance, figure skating, diving, gymnastics
2. Classified by weight categories – wrestling, rowing, horse racing, martial arts
3. Biased towards prepubertal body habitus – gymnastics, figure skating, diving
4. Body contact sports – rugby union, ice hockey, rugby league

**Q45.** With regard to athletic amenorrhoea:

1. Athletic amenorrhoea is a diagnosis of exclusion, and is associated with low oestrogen levels
2. There is an association with loss of bone density, and cortical bone is most responsive to low levels of oestrogen
3. Athletic amenorrhoea is not a protection against pregnancy, as ovulation can occur before menstruation, so an athlete can become pregnant without even having a period
4. Athletic amenorrhoea is thought to be due to a loss of suppression of LH pulsatility caused by exercise

Q46. In a collapsed endurance athlete with a rectal temperature of 42°C:

1. The skin will always be hot and dry
2. Morbidity is related to the duration and severity of hyperthermia
3. Anti-pyretics should be administered immediately to help reduce the core temperature
4. Vigorous cooling measures should be initiated immediately

Q47. Lower haemoglobin concentration in endurance athletes:

1. Is usually due to footstrike haemolysis
2. May be due to iron deficiency
3. Should be treated with parenteral erythropoietin
4. May be physiological

Q48. The haematocrit and red cell count can be increased by blood transfusion or use of recombinant erythropoietin.

When used by athletes, these can endanger health by:

1. Reducing the viscosity of the blood
2. Significantly reducing the submaximal  $\dot{V}O_2$ max
3. Directly diluting the clotting factors to the point that spontaneous bleeds can occur.
4. Increasing the risk of HIV or hepatitis B or C infection

Q49. Common causes of a knee effusion that develops within two hours of injury include:

1. ACL rupture
2. Osteochondral fracture
3. Patellar dislocation
4. Central third meniscal tear

Q50. In a young athlete with a slipped capital femoral epiphysis, clinical examination will classically show:

1. Loss of hip abduction
2. Loss of hip extension
3. Loss of internal rotation
4. Trendelenburg positive on the contralateral side

Q51. Absolute contraindications against the use of injectable corticosteroids include:

1. Systemic infection
2. Myaesthesia gravis
3. Hypersensitivity to the steroid or vehicle
4. Osteoporosis

Q52. The deep peroneal nerve supplies:

1. The skin of the first web space of the foot
2. Peroneus brevis
3. Peroneus tertius
4. Peroneus longus

Q53. The following are critical for the diagnosis of heat stroke:

1. Loss of sweating
2. Altered mentation
3. Postural hypotension
4. Raised core temperature

Q54. Nutritional advice for endurance athletes includes:

1. High glycaemic index carbohydrates should be taken 30 minutes before a race
2. Low glycaemic index carbohydrates are most important for recovery
3. A high fibre, low fat pre-race meal is best for athletes with exercise related diarrhoea
4. High glycaemic index foods are beneficial when taken during endurance events

Q55. Early changes seen in complex regional pain syndrome type 1 (reflex sympathetic dystrophy) include:

1. Skin and muscle atrophy
2. Regional osteoporosis
3. Nail changes and hair loss
4. Allodynia and soft tissue swelling

Q56. The following are all symptoms of overtraining syndrome:

1. A loss of quality and quantity of sleep
2. Reduced levels of catecholamines at submaximal workloads
3. An increase in negative mood disturbances
4. A decrease in the cortisol: testosterone ratio

Q57. When considering the pathogenesis of exercise-induced bronchospasm, water loss from the airways is directly affected by:

1. Minute ventilation
2. Ambient humidity
3. The latent heat of vaporisation of water
4. The degree of airway responsiveness

Q58. In an athlete who has exercise related haematuria:

1. Urinary tract infection should be suspected, particularly if there is associated dysuria and frequency
2. Renal trauma in the absence of pedicle damage is usually managed conservatively
3. In endurance runners, mucosal abrasion at the trigone and the posterior wall is the usual cause
4. The differential diagnosis includes rhabdomyolysis, which should be treated with fluid restriction and observation

Q59. Absolute contraindications to exercise in pregnancy include:

1. Pregnancy induced hypertension
2. Incompetent cervix
3. Premature rupture of membranes
4. Persistent bleeding

Q60. Autonomic neuropathy related to type 1 diabetes mellitus is related to:

1. Increased risk of silent myocardial infarction
2. Increased risk of dehydration
3. Blunted awareness of hypoglycaemia
4. Abnormal thermoregulation

Q61. In an athlete who collapsed during the run section of an ultraendurance triathlon:

1. Postural hypotension is the most likely cause of collapse in this athlete
2. A correctly recorded rectal temperature of 38.3° C excludes the diagnosis of heat stroke in this patient
3. Intravenous fluids are always indicated in the management of this patient
4. It is likely that this athlete has a serious cause of collapse

Q62. During a long distance endurance event, rehydration guidelines include:

1. Drinking 400-800ml per hour
2. Using a rehydration solution of >10% osmolality
3. 6-8% carbohydrate solutions may help performance by sparing muscle glycogen
4. 2 litres of fluid should be consumed in the last hour before competition.

Q63. Musculoskeletal changes seen with aging include:

1. Decrease in muscle mass of 10-15% per year over the age of 75
2. Increase in collagen cross-linking
3. Increased collagen fibre capillarisation
4. Preferential loss of type II (fast twitch) fibres

Q64. In the spinal cord injured paralympian:

1. Thermoregulation is impaired
2. Shoulder injuries are common
3. There is a risk of pressure areas and ulcers
4. Carpal tunnel syndrome is uncommon.

Q65. Autonomic dysreflexia:

1. Is a banned and dangerous practice
2. Relies on an intact sympathetic outflow distal to the level of the spinal cord lesion
3. Can be triggered by noxious stimuli such as tight leg straps or an overfull bladder
4. Can cause bradycardia and nasal stuffiness (signs of parasympathetic activity)

Q66. Regarding the diagnosis of gout:

1. A normal uric acid level during an acute attack of arthritis excludes the diagnosis of gout.
2. Vigorous exercise can trigger attacks of acute gout
3. In most instances, colchicine is preferred over non-steroidal anti-inflammatory drugs
4. Hypouricaemic therapy with allopurinol is recommended in the presence of gouty tophi.

Q67. When aspirating an acutely swollen joint, in the absence of a history of trauma, the following investigations should always be requested:

1. Microscopy, culture and sensitivities
2. Protein and glucose
3. Uric acid crystals
4. Rheumatoid factor

Q68. With regard to hepatitis C virus (HCV):

1. HCV commonly causes mild illness with minor derangement of liver function tests
2. HCV carriers should be advised to avoid collision sports
3. Chronic HCV carriage is a common sequel to HCV infection.
4. Hepatitis B vaccination provides cross-protection against HCV

Q69. For exercise tolerance tests in the context of screening for coronary artery disease:

1. The predictive value of a positive test is inversely proportional to the disease prevalence
2. False positive ST segment depression occurs more frequently in women than men
3. 0.5mm ST depression is a highly specific test criterion
4. The maximal heart rate that can be achieved by exercising decreases by one beat per minute per year.

Q70. With respect to the pharmacology of NSAIDs:

1. The sole mode of action is by cyclooxygenase inhibition
2. Cyclooxygenase-1 (cox-1) is the isoform that protects the gastric mucosa
3. Cyclooxygenase-2 (cox-2) is the isoform that protects the kidneys
4. Should be avoided in inflammatory bowel disease

Q71. Regarding corticosteroid injections:

1. With tendon sheath injections, the more potent fluorinated compounds are preferred
2. A steroid injection at any one site should not be administered more than two times in one year
3. Sepsis at site remote from the injection site is not a contraindication to injection
4. If an initial steroid injection is ineffective, the diagnosis should be reviewed.

Q72. Muscle injuries in the thigh:

1. Muscle strains tend to occur at the musculotendinous junction
2. Contusions tend to affect the deeper muscles
3. Initial treatment of a thigh contusion includes resting with the knee flexed
4. Myositis ossificans is an occasional complication of contusions

Q73. Delayed onset muscle soreness:

1. Usually develops 24-48 hours after exercise
2. Occurs more commonly in those who train regularly
3. Is characterised by myofibrillary disarray on electron microscope
4. Can be eliminated by pre-exercise NSAIDs

Q74. Headache in an athlete may be due to:

1. Viral illness
2. Vascular headaches (e.g. migraine)
3. Cervical dysfunction
4. Intracranial bleed

Q75. With regard to cervicogenic headache:

1. Joint injury may cause referred pain into the occipital region
2. Muscle spasm may cause nerve irritation
3. Headache from the lower cervical region is probably due to irritation of the posterior primary rami which transmit sensation to the spinal portion of the trigeminocervical nucleus
4. The cutaneous distribution of the C1 nerve root includes the vertex of the scalp

Q76. Nasal fractures:

1. Should be reduced if they cause nasal obstruction
2. Can be complicated by septal haematoma
3. Become difficult to reduce beyond 14 days
4. Should be treated with oral antibiotics because they are almost always compound fractures.

Q77. Hyphaema:

1. Is a collection of blood cells in the vitreous humour of the eye
2. Is caused by direct trauma to the globe, and can be associated with other injuries
3. Has no association with glaucoma
4. Requires urgent ophthalmologic review.

Q78. With regard to the mandible:

1. The most common site of fracture is the mental region (anterior jaw)
2. The mandible usually fractures in one place
3. It is uncommon for the fracture to involve the angle of the jaw
4. Malocclusion may be a clue to mandibular fracture

Q79. A player is hit in the eye by a squash ball. Signs of an orbital "blow-out" fracture include:

1. Enophthalmos
2. Numbness of the gingiva on the affected side, from the midline to the 2<sup>nd</sup> premolar
3. Subcutaneous emphysema
4. Diplopia that is worse with downward gaze than upward gaze

**Q80. Achilles tendon rupture:**

1. Occurs in association with forceful push-off of the foot
2. Should be investigated with ultrasound to make the diagnosis
3. Surgical repair gives the most predictable results in terms of restoration of length
4. Without surgery or casting, these injuries will not heal

**Q81. Lateral epicondylitis:**

1. Is an overuse injury of the flexor pronator muscle mass
2. Classically causes pain when trying to lift up a coffee cup ("Conrad's Test")
3. Affects extensor carpi radialis longus most commonly
4. Is said to be associated with radial nerve entrapment in 5% of cases



Q82. The use of creatine is increasing in power sports:

1. Creatine phosphate is a normal constituent of skeletal muscle
2. It can be obtained in the diet by eating red meat
3. It provides energy for short bursts of intense exercise by donating its phosphate group to an ADP molecule
4. It has been shown to improve  $\dot{V}O_2\text{max}$

Q83. Stimulants have been used by athletes to improve performance:

1. They increase alertness and reduce fatigue
2. Anxiety and insomnia occur in most abusers
3. Injury risk is increased due to impaired judgement
4. They are banned as a class by the IOC

Q84. With regard to scaphoid fractures:

1. This is the least common wrist fracture
2. It is usually due to a fall on an outstretched hand
3. Proximal fractures are the most common fracture
4. Initial radiographs are often normal

Q85. When discussing an injury with a rowing athlete:

1. "Sweep" refers to rowing with two hands on one oar
2. "Sculling" refers to rowing with two oars per rower
3. The "stretcher" is the part of the boat that holds the feet
4. The "catch" is the fitting that holds the oar in place

Q86. Rib stress fractures in rowers:

1. Occur during the most strenuous training period just before competition
2. Are more common in scullers
3. Occur at the posterolateral angle or anterolateral angle of the rib
4. Are due to flexing moment of abdominal, serratus anterior and rhomboids

Q87. Compression of the radial nerve:

1. Can occur at the ligament of Struthers
2. Can occur at the arcade of Struthers
3. Can be due to thickening of the arcuate ligament of the elbow
4. Can be due to compression by the leash of Henry

Q88. With regard to ankle ligament injuries:

1. The anterior tibiofibular ligament is the most commonly injured ligament
2. The posterior talofibular ligament is the least commonly injured lateral ligament
3. Complete disruption of the anterior talofibular ligament will always result in long term functional instability
4. The lateral malleolus extends more distally than the medial malleolus

Q89. In children with ACL injuries:

1. Those <12yo are more likely to have a tibial spine avulsion
2. Those >12yo are more likely to have a midsubstance tear
3. ACL rupture accounts for 65% of acute haemarthroses
4. The natural history if untreated is of progressive instability and meniscal injury

Q90. Management of myositis ossificans involves:

1. Early aggressive range of motion exercises
2. Activity modification to within the range of comfort
3. MRI is indicated early on to distinguish this from an osteosarcoma
4. NSAIDs may have a role in management

Q91. With regard to shoulder dislocations:

1. The axillary nerve is the most commonly injured nerve
2. The age of the athlete is the most important determinant of future dislocation
3. The age of the athlete is the most important determinant of rotator cuff pathology
4. A Bankart lesion is a bony lesion on the posterosuperior aspect of the humeral head.

Q92. With regard to elbow dislocations:

1. Neurovascular examination should be recorded prior to attempted reduction
2. Absence of a pulse is an indication for urgent reduction and orthopaedic review
3. Radial head fracture may be associated with elbow dislocation
4. Coracoid process fracture is commonly associated with elbow dislocation

Q93. In patients with Crohn's disease:

1. Peripheral articular manifestations may reflect bowel disease activity
2. Excision of the distal colon will usually eradicate peripheral joint arthritis
3. Axial symptoms are independent of bowel inflammation
4. NSAIDs are the treatment of choice for associated spondylitis

Q94. In patients with Reiter's disease:

1. The upper limb is the most commonly affected part of the body
2. In cases that are associated with gastroenteritis, the urethritis is usually sterile
3. The ESR is rarely elevated
4. Acute anterior uveitis, when present, is usually unilateral

Q95. In elite throwers, valgus overload can result in:

1. Eventual failure of the medial ulnar collateral ligament of the elbow
2. Degenerative changes in the posterior elbow
3. Compression injury to the radiocapitellar joint
4. Posterolateral instability

Q96. With regard to stress fractures of the lower limb:

1. Compression sided fractures of the neck of the femur require immediate internal fixation
2. Anterior tibial cortical stress fractures tend to do well with weight-bearing rehabilitation
3. Stress fractures of the navicular should be treated with 6-8 weeks weight-bearing cast immobilisation
4. In a patient with a calcaneal stress fracture, hormonal status should be assessed

Q97. Oral creatine supplementation:

1. Increases the amount of creatine phosphate in 70-80% of those who use it
2. Has the greatest effect in vegetarians
3. Is best taken with fluid and carbohydrates
4. Can cause early water retention

Q98. Caffeine is controlled by the IOC:

1. The cut-off level in the urine is 14 micrograms per litre
2. 1 gram of guarana contains about 40mg of caffeine
3. Performance enhancement is better when taken as brewed coffee rather than in tablet form
4. 1 brewed cup of coffee contains about 100mg of caffeine which will increase urine caffeine levels by about 1.5mcg/L

Q99. Posterior ankle pain in a dancer:

1. May be due to posterior impingement
2. Is most commonly due to Achilles tendinitis
3. Often co-exists with flexor hallucis longus tendonitis
4. May be due to a painful os peroneum

Q100. A common cause of injury in dancers is forcing turnout, this can result in:

1. Medial sesamoiditis
2. Valgus stress to the first MTP joint
3. Flattening of the medial arch and plantar fasciitis
4. Tarsal tunnel syndrome