



UEMS / EUROPEAN BOARD OF
PHYSICAL & REHABILITATION MEDICINE

*Questions & Answers of
European PRM Board Examination 1999*

A 12-year old boy with haemophilia has had recurrent hemarthrosis of a knee. The last episode was two years ago. Actually the knee is not painful, without fluid, asymptomatic and stable with a normal range of motion. There is no quadriceps muscles atrophy. His parents ask advice regarding appropriate athletic activities. You strongly support an active life style, but advice against:

- A. Swimming
- B. Golf
- C. Jogging
- D. Cycling
- E. Basketball

ANSWER: E

A 14-year old boy struck his head during soccer practice. He was unresponsive for 10 minutes and seemed lethargic for the next 4 to 6 hours. After a 24-hour period of observation, he was released from the hospital. Six months later, his parents report that he has been misbehaving at school and on two occasions has thrown objects at family members while angry. After a normal neurological examination and a normal EEG, you would recommend:

- A. Monitoring behaviour and school work for a 6-month period
- B. Administration of a neuroleptic drug
- C. No intervention, as this is normal adolescent behaviour
- D. Admission to a child psychiatric unit
- E. Neuropsychologic testing and meeting with the school psychologist

ANSWER: E

A 180 cm tall, 45 year old man, weighing 95 kg, smokes and is an ardent swimmer. He complains of hip pain after walking 2 km and presents with bilateral hip osteoarthritis. Examination is unremarkable, but radiographs show joint space narrowing and abnormal positioning of the left femoral head within the acetabulum. What is the most appropriate initial action?

- A. Stop smoking
- B. Stop swimming, but increase the walking despite the pain
- C. Lose weight and carry on swimming
- D. Get an orthopaedic opinion with a view to a joint arthroplasty

E. Do nothing other than get an annual pelvic x-ray to document the evolution of the arthropathy

ANSWER: C

A 20 year old, complete T4 paraplegic is in the 3rd trimester of pregnancy. The obstetrician has little experience with paraplegics and consults you. You advise:

A. No special precautions since the risk of complications is not increased

B. General anesthesia with nitrous oxide at delivery

C. Magnesium sulphate to treat hypertension during delivery

D. Epidural anaesthesia to prevent hypertension associated with uterine contractions

E. Treatment of toxemia only, as all other hypertensive conditions will be self limiting

ANSWER: D

A 28 year old postman who walks 10 km a day has pain in the forefoot, more precisely in the webspace of the 3rd and 4th toe, the pain subsides when he rests and is likely to be due to:

A. A Morton's neuroma

B. A stress fracture of the 3rd metatarsal

C. A stress fracture of the 4th metatarsal

D. Osteoarthritis of the metatarsophalangeal joints

E. An extensor tenosynovitis

ANSWER: A

A 28-year old male is admitted to a rehabilitation unit 27 days after a diving accident. Manual muscle testing (MRC scale 0-5) reveals: M. deltoid Right 4 Left 3; M. biceps Right 4 Left 3; Wrist extensors Right 3 Left 1; M. triceps Right 1 Left 0; Finger flexors Right 0 Left 0; Hand intrinsics Right 0 Left 0; Lower extremity muscles Right 0 Left 0. The motor level of injury is:

A. C5

B. C6

C. C7

D. C6R, C5L

E. C5R, C4L

ANSWER: D

A 38-year old man with multiple sclerosis has slowly progressive spastic diplegia. He is ambulatory with a single-point walking stick for balance; he has five to six beats of clonus at both ankles and grade 4/5 strength in the lower limbs. In developing a plan to treat his spasticity, the best initial step is:

A. Administration of baclofen (Lioresal) 20 mg 4 times a day

B. Stretching of the hamstrings, adductors and gastrocnemius muscles twice a day

C. Phenol blocks of the obturator nerves

D. Administration of clonidine 0.1 mg twice daily

E. Use of static ankle splints at night

ANSWER: B

A 47 year old hospital administrator comes to your office for advice before starting a strenuous exercise programme. He has led a relatively sedentary lifestyle, but has been healthy and is asymptomatic. You recommend that in addition to a history and physical examination, electrocardiogram, complete blood count, fasting blood sugar, cholesterol, triglycerides and urinalysis, before starting his exercise programme he additionally should have:

A. Exercise stress testing

B. No further testing

C. Coronary angiography

D. Thallium stress testing

E. Pulmonary function testing

ANSWER: A

A 57 year old man has a right hemispheric infarct. He has mildly increased tone on the left side with grade 3/5 movement of the upper limb. He has mildly decreased response to pinprick and proprioception throughout the left side. He is noted to use his right hand exclusively for feeding,

and he leaves some food untouched on the left side of his plate. The most likely reason for this patient's difficulty with eating is:

- A. Motor planning impairment
- B. Ideomotor apraxia
- C. Feeding apraxia
- D. Left unilateral neglect
- E. Left hemisensory deficit

ANSWER: D

A 63-year-old man with chronic obstructive pulmonary disease is submitted for rehabilitation. When discussing precautions with the physical therapist, it is appropriate to include:

- A. Adjust the level of exercise to keep a pulse rate of less than 100
- B. Stop exercise if there are more than six premature beats per minute
- C. Start the use of supplemental oxygen as soon as the oxygen saturation drops below 75%
- D. Avoid the use of hand-held respiratory muscle trainers
- E. Maintain the heart rate at no more than 70% of maximum as determined by exercise testing

ANSWER: B

A 68 year old retired orthopaedic surgeon with severe chronic obstruction pulmonary disease is considering the benefits of starting an exercise training program. You can inform him that he would most likely experience:

- A. An increased FEV 1
- B. An improved vital capacity
- C. A decreased resting heart rate
- D. An increased maximum voluntary ventilation
- E. An increased exercise tolerance

ANSWER: E

A 92-year old woman presents with a 4-week history of back pain of sudden onset which is decreasing in severity. It is aggravated by sitting or change in position, but not by walking. There is no leg radiation. X-rays show an acute 20% compression fracture. Your recommendations would include which of the following?

- A. Bed rest for 2 weeks more
- B. Opiate analgesics
- C. Pelvic traction
- D. Exercises to get her upright
- E. Consideration of lumbar fusion

ANSWER: D

A herniation of C5-C6 disc may result in:

- A. Weakness of the hand intrinsics
- B. Weakness of the finger flexors
- C. Weakness of the triceps
- D. Weakness of biceps
- E. Weakness of anterior serratus

ANSWER: D

A neuropraxia is characterised by:

- A. A loss of nerve conduction at injury site and distally to the injury
- B. Disruption of axonal continuity with Wallerian degeneration
- C. Focal conduction block, but some sensation and sympathetic function may be preserved
- D. Loss of axonal continuity, endoneurial tubes and perineurium
- E. Intra-neural scarring

ANSWER: C

A patient asks your opinion on the advantages and disadvantages of an elbow disarticulation. Which of the following statements is incorrect?

- A. The surgical technique permits reduction in surgery time
- B. The disarticulation provides improved prosthetic self-suspension
- C. The disarticulation reduces the rotation of the socket on the residual limb
- D. The cosmetic appearance is not influenced by the necessary external elbow mechanism
- E. Limitations in technology impede the use of externally powered elbow mechanism

ANSWER: D

A patient cannot hold a piece of cardboard firmly with the thumb and index finger in vigorous pull without extending the distal phalanx of the thumb (see figure). What is your diagnosis?

- A. Myotonia congenita
- B. Ulnar nerve palsy
- C. Median nerve palsy
- D. Radial nerve palsy
- E. Rheumatoid arthritis

ANSWER: C

A patient complains of difficulty walking down steps. You would expect to find weakness of the:

- A. quadriceps muscles
- B. gastrocnemius muscle
- C. hip adductors
- D. gluteus medius muscle
- E. iliopsoas muscle

ANSWER: A

A surgeon asks your advice for a 25-year old carpenter with severe trauma to the non-dominant hand and wrist. Surgical limb salvage is considered to be impossible. Which of the following is the correct advice to the surgeon?

- A. A long forearm residual limb is preferred because an optimal body-powered prosthetic restoration is the goal
- B. A long forearm residual limb is preferred because an optimal externally powered prosthetic restoration is the goal
- C. A short transradial level is preferred because an optimal body-powered prosthetic restoration is the goal
- D. A short transradial amputation preferred since it does not limit elbow flexion strength
- E. The long, medium and short transradial amputation levels require the same rehabilitation levels and prosthetic components and therefore the surgeon is allowed to decide on the level himself

ANSWER: A

All but one of the following are effective prophylactic measures for reducing the incidence of venous thromboembolism in stroke patients:

- A. Coumarin dose to keep the PT (prophylactic time) at $1\frac{1}{4}$ to $1\frac{1}{2}$ times normal
- B. Heparin 5000 units subcutaneously every 12 hours
- C. Heparin 5000 units subcutaneously every 8 hours
- D. Dipyridamole (Persantin) 75 mg by mouth 3 times daily
- E. External pneumatic compression of both lower extremities

ANSWER: D

All but one of the following may be found after prolonged immobilization:

- A. Early loss of muscle occurs through a reduction in myofilaments
- B. The total number of myofibres is unchanged
- C. Type I fibres are more subject to immobilization atrophy than type II
- D. A shortening of the perimysial connective tissue occurs in contracture
- E. The number of sarcomeres remains constant in contracture

ANSWER: E

All of following diagnostic tests can be used to determine organic versus psychological sexual dysfunction, except one:

- A. Sacral evoked response study
- B. Test with tricyclic antidepressants
- C. Cysto manometry
- D. Corpus cavernosometry
- E. Intracavernosal injection of vaso active agents

ANSWER: E

All of following measurement tools are used in the assessment of pain except one:

- A. Pressure algometry
- B. Visual analogue scale
- C. Somatosensory evoked potentials
- D. Verbal scale /questionnaire
- E. Pain drawings

ANSWER: C

All of the following may be signs of carpal tunnel syndrome, except:

- A. Volar flexion of the wrist produces paresthesiae
- B. Loss of supination
- C. Pain and tingling more severe at night
- D. Positive Tinel's sign at the median nerve at the wrist
- E. Loss of power of opponens and abductor pollicis brevis

ANSWER: B

Among the following statements regarding ultrasound, which is incorrect?

- A. Its frequency is of the order of 1 MHz
- B. It can be used in a continuous or intermittent pulse mode
- C. Its application is functionally measured in W/cm²
- D. It never has a heating effect
- E. Its use is indicated in cases of inflammatory oedema

ANSWER: D

An active, 77 year old woman suffers from urinary incontinence following a stroke. She does not have a urinary infection and her post-micturition residual volume is not significant. The skin is moderately red. What is your first measure to take or prescribe?

- A. Oxybutinin 5 mg three times a day
- B. Intermittent catheterisation
- C. Programmed toileting with a fluid balance chart
- D. A permanent indwelling catheter
- E. Urodynamic studies

ANSWER: C

An agricultural worker is referred for rehabilitation of a two year history of simple low back pain, having been off work for 15 months. What is the most likely prognosis?

- A. Return to work after 12 sessions of electrotherapy
- B. Return to work unlikely, as less than 25 % of back pain sufferers, who are off for more than a year, return to work
- C. Probable return to work after surgical intervention
- D. Probable return to work after complete rest and administration of strong analgesics
- E. Probable return to work after vertebral traction

ANSWER: B

An orthopaedic surgeon refers a man (age 59 years) who complains of bilateral calf pain after walking 500 a 600 metres. The pain subsides when the patient stops walking. Lower extremity pulses are normal, as is the rest of the physical examination. Computed tomography scan, lumbosacral spine films and electromyogram are within normal limits. Non-invasive vascular studies only reveal an ankle-to-brachial ratio of 0.75. You recommend:

- A. Consideration of trans tibial amputation
- B. Angiography of vessels in the lower extremity
- C. Referral to vascular surgery for vascular bypass
- D. Health education and a rehabilitation program
- E. Venography to rule out thrombophlebitis

ANSWER: D

Between what structures is the rotator cuff squeezed in the impingement syndrome?

- A. Subdeltoid bursa and the acromion
- B. Calcified biceps tendon and the humeral head
- C. Acromioclavicular ligaments and the lesser tuberosity of the humerus
- D. Distal clavicle and the coracoid process
- E. Coracoacromial arch and the greater tuberosity

ANSWER: E

Body composition, metabolic and nutritional changes occur during immobility. All but one of the following changes are possible:

- A. Nitrogen is lost
- B. Loss of phosphorus begins during the first week
- C. Calcium excretion begins to rise after 2 to 3 days
- D. There are no changes in sodium, potassium, magnesium and zinc excretion
- E. Loss of sulphur occurs and is believed to result from a loss of muscle mass

ANSWER: D

Complex Regional Pain Syndrome type I (Reflex Sympathetic Dystrophy) presents with certain characteristics in children. Which statement is correct:

- A. Local hypothermia frequently occurs as soon as the painful phase begins
- B. Increased uptake of isotopes occurs later than in adults, but is more diffuse
- C. Radiological effects are quasi constant in the form of a metaphyseal hyper-condensation
- D. Progress towards resolution takes longer than that of adults
- E. Progress is generally more severe than in adults with important sequelae (stiffening, aponeurotic contracture)

ANSWER: A

Cryotherapy is contraindicated in all but one of the following conditions:

- A. Cryoglobulinaemia
- B. Cold hypersensitivity
- C. Loss of sensation
- D. Spasticity
- E. Paroxysmal cold hemoglobinuria

ANSWER: D

Following prolonged bed rest, the biggest risk for the mobility of the hip is limitation of:

- A. abduction
- B. flexion
- C. extension
- D. internal rotation
- E. external rotation

ANSWER: C

For every CP. child, sitting is a realistic functional goal. Which of the following statements is not true?

- A. The loss of motion associated with hip dislocation can alter sitting
- B. Excessive pelvic obliquity reduces the sitting surface area and causes excessive pressure on the bony prominences of the pelvis
- C. Physical examination of the hip is sufficient to detect subluxation
- D. Early detection of subluxation is possible with sequential radiograph of the pelvis
- E. The necessary postural alignment for sitting includes a level pelvis and a reasonably straight spine

ANSWER: C

Horner's syndrome is the result of injury to the:

- A. Median nerve
- B. Superior trunk of brachial plexus
- C. Cervical nerves C6, C7, C8
- D. Anterior ramus Th 1
- E. Middle trunk of brachialis plexus

ANSWER: D

In a child with a slipped capital femoral epiphysis only one of the following items is incorrect:

- A. The pain may be referred to the knee
- B. The child is walking with an internally rotated leg
- C. Occasionally, the condition is initially only manifested by knee pain
- D. It should always be considered when a young athlete between the ages of 8 to 12 years presents with knee discomfort
- E. It is clinically manifest by automatic external rotation during passive flexion of the hip

ANSWER: B

In ordinary walking:

- A. The stance phase lasts longer than the swing phase
- B. The swing phase lasts longer than the stance phase
- C. Both phases are equal in duration
- D. The duration of each phase will change from one gait cycle to the next
- E. None of the above is true

ANSWER: A

In patients with bladder filling problems due to (striated) external sphincter insufficiency, which of the following is contraindicated?

- A. Alphablocker medication
- B. Physiotherapy with biofeedback
- C. Perineal muscular electrostimulation
- D. External permanent urine collection device
- E. Ephedrine

ANSWER: A

In piriformis muscle syndromes:

- A. Painful symptoms are explained in the great majority of cases as due to the passage of the sciatic nerve through the piriformis muscle
- B. Resisted external rotation of the hip exacerbates painful symptoms
- C. Extensor hallucis longus weakness is frequent
- D. Resisted internal rotation of the hip exacerbates painful symptoms
- E. Passive external rotation of the hip exacerbates painful symptoms

ANSWER: B

In the MRC muscle grading system (0-5) the ability to achieve a normal range of joint motion against gravity is graded as:

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

ANSWER: C

Interruption of the upper motor neuron's regulatory control over a stretch reflex will ultimately cause:

- A. Areflexia
- B. Hyporeflexia
- C. Normoreflexia
- D. Hyperreflexia
- E. Rigidity

ANSWER: D

Massage may be prescribed in all but one of the following conditions:

- A. Cervical sprain
- B. Chronic cellulitis
- C. Lumbar sprain
- D. Acute muscle tear
- E. Supraspinatus tendinitis

ANSWER: D

Movement at the atlanto-occipital joint is:

- A. Mainly rotation
- B. Mainly flexion-extension
- C. Mainly lateral bending
- D. A combination of rotation and lateral bending
- E. Very little under normal circumstances

ANSWER: B

On examination a 7 month old child, persistence of which one of the following primitive reflexes of postural responses would you be concerned about?

- A. Moro
- B. Plantar grasp
- C. Placing
- D. Asymmetric tonic neck
- E. Parachute

ANSWER: A

One day after motor nerve dissection, the chronaxie of the muscle:

- A. Decreases
- B. Disappears
- C. Remains unaltered
- D. Undergoes a longitudinal reaction
- E. Increases

ANSWER: C

Paralysis of gluteus maximus muscle is compensated for by the patient during stance phase of the gait cycle by:

- A. Decreased plantar flexion

- B. Maintaining knee flexion
- C. External tibial rotation at heel strike
- D. Increased activity in the rectus femoris
- E. Hyperextension of the spine

ANSWER: E

Range of motion exercises are used in rheumatoid arthritis patients for:

- A. Decreasing inflammation
- B. Preventing contractures
- C. Improving strength
- D. Decreasing synovial blood flow
- E. Relieving pain

ANSWER: B

Superficial heating can be produced by all of the following treatments, except:

- A. Hot packs/heating pads
- B. Infrared radiation
- C. Paraffin baths
- D. 1 MHz ultrasound
- E. Whirlpool baths

ANSWER: D

TENS: Which of the following is the most suitable frequency to set a transcutaneous nerve stimulator to gain most benefit from gate control action?

- A. 1 - 3 Hz
- B. 5 - 10 Hz

- C. 50 - 100 Hz
- D. 1000 - 1500 Hz
- E. 10 - 20 Hz

ANSWER: C

The acute phase of an algodystrophy is characterised by:

- A. Spontaneous pain of an inflammatory type and pain of a mechanical type
- B. Joint pain sometimes accompanied by radicular symptoms
- C. Raised erythrocyte sedimentation rate
- D. Influenza like symptoms
- E. A persistent hyperthermia at the level of the lesion

ANSWER: A

The anticipatory postural adjustments are achieved by means of:

- A. Responses evoked by sensory events following loss of balance
- B. Feedforward mechanism that predict disturbances and produce preprogrammed responses that maintain balance
- C. Rapid voluntary muscle contractions
- D. Vestibulocochlear and vestibulospinal reflexes
- E. The cerebellum

ANSWER: B

The attitude of the hand shown in the figure (Benedict hand) is the result of:

- A. Radial nerve palsy
- B. Median nerve palsy
- C. Ulnar nerve palsy

D. N. interosseus posterior palsy

E. N musculocutaneus palsy

ANSWER: B

The diagnosis of Complex Regional Pain Syndrome Type I (=Reflex Sympathetic Dystrophy, RSD) is based on four criteria. Which of the following criteria is not relevant for CRPS type I?

A. Pain following an initiating noxious event, or a period of immobilization

B. Continuing pain or hyperalgesia after a nerve injury, not necessary limited to the distribution of the injured nerve

C. Continuing pain or hyperalgesia in which the pain is disproportionate to any inciting event

D. Evidence at some time of edema, changes in skin blood flow, or abnormal sudomotor activity in the region of the pain

E. The diagnosis is excluded by the existence of conditions which would otherwise account for the degree of pain and dysfunction

ANSWER: B

The first measure to propose to a patient with a recurrent hip periarthrititis, is:

A. Oral anti-inflammatory agents

B. Local application of diadynamic currents to the painful area

C. Lifestyle advice

D. Local infiltration of corticosteroids

E. Massage while immersed in water

ANSWER: C

The greatest rise in temperature in a hip joint is seen after which of the following treatments?

A. Short wave therapy

B. Ionisation currents

C. Microwaves

D. Continuous ultrasound

E. Laser

ANSWER: D

The hamstring/quadriceps torque ratio at an isokinetic velocity of 60 degrees/sec in a healthy individual is of the order of:

A. 0,2

B. 0,4

C. 0,6

D. 0,8

E. 1

ANSWER: C

The most important diagnostic marker of ankylosing spondylitis is a:

A. Characteristic skin rash on the palms

B. Positive HLA-B27 antigen

C. Sacro-iliitis on X-rays

D. Negative rheumatoid factor

E. A family history of back pain

ANSWER: C

The prognosis of a patient's function after a stroke depends mostly on his or her:

A. Sex

B. Age

C. Height

D. The side of the hemispheric lesion

E. The degree of perceptual deficits

ANSWER: E

The skin of the medial surface of the knee, lower leg and foot is innervated by the:

A. peroneal nerve

B. saphenous nerve

C. tibial nerve

D. obturator nerve

E. pudendal nerve

ANSWER: B

The treatment of a hemiplegic patient using Bobath techniques is mainly characterised by:

A. Proprioceptive neuromuscular facilitation

B. Spasticity-inhibiting postures

C. Brushing and tapping of the distal aspect of the weak upper limb

D. Facilitation of synergistic factors

E. Facilitation of diagonal motor schemes

ANSWER: B

What initial action should one take for a paraplegic patient suddenly presenting with increased spasticity?

A. Intensify rehabilitation

B. Rapidly increase the dose of antispastic medication

C. Diminish the ambient temperature of the patient's room

D. Carry out a complete clinical examination

E. Measure the alkaline phosphatase

ANSWER: D

What is the definition of the term 'disability'?

- A. Any loss of function or abnormality in physiological, psychological or anatomical structure (disturbance at the organ level)
- B. A given disadvantage for an individual, that limits or prevents the fulfilment of a socio-economic role that is considered normal for that individual
- C. Any restriction or inability to perform an activity in a manner or within the range considered normal (disturbance at the individual level)
- D. A given illness to cure
- E. An impossibility to gain open employment

ANSWER: C

What is the most important complicating factor in the course of an infant with a meningomyelocele?

- A. Joint contractures
- B. Hydrocephalus
- C. Pressure sores
- D. Bowel obstruction
- E. Pulmonary problems

ANSWER: B

When carrying out an electromyogram (EMG) on the left lower extremity and its related paraspinals you find fibrillations spontaneously firing irregularly and confined to the lumbar paraspinal, extensor hallucis longus, and tibialis post. muscle. EMG testing in other muscles in this extremity is normal. The left peroneal nerve conduction velocity is 46m/sec below the fibular head and 48m/sec across the fibular head. The most likely diagnosis is:

- A. S1 radiculopathy
- B. L4 radiculopathy
- C. L5 radiculopathy

- D. Upper motor neuron disease
- E. Peroneal palsy

ANSWER: C

Which among the following statements concerning the Barthel index is incorrect?

- A. It allows comparison between services
- B. It has predictive value
- C. It takes cognitive function into account
- D. It assesses 10 aspects of daily life
- E. Its validity has been studied extensively

ANSWER: C

Which is the most commonly affected carpal bone in trauma?

- A. Scaphoid bone
- B. Lunate bone
- C. Hamate bone
- D. Capitate bone
- E. Pisiform bone

ANSWER: A

Which is the most frequent site for heterotopic bone formation (para-osteoarthropathy) in patients following trauma to the cervical spinal cord?

- A. The hands (proximal and distal interphalangeal joints)
- B. The shoulders
- C. The ankles
- D. The hips

E. The knees

ANSWER: D

Which is the most significant factor favouring therapeutic success of myofeedback in a patient following a stroke?

A. Preservation of pain sensation

B. Time elapsed since the stroke

C. The number of treatment sessions

D. Preservation of proprioception

E. Age below 55 years

ANSWER: D

Which of the following clinical parameters is not critical for monitoring ventilation in patients with advanced neuromuscular disease?

A. Pulse rate

B. Blood pressure

C. Vital capacity

D. Oxyhemoglobin saturation

E. FEV 1

ANSWER: B

Which of the following conditions is not a potential contraindication for entry into a cardiac exercise programme:

A. unstable angina

B. resting diastolic blood pressure > 100 mmHg

C. aortic stenosis

D. active pericarditis

E. well-controlled diabetes

ANSWER: E

Which of the following does one observe in an adhesive capsulitis of the shoulder?

A. Generally speaking greater restriction of external rotation than abduction

B. Little pain in the early stage

C. Erosion of the humeral head

D. Greater reduction of active movement compared to passive

E. Active and passive movement always improves after an injection of steroid

ANSWER: A

Which of the following is an absolute contra-indication to the application of microwave therapy?

A. The presence of metallic bony implants

B. Depressed state

C. Pacemaker

D. Bone fractures

E. Altered general state

ANSWER: C

Which of the following is not a contra-indication to vertebral manipulation techniques?

A. Minor vertebral dysfunction

B. Hypermobile joints

C. Anticoagulant therapy

D. Poor manipulative skills

E. Severe osteoporosis

ANSWER: A

Which of the following is true regarding C6 tetraplegia?

- A. There will generally be sufficient triceps function resulting in independent transfer skills
- B. Independent feeding is unlikely
- C. Active wrist extension may provide for pinchgrip
- D. Biceps function is variable, and an electric wheelchair is required
- E. Tenodesis splints are never indicated

ANSWER: C

Which of the following items is an extrinsic factor in the development of pressure sores:

- A. Shear force on the skin
- B. Scars
- C. Edema
- D. Obesity
- E. Advanced age

ANSWER: A

Which of the following muscles is an elbow flexor and is supplied by the radial nerve?

- A. M. biceps brachii
- B. M. brachialis
- C. M.pronator teres
- D. M. brachioradialis
- E. M coracobrachialis

ANSWER: D

Which of the following radiological signs is not pathognomonic of a coxarthrosis?

- A. Joint space narrowing
- B. Sub-chondral bony sclerosis in weight-bearing areas
- C. Flattening of the femoral head
- D. Marginal osteophytosis
- E. Geodes along the line of weight-bearing force

ANSWER: C

Which of the following sequelae is seen in a contracted hip joint in external rotation?

- A. Stiff-legged gait with excessive stress on medial knee ligaments
- B. Genu recurvatum
- C. Compensatory lordosis
- D. Excessive knee flexion
- E. Toe-walking

ANSWER: A

Which of the following statements concerning muscle physiology is true?

- A. Isotonic contractions produce the maximum possible force
- B. A muscle is most efficient in an elongated position
- C. Static exercise requires normal glycogen stores without an oxygen debt
- D. Concentric contractions produce more force than eccentric contractions
- E. Isometric contractions produce more force than concentric contractions

ANSWER: E

Which of the following tendons are involved in De Quervain's tenosynovitis?

- A. M. abductor pollicis longus, m. extensor pollicis brevis
- B. M. extensor pollicis brevis and longus

- C. M. flexor carpi ulnaris and palmaris longus
- D. M. extensor pollicis longus and m. abductor pollicis longus
- E. M abductor pollicis longus and m palmaris longus

ANSWER: A

Which of the following treatment modalities is contraindicated when minimal postoperative swelling and pain are present in the postoperative program after a fasciotomy for an acute tibial compartment syndrome?

- A. Ice for 20 minutes every hour during day
- B. Early passive ROM (Range of Motion)-exercises
- C. Swimming or balneotherapy at 1 week
- D. Strengthening by isokinetic procedure of leg muscles
- E. Cycling at 2 weeks

ANSWER: D

Which one of the following aspects is measured by the FIM?

- A. Self-care and locomotion
- B. Mobility and locomotion
- C. Sphincter control
- D. Communication
- E. All of the above categories

ANSWER: E

Which one of the following factors does not contribute to the development of Chronic Obstructive Pulmonary Disease (COPD)?

- A. Sedentary lifestyle
- B. Genetic predisposition

- C. Allergic disease (e.g. asthma)
- D. Cigarette smoking
- E. Asbestosis

ANSWER: A

Which one of the following factors is not a predisposing factor in the development of adhesive capsulitis of the shoulder?

- A. Shoulder immobility
- B. Humeral head fractures
- C. Diabetes
- D. Thyroid disease
- E. Proximal radial nerve lesion

ANSWER: E

Which one of the following factors is not a risk for coronary disease?

- A. Cigarette smoking
- B. Hypertension
- C. High HDL cholesterol
- D. Abdominal obesity
- E. Hyperinsulinaemia

ANSWER: C

Which one of the following features is not characteristic of a fibromyalgia syndrome?

- A. Diffuse muscle discomfort and pain are found
- B. A disturbed, non restful sleep is found
- C. Multiple discrete areas of localised tenderness are found

- D. Gastro-intestinal symptoms are often present
- E. The symptoms are accentuated by warmth

ANSWER: E

Which one of the following is not typical of a tibial stress fracture in a distance runner?

- A. Sudden increase of pain in training
- B. Pain on passive stretch of the calf muscles
- C. Pain regardless of the running surface
- D. Isotope bone scan with hyperfixation in the painful zone
- E. Localisation of pain in the distal or middle one-third of the tibia

ANSWER: B

Which one of the following motions would be severely limited in strength with a median nerve injury?

- A. Elbow flexion
- B. Elbow extension
- C. Forearm supination
- D. Forearm pronation
- E. Wrist abduction

ANSWER: D

Which one of the following statements regarding transtibial amputation is not true?

- A. The ideal shape of the stump is cylindrical
- B. The ideal shape of the stump is conical
- C. Soft dressings are combined with elastic wrappings to control edema
- D. A figure-of-8 wrapping should extend over the proximal joint

E. A figure-of-8 wrapping should be reapplied every 4-6 hours

ANSWER: A

Which statement concerning cystic fibrosis (CF) is not true?

A. A CF-patient suffers from a combined obstructive-restrictive pulmonary disease

B. The median age of survival has increased to 21,4 years

C. Chest physical therapy one to four times a day is indicated

D. The patient is best managed in a home setting

E. The abnormal viscosity of the mucus is caused to a great extent by degenerating neutrophils

ANSWER: B

Which statement is applicable to cardiac transplanted patients?

A. The resting heart rate is usually around 100 beats per minute

B. Immunosuppression causes hypertension

C. Peak heart rates are 20-25% lower than those seen in healthy age matched controls

D. Typically, these patients have generalised muscle weakness

E. All of the above statements are true

ANSWER: E

An athlete complains for 3 months of pain induced only by athletic activity, often arising at a precise point in the training session. The pain is located at the anterior aspect of the lower leg, with pain during stretch of the toe and ankle dorsal flexors in inversion. There is a slight weakness in the tibialis anterior and extensor digitorum longus muscles. There is also some numbness in the dorsal first cleft of the toes. X-ray of the lower leg is normal. At this stage which of the following examinations is indicated:

A. Arteriography of the lower extremity

B. Venography of the lower extremity

C. Radio-isotope bone scan of the lower extremity

- D. Anterior tibial compartment pressure measurement
- E. MRI of the lower leg

ANSWER: D

The most likely diagnosis in this case of leg pain is:

- A. Periostitis
- B. Thrombophlebitis
- C. Chronic compartment syndrome
- D. Stress fracture
- E. Compression neuropathy of the superficial peroneal nerve

ANSWER: C

Which of the following conditions is unlikely to produce anterolateral leg pain:

- A. Periostitis of the fibula
- B. Fibular stress fracture
- C. Peroneal nerve entrapment
- D. Fascial defect with muscle herniation
- E. Popliteal artery entrapment syndrome

ANSWER: E

One month later he complains of a sudden increase in pain causing him to stop running. The pain itself is out of proportion to the clinical situation. Passive stretching of the anterior leg muscles precipitate excruciating pain and an inability to generate a significant contraction due to pain inhibition. There is also a slight decrease of the dorsalis pedis artery pulse. At this moment one of the following investigations is necessary:

- A. Venography of the lower extremity
- B. Electromyography of the lower extremity
- C. Anterior compartment pressure measurement of the lower leg

- D. CT-scan of the lower leg
- E. Echography of the lower leg

ANSWER: C

Some hours later, due to inadequate management, muscular weakness and sensory loss increases. This is in association with intractable pain. The pulse is again decreased. The following urgent treatment is indicated:

- A. Surgical decompression of the anterior compartment (fasciectomy)
- B. Compression bandage
- C. Cast immobilisation of the lower leg
- D. Exploration of the peroneal nerve
- E. Thrombectomy

ANSWER: A

A 48-years-old woman was involved in a car accident. It was a rear-end collision when she had stopped for red light. Initially she had a number of symptoms associated with acute traumatic cervical distortion (hyperextension-hyperflexion injury of the neck, acceleration-deceleration injury of the neck, whiplash-associated disorder, WAD), and was taken care of at the local hospital. X-ray showed no fracture but reduction of the cervical lordosis with a small kyphosis at the level of C4-5-6. When you see her one year after the accident, the symptoms have diminished but she has still a number of problems, reducing her capacity to work full time. She likes her office work. She seeks you because she has difficulties to work full time due to pain. You start with a medical history: Which one of the following symptoms is not expected to be found in your patient?

- A. Headache
- B. Finger paraesthesia
- C. Disturbed olfactory sensibility
- D. Blurred vision/visual symptoms
- E. Shoulder pain

ANSWER: C

Consequently you examine your patient. Which one of the following findings is not very likely?

- A. Painfull neck muscles on palpation
- B. Mild signs of memory loss
- C. Mild signs of concentration problems
- D. Hyperreflexia
- E. Restricted rotation of the cervical spine

ANSWER: D

You start a rehabilitation program consisting of several treatments. Which of the following treatments is not indicated?

- A. Pain alleviation by transcutaneous electrical stimulation (TENS)
- B. Light muscle exercise
- C. Successively increasing normal activities
- D. Resuming of long-term regular use of a soft cervical collar
- E. Careful range-of-motion exercises of the neck

ANSWER: D

Your patient complains about distal pain in the left upper extremity and she asks your opinion/advice. Which one of the following statements is true?

- A. She most probably has a myocardial infarct
- B. She most probably has distal muscle spasm
- C. The pain is referred pain from the neck
- D. The pain is caused by nerve root injury
- E. The pain is caused by 'overuse syndrome'

ANSWER: C

Your patient asks your opinion on the prognosis of whiplash injury. Which one of the following factors is generally accepted not to be associated with bad prognosis?

- A. Young age
- B. Objective neurological signs
- C. Thoracolumbar pain
- D. Degenerative changes in cervical spine X-ray
- E. Severity of initial neck pain

ANSWER: A