



UEMS / European Board of
Physical & Rehabilitation Medicine

*Questions and Answers of
European PRM Board Examination 2003*

CLINICAL CASE 1

A 25-year-old fit motorcyclist consults you 60 days after a traumatic osteomyoplastic below-knee amputation (upper third) of the right leg. The stump is well healed. The knee is fully functional.

1. He wants you to inform him about the outlook and his future capabilities. Which of the following is the correct statement?

- a. the stump size will remain unchanged
- b. the limp will eventually disappear
- c. the myoplastic procedure will prevent skin problems
- d. he will be able to ski
- e. he will never be able to ride a motorcycle again.

2. He complains of phantom sensation in the missing foot. You tell him that:

- a. this sensation will become increasingly uncommon
- b. it will respond well to drug treatment
- c. its nature and location will not change
- d. removal of a posterior tibial neuroma always has a beneficial effect
- e. phantom sensation in the missing foot is a normal phenomenon at this stage.

3. The following consequences can be anticipated:

- a. osteoporosis of the stump will disappear completely
- b. atrophy of the quadriceps muscle will disappear completely
- c. the stump will become more muscular because of the total contact socket
- d. small skin abscesses may develop on the stump
- e. he will never suffer pain in the right knee.

4. About the prosthesis, which of the following statements is correct?

- a. he will be unable to wear an endoskeletal prosthesis
- b. a thigh socket will be required
- c. the SACH foot is an articulated foot
- d. the flex-foot is an articulated foot
- e. the heel height must be constant for prosthetic feet of the same type.

5. After 3 months, cutaneous lesions of the stump:

- a. are always due to incorrect fitting of the prosthesis
- b. are due to excessive washing of the stump
- c. cannot be due to an allergic reaction
- d. are often due to folliculitis
- e. are never due to hyperkeratosis.

CLINICAL CASE 2

A 60-day-old infant is brought to you following an obstetric injury to the brachial plexus. He presents with paralysis and with his upper limb straight alongside his trunk, the arm in adduction and internal (medial) rotation, the elbow in extension, the forearm pronated, the wrist flexed, but with normal function of the digits. On clinical testing the following muscles are found to have zero force: all of deltoid, supraspinatus, infraspinatus, teres minor and biceps brachialis.

6. His physical examination seems to indicate a lesion of the upper roots

- a. this is the most common finding
- b. this is the least common finding
- c. this lesion usually affects the intrinsic muscles of the hand
- d. this lesion usually affects the internal rotators of the shoulder
- e. this lesion affects the elbow extensors.

7. The parents ask you about the chances of spontaneous recovery

- a. complete nervous recovery is usual
- b. after 60 days, there is no possibility of recovery
- c. monthly clinical testing will be indicators of neurological recovery
- d. clinical testing in itself is worthless – only EMG is worthwhile
- e. integrity of the hand allows the prognosis of return of shoulder and elbow function.

8. Manual muscle testing (0-5 scale) of the serratus anterior shows zero force.

This suggests that

- a. the C6 root is intact
- b. the C5 root is intact
- c. the lesion is sited in the superior trunk
- d. the lesion is sited in the inferior trunk
- e. the lesion is due to tearing of the C5 + C6 roots.

9. At 4 months of age, the following muscles still have zero force: deltoid, supraspinatus, infraspinatus, teres minor, biceps brachialis, serratus anterior

- a. neurosurgical intervention is possibly indicated
- b. this intervention will also be indicated if the muscles are grade 3
- c. further rehabilitation is useless
- d. tendon transfer surgery should be performed without delay
- e. tendon surgery will not be possible until adult life.

10. Persistent complete muscular paralysis induces a tendency for the shoulder adductor muscles to shorten

- a. this hypothesis is incorrect
- b. this tendency for shortening or retraction can be overcome by the intermittent wearing of a static orthosis
- c. physiotherapy is ineffective
- d. a denervated muscle always retracts
- e. application of direct (galvanic) current prevents muscular shortening.

CLINICAL CASE 3

A 25-year-old man is involved in a car accident and arrives in the emergency room in coma (G.C.S. 8) without other injuries. After 9 days he comes out of coma but presents motor and sensory left hemiplegia.

11. During the following weeks the following findings appear. Which of them is not directly related to this injury?

- a. cognitive deficits
- b. ectopic ossification (neurogenic heterotopic ossification) at the wrist
- c. hemineglect
- d. deep venous thrombosis
- e. thalamic syndrome.

12. Four weeks later, the function of his left lower extremity has recovered and he begins to move his left shoulder. He now develops severe spasticity, particularly affecting the left shoulder and arm muscles. Which one of the following treatments is not validated for the last complication:

- a. injection of Botulinum A toxin in the spastic muscles
- b. alcohol injection in the spastic muscle motor points
- c. oral intake of Gaba-type medication
- d. local heat application
- e. acupuncture of the left upper extremity.

13. At the same time, he complains of a painful left shoulder, aggravated by movement of this joint. What is the most probable cause of his pain?

- a. antero-inferior subluxation of the shoulder
- b. rotator cuff tear
- c. adhesive capsulitis of the glenohumeral joint
- d. metastasis of a prostate cancer
- e. coracobrachial tendinitis.

14. In the third month he has no control over the left foot. There is an equinovarus deformity, which can only be corrected by mobilization by the therapist. Which treatment would you consider?

- a. an ankle-knee orthosis
- b. a posterior ankle-foot orthosis
- c. surgical lengthening of the Achilles tendon
- d. ultrasound treatment of the Achilles tendon
- e. an alcohol block of the tibial nerve .

15. At the same time, his hemineglect is constantly present and can present in one of the following ways:

- a. denial of his hemiplegia
- b. the absence of the left part of his drawings
- c. a decrease of the visual field at the opposite side of the lesion
- d. mistakes in the localization of sounds
- e. all of the above.

CLINICAL CASE 4

16. The parents of a 2-year-old boy with Duchenne Muscular Dystrophy (DMD) ask your opinion about the future of their son. Which of the following statements is not correct?

- a. DMD typically becomes clinically evident at approximately 3 to 5 years of age
- b. early difficulties noted are clumsiness, poor walking and frequent falls
- c. weakness will probably be symmetrical, beginning in the shoulder girdle muscles and later in the pelvis
- d. death is usually due to respiratory insufficiency
- e. intellect may be affected by DMD, but there is no progressive loss of IQ.

17. When the child is 6 years old, you perform your periodical physical examination. Which of the following symptoms/signs is the most unlikely to find?

- a. pseudohypertrophy of calf muscles
- b. the child has difficulties rising from the floor
- c. a nasal voice
- d. increased muscle stretch reflexes
- e. arrhythmias and tachycardia.

18. At the age of 8 years your patient develops contractures of the ankles, knees, and hips. Which of the following would you not prescribe?

- a. bilateral ankle-foot orthosis at night
- b. a regular stretching routine
- c. standing
- d. eccentric contractions of the tensor fasciae latae muscles
- e. lying supine.

19. At the age of 10 years your patient develops a scoliosis. The parents seek your advice. Which of the following statements is correct?

- a. scoliosis is present in all patients with DMD
- b. scoliosis is not due to inability to walk
- c. surgery is generally considered when the curve is greater than 15 degrees
- d. forced vital capacity (FVC) generally deteriorates after surgery for scoliosis
- e. if FVC is less than 1 litre, the risk of pneumonia is not increased

20. At the age of 15 you advise your patient to learn glossopharyngeal breathing (GPB). Which of the following arguments is not correct?

- a. intact oropharyngeal muscles are not necessary
- b. the time of ventilatory assistance can be decreased
- c. GPB is a useful back-up for mechanical failure of ventilatory assistance
- d. GPB can be used to shout even if there is no measurable vital capacity
- e. GPB is not possible with an open tracheostomy

21. Which one of the following electrophysiological tests is not useful to measure the degree of spasticity?

- a. the conduction velocity of the peroneal nerve
- b. the F wave
- c. the flexor withdrawal responses
- d. the tonic vibration reflex
- e. the H reflex

22. Which one of the following is not included in the criteria for the diagnosis of complex regional pain syndrome?

- a. pain that develops after an initial event that may or may not have been traumatic
- b. distribution of the painful area is limited to the distribution of a simple peripheral nerve
- c. history of edema, skin blood flow abnormalities or sudomotor abnormalities in the painful region
- d. no other concomitant conditions account for the pain
- e. hyperalgesia or spontaneous pain is present

23. When measuring the range of motion of the wrist flexion, one uses:

- a. the sagittal plane
- b. the transverse plane
- c. the frontal plane
- d. the axis on the ventral surface of the wrist
- e. the shaft parallel to the midline of the proximal phalanx

24. The failure of motor planning and execution of movements without deficits of strength, coordination or sensation is called:

- a. agnosia
- b. apraxia
- c. aphasia
- d. anosmia
- e. ataxia

25. Which of the following statements on parkinsonism is not correct?

- a. the tremor in Parkinson's disease occurs with a frequency of 20-25 Hz
- b. Parkinson plus is a term used to describe a group of multisystem disorders that exhibit signs of parkinsonism along with other neurologic deficits
- c. the tremor may be intensified by the movement of the opposite limb
- d. movements in Parkinson's disease are usually slow
- e. many patients have micrographia

26. In Parkinson's disease, physical therapy should not include

- a. relaxation techniques
- b. passive stretching
- c. flexibility exercises
- d. control of spasticity
- e. functional activity training

27. Regarding therapeutic exercise, only one of the following is correct.

- a. low repetition and high resistance increase endurance in isotonic exercise
- b. high repetition and low resistance increase strength in isotonic exercise
- c. during isometric exercise there is an increase in blood pressure
- d. in isokinetic exercise constant force is exerted at a variable angular speed
- e. high resistance, low repetitive exercises improve endurance

28. The commonest aetiologies for cerebral palsy include all of the following except:

- a. prematurity
- b. cerebral ischemia
- c. cerebral hypoxemia
- d. vitamin C deficiency
- e. hyperbilirubinemia

29. The characteristic spastic gait of the hemiplegic patient does not include:

- a. pelvic rotation
- b. circumduction of the leg
- c. equinovarus of the foot
- d. scissoring gait
- e. short stride length on the side of the affected extremity

30. Which of the most common language disorders are seen in traumatic brain injury:

- a. aphasia
- b. nominal dysphasia (impaired word finding)
- c. stereotypes
- d. echolalia
- e. jargon

31. Which one of the following propositions in delayed-onset muscle soreness (DOMS) is not correct?

- a. it occurs after 24-48 hours of exercise
- b. it is associated with elevated plasma muscle enzymes
- c. it is associated with myoglobinuria
- d. higher levels of DOMS are associated with concentric rather than eccentric activity
- e. it may be associated with structural damage to the contractile filament

32. Which of the following statements in exertional compartment syndrome of the leg is true?

- a. the anterior and deep posterior compartments are the most commonly involved
- b. the lateral and deep posterior compartments are the most commonly involved
- c. the tibial nerve runs through the lateral compartment, and may be compromised by lateral compartment syndrome
- d. acute exertional compartment syndrome is most commonly seen in professional athletes
- e. it is associated with activity-related pain mostly seen after starting exercises

33. Which one of the following statements in plantar fasciitis is not correct?
- the pain associated with plantar fasciitis is usually caused by a local calcaneal spur
 - plantar fasciitis is usually associated with progressive heel pain during the day
 - it is always associated with pes planovalgus
 - it may be treated with a shock-absorbing heel pad
 - it can be treated by extracorporeal shock wave therapy
34. Which one of the following statements is not correct in patellofemoral syndromes?
- the Q-angle is measured by determining the centre point of the patella and drawing a line to the anterior superior iliac spine proximally and through the tibial tubercle distally
 - normal Q-angles range from 8-10° in females and 12-16° in males
 - an increased Q-angle is associated with patella subluxation
 - the Q-angle may be reduced by orthotics in standing subjects
 - when the knee is extended, the vastus medialis muscle counteracts the tendency of the patella to displace laterally
35. Only one of the following statements concerning the supraspinatus muscle is correct, which one?
- the supraspinatus muscle is innervated by the dorsal scapular nerve
 - it is commonly affected in middle trunk brachial plexus injuries
 - the supraspinatus tendon inserts into the greater tuberosity of the humerus
 - the supraspinatus muscle is an external rotator of the arm
 - it receives the majority of its innervation from the C7 nerve root level
36. Which of the following propositions concerning fast-twitch motor units are correct?
- a high anaerobic capacity and a low aerobic capacity
 - a high capillary density
 - a fast contraction time
 - a rapid fatigability
 - a high force of contraction
37. A patient complains about intermittent excruciating pain in the lateral part of the forefoot, with a feeling of electrical shock radiating to the third and fourth toe. The patient is much more comfortable barefooted. What is your most likely diagnosis?
- plantar neuroma (Morton's toe)
 - lumbar disc hernia
 - synovial hernia of the MTP joints three and four
 - stress fracture of the metatarsal three and four
 - plantar fasciitis
38. Which of the following statements concerning exercise in rheumatoid arthritis is not correct?
- steroid-induced myopathy can be improved by strengthening exercises
 - strength training improves muscle strength
 - strength training improves activities of daily life
 - aerobic exercises deteriorate activities of daily life
 - hydrotherapy exercises increase endurance

39. Which statement concerning psoriatic arthritis is not correct?

- a. it occurs in the majority of psoriatic patients
- b. both tendinitis and synovitis occur
- c. fingernail pitting is an important symptom
- d. onycholysis usually occurs
- e. it affects both peripheral and sacroiliac joints

40. Which treatment is not prescribed for a posttraumatic thoracic spine compression fracture due to osteoporosis?

- a. cold application in the acute phase
- b. 3-point contact brace
- c. flexion exercises of the thoracic spine
- d. analgesics
- e. biphosphonates

41. Which one of the following statements is not correct in lumbar spinal stenosis?

- a. symptoms are relieved by sitting or adopting a posture of flexion of the waist
- b. patients prefer to walk with a straight posture
- c. walking uphill is easier than downhill
- d. low back pain
- e. absence of tendon reflexes in the lower limbs

42. Only one of the following characteristics is correct for an air-filled villous wheelchair cushion (Roho)?

- a. it is indicated for general use
- b. it is expensive but it gives excellent pressure relief
- c. heat dissipation is not optimal
- d. it assures a suboptimal sitting stability
- e. it has excellent durability

43. Which combination concerning the type of heating modality, depth of penetration and form of energy transfer treatments is not appropriate?

- | | | | |
|----|----------------|-------------|------------|
| a. | hot pack | deep | convection |
| b. | paraffin baths | superficial | conduction |
| c. | ultrasound | deep | conversion |
| d. | short wave | deep | conversion |
| e. | radiant heat | superficial | radiation |

44. Which of the following is not a physiological effect of cold?

- a. immediate cutaneous vasoconstriction
- b. decreased acute inflammation
- c. decreased conduction velocity
- d. increased maximal isometric strength
- e. decreased pain

45. In clinical muscle testing “active movement, full ROM against gravity” is graded as:

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5

46. Which of the following muscle(s) is or are the key muscle(s) to test the C7 symptom?
- the deltoid
 - the elbow flexors
 - the wrist extensors
 - the elbow extensors
 - the flexor of the middle finger
47. Which of the following dermatomes has its sensory keypoint at the midpoint of the inguinal ligament?
- T9
 - T10
 - T11
 - T12
 - L1
48. What is the recommended management for a continent SCI patient with a reflex bladder, with residual volumes less than 100 ml, and with a bladder pressure less than 45 mmHg?
- electrical stimulation
 - pharmacological treatment
 - intermittent catheterisation
 - condom catheter
 - suprapubic tapping/bladder training
49. Which of the following statements concerning pregnancy in SCI patients is true?
- there is a low incidence of prematurity
 - there is an increase in spontaneous abortion
 - fertility is normal
 - an intra-uterine device is a common contraceptive
 - pregnancy is usually uncomplicated
50. A pressure ulcer described as a full-thickness lesion through the dermis down to subcutaneous tissue is classified as:
- stage I
 - stage II
 - stage III
 - stage IV
 - stage V
51. Heterotopic ossification is found in the following conditions, except in:
- poliomyelitis
 - spinal cord injury
 - traumatic brain injury
 - burn injury
 - serious infections

52. Which of the following symptoms is rare in amyotrophic lateral sclerosis?

- a. muscle wasting
- b. muscle cramp
- c. dysarthria
- d. pain
- e. respiratory insufficiency

53. Which of the following is not prescribed as a treatment for trigger finger?

- a. local corticosteroid injection
- b. passive range of motion exercises
- c. splinting
- d. ergonomic advices
- e. surgery

54. Which statement concerning wrist ganglion cysts is correct?

- a. surgical resection is not indicated
- b. they arise from tendon sheaths, ligaments and joint capsules
- c. the scapholunate ligament is rarely involved
- d. local infiltration with corticosteroids is not effective
- e. asymptomatic ganglion cysts should also be treated

55. Which statement concerning Raynaud phenomenon is not true?

- a. it is associated with connective tissue diseases
- b. it is associated with anti-migraine medication
- c. it is associated with cold temperature
- d. it is associated with vibration (e.g. rock drillers)
- e. it is associated with decreased blood viscosity

56. A 50-year-old female dentist with carpal tunnel symptoms with no thenar weakness or thenar atrophy, and no denervation signs on EMG asks your advice on treatment. The most appropriate treatment is:

- a. an open division of the transverse ligament
- b. an endoscopic division of the transverse ligament
- c. a local corticosteroid injection
- d. splinting
- e. change of job

57. After a peripheral nerve lesion with axonotmesis nerve regrowth usually occurs at a speed of :

- a. 3-5 mm/day
- b. 1-3 mm/day
- c. 0.1-0.3 mm/day
- d. less than 0.1 mm/day
- e. more than 5 mm/day

58. A patient complains of difficulties on stair descent. You expect to find weakness of the:

- a. quadriceps muscles
- b. gastrocnemius muscle
- c. hip adductors
- d. gluteus medius muscle
- e. iliopsoas muscle

59. A 57-year-old man has a right hemisphere infarct. He has a mildly increased tone on the left side with 3/5 muscle strength at the shoulder, elbow and hand. He has a mildly decreased response to pinprick and proprioception throughout the left side. He is noted to use his right hand exclusively for feeding tasks 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

60. Which of the following is not related to an effect of non-steroidal anti-inflammatory drugs?

- a. hypertension
- b. cholecystitis
- c. interstitial nephritis
- d. oedema
- e. elevated serum creatinine

61. Which of the following muscles are the most important for axillary crutch walking?

- a. latissimus dorsi and lower trapezius
- b. posterior deltoid and subscapularis
- c. middle deltoid and pectoralis major
- d. anterior deltoid and biceps
- e. middle deltoid and biceps

62. Exercises for cardiovascular conditioning should involve the following components except:

- a. a large isotonic component
- b. a large isometric component
- c. a walk-jog-run component
- d. a cycling component
- e. circuit training

63. Which of the following modalities is least likely to be prescribed for fibromyalgia?

- a. correction of poor posture
- b. evaluation of the workplace
- c. stress management techniques
- d. strenuous exercise training to improve endurance
- e. cognitive behavioural treatment

64. The risk of foot ulceration in diabetic patients is increased by all of the following except:

- a. increased mobility of the subtalar joint
- b. the presence of plantar foot callosities
- c. the loss of deep sensation
- d. metatarsophalangeal subluxation and foot pad migration
- e. a history of foot ulceration

65. The most common cause of hypotonia in a full-term baby is:

- a. infantile motor neuron disorders
- b. central nervous system disorders
- c. congenital myasthenia gravis
- d. congenital myopathies
- e. electrolyte abnormalities

66. A physical treatment program for a patient with osteoarthritis of the knee should include:

- a. stair climbing
- b. lateral slide exercises
- c. rowing
- d. closed kinetic chain exercises with knee flexion less than 25°
- e. cross-country running

67. A 43-year-old female hairdresser complains of right shoulder and arm pain lasting for 6 weeks. The pain is located in the anterior and lateral shoulder region, radiating laterally toward the elbow. She complains of bilateral arm heaviness while at work. She experiences also a vague feeling of numbness in her right hand, worse during the night. The pain occurs primarily while working and is relieved when the patient is recumbent. The most likely diagnosis is:

- a. impingement syndrome of the shoulder
- b. adhesive capsulitis of the shoulder
- c. a suprascapular nerve lesion
- d. a thoracic outlet syndrome
- e. anterior shoulder instability

68. During an epidural corticosteroid injection at L4-L5 level a 31-year-old woman becomes less responsive. Her pulse is 45 per minute, respirations 18 per minute and blood pressure 100/60 mmHg, and she appears pale. The most likely diagnosis is :

- a. hypoglycaemic crisis
- b. adverse reaction to corticosteroid
- c. vasovagal reaction
- d. dural puncture
- e. spread of anaesthetic to the cervical region

69. Which one of the following statements concerning the anatomy of the hamstring muscles is correct?

- a. the semimembranosus and semitendinosus are part of the internal or medial hamstrings
- b. the semimembranosus muscle receives its nerve supply from the peroneal portion of the sciatic nerve
- c. the long and short heads of the biceps femoris muscles receive their predominant nerve supply from the L4-L5 level
- d. the semimembranosus receives its predominant nerve root supply from the S1-S2 lumbar root levels
- e. the biceps femoris inserts below the knee into the pes anserinus

70. The algometer or dolorimeter measures:

- a. the temperature of the affected limb
- b. the pressure required to produce pain
- c. the electrical potentials on the skin
- d. the strength of muscle tension during contraction
- e. the number of nociceptors per square inch

71. During an electrophysiological examination, somatosensory evoked potentials evaluate the integrity of the

- a. tractus spinothalamicus lateralis
- b. tractus spinothalamicus ventralis
- c. fasciculus gracilis and fasciculus cuneatus
- d. tractus corticospinalis lateralis
- e. tractus pyramidalis

72. Which one of the following statements about the FIM-instrument scale is incorrect:

- a. it is an ordinal scale with 18 items
- b. each item is scored from 1 to 7
- c. the reliability is good
- d. validity is not well documented
- e. areas of evaluation include self-care, sphincter control, transfers, locomotion, communication and social cognition

73. Assessment in rehabilitation focuses on all of the following major areas except:

- a. physical capabilities and activities of daily living
- b. social behaviour
- c. personality and psychology
- d. epidemiology
- e. communication

74. Which of the following statements concerning muscle physiology is true?

- a. isotonic contraction produces the maximum possible force
- b. a muscle is not efficient in an elongated position
- c. static exercise requires normal glycogen stores without an oxygen debt
- d. concentric contraction produces more force than eccentric contraction
- e. isometric contraction produces more force than concentric contraction

75. Which of the following statements concerning the Barthel index is incorrect?

- a. it is used for comparison between services
- b. it has predictive value
- c. it measures cognitive function
- d. it assesses 10 aspects of daily life
- e. its validity has been studied extensively

76. In traumatic brain injury patients the Functional Independence Measure (FIM) is insufficient in which of the following areas:

- a. neuropsychological
- b. self-care
- c. sphincter control
- d. mobility
- e. locomotion

77. The pathophysiological effect of botulinum toxin type A in reducing spasticity is mediated through:

- a. non-reversible blockade of acetyl-cholinesterase activity
- b. decreased calcium ion uptake by the presynaptic motor nerve
- c. decreased acetylcholine release from the presynaptic nerve terminal
- d. degradation of muscle endplate acetylcholine receptors
- e. reduced sodium channel opening in the motor nerve

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

- a. a CF-patient suffers from combined obstructive-restrictive pulmonary disease
- b. the disease presents with exclusively respiratory features
- c. chest physiotherapy is indicated one to four times a day
- 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

79. Which one of the following 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

80. A 63-year-old man with chronic obstructive pulmonary disease is admitted for rehabilitation. When discussing precautions with the physical therapist, the following instructions should be given:

- a. adjust the level of exercise to keep the pulse rate below 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

81. Which one of the following cannot prevent retention of secretions and atelectasis in the quadriplegic patient?

- a. sitting in a wheelchair
- b. turning the patient frequently
- c. breathing exercises
- d. the use of incentive spirometry
- e. chest percussion

82. 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

83. 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

84. 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

85. A 26-year-old woman with complete T6 paraplegia has managed her bladder since the injury using intermittent self-catheterisation. Three months after spinal cord injury she develops leakage. What pharmacological agent is likely to be most useful in controlling this?

- a. ephedrine (noradrenergic)
- b. bethanecol (cholinergic)
- c. prazosine (alpha-sympathetic blocker)
- d. oxybutinin (anticholinergic)
- e. baclofen (gamma aminobutyric acid)

86. Which one of the following neurological signs is not usually observed in elderly patients?

- a. hand tremor
- b. Babinski sign
- c. primitive reflexes in 20 to 25 % of people
- d. increased muscle tone
- e. diminished distal vibratory sense

87. All of the 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

88. When considering the implantation of an electrical spinal cord stimulator, which one of the following propositions is correct:

- a. the cause of symptoms is not related to expected effectiveness
- b. a trial stimulation should be performed
- c. patients addicted to narcotics do particularly well
- d. nearly 100 % of patients will return to work
- e. infection is not a limiting factor

89. Which statement is applicable to cardiac transplant 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

90. Which of the following is not a contraindication to vertebral manipulation techniques?

- a. minor vertebral dysfunction
- b. joint hypermobility
- c. anticoagulant therapy
- d. inexperience in manipulative skills
- e. severe osteoporosis

91. Which one of the following is no indication for the long-term use of patella tendon-bearing orthoses?

- a. delayed or non-union of fractures
- b. avascular necrosis of the talar body
- c. degenerative arthritis of the subtalar or ankle joint
- d. muscle cramps in the calf
- e. a diabetic foot ulcer

92. A 22-year-old woman has a 6-month history of anterior knee pain. It is intermittent in nature and increases after running long distances or climbing stairs. On physical examination there is malalignment of the patella. Which one of the following physical findings is most likely to be found as part of your examination?

- a. excessive foot supination
- b. weakness of the vastus medialis
- c. genu varum
- d. tight hamstring muscles
- e. gastrocnemius and soleus weakness

93. Which of the following is not true about medial epicondylitis?

- a. the pain is in the medial humeral epicondylar region
- b. the most common age of onset is 40-60 years
- c. a typical sign is tenderness over the common tendon attached to the medial humeral epicondyle
- d. typically, resisted wrist dorsiflexion produces pain
- e. the pathology is a strain or partial tear of the tendon at the tendoperiosteal junction

94. Ankle sprains typically occur when the foot and ankle are plantar-flexed. The first structure injured due to a combined inversion and plantar flexion stress is generally:

- a. the anterior talofibular ligament
- b. the posterior talofibular ligament
- c. the calcaneofibular ligament
- d. the tibiocalcaneal ligament
- e. the tibionavicular ligament

95. The reduction in bone mass noted on the paralysed side in a hemiplegic patient is due to:

- a. a significant loss of bone formation
- b. a significant increase in bone resorption
- c. an increase in blood flow
- d. a loss of sensation
- e. the presence of spasticity

96. Which of the following conditions is not associated with cerebral palsy?

- a. seizures
- b. neurogenic bladder
- c. learning disability
- d. oral motor problems
- e. communication problems

97. 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 manifested by automatic external rotation during passive flexion of the hip

98. Electromyographic studies for low back and leg pain may be helpful in diagnosing all of the following conditions, except:

- a. spinal root dysfunction
- b. prostate cancer
- c. lumbar spinal stenosis
- d. neurogenic pain
- e. lumbar plexopathy

99. A patient with 40% body surface area burns, has been losing range of motion in his right arm for the past 7 to 10 days. Which one of the following procedures is the most appropriate?

- a. order a diagnostic ultrasound or MRI
- b. order a complete blood cell count and erythrocyte sedimentation rate
- c. order a splint to immobilize the joint
- d. instruct the therapists to more aggressively move the arm through the full range
- e. order ice application to the joint three times a day

100. Post-polio syndrome is a diagnosis of exclusion. The hallmark of post-polio syndrome is:

- a. unusual fatigue
- b. cold intolerance
- c. new weakness
- d. history of falls
- e. myalgias

ANSWERS

1	D	51	A
2	C	52	D
3	D	53	B
4	E	54	B
5	D	55	E
6	A	56	D
7	C	57	B
8	E	58	A
9	A	59	D
10	B	60	B
11	B	61	A
12	E	62	B
13	C	63	D
14	B	64	A
15	D	65	B
16	C	66	D
17	D	67	D
18	D	68	C
19	A	69	A
20	E	70	B
21	A	71	C
22	E	72	D
23	A	73	D
24	B	74	E
25	A	75	C
26	D	76	A
27	C	77	C
28	D	78	B
29	D	79	A
30	B	80	B
31	D	81	A
32	A	82	E
33	C	83	A
34	B	84	C
35	C	85	D
36	B	86	B
37	A	87	C
38	D	88	B
39	A	89	E
40	C	90	A
41	B	91	D
42	B	92	B
43	A	93	D
44	C	94	A
45	C	95	B
46	D	96	B
47	D	97	B
48	E	98	B
49	C	99	A
50	C	100	C