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MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS 2023/2024 ACADEMIC YEAR

SECOND YEAR, THIRD TRIMESTER EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN PHYSIOTHERAPY(UPGRADING) MAIN PAPER

COURSE CODE: HPT 316

COURSE TITLE: CLINICAL METHODS

DATE: Tuesday– 5th December 2023 **TIME: 8:00am – 10:00am**

INSTRUCTIONS TO CANDIDATES
Answer All Questions

Section A: Multiple Choice Questions (MCQ)	20 Marks.
Section B: Short Answer Questions (SAQ)	40 Marks.
Section C: Long Answer Question (LAQ)	40 Marks

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This paper has 5 pages

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQ) 20 MARKS

A 44-year-old female nurse presents with a two-week complaint of left sided neck pain and headache in the left suboccipital region. There is no history of trauma, but she noticed the pain started the day after getting her hair done. The pain was dull but became worse with right rotation of her neck and when looking up. The patient denied any dizziness, diplopia, drop attacks, dysarthria, dysphagia, facial numbness, or nystagmus, but did describe some nausea with neck movements. She is taking medication for high cholesterol. On examination, it was noted that when the patient protruded her tongue it deviated to one side.

QUESTIONS 1 TO 4 refer to CASE ABOVE

1. In this scenario, which cranial nerve is at fault?
    A. IX
    B. X
    C. XI
    D. XII
2. Why would you examine cranial nerve function in this patient?
    A. Normal cranial nerve function is linked to adequate blood supply via the vertebrobasilar system
    B. The vertebral artery supplies blood to the tongue muscle
    C. Cranial nerve dysfunction is a primary cause of headaches
    D. Fasciculation of the ipsilateral side of the tongue would suggest damage to the cranial nerve nuclei
3. Which of the following tests, if positive, would implicate the cervical spine as the source of the patient's nausea during head movement?
    A. The Rhomberg's Test performed in standing position with the eyes closed
    B. After being fitted with a cervical collar the nausea improves
    C. Hautard's Test performed with the patient sitting, eyes closed, and neck extended
    D. The vertebral artery test, including extension and rotation
4. Considering the subjective and objective findings presented by this patient, what would be the appropriate course of action for the physiotherapist to take?
    A. Revisit history for additional risk factors of arterial disease. Check patient's blood pressure. Complete the neurological examination starting with the least provocative test progressing to more aggressive procedures. Contact patient's physician and share your findings.
    B. Call 911. Do not allow patient to leave. Monitor the patient's vitals. Calm patient. Write a note to the emergency room physician and pin to the patient's clothes. Have someone wait with the patient until ambulance arrives.
    C. Apply the vertebral artery stress test. If the test is negative complete the neurological examination starting with the least provocative test progressing to more aggressive procedures. Contact the patient's physician and share your findings.

D. Apply the vertebral artery stress test. If the test is positive have someone call 911. Monitor the patient's vital signs until the ambulance arrives. Calm the patient and do not allow her to leave. Contact a family member and the patient's doctor

5. Which one of the following statements regarding a patient presenting with moderate OA of the ulnohumeral joint is most accurate?
   A. A loss of extension is often present with this condition.
   B. It is unusual to experience an episode of locking with this condition.
   C. This condition generally occurs with a history of fracture at this articulation.
   D. The abducted ulna is a frequent contributor to this condition.
6. A 20-year-old client comes to a physiotherapy clinic reporting headaches and neck pain. Postural evaluation shows a significant forward head posture. Which one of the following muscles is likely to be tight given this scenario?
   A. Rhomboids
   B. Rectus capitus posterior major
   C. Longus colli
   D. Longus capitus
7. A newborn is examined at bi1th using the APGAR test. Which of the following APGAR results is a likely indicator of potential neurological complications?
   A. 3 at 10 minutes.
   B. 9 at 1 minute.
   C. 8 at 1 minute.
   D. 8 at 5 minutes.
8. Which of the following gastrointestinal sources of pain can refer to the shoulder?
   A. Esophageal pain.
   B. Colon or appendix pain.
   C. Spleen or diaphragmatic pain.
   D. Gallbladder pain.
9. During an initial examination, the therapist occludes vision by having the patient close the eyes. What can the therapist effectively examine?
   A. Discriminative touch and fast pain but not proprioception.
   B. Vestibular/visual/somatosensory integration.
   C. Conscious proprioception but not discriminative touch.
   D. Somatosensory integrity.
10. A patient t with a fibular fracture complains of weakness in the RLE following cast removal. Examination reveals measurable loss of muscle bulk (2-inch girth difference between the right and left legs). The therapist suspects neurogenic atrophy and next examines tone. Which finding is consistent with this diagnosis?
    A. Normal tone.
    B. Hypotonia.
    C. Dystonia.
    D. Hypertonia.

11. A PT receives a referral to examine the fall risk of an elderly patient with Parkinson's disease who lives alone and has had two recent falls. Which activity is the MOST common reason for falls in the elderly?
    A. Walking with a roller walker with hand brakes.
    B. Climbing on a step stool to reach overhead objects.
    C. Turning around and sitting down in a chair.
    D. Dressing while sitting on the edge of the bed.
12. In neural tension testing, what position will BEST bias the tibial nelve?
    A. Straight leg raise with plantarflexion and eversion.
    B. Straight leg raise with dorsiflexion and inversion.
    C. Straight leg raise with plantarflexion and inversion.
    D. Straight leg raise with dorsiflexion and eversion.
13. What muscle length test for the tensor fascia lata is recommended in a patient with decreased muscle length of the rectus femoris?
    A. Modified Ober test (knee extended).
    B. FAIR (flexion, adduction, internal rotation) test.
    C. Ober test (knee flexed).
    D. Ely's test
14. An elderly individual was found unconscious at home and was hospitalized with a diagnosis of cerebrovascular accident (CVA). Examination by the PT reveals normal sensation and movement on the right side of the body with impaired sensation (touch, pressure, proprioception) and paralysis on the left side of the body. The left side of the lower face and trunk are similarly impaired. What is the MOST likely location of the CVA?
    A. Left parietal lobe.
    B. Right parietal lobe.
    C. Left side of brain stem.
    D. Spinal cord.
15. An infant has been diagnosed with a complete rupture of C8 and Tl resulting in Klumpke's paralysis. Which movement can be expected to be impaired?
    A. Shoulder elevation.
    B. Wrist flexion.
    C. Elbow extension.
    D. Elbow supination.
16. During examination of the right shoulder of a teenager with anterior shoulder pain, the physical therapist notices an excessive amount of scapular abduction during both shoulder flexion and abduction. Full range of glenohumeral (GH) motion is achieved at the ends flexion and abduction. The axillary border of the scapula protrudes laterally beyond the thorax much more on the right as compared to the left. Which muscle(s) would be associated with excessive lengthening during the movements of shoulder flexion and abduction?
    A. Serratus anterior.
    B. Rhomboids.

C. Teres major.
D. Levator scapula.

17. A patient experienced a cerebrovascular accident (Right CVA) 2 weeks ago. The patient has motor and sensory impairments primarily in the left lower extremity; the left upper extremity shows only mild impairment. There is some confusion and perseveration. Based on these findings, what type of stroke syndrome does this patient present with?
    A. Posterior cerebral artery stroke.
    B. Internal carotid syndrome.
    C. Anterior cerebral artery syndrome.
    D. Middle cerebral artely syndrome.
18. Following a hard tackle, a football player exhibits signs of fractured ribs and a pneumothorax. When auscultating during inhalation over the injured area, what would the physical therapist expect to hear?
    A. Soft, rustling sounds on inhalation.
    B. Decreased or no breath sounds.
    C. Crackles.
    D. Wheezes.
19. When is the ankle forcibly inverted and plantar flexed, which ligament is MOST FREQUENTLY sprained?
    A. Deltoid.
    B. Anterior talofibular.
    C. Posterior talofibular.
    D. Calcaneofibular.
20. How would the clinical status of a patient with a posterior herniated nucleus pulposus be determined if there is improvement?
    A. Peripheral pain increases only when lumbar extension is attempted.
    B. Peripheral pain occurs only with straight leg raising.
    C. Pain centralizes with passive hyperextension of the spine.
    D. There is flattening of the lumbar lordosis

SECTION B: SHORT ANSWER QUESTIONS (SAQ) **40 MARKS**

ANSWER ALL QUESTIONS.

1. 1. Describe the staging of Parkinson's Disease using the Hoehn and Yahr Classification system (5 marks)
2. Mr. Ouma reports to the clinic with neck pain radiating to the left shoulder. After attaining objective history, you suspect there is entrapment of the median nerve. Describe the neurodynamic test to confirm entrapment of ulnar nerve (5 marks)
3. What are the Risk Factors that could lead to chronicity after Whiplash (5 marks)
4. Describe higher cognitive assessment of a patient with TBI (5 marks)
5. Differentiate between cervicogenic and tension headaches (5 marks)
6. Discuss what you would expect to see in typical development in a two-month-old infant (5 marks)

7. You have a patient that arrives to an evaluation at your clinic with right sided headaches. She states that this has been occurring off and on over the past 6 months and unsure of what caused this. Patient denies any numbness, tingling and dizziness. Patient denies any pain on the left side of her head. States that she does not get any light sensitivity with her headaches, but it does make her want to lay down when they get really bad.
   i Based on the above case, what ICF category would you put this patient in? (2 marks)
   ii What specific diagnosis of this ICF category would you give this patient? (1 mark)
   iii Which 2 strength assessments you would perform for this patient (2 marks)

8. In the following case examples, assign appropriate ICF component to the term underlined ICF components: a). personal factors, b). health condition, c). body structure, d). body function, e). activity and participation, f). environmental factors (5 marks)
   a) Mr. Smith is a 57-year-old farmer
   b) Recently he suffered a hand injury during farming
   c) The flexor tendon and nerves of 2 and finger of left hand was injured
   d) Has problems with tingling and numbness
   e) His doctor prescribed a splint to support wound healing

SECTION C: LONG ANSWER QUESTIONS (LAQS) **40 MARKS**

ANSWER ALL QUESTIONS

1. Patient History Kathryn is a 48-year-old Caucasian female who was referred to your outpatient physical therapy clinic for "dizziness". She tells you that her dizziness began four months ago after she had a car accident. Her car was hit on the passenger side by a car running a red light. She reports that after the accident she went to the ED and was provided a soft collar to wear for a few weeks. She was cleared of any cervical fracturs or cranial bleeding while at the ED. However, after returning home she noticed that she would have occasional dizziness when turning quickly or looking over her shoulder when driving. She describes the dizziness as a spinning sensation that lasts 2-3 minutes. Since the dizziness occurs while driving she has had to have her friend drive her places. She reports that she has not had any falls and is not taking any medication except Motrin as needed for occasional neck pain. She describes her pain as a dull ache that is worse with rotation to the right and left 4/10. She does not report any hearing or vision changes. Kathryn is eager to know what is causing her dizziness so that she can return to driving and exercising with her friends after work at the local YMCA.

Fill in the key pieces of the subjective history related to:
   i Type of dizziness: (1 mark)
   ii Circumstance that causes the dizziness: (1 mark)
   iii Duration of the dizziness: (1 mark)
   iv What is your differential diagnosis? (2 marks)
   v Describe how you would go about examining the patient and the examination findings you would expect (15 marks)

2. Discuss the assessment of a quadriplegic patient following trauma, and the steps followed in placing the patient in the right ASIA scale (20 marks)