



AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF REHABILITATIVE MEDICINE

BACHELOR OF SCIENCE IN PHYSIOTHERAPY

END OF SEMESTER EXAMINATIONS MAY TO AUGUST 2023

UNIT CODE: PHT 225

UNIT NAME: SOFT TISSUE MOBILIZATION

DATE: 9TH AUGUST 2023

TIME: 9AM-11AM

INSTRUCTIONS

1. **All students will have two (2) hours to complete the examination**
2. **Attempt all questions as per the instruction**
3. **It is the student's responsibility to report any page and number missing in this paper.**
4. **Check that the paper is complete**
5. **Total number of pages is 8 including the cover.**
6. **Read through the paper quickly before you start.**

MULTIPLE CHOICE QUESTIONS (30 MARKS)

1. Which of the following techniques combines the application of sustained accessory joint movements by a therapist and active, end-range physiological movements performed by the patient?
 - A) Manipulative thrust techniques
 - B) Facilitative mobilization techniques
 - C) Muscle energy techniques
 - D) Mobilization with movement techniques
2. Which of the following terms best describes movements that a patient can control actively/voluntarily?
 - A) Joint play
 - B) Accessory movement
 - C) Physiological movement
 - D) Component movement
3. Each of the following is true about joint mobilization or manipulation techniques except:
 - A) Techniques can be applied using gliding or oscillation techniques that involve low or high amplitudes and velocities
 - B) Techniques involve the application of accessory joint movements but not physiological movements
 - C) They are appropriate to use if a joint is painful or inflamed to decrease or inhibit the perception of pain
 - D) Techniques can be applied to increase or maintain joint play
4. Which of the following is an indication for joint mobilization?
 - A) Pain
 - B) Joint effusion
 - C) Muscle contracture
 - D) Joint hypermobility
4. The normal accessory joint movement of roll occurs with which of the following?
 - A) Sliding
 - B) Swing
 - C) Distraction
 - D) Compression

5. Which of the following is a false statement about joint mobility or joint mobilization techniques?
- A) The more congruent the joint surfaces, the more rolling of one joint surface on the other occurs
 - B) In normal ovoid joints, rolling and sliding both occur
 - C) If a moving joint surface is convex, sliding of that surface is opposite that of its swinging bone
 - D) Distraction of joint surfaces occurs when the mobilization force is perpendicular to the treatment plane
6. Which of the following is a false statement about joint mobilization?
- A) When the therapist passively moves the articulating surface in the direction in which the slide of the bone normally occurs, the technique is called glide
 - B) Gliding or traction techniques are used to treat painful symptoms during the acute and early subacute stages when applied at a low, nonstretch dosage
 - C) Joint mobilization is safer than passive angular stretching through an arc motion because it avoids the compressive forces that occur during passive angular stretching through the range
 - D) Grade III mobilizations can be used safely and effectively to increase the ROM during an acute flare of arthritis when there is loss of motion
7. To determine the point of tissue resistance and how sensitive a joint is, you would use which of the following grades of sustained mobilization?
- A) Grade I
 - B) Grade II
 - C) Grade III
 - D) Grade IV
8. Which of the following mobilization techniques can be used to stretch a joint?
- A) Sustained grade I
 - B) Sustained grade II
 - C) Oscillation grade II
 - D) Oscillation grade III
9. If a patient exhibits signs of joint hypermobility or joint effusion/inflammation, which of the following mobilization techniques is contraindicated?
- A) Sustained grade I
 - B) Sustained grade II
 - C) Sustained grade III
 - D) Oscillation grade II
 - C) Sustained grade III

10. In what way does mobilization with movement (MWM) differ from passive mobilization techniques? MWM:
- A) Is appropriate for hypomobile or hypermobile joints
 - B) Uses only joint distraction techniques to mobilize joints
 - C) Integrates active movements by the patient during the mobilization procedure to reduce/eliminate the barrier of pain during the technique
 - D) Is performed only in the mid-range of available motion to ensure patient comfort.
11. Your patient has a painful right wrist from typing a very large report. You find that she has full active and passive ROM and normal strength. Of the following mobilization techniques, which is most appropriate for management of this patient's signs and symptoms?
- A) Anterior-posterior grade II oscillations
 - B) Sustained grade III distractions
 - C) Sustained grade III glides
 - D) Joint mobilization using these grades of sustained or oscillation techniques is not appropriate for this patient at this time
12. Your patient has a forward shoulder posture with associated joint restrictions throughout the shoulder complex. In which of the following directions should you apply mobilization of the sternoclavicular joint to improve the patient's posture?
- A) Anterior
 - B) Inferior
 - C) Posterior
 - D) Superior
13. Moving the proximal row of carpals on the radius in a volar direction increases which wrist motion?
- A) Flexion
 - B) Extension
 - C) Radial deviation
 - D) Ulnar deviation
14. A posterior glide of the head of the femur on the surface of the acetabulum increases which of the following hip motions?
- A) Flexion and external rotation
 - B) Extension and external rotation
 - C) Extension and internal rotation
 - D) Flexion and internal rotation

15. Joint mobilization techniques are thought to be safer than passive angular stretching using physiological ROM to increase mobility of capsular and ligamentous structures because:
- A) A therapist has a better mechanical advantage (leverage) over the tight structures when using mobilization techniques
 - B) Mobilization techniques replicate the less traumatic rolling motion of the bone surfaces
 - C) Mobilization techniques direct forces specific to the involved capsular and ligamentous tissues without causing compressive damage to the articular cartilage
 - D) Mobilization techniques are applied only in the resting positions of joints, not end-range positions
16. Which of the following describes an inappropriate procedure for safe and effective application of joint mobilization techniques?
- A) Combine a grade III distraction with a grade III sustained glide
 - B) Initiate joint mobilization procedures with the joint in the resting position of the joint
 - C) Combine a grade I distraction with a grade III sustained glide
 - D) Stabilize one of the articulating bones while applying the mobilization force close to the joint
17. A long-axis distraction of the humerus provides which direction of gliding?
- A) Anterior
 - B) Inferior
 - C) Posterior
 - D) Superior
18. Your patient's knee was immobilized in a long leg cast for more than a month. To improve knee ROM, you have been treating the knee with a grade III posterior glide of the tibia with the knee in the resting position. To progress the mobilization procedure for which this treatment was intended, you could:
- A) Take the joint to the end of the range of flexion, internally rotate the tibia, and apply a sustained grade III distraction
 - B) Use a grade IV posterior glide oscillation technique in the resting position
 - C) Position the tibia in resting position; then externally rotate the tibia and apply a grade III posterior glide
 - D) Take the joint to the end of the range of flexion, position the tibia in external rotation, and apply a grade III sustained posterior glide

19. Your patient has rheumatoid arthritis and currently is exhibiting acute symptoms in the wrist. This patient will benefit from grade I or II mobilization techniques at this time because these techniques:

- A) Increase the range of motion by stretching restrictions
- B) Temporarily relieve pain, thereby allowing freer motion of the wrist
- C) Retard synovitis and the progression of the disease process, if only temporarily
- D) Reduce preexisting deformity

20. To increase flexion of the shoulder, position the patient in the supine position, stabilize the scapula, and:

- A) Place the glenohumeral joint in the resting position, apply a posterior glide of the humeral head
- B) Place the shoulder in 90° flexion, apply an inferior glide of the humeral head
- C) Place the shoulder in neutral (along the patient's side), apply long-axis traction of the humerus
- D) Place the glenohumeral joint in the resting position, apply an anterior glide of the humeral head

21. Your patient had a cast removed last week following a distal tibiofibular fracture. He now has limited motion of the ankle and foot. Which of the following joint mobilization techniques would you use to increase ankle dorsiflexion?

- A) Dorsal glide of calcaneus on talus
- B) Plantar glide of navicular on talus
- C) Anterior glide of talus on tibia
- D) Posterior glide of talus on tibia

22. Which of the following joint mobilization procedures matches the desired goal?

- A) Posterior glide of the tibia on femur—increase knee extension
- B) Lateral glide of the calcaneus on talus—increase subtalar inversion
- C) Dorsal glide of the navicular on talus—increase foot supination
- D) Caudal glide patella—increase knee extension

23. Which of the following joint mobilization procedures at the elbow matches the desired goal?

- A) Volar glide of the head of the radius on the proximal ulna—increase forearm pronation
- B) Dorsal glide of the head of the radius on the proximal ulna—increase forearm supination
- C) Dorsal glide of the head of the radius on the humerus—increase elbow extension
- D) Volar glide of the head of the radius on the humerus—increase elbow extension

24. Your patient has a stiff foot after a long period of immobilization in a cast. Each of the following mobilization techniques will increase supination and the arch of the foot except:

- A) Stabilize the cuneiforms and plantar-glide metatarsals I, II, and III
- B) Stabilize the calcaneus and plantar-glide the cuboid
- C) Stabilize the talus and dorsal-glide the navicular
- D) Stabilize the talus and laterally glide the calcaneus

25. To increase flexion of the carpometacarpal (CMC) joint of the thumb:

- A) Glide the base of the first metacarpal in an ulnar direction on the trapezium
- B) Glide the base of the first metacarpal dorsally on the trapezium
- C) Glide the base of the first metacarpal radially on the trapezium
- D) Glide the base of the first metacarpal in a volar direction on the trapezium

26. To increase abduction of the thumb, stabilize the trapezium and:

- A) Radially glide the base of the first metacarpal
- B) Ulnarly glide the base of the first metacarpal
- C) Dorsally glide the base of the first metacarpal
- D) Volarly glide the base of the first metacarpal

27. Mobilizations to increase extension of the wrist include all the following except:

- A) Stabilize the trapezium-trapezoid unit and volar-glide the scaphoid
- B) Stabilize the lunate and volar-glide the capitate
- C) Stabilize the radius and volar-glide the lunate
- D) Stabilize the scaphoid and volar-glide the radius

28. The safest way to progress stretching the glenohumeral joint capsule to increase external rotation is:

- A) Position the arm in 90° abduction with the humerus in neutral position and do an anterior glide
- B) Position the arm in 90° abduction with the humerus externally rotated as far as possible and do an anterior glide
- C) Position the arm in the resting position with the humerus externally rotated as far as possible and do a distraction
- D) Position the arm in the resting position with the humerus externally rotated as far as possible and do an anterior glide

29. All of the following gliding techniques match except:

- A) Long axis traction of femur—distracts weight-bearing surface in acetabulum
- B) Posterior glide tibia on femur—knee flexion
- C) Plantar-glide navicular on talus—supination
- D) Dorsal-glide first phalanx on metatarsal head—metatarsophalangeal flexion

30. Which joint mobilization technique is the concurrent application of a therapist-applied mobilization and an active movement to end range by the patient?

- A) Manipulation
- B) Physiological movement
- C) Accessory movement
- D) Mobilization with movement

STRUCTURED QUESTIONS (40 MARKS)

31. A semi-professional football player had sustained a hamstring injury while reaching with his leg to control a ball. He was managed pitch side by his team physiotherapist and referred for a MRI. On imaging it showed a grade 1-2 tear of the biceps femoris (hamstring) tendon between the long and short head, with a large amount of edema. The patients walk to the outpatient dept for evaluations;

- A. How you will create rapport with the patient. (10 marks)
- B. Explain the procedure of specific hamstring muscle test. (5 marks)
- C. Explain the knee joint, Myotome and Dermatome tests) (15 marks)
- D. What are your relevant exam findings AND diagnosis (5 marks)
- E. Explain the precautions you will take while handling this patient (5marks)