



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF REHABILITATIVE MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF JAN-APRIL 2025 SEMESTER EXAMINATIONS

UNIT CODE: PHT 225

UNIT NAME: SOFT TISSUE MANIPULATION (Special Exam)

DATE: 8th April 2025

TIME: TWO HOURS

START: 9:00 AM STOP: 11:00AM

INSTRUCTIONS

- 1. Attempt all questions as per the instructions in each section**
- 2. This exam is marked out of 70 marks**
- 3. This Examination comprises of Sections A, B and C**
- 4. It is the student's responsibility to report any page and number missing in this paper.**
- 5. Total number of pages are 7 including the cover page.**
- 6. Read through the instructions carefully before starting.**
- 7. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam.**
- 8. Do not write on this question paper, use the provided booklet to write your answers**

Section A. Multiple choice questions. Answer all the questions. (30 Marks)

1. Which of the following BEST distinguishes soft tissue mobilization from other manual therapy techniques?

- A) STM always involves the use of specialized tools, such as Graston instruments.
- B) STM primarily focuses on restoring joint alignment and biomechanics.
- C) STM is the only technique that addresses pain and inflammation arising from soft tissue dysfunction.
- D) STM is characterized by the application of force to soft tissues without inducing joint movement.

2. A patient presents to a physiotherapy clinic with chronic lower back pain. They report no specific injury but describe persistent muscle tightness and discomfort. Which of the following massage approaches would be MOST appropriate for the physiotherapist to utilize?

- A) Wellness massage, focusing on general relaxation and stress reduction.
- B) Clinical massage, targeting specific muscles and tissues contributing to the lower back pain, based on a thorough assessment.
- C) A combination of wellness and clinical massage, beginning with a general relaxation routine followed by targeted work on the affected area.
- D) Neither wellness nor clinical massage is appropriate; other physiotherapy interventions should be prioritized.

3. A client who regularly receives wellness massages at a spa also experiences frequent headaches. They ask their massage therapist if massage could help alleviate these headaches. Which of the following is the MOST accurate response the massage therapist should provide, based on the passage?

- A) "Yes, wellness massage can definitely help reduce the frequency and intensity of your headaches."

B) "While wellness massage can promote relaxation, it's not designed to treat specific medical conditions like headaches. You should consult with a healthcare professional for diagnosis and treatment."

C) "Clinical massage is more appropriate for treating headaches, however for maximum benefit it is advisable to combine both and I can refer you to a physical therapist who can provide this."

D) "Massage can generally help with pain, so either wellness or clinical massage could be beneficial for your headaches."

4. A patient presents with chronic muscle tightness and restricted range of motion following a minor hamstring strain sustained two weeks prior. Which of the following BEST represents the PRIMARY physiological mechanism by which soft tissue mobilization (STM) would contribute to improved flexibility in this scenario?

A) Directly breaking down collagen cross-linkages within the muscle tissue.

B) Reflex inhibition of muscle spindle activity leading to decreased muscle tone.

C) Increasing local tissue temperature, thereby enhancing muscle extensibility.

D) Facilitating the removal of edema and metabolic waste products, thus reducing tissue stiffness

5. Which of the following physiological effects of soft tissue mobilization (STM) is LEAST directly related to its ability to improve venous return and blood flow?

A) Release of local vasoactive substances.

B) Mechanical compression and decompression of blood vessels.

C) Increased muscle contraction strength.

D) Reduction in tissue edema.

6. A rugby player sustains a hamstring strain during a match. Following the acute inflammatory phase, which of the following is the MOST LIKELY long-term benefit of incorporating STM into their rehabilitation program, specifically related to the muscular system?

A) Increased muscle protein synthesis leading to hypertrophy.

- B) Improved neuromuscular control and coordination of the hamstring muscle group.
- C) Enhanced delivery of nutrients and removal of metabolic waste products, promoting tissue healing and reducing the likelihood of re-injury.
- D) Stimulation of the stretch reflex to improve muscle length and flexibility.

7. A patient is referred for physiotherapy following a surgical procedure. The surgical site exhibits signs of edema and slow healing. Which combination of the following conditions, all listed as indications, would MOST likely benefit from the appropriate physiotherapy interventions?

- A) Muscle spasms & pain
- B) Edema & slow healing scar
- C) Fascial tethering & chronic myositis
- D) Tendinitis & bursitis

8. A 55-year-old patient presents with localized swelling, redness, and increased skin temperature in their lower leg. They report experiencing these symptoms for the past 24 hours. They also have a history of well-managed hypertension. Which of the following would be the MOST appropriate course of action regarding massage therapy?

- A) Proceed with a gentle massage, focusing on lymphatic drainage to reduce swelling.
- B) Proceed with massage, avoiding the area of inflammation and using light pressure.
- C) Defer massage therapy and advise the patient to consult with a physician due to potential acute inflammation.
- D) Proceed with massage, incorporating deep tissue techniques to address underlying muscle tension.

9. A patient undergoing cancer treatment presents with a palpable, non-tender lump in their upper arm. They are experiencing some muscle stiffness in the area and request massage therapy. Which of the following is the MOST important consideration for the physiotherapist before proceeding with any form of massage?

- A) Determine the patient's pain level and adjust massage pressure accordingly.
- B) Obtain clearance from the patient's oncologist regarding the lump.

C) Assess the patient's range of motion and focus massage on restricted areas.

D) Use only light effleurage techniques and avoid any potentially affected area.

10. A patient undergoing soft tissue manipulation for chronic lower back pain expresses discomfort with the level of undress required for the treatment. Which of the following is the MOST ETHICALLY sound course of action for the therapist?

A) Explain that complete undress is standard practice for effective treatment of this area and proceed with the planned procedure.

B) Modify the treatment approach to minimize the area of exposure while still addressing the patient's condition, ensuring the patient's comfort and maintaining therapeutic effectiveness.

C) Postpone the treatment and refer the patient to a colleague who may have different draping techniques.

D) Document the patient's discomfort but proceed with the treatment as planned, as the therapist's professional judgment dictates the necessary exposure for optimal results.

11. A patient, during a soft tissue manipulation session, makes a seemingly flirtatious comment towards the therapist. Which of the following responses by the therapist is MOST appropriate and adheres to ethical guidelines?

A) Respond in a lighthearted manner, attempting to deflect the comment and continue with the session as if nothing happened.

B) Immediately stop the session and firmly explain to the patient that their behavior is inappropriate and unprofessional.

C) Professionally acknowledge the comment, re-emphasize the therapeutic nature of the interaction, and gently redirect the conversation back to the treatment.

D) Ignore the comment completely and continue with the massage, hoping the patient will not repeat the behavior.

12. A patient presents with chronic lower back pain and restricted right hip flexion. Upon assessment, you note decreased tissue extensibility and restricted accessory motion in the thoracolumbar fascia and the fascia lata. Which of the following BEST explains the interconnectedness of these seemingly disparate regions of restriction?

- A) The nervous system directly innervates both the thoracolumbar fascia and fascia lata, leading to simultaneous dysfunction.
- B) Lymphatic congestion in the lumbar region often radiates to the hip, causing fascial restrictions in both areas.
- C) The fascial system's continuity allows for mechanical forces and restrictions in one area to influence other, seemingly distant regions.
- D) Trigger points in the psoas muscle commonly refer pain and tightness to both the lower back and lateral hip, mimicking fascial restrictions.

13. Which of the following BEST describes the relationship between ground substance dehydration, intermolecular cross-linking, and restricted joint mobility?

- A) Intermolecular cross-linking directly causes ground substance dehydration, leading to restricted mobility.
- B) Ground substance dehydration and intermolecular cross-linking are independent processes that both contribute to restricted mobility.
- C) Ground substance dehydration promotes intermolecular cross-linking, which subsequently leads to restricted mobility.
- D) Restricted mobility causes both ground substance dehydration and intermolecular cross-linking as a compensatory mechanism.

14. A patient presents with chronic shoulder pain and restricted range of motion. They report no specific injury, but have a history of repetitive overhead work. Which of the following best describes the MOST LIKELY sequence of events contributing to their current condition according to the myofascial cycle?

- A) Altered movement patterns → Fascial dysfunction → Pain and muscle spasm → Initial injury (overuse)
- B) Pain and muscle spasm → Initial injury (overuse) → Fascial dysfunction → Altered movement patterns
- C) Initial injury (overuse) → Pain and muscle spasm → Fascial dysfunction → Altered movement patterns

D) Fascial dysfunction → Altered movement patterns → Pain and muscle spasm → Initial injury (overuse).

15. A patient experiencing chronic lower back pain demonstrates restricted lumbar flexion and reports increased pain with prolonged sitting. Based on the myofascial cycle model, which of the following is the MOST LIKELY underlying mechanism contributing to their restricted flexion?

- A) Increased muscle strength and flexibility in the lumbar extensors.
- B) Lengthened and more elastic lumbar fascia.
- C) Thickened, shortened, and adhered fascia in the lumbar region, possibly due to altered movement patterns and muscle guarding.
- D) Decreased activity in the core stabilizing muscles.

16. Which of the following BEST describes the relationship between these structures the meninges in the CNS and in the peripheral nervous system the mesoneurium, epineurium, perineurium and endoneurium. and their clinical significance in physiotherapy?

- A) The meninges, as part of the CNS, are primarily affected by peripheral nerve entrapments.
- B) Restrictions within the perineurium are more likely to cause global movement restrictions than localized pain.
- C) Adherences between neurovascular structures and connective tissue can contribute to a variety of musculoskeletal dysfunctions.
- D) The vascular elements of the CNS are the primary target of soft tissue mobilization techniques.

17. A patient presents with localized muscle tension and reports feeling anxious before manual therapy. Which of the following aims of effleurage would be MOST crucial to address FIRST in this scenario?

- A) Increase blood and lymph flow to aid in waste product removal.
- B) Stimulate peripheral nerves to reduce pain perception.
- C) Introduce touch and put the client at ease.
- D) Warm the superficial tissues to prepare for deeper techniques.

18. A patient presents with chronic muscle tension in the upper trapezius. You are considering petrissage as part of their treatment plan. Which of the following petrissage techniques would be MOST appropriate for addressing this specific area, considering both the location and the desired depth of treatment?

- A) Fingertip kneading
- B) Palmar kneading
- C) Thumb pad kneading
- D) Elbow kneading

19. Which of the following BEST describes the physiological rationale behind transverse friction massage (TFM)?

- A) To increase blood flow to the affected area by stimulating vasodilation.
- B) To lengthen shortened muscle fibers by applying sustained pressure.
- C) To break down adhesions and promote realignment of tissue fibers.
- D) To reduce muscle spasm by stimulating the Golgi tendon organs.

20. Which of the following statements BEST reflects the rationale for patient education prior to applying tapotement?

- A) Informing the patient about the potential for skin discoloration following tapotement.
- B) Explaining the benefits of tapotement in reducing muscle spasticity.
- C) Preparing the patient for the potential noise associated with certain tapotement techniques.
- D) Educating the patient on the importance of maintaining a specific body position during tapotement.

21. Which of the following statements BEST describes the underlying principle of myofascial release (MFR)?

- A) It focuses on manipulating bony structures to indirectly release fascial tension.
- B) It primarily targets the skin and subcutaneous tissue to improve fascial mobility.

C) It aims to address restrictions within the fascial network that connects muscles, organs, and skeletal structures.

D) It utilizes high-velocity thrusts to break down adhesions within the fascia.

22. While myofascial release has its roots in osteopathic medicine, which of the following BEST describes its current application within physiotherapy practice?

A) It remains exclusively an osteopathic technique, not utilized by physiotherapists.

B) It is a core component of physiotherapy training, replacing traditional soft tissue mobilization techniques.

C) It is a commonly used manual therapy technique employed by physiotherapists as part of a comprehensive treatment plan.

D) It is primarily used for treating visceral dysfunction and is rarely applied to musculoskeletal conditions by physiotherapists.

23. Which of the following BEST distinguishes between direct and indirect myofascial release techniques?

A) Direct techniques are always more painful than indirect techniques.

B) Direct techniques focus on lengthening the fascia, while indirect techniques focus on facilitating the body's own release mechanisms.

C) Direct techniques require specialized equipment, while indirect techniques do not.

D) Direct techniques are primarily used for superficial fascia, while indirect techniques are used for deep fascia.

24. Which of the following BEST describes the nature of trigger points?

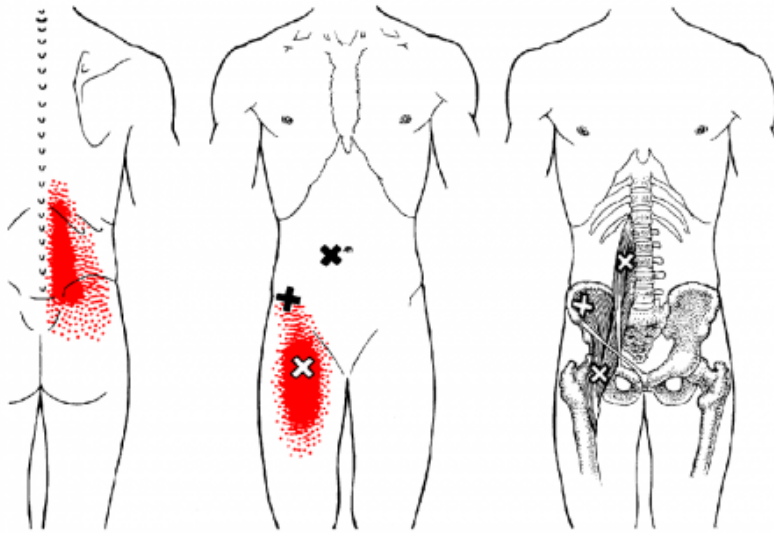
A) They are always located at the site of injury or pain.

B) They are always associated with inflammation and swelling.

C) They are characterized by localized muscle tenderness and can cause referred pain to other areas of the body.

D) They are primarily caused by overuse and repetitive strain injuries.

25. A patient presents with chronic low back pain and reports experiencing additional pain in the anterior hip and groin region. Palpation reveals a tender area in the lower abdomen just lateral to the spine. Based on the information in this image, which of the following muscles is the MOST LIKELY source of trigger points contributing to this patient's pain pattern?



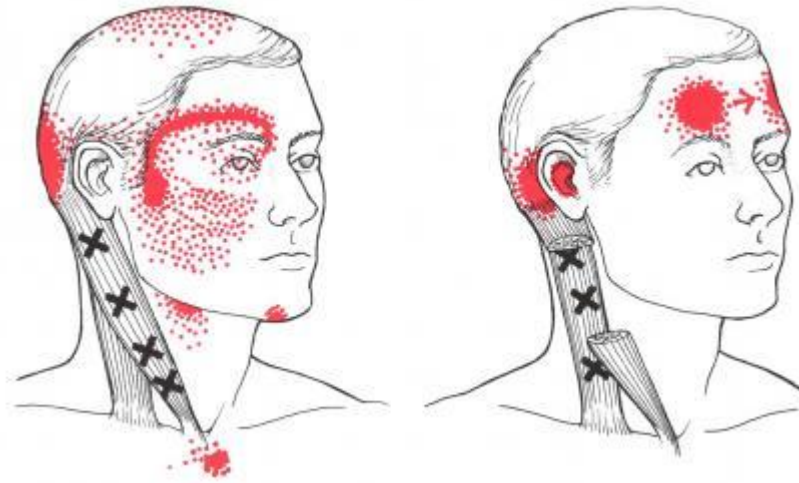
A) Quadratus Lumborum

B) Rectus Abdominis

C) Iliopsoas

D) Gluteus Medius

26. A patient presents with chronic headaches and reports tenderness along the lateral aspect of their neck. Based on the image and your understanding of trigger point referral patterns, which muscle group would be MOST IMPORTANT to assess for the presence of trigger points?



- A) Scalenes
- B) Trapezius
- C) Sternocleidomastoid (SCM)
- D) Splenius Capitis

27. A patient presents with chronic low back pain with an intensity of 5 on VAS and stiffness that worsens with prolonged sitting. Which of the following Maitland techniques would be LEAST appropriate for this patient?

- A) Grade III.
- B) Grade II.
- C) Grade IV.
- D) Grade I

28. A patient is referred for physiotherapy following a motor vehicle accident. He complains of neck pain and restricted movement. Which of the following scenarios presents the strongest contraindication to Maitland mobilizations?

- A) The patient reports experiencing significant muscle spasm in the neck region.
- B) Radiographic imaging reveals a stable compression fracture of a vertebral body.
- C) The patient is currently taking anticoagulant medication for atrial fibrillation.
- D) The patient demonstrates apprehension and heightened pain with even gentle palpation.

29. Which of the following patient presentations above would necessitate immediate cessation of Maitland mobilizations if they were inadvertently commenced?

- A) The patient reports a sudden increase in pain during the mobilization, radiating down the arm.
- B) The patient displays signs of acute inflammation, including redness, swelling, and increased temperature, around the treated joint.
- C) The patient has a history of well-controlled hypertension managed with medication.
- D) The patient expresses anxiety about the manual therapy techniques being used.

30. You are treating a patient with limited knee flexion. Considering the concave-convex rule, which glide of the tibia on the femur would be MOST appropriate to improve this motion?

- A) Anterior glide of the tibia on the femur
- B) Posterior glide of the tibia on the femur
- C) Medial rotation of the tibia on the femur
- D) Lateral rotation of the tibia on the femur

Section B: Short structured questions. Answer all the questions in this section (20 Marks).

- 31. Draw a rough diagram that illustrates a myofascial unit (5 Marks)
- 32. List three differences between circular friction and transverse friction (3 Marks)
- 33. Discuss 4 distinguished characteristics elicited on a trigger point when direct compression is applied on a trigger point (4 Marks)
- 34. Discuss the Maitlands grading system (4 Marks)
- 35. Explain why water-based lubricant is the most ideal form of medium used in soft tissue manipulation (4 Marks)

Section C: Long structured questions. Attempt any the question below (20 Marks)

36. Mrs. Xaba sustained a midshaft femur fracture one month ago and underwent internal fixation surgery three weeks ago. During her post-operative review, the surgeon noted good

suture line healing and referred her for physiotherapy to begin rehabilitation. Following your initial assessment, you determine that soft tissue manipulation (STM) is a necessary component of her treatment plan.

1. Outline five STM techniques suitable for Mrs. Xaba's rehabilitation and justify their application.
2. Describe two of these techniques in detail, including their specific execution and rationale.

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