



AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF MEDICAL SCIENCE

DEPARTMENT OF REHABILITATION MEDICINE

BACHELOR OF SCIENCE IN PHYSIOTHERAPY

END OF MAY- AUGUST 2026 TRIMESTER EXAMINATIONS

UNIT CODE: PHT 314 UNIT NAME: Musculoskeletal disorders II (Main Exam)

DATE: 10th August 2026

TIME: TWO HOURS

START: 6PM STOP : 8PM

INSTRUCTIONS (physical exams)

1. Do not write on this question paper

(Marks and questions distribution as per program curriculum.)

INSTRUCTIONS (Online examinations)

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This online exam shall take 2 Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period

6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032
11. For adverse incidences please write an email to: amiu.examinations@amref.ac.ke

Section A: Multiple choice questions

1. An assembly line worker at Toyota Kenya presents with medial elbow pain and paresthesia. Biomechanically, which combination of joint positions and external forces is most directly responsible for aggravating Cubital Tunnel Syndrome by simultaneously increasing tissue compression and tensile stress on the nerve?
 - A. Sustained elbow extension paired with repetitive axial loading through the radiohumeral joint.
 - B. Repetitive forearm supination combined with a continuous varus stress at the elbow joint.
 - C. Persistent elbow flexion combined with tasks that introduce a valgus stress at the joint.
 - D. Repetitive wrist extension tasks combined with direct compression over the lateral epicondyle.
2. During a physical examination of a patient suspected of having Cubital Tunnel Syndrome, you find that active and passive ranges of motion are within normal limits, though full flexion elicits mild complaints. Accessory glides are completely within normal limits (WNL). Which of the following examination strategy would provide the highest clinical utility for provoking and localizing this specific nerve pathology?

- A. Assessing accessory joint play of the humeroulnar joint to look for structural hypermobility.
 - B. Utilizing a resisted muscle test for wrist extension to reproduce the primary symptoms.
 - C. Performing a standard Tinel's sign over the carpal tunnel while executing passive forearm pronation.
 - D. Palpation for tenderness within the ulnar groove combined with a sustained flexion and pressure provocation test.
3. A 22-year-old cricket fast bowler with the national team presents with acute medial elbow pain after hearing a distinct "pop" during a high-velocity throw. On examination, you note localized swelling and bruising, and accessory movement testing reveals excessive medial glide of the ulna. The patient has structural instability and major loss of function. Based on these clinical findings and the standard classification guidelines, how should this injury be graded?
- A. Grade 1 tear
 - B. Grade 2 tear
 - C. Grade 3 tear
 - D. Grade 4 tear
4. During the physical examination of a javelin thrower complaining of medial elbow pain following a repetitive valgus stress injury, which of the following objective findings would most specifically differentiate a complete Grade 3 rupture from lower-grade (Grade 1 or 2) Medial Collateral Ligament (MCL) tears?
- A. Presence of localized tenderness during palpation of the medial elbow
 - B. Excessive medial glide of the ulna during accessory movement testing demonstrating joint instability
 - C. Active and passive range of motion (AROM/PROM) being strictly strictly limited in flexion.
 - D. Visible swelling and bruising localized around the medial epicondyle region
5. A 42-year-old recreational golfer presents with localized medial elbow pain that worsens during the acceleration phase of their swing. During the physical examination, which of the following objective findings would most definitively align with a diagnosis of medial epicondylitis?
- A. Increased pain reported during passive elbow extension combined with passive wrist extension.
 - B. Provocation of symptoms during resisted wrist extension and forearm supination.

- C. Marked tenderness localized exclusively along the lateral epicondyle and supinator muscle belly.
 - D. Patient enthusiasm and an firm, unrestricted grip during an initial handshake greeting.
6. A carpenter presents to your clinic complaining of an ache in the medial aspect of the right elbow. They note that the discomfort is particularly sharp when using a manual screwdriver and when hammering nails. Based on the mechanical demands of these provoking activities and the typical clinical presentation of medial inflammation, which manual muscle testing (MMT) combination would be most provocative for this patient's pain?
- A. Resisted wrist extension and resisted forearm supination.
 - B. Resisted wrist flexion and resisted forearm pronation.
 - C. Resisted wrist flexion and resisted forearm supination.
 - D. Resisted wrist extension and resisted forearm pronation.
7. A 34-year-old competitive javelin thrower presents with aching pain localized strictly to the medial aspect of the elbow. They report that the pain is most severe during the late cocking and acceleration phases of throwing. On examination, they exhibit distinct local tenderness just distal and anterior to the medial epicondyle, and they experience a profound functional impairment consisting of a loss of terminal elbow extension during passive stretching, accompanied by a subjective feeling of joint instability. Resisted wrist flexion and forearm pronation are completely pain-free and demonstrate normal strength. Which of the following is the most likely initial hypothesis?
- A. Medial epicondylopathy
 - B. Ulnar nerve entrapment
 - C. Ulnar collateral ligament strain
 - D. Pronator syndrome
8. A 22-year-old collegiate basketball player presents with a 3-week history of localized anterior knee pain. He notes the pain is sharp and specifically occurs during the takeoff phase of jumping and when he drops into a deep squat during his weightlifting sessions. Physical examination reveals focal tenderness at the inferior pole of the patella, but

loading the patellofemoral joint in extended positions is pain-free. Which of the following pathologies is most consistent with this presentation?

- A. Patellar tendonitis
 - B. Patellofemoral pain syndrome
 - C. Infrapatellar fat pad impingement
 - D. Quadriceps tendonitis
9. A 34-year-old office worker presents with diffuse anterior knee pain that she describes as a dull ache. She notices the pain significantly worsens during her 45-minute evening commute home while driving, as well as when she climbs the stairs to her second-floor apartment. She denies any recent history of jumping sports or acute trauma. Given her symptoms, which condition should be at the top of your differential list?
- A. Patellar tendonitis
 - B. Patellofemoral pain syndrome
 - C. Medial meniscus posterior horn tear
 - D. Pes anserine bursitis
10. A 22-year-old basketball player plants her right foot to cut left, experiences an immediate "pop" in her knee, and collapses. She tries to limp off the court but her knee feels completely unstable, preventing her from walking. Given the specific mechanism and clinical presentation, which of the following pairs of diagnoses should be at the top of your differential list?
- A. Posterior Cruciate Ligament (PCL) tear or Medial Collateral Ligament (MCL) tear
 - B. Anterior Cruciate Ligament (ACL) tear or Patellar subluxation
 - C. Anterior Cruciate Ligament (ACL) tear or Knee fracture
 - D. Meniscal tear or Lateral Collateral Ligament (LCL) tear.
11. A 24-year-old female runner presents to your physiotherapy clinic with a 3-week history of diffuse, aching anterior knee pain that worsens when running downhill and prolonged sitting. On assessment, you note an increased Q angle of 21° . Which of the following best describes the biomechanical consequence of this increased Q angle and its direct contribution to her symptoms?
- A. Decreased lateral patellar tracking force, leading to excessive medial meniscus wear.
 - B. Increased lateral patellar tracking force, leading to increased pressure on the lateral facet of the patella.
 - C. Increased medial patellar tracking force, causing patellofemoral instability.
 - D. Decreased quadriceps pull efficiency, resulting in an acute patellar tendon rupture.
12. A 24-year-old overhead athlete undergoes a dynamic scapular assessment. The physiotherapist instructs the patient to perform bilateral shoulder flexion using 2 lb hand weights. During the eccentric (lowering) phase of the movement, the therapist observes a

sudden, premature loss of scapular control where the medial border rapidly gives way and drops down. Which of the following terms best classifies this specific presentation?

- A. Winging
- B. Dumping
- C. Hitching
- D. Subtle dyskinesia

13. During a dynamic scapular assessment utilizing standard 3 lb weights, a clinician notices that a patient demonstrates a persistent, prominent prominence of the inferior angle and medial border of the scapula away from the thoracic wall throughout the entire movement. However, the overall rhythm is smooth, and there is no rapid dropping during descent or early shrugging during elevation. How should this finding be categorized?

- A. Dyskinesia characterized primarily by winging
- B. Dyskinesia characterized primarily by dumping
- C. Dyskinesia presenting as hitching
- D. Normal scapular movement with expected muscle hypertrophy

14. During an initial assessment of a patient recovering from an anterior shoulder dislocation, a physiotherapist observes active shoulder abduction. From 0 to 25 degrees of elevation, the therapist notes that the scapula remains relatively stable while the humeral head moves within the glenoid fossa. Which of the following statements best applies to this initial phase of elevation?

- A. The movement is normal, as the setting phase consists entirely of glenohumeral motion.
- B. The movement is abnormal, as a 2:1 ratio of glenohumeral to scapular motion should be established immediately.
- C. The movement is abnormal, because early scapular upward rotation is required to maintain optimal length-tension relationships.
- D. The movement is normal, because thoracic spine extension dominates the first 30 degrees of shoulder elevation.

15. A patient presents with severe thoracic kyphosis and structural stiffness of the thoracic spine, limiting their ability to extend the upper back. During a musculoskeletal examination, the physiotherapist notes that the patient exhibits normal glenohumeral and scapular kinematics up to 170 degrees of shoulder elevation but is completely unable to achieve the final 10 degrees of overhead reach. Based on scapulohumeral rhythm guidelines, what is the primary structural limitation?

- A. A restriction in the 1:1 glenohumeral to scapular motion ratio characteristic of end-range elevation.
- B. An inability to initiate the scapular "setting phase" due to altered spinal alignment.

- C. A failure to achieve thoracic spine extension, which is required for the final 170 to 180 degrees of elevation.
- D. Latissimus dorsi tightness, which selectively restricts glenohumeral motion between 90 and 170 degrees.
16. A 45-year-old competitive swimmer presents with progressive anterolateral shoulder pain when reaching overhead. During the physical examination, you observe that the patient has a painful arc strictly between 70° and 110° of scaption. However, with gentle encouragement, they are able to achieve a full, unrestricted range of motion at the end-range of elevation. Which of the following is the most likely provisional diagnosis?
- A. High-grade rotator cuff tear
B. Adhesive capsulitis
C. Isolated subacromial bursitis
D. Glenohumeral osteoarthritis
17. A 58-year-old carpenter presents with severe shoulder weakness and pain following a fall onto an outstretched hand. During active assessment, the patient exhibits a painful arc between 70° and 110° of scaption, but the movement physically stops at 110° due to a combination of mechanical catching, pain, and structural limitation. This painful and stiff arc most strongly points to which pathological cluster?
- A. Subacromial bursitis or a structural rotator cuff tear
B. Bicipital tendinopathy or dynamic labral instability
C. Cervical radiculopathy or thoracic outlet syndrome
D. Posterior capsular tightness or dynamic shoulder impingement.
18. A 34-year-old construction worker presents to the clinic after a fall onto his shoulder. During the physical examination, the physiotherapist notes significant winging of the scapula on the affected side. When asked to perform functional movements, the patient is completely unable to flex his fully extended arm. Which of the following nerves has most likely been injured?
- A. Spinal accessory nerve
B. Long thoracic nerve
C. Suprascapular nerve
D. Axillary nerve
19. A 23-year-old athlete reports a dull, deep ache in the superior-lateral aspect of her shoulder after a heavy weightlifting session. On assessment, she demonstrates full passive range of motion, but experiences sharp, localized pain specifically during active shoulder flexion and shoulder abduction. No gross muscle wasting or complete loss of movement is noted. Which nerve is the primary source of this clinical presentation?
- A. Axillary nerve
B. Suprascapular nerve

- C. Musculocutaneous nerve
 - D. Spinal accessory nerve
20. Following a high-energy rugby tackle, a patient presents with an isolated upper limb weakness. During the manual muscle testing, the therapist observes that the patient can flex his elbow normally when his forearm is fully pronated. However, when the forearm is placed in a supinated position, his elbow flexion becomes noticeably weak. Which nerve lesion is responsible for this specific presentation?
- A. Musculocutaneous nerve
 - B. Axillary nerve
 - C. Long thoracic nerve
 - D. Spinal accessory nerve
21. A 45-year-old recreational runner presents with insidious onset deep, aching pain primarily localized to the groin region. The pain is exacerbated by prolonged weight-bearing and passive hip internal rotation. Given the specific location of the symptoms and the clinical presentation, which cluster of hypotheses is most appropriate to guide your physical examination?
- A. Trochanteric bursitis, Gluteus medius tendinopathy, and piriformis syndrome
 - B. Osteoarthritis (OA), Femoral neck fracture, and Iliopsoas strain
 - C. Pubic symphysis dysfunction, abdominal muscle strain, and sports hernia
 - D. Sacroiliac joint dysfunction, hamstring tendinopathy, and sciatica
22. A 28-year-old soccer player presents with localized tenderness over the anterior pelvic ring, specifically around the pubis. The pain is sharp when changing directions during running and during resisted adduction. Based on the strict anatomical mapping of the hip and pelvis, which of the following represents the most logical differential diagnosis?
- A. Hip osteoarthritis, iliopectineal bursitis, and femoral neck fracture
 - B. Trochanteric bursitis, tensor fasciae latae strain, and hip abductor tendinopathy
 - C. Pubic symphysis dysfunction, abdominal muscle strain, and hip adductor strain
 - D. Ischial bursitis, gluteus maximus strain, and lumbar radiculopathy
23. A physical therapist evaluates a 58-year-old female with suspected hip pathology. The patient presents with lateral hip pain during active hip flexion and a positive Scour test with adduction. However, her passive internal rotation is 30 degrees and squatting does not aggravate her symptoms. Based on the diagnostic cluster for arthritis, how should the therapist interpret these findings?
- A. Hip osteoarthritis is highly probable because the majority of the painful active movements are positive.

- B. The post-test probability of hip osteoarthritis is lowered primarily because the patient does not meet the internal rotation threshold and lacks a positive squatting sign.
 - C. The positive Scour test with adduction overrides the negative squatting sign due to its superior diagnostic accuracy.
 - D. The patient definitively does not have hip osteoarthritis because active hip extension was not painful.
24. A 64-year-old patient presents with insidious onset of right groin pain. During the objective examination, the physiotherapist notes pain with active hip flexion and extension, a positive Scour test with adduction, and passive internal rotation limited to 20 degrees. Which of the following remaining clinical findings from the arthritis cluster would provide the highest statistical weight (+LR) to rule in hip osteoarthritis?
- A. Symptom aggravation during squatting
 - B. A positive Scour test with abduction
 - C. Passive internal rotation limited to exactly 25 degrees
 - D. Subjective reports of morning stiffness lasting under 30 minutes
25. A 45-year-old patient undergoing rehabilitation after a hip injury is asked to stand on their right leg during a physical assessment. The clinician observes that the patient's left hip drops downward. Which of the following is the most accurate clinical interpretation of this finding?
- A. The left gluteus medius is weak, failing to elevate the left pelvis during swing phase.
 - B. The right gluteus medius is weak, failing to stabilize and maintain a level pelvis on the stance side.
 - C. The right gluteus medius is hypertonic, pulling the right pelvis upward and forcing the left side down.
 - D. The left gluteus medius is weak, causing a compensatory lateral shift of the trunk toward the left side.
26. A clinician observes a positive Trendelenburg sign on a patient standing on their left leg. To compensate for the mechanics of this deficit and prevent themselves from losing balance, which movement strategy is this patient most likely to adopt during the stance phase of gait?

- A. Lateral lean of the trunk toward the right side to move the center of mass over the uncompensated swing leg.
 - B. Lateral lean of the trunk toward the left side to decrease the external adductor moment arm acting on the weak left hip.
 - C. An increased anterior pelvic tilt to mechanically lock the hip joint using passive ligamentous structures.
 - D. Increased activation of the right quadratus lumborum to forcefully hike the left hip during its stance phase.
27. During the physical examination of a patient suspected of having Ischiofemoral Impingement, you decide to perform the passive Ischiofemoral Impingement Test. To execute this test correctly according to established evidence-based protocols, how should you position and manipulate the patient?
- A. The patient is positioned supine; the examiner passively flexes, adducts, and internally rotates the hip to trap the sciatic nerve against the ischial tuberosity.
 - B. The patient is positioned prone; the examiner stabilizes the pelvis and passively hyperextends and externally rotates the hip to compress the quadratus femoris muscle.
 - C. The patient is positioned side-lying with the affected leg on top; the examiner passively extends the hip to intentionally narrow the space between the lesser trochanter and the ischial tuberosity.
 - D. The patient is positioned side-lying with the affected leg on the bottom; the examiner instructs the patient to actively abduct the top leg while the examiner applies a passive extension force to the bottom leg.
28. A 22-year-old collegiate runner presents with unilateral hip pain. During the physical examination, you suspect a structural lower limb inequality and decide to measure for a true leg length discrepancy. To ensure an accurate assessment and differentiate it from a functional (apparent) discrepancy, which protocol and anatomical landmarks must you utilize?
- A. Position the patient supine with the pelvis squared; measure from the Umbilicus to the Medial Malleolus of each ankle.
 - B. Position the patient supine with the pelvis squared; measure from the Anterior Superior Iliac Spine (ASIS) to the Medial Malleolus of each ankle.
 - C. Position the patient prone with the spine aligned; measure from the Posterior Superior Iliac Spine (PSIS) to the Lateral Malleolus of each ankle.
 - D. Position the patient standing in a relaxed posture; measure from the Greater Trochanter directly to the floor on each side.
29. A 45-year-old construction worker presents with deep, aching pain centered around the right upper cervical spine that spreads mildly into the occipital region. He reports that the pain increases during prolonged desk work or when looking up at ceilings. Palpation reveals localized tenderness over the right C2-C3 joint line. Active extension and right rotation replicate his familiar ache. Neurological screening which includes deep tendon

reflexes, sensation, and manual muscle testing of the upper extremity is normal. Based on the location of symptoms and clinical findings, which pathophysiology should sit at the top of your hypothesis list?

- A. Right-sided Upper Cervical Facet Pain
- B. C3 Nerve Root Irritation
- C. Acute Levator Scapulae Muscle Pain
- D. Multilevel Cervical Disc Herniation

30. A 34-year-old software engineer presents with sudden onset, sharp right-sided neck pain after turning her head quickly to look over her shoulder. The pain is strictly localized to the right upper cervical region with no radiation into the shoulder or arm. On examination, active left rotation and right side-bending are severely limited and reproduce the sharp, localized pain. Passive accessory intervertebral movements hard, reveal a hard sudden end-feel at the C2-C3 segment. There are no neurological deficits, and upper limb tension tests are negative. Which of the following conditions best matches this clinical presentation?

- A. C2-C3 Facet Impingement
- B. C3 Nerve Root Irritation
- C. Trapezius Muscle Strain
- D. Cervicogenic Head/Occipital Referred Pain

31. A 52-year-old administrative assistant presents with neck pain following a minor rear-end motor vehicle collision two weeks ago. When describing her symptoms, she notes two distinct sensations: a constant, deep ache localized to the right upper cervical spine that worsens after sitting at her computer for more than 20 minutes, and an intermittent, sharp, electric shock-like sensation that shoots down her outer shoulder and into her thumb when she tilts her head backward and to the right. Based on the quality of these symptoms, which of the following best maps the patient's dual pathophysiological mechanisms?

- A. The ache indicates nerve root irritation; the electric shock-like pain indicates muscle spasm.
- B. The ache indicates facet joint pain; the electric shock-like pain indicates nerve root irritation.
- C. The ache indicates acute facet impingement; the electric shock-like pain indicates deep muscle pain.
- D. The ache indicates myofascial trigger points; the electric shock-like pain indicates localized facet arthropathy

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 - D. The ache indicates myofascial trigger points; the electric shock-like pain indicates localized facet arthropathy
35. A 42-year-old patient presents with mechanical neck pain and a history of occasional lightheadedness when looking up. To screen for cervical arterial dysfunction before performing advanced manual therapy, you guide the patient through the Cervical Quadrant Test (extension combined with ipsilateral rotation). Midway through holding the position, the patient complains of a sudden wave of nausea and you notice mild horizontal nystagmus (involuntary eye movement). What is the most appropriate immediate action?
- A. Release the position immediately, return the head to neutral, document the positive findings, and proceed with gentle, non-thrust mobilization techniques.
 - B. Instruct the patient to keep holding the position for the full 30 seconds to determine if the symptoms subside or are purely positioning vertigo.
 - C. Immediately return the head to neutral, monitor vital signs, document the exact symptoms, and refer the patient for urgent medical evaluation.
 - D. Shift the patient into the Pre-Manipulative Position Test instead to see if the symptoms are reproducible in a less aggressive position.
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37. A 68-year-old patient presents with bilateral calf pain that is provoked after walking for 10 minutes. To differentiate between neurogenic and vascular claudication, you perform the Bicycle Test of van Gelderen. The patient rides a stationary bicycle while maintaining an erect, extended posture and reports severe calf cramping within 3 minutes. You then instruct the patient to lean forward into lumbar flexion while continuing to pedal at the same workload. The patient reports immediate and significant relief of their leg pain. How should you clinically interpret this finding?

- A. This is a positive test for vascular claudication, because the continued metabolic demand of pedaling maintains muscle ischemia regardless of spinal positioning.
 - B. This is a positive test for neurogenic claudication, because leaning forward increases the cross-sectional area of the lumbar spinal canal, relieving nerve root compression.
 - C. This is a positive test for vascular claudication, because leaning forward alters the gravity-dependent blood flow and increases arterial perfusion pressure to the lower extremities.
 - D. This is an inconclusive test because a true vascular claudication presentation would only be relieved by completely stopping the pedaling action and sitting down.
38. A 64-year-old patient is post-operative Day 2 following an open reduction and internal fixation (ORIF) of a fractured femur. The patient also has a history of active stage-III lung cancer, currently undergoing chemotherapy. During your morning bedside assessment, you note the patient has been strictly immobilized in bed since surgery and is now complaining of new, localized calf soreness. Using your knowledge of DVT risk factor assessment, how should you stratify this patient's risk profile?
- A. Low risk profile
 - B. Moderate risk profile
 - C. High risk profile
 - D. No risk associated with DVT
39. During a clinical examination, a physiotherapy student notes an audible click occurring consistently near the very end of mandibular closure. Based on the pathomechanics of a closing click, which of the following sequences best explains this phenomenon?
- A. The condyle snaps forward under the posterior aspect of an already anteriorly displaced disc.
 - B. Increased tension in the lateral pterygoid muscle pulls the disc too far anteriorly, causing a tight posterior stratum to pull the condyle forward out of sync.
 - C. High tension in the lateral pterygoid muscle holds the disc anteriorly while the condyle continues moving posteriorly, eventually pulling entirely off the meniscus.
 - D. The disc snaps backward prematurely during initial closure while the condyle undergoes normal anterior translation.
40. A patient presents with reciprocal clicking of the temporomandibular joint. When mapping the exact mechanical sequence from a closed-mouth position to full opening, which event occurs immediately before the disc snaps backward and normal translation resumes?
- A. The posterior stratum overstretchs, releasing the lateral pterygoid muscle tension.

- B. The condyle translates forward and snaps downward and forward under the posterior aspect of the anteriorly displaced disc.
 - C. The condyle moves purely in a posterior direction until it slips entirely off the meniscus.
 - D. The lateral pterygoid muscle relaxes completely, allowing the disc to passively glide forward on its own.
41. A physiotherapist evaluates a 42-year-old assembly line worker complaining of bilateral hand clumsiness. The objective findings reveal a wrist ratio index of 0.71, a Brigham and Women's Hospital Hand Severity Scale score of 1.5, diminished sensation localized specifically to the thumb pad, and the patient demonstrates that shaking of the hands relieves symptoms. How should the therapist interpret these findings regarding the Clinical Prediction Rule for carpal tunnel syndrome?
- A. The Clinical Prediction Rule is satisfied because the patient exhibits 4 out of 5 key symptoms.
 - B. The rule is not satisfied because the patient is under the age of 45, leaving them with only 3 out of 5 positive criteria.
 - C. The rule is satisfied because the high wrist ratio index (> 0.67) carries double weight in the scoring matrix.
 - D. The rule is not satisfied because the hand severity scale score and age are both negative, meaning only 3 criteria are met.
42. A 48-year-old clerical worker presents with a 3-month history of right hand numbness and tingling that frequently wakes them up at night. During the examination, you note a wrist ratio index of 0.62, a Brigham and Women's Hospital Hand Severity Scale score of 2.1, and intact sensation across all digits. The patient mentions that flicking their wrist vigorously helps relieve the numbness. Based on the Clinical Prediction Rule for this condition, what is the most appropriate diagnostic conclusion?
- A. The presence of 4 out of 5 criteria yields a Positive Likelihood Ratio (+LR) of 18.3, strongly confirming the condition.
 - B. The patient meets 3 out of 5 criteria, which does not satisfy the full Clinical Prediction Rule threshold for a high positive likelihood ratio.
 - C. The patient satisfies 4 criteria (Age > 45 , Hand Severity Scale score > 1.9 , shaking hands for relief, and night pain), meeting the +LR threshold.
 - D. The wrist ratio index of 0.62 acts as a negative standard, completely ruling out the condition regardless of other findings.
43. A 24-year-old male competitive basketball player presents to an outpatient physical therapy clinic 48 hours after falling on an outstretched hand (FOOSH) during a game. He reports localized, sharp pain along the radial aspect of his wrist. On examination, the therapist notes significant tenderness within the anatomic snuffbox when the patient's wrist is passively placed into ulnar deviation. No prior imaging has been performed. Based on clinical predictors rule for Scaphoid fractures, which of the following is the most appropriate next step?

- A. Initiate immediate aggressive passive range of motion to prevent arthrofibrosis, as a fracture is highly unlikely without visible deformity.
 - B. Refer the patient for immediate medical evaluation and imaging, as he possesses three distinct high-risk predictors for a scaphoid fracture.
 - C. Treat for a standard wrist sprain with ice and a soft splint, instructing the patient to return only if symptoms worsen after two weeks.
 - D. Perform an immediate scaphoid tubercle tenderness test to definitively rule out a fracture before considering immobilization.
44. A 44-year-old man fell onto a loading dock at work 1 month ago, injuring his right, dominant wrist. He recalls falling forward onto his hand and experiencing pain over the back of the wrist. Initial radiographs taken by his primary care physician showed no fractures. His company nurse issued him a wrist splint that he has worn since the injury. The patient was referred to physical therapy for evaluation and treatment with a diagnosis of "wrist sprain." He presents with dull, aching dorsal, radial wrist pain that is aggravated by heavy lifting, gripping, and weight bearing on his wrist (eg, pushing up from the armrests of a chair). He has continued to work and notes his discomfort is worse at the end of his shift. There is no visible deformity and he demonstrates full active range of motion with pain in all directions. Based on the history and complaints, which of the following is the most likely diagnosis to be identified by the physical examination?
- A. Carpal tunnel syndrome
 - B. Scapholunate dissociation
 - C. Triangular fibrocartilage complex tear
 - D. Ulnar nerve compression at the distal ulnar tunnel
45. A 45-year-old patient with advanced rheumatoid arthritis presents with cervical spine instability. Radiographic imaging reveals significant facet joint erosion and subluxation at the C4-C5 level. The patient's presentation primarily represents a component instability that has progressed to a combined instability. Which of the following best explains the transition from the primary component instability to a combined instability in this patient?
- A. The disease process caused structural changes via pathological degradation, which subsequently altered the segment's kinematic coupling characteristics and instantaneous axis of rotation.
 - B. The instability was initiated by an acute macrotrauma that disrupted the ligaments, leading directly to congenital and developmental changes in bone shape.
 - C. The structural alterations caused an isolated hypermobility without altering the motion trajectory or affecting the kinetic chain of adjacent segments.
 - D. The surgical intervention performed to stabilize the joint inherently caused a purely kinematic failure without changing the underlying structural components.
46. A 34-year-old patient presents to physical therapy following a motor vehicle accident. While performing active cervical rotation during your physical assessment, the patient

suddenly experiences an overt loss of balance and falls safely into a chair. Which of the following is the most appropriate clinical interpretation of this presentation?

- A. It is a standard benign manifestation of vestibular dysfunction unrelated to mechanical cervical issues.
 - B. It indicates localized muscle guarding and spasm of the splenius capitis muscle.
 - C. It represents a cardinal sign of upper cervical instability triggered by head movement.
 - D. It suggests a normal physiological stretching response of the vertebral artery without instability.
47. During a passive upper cervical flexion assessment, a patient reports the immediate onset of tingling and numbness localized around their lips and perioral facial region. How should the clinician interpret this finding?
- A. As facial or lip paresthesia produced by movement, which is a cardinal sign of cervical instability.
 - B. As a classic presentation of unilateral lower cervical radiculopathy at the C6/C7 level.
 - C. As a transient ischemic event completely isolated to the middle cerebral artery territory.
 - D. As a normal mechanical tensioning of the trigeminal nerve during standard neck flexion.
48. A 22-year-old athlete presents with an acute knee injury sustained during a soccer match involving a sudden change of direction. The clinician suspects an anterior cruciate ligament (ACL) rupture. When deciding between performing a Lachman test versus an Anterior Drawer test, which of the following best explains why the Anterior Drawer test is considered less reliable due to potential false-negative results?
- A. Positioning the knee at 90° of flexion places the hamstrings at an optimal mechanical advantage, allowing protective muscle guarding to easily pull the tibia posteriorly and mask a tear.
 - B. At 90° of flexion, the posterior horn of the medial meniscus becomes wedged against the medial femoral condyle, mechanically blocking anterior tibial translation regardless of hamstring activity.
 - C. The 30° flexion angle of the Lachman test completely paralyzes the hamstrings via reciprocal inhibition, eliminating all muscular guarding.
 - D. The Anterior Drawer test increases the structural tension on the posterior cruciate ligament (PCL), which naturally pulls the tibia anteriorly and mimics an intact ACL.
49. During an assessment of a patient with suspected subacromial pain syndrome (shoulder impingement), a student physical therapist performs the Neer test. The patient experiences sharp pain at 120° of passive shoulder flexion. To differentiate whether the pain is primarily driven by anatomical structural narrowing or faulty scapular kinematics, which adjustment to the clinical examination provides the highest diagnostic value?
- A. Perform the Hawkins-Kennedy test instead, as it completely eliminates subacromial contact by utilizing internal rotation instead of flexion.
 - B. Apply a manual posterior-to-anterior glide to the humeral head during the terminal phase of the flexion movement.

- C. Perform the Scapular Assistance Test (SAT) by manually assisting scapular upward rotation and posterior tilt during active elevation.
 - D. Resist isometric shoulder abduction at 90° to determine if the supraspinatus tendon is capable of producing force without pain.
50. Physiotherapist is evaluating a football player with suspected meniscus damage. The therapist's primary goal at this moment is to confidently rule in the diagnosis to guide immediate orthopaedic referral. Based on the diagnostic data provided, which examination strategy should the therapist prioritize?
- A. Perform joint line palpation combined with the Thessaly test
 - B. Perform joint line palpation combined with the McMurray test
 - C. Perform the Thessaly test only.
 - D. Perform joint line palpation combined with the McMurray test.
51. A physical therapist is evaluating a patient suspected of progressing from the "freezing" phase to the "frozen" (stiffening) phase of adhesive capsulitis. When tracking the clinical presentation of this condition's development, which transition in symptoms best indicates that the patient has entered the frozen/stiff phase?
- A. Severe, sharp resting pain dissipates into a dull, constant ache, while global glenohumeral range of motion continues to steadily decrease or plateaus at a severely restricted level.
 - B. Pain completely disappears within 24 hours, and the patient suddenly regains full passive external rotation while active motion remains zero.
 - C. Resting and night pain sharply increase to their highest intensity, accompanied by a rapid improvement in passive abduction.
 - D. The restriction shifts exclusively from a capsular pattern to a non-capsular pattern, meaning internal rotation becomes the only limited movement.
52. A physical therapist is examining a rugby player who sustained a forced external rotation injury to the ankle. To assess for a high ankle sprain involving the distal tibiofibular syndesmosis, the therapist performs the Squeeze Test. Which of the following describes the correct hand placement and mechanical rationale for executing this test?
- A. The therapist wraps both hands around the distal malleoli just above the joint line and applies a compressive force to directly compress the anterior inferior tibiofibular ligament.
 - B. The therapist places their hands around the mid-to-proximal calf and compresses the tibia and fibula together, which causes a separation or gapping force at the distal syndesmosis.
 - C. The therapist stabilizes the proximal fibular head with one hand and pulls the calcaneus anteriorly with the other to assess structural laxity of the interosseous membrane.

- D. The therapist applies a quick, compressive upward force directly through the plantar surface of the calcaneus to wedge the talus superiorly into the mortise.

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