

Physio Test Guide

Apprehension Test (Anterior)

Region:

Shoulder

Purpose:

The Apprehension test is generally used to test the integrity of the glenohumeral joint capsule, or to assess glenohumeral instability in an anterior direction.

Starting Position:

Patient is supine. Shoulder is abducted to 90° and elbow is flexed to 90°.

Procedure:

- The patient should be position in supine.
- The therapist will flex the patient's elbow to 90 degrees and abducts the patient's shoulder to 90 degrees in sagittal plane and 180 degrees in frontal plane (horizontal abduction), maintaining neutral rotation.
- The examiner then slowly applies an external rotation force to the arm to 90 degrees while carefully monitoring the patient.
- Patient apprehension from this maneuver, not pain, is considered a positive test.
- Pain with the maneuver, but not apprehension may indicate a pathology other than instability, such as posterior impingement of the rotator cuff.

Positive Test Criteria:

The patient exhibits **apprehension, anxiety, or guarding** (a feeling that the shoulder is about to dislocate) and reports reproduction of their pain, causing them to stop the movement.

Grading / Notes:

The test puts the anterior capsule on stretch. A positive test indicates dynamic instability.

Instructional Video:

https://www.youtube.com/watch?v=_JA-qvXcUdQ&t;=2s

Hawkins-Kennedy Test

Region:

Shoulder

Purpose:

To detect **subacromial impingement syndrome**, specifically involving the supraspinatus tendon or biceps long head tendon.

Starting Position:

Patient is sitting or standing. Shoulder is flexed to 90° and elbow is flexed to 90°.

Procedure:

- The examiner passively **internally rotates the shoulder** while maintaining 90° of flexion.

Positive Test Criteria:

The reproduction of the patient's **pain in the subacromial area** (top/front of the shoulder).

Grading / Notes:

Internal rotation pushes the greater tuberosity against the coracoacromial ligament, narrowing the subacromial space.

Instructional Video:

<https://youtu.be/6GkKB2oXi3o?si=u6-EWGkdmuikOKzq>

Jobe's Test (Empty Can Test)

Region:

Shoulder

Purpose:

To assess for a tear or pathology of the **Supraspinatus muscle or tendon**.

Starting Position:

Patient is sitting or standing. Shoulder is abducted to 90° in the **scapular plane** (30° horizontal adduction). The arm is maximally **internally rotated** (thumb pointing down, simulating an 'empty can').

Procedure:

- The therapist applies an external rotation force to the shoulder.
- If the patient reports apprehension, the Apprehension Test is considered positive.
- The therapist then applies a posteriorly directed force to the shoulder.
- If the patient's apprehension or pain decreases, the Jobe Relocation Test is considered positive.
- It's crucial to return the arm to a neutral position before releasing the posterior force to prevent shoulder dislocation.

Positive Test Criteria:

The patient reports a sudden **onset of pain** at the greater tuberosity/deltoid insertion, or demonstrates **inability/marked weakness** compared to the unaffected side.

Grading / Notes:

The 'empty can' position is believed to best isolate the supraspinatus muscle.

Instructional Video:

<https://youtu.be/DeO50UTxwoo?si=KeuMZVdnJMEgRoa9>

Sulcus Sign

Region:

Shoulder

Purpose:

The sulcus test is used to assess the glenohumeral joint for inferior instability, due to laxity of the superior glenohumeral ligament and coracohumeral ligament. It was first described by Neer and Foster in 1980 to examine multidirectional instability.

Starting Position:

Patient is sitting or standing with the arm at the side.

Procedure:

- This test can be performed with the patient sitting, standing, or in a supine position with their shoulder in neutral (0 degrees rotation).
- The examiner then pulls the distal part of the humerus in a caudal direction.
- However, the sitting position with arms by the side is considered to provide more reliable results as suggested by McFarland et al.
- The test is considered positive when the appearance of sulcus in the subacromial space is more than 1cm as the humeral head translates in the inferior direction.
- To enhance the diagnostic accuracy, the test should be performed twice, first with the arm in neutral rotation and second with the arm in external rotation.
- Inferior translation should be the same in both positions.
- An increased degree of inferior translation with the arm in external rotation suggests a potential lesion of the rotator interval.

Positive Test Criteria:

The visible presence of a **dimple or 'sulcus'** (a groove) beneath the acromion. The size of the sulcus is graded (Grade I <1cm, Grade II 1-2cm, Grade III >2cm).

Grading / Notes:

Indicates excessive inferior laxity. A positive test is often associated with MDI.

Instructional Video:

<https://youtu.be/vV7u2JtdYWI?si=EofpmzQ2eZp9d-DB>

Yergason's Test

Region:

Shoulder

Purpose:

To assess for **pathology of the Long Head of the Biceps tendon** (e.g., instability, tear, or tendinopathy) and its stability in the bicipital groove.

Starting Position:

Patient is sitting or standing. Elbow is flexed to 90°, forearm is pronated (palm down).

Procedure:

- The patient is instructed to actively **supinate the forearm** and **externally rotate the shoulder** against the examiner's strong resistance.

Positive Test Criteria:

Reproduction of **pain localized to the bicipital groove** (anterior shoulder) or a **palpable snapping/clicking** of the biceps tendon out of the groove (subluxation).

Grading / Notes:

The combination of movements maximally stresses the tendon and the transverse humeral ligament.

Instructional Video:

<https://youtu.be/KxuskHhckK0?si=4obnNXAl8voCW2LT>

Elbow Quadrant Tests

Region:

Elbow

Purpose:

A generalized term for assessing the **end-feel and range of motion** of the elbow joint in flexion and extension, often used to assess stiffness or loose bodies.

Starting Position:

Patient is supine. Examiner is at the head of the bed.

Procedure:

- The examiner applies overpressure into **maximal elbow flexion and maximal extension**, while also introducing a slight valgus and varus stress near end-range to explore the entire joint quadrant.

Positive Test Criteria:

The reproduction of pain, restriction of motion, or an abnormal 'springy' or 'bony' end-feel compared to the unaffected side.

Grading / Notes:

A bony end-feel can suggest osteophytes or loose bodies (joint mice).

Instructional Video:

https://www.youtube.com/watch?v=3xF9_5fbJ8A

Cozen's Test

Region:

Elbow

Purpose:

To detect **Lateral Epicondylitis** (Tennis Elbow), which is tendinopathy of the **Extensor Carpi Radialis Brevis (ECRB)** origin.

Starting Position:

Patient is sitting or standing. Elbow is slightly flexed. Forearm is pronated.

Procedure:

- The patient actively **extends the wrist** and is asked to maintain this position against the strong, opposing resistance applied by the examiner.

Positive Test Criteria:

Sharp **pain is reproduced precisely over the lateral epicondyle** of the elbow.

Grading / Notes:

The resisted extension stresses the common extensor tendon origin, causing pain if inflamed.

Instructional Video:

https://youtu.be/8K7jzDIUpLI?si=qH7Gk_c5X0K2SLQ_

Mill's Test

Region:

Elbow

Purpose:

To detect **Lateral Epicondylitis** (Tennis Elbow) by passively stressing the common extensor tendon origin.

Starting Position:

Patient is sitting or standing. Elbow is extended.

Procedure:

- The examiner passively moves the patient's arm through the following sequence: **1) Pronate the forearm** maximally.
- **2) Flex the wrist** fully.
- **3) Fully extend the elbow**.

Positive Test Criteria:

Sharp **pain is reproduced precisely over the lateral epicondyle** of the elbow.

Grading / Notes:

This maneuver maximally stretches the ECRB and the common extensor tendon origin across the lateral epicondyle.

Instructional Video:

https://youtu.be/r_A84ox9JRM?si=fylalSn2sn4fzLYe

Tinel's Test (at the Elbow)

Region:

Elbow

Purpose:

To assess for irritation, regeneration, or entrapment of the **Ulnar Nerve** at the elbow (**Cubital Tunnel Syndrome**).

Starting Position:

Patient is sitting or standing with the elbow slightly flexed.

Procedure:

- The examiner gently and repeatedly **taps over the ulnar nerve** in the cubital tunnel (the groove between the olecranon and the medial epicondyle).

Positive Test Criteria:

Reproduction of **paresthesia (tingling) or electric shooting pain** in the ulnar nerve distribution (ring and little fingers) distal to the point of tapping.

Grading / Notes:

Tapping a compressed or irritated nerve causes the distal paresthesia.

Instructional Video:

<https://youtu.be/ASRatLbu8i0?si=dx1tMWOqHAe08O3D>

Valgus Stress Test (Elbow)

Region:

Elbow

Purpose:

To assess the integrity of the **Ulnar Collateral Ligament (UCL)** (Medial Collateral Ligament), which resists valgus forces.

Starting Position:

Patient is sitting or supine. The elbow is positioned in **20° to 30° of flexion** (unlocked position).

Procedure:

- The examiner applies a **valgus stress** (force directed laterally to medially) across the elbow joint while stabilizing the humerus.

Positive Test Criteria:

Excessive medial joint line gapping compared to the unaffected side and/or reproduction of the patient's **medial elbow pain**.

Grading / Notes:

This test is crucial for diagnosing UCL sprains, common in throwing athletes.

Instructional Video:

https://youtu.be/3xF9_5fbJ8A?si=n3d8GXMDRIPUD7-_

Wringing test for lateral epicondylitis

Region:

Elbow

Purpose:

A functional test to provoke pain associated with **Lateral Epicondylitis** (Tennis Elbow).

Starting Position:

Patient is sitting or standing.

Procedure:

- The patient is asked to mimic the action of **wringing out a towel** (using wrist extension and pronation/supination).

Positive Test Criteria:

The reproduction of **pain over the lateral epicondyle** of the elbow during the wringing action.

Grading / Notes:

This test is primarily for the **Elbow** region, as it stresses the common extensor origin.

Instructional Video:

<https://youtu.be/oaHLn2uT39c?si=gQVWG5Id8SrWixRQ>

Beighton Score

Region:

Wrist/Hand

Purpose:

To quantify **generalized joint hypermobility** (laxity) across the body. The wrist/hand components assess passive joint laxity.

Starting Position:

Patient is sitting or standing.

Procedure:

- The components relevant to the hand/wrist are: **1)** Passive dorsiflexion of the little finger (MCP joint) beyond 90° (1 point per side).
- **2)** Passive apposition of the thumb to the forearm (1 point per side).

Positive Test Criteria:

A positive test is indicated by meeting the specified range criteria for each component (e.g., thumb touching the forearm). A total score of 4/9 or more usually indicates generalized hypermobility.

Grading / Notes:

This test is a screening tool for connective tissue disorders or congenital laxity.

Instructional Video:

https://youtu.be/ZwWts_P-Xws?si=o-6nj5KcmsxrHbqW

Bunnell-Littler Test (or Finochietto-Bunnell Test)

Region:

Wrist/Hand

Purpose:

To differentiate between **Intrinsic Muscle tightness** (interossei and lumbricals) and **Capsular restriction** at the proximal interphalangeal (PIP) joint.

Starting Position:

Patient is sitting. The PIP joint to be tested is held in extension.

Procedure:

- **Phase 1 (Intrinsic Tightness):** The metacarpophalangeal (MCP) joint is held in **extension** while the examiner attempts to passively flex the PIP joint.
- **Phase 2 (Capsular/Control):** The MCP joint is then held in **slight flexion** while the examiner attempts to passively flex the PIP joint again.

Positive Test Criteria:

If PIP flexion is **increased** when the MCP is flexed (Phase 2), the cause is **Intrinsic Muscle Tightness**. If PIP flexion **remains restricted** in both positions, the cause is **Capsular Restriction**.

Grading / Notes:

Flexing the MCP joint relaxes the intrinsic muscles; if motion improves, the muscles are the problem.

Instructional Video:

<https://youtu.be/-WAETmlmfCA?si=WMy30UJbf2-uEtKA>

De Quervain's Tenosynovitis

Region:

Wrist/Hand

Purpose:

This is the **condition name** (inflammation of the APL and EPB tendons), not a specific test. The Finkelstein Test is the primary diagnostic test.

Starting Position:

N/A

Procedure:

- N/A.

Positive Test Criteria:

N/A

Grading / Notes:

This condition involves the tendons in the first dorsal compartment of the wrist.

Instructional Video:

<https://www.youtube.com/watch?v=8WBVXBx34W0>

Elson Test

Region:

Wrist/Hand

Purpose:

To assess the integrity of the **Central Slip** of the Extensor Digitorum Communis (EDC) tendon, rupture of which leads to a Boutonniere deformity.

Starting Position:

Patient is sitting. Hand is placed on a table with the finger being tested dangling over the edge.

Procedure:

- The examiner holds the patient's finger, stabilizing the proximal interphalangeal (PIP) joint in 90° of flexion.
- The patient is instructed to **actively extend the PIP joint** against the examiner's resistance.

Positive Test Criteria:

If the PIP joint remains flexed but the examiner feels that the **Distal Interphalangeal (DIP) joint forcefully hyperextends**, it suggests a central slip rupture.

Grading / Notes:

The force is transmitted to the lateral bands, causing DIP hyperextension, indicating loss of central slip function.

Instructional Video:

<https://www.youtube.com/watch?v=G9HY0qXWUvE>

Figure of Eight Measurement of the Hand

Region:

Wrist/Hand

Purpose:

To quantitatively measure and track **hand and wrist edema (swelling)** over time, often used post-injury or post-surgery.

Starting Position:

Patient is seated. Hand is resting on a table.

Procedure:

- A measuring tape is used in a specific 'figure of eight' pattern: starting at the radial styloid, diagonally across the dorsal hand to the 5th MCP head, diagonally across the palmar surface to the 2nd MCP head, and back across the dorsum to the radial styloid.

Positive Test Criteria:

An **increase in measurement (circumference)** compared to the previous measurement or the opposite, unaffected hand indicates edema.

Grading / Notes:

The measurement should be performed in a consistent manner and position to ensure reliability.

Instructional Video:

<https://www.youtube.com/watch?v=7VlldqF2orY>

Finkelstein Test

Region:

Wrist/Hand

Purpose:

To diagnose **De Quervain's Tenosynovitis** (tendinosis of APL and EPB tendons).

Starting Position:

Patient is sitting or standing with the forearm supported.

Procedure:

- The patient is asked to **make a fist** with their thumb tucked inside the fingers.
- The examiner then passively and sharply **ulnar deviates the wrist**.

Positive Test Criteria:

Sharp **pain over the radial styloid** and along the course of the APL and EPB tendons.

Grading / Notes:

This test places maximum stretch on the inflamed tendons.

Instructional Video:

<https://www.youtube.com/watch?v=8WBVXBx34W0>

Flick Sign

Region:

Wrist/Hand

Purpose:

A symptom-based history sign used to screen for **Carpal Tunnel Syndrome (CTS)**.

Starting Position:

N/A (This is a historical cue, not a physical exam test).

Procedure:

- The clinician asks the patient if they find themselves **'flicking'** their wrist (shaking or moving the hand/wrist vigorously) in an attempt to relieve symptoms of numbness, tingling, or pain.

Positive Test Criteria:

The patient reports the use of a **'flicking' motion** as a way to alleviate numbness/paresthesia in the median nerve distribution.

Grading / Notes:

This has a high reported sensitivity in history-taking for CTS, as the flicking motion is thought to briefly change the pressure within the carpal tunnel.

Instructional Video:

<https://www.youtube.com/watch?v=QX2h4haky2I>

Phalen's Test

Region:

Wrist/Hand

Purpose:

To provoke symptoms associated with **Carpal Tunnel Syndrome (CTS)**, which is median nerve entrapment at the wrist.

Starting Position:

Patient is sitting or standing.

Procedure:

- The patient is instructed to passively and maximally **flex both wrists** by pushing the dorsal surfaces of the hands together.
- This position is held for **60 seconds**.

Positive Test Criteria:

The reproduction of **numbness and tingling** in the median nerve distribution (thumb, index, middle, and radial half of the ring finger) within 60 seconds.

Grading / Notes:

Wrist flexion increases pressure within the carpal tunnel, compressing the median nerve.

Instructional Video:

<https://www.youtube.com/watch?v=rQJNrkq7tls>

Scaphoid Shift Test (Watson Test)

Region:

Wrist/Hand

Purpose:

To assess for instability of the **scaphoid** bone, often due to a tear of the **scapholunate ligament**.

Starting Position:

Patient is sitting. Examiner's thumb is placed over the volar aspect of the scaphoid.

Procedure:

- The examiner moves the wrist from **ulnar deviation/extension** to **radial deviation/flexion** while applying a constant **dorsal pressure** on the scaphoid tubercle with the thumb.

Positive Test Criteria:

A painful **'clunk' or 'shift'** is felt as the scaphoid subluxates dorsally over the rim of the radius and then relocates.

Grading / Notes:

A painful clunk suggests scapholunate instability.

Instructional Video:

<https://www.youtube.com/watch?v=xBBUwsVi2-o>

Scapholunate Ligament

Region:

Wrist/Hand

Purpose:

This is a **ligament/structure name**, not a specific test. Its integrity is assessed primarily by the Scaphoid Shift (Watson) Test.

Starting Position:

N/A

Procedure:

- N/A.

Positive Test Criteria:

N/A

Grading / Notes:

Tear of this ligament is a common cause of wrist instability.

Instructional Video:

<https://www.youtube.com/watch?v=bt5ShQ6547g>

Sollerman Hand Function Test

Region:

Wrist/Hand

Purpose:

A battery of tests used to measure **functional performance** of the hand and wrist, especially after nerve or tendon injuries.

Starting Position:

Patient is seated at a table.

Procedure:

- The patient performs **20 standard tasks** that simulate activities of daily living (ADLs), such as buttoning a shirt, picking up coins, turning a key, and tying a knot.
- Each task is scored based on time and quality.

Positive Test Criteria:

N/A (This is a graded measure, not a positive/negative test). The final score reflects the patient's level of impairment or functional capacity, with scores ranging from 0 (worst) to 80 (best).

Grading / Notes:

It is an outcome measure used to track recovery and compare functional deficits.

Instructional Video:

<https://www.youtube.com/watch?v=adaoXVzp3ks>

Supination Lift Test

Region:

Wrist/Hand

Purpose:

To assess for a tear of the **Triangular Fibrocartilage Complex (TFCC)**, which is crucial for distal radioulnar joint (DRUJ) stability.

Starting Position:

Patient is sitting. Elbows are flexed 90° with the forearms in supination (palms up).

Procedure:

- The patient is instructed to actively lift a **heavy object** or push up against the bottom of a table using their hands while maintaining full supination.

Positive Test Criteria:

Sharp **pain localized to the ulnar side of the wrist** (over the TFCC) and a feeling of weakness.

Grading / Notes:

This test loads the TFCC by placing compressive and rotational forces on the distal radioulnar joint.

Instructional Video:

<https://www.youtube.com/watch?v=BU4h2M5eSus>

The Allen Test for Blood Flow

Region:

Wrist/Hand

Purpose:

To assess the **patency (openness) of the radial and ulnar arteries** and determine the primary blood supply to the hand.

Starting Position:

Patient is sitting. Arm is resting comfortably.

Procedure:

- The patient makes a tight fist.
- The examiner compresses both the **radial and ulnar arteries**.
- The patient opens the hand.
- The examiner then releases **one artery** (e.g., ulnar) and notes the time for the hand color to return.

Positive Test Criteria:

A **delayed or incomplete return of color** to the hand after releasing one artery, indicating poor collateral circulation from that artery.

Grading / Notes:

A return of color within 5-7 seconds is usually considered normal.

Instructional Video:

<https://www.youtube.com/watch?v=D1tJO0RW9UM>

Thumb CMC Grind Test

Region:

Wrist/Hand

Purpose:

To assess for **Osteoarthritis (OA)** in the **Carpometacarpal (CMC) joint** of the thumb (Base of the thumb).

Starting Position:

Patient is sitting. Forearm is supported.

Procedure:

- The examiner grasps the patient's thumb metacarpal and applies an **axial compression load** (pushing down the length of the thumb) and simultaneously **rotates and moves** the metacarpal in a circular grinding motion over the trapezium.

Positive Test Criteria:

The reproduction of the patient's **pain** and/or a palpable **crepitus (grinding/crunching sound)**, suggesting degenerative changes in the joint cartilage.

Grading / Notes:

This is a key diagnostic test for thumb basal joint arthritis.

Instructional Video:

<https://www.youtube.com/watch?v=kaNVc4uHTI8>

Tinel's Test (at the Wrist)

Region:

Wrist/Hand

Purpose:

To assess for nerve irritation, regeneration, or entrapment of the **Median Nerve** at the wrist (**Carpal Tunnel Syndrome**).

Starting Position:

Patient is sitting. Wrist is relaxed and held in neutral.

Procedure:

- The examiner gently and repeatedly **taps over the median nerve** at the wrist, specifically over the carpal tunnel (midline of the wrist).

Positive Test Criteria:

Reproduction of **paresthesia (tingling) or electric shooting pain** in the median nerve distribution (distal to the point of tapping).

Grading / Notes:

The tingling sensation indicates nerve irritation or regenerating nerve fibers.

Instructional Video:

<https://www.youtube.com/watch?v=U8cPjPeZgFw>

Trousseau's Sign

Region:

Wrist/Hand

Purpose:

To test for potential **hypocalcemia** (low calcium levels in the blood), which can lead to neuromuscular hyperexcitability.

Starting Position:

Patient is sitting or supine.

Procedure:

- A **blood pressure cuff** is placed around the patient's upper arm and inflated to a pressure above the patient's systolic blood pressure for **up to three minutes**.

Positive Test Criteria:

The onset of a **carpopedal spasm** (involuntary, painful sustained contraction of the fingers and wrist, often described as an obstetrician's hand posture).

Grading / Notes:

While not a standard physiotherapy test, a positive sign requires urgent medical attention and may explain neuromuscular symptoms like cramping and paresthesia.

Instructional Video:

<https://www.youtube.com/watch?v=p2hnxQTmwuY>

Weber Two-Point Discrimination Test

Region:

Wrist/Hand

Purpose:

To assess the **functional status of the nerve and nerve endings** in the hand by measuring the density of cutaneous innervation (sensory function).

Starting Position:

Patient is sitting. Hand is supported, palm up.

Procedure:

- The examiner uses a caliper or standardized discriminator with two points and touches the skin (usually fingertip pulp).
- The patient is asked whether they feel **one point or two points**.
- The distance between the two points is decreased until the patient can no longer distinguish two points.

Positive Test Criteria:

An inability to reliably distinguish two points at a distance of **less than 6mm** (normal two-point discrimination) or a significant difference compared to the unaffected side.

Grading / Notes:

The test is crucial for assessing recovery after nerve injury or repair. A discrimination of >10-15mm is often considered protective sensation loss.

Instructional Video:

<https://www.youtube.com/watch?v=tBuPNE8AC3I>

Wrist Hyperflexion and Abduction of the Thumb (WHAT) Test

Region:

Wrist/Hand

Purpose:

To diagnose **De Quervain's Tenosynovitis**, often considered a more sensitive alternative to the Finkelstein test.

Starting Position:

Patient is sitting. Forearm is pronated.

Procedure:

- The patient actively **hyperflexes the wrist** and then attempts to **abduct the thumb** against the examiner's resistance.

Positive Test Criteria:

Pain is reproduced **over the radial styloid** and along the APL and EPB tendons during resisted thumb abduction.

Grading / Notes:

This maneuver isolates the stress on the APL and EPB tendons more than the classic Finkelstein test.

Instructional Video:

<https://www.youtube.com/watch?v=FIFMFhrbWwM>

Wrinkling Test (or Immersion Test)

Region:

Wrist/Hand

Purpose:

To assess the **function of the sympathetic nervous system** and its innervation to the hand (sensory nerve integrity).

Starting Position:

Patient is sitting. Hand is submerged in warm water.

Procedure:

- The affected fingers/hand are submerged in **warm water (approx. 40°C)** for approximately **20 to 30 minutes**.

Positive Test Criteria:

If the **fingertip pulp does not wrinkle** (or wrinkles less than the unaffected side), it suggests a loss of sympathetic nerve function due to a sensory nerve lesion (denervation).

Grading / Notes:

Wrinkling is a sympathetically mediated response. If the nerve supply is damaged, the wrinkling response is absent.

Instructional Video:

<https://www.youtube.com/watch?v=3-B-3xSEtL4>

Adductor Squeeze Test

Region:

Hip/Groin

Purpose:

To assess for **adductor muscle strain or tear** (groin strain) or **adductor tendinopathy**.

Starting Position:

Patient is supine with hips and knees flexed to 45° to 60°, feet flat on the table. A blood pressure cuff or ball is placed between the knees.

Procedure:

- The patient is instructed to **squeeze the object between their knees** (resisted hip adduction) with maximal effort, while the examiner monitors the pressure or holds the object.

Positive Test Criteria:

The reproduction of **sharp pain in the groin/adductor muscle origin** during the resisted squeeze, compared to the unaffected side.

Grading / Notes:

The test can be graded based on the patient's pain level and ability to generate force. It is also used to track recovery.

Instructional Video:

<https://www.youtube.com/watch?v=xF2Xj2dDKJ0>

Bowstring Sign (or Slump Test Variation)

Region:

Hip/Lumbar Nerve Tension

Purpose:

To assess for **Sciatic Nerve irritation or tension** due to disc herniation or other space-occupying lesions. *Note: This is often an extension of the Straight Leg Raise (SLR) test.*

Starting Position:

Patient is supine. The affected leg has been passively raised into a position that reproduces their leg pain (positive SLR).

Procedure:

- The examiner flexes the patient's knee slightly (to relieve tension) and then firmly **presses into the popliteal fossa (the 'bowstring')** behind the knee.

Positive Test Criteria:

The sudden reproduction of **radicular pain (shooting pain or numbness)** into the patient's calf or foot when pressure is applied in the popliteal fossa.

Grading / Notes:

This maneuver places direct pressure on the already taut sciatic nerve.

Instructional Video:

<https://www.youtube.com/watch?v=ws5n1p2lsSI>

Craig's Test (or Ryder's Test)

Region:

Hip

Purpose:

To determine the approximate amount of **femoral anteversion** (or retroversion) and assess for abnormal hip rotation alignment.

Starting Position:

Patient is prone with the knee flexed to 90°.

Procedure:

- The examiner passively **internally and externally rotates the hip** until the greater trochanter of the femur is felt to be **most parallel** to the examination table (i.e., at its most lateral point).
- The degree of internal rotation is then measured.

Positive Test Criteria:

Normal anteversion is typically around **8° to 15° of internal rotation**. **Excessive internal rotation** (>15°-20°) suggests femoral anteversion. **Excessive external rotation** or minimal internal rotation (<8°) suggests femoral retroversion.

Grading / Notes:

This test measures a bony alignment and is used to explain gait abnormalities or predisposition to pathology.

Instructional Video:

https://www.youtube.com/watch?v=GVTRle_fivo

Ely's Test (Prone Rectus Femoris Contracture Test)

Region:

Hip

Purpose:

To assess for **tightness or contracture of the Rectus Femoris** muscle (a hip flexor and knee extensor).

Starting Position:

Patient is prone with the pelvis stabilized.

Procedure:

- The examiner passively and maximally **flexes the patient's knee** on the affected side.

Positive Test Criteria:

The patient's **hip passively flexes** (lifts off the table) as the knee is flexed, indicating that the rectus femoris is too tight to allow full knee flexion without pulling the hip into flexion.

Grading / Notes:

A positive test is also indicated by pain in the hip or anterior thigh.

Instructional Video:

<https://www.youtube.com/watch?v=0FgacndWb4Q>

FADIR (Flexion, Adduction, Internal Rotation) Test

Region:

Hip

Purpose:

To provoke symptoms associated with **Femoroacetabular Impingement (FAI)**, particularly **Anterior/Pincer Impingement** or **Acetabular Labral Tears**.

Starting Position:

Patient is supine. The examiner passively flexes the hip to 90°.

Procedure:

- The hip is then moved into a combination of **maximal adduction** and **maximal internal rotation**.

Positive Test Criteria:

The reproduction of the patient's characteristic **sharp groin or anterior hip pain**.

Grading / Notes:

This maneuver jams the femoral head into the anterior/superior acetabulum, stressing the labrum and joint capsule. It is highly sensitive for FAI.

Instructional Video:

<https://www.youtube.com/watch?v=xyJUIhsL4lg>

FAIR Test (Flexion, Adduction, Internal Rotation for Piriformis)

Region:

Hip/Lumbar Nerve Tension

Purpose:

To assess for **Piriformis Syndrome**, where the piriformis muscle compresses the sciatic nerve.

Starting Position:

Patient is side-lying on the unaffected side. Hip is flexed to 60°-90°.

Procedure:

- The examiner applies a combination of hip **flexion, adduction, and internal rotation** (similar to the FADIR position, but with more emphasis on muscle length).

Positive Test Criteria:

Reproduction of **pain or buttock/posterior hip symptoms** that travel down the leg (sciatic distribution), indicating irritation of the nerve by the piriformis muscle.

Grading / Notes:

The stretch/compression is created by the piriformis being forcefully lengthened and rotated over the sciatic nerve.

Instructional Video:

<https://www.youtube.com/watch?v=QvsNjFYrN0>

Femoral Nerve Tension Test

Region:

Hip/Lumbar Nerve Tension

Purpose:

To assess for mechanical tension or irritation of the **Femoral Nerve** (L2-L4 nerve roots).

Starting Position:

Patient is prone.

Procedure:

- The examiner stabilizes the pelvis and passively **flexes the patient's knee** (similar to Ely's Test).
- If this does not reproduce symptoms, the examiner then passively **extends the hip** while maintaining knee flexion.

Positive Test Criteria:

The reproduction of the patient's familiar **anterior thigh pain or paresthesia** (numbness/tingling) due to the stretch on the femoral nerve.

Grading / Notes:

The combination of knee flexion and hip extension maximally elongates the femoral nerve.

Instructional Video:

<https://www.youtube.com/watch?v=6Gv0GrdhLOU>

Fulcrum Test

Region:

Hip

Purpose:

To screen for a **Stress Fracture of the Femoral Shaft**.

Starting Position:

Patient is sitting at the edge of the table with the legs dangling.

Procedure:

- The examiner places their **forearm (fulcrum)** transversely under the patient's thigh and uses the other hand to apply a **gentle downward pressure** on the patient's knee.

Positive Test Criteria:

Sharp **pain reproduced at the point where the forearm is acting as the fulcrum** (the stress fracture site).

Grading / Notes:

The test applies a bending moment to the femur, which is highly painful if a stress fracture is present.

Instructional Video:

<https://www.youtube.com/watch?v=k2vDNa7hW2c>

Gaenslen Test

Region:

Hip/SI Joint

Purpose:

To assess for dysfunction or pathology of the **Sacroiliac (SI) Joint** or hip pathology (less specific).

Starting Position:

Patient is supine, lying close to the edge of the table. One hip/knee is maximally flexed and held to the chest.

Procedure:

- The hip/knee of the unaffected leg is held in full flexion.
- The other leg (the affected side) is allowed to **fall off the edge of the table into hip hyperextension**.

Positive Test Criteria:

Reproduction of **sharp pain in the SI joint, buttock, or posterior hip region** during the hyperextension component.

Grading / Notes:

This test creates both compressive force on the flexed side and shearing/tensile force on the hyperextended side of the SI joint.

Instructional Video:

https://www.youtube.com/watch?v=ED_bYoQk9d4

Hip Quadrant Test (or Scour Test)

Region:

Hip

Purpose:

To assess the integrity of the **articular surfaces of the hip joint** (femoral head and acetabulum) and detect defects like osteochondral lesions or loose bodies.

Starting Position:

Patient is supine. Hip and knee are flexed.

Procedure:

- The examiner applies an **axial load** (compression) through the shaft of the femur and performs a circular, **scouring motion** throughout the available range of hip flexion, adduction, and abduction.

Positive Test Criteria:

The reproduction of the patient's **groin pain** or the presence of a **grinding, catching, or jarring sensation** within the joint, suggesting articular cartilage damage or a labral tear.

Grading / Notes:

This test stresses the entire joint surface.

Instructional Video:

<https://www.youtube.com/watch?v=tsCKRDDv4ss>

Patrick's Test (FABER: Flexion, Abduction, External Rotation)

Region:

Hip/SI Joint

Purpose:

To assess for pathology in the **hip joint** (e.g., OA or labral tear) or the **Sacroiliac (SI) joint**.

Starting Position:

Patient is supine. The affected leg is placed in the **Figure-4 position** (foot crossed over the opposite knee).

Procedure:

- The examiner stabilizes the opposite ASIS (Anterior Superior Iliac Spine) and gently applies a **downward pressure** on the medial aspect of the flexed knee.

Positive Test Criteria:

If pain is reproduced in the **anterior hip/groin**, it suggests **Hip Joint** pathology. If pain is reproduced in the **posterior buttock/SI joint**, it suggests **SI Joint** dysfunction.

Grading / Notes:

The inability of the knee to drop below the level of the opposite leg suggests hip tightness or capsular restriction.

Instructional Video:

<https://www.youtube.com/watch?v=89Qiht82zmg>

Posterior Shear Test (or Posterior Thigh Thrust)

Region:

Hip/SI Joint

Purpose:

To assess for dysfunction of the **Sacroiliac (SI) Joint**, specifically a posterior shearing force.

Starting Position:

Patient is supine. Hip is flexed to 90°, and the knee is flexed to 90°.

Procedure:

- The examiner applies a strong, axial **posterior thrusting force** through the femur (down the shaft of the femur) which stresses the SI joint.

Positive Test Criteria:

Reproduction of the patient's **posterior buttock/SI joint pain**.

Grading / Notes:

This test is one of five cluster tests commonly used to diagnose symptomatic SI joint dysfunction.

Instructional Video:

<https://www.youtube.com/watch?v=id4GqQ82BiM>

Thomas Test (Rectus Femoris and Iliopsoas Tightness)

Region:

Hip

Purpose:

To assess for a **hip flexion contracture**, differentiating between tightness of the **Iliopsoas** and the **Rectus Femoris**.

Starting Position:

Patient is supine at the end of the table. Both hips and knees are fully flexed.

Procedure:

- The patient holds the unaffected leg in maximal hip flexion (to flatten the lumbar spine).
- The examiner passively **lowers the affected leg** toward the table.

Positive Test Criteria:

The thigh of the lowered leg **fails to drop to the table** (indicating **Iliopsoas** tightness). If the thigh is flat but the **knee extends** (loses 80°-90° of flexion), it indicates **Rectus Femoris** tightness.

Grading / Notes:

The amount the thigh lifts off the table quantifies the tightness.

Instructional Video:

<https://www.youtube.com/watch?v=NMDd-4NspHs>

Trendelenburg Sign

Region:

Hip/SI Joint

Purpose:

To assess the functional strength of the **Hip Abductors**, primarily the **Gluteus Medius** muscle.

Starting Position:

Patient is standing equally on both feet.

Procedure:

- The patient is instructed to **stand on one leg** (the stance leg) for 10 seconds, lifting the foot of the unsupported leg off the ground.

Positive Test Criteria:

The **pelvis drops down** on the **unsupported side** (the side that is off the ground). This indicates **weakness of the hip abductors** (Gluteus Medius) on the **stance leg** (the side bearing weight).

Grading / Notes:

A positive sign results in a compensatory shift of the trunk toward the stance leg to maintain balance.

Instructional Video:

<https://www.youtube.com/watch?v=0rcczDEWDqU>

Pivot Shift Test

Region:

Knee

Purpose:

To dynamically assess for **anterolateral rotatory instability** of the knee, which is highly indicative of a **complete ACL tear**.

Starting Position:

Patient is supine. Knee is in full extension, and the hip is slightly flexed and abducted.

Procedure:

- The examiner applies an **axial compression** through the leg, a **valgus stress** to the knee, and **internal rotation** of the tibia.
- The knee is then slowly moved from extension into **flexion**.

Positive Test Criteria:

A palpable **subluxation (clunk) of the tibia** occurs as the knee moves into flexion, followed by a sudden **reduction (shift)** as the ITB passes the axis of rotation.

Grading / Notes:

A positive test is very specific for ACL rupture. Grading is based on the magnitude of the shift (Glide, Jump, Gross).

Instructional Video:

<https://www.youtube.com/watch?v=qqy5IfkEvfw>

Posterior Drawer Test of the Knee

Region:

Knee

Purpose:

To assess the integrity of the **Posterior Cruciate Ligament (PCL)**.

Starting Position:

Patient is supine. Hip is flexed to 45°, and the knee is flexed to **90°**. Foot is stabilized by the examiner sitting on it.

Procedure:

- The examiner grasps the tibia just below the joint line and applies a **straight posteriorly directed force** (pushing backward).

Positive Test Criteria:

Excessive posterior translation of the tibia on the femur, compared to the unaffected side, or a 'soft' (absent) endpoint, indicating a PCL tear.

Grading / Notes:

Often confused with the 'sag sign' (gravity-induced displacement). Always check the starting position for posterior sag first.

Instructional Video:

<https://www.youtube.com/watch?v=wDIGII5wzZs>

Posterior Sag Sign (Gravity Drawer Test)

Region:

Knee

Purpose:

To detect a rupture of the **Posterior Cruciate Ligament (PCL)** by observing the effect of gravity.

Starting Position:

Patient is supine. Hips and knees are flexed to **90°**. Feet are flat on the table, unsupported.

Procedure:

- The examiner observes the contour of the knee joint from the side.

Positive Test Criteria:

The **tibia on the affected side sags or drops posteriorly** relative to the femur (The step-off created by the tibial plateau is lost), indicating a PCL tear.

Grading / Notes:

This is often the first and most obvious sign of a PCL injury.

Instructional Video:

<https://www.youtube.com/watch?v=BVWD2V0RwRA>

Slocum Test (Anterolateral Rotatory Instability)

Region:

Knee

Purpose:

To assess for **anterolateral rotatory instability** and the function of the **Anterolateral Ligament** (a dynamic variant of the Anterior Drawer).

Starting Position:

Patient is supine. Knee is flexed to 90°. Foot is stabilized by the examiner sitting on it.

Procedure:

- The foot is placed in **30° of internal rotation**.
- The examiner then performs a strong **Anterior Drawer Test** (pulling the tibia forward).

Positive Test Criteria:

Excessive anterior translation of the **lateral tibial plateau** (the outside part of the tibia) compared to the medial side, or a 'soft' endpoint.

Grading / Notes:

Internal rotation of the foot tightens the lateral knee structures (LCL, ITB), isolating the strain to the ACL and anterolateral structures.

Instructional Video:

<https://www.youtube.com/watch?v=8Krej3rD6Zo>

Thessaly Test

Region:

Knee

Purpose:

To assess for **meniscal tears** by dynamically loading the meniscus in a weight-bearing, rotational manner.

Starting Position:

Patient is standing on the affected leg, holding the examiner's hands for balance. The knee is flexed to **5°**.

Procedure:

- The patient rotates the body **internally and externally three times** on the loaded leg.
- The test is repeated with the knee flexed to **20°**.

Positive Test Criteria:

The reproduction of **joint line pain** or a definite sense of **locking or catching** in the joint.

Grading / Notes:

The 20° flexion position is generally more sensitive for posterior meniscal lesions. This test is done cautiously due to the weight-bearing nature.

Instructional Video:

<https://www.youtube.com/watch?v=ebraZ4jM36A>

Valgus Stress Test (Knee)

Region:

Knee

Purpose:

To assess the integrity of the **Medial Collateral Ligament (MCL)**.

Starting Position:

Patient is supine. The knee is tested in **full extension** and then again in **20° to 30° of flexion**.

Procedure:

- The examiner stabilizes the ankle and applies a strong, lateral-to-medial force (**valgus stress**) at the knee joint.

Positive Test Criteria:

Excessive medial joint line gapping compared to the unaffected side and/or reproduction of the patient's **medial knee pain**.

Grading / Notes:

Gapping in **20-30° flexion only** suggests an isolated MCL tear. Gapping in **full extension** suggests a severe injury involving the MCL, posteromedial capsule, and potentially the ACL/PCL.

Instructional Video:

<https://www.youtube.com/watch?v=QX1iLSc1TVA>

Varus Stress Test (Knee)

Region:

Knee

Purpose:

To assess the integrity of the **Lateral Collateral Ligament (LCL)** and posterolateral corner structures.

Starting Position:

Patient is supine. The knee is tested in **full extension** and then again in **20° to 30° of flexion**.

Procedure:

- The examiner stabilizes the ankle and applies a strong, medial-to-lateral force (**varus stress**) at the knee joint.

Positive Test Criteria:

Excessive lateral joint line gapping compared to the unaffected side and/or reproduction of the patient's **lateral knee pain**.

Grading / Notes:

Gapping in **20-30° flexion only** suggests an isolated LCL tear. Gapping in **full extension** suggests a severe injury involving the LCL, posterolateral capsule, and potentially the cruciate ligaments.

Instructional Video:

<https://www.youtube.com/watch?v=sg1gk6QKARw>

Distraction Test (Cervical)

Region:

Cervical Spine

Purpose:

To relieve symptoms associated with **Cervical Radiculopathy** (nerve root compression) or **Facet Joint irritation**.

Starting Position:

Patient is sitting.

Procedure:

- The examiner places both hands under the patient's occiput and mandibular arch (chin) and gently applies a **vertical distraction force** (lifting the head straight up).

Positive Test Criteria:

A **decrease or complete relief of the patient's pain or radicular symptoms** (pain, numbness, tingling in the arm/hand).

Grading / Notes:

Relief suggests that nerve root compression is likely due to a space-occupying lesion (e.g., disc bulge or foraminal stenosis).

Instructional Video:

<https://www.youtube.com/watch?v=uLdzgd5snmw>

Foraminal Compression Test (Spurling's Test)

Region:

Cervical Spine

Purpose:

To detect **Cervical Radiculopathy** caused by nerve root compression, usually due to **foraminal stenosis** (bone spurs) or a **disc herniation**.

Starting Position:

Patient is sitting.

Procedure:

- The patient is asked to **laterally flex** (side-bend) and mildly **rotate** the head toward the side being tested.
- The examiner then applies a **gentle, vertical compression force** through the patient's head (pushing down).

Positive Test Criteria:

The reproduction of the patient's characteristic **radicular symptoms** (shooting pain, numbness, tingling) radiating down the arm/hand.

Grading / Notes:

The combination of movements maximally narrows the intervertebral foramen, compressing the nerve root. A highly specific test.

Instructional Video:

<https://www.youtube.com/watch?v=3ZSNdv0o0yk>

Jackson Compression Test (Vertical Compression)

Region:

Cervical Spine

Purpose:

To detect general **nerve root irritation** or **facet joint pathology** (less specific than Spurling's).

Starting Position:

Patient is sitting with the head held in a neutral position.

Procedure:

- The examiner applies a **gentle, vertical compression force** directly through the patient's head.

Positive Test Criteria:

Reproduction of **local cervical pain** (suggesting facet joint or muscle issues) or **radicular pain/paresthesia** into the arm (suggesting nerve root compression).

Grading / Notes:

Less sensitive and specific than Spurling's, as it does not isolate the foramen.

Instructional Video:

<https://www.youtube.com/watch?v=vcEWxalJem4>

Lhermitte's Sign

Region:

Cervical Spine

Purpose:

To screen for **central nervous system pathology** such as **Multiple Sclerosis (MS)**, cervical myelopathy, or other spinal cord lesions.

Starting Position:

Patient is sitting or supine.

Procedure:

- The patient is asked to **actively flex the head and neck** maximally toward their chest.

Positive Test Criteria:

A sudden, transient, electric-shock-like sensation that radiates down the **spine** and/or into the **limbs**.

Grading / Notes:

The sign indicates hyper-excitability or damage to the dorsal columns of the spinal cord (posterior cord).

Instructional Video:

<https://www.youtube.com/watch?v=mDQ-UdK-PDs>

Maximal Cervical Compression Test

Region:

Cervical Spine

Purpose:

To assess for general **cervical nerve root compression** and **facet joint irritation**.

Starting Position:

Patient is sitting.

Procedure:

- The patient maximally moves the head through a combination of **lateral flexion, rotation, and hyperextension** toward the side being tested.

Positive Test Criteria:

Reproduction of **radicular pain** (shooting pain down the arm) suggests nerve root compression. Reproduction of **local neck pain** suggests facet joint pathology.

Grading / Notes:

This test is a comprehensive, multi-directional stress test on the cervical spine.

Instructional Video:

<https://www.youtube.com/watch?v=9zMynez0sQ0>

Shoulder Abduction Relief Sign (Bakody's Sign)

Region:

Cervical Spine

Purpose:

To provide a highly sensitive sign for **Cervical Radiculopathy**, usually at the C5 or C6 nerve root level.

Starting Position:

Patient is sitting, typically complaining of radiating arm pain.

Procedure:

- The patient is instructed to **place their hand or forearm on top of their head**, supporting the elbow with the other hand.

Positive Test Criteria:

A **decrease or complete relief of radicular symptoms** (pain, numbness, tingling) in the arm within 30-60 seconds.

Grading / Notes:

Placing the arm overhead lessens the tension on the nerve root by shortening the distance the nerve has to travel from the neck to the hand.

Instructional Video:

<https://www.youtube.com/watch?v=1Dr43Vh64Z0>

Allen Test (for TOS)

Region:

Thoracic Outlet

Purpose:

To detect vascular compression of the **subclavian artery** as it passes under the Pectoralis Minor muscle (Pec Minor Syndrome, or Hyperabduction Syndrome).

Starting Position:

Patient is sitting or standing. Arm is abducted to 90° and externally rotated.

Procedure:

- The examiner palpates the **radial pulse**.
- The patient is instructed to **rotate the head away** from the tested side.
- The position is held for 1 minute.

Positive Test Criteria:

A **diminution or disappearance of the radial pulse** and/or reproduction of the patient's hand/arm symptoms.

Grading / Notes:

This test is highly sensitive but not specific, as the pulse can diminish in healthy individuals in this extreme position.

Instructional Video:

<https://www.youtube.com/watch?v=D1tJO0RW9UM>

Costoclavicular Test (Military Brace Test)

Region:

Thoracic Outlet

Purpose:

To detect compression of the neurovascular bundle between the **clavicle** and the **first rib** (Costoclavicular space).

Starting Position:

Patient is sitting or standing.

Procedure:

- The patient is instructed to assume a **military posture** (shoulders drawn down and back).
- The examiner palpates the **radial pulse** while passively applying a gentle **downward traction** on the patient's arm (distracting the shoulder).

Positive Test Criteria:

A **diminution or disappearance of the radial pulse** and/or the reproduction of the patient's neurological symptoms.

Grading / Notes:

This maneuver narrows the costoclavicular space, simulating the position that compresses the bundle in this specific region.

Instructional Video:

https://www.youtube.com/watch?v=XEWO_cFy5YI

Hyperabduction Test (Wright's Test)

Region:

Thoracic Outlet

Purpose:

To detect vascular compression of the **subclavian artery** due to entrapment under the **Pectoralis Minor tendon** (Pec Minor Syndrome).

Starting Position:

Patient is sitting. Examiner palpates the radial pulse.

Procedure:

- The arm is passively moved into a position of **maximal hyperabduction** (above the head) and **full external rotation**.
- The position is held for 1 minute.

Positive Test Criteria:

A **diminution or disappearance of the radial pulse** and/or the reproduction of the patient's hand/arm symptoms.

Grading / Notes:

Hyperabduction stretches the Pectoralis Minor, which can pinch the neurovascular bundle against the coracoid process.

Instructional Video:

<https://www.youtube.com/watch?v=e-6AiDPyd2Q>

Gapping Test (Sacroiliac Joint)

Region:

Lumbar Spine/SI Joint

Purpose:

To assess for **SI joint pathology** by applying an anterior distraction force to the anterior ligaments.

Starting Position:

Patient is supine.

Procedure:

- The examiner places their hands over the patient's **Anterior Superior Iliac Spines (ASIS)** and applies a firm, sustained **downward and outward (anterior distraction)** force to separate the anterior aspects of the pelvis.

Positive Test Criteria:

Reproduction of the patient's **posterior pain** (in the SI joint or buttock).

Grading / Notes:

This maneuver stresses the anterior sacroiliac ligaments. It is one of the cluster tests for SI joint pain.

Instructional Video:

<https://www.youtube.com/watch?v=lbLt4Gp39BY>

Lasegue's Sign (Straight Leg Raise - SLR)

Region:

Lumbar Spine

Purpose:

To assess for tension or irritation of the **Sciatic Nerve** (L4-S3 nerve roots), typically due to a **Lumbar Disc Herniation**.

Starting Position:

Patient is supine with the head in neutral.

Procedure:

- The examiner slowly and passively **flexes the patient's hip** (lifts the leg straight up) while maintaining the knee in full extension.

Positive Test Criteria:

The reproduction of the patient's characteristic **radicular pain** (shooting into the leg/foot) below the knee, usually occurring between **30° and 70° of hip flexion**.

Grading / Notes:

This test stretches the sciatic nerve. Pain at a low angle (<30°) may indicate acute inflammation or hamstring tightness.

Instructional Video:

<https://www.youtube.com/watch?v=CnITUzAD1SE>

Slump Test

Region:

Lumbar Spine

Purpose:

A highly sensitive test to assess for **neural tension** or irritation of the spinal cord and nerve roots, often due to disc pathology or stenosis.

Starting Position:

Patient is sitting at the edge of the table.

Procedure:

- The examiner guides the patient through a sequence of movements: **1)** Slump the trunk (thoracic and lumbar flexion).
- **2)** Flex the neck.
- **3)** Extend the knee.
- **4)** Dorsiflex the ankle.

Positive Test Criteria:

The reproduction of the patient's familiar **radicular symptoms** or pain that is relieved by **releasing one component** (e.g., neck extension).

Grading / Notes:

This test sequentially places maximum stress on the dura mater and the entire spinal nervous system.

Instructional Video:

<https://www.youtube.com/watch?v=HFGfP84uwEo>

Squish Test (Sacroiliac Joint)

Region:

Lumbar Spine/SI Joint

Purpose:

To assess for SI joint pathology by applying a compressive force, stressing the posterior ligaments.

Starting Position:

Patient is side-lying.

Procedure:

- The examiner applies a firm, sustained **downward force** through the superior ilium (pushing the iliac crest medially and inward) to compress the SI joint.

Positive Test Criteria:

Reproduction of the patient's **posterior SI joint pain**.

Grading / Notes:

This maneuver is less sensitive than gapping but can be useful in a cluster of SI joint provocation tests.

Instructional Video:

<https://www.youtube.com/watch?v=siJaNmYRqQI>

Valsalva Maneuver

Region:

Lumbar Spine

Purpose:

To increase **intra-abdominal and intrathecal pressure** to provoke symptoms related to a space-occupying lesion in the spinal canal (e.g., disc herniation, tumor).

Starting Position:

Patient is sitting or standing.

Procedure:

- The patient is instructed to **take a deep breath, hold it, and bear down** (as if having a bowel movement).

Positive Test Criteria:

Reproduction of **low back or radicular pain** (shooting into the leg) during the maneuver.

Grading / Notes:

The increased pressure pushes on the dura and nerve roots, aggravating pain from a disc herniation or other mass.

Instructional Video:

<https://www.youtube.com/watch?v=k5o26XwpCt4>

Coleman Block Test

Region:

Foot

Purpose:

To assess the **flexibility of a hindfoot varus deformity** and determine if it is fixed (bony) or flexible (soft tissue) in a patient with a **Cavus Foot (High Arch)**.

Starting Position:

Patient is standing with the lateral border of the foot elevated on a 1-inch wooden block, leaving the heel and first metatarsal head free.

Procedure:

- The patient shifts weight onto the block.
- The block allows the forefoot to plantarflex, which *removes the influence of the forefoot on the hindfoot*.

Positive Test Criteria:

If the **hindfoot varus corrects or reduces** to neutral when standing on the block, the deformity is considered **flexible** (due to soft tissue/muscles). If it **does not correct**, the deformity is considered **fixed** (bony).

Grading / Notes:

This test helps determine the optimal surgical or orthotic intervention for a high arch foot.

Instructional Video:

<https://www.youtube.com/watch?v=ZTD2ekhsY6I>

External Rotation Stress Test (Syndesmosis Ligament Test)

Region:

Foot

Purpose:

To assess the integrity of the **Distal Tibiofibular Syndesmosis** (high ankle sprain ligaments) by applying a rotational stress.

Starting Position:

Patient is sitting with the knee flexed to 90° and the foot hanging freely.

Procedure:

- The examiner stabilizes the distal tibia and applies a forceful, passive **external rotation force** to the foot.

Positive Test Criteria:

Reproduction of **pain localized to the distal anterior and/or posterior tibiofibular joint** (the high ankle region).

Grading / Notes:

This test is highly specific for syndesmosis sprains. It is the rotational component of Kleiger's Test.

Instructional Video:

<https://www.youtube.com/watch?v=s53uzyUv0bc>

Feiss Line Test (or Feiss Line Grading)

Region:

Foot

Purpose:

To clinically assess and grade the degree of **longitudinal arch collapse (Pes Planus or Flat Foot)**.

Starting Position:

Patient is sitting with the ankle in neutral, non-weight bearing.

Procedure:

- The examiner marks three points: the apex of the **medial malleolus**, the **navicular tuberosity**, and the head of the **first metatarsal**.
- A line (Feiss Line) is drawn between the malleolus and the metatarsal head.
- The patient is then asked to stand.

Positive Test Criteria:

The **navicular tuberosity drops below the Feiss Line** upon weight-bearing. **Grade 1:** Drop is 1/3 of the distance to the floor. **Grade 2:** Drop is 2/3 of the distance. **Grade 3:** Navicular tuberosity rests on the floor.

Grading / Notes:

Measures flexible flatfoot severity. A greater drop indicates increased arch collapse.

Instructional Video:

<https://www.youtube.com/watch?v=U6JXcqmKcQU>

Navicular Drop Test (or Staheli's Arch Index)

Region:

Foot

Purpose:

To quantify the change in height of the **medial longitudinal arch** from non-weight bearing to full weight bearing (assessing flexible flatfoot).

Starting Position:

Patient is sitting with the foot resting comfortably (non-weight bearing).

Procedure:

- The examiner measures the vertical distance from the **navicular tuberosity** to the floor.
- The patient is then instructed to stand, and the measurement is repeated with **full weight bearing**.

Positive Test Criteria:

A drop of **more than 10-15mm** in the navicular tuberosity height is considered excessive pronation and indicative of a flexible flatfoot.

Grading / Notes:

The difference between the two measurements provides a reproducible measure of arch collapse.

Instructional Video:

<https://www.youtube.com/watch?v=BejuNMmD7-Y>

Toe Spread Test

Region:

Foot

Purpose:

To assess the **strength and endurance of the intrinsic foot muscles** (IFMs), which are essential for arch stabilization and dynamic balance.

Starting Position:

Patient is sitting or standing with the feet flat on the floor.

Procedure:

- The patient is instructed to actively **abduct (spread) the toes** as wide as possible.
- The distance between the 1st and 5th metatarsal heads is measured during spreading and at rest.

Positive Test Criteria:

A **small or absent increase** in the transverse arch (distance between the metatarsal heads) compared to a normative value or the contralateral side suggests IFM weakness or dysfunction.

Grading / Notes:

Weakness of the IFMs is often linked to conditions like Plantar Fasciitis and Medial Tibial Stress Syndrome (shin splints).

Instructional Video:

<https://www.youtube.com/watch?v=w4YfyOBjBGo>

Windlass Test (Weight Bearing)

Region:

Foot

Purpose:

To assess for **Plantar Fasciitis/Fasciosis** by tensioning the plantar fascia.

Starting Position:

Patient is standing, bearing weight equally on both feet. The heel of the affected foot is slightly elevated (e.g., on a step or block).

Procedure:

- The examiner passively forces the patient's **great toe (hallux) into maximal dorsiflexion** (hyperextension).

Positive Test Criteria:

The reproduction of **sharp pain at the insertion of the plantar fascia** on the medial calcaneal tuberosity (heel bone).

Grading / Notes:

Dorsiflexing the toe tightens the plantar fascia, acting like a 'windlass' to raise the arch and provoke symptoms.

Instructional Video:

<https://www.youtube.com/watch?v=fg0PtnoAzSs>

Anterior Cruciate Ligament (ACL) Injury

Region:

Knee

Purpose:

This is the **injury name** (a tear of the ACL), not a specific test. The main tests used to diagnose it are the **Lachman Test** and **Anterior Drawer Test**.

Starting Position:

N/A

Procedure:

- N/A.

Positive Test Criteria:

N/A

Grading / Notes:

ACL rupture is the most common ligamentous injury of the knee.

Instructional Video:

<https://www.youtube.com/watch?v=kFGB7gW3pQ8>

Anterior Drawer Test of the Knee

Region:

Knee

Purpose:

To assess the integrity of the **Anterior Cruciate Ligament (ACL)**, particularly the anteromedial bundle.

Starting Position:

Patient is supine. Hip is flexed to 45°, and the knee is flexed to **90°**. Foot is stabilized by the examiner sitting on it.

Procedure:

- The examiner grasps the tibia just below the joint line and applies a **straight anteriorly directed force** (pulling forward).

Positive Test Criteria:

Excessive anterior translation of the tibia on the femur, compared to the unaffected side, or a 'soft' (absent) endpoint, indicating an ACL tear.

Grading / Notes:

Less sensitive than the Lachman Test in acute injuries, as hamstring spasm can limit translation.

Instructional Video:

<https://www.youtube.com/watch?v=ldnBKv38EEQ>

Apley's Test (Compression/Distraction)

Region:

Knee

Purpose:

To differentiate between **meniscal injury** (compression) and **ligamentous injury** (distraction) of the knee.

Starting Position:

Patient is prone. Knee is flexed to 90°.

Procedure:

- **Phase 1 (Menisci):** Examiner applies **axial compression** through the heel while internally and externally rotating the tibia.
- **Phase 2 (Ligaments):** Examiner applies **distraction** force while rotating the tibia.

Positive Test Criteria:

Compression (Phase 1): Pain/clicking during rotation suggests a **meniscal tear**.
Distraction (Phase 2): Pain with distraction/rotation that is relieved with compression suggests a **ligamentous injury**.

Grading / Notes:

Rotation combined with compression/distraction selectively stresses the menisci vs. the collateral ligaments.

Instructional Video:

https://www.youtube.com/watch?v=6Z_9lfX_Pc8

Beighton Score

Region:

Knee

Purpose:

To quantify **generalized joint hypermobility** (laxity) across the body, which can predispose the knee to instability.

Starting Position:

Patient is standing.

Procedure:

- For the **knee component**: The patient is asked to **hyperextend the knee**.
- The examiner measures the degree of hyperextension.

Positive Test Criteria:

A single point is scored for the knee if it can hyperextend **more than 10°**. A total score of 4/9 or more indicates general hypermobility.

Grading / Notes:

The test is used as a screening tool for underlying ligamentous laxity.

Instructional Video:

https://www.youtube.com/watch?v=ZwWts_P-Xws

Dial Test (Posterolateral Corner Test)

Region:

Knee

Purpose:

To detect **Posterolateral Corner (PLC) instability** and differentiate between PCL-only injury and combined PCL/PLC injury.

Starting Position:

Patient is prone with the knees flexed to **30°** and then **90°**.

Procedure:

- The examiner stabilizes the thigh and applies a **maximal external rotation force** to the foot/ankle at both the 30° and 90° knee flexion positions.
- The degree of external rotation is measured.

Positive Test Criteria:

An increase of **>10°** of external rotation** compared to the unaffected side. **30° only:** PLC injury. **90° only:** Isolated PCL tear. **Both 30° and 90°:** Combined PLC and PCL injury.

Grading / Notes:

A positive test at 30° indicates PLC involvement, as the collateral ligaments are relatively slack at this angle.

Instructional Video:

<https://www.youtube.com/watch?v=3UGffd71KyI>

Effusion tests of the Knee (Ballottement/Patellar Tap)

Region:

Knee

Purpose:

To detect the presence of **intra-articular swelling (effusion)**, particularly large amounts of fluid.

Starting Position:

Patient is supine with the knee relaxed and slightly extended.

Procedure:

- The examiner uses one hand to **milk the suprapatellar pouch** (proximal thigh) distally to force fluid toward the patella.
- The examiner then uses the fingers of the other hand to **firmly push the patella** down against the femur (the 'tap').

Positive Test Criteria:

The examiner feels the patella **bounce or tap down** against the femur, indicating a significant volume of fluid pushing the patella up.

Grading / Notes:

This test is used for moderate to large effusions. The 'Bulge Sign' or 'Sweep Test' is used for smaller effusions.

Instructional Video:

<https://www.youtube.com/watch?v=r18O50lzMGw>

Ege's Test

Region:

Knee

Purpose:

To assess for tears of the **medial or lateral meniscus** (an alternative to McMurray's Test).

Starting Position:

Patient is standing with the feet shoulder-width apart.

Procedure:

- The patient squats slowly.
- The test is performed with the hips and feet held in **maximal external rotation** (to stress the medial meniscus) and then held in **maximal internal rotation** (to stress the lateral meniscus).

Positive Test Criteria:

Pain and/or an audible **click** in the joint line during the squat, particularly between 90° and 120° of flexion.

Grading / Notes:

The amount of rotation determines which meniscus is stressed. External rotation stresses the medial meniscus.

Instructional Video:

<https://www.youtube.com/watch?v=OUwzCKkGQjw>

Ely's Test (Prone Rectus Femoris Contracture Test)

Region:

Knee

Purpose:

To assess for **tightness or contracture of the Rectus Femoris** muscle (a two-joint muscle crossing the hip and knee).

Starting Position:

Patient is prone with the pelvis stabilized.

Procedure:

- The examiner passively and maximally **flexes the patient's knee** on the affected side.

Positive Test Criteria:

The patient's **hip passively flexes** (lifts the hip/pelvis off the table) as the knee is flexed, indicating that the rectus femoris is too tight to allow full knee flexion without moving the hip.

Grading / Notes:

This test can cause anterior hip pain, which should be noted.

Instructional Video:

<https://www.youtube.com/watch?v=0FgacndWb4Q>

Insall-Salvati Ratio

Region:

Knee

Purpose:

A radiologic measurement used to assess for **Patella Alta** (high-riding patella) or **Patella Baja** (low-riding patella).

Starting Position:

N/A (Radiographic measurement).

Procedure:

- Measured on a lateral knee radiograph at 30° of knee flexion.
- The ratio is calculated by dividing the length of the **Patellar Tendon (LT)** by the greatest diagonal length of the **Patella (LP)**.

Positive Test Criteria:

A **normal ratio is 1.0 (with a variation of ± 0.2)**. A ratio **> 1.2** indicates **Patella Alta**. A ratio **< 0.8** indicates **Patella Baja**.

Grading / Notes:

Patella Alta is a risk factor for Patellofemoral Instability (dislocation).

Instructional Video:

<https://www.youtube.com/watch?v=ftXs-8zraV0>

Lachman Test

Region:

Knee

Purpose:

The **most sensitive** clinical test for detecting a tear of the **Anterior Cruciate Ligament (ACL)**.

Starting Position:

Patient is supine. Knee is positioned in **20° to 30° of flexion** (a non-guarding position).

Procedure:

- The examiner stabilizes the femur with one hand and applies an **anterior translation force** (pulling forward) to the proximal tibia with the other hand.

Positive Test Criteria:

Excessive anterior translation of the tibia compared to the unaffected side, or a **'soft' or 'mushy' endpoint** (loss of firm endpoint), indicating an ACL tear.

Grading / Notes:

The test's position minimizes hamstring involvement, improving sensitivity. Grading is based on the amount of translation (e.g., Grade I, II, III).

Instructional Video:

<https://www.youtube.com/watch?v=JFkbKNNa7xQ>

Lever Sign Test

Region:

Knee

Purpose:

An alternative, potentially easier test to assess for rupture of the **Anterior Cruciate Ligament (ACL)**.

Starting Position:

Patient is supine. The examiner places a clenched fist or rigid object **under the patient's calf** (proximal tibia).

Procedure:

- The examiner then applies a strong, downward pressure to the **distal thigh/femur**, attempting to extend the knee.

Positive Test Criteria:

In a healthy knee, the downward pressure will cause the heel to **lift off the table**. If the **ACL is torn**, the heel will **fail to lift** or lift only minimally due to anterior translation of the tibia.

Grading / Notes:

The principle is that the intact ACL prevents the tibia from rotating anteriorly, forcing the heel up. If the ACL is ruptured, the tibia slides forward, preventing the lever action.

Instructional Video:

<https://www.youtube.com/watch?v=T9ujlYlctdw>

McMurrays Test

Region:

Knee

Purpose:

To assess for a tear of the **medial or lateral meniscus** of the knee joint.

Starting Position:

Patient is supine. The hip and knee are maximally flexed.

Procedure:

- **Medial Meniscus:** The tibia is held in **external rotation**.
- The examiner applies a **valgus stress** while slowly extending the knee.
- **Lateral Meniscus:** The tibia is held in **internal rotation**.
- The examiner applies a **varus stress** while slowly extending the knee.

Positive Test Criteria:

A palpable or audible **click or thud** felt or heard along the joint line during extension, often accompanied by pain.

Grading / Notes:

The rotating and extending movement traps the torn portion of the meniscus, causing the click.

Instructional Video:

<https://www.youtube.com/watch?v=lwDFPAyGGgI>

Moving Patellar Apprehension Test

Region:

Knee

Purpose:

To assess for **Patellofemoral Instability** (e.g., subluxation or dislocation) and chronic lateral patellar hypermobility.

Starting Position:

Patient is supine. Knee is positioned in 20° of flexion (the position of typical instability).

Procedure:

- The examiner slowly and firmly attempts to **translate (push)** the patella **laterally**.
- This is done while the knee is slowly and carefully moved from flexion to extension.

Positive Test Criteria:

The patient exhibits a strong **quadriceps contraction, verbal apprehension, or fear of dislocation** when the patella is pushed laterally, especially in the 20° to 30° flexion range.

Grading / Notes:

The test must elicit a fear response, not just pain, to be considered positive for instability.

Instructional Video:

<https://www.youtube.com/watch?v=lKhEEIT8jvQ>

Muller's Test

Region:

Knee

Purpose:

To screen for **Patellofemoral Pain Syndrome (PFPS)** and evaluate the ability of the vastus medialis obliquus (VMO) to stabilize the patella.

Starting Position:

Patient is sitting with the leg dangling off the table, knee flexed to 90°. Examiner stabilizes the thigh.

Procedure:

- The patient is asked to **slowly extend the knee** while the examiner watches the patella's movement.
- The examiner may apply a gentle manual medial glide to the patella before extension is initiated.

Positive Test Criteria:

The patient reports **pain or apprehension** between 30° and 0° of knee extension, or the examiner observes **abnormal lateral patellar tracking**.

Grading / Notes:

PFPS is often related to abnormal tracking or malalignment of the patella.

Instructional Video:

<https://www.youtube.com/shorts/iIOQsDTDkVI>

Patellar Grinding Test (Clarks Sign or Zohlen Sign)

Region:

Knee

Purpose:

To assess for **Patellofemoral Pain Syndrome (PFPS)** and damage to the **articular cartilage** on the deep surface of the patella.

Starting Position:

Patient is supine with the knee fully extended.

Procedure:

- The examiner places the web space of the hand just superior to the patella and applies a firm, **distally directed pressure** (pushing the patella toward the feet) while instructing the patient to **gently and maximally contract the quadriceps**.

Positive Test Criteria:

The patient reports **pain beneath or around the patella** during the resisted contraction, often accompanied by a **grinding or grating sensation** (crepitus).

Grading / Notes:

This test can be very painful and should be performed carefully. It is highly sensitive for patellofemoral joint irritation.

Instructional Video:

<https://www.youtube.com/watch?v=pRqnODPqxFs>

Adson's Test

Region:

shoulder

Purpose:

To assess for Thoracic Outlet Syndrome (TOS) due to compression of the neurovascular bundle by the anterior and middle scalene muscles.

Starting Position:

Patient is sitting or standing. Examiner monitors the radial pulse.

Procedure:

- The patient extends the neck and turns the head **toward** the tested side.
- The examiner simultaneously abducts, extends, and externally rotates the patient's arm slightly.
- The patient takes a deep breath and holds it.
- The pulse is re-evaluated.

Positive Test Criteria:

A diminished or absent radial pulse, and/or reproduction of the patient's symptoms (e.g., paresthesia or pain) in the upper limb.

Grading / Notes:

A modified test exists where the patient turns the head **away** from the tested side (for costoclavicular or other TOS causes).

Instructional Video:

<https://www.youtube.com/watch?v=z5ulH69ke4E&t:=33s>

Anterior Drawer Test Of The Shoulder

Region:

shoulder

Purpose:

To assess for anterior glenohumeral joint laxity and instability and the integrity of the anterior capsular structures.

Starting Position:

Patient is supine. Shoulder is abducted 80-120°, flexed 0-20°, and laterally rotated 0-30°.

Procedure:

- The examiner stabilizes the patient's scapula (coracoid process anteriorly, spine posteriorly) and grasps the proximal humerus.
- A force is applied to translate the humeral head **anteriorly**.

Positive Test Criteria:

Excessive anterior translation of the humeral head compared to the opposite side, or reproduction of symptoms/apprehension. A 'clunk' may indicate a labral tear.

Grading / Notes:

Grading is based on the displacement: Grade 1 (reaches glenoid rim), Grade 2 (dislocates but reduces spontaneously), Grade 3 (dislocates and stays dislocated).

Instructional Video:

https://www.youtube.com/watch?v=G8s_7Q5zfTM

Arm Squeeze Test

Region:

shoulder

Purpose:

This is a new clinical test that may be useful to distinguish between Cervical radiculopathy from other shoulders related pathology. The anatomic reasoning behind this test is that because the musculocutaneous nerve (cervical root from C5 to C7), the radial nerve (from C5 to T1), the ulnar nerve (from C7 to T1), and the median nerve (from C5 to T1) are relatively superficial in the middle third of the arm and easy to elicit a painful provocation response by squeezing the arm. A moderate compression of skin, subcutis, and muscle by squeezing the middle third of the upper arm (brachial biceps and triceps area) on the side with shoulder pain elicits an intense reaction of local pain only in patients with cervical nerve root compression from C5 to T1, not when the pain arises from the shoulder.

Starting Position:

Patient is sitting or standing with the arm resting at their side.

Procedure:

- The examiner places their hand around the patient's mid-arm and squeezes the arm firmly, compressing the rotator cuff tendons through the muscle belly.

Positive Test Criteria:

The reproduction or increase of the patient's localized shoulder pain (not just discomfort from the squeeze).

Grading / Notes:

A sensitive, easy-to-perform screening test, but needs to be followed up with more specific tests if positive.

Instructional Video:

<https://www.youtube.com/watch?v=JS-dphAKL8Y>

Bear Hug Test

Region:

shoulder

Purpose:

To assess for a tear or significant weakness in the **subscapularis tendon** (subscapularis strength).

Starting Position:

Patient is sitting or standing. The affected hand is placed on the opposite shoulder, with the elbow pointing forward.

Procedure:

- The patient actively pushes their hand into their shoulder.
- The examiner attempts to **externally rotate** the patient's arm and pull the hand away from the shoulder while the patient resists.

Positive Test Criteria:

The patient is **unable to hold the hand against the opposite shoulder** due to weakness or pain, indicating a subscapularis tear.

Grading / Notes:

A highly specific test for subscapularis pathology.

Instructional Video:

<https://youtu.be/30C3DNq-w4g?si=FrR9L7S6kQD7Ifmf>

Belly Press Test (or Abdominal Compression Test)

Region:

shoulder

Purpose:

To assess the function and strength of the **subscapularis muscle**, especially in cases where the Lift-Off test is restricted.

Starting Position:

Patient is sitting or standing. The affected hand is placed on the abdomen (belly).

Procedure:

- The patient is instructed to push into their belly, trying to **keep the elbow forward**.
- The examiner monitors the pressure and the patient's elbow position.

Positive Test Criteria:

The patient's **elbow moves posteriorly** (backward) or they cannot maintain pressure, suggesting a subscapularis tear.

Grading / Notes:

If the elbow drops back (posteriorly), it indicates the patient is using the wrist extensors and chest muscles instead of the subscapularis.

Instructional Video:

<https://youtu.be/RDfStbLsj6Q?si=YMFKVoTajdwhPIGQ>

Biceps Load II Test

Region:

shoulder

Purpose:

To detect a **Superior Labral Anterior and Posterior (SLAP) lesion**, specifically by increasing tension on the biceps anchor.

Starting Position:

Patient is supine. Shoulder is placed in 120° abduction, maximum external rotation, and elbow is flexed to 90° with the forearm supinated.

Procedure:

- The examiner resists the patient's active **elbow flexion**.

Positive Test Criteria:

The reproduction or increase of the patient's shoulder pain (typically deep, internal pain) during the resisted elbow flexion.

Grading / Notes:

A high-specificity test for SLAP lesions (Type II and IV).

Instructional Video:

<https://youtu.be/dPh5wQmKTfk?si=02Yuqv0lUITFzu7Y>

Codman's Test (Drop Arm Test)

Region:

shoulder

Purpose:

Codman's test is typically used in the assessment of a suspected rotator cuff tear. This test is also commonly referred to as the drop-arm test or sign.

Starting Position:

Patient is standing. Examiner passively abducts the patient's arm to 90°.

Procedure:

- The therapist passively raises the patient's arm to 90 degrees of abduction.
- The patient then lowers the arm back to neutral with the palm down.
- If the patient's arm drops suddenly or experiences pain, then the test is considered positive.

Positive Test Criteria:

The patient is **unable to smoothly control the descent** and the arm 'drops' suddenly to the side, or they experience a sudden onset of pain when attempting to maintain the 90° position.

Grading / Notes:

Often confused with a partial tear, but is highly suggestive of a complete or massive tear.

Instructional Video:

<https://youtu.be/JXgRBeqToik?si=GpWe0XPEfn0K3Y7j>

Costoclavicular or Military Brace or Edenâ€¢'s Test

Region:

shoulder

Purpose:

To evaluate for **Thoracic Outlet Syndrome (TOS)** caused by compression in the **costoclavicular space** (between the clavicle and the first rib).

Starting Position:

Patient is standing in a 'military attention' or exaggerated upright posture. Examiner palpates the radial pulse.

Procedure:

- Patient is standing.
- The examiner palpates the radial pulse and then draws the patient's shoulders down and back as the patient lifts their chest in an exaggerated (at attention posture).
- A positive test is indicated by an absence or decrease in vigor of the pulse and implies possible costoclavicular syndrome.
- It is also positive if the client experiences an increase of neurologic symptoms into the upper extremity on that side.
- This test is particularly effective in patients who complain of symptoms while wearing a backpack or heavycoat.

Positive Test Criteria:

A **marked decrease or abolition of the radial pulse** or the **reproduction of the patient's neurological symptoms** (e.g., numbness, tingling).

Grading / Notes:

This test reduces the space between the clavicle and the first rib, compressing the subclavian artery/vein and brachial plexus.

Instructional Video:

<https://youtu.be/Mifo6ZzkNLA?si=x2S8UhcKevUDBxwp>

Crank Test

Region:

shoulder

Purpose:

To assess for a tear in the **glenoid labrum** (especially superior labral lesions) or generalized instability.

Starting Position:

Patient is supine. Shoulder is elevated to 160° in the scapular plane, and the elbow is flexed to 90°.

Procedure:

- Patient is sitting upright with the arm flexed to 90°, the examiner stands adjacent to the affected shoulder holding the flexed elbow or forearm.
- Joint load is applied along the axis of the humerus with one hand while the other hand performs humeral rotation while the shoulder is being elevated in the scapular plane.
- The test can be repeated in supine.
- A positive test is indicated during the maneuver (usually during external rotation) if there is reproduction of symptoms (usually pain) with or without a click.

Positive Test Criteria:

The reproduction of pain, or a **clicking/clunking sensation** within the shoulder during the rotation/axial load, which suggests labral damage.

Grading / Notes:

The axial load is crucial as it compresses the humeral head against the glenoid labrum.

Instructional Video:

<https://youtu.be/HTpejl3FGG4?si=0ctmdQxIj9qIAZbX>

Wartenberg's Sign

Region:

elbow

Purpose:

To test for **Ulnar Nerve palsy/weakness**, specifically of the Palmar Interossei, which leads to unopposed abduction of the little finger.

Starting Position:

Patient is sitting with hands resting palms down.

Procedure:

- The patient is asked to **adduct all fingers** (bring them together).
- The examiner observes the position of the fingers.

Positive Test Criteria:

The **little finger remains persistently abducted** (stuck out laterally) and cannot be actively pulled fully next to the ring finger.

Grading / Notes:

This sign may be present in patients with Ulnar Nerve compression proximal to the elbow (Cubital Tunnel) or wrist (Guyon's Canal).

Instructional Video:

<https://www.youtube.com/watch?v=K7EmeSGqEp4>

Full Can Test

Region:

shoulder

Purpose:

To test the integrity and strength of the **supraspinatus muscle and tendon** while placing less tension on the tendon than the Empty Can position.

Starting Position:

Patient is sitting or standing. Arm is abducted to 90° in the **scapular plane** (30° of horizontal adduction) and held in **external rotation** (thumbs pointing up).

Procedure:

- The examiner applies downward pressure on the patient's forearm or wrist, and the patient is instructed to resist this pressure.

Positive Test Criteria:

The reproduction of pain or notable weakness during resistance compared to the unaffected side.

Grading / Notes:

Research suggests the Full Can position may isolate the supraspinatus better and is less provocative of general impingement pain than the Empty Can test.

Instructional Video:

<https://youtu.be/NuBOHdm20cc?si=uVbrjR7dRnDEaQCc>

Gerber's Test (Lift-Off Test)

Region:

shoulder

Purpose:

To assess for a **tear or weakness of the subscapularis muscle/tendon**.

Starting Position:

Patient is standing or sitting. The dorsal surface of the affected hand is placed against the patient's mid-lumbar spine (hand behind the back).

Procedure:

- The patient is asked to **actively lift their hand away from their back**.
- If they can do this, the examiner applies a resistance force, attempting to push the hand back toward the spine.

Positive Test Criteria:

The patient is **unable to actively lift their hand away from the back**, or they demonstrate significant weakness/pain when resisting the examiner's push-back force.

Grading / Notes:

If the patient performs the movement by extending the elbow or shoulder (compensation), the test is still suggestive of subscapularis insufficiency.

Instructional Video:

https://youtu.be/AgkTH52_PBI?si=IImYnNnF8tow7jZu

Hara Test

Region:

shoulder

Purpose:

The Hara test is a functional assessment tool used to identify abnormalities in the kinetic chain of the upper extremity. It involves evaluating the coordination and movement patterns of the shoulder, scapula, and arm during a specific movement.

Starting Position:

Patient is sitting or standing with arms at their sides.

Procedure:

- The patient is asked to keep their arms straight and slowly raise them overhead until their hands touch their ears.
- The examiner observes the shoulder and scapula movement throughout the full range of motion.

Positive Test Criteria:

Any noticeable **asymmetry, winging, or abnormal movement patterns** of the scapula or arm during the test, suggesting scapular instability or muscular imbalance.

Grading / Notes:

The test is often repeated with palms up, and/or with light weights, to further provoke any compensatory patterns.

Instructional Video:

<https://www.youtube.com/watch?v=gII5mUzEhGk>

Hornblower's Sign (Teres Minor Test)

Region:

shoulder

Purpose:

To assess for a tear or severe dysfunction of the **teres minor tendon** (and potentially infraspinatus).

Starting Position:

Patient is sitting or standing. The arm is abducted to 90° and the elbow is flexed to 90°.

Procedure:

- The examiner passively moves the shoulder into maximal **external rotation**.
- The patient is instructed to actively hold this position as the examiner releases support.

Positive Test Criteria:

The patient is **unable to hold the external rotation** and the arm 'lags' or drops into internal rotation, suggesting a tear of the external rotators (teres minor).

Grading / Notes:

Also referred to as the External Rotation Lag Sign performed at 90° of abduction.

Instructional Video:

<https://www.youtube.com/watch?v=am5XZ1VnoLc>

Infraspinatus Test

Region:

shoulder

Purpose:

The infraspinatus muscle is one of the rotator cuff muscles. Rotator cuff muscles dysfunction leads to shoulder impingement as the head of the humerus superiorly migrates during arm elevation. Infraspinatus muscle is often involved in shoulder pathologies as shoulder impingement and rotator cuff tears. The Infraspinatus test is used to test for infraspinatus muscle involvement in rotator cuff pathologies such as subacromial impingement or rotator cuff tears.

Starting Position:

Patient is standing with the arm at the side, elbow at 90°, and the humerus medially rotated to 45°.

Procedure:

- The patient arms should be at his side not quite touching his trunk, with the elbows flexed to 90 degrees.
- The examiner places his hand on the dorsum of the patient's hands.
- The patient is asked to externally rotate both forearms against the examiner's resistance.
- The test is positive when there is weakness or pain in external rotation.
- Infraspinatus tears are usually painless so external rotation weakness strongly suggests infraspinatus tear.

Positive Test Criteria:

Pain or the **inability to resist medial rotation** (weakness) compared to the unaffected side, indicating an infraspinatus strain or tear.

Grading / Notes:

This test attempts to isolate the infraspinatus, which is the primary external rotator of the shoulder.

Instructional Video:

<https://www.youtube.com/watch?v=vzl97bB2hzQ>

Internal Rotation Lag Sign

Region:

shoulder

Purpose:

To detect a **full-thickness tear of the subscapularis tendon**.

Starting Position:

Patient is sitting or standing. The affected arm is behind the back, with the hand actively placed away from the back (Lift-Off position is achieved).

Procedure:

- Patient is seated with examiner standing behind the patient.
- The affected arm is brought into maximal internal rotation behind the back (dorsum of patients hand against the lumbar region).
- Examiner controls patient's arm at the elbow and wrist/hand which is passively brought into 20 degrees of extension, taking the forearm and hand away from the back.
- The patient is instructed to actively maintain this position, as the examiner releases the wrist but maintains support at the elbow.

Positive Test Criteria:

The patient is **unable to hold the position** and the hand 'lags' or drops back toward the back/spine (loss of internal rotation), indicating subscapularis tear.

Grading / Notes:

A very specific test for subscapularis tear, especially a large or complete tear.

Instructional Video:

<https://www.youtube.com/watch?v=FbxrdmtjwN8>

Jerk test

Region:

shoulder

Purpose:

To detect **posteroinferior glenohumeral instability** and posterior labral pathology.

Starting Position:

Patient is sitting. Shoulder is abducted to 90° and internally rotated. Examiner grasps the elbow and wrist.

Procedure:

- The examiner applies an **axial load** (force along the humerus) and simultaneously moves the arm **horizontally across the body** (horizontal adduction).

Positive Test Criteria:

A sudden, painful **jerk or clunk sensation** as the humeral head subluxates posteriorly and then relocates when the load is released.

Grading / Notes:

A painful clunk is highly correlated with a posterior labral lesion.

Instructional Video:

https://www.youtube.com/watch?v=j_qG1MNOws8

Jobes Relocation Test

Region:

shoulder

Purpose:

To confirm and differentiate between anterior instability and primary rotator cuff impingement. It is performed after a positive Apprehension Test.

Starting Position:

Patient is supine. Shoulder is abducted to 90° and maximally externally rotated (positive Apprehension position).

Procedure:

- The examiner maintains the apprehension position and then applies a strong, **posteriorly directed force to the anterior humeral head** (relocation force).

Positive Test Criteria:

A **decrease or complete cessation of the patient's pain and/or apprehension** during the posterior push, followed by an increase in symptoms when the push is removed (Surprise Test).

Grading / Notes:

Pain relief indicates the symptoms were due to instability (humeral head sliding forward) rather than pure impingement.

Instructional Video:

<https://www.youtube.com/watch?v=YX1uJhjhWg>

Kim test

Region:

shoulder

Purpose:

To detect a **posteroinferior labral lesion** (tear) of the shoulder.

Starting Position:

Patient is sitting. Shoulder is abducted to 90°. Examiner stabilizes the lateral aspect of the shoulder.

Procedure:

- The examiner applies an **axial load** to the humerus and performs a combination of **45° diagonal elevation and internal rotation** of the arm.

Positive Test Criteria:

A sudden onset of **posterior shoulder pain and a posterior click or clunk** with or without a sensation of the shoulder giving way.

Grading / Notes:

The Kim test is considered more sensitive than the Jerk Test for detecting the predominantly **inferior** component of a posteroinferior labral lesion.

Instructional Video:

https://www.youtube.com/watch?v=-knsALCdv_A

Lag Sign of the Shoulder (External Rotation)

Region:

shoulder

Purpose:

To assess for a **full-thickness tear of the external rotator tendons** (supraspinatus and/or infraspinatus).

Starting Position:

Patient is sitting. Arm is abducted to 90° and the elbow is flexed to 90°.

Procedure:

- The examiner passively moves the patient's arm into near-maximal **external rotation**.
- The patient is instructed to actively **hold** this position as the examiner releases the wrist support.

Positive Test Criteria:

The patient is **unable to hold the external rotation** and the arm 'lags' or drops back into internal rotation (loss of lag).

Grading / Notes:

A high-specificity test for rotator cuff tears.

Instructional Video:

<https://www.youtube.com/watch?v=JPslBYjldGI>

Load and Shift

Region:

shoulder

Purpose:

A primary test to assess the degree of **glenohumeral joint stability and translation** (laxity) in the anterior, posterior, and inferior directions.

Starting Position:

Patient is sitting with a straight posture, arm resting on the thigh. Examiner stabilizes the clavicle and scapula.

Procedure:

- **1.
- Load:** The examiner uses one hand to grasp the humeral head and applies an axial force to center the humeral head in the glenoid fossa.
- **2.
- Shift:** The examiner then applies a translation force in the anterior and posterior directions.

Positive Test Criteria:

The reproduction of the patient's symptoms (pain/apprehension) and/or **excessive translation** (movement) of the humeral head compared to the unaffected side.

Grading / Notes:

A translation up to 25% of the humeral head diameter is considered normal anteriorly, and 50% is normal posteriorly.

Instructional Video:

<https://www.youtube.com/watch?v=txARar71h5E>

Neer Test

Region:

shoulder

Purpose:

To detect **subacromial impingement syndrome (SAIS)**, specifically compression of the rotator cuff tendons under the coracoacromial arch.

Starting Position:

Patient is sitting or standing. Examiner stabilizes the scapula.

Procedure:

- The examiner passively and forcibly **flexes the patient's arm forward** between 70° and 120° while maintaining **internal rotation**.

Positive Test Criteria:

The reproduction of the patient's **shoulder pain** during the passive movement, indicating mechanical impingement.

Grading / Notes:

This test has high sensitivity, so a negative result is useful for ruling out impingement.

Instructional Video:

<https://www.youtube.com/watch?v=nNyax0iocZo>

Norwood Stress Test

Region:

shoulder

Purpose:

To evaluate the integrity and tightness of the **posterior shoulder capsule** and diagnose **posterior instability**.

Starting Position:

Patient is seated. The arm is in 90° abduction and maximal external rotation.

Procedure:

- The examiner applies an **axial load** to the humerus while simultaneously **adducting the arm across the patient's chest** (horizontal adduction) and maintaining external rotation.

Positive Test Criteria:

The patient experiences **posterior shoulder pain or apprehension**, and/or the examiner feels **excessive posterior translation** of the humeral head on the glenoid.

Grading / Notes:

This test puts a strong stress on the posterior capsule.

Instructional Video:

<https://www.youtube.com/watch?v=ST53UChoFRo>

O'Brien's Test (Active Compression Test)

Region:

shoulder

Purpose:

To detect **Superior Labral Anterior to Posterior (SLAP) lesions** or **Acromioclavicular (AC) joint pathology**.

Starting Position:

Patient is sitting or standing. Arm is flexed to 90°, horizontally adducted 10-15°.

Procedure:

- **Phase 1 (SLAP/AC Joint):** Arm is internally rotated (thumb pointing down).
- Examiner applies a downward force that the patient resists.
- **Phase 2 (Control):** Arm is externally rotated (palm pointing up).
- Examiner applies the same downward force.

Positive Test Criteria:

Pain or clicking in Phase 1 that is relieved in Phase 2. If pain is deep in the shoulder, it suggests a labral tear (SLAP). If pain is superficial at the top of the shoulder, it suggests AC joint pathology.

Grading / Notes:

Relief of pain in Phase 2 is essential for a true positive test.

Instructional Video:

<https://www.youtube.com/watch?v=qkDvVBi0gg8>

Painful Arc

Region:

shoulder

Purpose:

To diagnose **subacromial impingement syndrome (SAIS)**, specifically by identifying compression of the rotator cuff under the acromion.

Starting Position:

Patient is sitting or standing with the arm resting at their side.

Procedure:

- The patient is asked to **actively abduct their arm** from a neutral position to full elevation.

Positive Test Criteria:

Pain occurs within the specific range of **70° to 120° of abduction**, but pain is significantly diminished or absent both below 70° and above 120°.

Grading / Notes:

Pain occurring near end-range elevation (170°+) may indicate Acromioclavicular (AC) joint pathology.

Instructional Video:

<https://www.youtube.com/watch?v=7-aXHIBRsU>

Passive compression test

Region:

shoulder

Purpose:

To detect **Superior Labral Anterior to Posterior (SLAP) lesions**.

Starting Position:

Patient is supine, lying on the edge of the table near the affected shoulder. Arm is abducted to 90°.

Procedure:

- The examiner applies an **axial load (compression)** through the humerus and simultaneously **externally rotates** the shoulder.

Positive Test Criteria:

The reproduction of the patient's pain or a **clicking/clunking sensation** during the maneuver.

Grading / Notes:

A relatively new test that has shown good accuracy for detecting superior labral tears.

Instructional Video:

<https://www.youtube.com/watch?v=G2n0Mu9BmEA>

Paxinos Test

Region:

shoulder

Purpose:

To detect pathology of the **Acromioclavicular (AC) joint** (e.g., sprain, arthritis).

Starting Position:

Patient is sitting. Arm is resting at the side.

Procedure:

- The examiner uses one hand to stabilize the posterior aspect of the clavicle while applying an **anteroinferior force** to the acromion with the heel of the other hand.

Positive Test Criteria:

Pain located specifically over the **AC joint** during the maneuver.

Grading / Notes:

This test compresses the AC joint, which should provoke pain if the joint capsule or cartilage is damaged.

Instructional Video:

<https://www.youtube.com/watch?v=fiEeyT9VsCc>

Rent Test

Region:

shoulder

Purpose:

To test for the presence of rotator cuff tears. The rent test is used in addition to other rotator cuff tear tests (Jobe test, Drop arm sign, Belly-press test, List-off test, Bear-hug test) to determine the location of the tear

Starting Position:

Patient is sitting. The patient's shoulder is passively extended and positioned in a relaxed, internally rotated position.

Procedure:

- The examiner uses the thumb of the opposite hand to firmly palpate the area just anterior to the acromion, directly over the supraspinatus tendon insertion.
- The examiner then externally rotates the patient's arm slightly and repeats palpation.

Positive Test Criteria:

A palpable **hole or gap (rent)** in the tendon upon deep palpation, indicating a full-thickness tear.

Grading / Notes:

Due to overlying structures, this test is often challenging to perform accurately but is highly suggestive of a tear when positive.

Instructional Video:

<https://www.youtube.com/watch?v=RUh2bz4CXvE>

Resisted AC Joint Extension Test

Region:

shoulder

Purpose:

Resisted AC Joint Extension Test (or the AC Resisted Extension Test) is used to help identify acromioclavicular joint pathology in both traumatic and non-traumatic/chronic overuse cases, and can be useful in helping differentiate between AC joint and impingement syndromes.

Starting Position:

Patient is standing or sitting. Arm is positioned in 90° of forward flexion.

Procedure:

- The examiner resists the patient's active movement of **horizontal adduction** and/or **extension** of the arm across the body.

Positive Test Criteria:

Pain is reproduced or significantly increased **specifically over the AC joint** (top of the shoulder) during the resisted movement.

Grading / Notes:

This test places compressive stress on the AC joint.

Instructional Video:

<https://www.youtube.com/watch?v=CHTlvg9a13M>

Roos Stress Test (Elevated Arm Stress Test)

Region:

shoulder

Purpose:

A highly sensitive test to provoke symptoms associated with **Thoracic Outlet Syndrome (TOS)**.

Starting Position:

Patient is sitting. Both arms are held in the 'stick-up' position: shoulders abducted 90°, externally rotated, and elbows flexed 90°.

Procedure:

- The patient is instructed to **rapidly open and close their hands (making fists) for up to three minutes** while maintaining the elevated arm position.

Positive Test Criteria:

The patient is **unable to complete the three-minute period** due to heaviness, weakness, numbness, tingling, or pain. The test is considered positive if symptoms are reproduced, particularly paresthesia and circulatory changes (color/pallor).

Grading / Notes:

The reproduction of only fatigue or discomfort does not count as a positive test; the patient's neurological or vascular symptoms must be reproduced.

Instructional Video:

<https://www.youtube.com/watch?v=0oGGdcQsBKY>

Scapular Assistance Test (SAT)

Region:

shoulder

Purpose:

To determine if the patient's shoulder symptoms (often impingement) are due to or alleviated by **scapular dyskinesis (abnormal scapular movement)**.

Starting Position:

Patient is sitting or standing. Arm is at the side.

Procedure:

- The patient actively abducts or flexes the affected arm.
- The examiner assists the movement by manually **guiding and stabilizing the scapula** into better retraction and external rotation.

Positive Test Criteria:

The patient reports a **reduction or complete elimination of pain** during the assisted movement, suggesting inadequate scapular control is a contributing factor to the pain.

Grading / Notes:

If symptoms improve, the treatment should focus on scapular stability and strengthening.

Instructional Video:

<https://www.youtube.com/watch?v=pfXdmXL9ouM>

Scapular Retraction Test (SRT)

Region:

shoulder

Purpose:

To test for improved rotator cuff strength when the **scapula is manually stabilized** in a retracted position.

Starting Position:

Patient is sitting or standing. Examiner stands behind and manually stabilizes the scapula by retracting it.

Procedure:

- The patient performs a resisted strength test (e.g., Empty Can or external rotation) while the scapula is held in a retracted position.
- The result is compared to the strength without stabilization.

Positive Test Criteria:

Increased strength or decreased pain during the resisted movement compared to when the scapula is not stabilized.

Grading / Notes:

Similar to the SAT, this indicates the scapular stabilizers are weak or firing incorrectly, requiring intervention.

Instructional Video:

https://www.youtube.com/watch?v=tyxDTbVn_gg

Scarf Test (Horizontal Adduction Test)

Region:

shoulder

Purpose:

To assess for pathology of the **Acromioclavicular (AC) joint** or, less commonly, posterior glenohumeral capsular tightness.

Starting Position:

Patient is standing or sitting. Arm is flexed to 90°.

Procedure:

- The examiner passively moves the patient's arm into maximal **horizontal adduction** (adducting the arm across the chest).

Positive Test Criteria:

Pain is reproduced **specifically over the AC joint** at the end range of motion, indicating AC joint strain or arthritis.

Grading / Notes:

If the pain is deep and posterior, it may suggest posterior capsular restriction.

Instructional Video:

<https://www.youtube.com/watch?v=DKLvt816x6o>

Serratus Anterior Strength Test (Punch out test)

Region:

shoulder

Purpose:

To assess the strength and function of the **Serratus Anterior muscle** and check for early signs of long thoracic nerve injury.

Starting Position:

Patient is standing, facing a wall, with the arm flexed to 90°.

Procedure:

- The patient is instructed to **push (punch)** their arm forward against the wall, maximally protracting the scapula.

Positive Test Criteria:

Medial winging of the scapula (the medial border lifts off the rib cage) during the push, indicating Serratus Anterior weakness or injury to the long thoracic nerve.

Grading / Notes:

Should be compared to the opposite side. This test is a critical indicator of scapular stability.

Instructional Video:

<https://www.youtube.com/watch?v=jatVx3v7qDI>

Shoulder Special Tests

Region:

shoulder

Purpose:

This is a general term, not a specific test. (Placeholder for organization).

Starting Position:

N/A

Procedure:

- N/A.

Positive Test Criteria:

N/A

Grading / Notes:

This entry should likely be removed from the final list as it is a category header, not a test.

Instructional Video:

<https://www.youtube.com/watch?v=nUYE8cwtIDA>

Speeds Test (Biceps Straight-Arm Test)

Region:

shoulder

Purpose:

Speed's Test is used to test for superior labral tears or bicipital tendonitis.

Starting Position:

Patient is sitting or standing. Arm is forward flexed 60° to 90°, elbow is extended, and forearm is fully **supinated** (palm up).

Procedure:

- To perform the Speed's Test, the examiner places the patient's arm in shoulder flexion, external rotation, full elbow extension, and forearm supination; manual resistance is then applied by the examiner in a downward direction.
- The test is considered to be positive if pain in the bicipital tendon or bicipital groove is reproduced.

Positive Test Criteria:

Pain is reproduced **specifically in the bicipital groove** (anterior shoulder) during the resisted movement. Pain relief when the forearm is pronated suggests biceps pathology.

Grading / Notes:

Pain deep within the joint may indicate a SLAP lesion.

Instructional Video:

https://www.youtube.com/watch?v=gbG_O9Gv8aQ

Test Item Cluster - Full-Thickness Rotator Cuff Tear

Region:

shoulder

Purpose:

A combination of tests used to increase the accuracy of diagnosing a **full-thickness rotator cuff tear**.

Starting Position:

N/A

Procedure:

- N/A.

Positive Test Criteria:

A positive diagnosis is highly likely if a specific combination of tests is positive. A common cluster includes: 1) **Drop Arm Sign** (positive), 2) **Painful Arc** (positive), and 3) **Infraspinatus Muscle Test** (weakness).

Grading / Notes:

Using test clusters provides higher diagnostic accuracy than single tests. Other clusters exist depending on the tear location.

Instructional Video:

https://www.youtube.com/watch?v=HW5IXL4_OmY

Upper Limb Tension Tests (ULTTs)

Region:

shoulder

Purpose:

A group of tests designed to place **tension on the peripheral and central nerves** of the upper limb to identify neurodynamic issues (e.g., nerve root compression, peripheral nerve entrapment).

Starting Position:

Patient is supine. The examiner sequentially positions the shoulder, elbow, forearm, wrist, and hand to maximally elongate a specific nerve.

Procedure:

- **ULTT 1 (Median Nerve):** Shoulder depression, elbow extension, shoulder external rotation, forearm supination, wrist/finger extension.
- Other ULTTs target the Radial and Ulnar nerves.

Positive Test Criteria:

Reproduction of the patient's **neurological symptoms** (e.g., burning, paresthesia, tingling) or an abnormal difference in end-range mobility/sensation compared to the unaffected side.

Grading / Notes:

Symptoms should be reduced by moving a distant joint (e.g., neck side bending away from the limb) to confirm the neurogenic nature.

Instructional Video:

<https://www.youtube.com/watch?v=rir6x6liqc4>

Whipple Test (Cross-Arm Adduction Test)

Region:

shoulder

Purpose:

A sensitive screening test for a variety of shoulder pathologies, particularly **Rotator Cuff Pathology** (specifically the supraspinatus).

Starting Position:

Patient is standing. The arm is flexed to 90° and internally rotated (thumb down).

Procedure:

- The patient is instructed to **horizontally adduct** the arm (move it across the chest).
- The examiner applies resistance near the elbow, resisting this movement.

Positive Test Criteria:

Reproduction of **pain or weakness** compared to the unaffected side.

Grading / Notes:

The test is often used as part of a cluster but is highly sensitive for supraspinatus-related pain.

Instructional Video:

<https://www.youtube.com/watch?v=DKLvt816x6o>

Yocum's Test

Region:

shoulder

Purpose:

To assess for **subacromial impingement syndrome (SAIS)**.

Starting Position:

Patient is sitting or standing. The hand of the affected side is placed on the **unaffected shoulder**.

Procedure:

- The patient is instructed to **lift the elbow** off the chest/rib cage against the resistance of the examiner's hand on the elbow.

Positive Test Criteria:

Reproduction of **shoulder pain** during the active resisted elevation of the elbow.

Grading / Notes:

Similar in principle to the Neer and Hawkins-Kennedy tests, it loads the subacromial structures in an internally rotated position.

Instructional Video:

<https://www.youtube.com/watch?v=40tc1PvrQGk>

Anterior Drawer of the Ankle

Region:

ankel

Purpose:

To assess the integrity of the **Anterior Talofibular Ligament (ATFL)**, the most commonly injured ligament in lateral ankle sprains.

Starting Position:

Patient is supine or sitting with the foot hanging off the edge of the table. The ankle is held in **10° to 20° of plantarflexion**.

Procedure:

- The examiner stabilizes the distal tibia and applies a **straight anterior translation force** (pulling forward) to the calcaneus and talus.

Positive Test Criteria:

Excessive anterior translation of the talus on the tibia, compared to the unaffected side, or a 'soft' (absent) endpoint, indicating an ATFL tear.

Grading / Notes:

A difference in translation of 3mm or more compared to the opposite side is generally considered positive for a tear.

Instructional Video:

<https://www.youtube.com/watch?v=vAcBEYZKcto>

External Rotation Stress Test (or Syndesmosis Ligament Test)

Region:

ankel

Purpose:

To assess the integrity of the **Distal Tibiofibular Syndesmosis** (the 'high ankle sprain' ligaments, including the AITFL and PITFL).

Starting Position:

Patient is sitting with the knee flexed to 90° and the foot hanging freely.

Procedure:

- The examiner stabilizes the tibia and applies a forceful, passive **external rotation force** to the foot (forefoot and talus) while the ankle is in a neutral position.

Positive Test Criteria:

Reproduction of **pain localized to the distal anterior and/or posterior tibiofibular joint** (the high ankle region).

Grading / Notes:

A positive test strongly suggests a syndesmosis sprain. This test is the rotational component of Kleiger's Test.

Instructional Video:

<https://www.youtube.com/watch?v=s53uzyUv0bc>

Figure of Eight Method of Measuring Ankle Joint Swelling

Region:

ankel

Purpose:

To quantitatively measure and track **ankle and foot edema (swelling)** volume over time.

Starting Position:

Patient is sitting with the ankle held in a neutral position.

Procedure:

- A measuring tape is used in a specific 'figure of eight' pattern: starting at the tibialis anterior tendon, circling the ankle, passing over the navicular, under the arch, across the Achilles, and returning to the start.

Positive Test Criteria:

An **increase in measurement (circumference)** compared to the previous measurement or the opposite, unaffected ankle indicates worsening edema.

Grading / Notes:

This method is considered highly reliable for detecting small changes in swelling volume compared to simple circumference measurements.

Instructional Video:

<https://www.youtube.com/watch?v=7VlldqF2orY>

Impingement sign ankle (Anterior Ankle Impingement)

Region:

ankel

Purpose:

To diagnose **Anterior Ankle Impingement Syndrome** (bony or soft tissue impingement at the front of the joint).

Starting Position:

Patient is supine or sitting.

Procedure:

- The examiner passively forces the ankle into **maximal dorsiflexion** while applying an **axial compression** force through the heel.

Positive Test Criteria:

Sharp **pain is reproduced at the anterior aspect of the ankle joint** at the end range of dorsiflexion.

Grading / Notes:

This test jams the talus into the tibia/fibula, compressing any soft tissue or bony spurs (osteophytes) that may be present.

Instructional Video:

<https://www.youtube.com/watch?v=lbRCCIDa5-8>

Kleiger's Test (External Rotation Test)

Region:

ankel

Purpose:

To assess the integrity of the **Distal Tibiofibular Syndesmosis** (high ankle sprain) and the **Deltoid Ligament** (medial ankle).

Starting Position:

Patient is sitting with the knee flexed to 90° and the foot hanging freely.

Procedure:

- The examiner stabilizes the lower leg and maximally **externally rotates the foot** (forefoot and talus) while applying a minimal distraction force.

Positive Test Criteria:

1. **Syndesmosis Injury:** Pain localized to the **anterior/posterior tibiofibular ligaments**.
2. **Deltoid Ligament Injury:** Pain localized to the **medial joint line** (Deltoid ligament) with excessive talar displacement.

Grading / Notes:

Pain on the medial side with external rotation suggests a Deltoid ligament tear; pain proximal suggests a syndesmosis sprain.

Instructional Video:

<https://www.youtube.com/watch?v=s53uzyUv0bc>

Ottawa Ankle Rules

Region:

ankel

Purpose:

A **clinical decision-making tool** used to determine the need for **X-rays** following an acute ankle or mid-foot injury.

Starting Position:

Patient is sitting or supine, immediately after injury.

Procedure:

- The patient is assessed for specific criteria: ****1) Bone Tenderness:**** over the posterior edge/tip of the lateral or medial malleolus.
- ****2) Bone Tenderness:**** over the navicular bone or base of the 5th metatarsal.
- ****3) Weight Bearing:**** inability to bear weight immediately and/or for four steps in the emergency department.

Positive Test Criteria:

If the patient meets ****any one of these criteria****, an X-ray is required to rule out a fracture.

Grading / Notes:

This tool is not a special test but a standard guideline with near 100% sensitivity for fractures, preventing unnecessary X-rays.

Instructional Video:

<https://www.youtube.com/watch?v=KDkhhGZF1TI>

Peroneus Longus and Brevis Tests

Region:

ankel

Purpose:

To assess the strength and integrity of the **Peroneal tendons** (Peroneus Longus and Brevis), often implicated in lateral ankle stability and tendinopathy.

Starting Position:

Patient is sitting or supine. The examiner holds the foot in a slightly plantarflexed and inverted position.

Procedure:

- The patient is instructed to actively **evert and plantarflex the foot** against the strong resistance of the examiner.

Positive Test Criteria:

Significant **pain and/or weakness** along the course of the peroneal tendons (lateral ankle and foot) during resisted contraction, suggesting tendinopathy or tear.

Grading / Notes:

The contraction of the peroneal muscles can also be used as a distraction force to check for peroneal tendon subluxation.

Instructional Video:

<https://www.youtube.com/watch?v=M13NIQvhRdM>

Prone Anterior Drawer Test (Ankle)

Region:

ankel

Purpose:

An alternative position to assess the integrity of the **Anterior Talofibular Ligament (ATFL)**, often more comfortable for the patient.

Starting Position:

Patient is prone with the foot hanging off the edge of the table. The ankle is held in plantarflexion.

Procedure:

- The examiner stabilizes the proximal calf with the knee bent to 90° and applies an **anterior translation force** to the heel/talus (pulling the foot up and forward toward the ceiling).

Positive Test Criteria:

Excessive anterior translation of the talus on the tibia, compared to the unaffected side, or a 'soft' (absent) endpoint.

Grading / Notes:

The mechanics are the same as the supine anterior drawer, but the prone position can sometimes reduce muscle guarding.

Instructional Video:

<https://www.youtube.com/watch?v=ldnBKv38EEQ>

Silfverskiold Test

Region:

ankel

Purpose:

To differentiate between **gastrocnemius tightness** (a two-joint muscle) and **soleus/capsular tightness** (one-joint structure) as the cause of reduced ankle dorsiflexion.

Starting Position:

Patient is supine or sitting.

Procedure:

- **Phase 1 (Gastrocnemius):** The examiner passively measures ankle dorsiflexion with the **knee fully extended**.
- **Phase 2 (Soleus/Capsular):** The examiner passively measures ankle dorsiflexion with the **knee flexed** (to slacken the gastrocnemius).

Positive Test Criteria:

If **dorsiflexion increases** significantly in Phase 2 (knee flexed), the restriction is due to **Gastrocnemius Tightness**. If dorsiflexion **remains limited** in both positions, the restriction is likely **Soleus or Ankle Capsule Tightness**.

Grading / Notes:

This is a length assessment test, not an injury test.

Instructional Video:

<https://www.youtube.com/watch?v=ILtQhvYH2VQ>

Squeeze Test (Tibia-Fibula Squeeze)

Region:

ankel

Purpose:

To assess for a **Syndesmosis Sprain** (high ankle sprain) or a **Tibial/Fibular Fracture**.

Starting Position:

Patient is sitting or supine.

Procedure:

- The examiner firmly **squeezes the tibia and fibula together** (compression) at a point proximal to the suspected injury site (often mid-calf).

Positive Test Criteria:

Sharp, localized **pain at the syndesmosis joint line** (distal tibiofibular joint) when the squeeze pressure is *released* (for syndesmosis) or pain anywhere along the shaft (for fracture).

Grading / Notes:

Compressing the bones causes them to separate slightly at the distal joint; releasing the compression allows them to spring apart, which stresses the injured syndesmosis ligaments.

Instructional Video:

<https://www.youtube.com/watch?v=ANgWSz0UoDg>

Star Excursion Balance Test (SEBT)

Region:

ankel

Purpose:

A functional, dynamic balance and neuromuscular control test used to screen for **ankle instability** and **return-to-sport readiness**.

Starting Position:

Patient stands in the center of a grid with one foot, facing a central point.

Procedure:

- The patient reaches out with the free limb to tap the ground along **eight standardized lines** (or fewer, common modified versions use 3 or 4) as far as possible while maintaining balance on the stance leg.

Positive Test Criteria:

Reduced reach distance compared to the unaffected leg (often a 4cm difference is significant) or **loss of balance** on the stance leg.

Grading / Notes:

This is a performance measure. Reduced performance often correlates with chronic ankle instability.

Instructional Video:

<https://www.youtube.com/watch?v=4GMzE7NV3W0>

Talar tilt

Region:

ankel

Purpose:

To assess the integrity of the **collateral ligaments** of the ankle, specifically the **Calcaneofibular Ligament (CFL)** for inversion stress and the **Deltoid Ligament** for eversion stress.

Starting Position:

Patient is supine or sitting with the foot hanging off the table. The ankle is held in neutral dorsiflexion.

Procedure:

- The examiner stabilizes the distal tibia and applies a forceful **inversion stress** (medial tilt) to the talus, followed by a forceful **eversion stress** (lateral tilt).

Positive Test Criteria:

Excessive gapping or tilting of the talus within the mortise, compared to the unaffected side, or a 'soft' endpoint. **Excessive inversion** suggests CFL tear; **excessive eversion** suggests Deltoid ligament tear.

Grading / Notes:

The test is more specific to the CFL when the ankle is in neutral dorsiflexion, as this is the CFL's most stressed position.

Instructional Video:

<https://www.youtube.com/watch?v=UHNbm6Z3XK4>

Thompson Test (or Simmonds Test)

Region:

ankel

Purpose:

To assess for a **complete rupture of the Achilles Tendon**.

Starting Position:

Patient is prone with the feet hanging freely off the edge of the table (or kneeling with feet over the edge).

Procedure:

- The examiner firmly **squeezes the bulk of the calf muscle** (gastrocnemius-soleus complex).

Positive Test Criteria:

The **absence of passive plantarflexion** (the foot fails to drop downward) in response to the calf squeeze, indicating a complete tear of the Achilles tendon.

Grading / Notes:

This test has high sensitivity and specificity. The squeeze relies on the connection between the calf muscle and the tendon to produce foot movement.

Instructional Video:

<https://www.youtube.com/watch?v=z-7cJ7LpCqY>

Beighton Score

Region:

elbow

Purpose:

To quantify **generalized joint hypermobility** (laxity) across the body, which can be a predisposing factor for elbow instability or other injuries.

Starting Position:

Patient is standing and sitting, depending on the component being tested.

Procedure:

- The full score includes 9 points, testing bilateral hyperextension of the little finger, passive apposition of the thumb to the forearm, elbow hyperextension, knee hyperextension, and forward flexion of the trunk (palms to floor).
- For the **elbow** component: Examiner attempts to hyperextend the elbow beyond 10° .

Positive Test Criteria:

A score of **4/9 or more** is generally indicative of generalized joint hypermobility. A positive elbow component is **hyperextension $> 10^\circ$ **.

Grading / Notes:

Though a general test, it's included here for assessing ligamentous laxity which affects elbow stability.

Instructional Video:

https://www.youtube.com/watch?v=ZwWts_P-Xws

Elbow Extension Sign

Region:

elbow

Purpose:

A screening test used to rule out an **intra-articular fracture** (e.g., radial head or olecranon) in an acutely injured elbow.

Starting Position:

Patient is standing or sitting.

Procedure:

- The patient is asked to actively and completely **extend their elbow**.

Positive Test Criteria:

The patient is **unable to achieve full elbow extension** (loss of the last 5-10° of extension).

Grading / Notes:

The test has high sensitivity. An elbow that can achieve full extension is highly unlikely to have a fracture, though it cannot rule out other soft tissue injuries.

Instructional Video:

<https://www.youtube.com/watch?v=1TILxnuB4P0>

Elbow Flexion Test

Region:

elbow

Purpose:

To provoke symptoms associated with **Cubital Tunnel Syndrome** (ulnar nerve entrapment at the elbow).

Starting Position:

Patient is sitting or standing.

Procedure:

- The patient is asked to maximally **flex both elbows** and maintain the position with the wrists extended for **3 to 5 minutes**.

Positive Test Criteria:

The reproduction of the patient's symptoms, such as **pain, numbness, or paresthesia** in the distribution of the ulnar nerve (little finger and ulnar half of the ring finger).

Grading / Notes:

Maximal elbow flexion narrows the cubital tunnel, increasing tension and compression on the ulnar nerve.

Instructional Video:

<https://www.youtube.com/watch?v=brN-VLUETVU>

Elbow Quadrant Tests

Region:

elbow

Purpose:

A generalized term for assessing the **end-feel and range of motion** of the elbow joint in flexion and extension, often used to assess stiffness or loose bodies.

Starting Position:

Patient is supine. Examiner is at the head of the bed.

Procedure:

- The examiner applies overpressure into **maximal elbow flexion and maximal extension**, while also introducing a slight valgus and varus stress near end-range to explore the entire joint quadrant.

Positive Test Criteria:

The reproduction of pain, restriction of motion, or an abnormal 'springy' or 'bony' end-feel compared to the unaffected side.

Grading / Notes:

A bony end-feel can suggest osteophytes or loose bodies (joint mice).

Instructional Video:

<https://www.youtube.com/watch?v=gqCcdxWNVcw>

Elbow Varus Stress Test

Region:

elbow

Purpose:

To assess the integrity of the **Lateral Collateral Ligament (LCL)** (Radial Collateral Ligament) of the elbow.

Starting Position:

Patient is supine or sitting. Elbow is flexed 20°-30° (to unlock the olecranon).

Procedure:

- The examiner stabilizes the patient's humerus and applies a **varus (laterally directed) force** to the forearm, attempting to open the lateral joint line.

Positive Test Criteria:

Excessive gapping on the lateral side compared to the unaffected side, reproduction of lateral elbow pain, or a soft/mushy end-feel.

Grading / Notes:

A positive test is often associated with Posterolateral Rotatory Instability (PLRI).

Instructional Video:

<https://www.youtube.com/watch?v=5zl8GsG3hR4>

Golferâ€™s Elbow Test (Medial Epicondylitis Test)

Region:

elbow

Purpose:

To screen for **Medial Epicondylitis** (Golfer's Elbow), which is inflammation/degeneration of the common flexor tendon origin.

Starting Position:

Patient is sitting. Examiner palpates the medial epicondyle.

Procedure:

- The examiner passively **supinates the patientâ€™s forearm**, fully **extends the wrist**, and maximally **extends the elbow**.

Positive Test Criteria:

Sudden or significant pain is reproduced over the **medial epicondyle** of the humerus.

Grading / Notes:

This maneuver maximally stretches the wrist flexors/forearm pronators that originate at the medial epicondyle.

Instructional Video:

<https://www.youtube.com/watch?v=u5H9iG8QhYA>

Maudsley's Test (Middle Finger Extension Test)

Region:

elbow

Purpose:

To screen for **Lateral Epicondylitis** (Tennis Elbow), specifically placing stress on the Extensor Digitorum Communis (EDC) muscle.

Starting Position:

Patient is sitting. Arm is resting comfortably.

Procedure:

- The examiner resists **extension of the patient's middle finger** while the elbow is in an extended position.
- The examiner simultaneously palpates the lateral epicondyle.

Positive Test Criteria:

Pain is reproduced over the **lateral epicondyle** or just distal to it.

Grading / Notes:

This is a variant used to isolate the stress on the EDC tendon, which is often involved in Lateral Epicondylitis.

Instructional Video:

https://www.youtube.com/watch?v=BaxgmHT_2eQ

Milking Maneuver

Region:

elbow

Purpose:

To assess the integrity of the **Posterior Bundle of the Medial Collateral Ligament (MCL/UCL)**, commonly injured in overhead athletes.

Starting Position:

Patient is sitting. Shoulder is flexed and abducted. Elbow is flexed to 90°.

Procedure:

- The examiner grasps the patient's thumb and applies a forceful, sustained **valgus stress** to the elbow, as if 'milking' the forearm.

Positive Test Criteria:

Reproduction of **medial elbow pain** or a feeling of **instability** in the medial joint.

Grading / Notes:

This maneuver is very specific to the MCL, especially the posterior bundle, by producing a high-intensity valgus load in a loaded position.

Instructional Video:

<https://www.youtube.com/watch?v=4sa9goJ4afs>

Moving Valgus Stress Test

Region:

elbow

Purpose:

A dynamic and highly accurate test for diagnosing a partial tear or instability of the **Medial Collateral Ligament (MCL/UCL)** in overhead athletes.

Starting Position:

Patient is supine. Shoulder is abducted to 90° and maximally externally rotated. Elbow is flexed fully.

Procedure:

- While maintaining a constant **valgus stress** and external rotation, the examiner rapidly and smoothly moves the elbow from **full flexion to full extension** (or to about 30° extension) and back.

Positive Test Criteria:

A sudden, sharp **reproduction of pain over the MCL** (medial elbow) that occurs through a specific arc of motion (usually between 70° and 120° of flexion).

Grading / Notes:

The painful arc is the key finding, indicating dynamic MCL insufficiency.

Instructional Video:

https://www.youtube.com/watch?v=JIU_kv5VoQk

Polk's Test (Hook Test)

Region:

elbow

Purpose:

An obsolete or rarely used test, often confused with the **Hook Test** (which assesses the biceps tendon). Assuming the user intended Hook Test for Biceps integrity.

Starting Position:

Patient is sitting. Elbow is flexed to 90° and the forearm is supinated.

Procedure:

- The examiner attempts to hook their index finger under the distal biceps tendon, just lateral to the antecubital fossa.

Positive Test Criteria:

The **absence of a palpable tendon cord** or an inability to 'hook' the tendon, indicating a distal biceps tendon rupture.

Grading / Notes:

The ability to hook the tendon rules out a complete rupture of the distal biceps tendon.

Instructional Video:

<https://www.youtube.com/watch?v=NhfeOJfVvyc>

Pronator Teres Syndrome Test

Region:

elbow

Purpose:

To diagnose **Pronator Teres Syndrome**, which involves compression of the median nerve by the pronator teres muscle.

Starting Position:

Patient is sitting or standing. Arm is extended.

Procedure:

- The examiner forcibly **resists pronation** of the forearm while simultaneously extending the elbow from a flexed position.

Positive Test Criteria:

The reproduction of **numbness and tingling** in the median nerve distribution (thumb, index, middle, and radial half of ring finger) or pain over the pronator teres muscle.

Grading / Notes:

Holding maximal resisted pronation for 30-60 seconds can also provoke symptoms.

Instructional Video:

<https://www.youtube.com/watch?v=sL4OtTuf5hY>