

<b>BODY PART</b>				
<b>Test Structure being assessed</b>	<b>Maneuver</b>	<b>Positive Response</b>	<b>Sensitivity</b> <b>Specificity</b> <b>(%)</b>	<b>Ref.</b>
<b>CERVICAL</b>				
<b>Spurling’s/Foraminal Compression</b>  nerve root compression	Patient position: seated  Passive cervical extension, lateral flexion, and compression of the head	Pain or paresthesias distal from neck in distribution of a cervical spinal nerve root	30-77  92-100.	1,2,3
<b>Lhermitte’s sign</b>  dural/meningeal irritation of spine	Patient position: supine  Passive cervical forward flexion	Presence of electric-like sensation down the extremities	< 28 97	1,2,3
<b>Shoulder Abduction Test</b>  radicular compression	Patient position: seated  Active abduction of the ipsilateral arm so that the hand rests on top of the head.	Relief or reduction in ipsilateral cervical radicular symptoms.	31-46  80-100	1,2,3
<b>Brachial Plexus Tension (Elvey Test)</b>  radicular compression	Patient position: supine  Depress shoulder, then abduct, extend, and externally rotate arm, supinate forearm up to but do not induce pain, then extend elbow and wrist.	Radicular symptoms – cervical flexion and lateral bending toward contralateral arm may exacerbate radicular symptoms; lateral bending toward ipsilateral arm may reduce radicular symptoms.	11  83	1,2,3
<b>Cervical Distraction</b>  radicular decompression	Patient position: supine  Apply axial traction while supporting the chin and occiput with each hand.	Reduction in radicular symptoms	26-43  90-100	1,2,4

<b>THORACIC OUTLET</b>				
<b>Adson’s</b>  thoracic outlet syndrome	Patient position: seated  While palpating the radial pulse, rotate and extend patient’s head toward affected side, extend arm on affected side and instruct the patient to take a deep breath and hold.	Loss of radial pulse.	94  18-87	1,2,4
<b>Halstead Maneuver</b>	Patient position: seated  While palpating the radial pulse, extend and rotate the patient’s head to the opposite side and apply downward traction to test extremity.	Loss of radial pulse		2
<b>SHOULDER</b>				
<b>Hawkins-Kennedy Impingement</b>  Supraspinatus tendinitis	Patient position: seated  Flex the patient’s shoulder to 90 degrees then apply forcible internal rotation of the shoulder	Pain due to supraspinatus tendon impingement by coracoacromial ligament	45-92  25-45	2,5,6,7
<b>Jobe (Empty Can)</b>  Supraspinatus tendinitis/rotator cuff tear	Patient position: seated or standing  Abduct the shoulder to 90°, with neutral rotation, and provide resistance to abduction. Then internally rotate the shoulder with a forward angle of 30° so that the patient’s thumb points toward the floor and apply	Weakness or pain due to tear of the supraspinatus tendon impingement or muscle or neuropathy of the suprascapular nerve	63-89  50-68	2, 5,6,7

	resistance to abduction.			
<b>Neer Impingement</b>  Supraspinatus tendinitis, biceps tendinitis, inferior instability of humeral head in glenoid fossa, adhesive capsulitis, arthritis	Patient position: seated  Passively and forcibly fully elevate the patient's arm in the scapular plane with the arm medially rotated.	Pain due to compression of anterior acromion and greater trochanter of humerus	68-89  31-69	2, 5,6,7
<b>Gerber Lift-Off</b>  Subscapularis strength/tendon rupture	Patient position: standing  Ask the patient to place the dorsum of the hand on the lower back. Then direct the patient to lift the hand away from the back while applying resistance.  I	Inability to lift hand away from back	50  84-95	2,5,6
<b>Hornblower's (Patte)</b>  Teres minor strength	Patient position: standing  Elevate the patient's arm to 90° in the scapular plane and flex the elbow to 90°. Instruct the patient to laterally rotate the shoulder against resistance.	Inability to support or laterally rotate the arm	93 – 100  93-96	1. 2, 5
<b>Speed's</b>  Bicipital tendinitis (long head)	Patient position: standing  Forward flex the patient's shoulder to 90 degrees with the elbow fully extended and the palm facing up.	Tenderness/pain localized to the bicipital groove	32-90  14-75	1,2,5,6

	Apply a downward force against the patient's active resistance.			
<b>Drop Arm</b>  Rotator cuff tear	Patient position: standing  Passively abduct the patient's shoulder to 90 degrees then ask patient to slowly lower the arm back to the side.	Inability to lower arm slowly or severe pain	8-74  66-98	1,2,5,6
<b>O'Brien's</b>  AC joint and labral pathology	Patient position: standing  Flex the shoulder to 90 degrees with the elbow fully extended. Adduct the arm 15 degrees and internally rotate the shoulder so that the patient's thumb is pointing down. Ask the patient to resist downward force against flexion. The test is repeated with the shoulder externally rotated (palm points up).	Pain with shoulder in internal rotation (thumb down); no pain with external rotation (palm up)	41-100  10-99	1,2,6
<b>Apprehension (Crank)</b>  Anterior instability	Patient position: supine  Abduct arm to 90 degrees and flex elbow to 90 degrees. Then use one hand to slowly externally rotate the patient's humerus using the patient's forearm as the lever. At the same time, place another hand posterior to the patient's proximal humerus and exert an anteriorly	Apprehension due to sensation of imminent anterior dislocation of humeral head out of glenoid fossa.	53-72  42-96	1,2,6

	directed force on the humeral head.			
<b>LUMBAR</b>				
<b>Lasegue’s (Straight Leg Raising)</b>  L5 -S1 Radiculopathy	Patient position: supine  Unilateral passive hip flexion with extended knee.  Symptoms can be provoked with additional passive ipsilateral foot dorsiflexion and/or active cervical flexion	Pain and/or paraesthesias radiating down the ipsilateral posterior thigh below the knee at 30 to 70 degrees hip flexion.  If no pain below the knee, then consider tight hamstring muscles or SI joint pathology.	33-92  28-89	1,2
<b>Crossed Straight Leg Raise</b>  Lumbar Radiculopathy	Patient position: supine Passive hip flexion with extended knee of unaffected contralateral leg.	Pain and/or paraesthesias radiating down the affected posterior thigh below the knee at 30 to 70 degrees hip flexion of the contralateral leg.	23-43  88-98	1
<b>Slump Test</b>  Impingement of dura and spinal cord or nerve root	Patient position: seated, legs together, and knee against examining table  Patient “slumps” forward as far as possible. Apply pressure to the patient’s posterior neck to bow the patient’s back. Patient extends the unilateral knee and dorsiflexes ankle.	Reproduction of patient’s symptoms or sciatic pain.	46-91  55-100	1,2
<b>PELVIS</b>				

<b>Gillet's (Stork)*</b>  SI joint pathology	<p>Patient position: standing, facing away from examiner</p> <p>Places thumbs on bilateral posterior superior iliac spines (PSIS). The patient stands on one leg and flexes the non-weight-bearing hip and knee.</p>	<p>The PSIS does not move on the non-weight-bearing leg relative to the PSIS of the weight-bearing leg. The PSIS on the non-weight-bearing leg normally moves inferiorly relative to the PSIS on the weight-bearing leg.</p>	28-57  56-80	1,2,8
<b>Gaenslen's SI*</b>  joint pathology, Hip joint pathology, L4 root lesion	<p>Patient position: supine with one side at the edge of the exam table.</p> <p>The leg closer to the middle of the table maximally flexes towards the patient's chest. The contralateral hip is extended off the side of the table while applying a slowly increasing hyperextending force.</p> <p>Variation: side lying with the flexed leg down while pulling extended leg backward.</p>	<p>Pain in hip joint, SI joint, or referred pain/paraesthesias in distribution of L4 root</p>	31-53  71-94	1, 2,8
<b>Gapping (Transverse Anterior Stress or Distraction Provocation) Test</b>  SI joint pathology	<p>Patient position: supine</p> <p>Apply bilateral posterolateral forces through bilateral anterior superior iliac spines (ASIS).</p>	<p>Pain occurs over the affected SI joint attributed to stretching anterior SI ligaments</p>	11-80  65-91	2,8

<b>Patrick’s (FABER)*</b>  Hip joint pathology, Tight iliopsoas, SI joint pathology	Patient position supine  Hip Flexed, ABducted, and Externally Rotated (FABER) with the foot placed just proximal to the contralateral knee. Apply force to the ipsilateral leg into additional external rotation and abduction while stabilizing contralateral ilium so the leg falls to the level of the contralateral leg.	Leg remains elevated due to hip joint pain, tight iliopsoas muscle, or low back, buttock, or SI joint pain.	2-97  18-100	1, 2,8
<b>Active Piriformis Stretch Test</b>  Tight piriformis muscle or obturator internus/ gemelli complex	Patient position: lying on opposites side tested.  Superior hip is flexed and externally rotated with knee flexed and foot resting on table behind lower leg. Patient actively abducts and laterally rotates leg while examiner resists force with one hand while palpating ipsilateral piriformis with other hand.	Reproduction of neurological symptoms	78 80	2
<b>HIP</b>				
<b>Thomas</b>  Hip flexion tightness	Patient position: supine holding both hips and knees maximally flexed with lumbar spine flat against exam table  Patient extends one limb down towards table	If the extended limb cannot fully straighten or the lumbar spine extends during this maneuver, then the test is positive for ipsilateral hip flexion contracture.		1, 2

<b>Ely</b>  Rectus femoris tightness	Patient: prone  Passively flex unilateral knee. Compare bilaterally.	Ipsilateral hip flexes		1
<b>Ober's</b>  Iliotibial band tightness	Patient position: lying on opposite side being tested. I  Upper leg is flexed 90 degrees at the knee. Stabilize the upper hip with one hand and grasp the ankle with the other hand. Upper leg is abducted and extended. The upper limb is slowly lowered.	Upper leg remains abducted and is unable to be lowered to the table.		1, 2
<b>Trendelenburg</b>  Weak gluteal muscles	Patient position: standing on the affected side with opposite leg non-weight bearing. Compare bilaterally.	Pelvis on opposite side drops		1, 2
<b>KNEE</b>				
<b>Lachman's</b>  Anterior Cruciate Ligament (ACL) pathology	Patient position: supine with knee flexed between full extension and 30 degrees with heel on exam table.  Immobilize the femur with one hand and translate tibia forward with the other hand. (Note: There are multiple modifications of this test.)	Soft end feel suggestive of injury to ACL, posterior oblique ligament, or arcuate-popliteus complex.	48 – 100  54-100	1, 2, 9

<b>McMurray's</b>  Meniscus pathology	<p>Patient position: supine, knee fully flexed</p> <p>Medial Meniscus: Ankle and tibia are externally rotated. Maintain external rotation while knee is extended.</p> <p>Lateral Meniscus: Ankle and tibia internally rotated and internal rotation is maintained during knee extension.</p>	<p>Pain, click/pop/thud, or inability to fully extend the knee are all positive for lateral or medial meniscus pathology.</p>	<p>Medial Test  48-67  53-94  Lateral Test  32-63  86-94</p>	1, 2, 10
<b>Anterior Drawer</b>  Anterior Cruciate Ligament pathology, posterolateral capsule, posteromedial capsule, medial collateral ligament, iliotibial band, posterior oblique ligament, arcuate-popliteus complex	<p>Patient position: supine, hip flexed to 45 degrees with knee flexed to 90 degrees.</p> <p>Sit on foot with hands behind the proximal tibia and apply an anterior force.</p>	<p>Increased tibial displacement compared to contralateral knee is suggestive of partial or complete ACL tear or laxity. Generally, additional structures are damaged along with the ACL for the test to be positive.</p>	<p>9-95  33-100</p>	1,2,9
<b>Posterior Drawer</b>  Posterior Cruciate Ligament pathology, popliteus injuries	<p>Patient position: supine, hip flexed to 45 degrees with knee flexed to 90 degrees.</p> <p>Sit on foot with hands behind the proximal tibia and apply a force.</p>	<p>Increased tibial displacement compared to contralateral knee is suggestive of partial or complete PCL tear or laxity.</p>	<p>22-100  98-100</p>	1,2
<b>Pivot Shift</b>  Anterior Cruciate Ligament pathology, posterior lateral capsule, arcuate-popliteus complex, lateral collateral	<p>Patient position: supine</p> <p>Pick up the leg by the ankle. With the other hand, flex the knee from behind the fibula. Then apply a</p>	<p>Sudden reduction of displaced tibia at approximately 30 degrees of flexion.</p>	<p>6-98  89 – 100</p>	1,2,9

ligament, iliotibial band	valgus force on the lateral side while extending the knee. knee while applying valgus stress.			
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