

COMMON NEUROLOGICAL / ORTHOPAEDIC TESTS

The following is a collection of commonly used neurological / orthopaedic testing procedures and indications.

ADAM'S SIGN	A patient with scoliosis (lateral curvature of the spine) when bending over will have no straightening of the curve and give a "positive" result. A straightening of the curve would indicate a "negative" result.
ADSON'S TEST	The patient is asked to take and hold a deep breath, the neck is extended, then the patient is asked to turn his head from one side to the other side. Downward pressure on the patient's arm will cause an obliteration of the pulse, in which case the test is positive, and indicates a thoracic outlet syndrome.
ANTERIOR DRAWER	With the knee flexed approximately 90 degrees, the proximal tibia is pulled forward. If excessive movement is found, the test is indicate of a tear of the anterior cruciate ligament.
APLEY TEST	The patient is placed prone on the examining table and the knee is flexed 90 degrees. While compressing the knee, the lower leg is rotated in both directions. If this maneuver elicits pain, it is probable that a meniscal tear is present.
APPREHENSION TEST OF THE SHOULDER	The shoulder is forcefully abducted and externally rotated. Patients who have experienced either dislocation or subluxation of the shoulder will become extremely apprehensive with this maneuver.
AXIAL COMPRESSION	The patient is either sitting or lying and the examiner presses down upon the top of the patient's head. Narrowing of the neural foramen. pressure on the facet joints, or muscle spasm can cause increased pain and the test may indicate pressure upon a nerve and the neurologic level of existing pathology.
BABINSKI'S TEST	Normally, when the lateral aspect of the sole of the relaxed foot is stroked the great toe is flexed. If the toe extends instead of flexes and the other toes spread out the test is positive and would indicate upper motor (brain or spinal cord) involvement.
CHEST EXPANSION TEST	The chest expansion is measured from maximal exhalation to maximal inspiration. An expansion of less than one inch is indicative of forms of arthritis which can affect the spine and rib cage, most notably ankylosing spondylitis.
CLONUS:	The foot is dorsiflexed by the examiner. eliciting repetitive, uncontrolled. up and down motion of the ankle. A positive test indicates pressure upon the spinal cord
ELY'S TEST:	The patient is asked to lie prone upon the examining table.

	The examiner then flexes the leg upon the thigh, making the heel touch the buttock. During the flexion, the pelvis rises from the table to give a positive reaction. The reaction occurs in inflammatory or traumatic lesions.
FINKELSTEIN'S TEST:	With the thumb inside the palm, the wrist and hand are ulnarly deviated, causing pain in the abductor tendons of the thumb at the radial styloid. A positive result indicates DeQuervain's tendonitis of the wrist.
ILIAC COMPRESSION TEST:	Also called Erichsen's test. The examiner presses the iliac crests together. If pain is felt over the joint the reaction is regarded as evidence of an intra-articular sacroiliac lesion. Forcible separation of the iliac crests is more likely to cause pain by stretching the anterior sacroiliac ligaments when the sacroiliac joint is affected.
IMPINGEMENT TEST:	The shoulder is forcefully abducted or abducted and internally rotated causing the greater tuberosity to press against the undersurface of the acromion. A positive test indicates an impingement syndrome.
LACHMAN TEST:	With the knee flexed approximately 20 degrees, the proximal tibia is pulled forward. Excessive motion of the tibia anteriorly is indicative of a tear of the anterior cruciate ligament. This is found to be the most accurate clinical test for tear of the anterior cruciate ligament.
LAGUERE'S TEST:	Carried out with the patient's spine. The knee is flexed and the hip flexed and abducted. The examiner then presses down upon the opposite anterior superior iliac spine and at the knee. The adductors of the hip are put under tension and the iliac portion of the sacroiliac joint is forced against the sacral surface. The joint is put under strain with out pulling upon the sciatic nerve and gluteal structures.
LASEGUE'S TEST:	(Bragard's test) Flexion of the affected limb's hip is not painful, but extension of the knee while the hip is flexed is painful. Such pain would indicate sciatica and spinal cord nerve root compression.
McMURRAY'S TEST:	As the patient lies supine with knee fully flexed the examiner rotates the patient's foot fully outward and the knee is slowly extended; a painful "click" indicates a tear of the medial meniscus of the knee joint. Inward rotation of the foot with pain indicates a tear in the lateral meniscus.
PATELLAR APPREHENSION TEST:	With the knee slightly flexed, the examiner attempts to push the patella (knee cap) in a lateral direction. Patients who have experienced a subluxation or dislocation of the patella will become very apprehensive at this point and attempt to stop the examiner from completing the test.
PATRICK'S TEST:	(Fabere) This test for disease of the hip joint is carried out with the patient supine. The knee is flexed on the affected side and the external malleolus placed over the patella of the opposite leg to make a figure 4. Pressure is then exerted on the flexed knee. A positive . reaction causes pain. When the test is performed in a healthy individual or

	<p>in one with sciatica, pain is not produced. Discomfort is elicited in hip disorders. also in lesions of the sacroiliac ligaments, at the site involved.</p>
PHALEN'S SIGN:	<p>Flexion of the wrist reproduces the paraesthesias and pain of median nerve compression at the wrist (carpal tunnel syndrome). The reverse Phalen maneuver involves hyperextension of the wrist with the resultant median nerve paraesthesias.</p>
POSTERIOR DRAWER:	<p>With the knee flexed approximately 90 degrees, the proximal tibia is pushed posteriorly. Excessive movement is indicative of a tear in the posterior cruciate ligament.</p>
QUADRICEPS INHIBITION TEST:	<p>Pressure is placed over the superior aspect of the patella and the patient is asked to perform a straight leg raising maneuver. Pain and grinding with this maneuver is indicative of chondromalacia of the patella.</p>
SLOCUM TEST:	<p>With the knee flexed approximately 90 degrees, the foot is placed in both internal and external rotation for separate tests. The proximal tibia is then pulled forward. Excessive anterior motion of the tibia indicates rotatory instability of the knee, either anteromedial or anterolateral, depending upon the direction of rotation of the foot.</p>
STRAIGHT LEG RAISING:	<p>With the knee extended and the patient supine or seated. the hip is flexed (with the leg straight). A positive test results in pain in the sciatic nerve distribution and suggests a disc herniation.</p>
SUPRASPINATUS ISOLATION:	<p>Strength of abduction of the shoulder is tested by abducting and forward flexing the arm with the forearms in internal rotation. This isolates the supraspinatus muscle, the most common area of weakness in a rotator cuff tear. If weakness is demonstrated, this test is very suggestive for a rotator cuff tear.</p>
TINEL'S SIGN:	<p>A tingling sensation in the distal end of a limb when percussion is made over the site of a divided nerve. It indicates a partial lesion or the beginning of regeneration of the nerve.</p>
TRENDELENBURG TEST:	<p>The patient standing erect with back to examiner is told to lift one leg and then the other. When weight is supported by the affected limb, the pelvis on the healthy side falls instead of rising. A positive test indicates gluteus medius weakness or a dislocated hip.</p>
WADDELL TEST:	<p>The patient is tested for appropriateness of response to tenderness. axial loading, rotation, straight leg raising in the seated position, regional disturbances and overreaction. Inappropriate responses in three of the five areas is very suggestive of functional overlay in patients with back problems.</p>