

KNEE

VASU PAI

TESTS FOR LIGAMENTS

I. Valgus and Varus test

Performed at 0° and 30 °

Technique: Place your right hand along the medial aspect of the knee. For varus test or lateral aspect for valgus test.

Hold the ankle with other hand

Give varus stress for LCL and valgus stress for MCL

If the LCL or MCL is completely torn, the joint will "open up" along the lateral or medial aspect with knee

Valgus test at 0 and 30 degrees



Laxity only at 30 and stable at 0

: MCL and LCL is selectively ruptured

Laxity at both 0 and 30°

Means major ligamentous injury ie., in addition

MCL or LCL there is damage to posterior capsule with

Or Without ACL and PCL

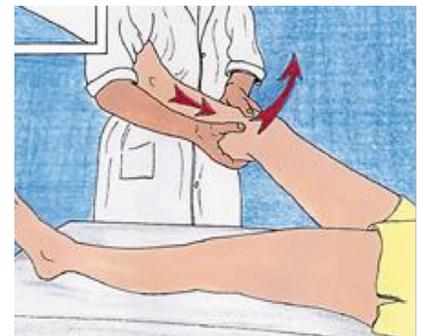
ALTERNATIVE METHOD FOR STRESSING THE MEDIAL LATERAL COLLATERAL LIGAMENTS

Extend the patient's knee and cradle the heel between your arm and body.

The knee should be slightly flexed.

Place your index finger across the medial and lateral joint lines.

Using your body and index fingers, gently provide first medial and then lateral stress to the joint.



2. ACL TESTS

a. LACHMAN'S TEST

Make sure there is no posterior sag; explain the test to the patient

Patient should fully relaxed

Examiners one hand around tibia and other hand around the thigh

Knee in 20-30° flexion

The tibia is pulled forward in relation to the femur. Look for tibial condyles translating anteriorly.

Normal knee: no anterior translation is possible



Grading of Lachman's test

Grade I	3-6
II	6-9mm
III	10-16
IV	16

The quality of the endpoint at the end of the movement is described as either "firm" or "soft." Grading depends on the quality of the endpoint observed, and on whether there is a difference of 3-5 mm between the affected and the unaffected knee. A soft endpoint will make the grading "abnormal" rather than "nearly normal."

b. ANTERIOR DRAWER TEST

Knee at 90°; patient should be fully relaxed.

Watch for the posterior sag

Sit on patient's foot

Draw the tibia anteriorly with both hands

Anterior Drawer in 30° Internal rotations

Neutral rotation

15° External rotation

Excessive anterior translation indicates laxity of anteromedial fibres of ACL.



Theoretically, the Lachman's test is more specific for injury to the posterior portion of the ACL, and the anterior drawer test is more specific for injury to the anterior fibers. This distinction is not important.

c. PIVOT TEST

Preferable under G.A

The patient leg is held in full extension with the hands

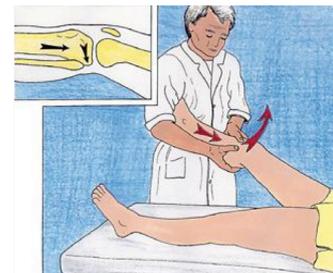
around the knee and the foot tucked under the arm

The leg is then internally rotated

A valgus strain is applied via laterally placed hand

In this position the tibia anterolaterally subluxed

The knee is then flexed gently



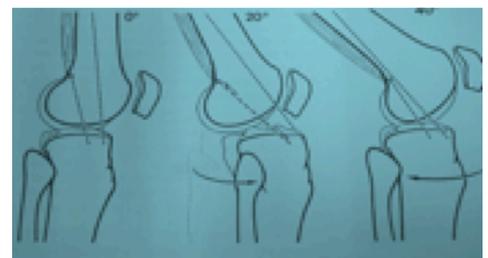
3 phases

0° Lateral condyle is well reduced

20° Pronounced subluxation of lateral tibial plateau

40° The ITB tightens and becomes flexor

reduction of subluxation



3. PCL

a. POSTERIOR SAG SIGN

Patient keeps both knees flexed at 90°

Watch the sag of the leg [compare levels of Tibial tuberosity]

Posterior sag indicates PCL rupture

b. POSTERIOR DRAWER TEST

Have the patient lie down, the right knee flexed to 90°

Gently sit on the foot.

Grasp below the knee with both hands, with thumbs

meeting along the front of the tibia.

Gently push backward, gauging how much the tibia moves in that direction in relation to the femur.

The intact PCL will give a discrete end point.

Compare this to the other side

If the PCL is completely torn, the tibia will feel unrestrained in the degree to which it moves backwards.

c. QUADRICEPS ACTIVE DRAWER TEST

With knee in 90° flexion, patient sits on the patient's foot.

Patient is asked to contract quadriceps isometrically

The tibia is drawn anteriorly as PCL fails to resist anterior translation.



4. POSTEROLATERAL LIGAMNT LAXITY

a. HYPEREXTENSION RECURVATUM TEST

Patient in supine

Examiner holds great toe

Lift the limb up

Observation: for excessive hyperextension of the knee and external rotation of the tibia

b. DIAL TEST

Patient in prone position

Externally rotate in 90° and 30 °

Excessive External rotation in:

30 ° indicates LCL

30 ° and 90 °: Posterolateral corner



C. POSTEROLATERAL DRAWER TEST

Like ADT, push the tibia backwards; excessive translation of the lateral tibial condyle.