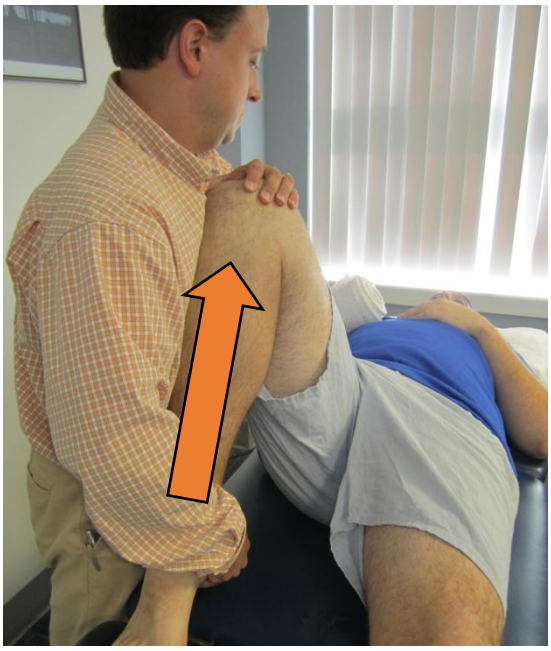
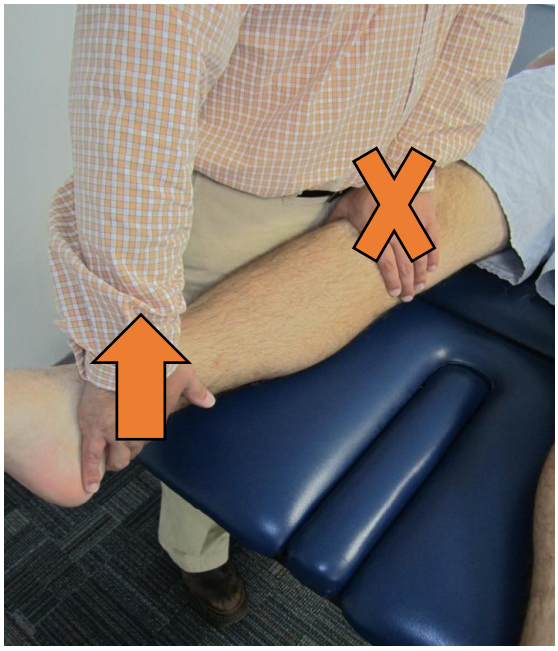
Virginia Orthopedic Manual Physical Therapy Institute Technique Manual

WEEKEND 5 – Knee

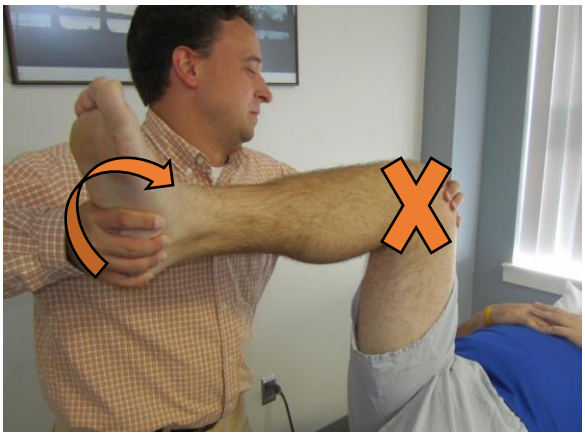
Knee Passive Physiological Motion Assessment
Flexion and Extension

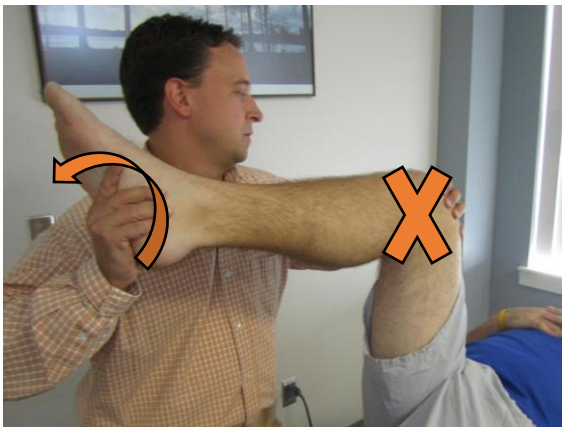




- **Patient Positioning: Supine close to the edge of the bed**
- **Test Performance:**
  - **Flexion: Therapist supports the lateral femur against their chest and passively flexes the knee to end range**
  - **Extension: Therapist grasps around the distal tibia with the caudal hand and stabilizes at the tibial tubercle with the cranial hand. Therapist raises the distal end of the tibia by side bending their body**
- **Indications: Completed as part of the knee exam.**
- **Contraindications: None**
- **Clinical Pearls:**
  - **Assess end feel and quantity of motion**
  - **Flexion**
    - **Add abduction and adduction of the tibia as you move into the end range of motion to challenge the joint fully**
      - **Flexion/adduction/IR normal conjunct motion of the knee**
  - **Extension**
    - **Add abduction and adduction of the tibia as you move into end range of motion to challenge the joint fully**
      - **To add abduction, ensure hand on distal tibia is medial**
      - **To add adduction, ensure hand on distal tibia is lateral**
      - **Extension/abduction/ER normal conjunct motion of the knee**

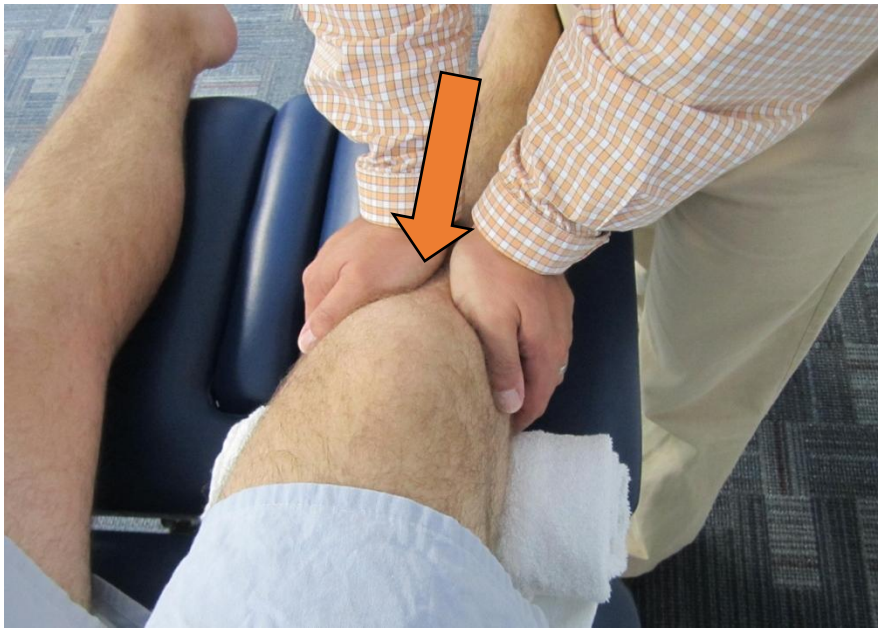
Tibial IR/ER





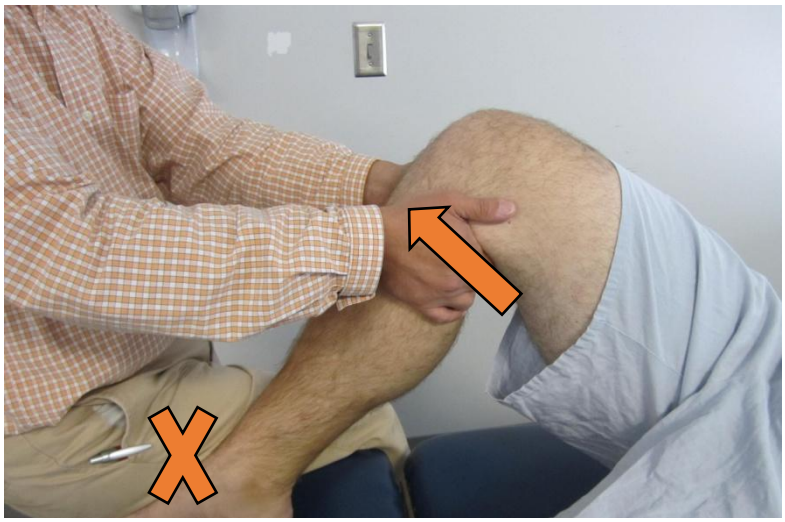
- **Patient Positioning: Supine close to the edge of the bed**
- **Test Performance:**
  - **IR: Therapist places the hip and knee at 90 degrees. Therapist stabilizes the knee with the cranial hand and IR the tibia through the foot**
  - **ER: Therapist places the hip and knee at 90 degrees. Therapist stabilizes the knee with the cranial hand and ER the tibia through the foot**
- **Indications: Completed as part of the knee exam**
- **Contraindications: None**
- **Clinical Pearls:**
  - **IR and ER of the tibia is important for conjunct motion during flexion extension especially at end ranges of motion**

Knee Passive Accessory Motion Assessment
Tibio-Femoral Anterior – Posterior Glide



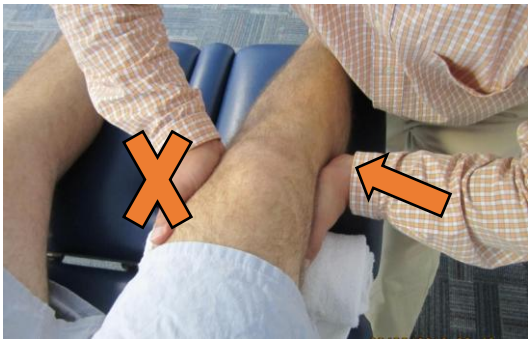
- **Patient Positioning: Supine with knee resting in slight flexion on a bolster**
- **Test Performance: Place thenar eminences of both hands on the tibial tubercle and wrap the hands around the rest of the proximal tibia. Therapist directs posterior force to the tibia on the femur**
- **Indications: Completed as part of the knee exam**
- **Contraindications: None**
- **Clinical Pearls:**
    - **Assess end feel and quantity of motion and compare to uninvolved side**

Tibio-Femoral Posterior – Anterior Glide

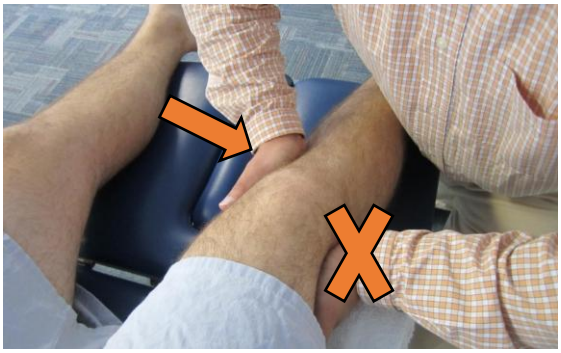


- **Patient Positioning: Supine with knee resting in 60-80 degrees of flexion**
- **Test Performance: Place thenar eminences of both hands on the tibial tubercle and wrap the hands around the rest of the proximal tibia. Therapist sits on the patient's foot to help with stability. Therapist directs anterior force to the tibia on the femur**
- **Indications: Completed as part of the knee exam.**
- **Contraindications: None**
- **Clinical Pearls:**
    - **Assess end feel and quantity of motion and compare to uninvolved side**

Tibio-Femoral Medial – Lateral Shear



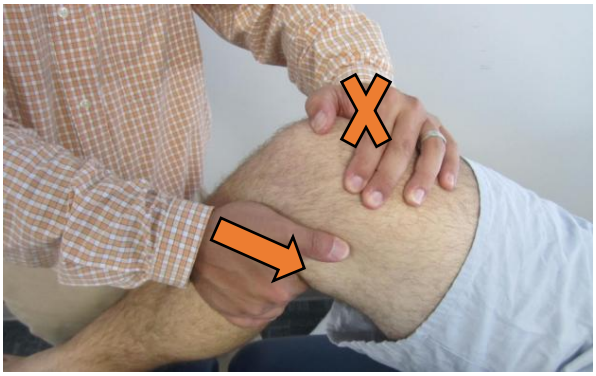
Medial Shear

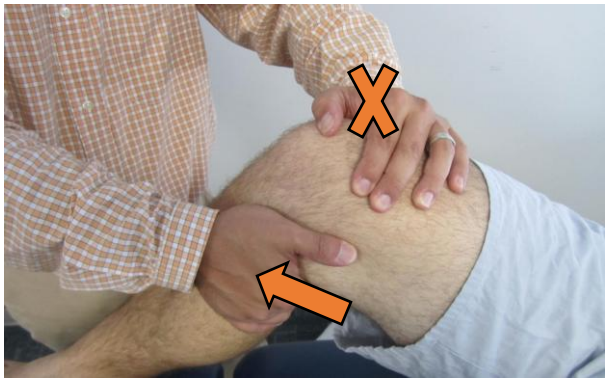


Lateral Shear

- **Patient Positioning: Supine with knee supported by a bolster flexed 10-20 degrees**
- **Test Performance:**
  - **Medial Shear: Therapist grasps around the medial aspect of the distal femur and the lateral aspect of the proximal tibia. Therapist stabilizes the distal femur and directs a medial glide to the proximal tibia.**
  - **Lateral Shear: Therapist grasps around the lateral aspect of the distal femur and the medial aspect of the proximal tibia. Therapist stabilizes the distal femur and directs a lateral glide to the proximal tibia.**
- **Indications: Completed as part of the knee exam**
- **Contraindications: None**
- **Clinical Pearls:**
  - **Conjunct motion with knee flexion/extension**
  - **Beneficial technique to restore end range motion in patients with OA**

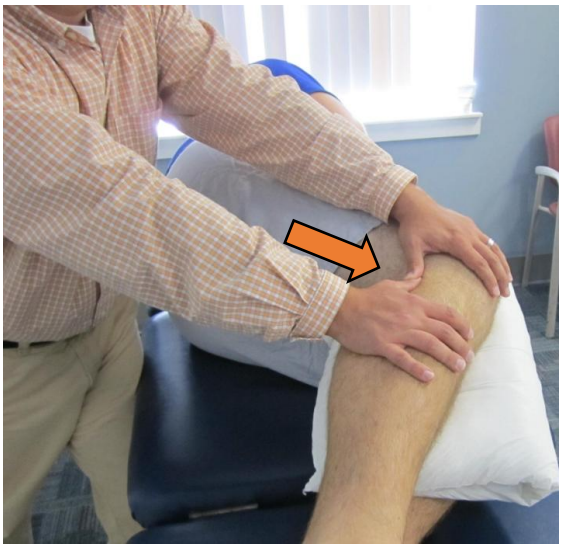
Tibio-Femoral Rotation Test



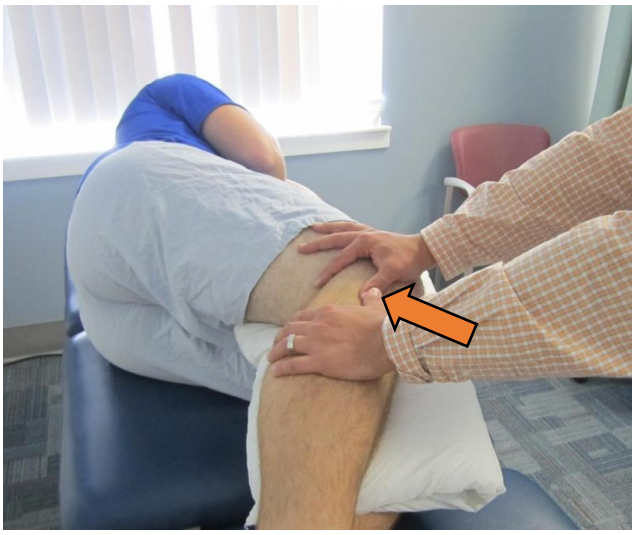


- **Patient Positioning: Supine with knee flexed to 90 degrees**
- **Test Performance:**
    - **Pt supine, knee flexed to approx 90deg, foot stabilized by sitting on it. Grasp lateral half of tibia with one hand, stabilize femur with other. Apply an anterior and laterally directed movement of tibia on femur. Repeat by applying posterior and medially directed movement with same hand holds. Repeat on other side for anterior/lateral and posterior/medial**
- **Indications: Completed as part of the knee exam**
- **Contraindications: None**
- **Clinical Pearls:**
    - **Assess if loss of tibial ER or IR is found**

Superior Tib-Fib Joint
PA & AP



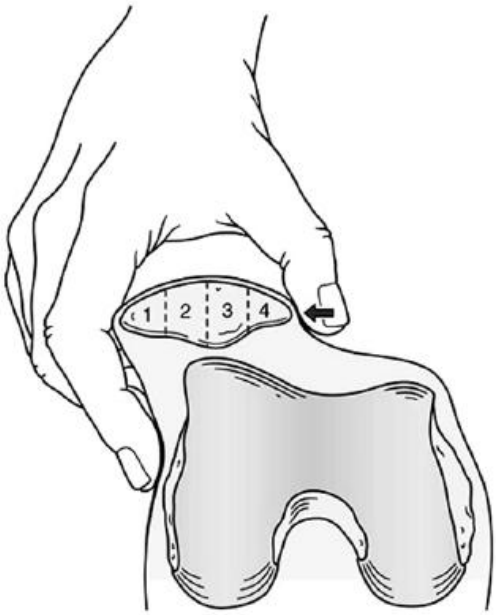
Anterior glide



Posterior Glide

- **Patient Positioning: Side lying, side to be assessed up, knees bent and pillow between the knees**
- **Test Performance:**
  - **Anterior Glide: Standing behind the patient, place both thumbs on the posterior aspect of the fibular head. Glide the fibular head PA.**
  - **Posterior Glide: Standing in front of the patient, lace both thumbs on the anterior aspect of the fibular head. Glide the fibular head AP.**
- **Indications: Completed as part of the knee exam**
- **Contraindications: None**
- **Clinical Pearls:**
  - **Assess mobility of superior tib-fib joint**
  - **Can also be done supine if pt unable to side lye**

Patella Femoral Joint

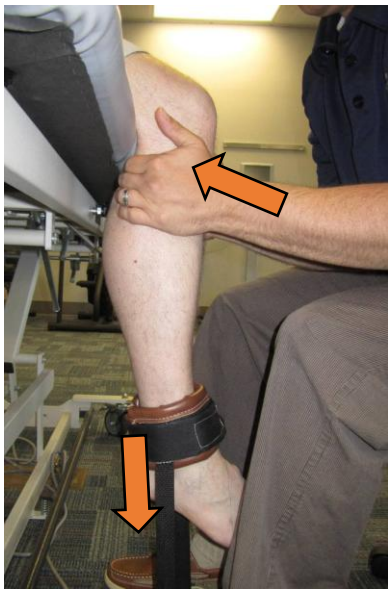


Patellar Glide Test

- **Patient Positioning: Supine with knee in open packed position**
- **Test Performance:**
  - **Superior and Inferior Glide: Place apex of patella in interthenar eminence. Align forearm with shaft of femur. Apply inferior glide of patella. Repeat for superior glide**
  - **Medial and Lateral Glide: Stand on lateral side of knee. Grasp patella and move in a lateral direction. Repeat for medial glide**
  - **Patella Glide Test: Normal = excursion of ½ patella**
- **Indications: Completed as part of the knee exam**
- **Contraindications: Fracture Suspected**
- **Clinical Pearls:**
  - **Should be equal mobility each direction**

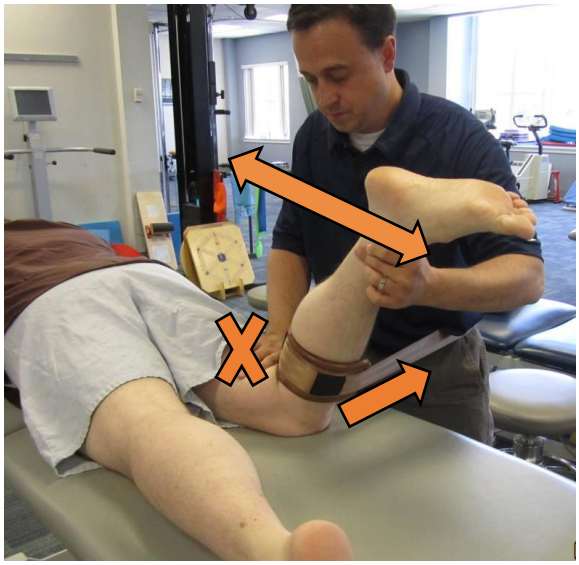
Knee Treatment

Seated Distraction Mobilization



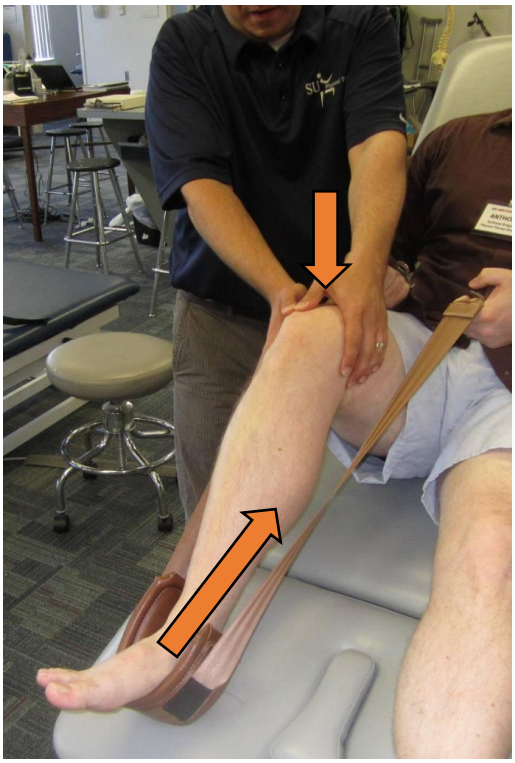
- **Patient Positioning: Seated, close to the edge of the bed**
- **Technique Performance: Therapist seated on a stool facing the patient. With a mobilization device wrapped around the patients ankle, the therapist applies a longitudinal distraction force to the knee. While providing the distractive force, the therapist applies a posterior glide to the joint directed at the proximal tibia**
- **Indications: Utilized to improve posterior glide thus improving knee flexion ROM**
- **Contraindications: Fracture or other red flag concerns**
- **Clinical Pearls:**
    - **The distractive force helps to completely unweight the joint and to increase stretch on the capsule**
    - **Can add passive flexion or extension to help restore motion**

Lateral Tibial Glide (MWM)



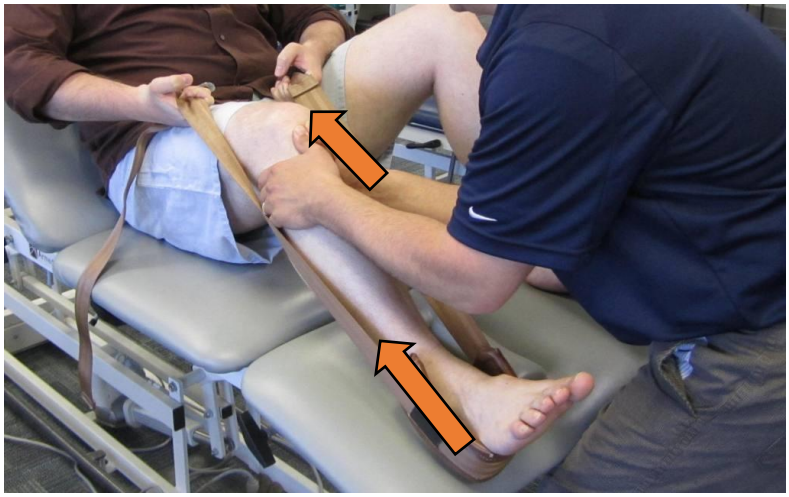
- **Patient Positioning: Prone, close to the edge of the bed**
- **Technique Performance: Therapist standing on the side of the bed that will be treated. With a mobilization device wrapped around the proximal tibia and around the therapist waist a lateral glide is applied to the tibia by the therapist leaning back. While producing a lateral glide the therapist stabilizes the femur with one hand and flexes and extends the knee.**
- **Indications: To unweight the medial compartment of the knee while performing passive motion**
- **Contraindications: Fracture or other red flag concerns**
- **Clinical Pearls:**
    - **Works well with patients who have valgus deformity of the knee with medial compartment break down**

Functional Patellar Glides: Inferior



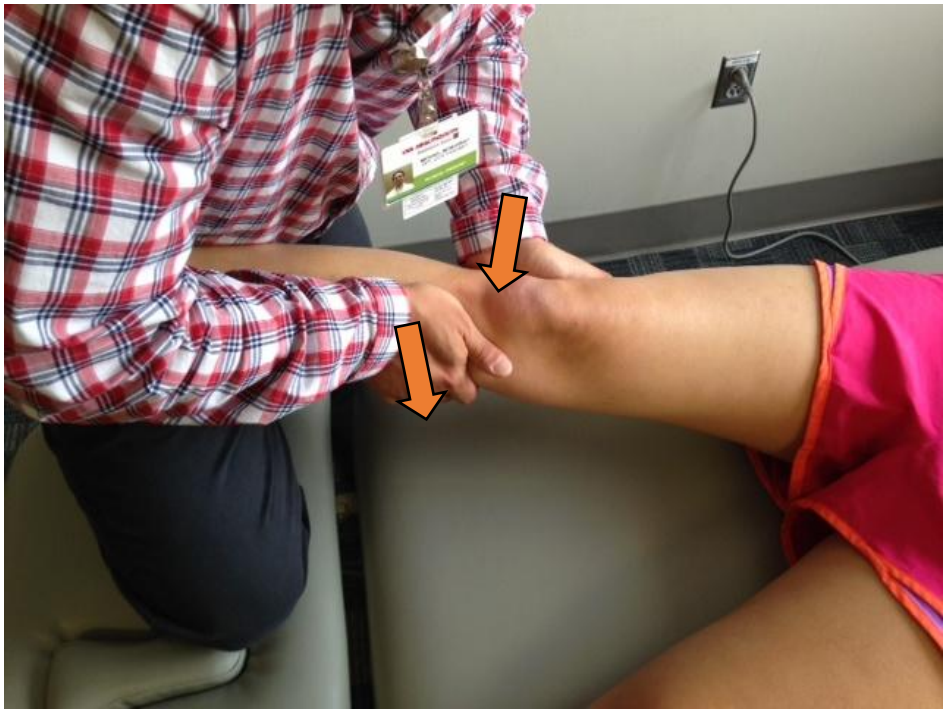
- **Patient Positioning: Supine or reclined holding a mobilization device wrapped under their heel**
- **Technique Performance:**
  - **Therapist stands on the side of the bed facing the foot of the bed. As the patient passively flexes the knee with the mobilization device, the therapist applies an inferior directed force to the superior aspect of the patella using their thumbs.**
- **Indications: To improve patella retinacular mobility and quad tendon mobility**
- **Contraindications: Fracture, quadriceps tendon integrity problems, other red flag concerns**
- **Clinical Pearls:**
  - **Normal motion of the patella during knee flexion is inferior and knee extension is superior. This technique encourages normal motion of the patella in a functional movement pattern.**

Functional Patellar Glides: Superior



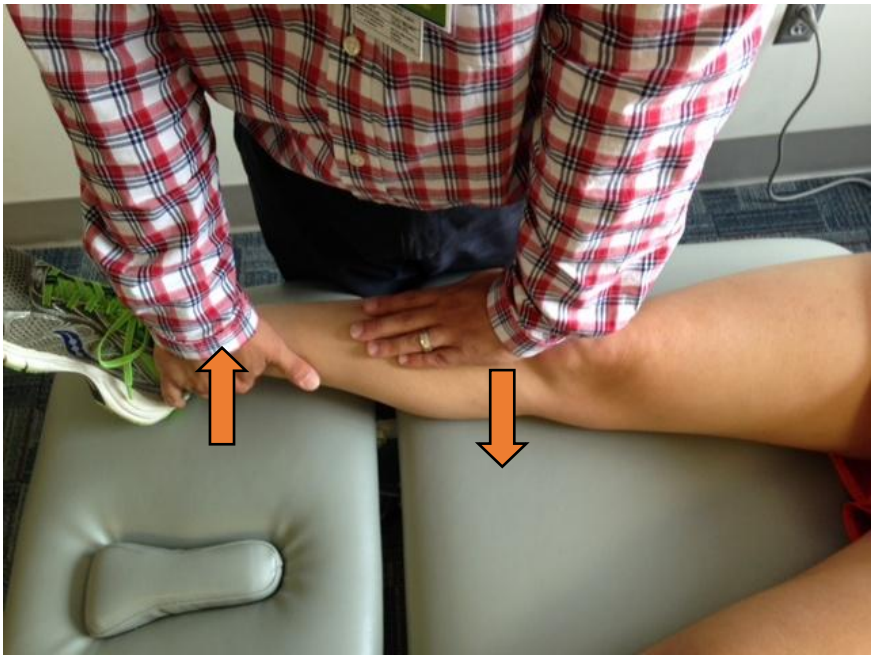
- **Patient Positioning: Supine or reclined holding a mobilization device wrapped under their heel**
- **Technique Performance:**
  - **Therapist stands at the foot of the bed. As the patient passively flexes the knee with the mobilization device, the therapist applies a superior directed force to the inferior aspect of the patella using their thumbs.**
- **Indications: To improve patella retinacular mobility and patella tendon mobility**
- **Contraindications: Fracture, patella tendon integrity problems, other red flag concerns**
- **Clinical Pearls:**
  - **Normal motion of the patella during knee flexion is inferior. By holding the patella superior, it provides a good stretch to the retinacular tissue and patella tendon**

Extension Abduction Glide



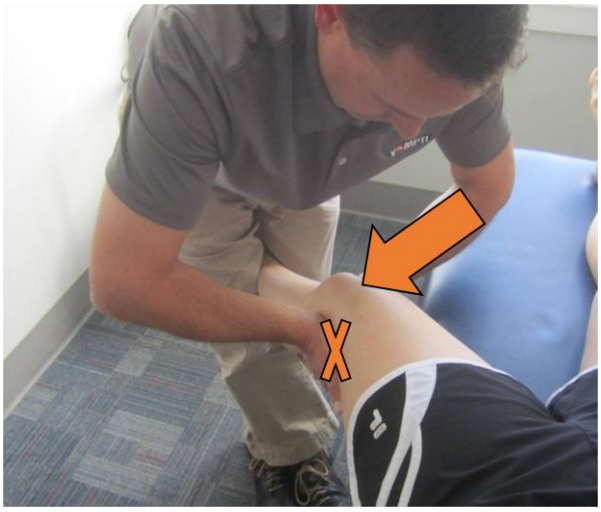
- **Patient Positioning: Supine, close to the edge of the bed**
- **Technique Performance:**
    - **Therapist stands on the side of the bed facing the head of the bed. Starting the patient in some flexion, therapist applies/sustains a valgus stress force to the knee while mobilizing the medial tibia into extension**
- **Indications: Performed to unweight the lateral compartment of the knee while passively mobilizing the knee.**
- **Contraindications: MCL integrity problems, fracture or other red flag concerns**
- **Clinical Pearls:**
    - **Helps to move the knee into normal conjunct motion of the knee (extension/abduction/ER)**

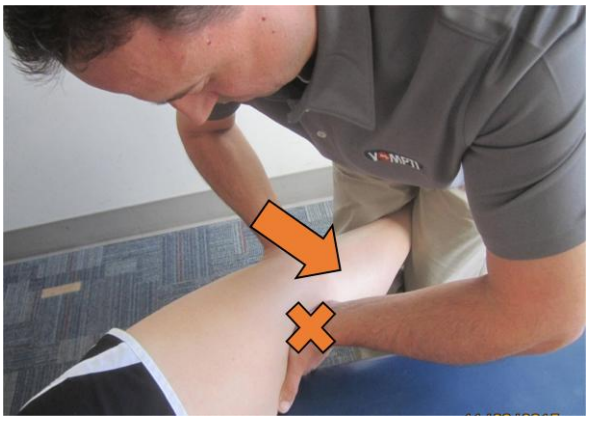
Extension Glide



- **Patient Positioning: Supine, close to the edge of the bed**
- **Technique Performance:**
    - **Therapist stands at the side of the bed facing the head of the bed. One hand is placed on the anterior proximal tibia. The other hand is wrapped around the postero-medial aspect of the distal tibia. Therapist stabilizes the proximal tibia and lifts up on the distal tibia producing extension and ER.**
- **Indications: Performed to improve end range extension**
- **Contraindications: Fracture or other red flag concerns**
- **Clinical Pearls:**
    - **Powerful end range extension/hyperextension technique**
        - **Have patient try and isometrically hold extension by giving cues of "keep heel off the bed"**

Medial/Lateral Tibial Glide with Distraction





- **Patient Positioning: Supine, treatment leg off table**
- **Technique Performance:**
  - **Therapist puts patient ankle between legs and crosses legs. Treatment hand on appropriate aspect of tibia, other stabilizing hand on opposite side of femur.**
  - **Lean back to extend hips which offers a distraction force through the tibiofemoral joint. While holding distraction offer medial or lateral glide of tibia while stabilizing femur.**
- **Indications: To Improve ROM and joint mobility**
- **Contraindications: Fracture or other red flag concerns**
- **Clinical Pearls:**
  - **Powerful technique**
  - **Useful for patients with arthritis**