



<https://watsnorthopaedics.com/home/rehab-protocols/knee/meniscal-repair-rehab/>

<https://orthocenter-si.com/content/meniscus-tears>

*Meniscal tears are commonly repaired but may take 4-6 months for full healing. We customize your course with these guidelines.

PHASE 1: FULL EXTENSION AND CONTROL SWELLING (WEEKS 0-2)

- Control swelling with ice, compression, and elevation
 - Ice or a cooling device should be used for 25 minutes per hour for the first 48 to 72 hours. Thereafter, ice should be used at least four times per day for 25 minutes per treatment
- Weight bearing as tolerated, with hinged knee brace locked in full extension and crutches (this may be adjusted depending on the tear type) Full extension is primary goal in phase 1.
 - If the patient has pain, limit weight bearing until pain free
- Gentle early motion when seated with maximum flexion between 60 and 90 degrees depending on tear
 - Sitting heel slides: sitting in a chair with the brace unlocked the patient should slide the heel toward the chair until 60 degrees to 90 degrees' flexion is gained. Hold for 5 seconds and repeat 20 times. Repeat 3 times per day
 - Prone flexion to 60 degrees
- Quadriceps activation
 - Quadriceps firing: with the patient supine or sitting, the patient should activate quadriceps and forcefully extend the knee for a 5 second hold. A rolled towel underneath the heel may allow for more aggressive extension. This should be performed 20 times, 3 sets per day.
 - Ankle Pumps: This should be performed as much as possible to maintain circulation
 - Prone Leg Extension: Use both legs over the end of the table for 2 minutes at a time twice daily

PHASE 2: EARLY MOTION AND MUSCLE ACTIVATION (WEEKS 2-6)

- Weight bearing as tolerated, with hinged knee brace locked in full extension and crutches (consider limited weight bearing depending on tear) Avoid weight bearing flexion greater than 40 degrees.
- Full extension and flexion to 90 degrees
- Begin muscle activation
 - Straight leg lift: with the patient supine, have the patient fire the quadriceps to keep the leg straight and raise the entire leg off the ground. Hold at 45 degrees for 1-2 seconds then lower slowly. Repeat 20 times and perform 3 sets per day.
 - Standing toe raise: standing and facing the wall, fire both quadriceps to keep the knee straight, and raise up on toes one second then slowly lower.
 - Hip Abductor Activation: Side lying listing extended knee up for set of 20 repetitions twice daily

PHASE 3: FUNCTIONAL RETURN (WEEKS 6-12)

- Transition out of brace
 - Transition to full weight bearing
- Regain full range of motion
 - Supine heel slides: with the patient lying supine, have the patient use the contralateral leg or towel to assist in knee flexion. Hold the maximal bent position until tightness or stretching is perceived and hold for 5 seconds then straighten and repeat. Three sets of 20 repetitions.
- Muscle strengthening
 - Standing hamstring curl: the patient should be standing and holding onto a balance bar or wall for support. The patient should slowly bend the operative knee so that the heel approaches the buttock. Perform 3 sets of 20 repetitions.
 - Stationary bicycle: This can help with motion and strength. Set the seat so that the operative leg is at full extension at the bottom of the pedal cycle. Start at low resistance and increase slowly over 4 weeks. Do 20-30 minutes per day.
 - Hip Abduction: lie on the unoperated side. With the knee held straight, raise the pertained leg to the side 45 degrees. Hold for 1 second then lower slowly. Repeat 20 times per day.
 - Wall slides: have the patient stand with the back touching the wall. Have the patient's feet facing forward and about 6-12 inches from the wall. The patient should lower the body by flexing through both hips and knees until the knees are flexed to 45 degrees. Pause for 5 seconds at 45 degrees then slide up the wall to the original position. Perform 3 sets of 20 repetitions
 - Squat to chair: Have the patient stand above a chair, then slowly squat down to the chair until the buttocks touch the chair, then immediately return to the starting standing position. Do not sit in the chair. Perform 3 sets of 20 repetitions.
 - Seated leg press: Builds quadriceps strength. Start with an easily lifted weight and progress weekly as the patient makes progress. So not exceeds the patient's own body weight. Do not allow flexion beyond 90 degrees. Perform 3 sets of 20 reps.
 - Step up/step down: Builds strength, balance, and proprioception. Place the operated leg on a low, flat, stable stool. Have the non-operated leg off the ground and slowly bend the operated leg so that the

unoperatic led just touches the ground. Straighten the operated leg to go back to the original position. Maintain a balanced upright posture during the exercise. Keep the thigh, knee, and foot all pointed forward and do not allow rotation. Perform 3 sets of 10 to 20 repetitions.

PHASE 4: EARLY SPORTS TRAINING (WEEKS 12-24)

- Regain full muscle strength
 - Continue the number of sets and repetitions will have to be decreased to allow more time for advanced muscular strengthening, cardiovascular conditioning, and sport specific training
 - Strength training should alternate every other day with cardiovascular or sport specific training
 - Transition to single leg wall slides and single leg squat to chairs
- Cardiovascular conditioning
 - This should be performed three to four days per week.
 - Stationary bicycle or elliptical machine: increase resistance as tolerated
 - Light running on a soft, level surface: start running for 5 minutes and increased to 30 minutes over a 4-week period.
- In-line sports
- Sports specific training (speed and agility training)
 - When running in line for 30 minutes is relatively easy and does not cause pain or swelling, consider starting speed and agility training
 - In-line sprinting starting half speed for 100 yards for 10 reps
 - Add cones or zig-zag running
 - Add forward and backward running
 - Add figure of eight running
 - Add carioca running
 - Add shuttle run

PHASE 5: ADVANCED SPORT ACTIVITY (WEEKS 24 ONWARD)

- Return to pivoting sports
 - Return to unrestricted pivoting sports when motion and strength have returned without swelling during advanced rehabilitation

* Portions adapted from Postoperative Orthopaedic Rehabilitation by Green, Hayda and Hecht.