

KNEE - Microfracture/OATS/Cartilage Procedures Post-Op Rehab Protocol

Phase I: 0-6 weeks

Brace:

- Brace locked 0-30 with weight-bearing, unlocked when non-weight-bearing

Weight bearing status:

- Patella-trochlear lesions: weight bearing as tolerated in brace locked 0-30 for 6 weeks
- Femoral condyle, tibial plateau lesions: **non-weight-bearing for 6 weeks**

Exercises:

- Passive flexion/extension of knee 100 cycles, three times a day.
- Passive knee ROM exercises
 - Extension
 - Passive extension – sit in a chair and place your heel on the edge of a stool or chair; relax thigh muscles and let the knee sag under its own weight until maximum extension is achieved.
 - Heel props – place rolled up towel under the heel and allow leg to relax
 - Prone hangs – lie face down on a table/bed with the legs hanging off the edge of the table; allow the legs to sag into full extension.
 - Flexion (after 2 weeks)
 - Passive flexion – sit on chair/edge of bed and let the knee bend under gravity; may use the other leg to support and control flexion.
 - Wall slides – lie on your back with the involved foot on the wall and allow the foot to slide down the wall by bending the knee; use other leg to apply pressure downward.
 - Heel slides – use your good leg to pull the involved heel toward the buttocks, flexing the knee. Hold for 10 seconds; straighten the leg by sliding the heel downward and hold for 10 seconds.
- Quadriceps sets in full extension
- Straight leg raises (with brace locked in extension if patella-trochlear lesion)
- Hamstring isometric sets in full extension
- Patella mobilization
- Hip abduction, adduction strengthening
- Ankle ROM and gastroc/soleus strengthening with tubing/theraband

Phase II: Weeks 6 – 12

Brace

- Patella-trochlear lesions: brace unlocked for full ROM, then weaned off as tolerated; may continue brace as needed during strenuous exercise

Weight bearing status

- Gradual increase to weight-bearing as tolerated

Exercises

- Full active knee ROM
- Stationary bicycling – begin with no resistance, with goal of 45 minutes for endurance training; then may gradually increase resistance
- Treadmill walking / elliptical trainer (slow speed, no incline) – begin with 5-10 minute duration; advance 5 minutes/week
- Standing Hamstring curls
- Standing toe raises
- Closed chain exercise for hamstring; for quadriceps, may begin squats to chair and wall slides (back against wall) at week 8 with knee flexion limited 0-45 degrees; if patella-trochlear repair, avoid until week 12
- Elastic resistance cord exercises (avoid open chain knee extension)

Phase III: Weeks 12-16

Exercises

- Continue above exercises, add progressive resistance
- Begin running program - begin on treadmill or soft track; start with 1 minute running/ 4 minute walking intervals; increase running by 1 minute/week (with decrease in walking interval) with goal of 20 minutes of continuous running after 5 weeks
- Seated leg press; avoid if patella - trochea
- For patella-trochlear repair, may begin squats to chair and wall slides (back against wall) with knee flexion 0-30

Phase IV: Weeks 16 – 24

Exercises

- Continue to increase lower extremity strength and endurance; work on balance and core exercises
- Advance running program as pain and function allows
- Add plyometric, agility and sport specific training but remain low impact
- Progress agility and plyometric training

Phase V: Weeks 24+

Exercises

- Full activities if pain free running, full ROM, no swelling or tenderness
- Remember all progressions are approximations and should be used as guidelines
- Return to sports that involve contact, cutting, pivoting or jumping
 - Athletes must pass single/triple hop test