

Orthopedic Surgery • Sports Medicine
Neil Kumar, MD

Knee Arthroscopy Protocol

“As tolerated” should be understood to “perform with safety” for the reconstruction/repair. Pain, limp, swelling, or other undesirable factors are indicators that you are doing too much too soon. If any of these should occur, decrease your activity level, elevate the leg, and ice your knee.

Ice should be applied to the knee for 15 to 20 minutes following each exercise, therapy, or training session. While your knee remains swollen, icing should also be done separate from exercise sessions at least three times per day.

All times and exercises are to serve as guidelines only. Progression through the protocol should be based upon criteria as opposed to dates listed and will vary depending on each individual patient. Progress should be agreed upon by the patient and his/her team of providers.

Pre-Operative

- Weight Bearing – Full
- ROM (range of motion) – Full, no restrictions
- Therapeutic Exercise - Learn exercises for post op regimen
 - Calf stretching
 - Quad sets
 - Four-way straight leg raises (SLR)
 - Heel slides
 - ‘Propped’ knee extension
- Modalities - Cryotherapy (Ice) six to eight times per for 15 to 20 minutes each time

- **Goals for Surgery**
 - Minimal to no swelling
 - Full ROM
 - Normal strength

Orthopedic Surgery • Sports Medicine
Neil Kumar, MD

Post-Operative Phase I: Weeks 0 to 2

******Include single-leg exercises on non-involved side******

- Weight Bearing - Weight bear as tolerated without crutches
- ROM - Full active and passive
- Therapeutic Exercise – progress as patient tolerates
 - ‘Preoperative’ exercises
 - Hamstring curls
 - Glute sets
 - Ankle pumps
 - Isometric knee extension at multiple angles within pain-free ROM
 - Quad sets
 - Open kinetic chain (OKC) knee extension 90⁰ to 0⁰
 - Isometric and OKC hamstring strengthening in pain-free ROM
- Modalities
 - Scar and soft tissue massage, patella mobilizations
 - NMES (neuromuscular electrical stimulation) for quadriceps atrophy
 - HVPC (high volt pulsed current) for effusion (swelling) reduction
 - Cryotherapy six to eight times per day for 15 to 20 minutes each
- Proprioception
 - Seated BAPS board
 - Standing weight shifts
- Cardio
 - UBE (arm bike)
 - Stationary bike with increasing resistance
 - Elliptical
- **Goals for Phase II:**
 - Hip flexion SLR without knee extension lag
 - Full knee extension
 - Knee flexion to 120°
 - Minimal joint effusion

Orthopedic Surgery • Sports Medicine
Neil Kumar, MD

Post-Operative Phase II: Weeks 2 – 4

- Weight Bearing - Weight bear as tolerated without crutches
- ROM – Full active and passive
- Therapeutic Exercises – Continue Phase I exercises
 - Core and hip strengthening
 - Standing hamstring curls
 - CKC and OKC quad and hamstring strengthening within pain-free ROM
 - Double-leg plyometrics progressing to single leg as tolerated
- Modalities
 - Scar and soft tissue massage, patella mobilizations
 - NMES (neuromuscular electrical stimulation) for quadriceps atrophy
 - HVPC (high volt pulsed current) for effusion (swelling) reduction
 - Cryotherapy six to eight times per day for 15 to 20 minutes each
- Proprioception
 - Seated BAPS board
 - Standing weight shifts
 - Unstable surfaces
 - Joint repositioning
 - Perturbation training (balance against resistance)
- Cardio
 - UBE
 - Treadmill walking progressing to running as tolerated
- **Goals for Phase III:**
 - Normal gait
 - Knee ROM 0°- 120°
 - Good eccentric control of involved knee
 - Isokinetic quad strength 90% of non-involved knee

Orthopedic Surgery • Sports Medicine
Neil Kumar, MD

Post-Operative Phase III: Weeks 4 – 6

Transitional Therapy for return to sport activities during this phase with progression based upon patient progress through earlier protocol.

- Initiate pool walking progressing to running
- Initiate cutting/pivoting/jump training

In addition to ongoing strength, balance, agility, and cardio conditioning, initiate sport specific plyometric activities as tolerated such as:

Soccer/Football: Two foot ankle hop, double-leg hop, front barrier hop, lateral barrier hop, single-leg hop, power skip, backward skip, double arm alternate leg bound, and cycled split squat jump

Basketball/Volleyball: Two foot ankle hop, double-leg hop, squat jump, double-leg vertical jump, single-leg hop, single-leg vertical jump, power skip, backwards skip, double-arm alternate-leg bound, alternate leg push off box drill, and side-to-side push off box drill

Baseball/Softball/Overhead throwing sports: Two foot ankle hops, double-leg hop, front barrier hop, lateral barrier hop, single-leg hop, power skip, backward skip, double arm alternate leg bound, cycled split squat jump, and return to throwing program

Return to Sports

Return to sports is based on provider team (physician, physician assistant, athletic trainer, therapist) input. At 6 week follow-up with provider, clinical exam, isometric and isokinetic testing will be used to determine clearance for return to full sports activities. When cleared by the provider, patients should return to their sports with a *2-week progression plan* as determined by the health team and coaches. This allows the athlete to acclimate to the mental and physical demands of sports and athletics in safe manner.