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## Arthroscopic Meniscectomy/Chondral Debridement Protocol

Revised 2023

**\*\*\*Please refer to written prescription for any special instructions for each case\*\*\***

The following protocol utilizes a blend of both post-operative timeframes and functional criteria as the determinants for advancement. It is recognized that many athletes will feel pain-free relatively early in their rehabilitation and want to advance to higher level activities as a result. It is important to respect the biological healing and adaptation component of recovery. Overall, this protocol suggests a gradual return to sport activities beginning at 10-12 weeks if all other criteria are also met.

**WEEKS 0 to 2:** (Initial PT evaluation to be scheduled within 2 weeks of surgery date)

### Goals:

- Minimize pain and effusion
- Weight-bearing: TTWB
  - Gradually wean/discontinue crutches once permitted by surgeon to begin WBAT status
- Brace use: locked in full extension at all times, including ambulation and sleep, until permitted to progress by surgeon (typically after 1 week post-op visit)
  - Discontinue brace under guidance of surgeon/physical therapist with the following criteria met:
    - Knee flexion ROM  $\geq 100^\circ$
    - Perform three single-leg squats to  $30^\circ$  on involved side with proper frontal plane control
- Range of motion:
  - Achieve/maintain full knee extension
  - Gradually advance knee flexion as tolerated
- Restore and progress quadriceps activation and strength
- Begin to reestablish normal gait pattern

### Interventions:

- Effusion management (elevation, cryotherapy, compression, ankle pumps)
- Gait training
- ROM/Flexibility:
  - Knee extension: passive extension with heel prop, prone dangle and hamstring/calf stretches
  - Knee flexion: heel slides, wall slides, seated active assisted knee flexion, stationary bike
- Strength:
  - Quad sets
  - NMES/FES for quadriceps activation:
    - Suggested settings: 20-50 sec OFF, 10 sec ON, 2 sec RAMP, 10-15 mins total, 75 Hz pulse rate, 400  $\mu$ sec pulse width, symmetrical waveform
    - Achieve an amplitude (in mA) for strong muscle contraction
  - SLR x4 (flexion, adduction, abduction, extension)
  - Gradually progress opened chain quadriceps/hamstring strengthening as tolerated
  - Bridging, mini squat, calf raises, band walks
- Home exercise program

### **WEEKS 2 to 6:**

CHOP Rehabilitation Protocol Following Meniscectomy/Chondral Debridement  
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### Goals:

- Normalize gait pattern
- Restore full, pain-free knee ROM
- Progress lower extremity strength, neuromuscular control, proprioception/balance and muscular endurance exercises
- Increase low impact cardiovascular conditioning

### Interventions (in addition to those listed in previous weeks):

- ROM/flexibility exercises as necessary until goals have been met
- Cardiovascular conditioning (bike, elliptical trainer, stair master, walking on treadmill - no running until permitted by surgeon)
- Weight machine/resistive exercises (bilateral → unilateral leg press, wall sit, knee extension, hamstring curl)
- Functional strengthening (bilateral → unilateral squats/bridges/heel-raises, lunges (forward/lateral), lateral step-downs, step ups, single-leg RDL, core strengthening)
- Balance/proprioception (progression of surfaces, dynamic movements, distractions and visual input)

### CRITERIA TO ADVANCE – 6 week assessment

- Surgeon clearance
- At least 90% ROM compared to uninvolved side (At least 0° extension)
- Minimal to no effusion
- Isokinetic strength testing: Quadriceps and hamstring peak torque and total work ≤ 25% deficit at 180°/sec (or isometric testing with hand-held dynamometer, if isokinetic testing unavailable)
- Lateral step-down test (Set step height to achieve ~60° knee flexion): ≤ 3/6 errors
- Y balance test (anterior reach only): ≤ 4 cm difference as compared to uninvolved limb

### WEEKS 6 to 10:

#### Goals:

- Initiate Return to Running Program
- Initiate jumping (double-leg to single-leg)
- Gradually advance with sport specific cutting/agility activities

#### Interventions (in addition to those listed in previous weeks):

- Progress strength, proprioception/balance and cardiovascular endurance to meet sport specific demands
- Running progression
  - Start with a level surface
  - Focus on a pain free and symmetrical gait pattern
- Plyometrics
  - Begin with double-leg jumps, focusing on soft/symmetrical landings
  - Progress double-leg jumps (height/distance, multiple jumps in same direction, varying surfaces, hopping over/onto objects)
  - Advance to single-leg jumps once patient demonstrates good and symmetrical neuromuscular control with all double-leg jumping and single-leg squats (progress to multi directional when appropriate)
  - Complete functional hop testing after 8 weeks post-op, once patient is able to demonstrate single-leg jumps with good tolerance and neuromuscular control
  - Progress to cutting/agility and sport specific training. Sports specific training to be completed under guidance of PT until cleared to return to team sports (see criteria below)

**CRITERIA TO ADVANCE – 10-12 week assessment** (\*repeat strength and lateral step-down assessments if below goals have not been met during 6 week assessment\*)

- **Surgeon clearance**
- **Full knee ROM**
- **No pain or swelling in the involved knee**
- **Isokinetic strength testing** – Quadriceps and hamstring peak torque and total work  $\leq 10\%$  deficit at 180°/sec (or isometric testing with hand-held dynamometer, if isokinetic testing unavailable)
- **Lateral step-down test (Set step height to achieve ~60° knee flexion):**  $\leq 1/6$  errors
- **Y balance test (all directions):**
  - Composite score  $\geq 90\%$
  - $< 4$  cm difference for anterior reach,  $< 6$  cm difference for posteromedial and posterolateral reach as compared to uninjured limb
- **Functional hop testing battery:**  $\geq 90\%$  limb symmetry, pain free and good neuromuscular control
  - Single hop for distance
  - Triple hop for distance
  - Crossover triple hop for distance
  - Timed 6 meter hop
  - Unilateral vertical jump for height
- **Drop vertical jump using Landing Error Scoring System (LESS):**  $< 2$  errors
- **Tuck jump:**  $< 6$  errors (if patient age and skill level appropriate)

**Once return to sport criteria are met, the patient will be advised to follow a specific and gradual return to sport progression program which will be provided by surgeon or physical therapist.**

**WEEKS 10+:**

**Goals:**

- Prepare athlete for return to sport progression
- Promote sport specific fitness (advance strengthening, neuromuscular control and conditioning exercises as indicated)

**Interventions** (in addition to those listed in previous weeks):

- Final home exercise program and injury prevention education
- Once return to sport criteria are met, the patient will be advised to follow a specific and gradual return to sport progression program which will be provided by surgeon or physical therapist.
  - If all criteria are not met, surgeon/physical therapist will make recommendations for retesting on an individual basis.

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This protocol is designed to be administered by a licensed physical therapist and/or certified athletic trainer. Please do not hesitate to contact our office should you have any questions concerning the rehabilitation process.