Arthroscopic Meniscectomy/Debridement/Chondroplasty Rehab Protocol

Dr. Pradeep Kodali

General Principles of Arthroscopic Meniscectomy and Debridement Rehabilitation

Arthroscopic meniscectomy is a minimally invasive procedure used to remove torn meniscal tissue that causes pain, swelling, or mechanical symptoms in the knee. While the surgery often provides quick relief, a structured rehabilitation protocol is essential to restore mobility, strength, and function. The following post-operative rehab guidelines outline the recommended progression through recovery phases, with goals tailored to support healing, prevent complications, and facilitate a safe return to activity.

Important Considerations & Red/Yellow Flags

- **Physician Clearance:** Surgeon clearance is a mandatory criterion for return to sport.
- **Red/Yellow Flags:** These are signs/symptoms that require immediate office visit for re-evaluation.
    - Signs of Deep Vein Thrombosis (DVT): Localized tenderness along the deep venous system, diffuse redness of the lower extremity, entire lower extremity swelling, calf swelling >3cm compared to asymptomatic limb.
    - Lack of full knee extension by 4 weeks (refer to surgeon).
    - Persistent reactive pain or effusion following therapy or Activities of Daily Living (ADLs). This indicates a need to decrease intensity of therapy interventions, continue effusion management, and provide patient education regarding activity modification until reactive symptoms resolve.

Phase I: Weeks 0-1

- **Considerations:**
    - Pain control.
    - Edema control.
    - Wound healing/incision site care/scar massage, including patient education.
- **Weight Bearing:** Begin Full Weight Bearing (FWB) independent of crutches when the patient shows no signs of antalgic gait, increased pain and/or effusion, full knee extension during gait, and demonstrates sufficient quadriceps activation.
- **Range of Motion (ROM):**
    - Full active knee extension.
    - Patellar mobilization.
    - Knee flexion at least 90º.
- **Neuromuscular Control/Strengthening:**
    - Quadriceps/VMO recruitment: Use E-stim or biofeedback as necessary for quadriceps re-education.
    - Hip ABD/core strength.
    - Eccentric knee control with Closed Kinetic Chain (CKC) therapeutic exercises.
- **Mobility:** Focus on quadriceps, hip flexors, hamstrings, IT Band, and gastroc/soleus.
- **Goals to Progress to Next Phase:**
    - Minimal to no edema.

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  - Minimal to no pain.
  - Normalized gait.
  - Full active knee extension.
  - Normal patellar mobility.
  - SLR (Straight Leg Raise) without extensor lag.
  - Well-healing incisions without signs of infection.

Phase II: Weeks 2-3

- **Range of Motion (ROM):**
  - Edema control.
  - 0-125º flexion.
- **Mobility**: Continue focusing on quadriceps, hip flexors, hamstrings, IT Band, and gastroc/soleus.
- **Neuromuscular Control/Strengthening:**
  - Proprioception exercises.
  - Multi-angle CKC exercises.
  - Balance training.
  - Quadriceps recruitment.
  - Hip ABD/core strength.
  - Light plyometrics: Emphasize correct landing mechanics.
- **Functional Activities:** Ascend/descend stairs with a reciprocal gait pattern independent of upper extremity support.
- **Goals to Progress to Next Phase:**
  - Full ROM at least 90% of the contralateral limb.
  - No pain with strengthening exercises.
  - Good eccentric knee control with CKC exercises and light plyometrics.

Phase III: Weeks 4-8

- **Range of Motion (ROM):**
  - Full Active Range of Motion (AROM).
  - No effusion.
- **Mobility:** Continue focusing on quadriceps, hip flexors, hamstrings, IT Band, and gastroc/soleus.
- **Neuromuscular Control/Strengthening:**
  - Sport-specific drills.
  - Plyometrics.
  - Core strength.
  - Begin interval running program.
- **Functional Testing:** Perform hop tests, star test, Y balance, etc..
- **Goal:** Return to sport.

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Phase IV: Return to Sport/Activity (Weeks 6-8+)

- **Goals:** Maintain pain-free ROM, continue strengthening and motor control exercises, enhance functional use of lower extremity, and achieve gradual return to strenuous work/sport activity.
- **Interventions:** Continue with previous phase interventions, progressing as tolerated.
    - Specific return-to-sport program activities should be coordinated with the physician.

Criteria for Discharge from Rehabilitation

- **Discharge is generally met when the patient achieves:**
    - ROM within appropriate ranges based on patient-specific needs.
    - Full muscle strength and endurance of knee.
    - Consistently low pain scores.

Return to Sport Criteria

- **Return-to-Sport Considerations:**
    - The decision to return to sport should be individualized for recreational or competitive athletes.
    - Factors such as the level of demand on the lower extremity, whether it's a contact vs. non-contact sport, and the frequency of participation should be considered.
    - Close discussion with the referring surgeon is highly encouraged before advancing to a return-to-sport rehabilitation program.
- **To return to sport or activity, the following criteria should be met:**
    - ROM appropriate for the specific sport or activity.
    - Completion of a progressive return to sport.
    - No pain with activity.