

## **Post-Operative Rehabilitation Protocol Hip Arthroscopy**

### **General guidelines:**

- Despite the minimally invasive nature of hip arthroscopy, significant work was performed inside the hip joint and time is required for the repaired structures to heal
- Systematic approach to rehabilitation (generally under the guidance of a physical therapist with experience in hip rehab) is critical to ensuring optimal outcome
- Each patient's recovery highly individual and therapy protocol should be customized to the patient
- Patient should meet with physical therapist prior to surgery for a functional assessment and to review the protocol
- Formal physical therapy should start within 1 to 3 days after surgery
- Progression through therapy phases is pain- and function-dependent, not time-dependent
- Pushing the rehabilitation too quickly may aggravate the hip and delay recovery
- Precautions:
  - Crutches and partial weight-bearing to protect repair for 4 to 8 weeks depending on procedure
  - Avoid excessive external rotation and flexion (stresses repair)
  - Avoid early active hip flexion that can lead to hip flexor tendonitis
  - Avoid advancing too rapidly through therapy protocol to prevent flare-ups
  - No driving until permission from surgeon (usually around 4 weeks)
  - Medications help reduce risk of abnormal bone formation (heterotopic ossification) and blood clot (DVT or deep venous thrombosis)
- Early post-operative goals include reducing post-operative pain, swelling and inflammation while avoiding stiffness and improving motion
- Late post-operative goals include restoring motion and strength, normalizing gait, and conditioning
- Ultimate goal is to return to prior or desired level of activity after eradicating the structural or mechanical problem responsible for symptoms
- The degree of hip damage may require careful consideration of modifying activities to reduce stress on the joint and prevent further problems

### **PHASE I (weeks 0 to 3)**

- Goals:
  - Recover from surgery
  - Protect repair
  - Reduce post-operative pain, swelling, and inflammation
  - Crutch training to unload hip while normalizing gait

- Prevent muscular inhibition
- Encourage mobility
- Promote wound healing (sutures out 10 to 14 days)
- Protected weight-bearing (50% of body weight)
  - Use two crutches to limit weight while stepping on the operative leg
  - Maintain foot flat on the ground (reduces force in the hip joint)
- Hip joint mobilization
- Manual therapy
- Scar massage
- Modalities to reduce swelling and inflammation
- Hip passive range of motion within post-op restrictions
  - No external rotation > neutral
  - No hip flexion > 90 degrees
  - Other precautions depend on the procedure performed
- Muscle activation
  - Hip isometrics (glut, quad, and hamstring sets, abductor and adductor isometrics) heel slides (active-assisted range of motion)
  - Pelvic tilts
  - Double legged supine bridge
  - Seated knee extension
  - Prone knee flexion
- Standing exercises (keep knee straight)
  - Abduction and adduction without resistance
  - Flexion and extension without resistance
  - Double heel rises
- Standard stationary bike with high seat (to prevent hip flexion >90) with no resistance

### **Criteria to progress to Phase II**

- *Minimal pain with phase I exercises*
- *Minimal limitations in range of motion (90 degrees of hip flexion with minimal pain) normalized heel to toe gait with two crutches and partial weight bearing*

### **Phase II (weeks 4 to 6)**

- Goals:
  - Protect repair
  - Increase range of motion
  - Transition from crutches
  - Normalize gait
  - Progressively increase muscle strength
- Transition from crutches at the 4-week mark

- Start with single crutch on opposite side from surgery, unload the operative hip during gait
- May transition to no crutches once comfortable and no significant gait deviations
- May continue to need crutches when planning to walk a distance or be on your feet for a longer time
- Progress with hip range of motion
  - No external rotation > 20 degrees
  - no hip flexion > 105 degrees
  - Prone hip rotations
- Manual therapy
  - Massage portal sites
  - Hip joint mobilizations
  - Deep tissue mobilization
  - Pelvic and lumbar spine joint mobilizations
  - Desensitize irritable nerve distributions
- Muscle activation
  - Progress core strengthening
  - Hip strengthening
    - Hip flexor activation (careful with active / resisted hip flexion to prevent inflammation)
    - Clam shells
    - Single-leg bridges
    - Leg presses (minimal resistance)
    - Weight-shifting
    - 1/4 mini squats
    - Quadruped superman
  - Standing exercises
    - Abduction and adduction with low resistance
    - Flexion and extension with low resistance
- Standard stationary bike – increase duration and resistance as tolerated
- Pool therapy recommended after portals healed
  - Decrease depth with each successive week (start at chest deep and progress to waist deep)
  - 4-direction walking
  - Step-ups

### **Criteria to progress to Phase III**

- Minimal pain with phase II exercises
- 105 degrees of hip flexion, 20 degrees of external rotation with minimal pain
- Pain free/normal gait pattern
- Hip flexion strength >60% of opposite side
- Hip abduction/adduction strength, internal/external rotation strength >70% opposite side

### **PHASE III (weeks 7 to 10)**

- Goals:
  - Protect repair
  - Normalize motion and strength
  - Normalize gait
  - Improve endurance and conditioning
  - Improve neuromuscular control, balance, and proprioception
- Normalize hip range of motion
  - No restrictions
  - Symmetry with unaffected side
- Manual therapy
  - Massage portal sites
  - Hip joint mobilizations
  - Deep tissue mobilization
- Hip strengthening
  - Increase resistance with active exercises o clamshells with theraband
  - Side lying planks
  - Physioball hamstring
  - Side-stepping with resistance
  - Lunges
- Neuromuscular training
  - Core stabilization
  - Single leg balance
  - Sidesteps over cups
  - Step-ups with eccentric lowering
  - Bosu squats
- Standard stationary bike – continue to increase duration and resistance, lower seat to allow increasing hip flexion
- Elliptical machine with minimal resistance
- May use treadmill walking program
- Continue pool therapy, increase speed and duration, decrease depth

### **Criteria to progress to Phase IV**

- *Symmetrical range of motion*
- *Hip flexion strength >70% of opposite side*
- *Hip abduction/adduction strength, internal/external rotation strength >80% opposite side o cardiovascular fitness returning to pre-operative level*

#### **Phase IV (weeks 11 to 14)**

- Goals:
  - Normalize function
  - Sports specific training
  - Prepare return to activity
- Continue phase III exercises with progressive increase in intensity
- Manual therapy as indicated
- Core strengthening
- Advance proprioceptive training
- Start introducing low-impact plyometrics
- Increase resistance and duration on bike and elliptical
- Pool running
- Swimming as tolerated
- Sport-specific agility drills

#### **Final Phase (14 weeks & beyond)**

- Traditional weight-training
- Increased intensity of plyometrics
- Start running progression
- Sport specific drills without pain
- Cardiovascular fitness at or better than pre-operative level

#### **Return to sports / activities**

- Full pain-free range of motion symmetrical to opposite side
- Symmetrical hip strength
- Stable pelvis
- Ability to perform sport-specific drills at full speed without pain