



## UVA SPORTS MEDICINE

515 Ray C. Hunt Drive, Suite 1100, Charlottesville, VA 22903

Phone: 434-243-7778 Fax: 434-243-5075

David R. Diduch M.D., Mark D. Miller M.D., Eric W. Carson M.D, Stephen F. Brockmeier M.D., F. Winston Gwathmey M.D.  
Jennifer Hart, PA-C, Cara Garrett, PA-C, Claire Denny, PA-C

### 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 weightbearing

## **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
  - ¼ 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
  - clamshells with theraband
  - sidelying planks
  - physioball hamstring
  - side-stepping with resistance
  - lunges
- neuromuscular training
  - core stabilization
  - single leg balance

- side steps 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
  - 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