

### Hip Arthroscopy \*

Weight-Bearing	<ul style="list-style-type: none"> <li>• Foot-flat weight-bearing (up to 20 pounds) for 3 weeks (8 weeks if microfracture)</li> <li>• After period of FFWB, may gradually increase to weight-bearing as tolerated             <ul style="list-style-type: none"> <li>• Gradually add 25% weight on surgical lower extremity every 1-3 days until 100% weight-bearing on bilateral lower extremities using two crutches</li> <li>• Transition from two crutches, to single crutch, to ambulation without assist device</li> <li>• Avoid limping and focus on gait normalization, weight shifting, and ambulation mechanics</li> <li>• Ensure full and symmetric hip extension during ambulation</li> </ul> </li> </ul>
Hip ROM Limits	<ul style="list-style-type: none"> <li>• Flexion: 90° x10 days</li> <li>• Abduction: 25° x3 weeks</li> <li>• IR: no limits</li> <li>• Extension: 0° x3 weeks</li> <li>• ER: 0° x3 weeks</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Modalities (active release techniques, ultrasound, e-stimulation) as needed starting after 3 weeks</li> <li>• Home Exercise Program (HEP) per discretion of Physical Therapist</li> <li>• Tendinopathy/tendinitis (rectus femoris, adductors, piriformis) may occur with overly aggressive early PT (particularly eccentric training)</li> <li>• Critical for early PT/focus to be on gluteal muscle group, iliopsoas, and hip rotators</li> </ul>

Phase I: Initial Exercises **	Week #											
	1	2	3	4	5	6	7	9	13	17	21	25
Ankle Pumps	•	•										
Gluteal Slides	•	•										
→ advanced to standing		•	•	•								
Isometrics	•	•										
Stationary Bike (non-resistance)	•	•	•	•								
Passive ROM / Circumduction	•	•	•	•	•	•						
→ add extension and ER (FABER)				•	•	•						
Soft tissue massage and scar mobilization	•	•	•	•	•	•						
Passive quadriceps and piriformis stretching	•	•	•	•	•	•						
→ add hip flexor stretching			•	•	•	•						
Deep Water Progression		•	•	•	•	•	•	•				
Quadrupled Rocking		•	•	•								
Standing Hip IR		•	•	•	•	•	•	•	•	•	•	•
Resisted Prone IR / ER		•	•	•	•	•	•	•	•	•	•	•
Lower and Transverse Abdominal Progression	•	•	•	•	•	•						
Gluteal Progression	•	•	•	•	•	•						
Bridging Progression			•	•	•	•						
Leg Press (limited weight)					•	•						
Gait Normalization / Progression (wean crutches)			•	•								
Short Arch Quadriceps / VMO Strengthening	•	•										
Straight Leg Raises		•	•									
Proprioception	•	•	•	•	•	•	•					

\* Adapted from from the PT protocols of Dr. Marc Safran and Dr. Geoff Abrams

\*\* See following pages as needed for exercise instructions

Phase II: Intermediate Exercises **	Week #											
	1	2	3	4	5	6	7	9	13	17	21	25
Balance Progression		•	•	•	•	•	•					
Stationary Bike (increase resistance as tolerated)			•	•	•	•	•	•				
Double 1/3 Knee Bends			•	•	•	•	•	•				
Advanced Core Progression			•	•	•	•	•	•				
→ Pilates exercises with instructor if interested					•	•	•	•				
Manual Mobilizations (with PT)			•	•	•	•	•	•	•			
Side Stepping						•	•	•	•			
Elliptical / Stairclimber				•	•	•	•	•	•			
Single 1/3 Knee Bends (after adequate Double Leg)							•	•	•	•		
→ Lateral Step Downs							•	•	•	•		
→ Balance Squats							•	•	•	•		
Multidirectional Lunges							•	•	•	•		

Phase III: Advanced Exercises **	Week #											
	1	2	3	4	5	6	7	9	13	17	21	25
Plyometrics Progression									•	•		
Side-to-Side Lateral Movement										•		
Forward / Backward Running with Cord									•	•		
Running / Skating / Golf / etc. Progression										•		
Agility Drills for Return to Sport										•		

Phase IV: High-Level Activities **	Week #											
	1	2	3	4	5	6	7	9	13	17	21	25
Functional Sport Testing										•		
Multi-Plane Agility										•	•	
Sport-Specific Drills										•	•	•

## **Post-Operative Hip Arthroscopy Exercise Instructions**

### **PHASES I and II**

#### **1. Ankle Pumps**

- 20 repetitions, 2 times per day
- Toe flexion and extension (toe crunches)
- Ankle inversion and eversion
- Calf pumps
- Joint mobilization
- May be done with TheraBands, towel, or annual resistance

#### **2. Gluteal Slides**

- Lay supine and abduct hip with lower extremity in slight IR
- May transition to standing 10 days after surgery (if not microfracture) with hip in slight extension and IR

#### **3. Isometrics**

- 20 repetitions, 2 times per day
- I. Gluteal Sets
  - Tighten gluteal muscles and hold for 5 seconds
- II. Quadriceps Sets
  - Tighten quadriceps muscles and hold for 5 seconds
  - May add straight leg raises after week one if able to do with good contraction/control
- III. Transverse Abdominals
  - While laying supine with knees bent, draw abdomen in toward spine without moving pelvis or spine and hold while taking 5 breaths
  - Progress to doing with knees straight
- IV. Hip Abduction
  - Lay on back with hip and knees bent, place belt around thighs near the knees, push out against belt and hold for 5 seconds
  - May add weighted resistance to abduction exercises after week
  - May add "chicken wings" (on hands and knees, raise affected knee out to side) after week two
- V. Hip Adduction
  - Lay on back with hip and knees bent, place a ball or towel between knees, squeeze ball or towel and hold for 5 seconds
  - Perform this exercise while contracting transverse abdominals
  - May add weighted resistance to adduction exercises after week (four-way hip exercise)

#### **4. Stationary Biking**

- No resistance until 5-6 weeks after surgery
- 20 minutes, 2 times per day
- May increase time by 5 minutes every 3-4 days up to 45 minutes

### **5. Straight Leg Raises and Short Arc Quads**

- 3 sets of 10 repetitions, 2 times per day
- Lay on back and raise operative leg 24 inches off the table, hold for 5 seconds, and lower the leg
- Perform this exercise while contracting transverse abdominals
- Discontinue this exercise if signs/symptoms of hip flexor tendonitis begin
- May progress to 2 sets of 20 repetitions, 2 times per day, with weights
- Keep contralateral knee bent to 45° to limit low back lordosis

### **6. Proprioception Exercises**

- Sit on exercise ball, contract transverses abdominals, flex hip
- Lay on back with hips and knees both at 90° flexion, hold roller between knees, and begin rhythmic stabilizations
- At weeks 2-3 may progress to lay supine, hold a ball on the wall with the affected leg with the hip and knee at 90° of flexion, and progress to rhythmic stabilization exercises

### **7. Passive ROM**

- Performed by physical therapist or caretaker
- 2 times per day for 6 weeks
- I. Circumduction
  - 3 sets of 5 minutes
  - Lay on back with hip in 70° flexion, move knee in circular pendulum motion.
  - Knee should not rotate beyond the level of the shoulder
- II. Passive Supine Hip Roll (IR)
  - 20 repetitions
  - Lay on back with legs straight and have partner rotate thigh inward
- III. Flexion
  - 20 repetitions
  - Lay on back and have partner bend knee toward chest (90° limit for 10 days)
  - Increase flexion as tolerated after 10 days
- IV. Rotation in Flexion
  - 20 repetitions
  - Lay on back and have partner flex hip to 70° and externally rotate the thigh so that the ankle moves inward (ER with hip flexed >70° is safe)
- V. Abduction
  - 20 repetitions
  - Lay on back with leg straight and have partner bring leg away from midline (25° limit for 3 weeks)
  - Increase abduction as tolerated after 3 weeks
- VI. Prone Internal Rotation (IR)
  - 20 repetitions
  - Lay on stomach with knees bent to 90° and have partner bring ankle away from body (to the side)
  - No ER in prone position for 3 weeks
- VII. Extension (start during 4th week)
  - 20 repetitions
  - Lay on stomach and have partner grasp knee and lift leg up from the table

- VIII. FABER for ER (start during 4th week)
  - Lay on back, bring involved leg into figure-of-four position with ankle resting on opposite knee, and gently lower bent knee toward the table
  - May need to begin with ankle resting on shin or inside of leg
  - It is not uncommon to feel lateral hip discomfort with this exercise
  - Do not push on knee

### **8. Soft Tissue Massage and Scar Mobilization**

- As needed 2 times per day
- Gentle massage to mobilize edema
- May use suction cups to assist (especially adductors, pectineus, iliopsoas, and sartorius)

### **9. Passive Stretching**

- 5 repetitions, hold for 20 seconds, 2 times per day
- I. Piriformis Stretch
  - Lay on uninvolved side (bottom leg straight, pelvis stacked), bend the involved hip to 50-70° flexion, hook the top of the foot behind the uninvolved knee, stabilize the pelvis, and lower the involved knee toward the table
  - Stretch should be felt in the buttock
  - Avoid any pinching sensation in the groin
- II. Quadriceps Stretch
  - Lay on stomach, have partner bring ankle toward buttock, and feel stretch in the front of the thigh
- III. Kneeling Hip Flexor Stretch (start during 4th week)
  - In half-kneeling position with involved knee on the floor, tighten abdominal muscles, shift weight forward while keeping trunk upright, and feel stretch in the front of the hip/thigh
- IV. Traction / Distraction (start after 10 days)
  - Lay supine and partner to pull traction on the foot distally and laterally to distract the hip joint

### **10. Water Progression**

- 10-30 minutes, 3 times per week (if access to therapy pool)
- I. Water Walking
  - Walk forward, backward, and lateral in chest deep water
  - Emphasize full weight shift to involved side
  - If microfracture, patients should use an AquaJogger or life jacket and not have foot touch bottom of pool
- II. Water Jogging
  - In deep water using an AquaJogger or life jacket, jog in place using a bicycle-pedaling motion
  - If no microfracture, may jog in pool with water at chest height (or use AlterG at 50%)
- III. Swimming
  - May start after 10 days while using a buoy but pulling only
  - Do not use legs to kick until 5 weeks after surgery and at that time should still avoid frog-kick (as in breast stroke) or "egg-beater" motion (as in treading water)

### **11. Quadruped Rocking**

- 3 sets, 20 repetitions, 1 time per day
- On hands and knees, shift body weight forward on arms and leg back onto legs
- May also shift in side-to-side diagonal directions

### **12. Standing Hip IR**

- 3 sets, 20 repetitions, 1 time per day
- Place knee of involved leg on stool and rotate hip without moving trunk so that stool turns (moving foot outward from the body)
- Progress to using TheraBand

### **12. Active Prone IR / ER**

- 20 repetitions, 1 time per day
- Lay on stomach with knee flexed to 90°, allow foot to drop out so hip is in full IR, and actively rotate hip back to neutral only
- Partner may gradually add resistance to this motion in both directions
- May rotate past neutral after 3 weeks

### **13. Lower Abdominal Progression**

- 20 repetitions, 1 time per day
- I. Heel Slides with Strap
  - Lay on back, place strap around foot, and use arms to pull heel toward buttocks while keeping heel on table and core stable
- II. Heel Slides without Strap
  - As above but gradually reduce the use of arms and strap and increase the use of hip muscles to slide heel until the strap is not needed
  - Monitor for signs/symptoms of hip flexor pain and/or tendonitis
- III. Heel Slide to a March
  - Perform heel slide as above, then left heel off table so hip is flexed to 90° while keeping core stable, and return leg to starting position.
  - Alternate legs and may advanced to more difficult variations as long as there are no signs/symptoms of hip flexor pain and/or tendonitis

### **14. Gluteal Progression**

- 3 sets, 10 repetitions, 1 time per day
- I. Two-Way Leg Raise
  - Lay on uninjured side, raise top leg up and slightly back without moving trunk (side leg raise)
  - Lay on stomach and raise involved leg 6-8 inches off table (stomach leg raise) (may begin after 4-5 weeks)
- II. Rose Wall Slides (start during 4th week)
  - Lay on uninjured side with shoulders/hips/heels flush against a wall and slowly slide involved heel along wall while maintaining drawn in abdominal muscles
- III. Prone Heel Squeeze (start during 5th week)
  - Lay on stomach, slightly separate knees, flex knees to ~45°, place heels together, draw in abdominal muscles, and squeeze heels together for 5 seconds
  - Increase difficulty by lifting thighs off the table with heel squeeze while maintaining a stable pelvis
  - Do not arch back

### **15. Bridging Series**

- 3 sets, 20 repetitions, 1-2 times per day
- I. Double Leg Bridge
  - Lay on back, place rubber ball between knees (size of ball should be such that hips are in neutral) with hips and knees bent, gently squeeze ball and raise buttocks while keeping core stable, and slowly lower
  - Progress to using rubber tubing/band around knees while pushing out against bands, keeping hips and knees at neutral, raise buttocks while keeping core stable, and slowly lower.
  - Progress to single-leg bridging
- II. Bridge on Exercise Ball
  - Lay on back, place feet up on exercise ball, keep knees straight and core stable, raise buttocks, hold for 5 seconds, and lower
  - Progress to laying with shoulders on exercise ball and feet on floor, then slowly lower and raise your buttocks
  - Add arm rotations in this position or perform with single-leg bridge

### **16. Leg Press**

- 3 sets, 30 repetitions, 1 time per day
- May start during week 5 after straight leg raises and short arc quads (#5 above)
- Using light weight (20-30 lbs.) perform leg press
- May increase weight in Phase II (see below)

### **17. Cardiovascular**

- Pool exercise as noted above (see #10)

## **PHASE II: Intermediate Exercises (“Close Chain, Single Plane”)**

### **18. Balance Progression**

- 3 sets, hold for 30 seconds, 1 time per day
- I. Double-Leg Stance
  - After full weight-bearing, stand on uneven surfaces for balance
- II. Single-Leg Stance
  - After 1 week of double-leg stance on uneven surface, start single-leg stance on flat surface
  - Progress to single-leg stance on uneven surface
- III. Dyna-Disc
  - Start with poles for support
  - Progress by touching opposite foot to ground at following clock positions: 9:00, 10:30, 12:00, 1:30, and 3:00
  - Add dynamic balance activities as tolerated

### **19. Stationery Biking With Resistance**

- 30-45 minutes
- Increase resistance slowly while maintaining 60-80 RPM
- Reduce time on bike when initiating resistance
- For cyclists (due to correct pedaling motion and the great amount of hip flexor use)
  - Weeks 0-3: flat pedals only
  - Weeks >3: may transition to clipless pedals without resistance

**20. Double 1/3 Knee Bends**

- 3 sets, 20 repetitions, 1 time per day
- Stand with feet shoulder width apart and bend knees to 60° but do not allow knees to go anteriorly past toes
- Progress by using a sport cord for resistance

**21. Advanced Core Progression**

- 3 sets, 20 repetitions, 1 time per day
- I. Planks
  - May start during week 4
  - Lay on either side with knees bent and resting on elbow, lift hips up to a straight line, and lower slowly
  - Progress to performing with legs straight
  - Progress to performing in prone and supine positions
- II. Pilates
  - Perform the following exercises on the reformer with an instructor: footwork series, skater series, hip extensions

**22. Manual Mobilization (therapist as needed)**

- Gently as needed for post-operative stiffness and/or capsular tightness

**23. Side Stepping**

- 3 sets, 20 repetitions, 1 time per day
- Place rubber tubing around ankles, start with ankles just beyond shoulder width apart, bend at the knees, keep chest upright, and sidestep in each direction while maintaining the bent knee position

**24. Elliptical Trainer / Stair Stepper**

- 15-20 minutes, 3 times per week
- Begin with minimal resistance and progress intensity or time, and/or resistance as tolerated

**25. Single 1/3 Knee Bends**

- 3 sets, 20 repetitions, 1 time per day
- Start once able to complete double-leg knee bends without shifting weight or positive Trendelenburg sign
- Same starting position as double 1/3 knee bends (see #20 above) but only with surgical lower extremity
- Bend knee to 60° flexion while maintaining a level pelvis and not letting knee “fall in”
- Progress by adding sport cord for resistance and other single leg closed kinetic chain exercises (lateral step downs, balance squats)

**26. Leg Press**

- Progress from Phase I (see #16 above) by increasing weight as tolerated

**27. Cardiovascular**

- Progress elliptical trainer intensity, time, and/or resistance as tolerated
- Progress pool running with water at waist height

**PHASE III: Advanced Exercises (“Multi-Directional and Plyometric”)**

**28. Plyometrics (Water to Land Progressions)**

- 10 sets, 1-2 minutes, 3-5 times per week
- Begin in chest-deep water and perform forward bounding with focus on absorption when landing
- Progress to land plyometrics

**29. Forward / Backward Running With Cord**

- 3 sets, 1-2 minute intervals, 1 time per day
- Jog/Run in place, absorbing body weight with landing on each leg

**30. Straight Plane (Initial) Agility Drills**

- I. Chop-Downs / Back-Pedaling
  - Jog forward, stutter step to a stop, absorb, and push off smoothly in a back pedal
- II. Side Shuffles
  - Start with feet shoulder width apart, maintain athletic stance, and shuffle to the right and then back to the left

**31. Lateral (Side-to-Side) Agility Drills With Cord**

- 3 sets, 50 repetitions, 3 times per week
- Maintain an athletic stance while stepping / jumping laterally and absorb onto the involved leg as you return to the starting position
- Progress to lateral jumping

**32. Running / Skating / Dance / Golf Progression**

- I. Running
  - Start each phase with 10 minutes total of walking/running
  - If running on ground, alternate walk/run as below. If running on treadmill, gradually increase speed/duration.
  - Progress to next phase after completing 20 minutes without pain or symptoms

PHASE	WALK/RUN RATIO	TOTAL TIME	FREQUENCY	DURATION
I	4 minutes / 1 minute	10-20 minutes	3-4 times per week	1 week
II	3 minutes / 2 minutes	10-20 minutes	3-4 times per week	1 week
III	2 minutes / 3 minutes	10-20 minutes	3-4 times per week	2 weeks
IV	1 minutes / 4 minutes	10-20 minutes	3-4 times per week	2 weeks

- II. Skating
  - Start each phase with 10 minute rink skating warmup
  - Progress to next phase after completing 20 minutes without pain or symptom

PHASE	ACTIVITY	TIME	FREQUENCY
I	Skating: No pads. Forward, backwards, and crossover	10-20 minutes	3-4 times per week
II	Skating: As above with pads, change of direction, start/stop	10-20 minutes	3-4 times per week
III	Sport-Specific Drills (cutting, puck-handling, etc.)	-	2-4 times per week
IV	Return to sport testing	-	After week 8
V	Return to full-contact practice and increase as tolerated	-	After passing test

- III. Dance / Ballet

PHASE	ACTIVITY
I	Bar work. Stabilization on surgical lower extremity
II	Multi-plane muscle stretching
III	Multi-plane muscle single-leg activities/moves
IV	Return to sport testing
V	Jumps

- IV. Golf

- May begin after 3 weeks of normal walking but do not carry golf bag or pull cart

PHASE	ACTIVITY	AMOUNT	DURATION
I	Putting. Chipping. ½ swings only.	1 bucket balls	1-2 weeks
II	8-9 irons. ¾ swings only.	1 bucket balls	2 weeks
III	All Irons. Use Cart. Full swings.	9 holes	2 weeks
IV	Full Play. Walking 18 Holes.	18 holes	-

### **PHASE IV: High-Level Activities**

#### **33. Multi-Plane Agility**

- Z-Cuts
- W-Cuts
- Carioca
- Ghiradelli
  - Start by crossing right leg over the left, swing the left leg out from behind the right, touch ground with left hand in one fluid motion, and repeat to the right side

#### **34. Sport-Specific Training**

- Progress gradually and as tolerated either independently or under direction of coach or athletic trainer