



# Physicians

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## ORTHOPEDIC SURGERY & REHABILITATION

### Hip Rehabilitation Protocol

**Dr. Amgad Haleem**

#### **Range of Motion Exercises**

- Active assistive range of motion and passive range of motion of hip in all planes.  
    **Active** assistive range of motion/passive range of motion exercises each day
- Gentle hip mobilization and distraction techniques:
  - a. Straight plane distraction, force applied to lower leg
  - b. Inferior glide (patient supine, hip & knee at 90o) force on anterosuperior thigh
  - c. Posterior glide (patient supine, hip & knee @ 90o) force applied through knee and/or quadruped rocking

#### **Suggested Therapeutic Exercises**

- Isometric quadriceps, glut, hamstring, hip adductor and hip abductor muscle strengthening sets
- Gait activities (marching, heel-toe rocking, sidestepping)
- Isometric hip flexion, extension, abduction, adduction, internal rotation, and external rotation
- Weight shifting – progressing to balance exercises with double limb support balance activities to improve proprioception and weight acceptance
- Standing hip abduction and extension (no active hip abduction with hip abductor repairs)
- Single leg bridging
- Sidelying leg raises with leg in internal rotation (no active hip abduction with hip abductor repairs)
- Prone heel squeezes with hip extension

- Active range of motion without resistance (starting with short arc movements progressing to full arc)
- Start strengthening short external rotators with isometric and short arc movements
- Stomach lying on elbows for gentle anterior hip stretch
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### **Cardiovascular**

- Upper body circuit training or upper body ergometry (UBE)

### **Progression Criteria**

- Normal gait without assistive device on level indoor surfaces with full weight bearing and minimal to no pain
- Good leg control at low velocity of movement
- Functional range of motion without pain

### **PHASE II (begin after meeting phase I criteria, time on crutches and limited range of motion varies with the procedure performed, about 4-6 weeks)**

### **Appointments**

### **Rehabilitation Goals**

- Regain and improve muscular strength
- Single leg stand control
- Good control and no pain with functional movements, including step up/down, squat, partial lunge

### **Precautions**

- Post-activity soreness should resolve within 24 hours
- No ballistic or forced stretching
- Avoid post-activity swelling or muscle weakness
- Be cautious with repetitive hip flexion activities, such as treadmill and Stairmaster
- Patients undergoing microfracture continue the microfracture precautions

### **Suggested Therapeutic Exercises**

- Stationary bike
- Gait and functional movement drills in the pool
- Continue standing hip abduction and extension, single leg bridging, sidelying leg raises with leg in internal rotation and prone heel squeezes with hip extension
- Non-impact hip and core strengthening – body boards, bridging (progressing from double to single leg), mini band drills, Swiss ball drills
- Non-impact balance (progressing to single leg) and proprioceptive drills
- Shuttle leg press
- Quadriceps strengthening

- Hip active range of motion using D1 and D2 patterns with proprioceptive neuromuscular facilitation
- Stretching for patient specific muscle imbalances

### **Cardiovascular Exercise**

- Non-impact endurance training; stationary bike, Nordic track, swimming, deep water run, cross trainer

### **Progression Criteria**

- Normal gait on all surfaces
- Ability to carry out functional movements without unloading affected leg or pain, while demonstrating good control
- Single leg balance greater than 15 seconds

### **PHASE III (begin after meeting phase II criteria, about 10-12 weeks)**

#### **Appointments**

- Rehabilitation based on patient progress, 1 to 2 times every 1 to 2 weeks

#### **Rehabilitation Goals**

- Improve muscular strength and endurance
- Good control and no pain with sport and work specific movements, including impact activities

#### **Precautions**

- Post-activity soreness should resolve within 24 hours
- No ballistic or forced stretching
- Avoid post-activity swelling or muscle weakness
- Be cautious with repetitive hip flexion activities, such as treadmill and Stairmaster

#### **Suggested Therapeutic Exercise**

- Multi-planar strength progression, including forward, lateral and diagonal lunges
- Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to same foot then progress from single plane drills to multi-plane drills
- Dynamic control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
- May use agility ladder
- Progress to running program once patient is able to demonstrate good single leg landing control in a repetitive fashion without pain
- Begin sport specific drills once patient demonstrates good control with the impact control and multi-plane exercises and can tolerate running program without pain

- Sport/work specific balance and proprioceptive drills
- Hip and core strengthening
- Stretching for patient specific muscle imbalances

### **Cardiovascular Exercise**

- Replicate sport or work specific energy demands

### **Return To Sport/Work Criteria**

- Normal gait on all surfaces
- Dynamic neuromuscular control with multi-plane activities, without pain or swelling