



## **HIP NON-OSTEOARTHRITIS PAIN NON-OPERATIVE GUIDELINES**

The following non-operative, non-osteoarthritis generated hip pain guidelines are categorized into three phases with the ultimate goal of returning the patient to full pain free activity and sports participation. Classification and progression are both criteria-based and should be assessed throughout the process along with the total load imparted on the tissue to avoid overuse. The first phase is focused on reducing overall pain and tissue overload and improving movement patterns and muscle activation. Phase two is focused on building foundational strength and stability to allow for pain free daily function and allow the patient to progress to phase three which includes agility and plyometric exercises. With the completion of phase three the patient will be able to start the transition to interval sports programs. Cardiovascular endurance and core strengthening should be addressed through the rehabilitation process. The clinician should use their skilled judgement and decision making as the patient advances as progression may not be linear. A thorough understanding of the patients pelvic and hip anatomy is strongly advised in order to help guide appropriate treatment based on the level of instability and over coverage that exists. Anatomy influences pathology.

**FOLLOW REFERRING PROVIDER MODIFICATIONS AS PRESCRIBED.**

# **HIP NON-OSTEOARTHRITIS PAIN NON-OPERATIVE GUIDELINES**

## **Phase 1**

### **PRECAUTIONS**

- Avoid exercising with pain
- Avoid overload and repetitive stress injury
- Avoid faulty movement patterns

### **ASSESSMENT**

- Lower Extremity Functional Scale (LEFS)
- Numeric Pain Rating Scale (NPRS)
- Red Flags
- Lumbosacral screen
- Pelvic floor pathology
- Hip passive range of motion (PROM) / active range of motion (AROM)
- Flexibility test
- Lower extremity (LE) manual muscle testing (MMT) and/or hand-held dynamometry (HHD)
- Core strength testing (e.g., plank, Bunke, Sahrman)
- Hip special tests for intra- and extra-articular pathology
- Functional testing and movement patterns (e.g., single limb stance, squat, step down)
- Gait assessment
- Sidelying pain with sleeping
- Sitting/walking tolerance

### **TREATMENT RECOMMENDATIONS**

- Home exercise program (HEP)
- Mobility:
  - Soft tissue mobilization
  - Joint mobilization
  - PROM/AROM
  - Pain-free self soft tissue techniques to hip musculature (e.g., foam rolling, stretching, trigger point release)

- Stability:
  - Abdominal isometrics
    - Progress from hooklying to quadruped to standing
    - Upper extremity (UE) and LE movement without/with resistance
  - Glute sets:
    - Prone gluteal set firing sequence (combined abdominals, gluteals, quadriceps, tibialis anterior)
    - Hooklying
  - Gluteus medius isometrics
  - Postural re-education, including sitting posture
- Strength:
  - Bilateral leg press
    - Progress to match body weight, arc 0°-90°, foot placement neutral to slightly externally rotated
    - Resistance band around knees
  - Gluteal bridges with band
- Movement pattern education
  - Gait
  - Sit to stand
  - Mini squats (with hip hinge initiation)
    - 0-45 degrees hip flexion
- Balance/Proprioception:
  - Double leg to single leg
  - Various surfaces and external support as needed (proper LE alignment)
- Stationary bicycle seated with lower cadence

## **CRITERIA FOR ADVANCEMENT**

- Independent with HEP
- Improvement in sleeping pain, if applicable
- Improved walking tolerance
- NPRS rating <5/10
- Single leg balance without pain 5 seconds with proper mechanics
- Pain free squat with proper mechanics

## **EMPHASIZE**

- Patient education/activity modification
- Pain modulation
- Load management
- Core and glute activation
- Hip abductor and extensor strength and endurance

## **MODIFICATIONS TO PHASE 1**

- Mindful of anterior joint stress
- Instability: avoid overstretching/joint motion
- FAI: be mindful of bony pathology, do not force motion (particularly into flexion and internal rotation)

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## Phase 2

### PRECAUTIONS

- Avoid exercising with pain
- Avoid overload and repetitive stress injury
- Avoid faulty movement patterns

### ASSESSMENT

- LEFS
- NPRS
- Activity tolerance (e.g., sitting, walking, stairs)
- Lumbosacral screen
- Pelvic floor pathology
- Hip passive range of motion (PROM) / active range of motion (AROM)
- Flexibility test
- Lower extremity (LE) manual muscle testing (MMT) and/or hand-held dynamometry (HHD)
- Core strength testing (e.g., plank, Bunke, Sahrman)
- Hip special tests for intra- and extra-articular pathology
- Functional testing and movement patterns (e.g., single limb stance, squat, step down)
- Gait assessment
- Sidelying pain with sleeping
- Sitting/walking tolerance
- Single leg gluteal bridge mechanics, alignment, and strategy
- Single leg balance mechanics, alignment, and strategy
- 8" step down mechanics, alignment, and strategy
- Squat mechanics, alignment, and strategy
- Single leg squat mechanics, alignment, and strategy

### TREATMENT RECOMMENDATIONS

- HEP
- Progress cardiovascular fitness (bicycle, swim, elliptical)
- Mobility:
  - Continue soft tissue techniques, as needed
  - Static stretching
  - Foam rolling
- Stability:

- Anterior and lateral plank progression (modified to full)
- Dead bug progression
- Pallof progression from kneeling to standing to single leg
- Strength:
  - Double leg gluteal bridges
    - Progress to single leg hold when able to perform with good pelvic and trunk control
  - Hip abduction isotonic in sidelying at wall
  - Lateral band walking
  - Hip clocks
  - Standing clamshell
  - Posterior/ forward/ lateral step down
- Movement pattern education:
  - Squat
  - Step up
  - Step down
- Balance/proprioception:
  - Double leg balance
    - Stable surface moving to unstable with countermovement

### **CRITERIA FOR ADVANCEMENT**

- No pain with exercise and ADLs
- 8" step down with proper mechanics and without pain
- Hip abductor and extensor strength and endurance
- Single leg balance with proper mechanics
- Single leg squat with proper mechanics and without pain to variable depths

### **EMPHASIZE**

- Improve movement mechanics on both legs
- Progress single leg balance strategy/ alignment
- Progress home exercise program

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## Phase 3

### PRECAUTIONS

- Avoid exercising with pain
- Avoid overload and repetitive stress injury
- Avoid faulty movement patterns as intensity and volume progress

### ASSESSMENT

- LEFS
- NPRS
- Single leg squat depth and mechanics
- Single leg Romanian dead lift depth and mechanics
- Anterior single leg single hop length and mechanics
- Vertical jump mechanics

### TREATMENT RECOMMENDATIONS

- Progress to more advanced long term HEP and initiation of gym program
- Mobility:
  - Foam rolling
  - Dynamic mobility/ stretching
    - Dynamic warm-up for hips and lower extremity
- Stability:
  - Continue plank progression to dynamic
  - Standing rotational trunk strengthening
    - Progress to lift/chop
  - Weighted ball plyometric progression
- Strength:
  - Functional single leg strengthening with external load or perturbation
  - Progress functional and sport specific exercise (double limb-> narrow base of support-> single limb)
- Sport specific function:
  - Initiate return to running program
  - Plyometrics progression
  - Agility progression

## **CRITERIA FOR DISCHARGE**

- Independent with advanced HEP and gym program
- Pain-free with functional activities
- Single leg squat with proper mechanics equal to contralateral depth
- Athlete performs sports specific movement pain-free and starts sport specific training
- Communication and collaboration with appropriate sports performance expert if returning to sport

## **EMPHASIZE**

- Hip abductor and extensor strength and endurance
- Double to single leg strength and power
- Improve pelvic stability with dynamic exercise
- Full body conditioning to appropriate level