

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

The following non-osteoarthritis, non-operative hip pain guideline was developed by HSS Rehabilitation and is 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. While these guidelines are meant to assist the clinician in their decision-making process, examination and interventional choices should be made based on the practitioner's abilities, objective data, the patient's tolerance to movement and the patient's goals. The first phase is focused on reducing overall pain and tissue overload and improving the patient's tolerance to movement and activity. Phase two is focused on building foundational strength and stability to allow for pain-free daily function and prepare the patient to progress towards their goals, while addressing deficits observed and objectified. Phase three includes activity-specific, agility and plyometric exercises. With the completion of phase three the patient will be able to start the transition to interval sports programs. Strengthening of the deficient muscles and general conditioning should be addressed through the rehabilitation process. The clinician should use their skilled judgement and decision-making abilities as the patient advances as progression may not be linear.

### **FOLLOW REFERRING PROVIDER MODIFICATIONS AS PRESCRIBED**

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### Phase 1

#### PRECAUTIONS

- Avoid exercising with increasing levels of pain
- Avoid overload and repetitive stress injury, such as stress fracture
- Avoid faulty or irritable movement patterns
- Refer to appropriate practitioner if suspicion of pelvic floor pathology

#### ASSESSMENT

- Lower Extremity Functional Scale (LEFS)
- Numeric Pain Rating Scale (NPRS)
- Red Flags
- Lower quarter neurological screen
- Lumbopelvic and radiculopathy screen
- Hip passive range of motion (PROM) / active range of motion (AROM)
- Flexibility testing (e.g., 90/90 and straight leg raise, Thomas Test, and Ober Test)
- Lower extremity (LE) manual muscle testing (MMT) and/or hand-held dynamometry (HHD)
- Trunk strength testing (e.g., plank, Bunkie, Sahrman)
- Hip special tests for intra- and extra-articular pathology (e.g., FABER, FADIR, scour)
- Functional testing and movement patterns (e.g., single limb stance, squat, step down, gait)
  - If appropriate, evidence-based testing such as 30 second sit to stand, 5 time lateral step down tests
  - Assess for Trendelenburg stance or gait
- Balance testing, based on patient's ability and goals
  - STAR excursion, Y-balance, CT-SIB and Romberg tests

#### TREATMENT RECOMMENDATIONS

- Home exercise program (HEP)
- Mobility:
  - Soft tissue mobilization
  - Joint mobilization
  - PROM/AROM

- Stability:
  - Core isometrics
  - Hip musculature isometrics (e.g., gluteus medius, maximus; adductors; hamstrings, hip flexors)
  - Postural re-education, including sitting posture
- Strength:
  - Bilateral leg press
    - Progress to match body weight (foot placement, per patient preference)
  - Gluteal bridges
    - Can begin with bilateral, progress to tandem and unilateral, as tolerated
- Movement pattern education
  - Gait
  - Sit to stand
  - Squats
    - Progress depth of squat per patient tolerance
    - Educate on hip hinge, if needed
- Balance/Proprioception:
  - Double leg to single leg
  - Various surfaces and external support as needed (proper LE alignment)
- Stationary bicycle
  - Adjust seat height if higher ranges of hip flexion are symptomatic

## CRITERIA FOR ADVANCEMENT

- Independent with HEP
- Improved ability to perform desired activities of daily living (ADLs) with decreased NPRS by 2 or more points (MCID)
- Baseline or rest NPRS rating decreases by 2 or more points (MCID)
- Limb symmetry index (LSI) strength within 70% in affected muscle groups

## EMPHASIZE

- Patient education, pain modulation and activity modification
  - Manual therapy techniques may provide relief and improve movement tolerance
- Restoration of ROM and strength (e.g., trunk control and strength, hip strength)
- Activity or exercise that improves tolerance to weight-bearing

## MODIFICATIONS TO PHASE 1

- Ensure treatment interventions match deficits found in objective exam
- If bony stress injury is present, avoid all symptoms, when possible
- If tendon injury, lower-level symptoms which can be tolerated are acceptable

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### Phase 2

#### PRECAUTIONS

- Avoid exercising with increasing levels of pain
- Avoid overload and repetitive stress injury, such as stress fracture
- Avoid faulty or irritable movement patterns

#### ASSESSMENT

- Re-assess deficits found on initial evaluation to determine progress and remaining insufficiencies
- As patient progresses, increase complexity and difficulty of functional testing based on patient's goals

#### TREATMENT RECOMMENDATIONS

- HEP
- Cardiovascular fitness progression (bicycle, swim, elliptical)
- Mobility: as indicated based on persistent ROM or flexibility deficits
- Strength:
  - Lumbopelvic/trunk control and endurance
  - Hip and LE strengthening
- Neuromuscular control and re-education of functional movements:
  - Squat
  - Step up and step down
  - Gait
- Balance/proprioception:
  - Double or single leg balance
    - Can progress from stable, flat surface to unstable with countermovement

#### CRITERIA FOR ADVANCEMENT

- 5 time lateral step down test score of 0-1 within patient's tolerance
- 30 second sit to stand test within age-graded norms within patient's tolerance
- 80% LSI of affected hip musculature
- Pain-free ADLs

#### EMPHASIZE

- Progress strength and tolerance to load based on patient's abilities and goals
- Progress HEP

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### **Phase 3**

#### **PRECAUTIONS**

- Avoid exercising with increasing levels of pain
- Avoid overload and repetitive stress injury, such as stress fracture
- Avoid faulty or irritable movement patterns

#### **ASSESSMENT**

- Re-assess deficits found on initial evaluation to determine progress and remaining deficits
- As patient progresses, increase complexity and difficulty of functional testing based on patient's goals
- Consider sport- or activity-specific assessments that mimic patient's goals (e.g., impact, cutting and lateral movements, speed)
- May consider psychological readiness tools (e.g., Hip Return to Sport After Injury (Hip-RSI))

#### **TREATMENT RECOMMENDATIONS**

- Progress to more advanced long term HEP
- Mobility: as indicated based on persistent ROM or flexibility deficits
- Strength:
  - Lumbopelvic/trunk control and endurance
  - Hip and LE strengthening
- Sport specific function:
  - Initiate return to running program, if applicable
  - Plyometrics progression
  - Agility progression

#### **CRITERIA FOR DISCHARGE**

- Independent with advanced, long-term HEP
- Pain-free with functional activities
- LSI within 90% of affected musculature
- Patient-reported outcome measure scores that indicate minimal-to-no disability
- Patient performs sports specific movement pain-free and starts sport specific training
- Return-to-sport or activity testing indicates ability to return to patient's desired activities
- If applicable, Hip-RSI scores indicate adequate readiness for activity or sport
- Communication and collaboration with appropriate sports performance expert if returning to sport

## **EMPHASIZE**

- Strength and endurance of lower quarter
- Double to single leg strength and power
- Full body conditioning to appropriate level

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