HIP ARTHROSCOPY WITH CORE DECOMPRESSION POST-OPERATIVE GUIDELINES

The following hip arthroscopy with core decompression post-operative guidelines were developed by HSS Rehabilitation. Progressions in this guideline are both criteria-based and can be modified for individual patient needs. Phases and time frames are designed to give the clinician a general sense of progression. The rehabilitation program following core decompression emphasizes early, controlled motion to prevent hip stiffness and to avoid disuse atrophy of the musculature. The program should be a balance of managing prior deficits, tissue healing, and appropriate interventions to maximize flexibility, strength, and pain-free performance of functional activities. This model should not replace clinical judgment.

FOLLOW SURGEON'S MODIFICATIONS AS PRESCRIBED.

HIP ARTHROSCOPY WITH CORE DECOMPRESSION POST-OPERATIVE GUIDELINES

Post-Operative Phase 1: Days 1-7

PRECAUTIONS

- Weight bearing as tolerated with assistive device (AD)
- **No high impact activity for 12 weeks**

ASSESSMENT

- Lower Extremity Functional Scale (LEFS)
- Hip Disability and Osteoarthritis Outcome Score (HOOS Jr.)
- Numeric Pain Rating Scale (NPRS)
- Screen for red flags
- Wound and sutures
- Edema
- Neurological status (global and local to surgical site)
- Hip passive range of motion (PROM)
- Pelvic/hip/lower extremity (LE) muscle activation (quadriceps, gluteals, core musculature)
- Ambulation with use of AD
- Stair ambulation technique and tolerance
- Functional status

TREATMENT RECOMMENDATIONS

- Gait training and stair negotiation with AD
- Activities of daily living (ADLs) training
- Strengthening
    - LE isometrics
        - Isometric quadriceps sets
        - Isometric gluteal sets
    - Core/pelvic stability (progress to standing and avoid hip flexor tendonitis)
        - Abdominal setting in supine
        - Prone abdominal setting with gluteal sets
    - Short arc and long arc quadriceps exercises
- Cryotherapy
- Initiate and emphasize importance of home exercise program (HEP)

CRITERIA FOR ADVANCEMENT

- Ambulates safely with AD on level surfaces and stairs
- Controlled post-operative pain and swelling
- No pain at rest and with ambulation
- Independent with HEP

EMPHASIZE

- Control edema
- Independent transfers, gait, and stair negotiation
- Pain-free basic exercises

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Post-Operative Phase 2: Weeks 2-6

PRECAUTIONS

- Weight bearing as tolerated with assistive device
- **No high impact activity for 12 weeks**

ASSESSMENT

- LEFS
- HOOS Jr.
- NPRS
- Hip active/passive ROM (A/PROM)
- Pelvic/hip/LE muscle activation (quadriceps, gluteals, core musculature)
- Single leg stance
- Lumbopelvic dissociation
- Functional assessment:
    - squat / sit to stand
    - step up / step down 4”- 8”

TREATMENT RECOMMENDATIONS

- Gait training with focus on active hip flexion and extension, symmetrical weight bearing, heel strike
- Restore ROM through active motion, functional movements and guided passive stretches
- Closed kinetic chain exercises for the core and LE
- Exercises that encourage lumbopelvic dissociation (e.g., quadruped rocking)
- Body weighted squatting with focus on hip hinging and symmetrical weight bearing
- Forward and lateral step up progression
- Step up/down progression
- Proprioception/balance training
- Low impact cardiovascular conditioning including stationary bicycle, elliptical
- Cryotherapy/modalities

MINIMUM CRITERIA FOR ADVANCEMENT

- Able to complete 6” step up with adequate control
- Symmetrical functional squat
- Edema and pain controlled
- Ambulation on level surface with normal gait pattern
- Independent with ADLs
- Independent with full HEP

EMPHASIZE

- Control edema
- Functional strength
- Normalize gait pattern
- Reciprocal stair negotiation
- Encourage lumbopelvic and hip hinging dissociation

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Post-Operative Phase 3: Weeks 7-12

PRECAUTIONS

- **No high impact activity for 12 weeks**

ASSESSMENT

- LEFS
- HOOS Jr.
- NPRS
- Hip AROM
- LE flexibility
- Pelvic/hip/LE muscle activation (quadriceps, gluteals, core musculature)
- Strength Assessment: hand-held dynamometry
- Core control assessment
    - E.g. Bunkie test[1]
- Functional assessment:
    - Single leg squat
    - DL Squat
    - 8" step up / down mechanics & control

TREATMENT RECOMMENDATIONS

- Improve LE flexibility based on findings
- Core strengthening
- Progress exercises that encourage lumbopelvic dissociation
- Progressive resistance exercises of bilateral LE
- Leg press progression (double limb, eccentric, single limb)
- Advance proprioception and dynamic/single leg balance exercise
- Continue step progressions for strength and function
- Progress stationary bicycle, walking on treadmill, elliptical, if tolerated
- Address limitations throughout the kinetic chain that are affecting mobility
- Pool therapy if available

CRITERIA FOR DISCHARGE / PROGRESSION FOR RETURN TO SPORT

- LE strength and ROM WFL
- Able to complete 8” step down with control
- Independent with all mobility tasks
- Independent with full HEP
- Discharge or progress to Phase 3 if cleared by surgeon to return to sport or advanced functional activities

EMPHASIZE

- Increase flexibility – emphasize hip extension, flexion and external rotation
- Increase strength – emphasize hip abduction and extension without compensation
- Gradual return to function/recreational activity
- Diminish frequency of physical therapy and progress towards independent HEP

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Post-Operative Phase 4: Weeks 13-16

BEGIN ONLY IF RETURNING TO SPORT WITH SURGEON CLEARANCE

PRECAUTIONS

- Discuss with surgeon regarding which activities are permitted following core decompression

ASSESSMENT

- LEFS
- HOOS Jr.
- NPRS
- Hip ROM
- Flexibility
- Strength Assessment: hand-held dynamometry
- Single leg squat – minimum 10 reps
- Star Excursion test
- Kinetic chain during sport specific movement

TREATMENT RECOMMENDATIONS

- Eccentric quadriceps strengthening; hamstring and gluteal strength and control
- Core stabilization / endurance tasks
- Progressive resistance exercises
- Low-medium impact cardiovascular conditioning
- Low-medium impact agility drills
- Dynamic balance activities
- Sports-specific warm-up and activities
- Low impact plyometrics (hopping, skipping) progressing to appropriate impact depending on sport
- Consider working with a performance specialist specific to the sport or activity

CRITERIA FOR DISCHARGE

- Minimal worsening symptoms during exercise session and 24 hours afterwards
- Adequate control with single leg squat
- Symmetrical LE strength
- Strength, ROM, flexibility throughout kinetic chain to meet sports specific demands
- Independent with full HEP

EMPHASIZE

- Neuromuscular patterning
- Gradual increase of loads to meet sports specific demands
- Optimize kinetic chain to meet sports specific demands

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References

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2. Horstmann T, Listringhaus R, Brauner T, et al. Minimizing preoperative and postoperative limping in patients after total hip arthroplasty. *Am J Phys Med Rehabil. 2013;*92(12):1060-1069.
3. Hua KC, Yang XG, Feng JT, et al. The efficacy and safety of core decompression for the treatment of femoral head necrosis: a systematic review and meta-analysis. *J Orthop Surg Res.* 2019 Sep 11;14(1):306.
4. Neumayr LD, et al. Physical therapy alone compared with core decompression and physical therapy for femoral head osteonecrosis in sickle cell disease. Results of a multicenter study at a mean of three years after treatment. *J Bone Joint Surg Am*. 2006 Dec;88(12):2573-82.

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