TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES

The following total hip arthroplasty guidelines were developed by HSS Rehabilitation. Progression is both criteria-based and patient specific. Phases and time frames are designed to give the clinician a general sense of progression. The rehabilitation program following total hip arthroplasty emphasizes early, controlled motion to prevent hip stiffness and to avoid disuse atrophy of musculature. The program should balance management of 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 modifications as prescribed.
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES
Pre-Operative Phase

PRECAUTIONS
• Modify/minimize activities and/or exercises that increase pain
• Maintain activity level to avoid deconditioning and atrophy

ASSESSMENT
• Lower Extremity Functional Scale (LEFS)
• Hip Disability and Osteoarthritis Outcome Survey, Junior (HOOS JR)
• Pain
• Home environment- define barriers and available resources
• Hip active range of motion (ROM)- all planes
• Pre-operative gait quality, distance and use of assistive device

TREATMENT RECOMMENDATIONS
• Targeted core and lower extremity strengthening
• Targeted lower extremity stretching
• Functional mobility and transfer training
• Balance training
• Independent with home exercise program (HEP) that addresses primary impairments
• Familiarize with post-operative plan of care, mobility, use of assistive device, and discharge planning

CRITERIA FOR ADVANCEMENT
• Patient able to verbalize post-operative plan of care

EMPHASIZE
• Familiarize with post-operative plan of care
• Improve flexibility prior to surgery
• Improve lower extremity and core strength prior to surgery
• Improve balance prior to surgery
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES

Acute Care Phase (Week 1)

PRECAUTIONS

• Avoid prolonged sitting, standing, and walking
• Avoid severe pain with strengthening and ROM exercises
• Avoid pillow under knee to prevent hip flexion contracture
• Avoid lying on operated side
• Use abduction pillow when lying on non-operative side for comfort
• Follow precautions/weight bearing status specific to surgeon and surgical approach
  o Anterior approach: avoid combined extension and external rotation
  o Posterolateral approach: avoid hip flexion greater than 90°, adduction past mid-line, and internal rotation of hip past neutral (check surgeon prescription, may differ)
  o Posterolateral modified/pose avoidance: avoid positions that combine flexion, adduction and internal rotation

ASSESSMENT

• Mental status
• Pain
• Wound status
• Swelling
• Post-anesthesia sensory motor screening
• Functional status
• Gait and stair ability
• Assess for compromised cardiovascular status (e.g. shortness of breath)

TREATMENT RECOMMENDATIONS

• Therapeutic exercise: including quadriceps and gluteal isometrics, ankle pumps, seated knee extension, seated hip flexion (≤ 90° if posterior approach), standing hip abduction, standing knee flexion
• Transfer training: in and out of bed and sit to stand (e.g. chair, toilet)
• Gait training with appropriate device, progressing from rolling walker to cane/crutches when patient demonstrates adequate weight bearing
• Non-reciprocal stair training with assistive device
• Activities of daily living (ADL) training
• Cryotherapy and elevation of lower extremity to prevent swelling
• Initiate and emphasize importance of HEP
CRITERIA FOR ADVANCEMENT

- Good pain control
- Transfers unassisted from supine to sit and sit to stand safely
- Ambulates safely with appropriate device on level surfaces and stairs
- Independent with HEP
- Discharge home within same day or up to 2 days post-operatively, when goals have been achieved and with surgeon clearance

EMPHASIZE

- Control swelling
- Independent transfers
- Household ambulation with appropriate assistive device
- Pain-free basic exercises
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES
Post-Operative Phase 1 (Weeks 2-6)

PRECAUTIONS
- Follow precautions until cleared by surgeon
- Avoid prolonged sitting or walking
- Avoid severe pain with therapeutic exercise and functional activities
- Avoid reciprocal stair negotiation and ambulation without assistive device until non-antalgic gait is achieved
- Avoid aggressive PROM and weighted strengthening of the operated hip
- Avoid irritating hip flexors with therapeutic exercises (e.g. straight leg raise flexion)
- Note that there is an increased risk of hip dislocation in patients with lumbar fusions

ASSESSMENT
- LEFS
- HOOS JR
- Pain
- Active/Active assisted ROM including: supine hip flexion, external rotation; standing hip extension
- Manual muscle testing (MMT) including: hip abductors, hip external rotators, knee extensors
- Single leg stance (SLS)
- Timed Up and Go (TUG)
- 5x sit to stand
- ADL ability
- Gait and stair ability

TREATMENT RECOMMENDATIONS
- Restore ROM through active motion and functional movements
- Multi-positional therapeutic exercise emphasizing strengthening of hip abductors, external rotators and extensors, knee and ankle
- Stretching of appropriate muscle groups including quadriceps, hamstrings, and hip adductors
- Upright bicycle, elliptical, treadmill as able
- Cryotherapy/elevation/modalities as needed for control of swelling
- Forward and lateral step up progression, step down progression (starting with 2-4 inches)
- Proprioception/balance training: progress bilateral dynamic activities to unilateral stance
- Gait training with focus on active hip flexion and extension, symmetrical weight bearing, and heel strike
• Improve AROM to allow for return to functional activities once precautions are lifted such as reaching to floor and donning/doffing shoes
• Hydrotherapy once incision has healed, if available

CRITERIA FOR ADVANCEMENT
• Swelling and pain controlled
• Ambulation on level surface with/without assistive device with normal gait pattern
• Sit to stand without compensatory motion
• Independent with ADL
• Independent with full HEP

EMPHASIZE
 Control swelling
 Functional strength and movements
 Normalize gait pattern
 Reciprocal stair negotiation
 Initiate hip external rotation AROM
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES
Post-Operative Phase 2 (Weeks 7-12)

PRECAUTIONS
- Avoid pain with ADL and therapeutic exercise
- Avoid high impact activities such as running, jumping, and plyometric activities
- Follow precautions until cleared by surgeon

ASSESSMENT
- LEFS
- HOOS JR
- Pain
- Active/Active-assisted ROM including: supine hip flexion, external rotation; standing hip extension
- MMT including: hip abductors, hip external rotators, knee extensors
- SLS

TREATMENT RECOMMENDATIONS
- Progression of Phase 1 exercises
- Stretching of quadriceps, gluteals, hamstrings, hip adductors and other muscle groups, as appropriate
- Progressive resistance exercises of bilateral lower extremities
- Initiate leg press progression (double leg to single leg)
- Continue step progressions for strength and function
- Core strengthening
- Stationary bicycle, treadmill, elliptical
- Advance proprioception and balance exercise
- Address limitations in the kinetic chain for functional activities such as walking, squatting, stair climbing
- Hydrotherapy once incision has healed, if available
CRITERIA FOR DISCHARGE/ADVANCEMENT (IF RETURNING TO SPORT/HIGH LEVEL ADL)

- Lower extremity strength and ROM WFL
- Reciprocal stair climbing with good control
- Functional test measures within age appropriate parameters
- Independent with full HEP
- Discharge progress onto Phase 3 if the goal is to return to sport or advanced functional activities (if cleared by surgeon)

EMPHASIZE

- Increase flexibility – emphasize hip extension and external rotation
- Increase strength – emphasize hip abduction without compensation
- Increase endurance with walking
- Independence with exercise and activity regulation
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES

Post-Operative Phase 3 (Weeks 13-18); Begin only if returning to sport with surgeon clearance

PRECAUTIONS

• Avoid high impacts
• Note: expert opinion varies widely on allowable sports – consult with surgeon

ASSESSMENT

• LEFS
• HOOS JR
• Flexibility
• Strength
• Dynamic balance/ Star excursion test
• Kinetic chain during sport specific movement

TREATMENT RECOMMENDATIONS

• Activity specific training
• Eccentric quadriceps control
• Progressive resistance exercises
• Low impact cardiovascular conditioning
• Low impact agility drills
• Dynamic balance activities
• Sports specific warm up and activities

CRITERIA FOR DISCHARGE

• No increase in pain or swelling with activity
• Symmetrical functional capacity on bilateral lower extremities
• Descend 8” step without pain or deviation
• Strength, ROM, flexibility throughout kinetic chain to meet sports specific demands
• Independent with full HEP
EMPHASIZE

- Return to sport/recreational activity
- Neuromuscular patterning
- Gradual increase of loads to meet sports specific demands
TOTAL HIP ARTHROPLASTY POST-OPERATIVE GUIDELINES

References


Matheis C, Stoggl T. Strength and mobilization training within the first week following total hip arthroplasty. J Bodywork & Movement Therapies. 2017;doi: 10.1016/j.jbmt.2017.06.012


Created: 11/2017
Reviewed: 4/2019, 3/2021