TOTAL HIP ARTHROPLASTY REHABILITATION
“Standard” Incision, Minimally Invasive Incision

BIRMINGHAM HIP RESURFACING REHABILITATION

Purpose:

To guide patients through the pre-operative, acute, and sub-acute phases of rehabilitation associated with Total Hip Arthroplasty (THA) & Hip Resurfacing, in an effort to assist the patient in becoming functionally independent following surgery.

Indications:

Patients who are considering or who have undergone Total Hip Arthroplasty or Birmingham Hip Resurfacing surgical procedure.

Contraindications:

Any medical, surgical, or post-operative complication as stated by the attending physician.

Physical Therapy Goals:

Pre-operative

• Explanation of the role of physical therapy in THA/BHR rehabilitation.
• Discussion/agreement on physical therapy goals following THA/BHR.
• Instruction and demonstration of post-operative physical therapy procedure/treatments (i.e. dislocation precautions, gait training with assistive devices, exercise regimen, Activity of Daily Living restrictions) within post-operative restrictions.
• Establish home exercise program to prepare for surgery/hospital admission.
• Initiate arrangements for post-discharge therapy.

Acute (In Hospital)

• Early cardinal plane motion of the operative hip with progression as rapidly as possible toward full anatomical range of motion, limited only by the prosthetic design and the patient’s potential.
• Muscle strengthening primarily of the hip abductor and extensor muscle groups.
• Gait training: Assistive devices are used to enable the patient to achieve the proper weight bearing status on the operative extremity. These devices are discontinued at the discretion of the physical therapist.
Post Discharge

- Achieve maximal hip range of motion, within cardinal planes of movement.
- Muscle strengthening of the entire hip girdle of the operative extremity with emphasis on hip abductor and extensor muscle groups. Attention should also be directed toward any weakness in the upper extremities, trunk or contralateral lower extremity.
- Proprioceptive training to improve body/spatial awareness of the operative extremity in functional activities.
- Endurance training to increase cardiovascular fitness.
- Functional training to promote independence in activities of daily living and mobility.
- Gait training: Assistive devices are discontinued when the patient is able to ambulate without a positive Trendelenberg test and with a safe, efficient gait pattern on level surfaces, uneven surfaces and stairs.

PHYSICAL THERAPY REHABILITATION GUIDELINES

Precautions/Restrictions:
- Posterior or Posteriolateral Surgical Approach / Standard Prosthesis or Megaprosthesis (following tumor resection) – Avoid any SIMULTANEOUS/COMBINATION movements of the operative hip. Patients are allowed to flex, extend, abduct, adduct, or rotate their operative hip in cardinal planes of motion with NO restriction to movement. Any combination of motion during the initial six (6) weeks post-operative period should be avoided.
- Birmingham Hip Resurfacing – Avoid a single COMBINED movement of hip extension/abduction/ER for six (6) weeks postoperatively; WBAT on the operative extremity
- Anterior Surgical Approach / Standard Prosthesis - No movement restrictions of the operative hip; WBAT on operative lower extremity.
- Low, soft, contour-type furniture should be avoided.
- Sexual activity may be resumed when comfortable. Specific handouts on this subject are available upon request.
- Patients may return to work at the discretion of their physician.
- Patients are allowed to resume driving 4-6 weeks after surgery and will discuss the specific timeline with their surgeon.
- Ambulation Guidelines:
  Cemented & Uncemented Prosthesis: Weight bearing as tolerated (WBAT) ambulation for primary THA.
  Patients are required to initially use a walker/crutches then are progressed as soon as safely possible to cane ambulation per their physical therapist. The cane is discontinued when the patient is ambulating without a positive Trendelenberg test.
• No running or involvement in sporting activities requiring high-impact/running and/or jumping unless metal-on-metal implant and the activity is approved by the surgeon and/or therapist.

**Treatment Parameters:**

**Pre-Operative**
- Participation in educational class on Hip Arthroplasty/Hip Resurfacing. Material covered in this class includes discussion of normal and abnormal hip joint anatomy, components of hip prosthesis, intra-operative sequence of events, identification of post-operative complications and preventive measures, admission procedures for Vanderbilt Medical Center, post-operative rehabilitation and discharge needs.
- Pre-operative physical therapy assessment at the time of the THA class. This session includes a baseline assessment of joint range of motion, muscle strength, mobility, lengthy discussion of dislocation precautions/rehab guidelines following surgery and functional assessment using rehab specific functional tools.

**Acute Care (Vanderbilt Medical Center)**
- Treatment protocol instituted day of surgery, as possible; twice daily physical therapy sessions with efforts to achieve discharge 2-3 days after surgery.

**Day of Surgery:**
- Begin lower extremity isometric exercises and ankle pumps. Encourage the patient to actively perform these exercises every 30 minutes while awake.
- Begin assisted bed-to-chair transfers using an assistive device to a chair of appropriate height. Weight bearing status is dependent upon the type of prosthesis implanted and is usually WBAT. Patients are not required to “slouch” sit but may sit in an upright position as comfortable.
- Begin assisted ambulation on level surfaces using an assistive device, weight bearing status per surgeon, as patient is able.
- Discuss post-operative dislocation precautions/restrictions as applicable.

**Post-Operative Day 1:**
- Continue lower extremity isometrics and ankle pumps.
- As appropriate, begin supine lower extremity active-assisted range of motion exercises to the operative hip in cardinal planes of movement with all motion to the patient’s tolerance.
- Ice packs to the operative hip for edema & pain control prn.
- Initiate upper extremity and contralateral limb strengthening exercises.
- Begin assisted ambulation on level surfaces using an assistive device.
- Begin discharge planning and home needs assessment.
- Review dislocation precautions/restrictions.
Post-Operative Day 2 - Discharge

- Review lower extremity isometrics and ankle pumping exercises. Reinforce that the patient is to perform the ankle pumps every 30 minutes while awake.
- Continue/initiate supine lower extremity active-assisted range of motion exercises to the operative extremity. Motions are to the patient’s tolerance and in cardinal planes.
- Continue assisted ambulation on level surfaces, refining gait pattern.
- Instruct in stair climbing technique.
- Reinforce hip dislocation precautions/restrictions.
- Review home instructions/exercise program with emphasis on hip dislocation/precautions.
- Finalize discharge plans. All patients require an assistive device for ambulation, an elevated toilet seat, and follow-up physical therapy.

Post-Discharge Care

- Patients who have acutely undergone Hip Arthroplasty or BHR require physical therapy services post-discharge. Based upon each individual’s needs, the multidisciplinary team will, prior to discharge from the acute care setting, make arrangements for the patient to receive physical therapy services. Criteria for each setting is listed below:

1. Home Health Physical Therapy – Patients with transportation difficulties, functional limitations restricting mobility (difficulty with transfers, etc.). Home physical therapy services are to be discontinued as early as possible and utilized no longer than six (6) weeks post-surgery with services transferred to an outpatient setting at 2 weeks unless approved by the surgeon.

2. Extended Care Facility Physical Therapy – Patients who live alone or have limited support services to assist with home care activities (i.e. no family members or friend able to help with homemaker activities and transportation to/from therapy) and whose overall endurance level is diminished and would interfere with their participation in a comprehensive rehabilitation program.

3. Inpatient Rehabilitation Center – Patient who pre-operatively lived alone and were independently functioning in that environment and will be returning to that living arrangement at the conclusion of their rehabilitation; also their general medical status and cardiovascular endurance is sufficient to participate in an intensive rehabilitation program. Funding is a major determinant of therapy services in this setting.

4. Outpatient Physical Therapy – Patients with transportation into an outpatient clinic will be strongly encouraged to attend outpatient physical therapy.
Within each of these settings, a comprehensive treatment program should be implemented based upon each individual patient’s needs and within established therapy restrictions. Suggested physical therapy treatments/activities are listed below:

**Modalities for Pain Control and Edema Reduction:**

- Moist Heat
- Interferential
- Ice
- Kinesio-taping
- FES

**Therapeutic Exercise:**

- Passive, Active-Assisted, and Active Lower Extremity Range of Motion
- Closed Kinetic Chain Activities
- Stationary Biking – No resistance to motion
- Lower Extremity Strengthening Exercises using Theraband &/or ankle weights with emphasis on strengthening the hip extensors and abductors; patients are allowed to begin resistive exercises to the operative extremity at the discretion of their physical therapist, based upon their ability
- Nordic Track
- Stair-Step Machine
- Aquatic Therapy/Activities
- Iliotibial Band Stretches – Supine stretches may be initiated at two (2) weeks post operatively, standing at twelve (12) weeks post-operatively
- Scar Massage/Mobility – May be instituted after suture removal when the incision is clean and dry

**Endurance Training:**

- UBE
- Upper and/or Lower Extremity Restorator
- Ambulation Activities
- Obstacle Course Activities
- One-Leg Cycling – Using non-operative leg, with no resistance to motion
- Aquatic Therapy
Balance/Proprioception Training:

- Tandem Walking
- Lateral Stepping over/around objects
- Obstacle Course
- Weight-Shifting Activities
- Closed Kinetic Chain Activities

Gait Training:

- Level Surface
- Forward Walking
- Sidestepping
- Retrowalking
- Uneven Surfaces

Functional Training:

- Standing Activities
- Transfer Activities
- Lifting
- Carrying
- Pushing or Pulling
- Squatting or Crouching
- Return-To-Work Tasks
- Sport Tasks
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