



## Anterior Total Hip Arthroplasty Rehabilitation Guideline

This rehabilitation program is designed to return the individual to their activities as quickly and safely as possible. It is designed for rehabilitation following an anterior approach total hip arthroplasty. Modifications to this guideline may be necessary dependent on physician specific instruction or other procedures performed. This evidence-based anterior total hip arthroplasty guideline is criterion-based; time frames and visits in each phase will vary depending on many factors- including patient demographics, goals, and individual progress. This guideline is designed to progress the individual through rehabilitation to functional activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following total hip arthroplasty.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

### **General Guidelines/ Precautions:**

- Dislocation precautions- no forceful hip extension or external rotation past neutral for 6 weeks (surgeon specific)
- Weight bearing per physician order
- Recommend assistance/supervision for 72 hours post discharge- specific level of assistance will be determined on an individual basis
- Full hip ROM at 10-12 weeks
  - Limit hip extension to 10-degrees
- Return to recreational sport
  - When achieves sufficient hip mobility and gluteal strength and physician clearance
  - Lifetime restriction of high impact activities
- Recommend outpatient PT start date at 10-14 days post-operative
  - Advancement of HEP
  - Determine additional physical therapy goals and establish plan of care

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Phase	Suggested Interventions	Goals/ Milestones for Progression
<p><b>Phase I</b></p> <p><i>Patient Education/Pre-Op Phase</i></p>	<p><i>Discuss:</i> Anatomy, existing pathology, post-op rehab schedule, bracing, and expected progressions</p> <p><i>Instruct on Pre-op exercises:</i> Prospective joint replacement candidates will participate in pre-op education individually or class setting which includes instruction in:</p> <ul style="list-style-type: none"> <li>-Home safety</li> <li>-Equipment recommendations</li> <li>-Pre-surgical LE exercises</li> </ul> <p>Overview of hospital stay per region may include but not limited to:</p> <ul style="list-style-type: none"> <li>-Nursing care</li> <li>-Therapy services</li> <li>-Pharmacy</li> <li>-Discharge planning</li> </ul>	<p><i>Goals of Phase:</i> 1. Understanding of pre-op exercises, instructions, and overall plan of care</p> <p><i>Criteria to Advance to Next Phase:</i> 1. Surgery</p>
<p><b>Phase II</b></p> <p><i>Inpatient/Acute Care Phase</i></p>	<p><i>Immediate Post-operative instructions:</i> Patient and family/coach education and training in an individual or group setting for:</p> <ul style="list-style-type: none"> <li>-Safety with mobilization and transfers</li> <li>-Icing and elevation</li> <li>-HEP</li> <li>-Home modification</li> </ul> <p><b>Track 1: Patients that have OP PT starting within 10-14 days post-op or discharging to swing bed or SNF</b></p> <p><i>Home Exercise Examples:</i></p> <p><u>Supine:</u> Ankle pumps, quad sets, hamstring sets, gluteal sets, assisted heel slides, SAQ, hip abduction, external and internal rotation to neutral</p> <p><u>Seated:</u> Long arc quad and knee flexion</p> <p>HEP: 2 times per day in hospital and at home</p> <p><b>Track 2: Patients that do not have OP PT starting within 10-14 days post operative or discharging to swing bed or SNF</b></p>	<p><i>Goals of Phase:</i> Functional goals:</p> <ol style="list-style-type: none"> <li>1. SBA transfers</li> <li>2. SBA bed mobility with or without leg lifter</li> <li>3. SBA ambulation household distances with appropriate AD</li> <li>4. CGA stair negotiation with appropriate AD</li> <li>5. Min A for car transfer with or without leg lifter</li> <li>6. SBA for bathing</li> <li>7. SBA for dressing with or without adaptive equipment</li> <li>8. SBA for shower transfer with appropriate modification</li> <li>9. SBA for toilet transfer with appropriate modification</li> </ol>

	<p><i>Home Exercise Examples:</i>        HEP from Track 1  <u>Standing:</u> Hip flex with knee bend, knee flex, heel raises, terminal knee extension, hip abduction, mini-squats        HEP: supine and seated exercises 1 time per day and standing exercises 1 time per day</p>	<p><i>Criteria to Advance to Next Phase:</i></p> <ol style="list-style-type: none"> <li>1. Discharge from acute care setting</li> </ol>
<p><b>Phase III</b></p> <p><i>Protected Motion &amp; Muscle Activation Phase</i></p> <p>Weeks 0-4</p> <p>Expected visits: 4-6</p>	<p><i>Specific Instructions:</i></p> <ul style="list-style-type: none"> <li>- Complete hip outcome tool (WOMAC or HOOS JR)</li> </ul> <p><i>Suggested Treatments:</i></p> <p>ROM: P/A/AAROM within hip precautions (extension and ER to neutral)        Manual Therapy: soft tissue mobilization and lymph drainage as indicated        Stretching: passively to hip flexor , quadriceps, hamstrings, ITB/TFL, adductors, and calf        Modalities: Edema controlling treatments if appropriate        Therapeutic exercise:</p> <ul style="list-style-type: none"> <li>o NuStep/recumbent bike</li> <li>o Supine exercises including ankle pumps, gluteal/quad/hamstring/adductor sets, assisted heel slide (towel around thigh) to active heel slide, SAQ, hip abduction/adduction, bridging</li> <li>o Sitting exercises including resisted LAQ and hamstring curl</li> <li>o Sidelying exercises including hip abduction and clam shells</li> <li>o Standing exercises including 4-way hip exercises (extension to neutral only), calf raises, mini-squats, single limb stance, step-ups, lateral stepping</li> </ul> <p>Gait Training:</p> <ul style="list-style-type: none"> <li>o Reinforce normal gait mechanics – equal step length, equal stance time, heel to toe gait pattern, etc</li> <li>o Use of appropriate assistive device independently with no to minimal Trendelenburg and/or antalgic pattern</li> </ul>	<p><i>Goals of Phase:</i></p> <ol style="list-style-type: none"> <li>1. Provide environment for proper healing of incision site and prevention of postoperative complications</li> <li>2. Minimize pain and swelling- use of cryotherapy as needed</li> <li>3. Improve functional hip ROM to within hip precautions- focus on extension to neutral</li> <li>4. Improve functional strength and endurance</li> <li>5. Normalize gait with appropriate assistive device</li> </ol> <p><i>Criteria to Advance to Next Phase:</i></p> <ol style="list-style-type: none"> <li>1. Controlled pain and swelling</li> <li>2. Adequate gluteal strength of at least 3+/5</li> <li>3. Safe ambulation with assistive device and no to minimal Trendelenburg and/or antalgic pattern</li> <li>4. Hip extension ROM to neutral</li> </ol>
<p><b>Phase IV</b></p> <p><i>Motion &amp; Strengthening Phase</i></p> <p>Weeks 4-10</p>	<p><i>Specific Instructions:</i></p> <ul style="list-style-type: none"> <li>-Continue with previous exercise program</li> <li>-Complete 6-min Walk Test or Stair Climbing Test if appropriate</li> <li>-Driving – as per physician’s orders (good limb control &amp; off pain meds)</li> </ul> <p><i>Suggested Treatments:</i></p>	<p><i>Goals of Phase:</i></p> <ol style="list-style-type: none"> <li>1. Progress ROM to patient tolerance (limit extension to 5-degrees only at 6 weeks)</li> <li>2. Improve gait and stair use without AD as able</li> <li>3. Incision mobility and complete resolution of edema</li> <li>4. Advance strengthening including functional closed chain exercises and balance/proprioceptive activities</li> </ol>

<p>Expected visits: 6-10</p> <p>Total visits: 10-16</p>	<p>ROM: P/AROM to patient tolerance (extension to 5-degrees at 6 weeks)</p> <p>Manual Therapy: Continue as above including scar mobilization as needed</p> <p>Stretching: Continue as above focusing on hip flexor</p> <p>Modalities: Edema controlling treatments if appropriate</p> <p>Therapeutic exercise:</p> <ul style="list-style-type: none"> <li>○ Upright bike</li> <li>○ Progression of above exercises with following additions:</li> <li>○ Resistance bands and/or weights</li> <li>○ Prone hip extension to 5-degrees (at 6 weeks)</li> <li>○ Leg press and multi-hip machine</li> <li>○ Advanced closed chain strengthening exercises including ½ depth forward/lateral lunge, sit to stand chair/bench squats, ½ depth wall squats, resisted monster walks- forward and lateral</li> <li>○ Static and dynamic balance/proprioceptive activities as appropriate- Airex, dynadisc, BAPS, BOSU</li> <li>○ Aquatic exercises as needed if incision completely healed</li> </ul> <p>Gait training:</p> <ul style="list-style-type: none"> <li>○ Reinforce normal gait mechanics – equal step length, equal stance time, heel to toe gait pattern, etc</li> <li>○ Ambulate without an assistive device in controlled environment and progress as appropriate</li> </ul>	<p><i>Criteria to Advance to Next Phase:</i></p> <ol style="list-style-type: none"> <li>1. Adequate gluteal strength of at least 4/5</li> <li>2. Ambulate without AD safely</li> <li>3. Hip extension ROM to 5-degrees</li> </ol>
<p><b>Phase V</b></p> <p><i>Advanced Strengthening and Functional Mobility Stage</i></p> <p>Weeks 10+</p> <p>Expected visits: 2-4</p> <p>Total visits: 12-20</p>	<p><i>Specific Instructions:</i></p> <ul style="list-style-type: none"> <li>-Continue previous hip strengthening exercises</li> <li>-Complete WOMAC or HOOS JR at time of discharge</li> </ul> <p><i>Suggested Treatments:</i></p> <p>ROM: P/AROM to patient tolerance (extension to 10-degrees)</p> <p>Therapeutic exercise:</p> <ul style="list-style-type: none"> <li>○ Progression of above exercises</li> <li>○ Cardiovascular activities including elliptical and stair stepper</li> <li>○ Sport specific activities in preparation for return to physician approved recreational sport</li> <li>○ Advanced long-term HEP instruction</li> </ul> <p>Gait training: normalized gait on even and uneven surfaces</p>	<p><i>Goals of Phase:</i></p> <ol style="list-style-type: none"> <li>1. Improve gluteal strength to 4+/5 to 5/5 and endurance</li> <li>2. Normalized gait on even and uneven surfaces</li> <li>3. Return to work/recreational activities</li> <li>4. Independent with advanced HEP</li> <li>5. Understanding of avoidance of lifelong restrictions to include high impact activities such as running, jumping, kicking and heavy manual labor</li> </ol>