This rehabilitation program is designed to return the individual to their full activities as quickly and safely as possible, 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. The therapist may modify the program appropriately depending on the individual's goals for activity following anterior 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: (To be followed on average 3 months or as directed by surgeon.)

- WBAT with cemented hip
- WBAT with porous in growth hips.
- No hip extension past neutral
- No hip flexion past 90 degrees
- No hip external rotation
- No twisting at waist in weight bearing
- No full bridging, no prone lying, and none of the above motions combined
- Avoid aggressive/forceful stretching of anterior hip capsule in passive, active, and functional situations in all phases of recovery.

Phase	Suggested Interventions	Goals/Milestones for Progression
Phase I *Patient Education/Pre-Op Phase*	*Educate:* Anatomy, existing pathology, post-op rehab schedule, bracing, and expected progressions, post op precautions *Instruct on Pre-Op exercises:* Prospective joint replacement - Home safety	*Goals of Phase:* 1. Understanding of pre-op exercises, instructions and overall plan of care *Criteria to Advance to Next Phase:* 1. Surgery

	- Equipment recommendations *Overview of hospital stay:* -Nursing care -Therapy services -Pharmacy -Discharge planning	
Phase II *Inpatient/OP in a Bed*	*Immediate Post-operative instructions:* Patient/family education and training for: - Safety with mobility/transfers - Icing and elevation - Home Exercise Program - Appropriate Home Modifications *Patient have Outpatient PT (or HH) beginning within first week after discharge* *-NA if* discharging to swing bed or SNF Patient/family education and training for: - Utilize JRMC HEP performed 2x/day in hospital and at home. - Icing and elevation - Home Exercise Program - Appropriate Home Modifications Foot of bed may be unlocked and flexed while in supine. Pillow under knee to maintain slight hip flexion.	*Goals of Phase:* Functional goals: 1. SBA with transfers 2. SBA with bed mobility (with/without leg lifter) 3. CGA stair navigation with AD 4. SBA ambulation for household distances with AD 5. Min A for car transfer (with/without leg lifter) 6. SBA for bathing/dressing (with or without adaptive equipment) 7. CGA for shower transfer with appropriate modification 8. SBA for toilet transfer with appropriate modification *Criteria to Advance to Next Phase:* 1. Discharge from acute care setting

Phase III *Protected Motion & Muscle Activation Phase* *Weeks 0-4 weeks* Expected visits: 4-6	*Specific Instructions:* - Complete hip outcome tool (HOOS or HOOS JR) *Suggested Treatments:* ROM: P/A/AAROM within hip precautions Manual Therapy: soft tissue mobilization and lymph drainage as indicated Stretching: passively including hip flexor to neutral (Thomas test position) ~~or prone lie~~, quads, hamstrings, adductors and calf. Modalities: Edema controlling treatments if appropriate Therapeutic Exercise: • Nustep/bike maintaining hip precautions • Supine exercises: quad/gluteal/hamstring/adductor sets, ankle pumps, assisted to active heel slides, short arc quad, partial bridging, hip abduction as indicated • Sitting exercises including resisted LAQ and hamstring curl • Sidelying exercises including hip abduction and CLAM at 2-3 weeks as indicated • Standing exercises: mini squats, marching, heel raises, calf raises, single limb stance, step-ups, lateral stepping, standing hip exercises (abduction, flexion) Gait Training: • Reinforce normal gait mechanics, equal step length, equal stance time, heel to toe gait pattern, etc. • - Use of appropriate assistive device independently with no to minimal Trendelenburg and/or antalgic gait pattern	*Goals of Phase:* *Functional Goals:* 1. Provide environment for proper healing of incision site 2. Prevention of post-operative complications 3. Improve functional hip strength and ROM within precautions/dislocation parameters 4. Minimize pain and swelling-use of cryotherapy/modalities as needed. 5. Normalize gait with appropriate assistive device *Criteria to Advance to Next Phase:* 1. Controlled pain and swelling 2. Safe ambulation with assistive device and no to minimal Trendelenburg and/or antalgic gait pattern. 3. Adequate hip abductor strength of at least 3+/5 4. Hip extension ROM to neutral
Phase IV *Motion & Strengthening Phase*	*Specific Instructions:* - Continue with previous exercise program - Complete 6-min Walk Test or Stair climbing Test if appropriate	Goals of Phase: Functional Goals: 1. Progress full functional ROM within hip precautions

Week 4 -10 weeks Expected visits: 6-10 Total Visits: 10-16	- Driving- as per physician's orders (good limb control & off pain meds) *Suggested Treatments:* ROM: P/AROM to patient tolerance and within hip precautions Manual Therapy: passive stretching and soft tissue mobilization (including scar mobilization) as needed Stretching: Continue as above Modalities: Edema controlling treatments if appropriate Therapeutic exercise: • Nustep/upright bike • Progression of above exercises • Addition of resistance bands/weights • Weight machines: leg press, leg extension, hamstring curl, mutli-hip machine within precautions • Closed chain strengthening exercises including ¼ to ½ depth forward lunge, sit to stand chair/bench squats, ¼ to ½ wall squats/sits, resisted forward and lateral walking • Static and dynamic balance/proprioceptive activities as appropriate- BAPS, BOSU, dynadisc • Aquatic exercises as needed if incision completely healed Gait Training: • Reinforce normal gait mechanics-equal step length, equal stance time, heel to toe gait pattern, etc. • Ambulation on uneven surfaces • Negotiation of stairs with reciprocal gait pattern without compensation • Progression to assistive device free gait without Trendelenburg and/or antalgic pattern as appropriate	2. Improve gait and stair use without AD as able 3. Incision mobility and complete resolution of edema 4. Advance strengthening including functional closed chain exercises and balance/proprioceptive activities *Criteria to Advance to Next Phase:* 1. Adequate hip abductor strength to 4/5 2. Ambulate without AD safely 3. Hip extension ROM to 5 degrees

Phase V *Advanced Strengthening and Functional Mobility Stage* Weeks: 10+ Expected visits: 2-4 Total visits: 12-20	*Specific Instructions:* - Continue previous hip strengthening exercises - Complete HOOS or HOOS JR at time of discharge *Suggested Treatments:* <u>ROM:</u> P/AROM to patient tolerance within hip precautions <u>Therapeutic exercise:</u> • Progression of above exercises • Endurance exercise: including gait, elliptical and stair stepper • Sport specific activities in preparation for return to physician approved recreational sport • Advanced long-term HEP instruction <u>Gait training:</u> • Normalized gait on even and uneven surfaces	Goals of Phase: Functional Goals 1. Improve hip muscle strength to 4+/5 to 5/5 and endurance 2. Normalized gait on even and uneven surfaces 3. Return to work/recreational activities as physician approved 4. Independent with advanced HEP 5. Understanding of avoidance of lifelong restrictions to include high impact activities such as running, jumping, kicking and heavy manual labor