

Posterior Lateral Total Hip Arthroplasty Protocol

Pre-habilitation	Post-op Weeks 1-4
Initial Evaluation	Initial Evaluation
<ul style="list-style-type: none"> ➤ History of hip OA conservative management / PMH ➤ History of functional / recreational activity level ➤ Social/occupational history (i.e. post-op support) ➤ Pain assessment ➤ Observation / Alignment ➤ Range of motion (hip, knee, ankle) ➤ Strength (glutes, quad, HS, gastroc, core, UE) ➤ Balance / Proprioception ➤ Gait / mobility (consider TUG, BERG for fall risk) 	<ul style="list-style-type: none"> ➤ History of injury/ Premorbid activity level ➤ AROM/PROM ➤ Incisional integrity ➤ Inspect for infection/signs of DVT ➤ Strength ➤ Gait / mobility ➤ Assess functional expectations and/or RTW
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ Review benefits of Prehab exercise program prior to surgery (i.e. potential shorter length of hospital stay, more likely to d/c to home) ➤ Discuss frequency and duration of prescribed exercise program (i.e. minimally 3-4 x/wk, 6-8 wks prior to DOS) ➤ Emphasis on joint protection and symptom management during/after exercise ➤ Address questions re: post-operative care/ recovery 	<ul style="list-style-type: none"> ➤ Compliance with post-op precautions <ul style="list-style-type: none"> • Avoid hip flexion past 90 degrees • Avoid Internal rotation of lower extremity • Avoid crossing legs ➤ Incision care/ signs of DVT ➤ Discuss frequency and duration of treatment (2-3x/week) ➤ Reinforce compliance of HEP ➤ Orient to pool program if appropriate
Therapeutic Exercise*	Therapeutic Exercise*
<ul style="list-style-type: none"> ➤ Low impact aerobic exercise (i.e. Nu-step, Bike, walking program) ➤ Flexibility exercises (i.e. hip flexors, hip rotators, quads, HS, calf) ➤ Strengthening exercises (glutes, quad, HS, calf, lats), trunk stabilization exercises ➤ Balance training (i.e. SLS, airex, BOSU) 	<ul style="list-style-type: none"> ➤ Begin upright, recumbent bike/nu-step within precautionary ROM ➤ Initiate isotonic exercise including leg press, heel raises, and hamstring curl within precautionary ROM ➤ Begin closed chain strengthening exercises as tolerated. ➤ Balance/ Proprioception
Gait Activities	Gait Activities
<ul style="list-style-type: none"> ➤ Consider recommendation of AD for gait pattern and symptom management 	<ul style="list-style-type: none"> ➤ Reinforce use of appropriate assistive device with normal gait pattern
Aquatics	Manual Techniques
<ul style="list-style-type: none"> ➤ Gait: Walking forward/backward/sideways ➤ Shallow end: Open chain (i.e. hip flex/ext, hip abd/add), closed chain (i.e. mini-squats, step-ups), stretches (i.e. HS, calf) ➤ Deep end: Open chain (i.e. splits, bicycling), focus on duration versus repetitions 	<ul style="list-style-type: none"> ➤ PROM/ AAROM. ➤ Stretch/Lengthen Quadriceps, Hip Flexors, Adductors as needed ➤ Incisional/Soft tissue mobilization as appropriate
Goals	Aquatics
<ul style="list-style-type: none"> ➤ Individualized prescription of Prehab exercise program and pre-operative patient education 	<ul style="list-style-type: none"> ➤ Can initiate at 2 weeks, Tegaderm use per clinician discretion ➤ Gait: Walking forward/backward/sideways ➤ Shallow end: Open chain (i.e. hip flex/ext, hip abd/add), closed chain (i.e. toe raises, mini-squats, step-ups), balance (i.e. railing/barbell HHA, if needed), stretches (i.e. HS, calf) ➤ Deep end: Open chain (i.e. splits, bicycling), focus on duration versus repetitions

	<ul style="list-style-type: none"> ➤ Limit range of motion dependent on surgical approach: contraindicated motions are simultaneous hip flexion/adduction and internal rotation.
Goals	
	<ul style="list-style-type: none"> ➤ Active range of motion <ul style="list-style-type: none"> • Flexion 90 degrees • Abduction 25 degrees • Extension 5 degrees ➤ Independent ambulation with appropriate assistive device ➤ Minimize swelling and pain ➤ Independent with post-op THA precautions <ul style="list-style-type: none"> • Avoid hip flexion past 90 degrees • Avoid Internal rotation of lower extremity • Avoid crossing legs ➤ Fair+ muscle strength
<p>* Exercises within each category are to provide the clinician with examples based on evidence based research, but are not all inclusive</p>	

Weeks 4-8	Weeks 8-12 weeks/Discharge
Evaluate	Evaluate
<ul style="list-style-type: none"> ➤ Range of Motion ➤ Gait pattern/ assistive device use ➤ Strength ➤ Balance ➤ Functional activities 	<ul style="list-style-type: none"> ➤ Gait pattern and assistive device use ➤ ROM ➤ Balance ➤ Strength ➤ Incision mobility
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ Progression of HEP for higher level exercises including indoor and outdoor functional activities 	<ul style="list-style-type: none"> ➤ Continue progression of HEP with discussion of continued fitness program ➤ Post op precautions until 12 weeks post-op, general awareness of positioning after 12 weeks
Therapeutic Exercise*	Therapeutic Exercise
<ul style="list-style-type: none"> ➤ Continue stretching program ➤ Advance closed chain strengthening exercises ➤ Continue cardiovascular program, consider treadmill ➤ Advance balance/ proprioception activities to include uneven, outdoor surfaces if appropriate 	<ul style="list-style-type: none"> ➤ Advance to higher level strengthening exercises, consider eccentric hip abd strengthening ➤ Balance training progression <ul style="list-style-type: none"> • Tandem and single leg balance activities ➤ Dynamic balance and gait exercise
Gait Activities	Gait Training Activities
<ul style="list-style-type: none"> ➤ Gait training least restrictive or no device ➤ Reciprocal stair training with least restrictive or no device ➤ 	<ul style="list-style-type: none"> ➤ Gait training least restrictive or no device ➤ Reciprocal stair training with least restrictive or no device
Manual Therapy	
<ul style="list-style-type: none"> ➤ Continue PROM/AROM if appropriate. 	
Aquatics	Aquatics
<ul style="list-style-type: none"> ➤ Progress dynamic gait exercise (i.e. walking with clap behind back, straight leg walks) ➤ Shallow end: Progress open and closed chain exercise, progress balance (i.e. SLS balance, eyes open/closed) ➤ Deep end: Progress open chain exercise (i.e. flutter kicking) ➤ Limit range of motion depending on surgical approach: contraindicated motions are simultaneous hip flexion/adduction and internal rotation. ➤ Utilize Hydrocuffs for increasing flexibility 	<ul style="list-style-type: none"> ➤ Consider transitional swim program, if appropriate
Goals	Goals
<ul style="list-style-type: none"> ➤ Full range of motion within precautions ➤ Independent ambulation with least restrictive assistive device including stairs ➤ Hip strength 4/5 ➤ Normal incision mobility and hypersensitivity ➤ Average Single leg Balance ➤ Minimal effusion 	<ul style="list-style-type: none"> ➤ Full Range of motion ➤ Lower extremity strength 4+/-5-/5 ➤ Normal gait on all surfaces ➤ Independent with advanced home exercise program ➤ Return to work/ recreational activities
* Exercises within each category are to provide the clinician with examples based on evidence based research, but are not all inclusive	

References

- Villalta and Peiris: Early Aquatic Physical Therapy Improves Function and Does Not Increase Risk of Wound-Related Adverse Events for Adults After Orthopedic Surgery: A Systematic Review and Meta-Analysis. Archives of Physical Medicine and Rehabilitation, 2013.
- Liebs, Herzberg, Ruther, Haasters, Russlies, and Hassenpflug; Multicenter Arthroplasty Aftercare Project. Multicenter randomized controlled trial comparing early versus late aquatic therapy after total hip or knee arthroplasty, 2012.
- Rooks, D.S., Huang, J., Bierbaum, B.E., Bolus, S.A., Rubano, J., Connolly, C.E., Alpert, S., Iversen, M.D., Katz, J.N. Effect of preoperative exercise on measures of functional status in men and women undergoing total hip and knee arthroplasty. Arthritis and Rheumatism (Arthritis Care & Research). 2006; 55(5), 700-708.
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