Tri-Service Post-Operative Rehabilitation Guidelines

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Arthroscopic Hip Rehabilitation

(FAI Surgery & Labral Repair/Reconstruction)

These guidelines were created as a framework for the post-operative rehabilitation program. They DO NOT substitute for any specific restrictions or requirements that are determined through the necessary shared decision-making and collaboration between the operating surgeon and treating rehabilitation team.

Notes on Rehabilitation Phases 1 & 2:

- DO NOT perform straight leg raises (SLRs) during Phase I. A SLR with a weakened or inhibited iliopsoas increases anterior hip joint force and may cause overuse of other hip flexors which can lead to increased inflammation and tendonitis. Iliopsoas activation can be assessed with 10 reps of the abdominal exercise (supine marching) while palpating the iliopsoas.

- Range of Motion (ROM) restrictions are in place to reduce labral and capsular stress. Restrictions on extension, external rotation, and flexion are listed in Phase I: Precautions and also after relevant exercises.

- Pain should be maintained at a level that limits provocation of muscular inhibition (0-4/10). Hip joint effusion is a significant contributor to gluteal inhibition. The gluteals are critical in hip stability during gait, and we must ensure minimal to no joint effusion prior to full weight bearing (no more than 1 cm side-to-side difference).

- Ambulation Progression: Mobility requirements for proper ambulation include 30° of hip flexion at the end of the swing phase, 10° of extension at terminal stance, and 9° of external rotation at terminal stance.

PHASE 1: Generally 0-2 Weeks Post-Op	
GOALS:	1) Protect the surgical repair 2) Minimize pain and swelling 3) Maintain mobility within a pain-free range
PRECAUTIONS:	- **NO** hip hyperextension > 10° - **NO** combined hip rotation and flexion - **NO** pivoting on the operative extremity - **NO** active hip external rotation (for 4 weeks post-op)

	- Limit passive hip external rotation to ≤ 20° - Hip flexion ROM as tolerated; do not force beyond comfort level - **NO** active open chain hip flexion (i.e. no SLRs)
BRACING:	- Brace at discretion of surgeon
CRUTCHES:	- May begin WBAT with assistive device (i.e. dual crutches or rolling walker) as pain allows - Assistive device must be used until pain is controlled, gait is normalized, and cleared by Ortho/PT - Normalize gait pattern (avoid toe touch WB and pain reproduction)
WOUND:	- Post-op dressing remains intact until post-op day #2 (~48 hours after surgery) - Shower after post-op day #2 using waterproof bandage. Otherwise, keep wound covered until it is scabbed over. - **DO NOT SUBMERGE** hip in tub or pool for 4 weeks post-op or until wound is healed - Suture/staple removal when wound healed per Ortho/PT
CRYOTHERAPY:	- Cold with compression/elevation • Hourly for 15 minutes for the first 24 hours when awake • Continue to use until acute pain and inflammation is controlled and swelling is resolved • Once controlled, use 3x per day for 15 minutes or longer as tolerated
REHABILITATION:	- Begin scar massage after incision has healed and scar is formed. • **NO** lotions for 3-4 weeks after surgery - Begin Phase I exercises; all exercises must be performed in a pain-free range of motion
~Days 1-7	- Recommend a total of 4 hours of continuous PROM each day (i.e. durations of 30-60 mins at a time) in a pain-free range either with a CPM or upright stationary bike without resistance - Calf pumping w/ tubing - Heel slides (assisted as needed) - Static quad and glute sets
~Days 8-14	- ROM (note precautions above): • Passive internal and external log rolling within pain-free limits • Prone hip internal rotation within pain-free limits • AAROM/AROM through full hip range as tolerated • May use: quadruped rocking with or without physioball support, supine directional heel slides, etc. • Stationary bike for ROM; progress to biking for conditioning • Graded hip mobilizations gently implemented into flexion, adduction (0-30 deg flexion), internal rotation (0-30 deg flexion), distraction, compression, and anterior/posterior glides as needed for pain modulation and mobility

	- Strengthening: • Core training beginning with abdominal setting to bridging as pain allows • Gentle isometric strengthening in all planes of hip motion • Short and/or long arc quads • Heel raise progression: begin bilateral heel raises; progress to unilateral heel raises
FOLLOW-UP:	- Supervised rehab: 2-3x per week - PT re-eval: weekly to monthly - Ortho re-eval: 2 weeks post-op

PHASE 2: Generally 3-6 Weeks Post-Op	
GOALS:	1) Normal gait without assistive device 2) No Trendelenburg sign
PRECAUTIONS:	- **NO** active hip external rotation (for 4 weeks post-op)
REHABILITATION:	- Continue upright stationary bike, gradually increasing resistance and duration as pain allows
	- Standing hip strengthening in all planes; introduce resistance as tolerated - Closed kinetic chain hip strengthening: sit ↔ stand from elevated mat, progress to lower mat; wall slides; and step ups/downs (multidirectional in pain-free range) - Begin Pool PT program if wound healed and available - Continue scar massage to prevent subcutaneous adhesion - Gait training: cone walking, marching, retrowalking, cariocas, shuffles, etc.
FOLLOW-UP:	- Supervised rehab: 2-3x per week - PT re-eval: weekly to monthly - Ortho re-eval: 6 weeks post-op
CRITERIA FOR PROGRESSION:	- Adequate pain control (pain score ≤ 3) - Normalized gait without assistive device - PROM at 90% normal limits, except hip extension (remains limited to 10°)
DOCUMENTATION:	- Updated precautions - Pain level: medications and modalities - Hip ROM - Gait pattern - Status of wound healing and scar formation - Symmetric functional squat

PHASE 3: Generally 6-12 Weeks Post-Op	
GOALS:	1) Achieve full hip mobility 2) Improve abductor, adductor, gluteal, & core strengthening 3) Quad, abductor, adductor, and hamstring strength is 90% that of uninvolved side 4) Y-balance is 80% that of uninvolved side with all directions
PRECAUTIONS:	- Avoid plyometric and impact activities (i.e. no jumping and no over ground running) - Symptom provocation should alter progression
REHABILITATION:	- Continue Phase 2 exercises as needed - Progress to the below exercises and increase intensity gradually when patient is ready (i.e. no increase in hip pain since previous exercise session) NOTE**:** All strengthening should be done starting with low weight, high repetitions, and within a pain-free ROM
~Weeks 6-8	- General LE stretching: • Adductor, ITB, hip flexor, prone quadriceps, seated hamstring, child's pose, and calf stretches • Can initiate prior stretching activities (i.e. yoga) in a pain-free range - Seated external rotation with progression to theraband resistance - Gluteal training - Begin open-chain strengthening - Bent-knee fall outs and stool rotations for external rotation mobility - Continue low intensity aerobic exercise • Stationary bicycle and elliptical for conditioning • Can add stairmaster gradually • Progress to non-impact intervals at weeks 6-8; work up to five 4-minute intervals with 3 minutes active recovery in between - Beginning to intermediate level Pool PT exercises - Progressive standing balance exercises • Body blade, modified Romanian dead lift, plyoball, platform training, etc. • Progress in duration and intensity, double-leg to single-leg, etc. - Core training progression: • Prone and side planks, dead bug, and bridging • Progress to quadruped bird dog, tall kneeling cable chops, etc. - Begin monster walks with resistance band - Leg press • Progress from double-leg to single leg • Use low weight and high reps

~Weeks 9-10	- Warm-up: 5 to 10 min (i.e. stationary bike w/resistance, elliptical, or stairmaster) - Progress core stability exercises from single to multiple planes and from stable surface to unstable surface - Continue general LE stretching - Continue progressive LE strengthening
~Weeks 11-12	- Progressive functional training: • Begin at 50-75% intensity and progress gradually • Begin AlterG and/or pool running - Intermediate to advanced level core stability exercises: • Progress as tolerated • May add sit-up progression when pain-free - Continue Phase 2 exercises as needed
FOLLOW-UP:	- Supervised rehab: 2-3x per week - PT re-eval: bimonthly to monthly - Ortho re-eval: per surgeon discretion
CRITERIA FOR PROGRESSION:	- Hip mobility symmetric and pain-free - Satisfactory performance of Functional Movement Screen and Y-balance test - Tolerate 30 min of non-impact aerobic activity (i.e. elliptical level 10 or walking 2 miles without increased pain) - Able to control single-leg squats, sit<->stand, and step downs with good technique - Complete single-leg hop without increase in pain
DOCUMENTATION:	- 6-8 weeks: • Pain level, medications, and modalities • Hip ROM • Quadriceps/glute strength and function • Gait - 8-12 weeks: • Pain level & medications • Hip ROM • Hip strength • FMS • Y Balance

PHASE 4: Generally 3-6 Months Post-Op	
GOALS:	1) Safe and effective return to sport/duty 2) Hop for distance > 90% of uninvolved side 3) Y-balance at 90% of uninvolved side

	4) Build strength, endurance, and power 5) Meet occupational requirements at 4-6 months 6) Pass Service fitness test at 6 months
PRECAUTIONS:	- Symptom-based progression
REHABILITATION:	- Progress in duration and intensity of exercise only if there is no increase in hip pain since the previous exercise session
	- Warm-up: 5 to 10 min (biking, elliptical, or stairmaster) - May begin progressive jogging program when patient is able to hop without pain and using good form • Begin walk to run progression • Increase time and/or distance no more than 10-20% per week - Conditioning: • Agility training (i.e. ladder drills) • Jumping, hopping, and directional jogging • Slide board, fitter, cariocas, shuffles, etc. - Plyometric exercises as necessary to return to pre-injury level - Continue general LE stretching - Progressive strengthening including multi-planar, weight-bearing, and sport-specific exercises - Progressive balance training as needed
FOLLOW-UP:	- Supervised Rehab: 1-2x per week as needed - PT re-eval: every 4-6 weeks - Ortho re-eval: 3 months & 6 months post-op
DOCUMENTATION:	- Pain level & medications - Hip ROM & strength - Hop for distance - Y balance - Running form
MISCELLANEOUS:	- The recommendation is to wait until 6-9 months post-op to return to contact/collision sports or aggressive military training (i.e. airborne school). This time period may be adjusted slightly by the Ortho Surgeon and Physical Therapist according to patient's progress and functional outcomes.

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