

Dear Therapist,

Thank you for caring for our patient following their recent hip surgery. Our goal is support you in this process and to provide guidelines for progression of rehabilitation. This protocol is meant to provide the basic exercises and techniques you will need to guide your patient to their return to normal function. At their 6-8 week follow up and if appropriate, Dr. Ellman will determine whether your patient is ready to progress to an advanced functional training program. This will include return to sport protocol, a maintenance strength program, or to continue to work on “the basics” before progressing further.

- Utilize this protocol and exercise description as a guide for treatment. Please utilize your clinical decision making to adjust treatments if needed within protocol precautions
- Progression through each phase is based on clinical criteria/goal achievement versus timelines. Please allow patient progress and their hip to dictate the rehab, not solely rehab timelines!
- Please tailor this program for each individual based on their ability to progress and respond to treatment. Advancement per protocol involves an accurate assessment of joint function, strength, mobility, and progressive overload. Do not hesitate to reach out to our team with any questions!
- Primary goals at **6 weeks post labral repair (no microfracture) and 10 weeks post microfracture** are normalized gait and good gluteal recruitment.
 - We expect ROM restrictions at this time, especially with external rotation, internal rotation, and extension
 - Do not push through pain to achieve greater range, these specific motions will improve naturally with a return to functional activity and not with overly aggressive stretching!

If you have any questions regarding your patient or this rehabilitation protocol, please feel free to contact Dr. Vera or our team as listed below.

Best,

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Post-Operative Hip Arthroscopy Rehabilitation Protocol *Labral Repair*

General PT Protocol Guidelines

This protocol is for the treating therapist and DOES NOT substitute as a home exercise program for patients. Please always use clinical decision making/patient response vs strict timelines.

- POC for patient to be seen 1-3x/week for 12-16 weeks
- Appropriate protocol progression calls for a hands-on approach to care and manual therapy techniques to prevent/minimize post-operative scarring or tightness
 - It is essential to restore normal joint mobility as appropriate per protocol precautions
- Return to full activities/sport is generally achieved between 5-6 months postoperatively, but may take up to 1 year for some patients

Initial Precautions

Weight Bearing

- Labral repair patients may weight bear as tolerated with crutches and may wean from crutches as tolerated over the first week
- Patients with a cartilage procedure or labral augmentation/reconstruction will remain foot flat weight bearing x6-7 weeks

Range of Motion Restrictions (first 2 weeks)

- Flexion to 90°
- Extension to 0°
- **No external rotation at this time!**
- Abduction to 20°
- After 14 days range of motion may progress as tolerated

Please emphasize partner assisted ROM as an essential part of early post-operative rehab

Other Comments/Restrictions

- Avoid hip flexor irritation in early phases of protocol due to interaction with capsule/surgical repair. See Phase II for initial progression if appropriate
- Avoid feelings of impingement with flexion/FADIR ROM exercises

Phase 1- Protection Phase (Post op weeks 1-4)

With cartilage procedure or labral augmentation/reconstruction (post-op weeks 1-9)

Precautions

- **No stretching of the anterior capsule! It is imperative that this heals appropriately. For that reason we limit both hip extension and hip external rotation during phase 1.**
 - No hip flexor stretching, no prone press ups. Prone lying will be our primary anterior stretch in this phase.
- Avoid anterior aggravation/hip flexor irritation.
- Avoid anterior capsular pain or pinching with ROM
- Manage scarring around portal sites and at the anterior/lateral hip
- Do not push through pain with strengthening or passive range of motion.

Goals

- Educate patient on post op precautions including joint protection and WB status
- Reduce pain and swelling
- Begin passive range of motion, partner assisted PROM
- Initial muscle activation and appropriate motor control/proprioception around the hip and pelvis
- Advance weight bearing/crutch weaning

Pain and Swelling Control

- PRICE: 5x/day for 20 minute sessions
 - You may begin this process in supine in early phases, but it is encouraged to complete in prone positions to allow for mild stretching of the hip flexors
- Modalities as indicated; specifically, vasopneumatics and E-stim
- Ankle pumps- for swelling and DVT prevention: 25 reps/hour

Manual Therapy/ Range of Motion

- STM: light retrograde massage beginning distally
 - Progress to light distal release of vastus lateralis, rectus femoris at visit 2-3
- Scar massage x 5 minutes
 - Incision portals – begin post op day 2 – week 3
- PROM: 15-20 minutes/session
 - Flexion 0-90° x2 weeks, progressing as tolerated in weeks 2-4
 - Circumduction at 10° flexion
 - Abduction 0-20° x2 weeks, then progress to 45°
 - IR to 20°, can be bolstered or completed as a logroll
 - **ER (therapist only) after 2 weeks in a 20° arc completed in 90° flexion**
 - **Beginning in wk 4, external rotation in a 20° arc at 45° flexion. Only with therapist and with patients with a Beighton Scale score of <6!**
- Partner assisted ROM, 2 sets of 15 minutes daily, completed for 5-6 weeks post op (See appendix for patient handouts)
 - Circumduction
 - Abduction
 - Flexion
 - Internal rotation
- Prone quad stretch as tolerated after visit 2-3, provided patient can lie prone comfortably

Gait/Weight Bearing Progression

- Pool program for water walking should be used as an adjunct to patient care
- *Only for patients with concomitant cartilage procedure or labral augmentation/reconstruction*
 - Foot flat weight bearing (FFWB) and bilateral crutches x6-7 weeks to keep excessive load off of the hip and protect healing structures.
 - Weaning from crutches
 - Begin with standing weight shifts to assess patient tolerance
 - POD 42-49
 - Single crutch on opposite side at home
 - Bilateral crutches with WBAT in public
 - POD 49-56
 - No crutches at home
 - 1 crutch on opposite side in public
 - POD 56+
 - Off crutches entirely
- **Please do not wean completely from crutches unless the patient can ambulate without a limp!**

Strength and Motor Control (See appendix for pictures or email with questions)

Weeks 0-2

- Gluteal, quadriceps isometrics
- Supine or hook lying diaphragmatic breathing, 3 sets of 15 breaths daily
 - Especially important in older patients with a tendency to bear down vs achieve appropriate regional stability!
- Bike for ROM, no resistance. Beginning on visit 2, 5-15 minutes per session
- Prone 10% max voluntary isometric contraction (MVIC) manual isos, increasing to 25% MVIC if patient achieves appropriate activation
 - IR/ER isometric in 10° abduction
 - Abduction/adduction
 - Hamstring

Weeks 2-4

- Glute progression
 - Double leg bridges with increasing range
 - Increase to abduction or adduction biased bridges in weeks 3-4
 - Prone glute progression
 - Glute isometric with pillow under hips (in hip flexion bias to protect anterior hip)
 - Prone iso with knee extension for reciprocal walking
 - Low quadruped donkey kicks on operative side
 - Alternating donkey kicks
 - Bird dogs
 - Progress to bird dog row in week 4 with higher level patients
 - Standing hip abduction/extension
- Quadruped self-mobility, beginning week 2
 - Rocking
 - Cat/cow
- Rhythmic Stabilization

- Week 2: Prone → quadruped gluteal progression
- Week 3-4: Tall kneeling rhythmic stabilization
- Blood Flow Restriction Training (BFR)
 - BFR may begin on non-operative limb on visit 1 post op with a trained practitioner
 - May begin on operative limb per BFR parameters with a trained practitioner when incisions are fully healed

Criteria for Advancement to Phase 2

- Range of motion
 - Flexion to 120°
 - Extension symmetrical to contralateral side
 - 50% FABER motion compared to non-operative side
 - 75% FADIR motion compared to non-operative side
- No hip flexor contractures, if this occurs remain in Phase 1
- Mild deviations in gait with mild discomfort only
 - The most common compensation is due to decreased hip extension and a subsequent increase in pelvic rotation/lumbar extension.

Phase 2- Initial Strengthening and Advanced Motor Control (Post op weeks 4-10) With cartilage procedure or labral augmentation/reconstruction (post-op weeks 9-13)

Precautions

- Continue to avoid soft tissue irritation and flare ups that could delay progression
- Strength and motor control should increase simultaneously with increased activity to prevent compensation due to fatigue.
- Appropriate self-mobility should also increase with activity level
- Do not push through pain

Goals

- Full, pain free AROM and PROM
- Normalized gait pattern- the most common compensation is due to decreased hip extension and a subsequent increase in pelvic rotation/lumbar extension.

Pain/Swelling Control

- Continue PRICE if there is residual swelling
- Modalities as indicated

Manual Therapy

One of the main goals of this phase is to achieve appropriate range of motion. It is essential that your patients continue to receive manual therapy during this time!

- Patients may wean from partner assisted ROM and PROM at weeks 5-6
- Joint mobilization
 - 3-12 weeks post op
 - Week 3: in tighter hips you may begin a gr II-III caudal glide during flexion mobilization
 - Week 4: begin grade II-III posterior/inferior glides to decrease capsular tightness
 - Include belted mobilizations in supine or side lying as needed
 - Week 6: if necessary begin posterior to anterior hip mobilizations to improve hip extension
 - **DO NOT begin mobilizations that stress the anterior capsule of the hip prior to this point**
 - Weeks 6-8: focus on the inclusion of mobilizations to increase FABER mobility
 - Including prone and supine PA mobs of the hip
 - Lumbar, SIJ mobilizations may begin at weeks 6-8
- Soft tissue mobilization
 - As indicated to promote a gradual return to active and passive range of motion
 - Active release technique (ART) at weeks 6-8
- Scar tissue mobilization as indicated
- Dry Needling
 - Dry needling may begin at week 6 post operatively, as long as your patient is appropriate for dry needling and your state practice act allows you to perform this treatment.
 - Dry needling *should not* be the only manual therapy that your patient receives. It is a good complement to care but please address joint mobility issues as well!

Strength, Flexibility, and Motor Control Training

Weeks 4-6

- Strength
 - Quadriceps
 - Wall ball squats above 60-70° hip flexion
 - Step ups
 - Gluteal progression
 - Continue bridge variations; abd/add isometrics, SL etc
 - Prone edge of table hip extension
 - Hip thrusts edge of bench in small range
 - Clams, reverse clams
 - Double leg hip hinge with fitball or TRX support
- Motor Control
 - Continued prone, quadruped, or tall kneeling rhythmic stabilization (RS)
 - Prone RS IR/ER with CLX band
 - Quadruped CLX band RS
 - Week 5-6, begin light hip flexor activation when appropriate. Not appropriate if patient has a history of hip flexor tendinitis prior to surgery, or if the patient is currently presenting with symptoms consistent with internal snapping hip or hip flexor tendinitis!
 - Begin supine, gravity eliminated hip flexor rollouts
 - Supine 1" marching
 - Deadbugs (Week 6)
- Flexibility
 - Kneeling hip flexor stretch weeks 3-4 (no forward lunge, focus on posterior pelvic tilt)
 - Hamstring stretch week 4
 - Light standing hip flexor/quad stretching weeks 4-5
- Cardiovascular training
 - Weeks 4-6 Bike light resistance 5-20 minutes per session
 - Weeks 4-5: experienced swimmers may return to swimming with LE buoy and no flip turns!

Weeks 6-8

- Strength
 - Quads
 - Leg press: double to single leg progressions as tolerated
 - TRX or supported DL squatting
 - Forward to lateral step up progression
 - ½ depth split squats to tolerance
 - Glutes
 - Begin backwards only monster walks
 - Continue bridge variations/thrusters as indicated
 - Continue clams and reverse clams as indicated
 - SL supported RDL/diver
 - Option to perform a kickstand RDL
 - Progress to banded or weighted as tolerated
 - Hamstrings
 - Hamstring curls variations as indicated/tolerated
- Motor Control

- Week 6: Begin kneeling front planks
 - Progress to full front plank after 1 session if there is no anterior hip/hip flexor compensation
- Week 7: add kneeling side plank and progress as above
- Week 8: begin adductor walkouts if pain free in patients without a history of osteitis pubis
- Continue with rhythmic stabilization training
- Continue dead bugs with increasing range,
 - initiate low standing march for light hip flexor activation if indicated
 - begin banded dead bugs
- Flexibility
 - Foam rolling of quadriceps, ITB, gluteals
 - Supported butterfly slides, BKFO for improved FABER mobility. Must be pain free
 - Prone self IR/ER in a pain free arc
- Cardiovascular training
 - Week 6: begin elliptical trainer, starting with 10-minute session and progress 5 min/week
 - Week 8: begin combination program: alternate stationary bike/elliptical for 20 minutes

Weeks 8-10

- Strength
 - Quads
 - Step up progression: include curtsy and lateral
 - Lunge progressions
 - Single leg knee bend > pistol squat
 - Glutes
 - Lateral band walks/x-walks
 - Standing fire hydrants
 - Prone FABER liftoffs
- Motor Control
 - Core training
 - Continue plank progression
 - Proprioception
 - Single plane divers > progressing to single leg airplanes
 - Rotational RDL
 - Marching progression: low march and stick, increasing marching height per tolerance
- Flexibility
 - Continued stretching and self-mobilization as indicated
 - Adductor foam rolling
 - May begin banded self-mobilizations as indicated

Criteria for Advancement to Phase 3

- Full AROM and PROM without pain
 - This includes full FABER and FADIR compared to non-operative side
- Able to ascend/descent stairs and walk 1 mile on level surface without pain or compensation
- At least 1 minute of double knee bends without compensation
- Single leg knee bends/pistol squats to 70° flexion without compensation

Phase 3: Advanced Strengthening (Weeks 10-Successful Sport Test Completion) **With cartilage procedure or labral augmentation/reconstruction (weeks 13+)**

Patients who do not participate in higher-level activities may not need to advance to phase 3. Activities that require advanced strengthening/completion of this phase include: running, cutting, rotational, or bounding sports. This will include: skiing, snowboarding, golf, basketball, racquet sports, soccer, football, hockey, dance, and gymnastics. Please contact our team with any specific patient questions or return to sport guidelines.

Goals

- Restore multi-directional strength without compensation
- Restore ability to absorb impact on operative limb
- Initiate plyometric strength
- Pass sports test for return to formal running/impact protocol

Manual Therapy

- Continue as indicated based on your patient's presentation

Strength and Motor Control

Weeks 10-12

- Quads:
 - Continue with lunge and pistol squat progressions, adding progressive resistance and dynamic stability challenges
 - Add rear foot elevated/Bulgarian split squats
- Glutes
 - Continue to build strength and load, continuing to add progressive resistance and dynamic stability
- Motor Control/Core
 - Initiate rotational core demands with chops/kicks etc.
 - When patient passes sports test they may initiate rotational power, specifically important in throwing/kicking athletes
- Continue cardiovascular progression
 - Week 12: begin light treadmill walking

Plyometric training

Weeks 10-12

- May begin light, double leg shuttle jumping at week 10 in bounding athletes

Criteria to advancement to Phase 4

- Pass sports test

Phase 4- Return to Sport (successful completion of Sports test—24 weeks)

Goals prior to a Return to Sport

- Progress the patient back to a full participation in their chosen sports
- Pass Functional Sports Test
- See Appendix for Functional Sports test directions, to be used upon completion of strength and agility training

Manual Therapy

- Continue with appropriate manual therapy to achieve full lumbopelvic ROM

Strength and Agility

- These are suggested outlines of strength, agility, and plyometric testing to allow patients to return to their chosen sports over 8-10 sessions or 6 weeks.
 - These are suggestions and must be tailored to your specific athletes
 - The same rules apply as with all other areas of our protocol, this progression back to sport must be pain free, return to standard physical therapy as needed
- We trust that in that case the treating therapist will assess any remaining deficits in strength, power, or agility. These progressions may be completed by the treating therapist or by an assigned strength/performance coach or ATC.

Appendix

Linear Athletes: running/cycling

- Sessions 1-4: Initial treatment session/assessment
Addressing movement deficits, educate patient on long term self-mobilization
Dynamic movement warm-up and muscle activation
Single leg strength and eccentrics: please include hip flexor strength as needed
Development of mileage and incline (if applicable) progression program
- Sessions 4-8: Dynamic Drills and Agility training; i.e. triple extension
Introduction to jumping/plyometric power
Progression of strength per patient deficits
Continuation of mileage and incline (if applicable) progression program
Initiate sprinting progression if applicable to patient
- Sessions 8-10: Re-test movement
Continued focus on strength and plyometric power
Finalizing long term strength program
Finalize long-term mileage and incline (if applicable) progression program

Rotational Athletes: golf, hockey, throwing athletes

- Sessions 1-4: Initial treatment session
Addressing movement deficits, educate on long term self-mobilization
Dynamic movement warm-up and muscle activation
Rotational core and hip strength: deceleration and eccentric control
Single leg focus strength training
Introduction to agility training
Development of return to sport progression
- Sessions 4-8: Dynamic balance and drills: i.e. hip loading, weight shifting, dissociation drills
Progression of agility training
Introduction to sport specific power training and jumping
Progression of strength
If applicable, initiate throwing progression and light batting progression
If applicable, initiate putting/chipping with golf, progressing to longer/powerful hitting
- Sessions 8-10: Re-test movement and dynamic balance
High level, sport specific agility and plyometric training: including rotational power
Finalize long term strength program
Finalize return to sport progression with athlete, associated coaching staff

Kicking Athletes: Soccer, dance, gymnastics

- Sessions 1-4: Initial treatment session
Address movement deficits, educate patient on long term self-mobilization

Dynamic movement warm-up and muscle activation
Rotational core: deceleration and eccentric control
Single leg focus strength training
Introduction to agility training
Development of return to sport progression

Sessions 4-8: Drills and dynamic balance: i.e. hip loading, weight shifting, dissociation drills
Kicking training: deceleration and eccentric control; focus on hip flexors and adductors
Progression of agility training
Introduction to sport specific power training and jumping: include rotational power
Progression of strength

Sessions 8-10: Re-test movement and dynamic balance
Kicking training: concentric and power-based kicking
High level, sport specific agility and plyometric training
Finalize long term strength program
Finalize return to sport progression: consider that with gymnastics and dance this will require a higher level of impact, jump training than for a soccer player. All three of these athlete subcategories require repetitive kicking that must be pain free!