

Hip Arthroscopy Post-operative Physical Therapy Protocol*

Name _____ Today's Date _____

Diagnosis _____ Surgery Date _____

Frequency:

Month 1: 2 to 3 times per week

Side: R / L

Month 2: 2 times per week

Month 3: 2 times per week

Evaluate and Treat

PROCEDURE PERFORMED:

FAI: Femoral osteochondroplasty (29914); Pincer acetabuloplasty rim trimming (29915)

Labrum: Debridement (29999); Repair (29916) [location ____ o'clock to ____ o'clock]

Capsule: Repair/plication (29999); Release (29999)

Articular cartilage: Microfracture (29999)

Ligamentum teres: Debridement (29999)

Extra-articular soft tissue: Iliopsoas release (27036); ITB release (27036)

Peritrochanteric space: Trochanteric bursectomy (29999); Gluteus medius/minimus repair (29999)

Other: _____

GENERAL PRINCIPLES

- This protocol is written for the treating physical therapist and is not a substitute for a home exercise program
- Post-operative rehabilitation is just as important as the surgery itself
- A "hands-on" approach utilizing manual therapy is vital to success
- This protocol is a guideline for the first 3-4 months after surgery
- Patients may progress through rehab at different rates, so do not push through pain
- Use clinical decision making to guide patient care
- Patient education is extremely important component of successful rehab
- When weaning off crutches from two to one, use crutch in arm opposite the surgical hip
- Elliptical may begin at 10 weeks
- Treadmill may begin at 12 weeks
- Jogging, running, plyometrics may begin at 12 - 16 weeks

*Courtesy: Shane J. Nho, MD. Hip arthroscopy. Rush University Medical Center. Chicago, IL, USA.

PHASE 1: Joint Protection Phase (0 - 4 weeks)

- AVOID:
 - Active hip flexion
 - Active or passive internal or external rotation
 - Sitting in a chair or seat for more than 30 minutes at a time for first 2 weeks (hip flexor tightness)
- PRECAUTIONS:
 - Avoid hip flexor (iliopsoas) tendonitis
 - Avoid irritation of lateral hip - TFL, ITB, trochanteric bursa, abductors (gluteus medius/minimus)
 - Avoid low back pain and SI joint pain from compensatory patterns - emphasize good form/control
 - Manage scarring/adhesions around portal sites with scar massage
 - Do not push through pain
- Weight-bearing:
 - Foot-flat weight-bearing (FFWB) ~20 pounds pressure
 - 3 weeks if no microfracture performed
 - 6 weeks if microfracture performed
 - Best to determine with patient ~20 pounds pressure before surgery
- Range-of-motion restrictions:
 - Supine:
 - Flexion no greater than 90 degrees (unless in CPM) x 2 weeks
 - At 90 degrees flexion, no greater than 20 degrees IR x 3 weeks
 - At 90 degrees flexion, no greater than 20 degrees ER x 3 weeks
 - Abduction no greater than 30 degrees x 2 weeks
 - Prone:
 - IR and log roll IR: no limit on amount of IR
 - ER: no greater than 20 degrees x 3 weeks
 - Extension: no greater than 0 degrees x 3 weeks
- Passive range-of-motion:
 - Circumduction: hip flexed 70 degrees, knee flexed 90 degrees. Slowly move thigh in small circular motion clockwise, then repeat counter-clockwise. Avoid any ER or IR. Perform for 5 minutes in each direction.
 - Neutral circumduction: knee extended, slowly abduct hip to 20 degrees. Move leg in small circles clockwise, then repeat counter clockwise. Perform 30 reps in each direction.
 - Supine hip flexion: slowly flex hip to 90 degrees with knee bent, avoid pain or pinch at anterior hip. Perform 30 reps.
 - Supine abduction: slowly abduct hip to 30 degrees while keeping neutral hip rotation. Perform 30 reps.
 - Supine ER: slowly bring hip to 70 degrees flexion with knee at 90 degrees flexion, then ER to 20 degrees. Perform 30 reps.
 - Supine IR: slowly bring hip to 70 degrees flexion with knee at 90 degrees flexion, then IR to 20 degrees. Perform 30 reps.
 - Side-lying flexion: have patient lie on uninvolved side. Support the operative leg by holding it above and below the knee. Slowly flex the hip and knee toward the chest while maintaining neutral rotation. Perform 30 reps.
 - Prone ER: prone position, flex knee 90 degrees, slowly ER 20 degrees. Perform 30 reps.
 - Prone IR: prone position, flex knee 90 degrees, slowly ER 20 degrees. Perform 30 reps.
 - Prone extension: prone position, flex knee 90 degrees, grab anterior aspect of distal thigh and knee. Stabilize pelvis and slowly extend hip no more than a few degrees. Perform 30 reps.
 - Prone on elbows or press-ups: have patient lie prone, then slowly extend lumbar spine and hips by propping up on elbows. Progress to prone press-ups as tolerated to stretch hip flexors. Perform 2 sets of 10 reps.
 - Quadruped rocking: assume hands and knees position. Keep pelvis level and back flat, slowly rock forward (pelvis and hips nearly over hands) and backward (pelvis and hips over knees). Do not flex hip more than 90 degrees until ROM restrictions lifted at 3-4 weeks.
 - Half-kneeling pelvic tilts: assume half-kneeling position bearing weight through the involved leg. Then, slowly tilt pelvis backward to stretch the anterior hip.

- Manual Therapy:
 - Scar massage of portal incisions x 5 minutes
 - Begin on post-op day 2
 - Soft tissue mobilization x 20-30 minutes
 - Begin on post-op day 4
 - Begin with superficial techniques to target superficial fascia
 - Progress depth of soft tissue mobilization using deep tissue massage, effleurage, petrissage, strumming, perpendicular deformation, and release techniques (including ART)
 - Anterior:
 - Hip flexors
 - Rectus femoris
 - Inguinal ligament
 - TFL
 - Sartorius
 - Lateral:
 - ITB
 - Gluteus medius
 - Iliac crest, ASIS
 - Medial:
 - Adductors
 - Medial hamstring
 - Pelvic floor
 - Posterior:
 - Gluteus maximus
 - Gluteus medius/minimus
 - Deep hip ER's (gemelli, obturators, quadratus femoris)
 - SI joint, PSIS
 - Sacral sulcus
 - Erector spinae
 - Quadratus lumborum
- CPM machine
 - Begin the day of surgery at 30 - 70 degrees motion
 - Increase 7 degrees flexion and 7 degrees extension per day to goal of 0 - 120 degrees
 - 4 hours per day, if no microfracture; 6 hours per day, if microfracture
 - Time may be broken up in increments; Do not have to be all at same time
 - Reduce 1 hour of CPM if do 20 minutes of no resistance stationary bike on that day
- Brace:
 - Determine proper positioning pre-operatively
 - Do not put brace over ice pack
 - Wear booties and pillow at feet instead of brace while sleeping at night
 - Brace off with:
 - CPM
 - Stationary bike
 - When ice pack on
 - Sleeping at night
 - Brace on with
 - Walking

PHASE 2: (4-12 weeks)

- AVOID:
 - Active hip flexion
 - Active or passive internal or external rotation
 - Sitting in a chair or seat for more than 30 minutes at a time for first 2 weeks (hip flexor tightness)
- PRECAUTIONS:
 - Avoid hip flexor (iliopsoas) tendonitis
 - Avoid irritation of lateral hip - TFL, ITB, trochanteric bursa, abductors (gluteus medius/minimus)
 - Avoid low back pain and SI joint pain from compensatory patterns - emphasize good form/control
 - Manage scarring/adhesions around portal sites with scar massage
 - Do not push through pain

- Manual Therapy:
 - Continue to use manual therapy including soft tissue and joint mobilizations to treat specific motion limitations and joint tightness
 - Soft tissue mobilization to address any soft tissue stiffness at surgical sites, especially pinching at the anterior hip
 - Address any lumbar or pelvic dysfunction utilizing manual therapy when indicated

MUSCLE ACTIVATION, NEUROMUSCULAR RE-EDUCATION, STRENGTHENING (0 - 12 weeks)

- ISOMETRICS ONLY - Post-op days 1 - 7
 - Gluteal sets - supine or prone, gently squeeze buttocks. Hold for 7 seconds = 1 rep. 30 reps
 - Quad sets - supine or prone, gently squeeze quads. Hold for 7 seconds = 1 rep. 30 reps.
 - TA isometrics with diaphragmatic breathing - supine, place 2 fingers 2 inches inside pelvis on lower abdomen at the wasteband. Gently draw in until you feel tension under your fingers. You may also perform kegel prior to contraction. If you feel rectus abdominis contraction, then you are squeezing too hard. Do not hold breath during contraction. Hold contraction for 5 slow breaths, then relax = 1 rep. Do 30 reps.
- Weeks 2-12:
 - Supine progression:
 - Supine hooklying hip IR (bring knees together) and ER (30-45 degrees). 30 reps IR, 30 reps ER.
 - Supine lower trunk rotations: hooklying position. Slowly rotate legs side-to-side. Initiate motion at hip joint and continue until pelvis and lumbar spine are off bed. 30 reps each side. 2 times per day
 - TA isometric with marching: hooklying position. Perform a TA isometric maintaining a level pelvis. Slowly raise one foot off ground not moving the pelvis and isolating movement at the hip joint only. Repeat with other leg as a marching type motion. 10 reps per leg, 2 sets per side.
 - Pelvic clocks (12 - 6 o'clock; 3 - 9 o'clock; diagonals). 10 reps each direction. 2 times per day
 - TA isometric with bent knee fall-outs: supine, one knee flexed 90 degrees, hip at 45 degrees, other leg extended. Slowly rotate knee out to 30 degrees while keeping level pelvis and TA engaged. 15 reps per set. 2 sets per side.
 - Supine FABER slides with TA isometric: supine, place heel of operative leg at medial malleolus of opposite leg. Slowly slide heel and foot up the leg to the level of the knee. Slowly stretch towards FABER position while maintaining motion restriction precautions. 10 reps per set. 2 sets per side.
 - Double-leg bridging progression: hooklying position. Slowly raise pelvis off ground. Imagine moving one vertebra off the floor at a time from sacrum to thoracic spine only. Maintain level pelvis. 10 reps, 2 sets.
 - Bridge with adduction isometric. Pillow between knees. 10 reps, 2 sets.
 - Bridge with abduction. Theraband or pilates ring around knees. 10 reps, 2 sets.
 - Bridge with single knee kicks. 10 reps, 2 sets.
 - Side-lying progression:
 - Side-lying clams. On uninvolved side. Maintain stable neutral spine and pelvis. 15 reps. 2 sets.
 - Side-lying reverse clams. On uninvolved side. Maintain stable neutral spine/pelvis. 15 reps, 2 sets.
 - Side plank progression:
 - Half side plank taps. On involved side. Hips 0 and knees 90 degrees. Bottom elbow out in front 90 degrees. Slowly push both knees into table so that pelvis rises in line with shoulders. Pause at top for 3 seconds. 15 reps, 2 sets.
 - Half side plank holds. Same as taps, except hold at top for 30 seconds - 3 minutes. 3 reps
 - Modified side plank holds. Same as above, except extend top knee.
 - Full side planks. Both hips and knees extended. Hold seconds - 3 minutes. 3 reps.
 - Prone progression:
 - Prone alternate knee flexion with TA isometric. Perform TA isometric with level pelvis. Slowly flex one knee at a time. 15 reps. 2 sets.
 - Prone hip IR, ER. Slowly rotate into ER, IR within ROM precautions. 15 reps. 2 sets.
 - Prone hip extension with extended knee. Perform TA isometric with level pelvis. Lift leg just off of bed or table via hip extension gluteus maximus, not hamstring. 15 reps. 2 sets.
 - Prone hip extension with flexed knee. Perform TA isometric with level pelvis. Flex knee 90 degrees, then lift leg just off of bed via hip extension gluteus maximus. 15 reps. 2 sets.

- Prone alternate arm and leg extension. As above, except simultaneously lift opposite arm. Switch sides. 15 reps. 2 sets.
- Prone hip extension on medicine ball. Lie on medicine ball. Place hands on floor push-up position, legs extended so that toes are on floor. Slowly lift one arm and opposite leg simultaneously. 15 reps. 2 sets.
- Prone plank progression:
 - Half prone plank / pillar bridge. On toes and elbows. Hold 30 seconds to 2 minutes.
 - Full prone plank. On hands in push-up position and toes. Hold 60 seconds to 2 minutes.
 - Full or half prone plank on BOSU ball. Feet on either hard or soft side of ball. Hold 60 seconds to 2 minutes.
 - Full or half prone plank with lateral slides. Place toes on slide board, slowly abduct legs out to side. Hold 60 seconds to 2 minutes.
- Quadruped progression:
 - Quadruped anterior/posterior pelvic tilts. Tilt pelvis arching and rounding low back. 30 reps. 2 sets.
 - Quadruped arm lifts. Lift one arm at a time keeping trunk/pelvis still. 15 reps. 2 sets.
 - Quadruped hip extensions. Lift one leg at a time keeping trunk/pelvis still. 15 reps. 2 sets.
 - Quadruped alternate upper/lower extremity lifts. Lift one arm and opposite leg simultaneously. 15 reps. 2 sets.
- 1/2 kneeling progression:
 - 1/2 kneeling pelvic clocks. Half kneeling on involved knee. 12-6, 1-7, 2-8, 3-9, 4-10, 5-11. 20 reps, 2 sets. Repeat on uninvolved knee.
 - 1/2 kneeling weight shifts. Half kneeling on involved knee. Shift body forward to feel anterior hip stretch on kneeling side. Hold 15 seconds. 15 reps. 2 sets. Repeat on uninvolved knee.
 - 1/2 kneeling upper extremity strengthening. Half kneeling on involved and uninvolved knee. Use dumbbells, medicine balls, etc to strengthen shoulder girdle.
- Gait progression:
 - Standing side-to-side weight shifts. Stand at edge of table and shift weight side to side. Hold for 90 seconds, 2 sets.
 - Backward walking. Walk backward slowly focusing on hip extension.
 - Side stepping. Knees slightly flexed. 30 feet each direction.
 - Side stepping with resistance band. Band around ankles. 30 feet each direction
- Closed chain squat progression:
 - Exercise ball wall sits. Stand with exercise ball placed in low back against wall, feet shoulder width apart. Slowly squat as if sitting in a chair, then return to standing position. 15 reps. 3 sets.
 - Mini squats. Standing to 30 degrees knee flexion. 15 reps. 3 sets.
 - Double leg squats. Slowly work on squat depth to 70 degrees. 15 reps. 3 sets.
 - Double leg squats with weight shifts. Slowly shift weight side-to-side while squat. 15 reps. 3 sets.
 - Balance squats. Place uninvolved foot on chair behind you for balance only. Begin with squat to 30 degrees. Avoid pushing through support leg. 15 reps. 3 sets.
 - Single leg mini-squats. Standing to 30 degrees knee flexion. 15 reps. 3 sets. Avoid femoral valgus and IR and dropping pelvis toward contralateral side.
 - Single leg squats. Standing to 70 degrees knee flexion. 15 reps. 3 sets.
- Lunge progression:
 - Split lunge. Staggered split stance. Involved leg forward. Slowly lower body toward floor, bending both knees, so that final position is lunge. 15 reps. 3 sets.
 - Forward lunge. Slowly lunge forward onto involved leg. 15 reps. 3 sets.
 - Lateral lunge. Slowly lunge laterally onto involved leg. 15 reps. 3 sets.
 - Reverse lunge. Slowly perform lunge stepping backward with uninvolved leg. 15 reps. 3 sets.
 - Lunge with trunk rotations. Slowly rotate trunk side-to-side with arms out in front from any of the lunge positions. 15 reps. 3 sets.
- Balance progression:
 - Single leg balance. Shift weight to involved leg. Hold 30-60 seconds. 3 repeats.
 - May stand on BOSU ball for increased difficulty.
 - Standing single leg balance with opposite hip abduction isometric. Stand on involved leg with opposite knee against exercise ball resting against wall. Bend both knees 20 degrees. Then bend uninvolved knee 90 degrees and press outside of knee into ball. Make sure pelvis does not dip by squeezing buttock. Static hold 10 seconds. 15 reps.

CARDIOVASCULAR PROGRAM (0-12 weeks)

- Stationary bike:
 - No resistance
 - 20 minutes at a time; 1-2 times per day; for first 4 weeks
 - Increase duration of bike time by 5 minutes per week beginning at week 2
- Aquatic Therapy:
 - Begin program 3 weeks after surgery (as long as incisions are well-healed)
- Elliptical:
 - Begin at post-op week 6
 - Start at 10 minutes at a time
 - Increase 5 minutes per week for next 6 weeks
- Combination program:
 - Begin alternating stationary bike and elliptical at week 8 for 20 minutes total time progressing as tolerated
- Treadmill walking program:
 - Begin at 12 weeks post-op

Comments:

Signature _____ Date _____