Nathan Urquhart, MD, MSc, FRCS (C), Dip Sports Medicine
Orthopaedic Surgeon Arthroscopy and Sports Medicine

Hip Arthroscopy
Femoroacetabular Impingement with/without a Labral Repair

This protocol is intended to provide clinicians with guidelines for the post-operative management of a patient who has undergone an arthroscopic hip procedure. This protocol is not a substitute for a clinician's clinical reasoning during a patient's post-operative healing/progress. Clinical reasoning should be based on individual symptoms, physical signs, progress, and/or the presence of operative complications.

Postoperative Guidelines:

- Physiotherapy commencing at 2 weeks post-op
- Protect surgical repair
- Protected weight-bearing with crutches and brace
    - if microfracturing occurred patient is to remain touch weight-bearing (TWB) for 6 weeks
- Prevent post-op rehabilitation complications:
    - i.e., trochanteric bursitis, hip flexor tendonitis, infection
    - Avoid early strengthening, recumbent bike, sitting on low surfaces, pivoting on operated leg, crossing legs, sit-ups, actively raising operated (active SLR), prolonged positioning
    - Avoid overstretching of anterior capsule (hyper-extension, external rotation)
- Mobility before strengthening
    - Gaining ROM too slowly may result in residual stiffness and delayed recovery
    - Strengthening when range is not available can lead to compensatory movement strategies and poor muscle activation patterns.
    - N.B. Exercises must not reproduce pain
- Return to Work
    - Determined by Orthopaedic Surgeon – generally occurs between 3-6 months post-op
    - Often associated with graduated hours and modified duties
- Return to Sport
    - Determined by Orthopaedic Surgeon – generally occurs around 6 months post-op

Phase I (Protection): 0-2 weeks

Short Term Goals:

1. Protect the surgical repair
2. Education: posture, joint protection, positioning, hygiene, restrictions, ADLs
3. Minimize pain and inflammatory response
4. Protected weight-bearing with brace and crutches

Restrictions/Precautions for Phase I:

1. Wear brace at all times for 6 week duration (includes sleeping)
2. No driving for 6 weeks
3. Avoid getting incisions wet
4. No flexion > 90 degrees, sitting in low chairs
5. No twisting/pivoting on operative leg, no sitting crossed-legged

Queen Square 1802-45 Alderney Dr, Dartmouth NS, B2Y 2N6
Phone: 902-477-6002 **Fax:** 902-494-9298 **Email:** nathan.urquhart@cdha.nshealth.ca

6. If microfracturing occurred the patient must remain Touch WB for 6 weeks

Management Recommendations for Phase I:

1. **Mobility:**
    - Upright bike (no resistance) may begin 48-72 hours post-op
    - Hip extension: modified Thomas position over edge of bed
    - Hip extension: standing hip flexor stretch (toes pointed forward)
    - Maintain a neutral hip rotation position when resting

2. **Core stability -** neutral lumbar spine in crook-lie; begin inner-unit activation

3. **Muscle activation / awareness –** Setting of gluteus maximum

4. **Pain and inflammatory control:**
    - Ankle pumping with leg resting in an elevated position (above heart)
    - Modalities: home cryotherapy for ~ 20 min every few hours

5. **Scar Management -** keep incisions clean and dry

6. **Gait** - utilization of crutches to satisfy WB status

Phase II (Mobility): 2-6 weeks

Requirements to progress to Phase II:

1. Follow-up with Orthopaedic Surgeon
2. Appropriate pain and inflammatory control
3. Compliant with recommendations/restrictions to ensure appropriate healing from surgery

Short Term Goals for Phase II:

1. Protect the surgical repair
2. Education: posture, joint protection, positioning, hygiene, restrictions, ADLs
3. Minimize pain and inflammatory response
4. Protected weight-bearing with brace and crutches
5. Restore hip range of motion and flexibility
6. Normalize gait pattern – wean off of crutches as able at 5-6 weeks

Restrictions/Precautions for Phase II:

1. Wear brace at all times - 6 week duration
2. No driving for 6 weeks
3. No flexion > 90 degrees, sitting in low chairs
4. No twisting/pivoting on operative leg, no sitting crossed-legged
5. No high velocity, low amplitude thrust techniques can be applied/directed through the hip joint
6. If microfracturing occurred the patient must remain Touch WB for 6 weeks

Queen Square 1802-45 Alderney Dr, Dartmouth NS, B2Y 2N6
Phone: 902-477-6002 **Fax:** 902-494-9298 **Email:** nathan.urquhart@cdha.nshealth.ca

Nathan Urquhart, MD, MSc, FRCS (C), Dip Sports Medicine
Orthopaedic Surgeon Arthroscopy and Sports Medicine

Management Recommendations for Phase II:

1. **Manual Therapy**
   - Passive ROM (focus on hip extension/gentle anterior capsule stretching) within R2 (end range)
     - Isolate mobilizations to hip joint to avoid excessive strain on L/sp and SIJ
   - Hip circles / oscillations in resting position
   - Soft tissue massage to anterior musculature and peri-incisions

2. **Range of Motion & Flexibility**
   - Hip extension:
     - ½ kneel/standing hip flexor stretch (toes pointed forward)
     - ½ kneel/standing pectineus stretch (out-towed ~ 45 degrees)
   - Hip Flexion
     - AAROM heel slide (knee to chest)
     - Progress to quadruped rock (begin neutral - progress to IR/ER bias)
   - Hip abduction
     - AAROM with crutch supine
     - Progress to ½ kneel/standing adductor stretch
   - Hip internal rotation / external rotation
     - Seated AROM (must be controlled, within a small arc and pain free)
     - Prone AROM (must be controlled, within a small arch and pain free)
   - Quadriceps stretch
     - Prone heel to bum → progress to side-lie or wall stretch (in ½ kneel)
   - Hamstring stretch
     - Sitting at edge of bed – perform active knee extension while maintaining neutral L/sp
     - Maintain hip flexed at 90 degrees passively – add active knee extension (work in available sagittal, coronal and transverse planes)

3. **Core stability (maintain neutral lumbar spine)**
   - Begin with Stage 1 exercises and progress to Stage 2 as able (ensure neutral L/sp)
   - Also incorporate 4-point kneeling

4. **Functional retraining:**
   - Sit-to-stand with brace on (begin with increased bed/plinth height)

5. **Proprioception retraining:**
   - Weight-shifting onto affected leg (side-side; front-back; diagonal)
     - Isometric glute contraction upon heel strike/weight acceptance onto operative leg
   - Progress to single leg stance if pelvis stable, no trendelenburg present and painfree (> 4 weeks)

6. **Gait retraining** (wean from assistive devices as gait mechanics normalize)
   - Ensure ability transfer load (weight acceptance) onto operative leg
   - May introduce single leg on treadmill (> 4 weeks post-op)

7. **Scar management** (once incisions have closed)

Queen Square 1802-45 Alderney Dr, Dartmouth NS, B2Y 2N6
Phone: 902-477-6002 **Fax:** 902-494-9298 **Email:** nathan.urquhart@cdha.nshealth.ca

8. **Cardiovascular Training -** upright bike, no resistance – up to 20 minutes/day

9. **Modalities** *(if no contraindications present)*
    - Pain management (e.g., Ice 10-15 minutes every few hours; TENS / IFC)
    - Cryotherapy ⇔ Heat

10. **Recommended Concomitant Service(s):** Massage Therapy *(ensure complimentary to PT Rx)*

Transition Period: (if ROM goals achieved before the completion of Phase 2)

1. **Muscle activation / awareness**

    - Gluteus Maximus + Quadriceps: push up plinth (isometric) → bridging (ensure no LBP)
    - Gluteus medius/minimus: begin side-lie IR/ER and progress to sitting at EOB IR/ER
    - Obliques (side-planks) → avoid activation of hip flexors

Requirements to Progress to Phase III:

1. Follow-up with Orthopaedic Surgeon
2. ROM guidelines achieved
3. Compliant with recommendations/restrictions to ensure appropriate healing from surgery
4. Compliant with physiotherapy and rehabilitation management

Short Term Goals of Phase III:

1. Restore full active hip mobility within correct movement patterns
2. Restore appropriate capsular extensibility
    - Particular focus on normalizing extensibility of anterior hip capsule (within functional limits)
3. Improve neuromuscular control and endurance of hip stabilizing musculature
    - Focus on correct recruitment and activation patterns to prevent muscle imbalances (*lower crossed syndrome*)
4. Enhance proprioceptive and sensorimotor awareness
5. Improve dynamic stability and neuromuscular control of pelvic girdle
6. Normalize gait mechanics (patient should be weaned from assistive devices)

Restrictions/Precautions for Phase III:

1. Avoid pain with stretching; do not stretch beyond R2
2. No manipulations to be applied to the hip joint
3. No high velocity, low amplitude thrust techniques can be applied/directed through the hip joint
4. Avoid uncontrolled twisting/pivoting on operative leg

Queen Square 1802-45 Alderney Dr, Dartmouth NS, B2Y 2N6
Phone: 902-477-6002 **Fax:** 902-494-9298 **Email:** nathan.urquhart@cdha.nshealth.ca

Nathan Urquhart, MD, MSc, FRCS (C), Dip Sports Medicine
Orthopaedic Surgeon Arthroscopy and Sports Medicine

Management Recommendations for Phase III:

1. **Manual Therapy**
   - Restore full mobility
     - i.e., Passive Physiological ROM (+ combined movements), METs, capsular stretching
     - i.e., Distraction techniques with belt; mobilization with movement principles
     - i.e., Soft tissue release to antagonistic muscle(s)

2. **Range of Motion & Flexibility**
   - Continue with previous exercises (as needed)
   - Combined movements (flexion quadrants)
     - FADIR range
     - FABER range → progress to piriformis stretch (if needed) – do up against wall

3. **Core stability (maintain neutral lumbar spine)**
   - Progress to Stage 3 & 4 exercises (if sufficient motor control)
   - Incorporate 4-point kneeling: leg extensions → alternate arm-leg → dog pee's
   - Improve contribution of lower abdominals (minimize activation of hip flexors)

4. **Muscle Activation/Endurance**
   - *Hip stabilizers (Deep Rotators)*
     - Once correct recruitment patterning achieved, progress to endurance retraining
     - Introduce OKC (NWB) and progress to CKC (WB) exercises
     - Progress t/o flexion and extension ranges

   - *Global Hip & Pelvic Girdle Muscles*
     - Address strength/hypertrophy after correct recruitment patterning of these muscles
     - Begin OKC (NWB); progress to CKC as dynamic motor control improves
     - Integration of both eccentric and concentric exercises is necessary

5. **Functional Movement Retraining:**
   - Squat: "ready position" → ¼ range (must avoid impingement at all times)
   - Lunges: static (must avoid impingement at all times)
   - Step-ups

6. **Proprioceptive Awareness** – OKC & CKC intermediate exercises
   - Integrate CKC exs & unstable surfaces when patient demonstrates appropriate core stability

7. **Cardiovascular Training -** Upright bike: moderate resistance – 20-30 minutes/day

8. **Modalities** *(at discretion of clinician)*

Concomitant Service(s): Massage Therapy

Queen Square 1802-45 Alderney Dr, Dartmouth NS, B2Y 2N6
Phone: 902-477-6002 **Fax:** 902-494-9298 **Email:** nathan.urquhart@cdha.nshealth.ca