

HIP ARTHROSCOPY

Indications

Arthroscopic intervention in early hip disease.

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Advancement in diagnostic and therapeutic applications for hip arthroscopy have dispelled previous myths about early hip disease. Arthroscopic findings have established the following facts: Acetabular labral tears do occur; acetabular chondral lesions do exist; tears are most frequently anterior and often associated with sudden twisting or pivoting motions; and labral tears often occur in association with articular cartilage lesions of the adjacent acetabulum or femoral head, and if present for years, contribute to the progression of delamination process of the chondral cartilage. Magnetic resonance arthrography represents an improvement over conventional magnetic resonance imaging, it does have limitations when compared with direct observation.

Although indications for hip arthroscopy are constantly expanding, the most common indications include: labral tears, loose bodies, chondral flap lesions of the acetabular or femoral head, synovial chondromatosis, foreign body removal, and crystalline hip arthropathy (gout, pseudogout, and others). Contraindications include conditions that limit the potential for hip distraction such as joint ankylosis, dense heterotopic bone formation, considerable protrusion, or morbid obesity.

Complication rates have been reported between 0.5 and 5%, most often related to distraction and include sciatic or femoral nerve palsy, avascular necrosis, and compartment syndrome. Transient peroneal or pudendal nerve effects and chondral scuffing have been associated with difficult or prolonged distraction. Meticulous consideration to patient positioning, distraction time and portal placement are essential. Judicious patient selection and diagnostic expertise are critical to successful outcomes.

Candidates for hip arthroscopy should include only those patients with mechanical symptoms (catching, locking, or buckling) that have failed to respond to conservative therapy. The extent of articular cartilage involvement has the most direct relationship to surgical outcomes. Improvements in technique and instrumentation have made hip arthroscopy an efficacious way to diagnose and treat a variety of intra-articular problems.

Precautions

- FAI
 - Femoral acetabular impingement
- Perthes
 - Ischemic necrosis
- Chondroplasty
 - Surgery of the cartilage to smooth or repair
 - Penetration of the subchondral bone causes bleeding to stimulate formation of fibrocartilage
- Capsulotomy
 - Lateral incision through the fascia lata & vastus lateralis
 - To decrease capsular pressure and decrease chance of osteonecrosis
- Labral Plasty – limit rotation
- With patients that have had their psoas released, have the patient lift their leg in and out of the bed, car, etc for 4 weeks. Do not do any exercises that stress the hip flexors (SLR, heel slides). Stretching to prevent adhesions is very important.
- Do not abduct, ER in extension for six weeks. It will stress the anterior labrum and neck of the femur. Work this motion passively in flexion.
- Resistive exercises do not start until week 5 and only when the patient has good ROM, no swelling and minimal to no pain. Strengthen in cardinal planes without rotation.
- Cheilectomy: chiseling away of bony irregularities of a joint cavity that interfere with movement of the joint. Excision of an irregular osseous rim that interferes with motion of a joint.
- Cheilectomy patients will be partial WB 20-40 lbs for 2 weeks. Use 2 crutches for 2 weeks, single crutch for 2 weeks and then a cane for 2 weeks. Able to wean off cane when have negative Trendelenburg gait. Have the patient take short steps (heel to toe gait) limited to 0 degrees extension for 2-4 weeks.
- Do not let the patient stand and rotate on the involved hip. Femoral neck fractures have occurred by the patient standing and turning toward the involved leg.
- Plication: the act or process of folding to tighten. Surgeons use the plication to repair the torn labrum. Use of MDI
 - No terminal extension or ER for 2 weeks.
 - WB as tolerated – use short step for gait.

Phase I Week 1

Goals:

- Gait and transfer training
- Decrease edema/effusion – ice frequently

Exercises:

- Upright bike
- LE stretching (neutral hip)
- Hip flexor stretch (Thomas position) with zero degrees hip extension

Phase II Weeks 2 and 3

Goals:

- Patient Education Regarding Contraindications / Safety
- Prevent capsular adhesions
- Incision Healing
- Balance
- Independent Home Exercise Program

Treatment:

- Modalities (Ice & IFC)
- Massage – psoas, ITB, gluteus medius and piriformis.
- PROM within Motion Precautions
- Gentle long axis mobilization (except with plication or labral repair)
- Issue Home Exercise Program
- Rhythmic Stabilization of Hip
- Manual Stretching of, HS, Lumbar spine(Left hip loose left rotation)

Exercises:

- Self Stretching of Quads, Calves, HS, Psoas & ipsilateral lumbar rotators
- Heel Raises
- Draw In
- Anterior/Posterior Pelvic Tilts
- Hip ER Isometrics (at knees and ankles)
- Hip ER/IR swings
- Active Sitting, Ball sitting with draw in
- Recumbant bike (10-20 minutes)
- Hip adduction – ball squeezes
- Bridges
- Crunch
- Quads extensions
- Hams curls
- Total Gym 50% - 90% Wt. Bearing
- One leg stand – pelvis level (double arm support)
- Side lying Hip ER (clam)
- Side lying Hip Abduction (clocks)

Phase III Weeks 4-5

Goals:

- (-) Trendelenburg Sign with Gait
- Initiate Hip PRE within Restricted ROM
- Neutral Alignment of Lumbar Spine and Pelvis
- Full PROM

Treatment:

- Myofascial Release – psoas, posterior hip capsule
- PROM and Joint Mobilization of Hip, Lumbar Spine and Pelvis
- Core stabilization, C-V conditioning, Proprioception and balance

Exercises:

Stretch as in Phase I

- Recumbent Bike, Elliptical (20-40 minutes)
- Superman over pillow or bosu
- Tandem stance (eyes open and closed)
- Side lying Clam with T-band
- Standing T-band or cable Adduction, Abduction, Extension
- Bridge with T-band at knees
- Wall Ball Squats (Full Squats)
- Sit <-> Stand (steady surfaces)
- Step-ups (4 & 6 inches) front and side
- Standing Hip Clocks
- Mule Kicks
- LE PRE
- Total Gym Squats
- Step and stick
- Vectors
- T-band hip ER and IR

Phase IV Weeks 6-8

Goals:

- Independent Ambulation 1 Mile (-) Trendelenburg sign
- Increase Cardiovascular Endurance (30 - 40 minutes)
- Pain free Hip AROM
- Hip AB, Quad, and HS Strength 100% of Contra lateral Limb
- Functional Joint Capsule Flexibility (sit comfortably put on sox/shoe)

Treatment:

- Continue manual techniques to regain normal hip ROM as necessary

Exercises:

Stretching as in phase I & II:

- Piriformis (sit with trunk rotation) stretch
- TFL and ITB Stretch
- Single Leg Stance with Airex/Trampoline
- T-band Hip IR and ER
- Bridge with ball (Advance to Single Leg bridge on ball)

- Advanced Trunk Stabilization (prone elbow and knees/ side-lying elbow and knees)
- Ball exercises – crunch, hyperextensions, walk-outs
- Squats – in front of mirror, no weight
- Front and Lateral Step-ups with resisted tubing
- ¼ squat on Airex or Bosu
- Lunges
- Leg Press

Week 8-12

- Begin sports or recreational related activities.
- No full weighted rotation for 12 weeks.
- No impact sports for 6 months with cheilectomy patients.