

Post-Operative Rehab of Acetabular Labral Tears Specific Considerations for the Hockey Athlete

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Mechanism of inter-articular hip injuries in Hockey players:

The stride: Flexion, Abduction, External rotation

The Butterfly: Flexion, Internal rotation

Overload in these positions contribute to destabilizing the hip

Initial Post Operative Considerations

WB

Crutches and 20% WB for 2 weeks

Brace

Bledsoe post operative hip brace for 10 days

ROM limitations

may occur if there is a capsular repair (passive ER limited to 30 deg/extension limited to 0 deg) or psoas release (active hip flexion limited for 6 weeks)

Post-Op Rehabilitation

Phase I: Mobility and Protection

Timeframe: 0-4 weeks (6 weeks in the more involved patient)

Stationary Bike day 1 po

Manual and soft tissue mobilization are essential to limit contracture/scar tissue:
surgical site/adductors/TFL/rectus/glutes

Early isometrics

**PROM: within limitations of pain and anatomic boundaries:
Flexion/IR/ER/Abd/Circumduction**

Criterion to Advance to phase II

**Normalized gait without use of assistive device, ROM greater than or equal to 80%
uninvolved side**

Post-Op Rehabilitation

Phase I recommended exercise

Isometrics: glutes/abdominals/hamstrings/quads

Stationary biking

Hip IR and ER stretching

Prone lying

3 way leg raises: add, abd, ext

Post-Op Rehabilitation

Phase II: Stability

Timeframe: Not time dependent

Often occurs between 4-8 weeks (12 weeks complex)

Cardiovascular Training

Psoas Eccentrics

Manual and soft tissue mobilization to address soft tissue restrictions

Re-education of glute firing patterns

Criterion to Advance to Phase III

**No ADL limitation, full ROM, 5/5 manual muscle tests, normalized glute timing, good
neuromuscular control in single leg squat**

Post-Op Rehabilitation

Phase II recommended exercise

Psoas eccentrics
Glute re-education
Stationary bike
Swimming
Continuation of stretching
Side steps/3 point T band stepping
Bridges
Elliptical/stair stepper
Bilateral ckc exercise progression (squat/RDL)
Forward step downs
Single leg balance
Single leg proprioception
Hip girdle stretching

Post-Op Rehabilitation

Phase III: Strengthening

Timeframe: Not time dependent
Often occurs 8-12 weeks (20 weeks in the complex patient)
Endurance → Strength and Power

Criterion to Advance to Phase IV

No symptoms with recreation, symmetrical flexibility, mechanically correct agility drills,
Functional Evaluation: including unilateral squat and Y-balance tests

Post-Op Rehabilitation

Phase III recommended exercise

Lunges

Pillar stabilization

Single leg proprioception

Hip girdle stretching

Unilateral squats/dead lifts/airplanes

Running Progression

Single plane agility drills

Post-Op Rehabilitation

Phase IV: Return to Sport

Timeframe: 12 to 24 weeks

Power and Neuromuscular control

Continued running progression

Plyometric training

Criterion for Return to Sport

Full pain-free ROM, demonstration of sport/position specific drill at game speed and setting, >85% LSI on functional test including unilateral hop testing

Drop Jump Screen >70% knee to hip ratios

Post-Op Rehabilitation

Phase IV recommended exercise

Hip girdle stretching

Pillar strength

Weighted ckc strengthening

Squats/deadlifts/single leg

Single leg proprioception

Plyometric progression

Jumps, hops, multilevel, multiplanar

Hockey Specific Progressions

Program specific to the ice hockey goaltender

Pierce CM, et al. 2013

Criteria for on ice rehab

Pain free ambulation

Pain free, normal ROM

Hip girdle strength: >4/5 MMT

Early phases of program

Emphasize stability with predictable movements

Hockey Specific Considerations

Time from injury to surgery correlates with return to play:

If surgery is > 1 year after injury, return to play is longer (>1 month)

The longer a player waits for surgical intervention, the more chondral damage occurred and the longer it takes to return to hockey

Average return to skating after AS labral repairs: 3-4 months

Note: labrum is not yet fully healed at this time

Open surgical dislocation treatment for FAI/labral resections may take nearly 3x longer to be cleared to participate in games (with only 60% returning) than those with AS labral repairs (96%-100% returning).

Bizzini et al. vs Philippon et al.

Operative trauma due to dislocation and more extensive rehab of an open repair makes the AS technique less invasive and more reasonable in the high-demand athlete.

AS Hip Labral Repair Outcomes in Hockey Players

Philippon MJ, et al. 2009

112 patients, arthroscopy for FAI, outcomes tracked at 2 years post op:

Median patient satisfaction outcome was 9.0 (range 1-10)

Philippon MJ, et al. 2010

28 patients who were unable to perform at the professional hockey level due to debilitating pain, treated with AS labral repair, outcomes tracked at 2 years post op:

Median patient satisfaction outcome was 10.0 (range 1-10)

Links to Rehab Protocols

OA Centers for Orthopaedics:

http://www.orthoassociates.com/_pdfs/HipLabralRepair.pdf

Proaxis:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2953303/>

UW:

http://www.uwhealth.org/files/uwhealth/docs/pdf2/rehab_hip_arthroscopy.pdf

References:

Bizzini M, Notzli HP, Maffiuletti NA. Femoroacetabular impingement in professional ice hockey players: a case series of 5 athletes after open surgical decompression of the hip. *Am J Sports Med.* 2007;35:1955-1959.

Edelstien J, Ranawat A, Enseki KR, Yun RJ, Draovitch P. Post-Operative Guidelines following Hip Arthroscopy. *Curr Rev Musculoskelet Med.* 2012;5:15-23.

Garrison JC, Osler MT, Singleton SB. Rehabilitation After Arthroscopy of an Acetabular Labral Tear. *N Amer J Sports Physical Therapy.* 2007;2(4)241-250.

Philippon M, Schenker M, Briggs K, Koppersmith D. Femoroacetabular impingement in 45 professional athletes: associated pathologies and return to sport following arthroscopic decompression. *Knee Surg Sports Traumatol Arthrosc.* 2007;15:908-914.

Philippon MJ, Christensen JC, Wahoff MS. Rehabilitation after arthroscopic repair of intra-articular disorders of the hip in a professional football athlete. *J Sport Rehabil.* 2009;18:118-134.

Philippon MJ, Weiss DR, Koppersmith DA, Briggs KK, Hay CJ. Arthroscopic labral repair and treatment of femoroacetabular impingement in professional hockey players. *Am J Sports Med.* 2010;38:99-104.

Pierce CM, Laprade RF, Wahoff M, O'Brien L, Philippon M. Ice Hockey Goaltender Rehabilitation Including On-Ice Progression, After Arthroscopic Hip Surgery for Femoroacetabular Impingement. *JOSPT.* 2013;43(3)129-141.