

# Accelerated Return to Sport Following Hip Arthroscopy for Femoroacetabular Impingement Syndrome: A Safe and Effective Approach

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## ABSTRACT

**PURPOSE:** Femoroacetabular impingement (FAI) is increasingly recognized as a cause for hip and groin pain in young, active patients. When symptomatic FAI limits performance and nonoperative measures fail, surgery is necessary. Recovery durations and successful return to sport (RTS) rates vary, with current guidelines recommending RTS at 9 months post-surgery. This study aimed to assess the time to RTS following hip arthroscopy for FAI syndrome. The purpose was to assess if individuals safely RTS sooner than 9 months.

**METHODS:** Patients undergoing hip arthroscopy for FAI performed by one surgeon were retrospectively contacted. The surgeon prescribed an accelerated rehabilitation protocol, emphasizing early low-impact exercise and rapid progression of weightbearing, range of motion, and strength training. A Modified Harris Hip Score (HHS) and Copenhagen Hip and Groin Outcome Score (HAGOS) were administered at 26±11 months following surgery. Pre- and post-injury activity level, time to RTS, complications and revision surgeries were recorded.

**RESULTS:** This cohort comprised 57 athletes (35 females, 22 males, 38.0±13.9 years old, 31 recreational and 26 competitive-level athletes). 45 patients RTS at or above pre-injury levels (Figure 1), with a majority (55.6%) of patients returning to sport in <6 months. Of the 12 patients that did not RTS, 5 (41.7%) did not return for reasons other than their hip. The mean HAGOS of those able to RTS (65.6) was significantly more than for those who did not (54.0; p=0.027). The mean Modified HHS for those returning to sport (89.4) was greater than those who did not (81.9; p=0.143).

**CONCLUSIONS:** This study provides evidence that rapid, progressive rehabilitation following hip arthroscopy for FAI is a reliable approach for facilitating athletes' RTS without increased risks. (susan@nismat.org)

## BACKGROUND

- Femoroacetabular impingement (FAI):
  - hip/groin pain, radiographic evidence (cam FAI, pincer FAI, or mixed FAI), reduced function in young, active individuals
- Arthroscopic labral repair gold standard when nonoperative approaches fail
- Rehabilitation crucial for timely return to sport (RTS) and optimal outcomes
  - guidelines recommend a minimum of 5 months for RTS
    - Takla A et al (2020). The 2019 International Society of Hip Preservation (ISHA) physiotherapy agreement on assessment and treatment of femoroacetabular impingement syndrome (FAIS): an international consensus statement. J Hip Preserv Surg 7(4), 631-642.
  - timeframes vary, influenced by athlete level and sport type, and do not supersede progression criteria

## OBJECTIVES

Investigate:

**Table 1:** Timeline for return to sport using an accelerated rehabilitation protocol \*see Appendix A for discharge criteria

Timeline	0-2 weeks	2-4 weeks	4-8 weeks	8-12 weeks	12-16 weeks
<b>Exercises</b>	<ul style="list-style-type: none"> <li>Bike</li> <li>Supine hip log rolling for internal rotation (IR)/external rotation (ER)                             <ul style="list-style-type: none"> <li>Protect and limit external rotation (ER) to 20°</li> </ul> </li> <li>Stool rotations/prone rotations</li> <li>Hip isometrics (no flexion/no straight leg raises)                             <ul style="list-style-type: none"> <li>Pelvic tilt</li> <li>Hip bridge</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Stool/prone rotations for ER                             <ul style="list-style-type: none"> <li>Bent knee fall outs</li> <li>Isometric sub max pain free hip flexion</li> </ul> </li> <li>Introduce core exercise                             <ul style="list-style-type: none"> <li>Step downs</li> </ul> </li> <li>Isometric side-lying hip abduction (clam shells)                             <ul style="list-style-type: none"> <li>Hip Hiking</li> </ul> </li> <li>Proprioception/balance training (bilateral)                             <ul style="list-style-type: none"> <li>Bilateral cable column rotations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Standing BAPS rotations</li> <li>Prone hip rotation ER/IR</li> <li>External rotation with FABER</li> <li>Hip joint mobs with mobilization belt into limited joint ROM</li> <li>Prone/side planks</li> <li>Hip flexion isotonic</li> <li>Leg press (unilateral)</li> <li>Proprioception/balance training (foam)                             <ul style="list-style-type: none"> <li>Side stepping (theraband, incline treadmill)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Progress:                             <ul style="list-style-type: none"> <li>ROM</li> <li>Strengthening                                     <ul style="list-style-type: none"> <li>Lower extremity</li> <li>Core</li> </ul> </li> <li>Hip endurance</li> </ul> </li> <li>Introduce:                             <ul style="list-style-type: none"> <li>Interval running</li> <li>Plyometrics</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Progress:                             <ul style="list-style-type: none"> <li>ROM</li> <li>Strengthening                                     <ul style="list-style-type: none"> <li>Lower extremity</li> <li>Core</li> <li>Hip endurance</li> </ul> </li> <li>Introduce:                             <ul style="list-style-type: none"> <li>Sport specific agility drills</li> </ul> </li> </ul> </li> </ul>

*It was hypothesized that most athletes return to sport within five months post-op without any adverse effects.*

## METHODS

### Data Collection

- Patients (age 18-60) active in sport with FAI undergoing hip arthroscopic labral repair
  - exclusion criteria: prior revision surgery, labral reconstruction, trochanteric space surgery, Tonnis Grade ≥I osteoarthritis
- Institutional review board approval and patient consent obtained
- REDCap used to send follow-up surveys:
  - demographics (recreational and/or competitive categorization, RTS timeline), Copenhagen Hip and Groin Outcome Score (HAGOS), Modified Harris Hip Score (mHHS)
  - patient Acceptable Symptom State (PASS) for mHHS >84

### Data Analysis

- Data analyzed using JASP software
- Descriptive statistics for age, symptom duration, time to return to sport, and mHHS/HAGOS scores
- Chi-square analyses for PASS score comparison
- Independent-samples t-tests for comparisons between participants who did/did not return to sport and between competitive/recreational athletes
- Data reported as mean±standard deviation, or percentage; alpha set at 0.05

## RESULTS

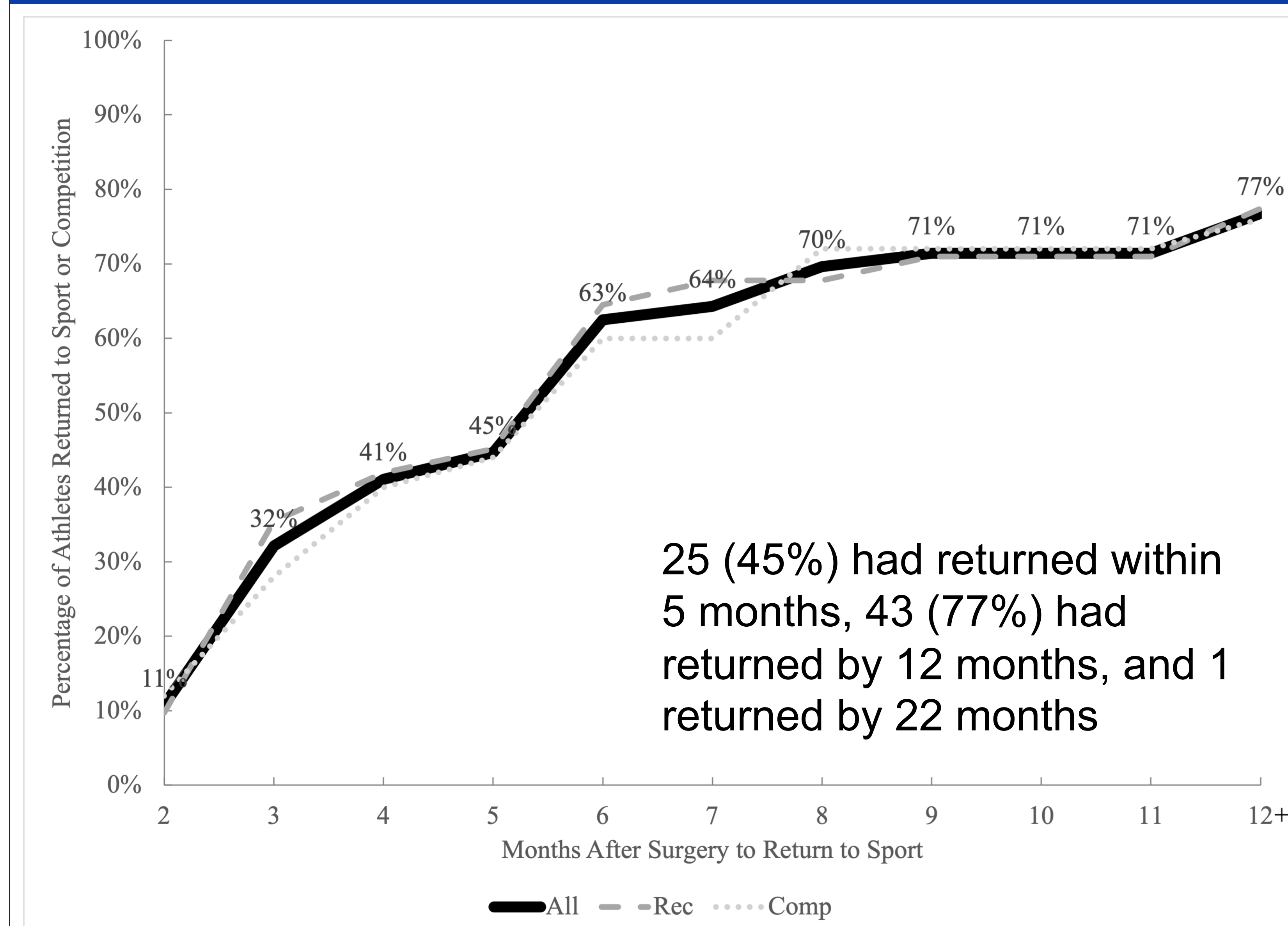
**Table 2:** Participant demographics

	N	Age at time of Study	Age at time of Surgery	Symptom Duration (years)	RTS (%)	Time to RTS (months)
<b>Competitive</b>	25	32.1±14.3	29.7±14.4	1.9±1.7	20 (80%)	5.8±4.2
<b>Recreational</b>	31	43.2±11.7	41.3±11.8	1.6±1.4	24 (77%)	5.0±2.8
<b>All</b>	56	38.3±14.0	36.1±14.2	1.7±1.4	44 (79%)	5.3±3.5
<b>P-Value (comp vs. rec)</b>		0.002	0.002	0.493	0.819	0.464

(All data presented as mean ± standard deviation. RTS=Return to Sport).

- Competitive athletes took an average of 9.3±8.6 months to return to their previous competition level
- 12 participants did not RTS, 1 competitive athlete did not return to prior competition levels

## RESULTS



**Figure 1:** Time to return to sport or competition in months

**Table 3:** Modified Harris Hip Score (mHHS) and Copenhagen Hip and Groin Outcome Score (HAGOS)

	Time to Follow Up (months)	HAGOS	mHSS
<b>RTS ≤ 5 months</b>	23.0±11.3	80.4±22.3	88.0±17.7
<b>RTS &gt; 6 months</b>	28.3±10.8	84.6±11.8	91.5±8.7
<b>P-Value</b>	P=0.217	P=0.458	P=0.424

- No difference in HAGOS or mHHS outcomes between athletes who returned to sport in ≤5 months vs. longer

## DISCUSSION

- Accelerated rehabilitation after hip arthroscopy for FAI can safely return athletes to sport within six months
- Most patients RTS in less than the traditionally recommended recovery time, without affecting patient reported outcomes
- These findings challenge previous RTS timelines following hip arthroscopy for FAI