Sports Medicine Roadshow 2019

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THE HIP & GROIN CLINIC

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The Effect of Femoroactabular Impingement on Performance

Karen Mullins

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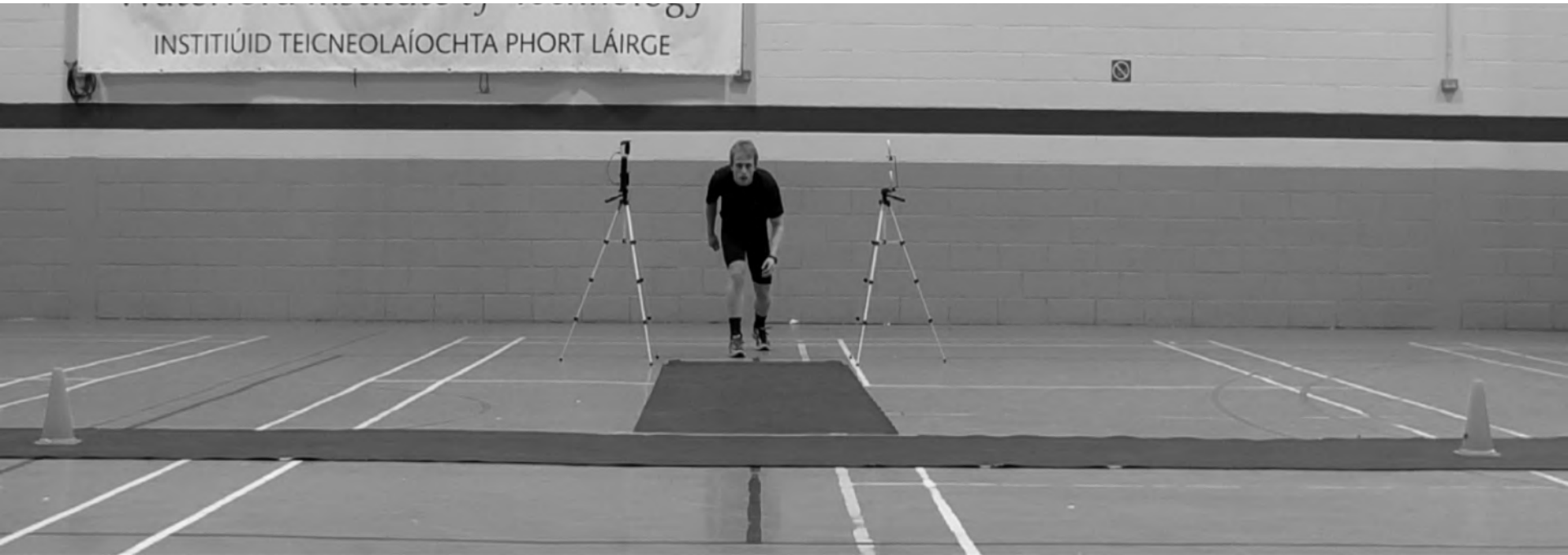
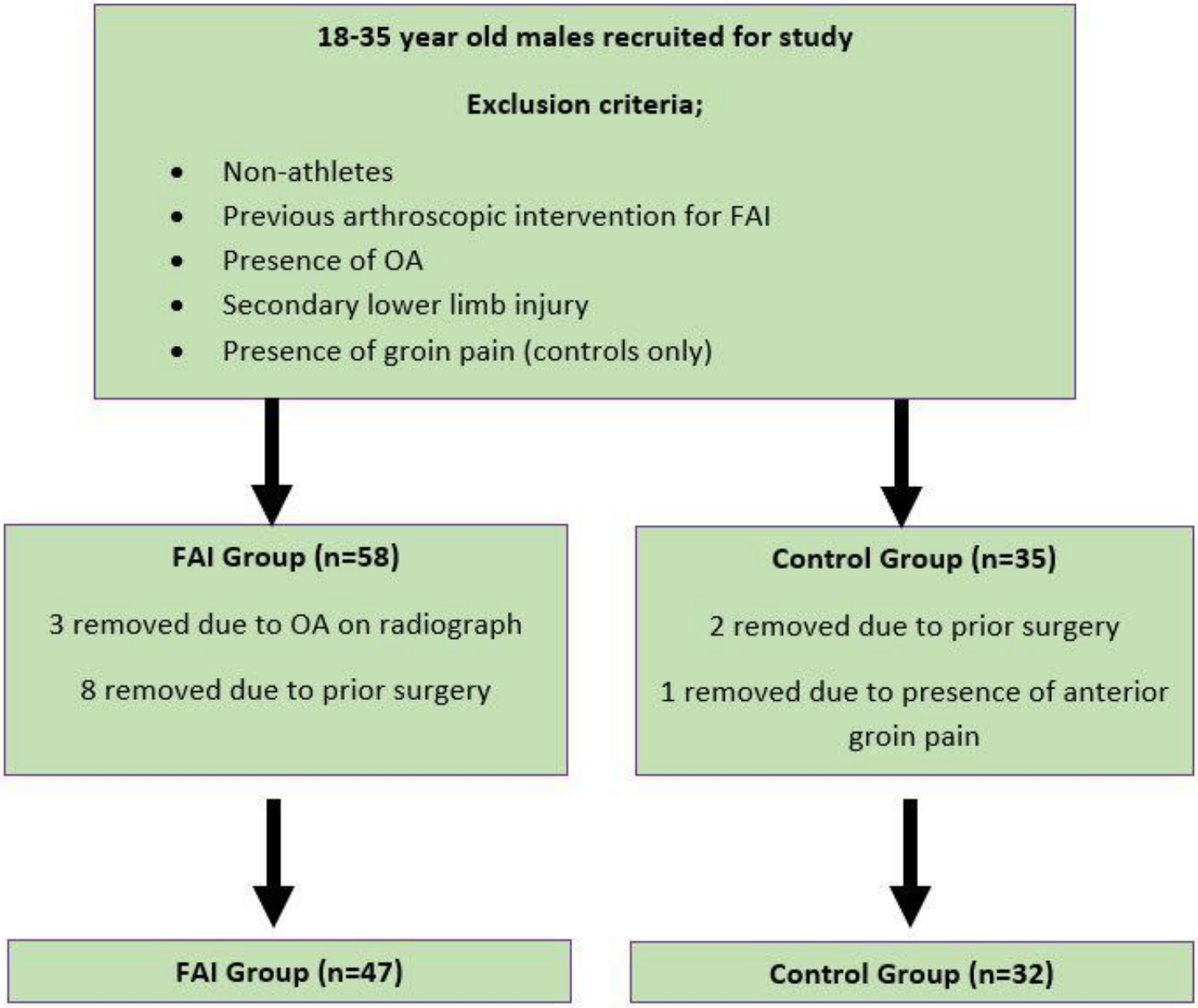
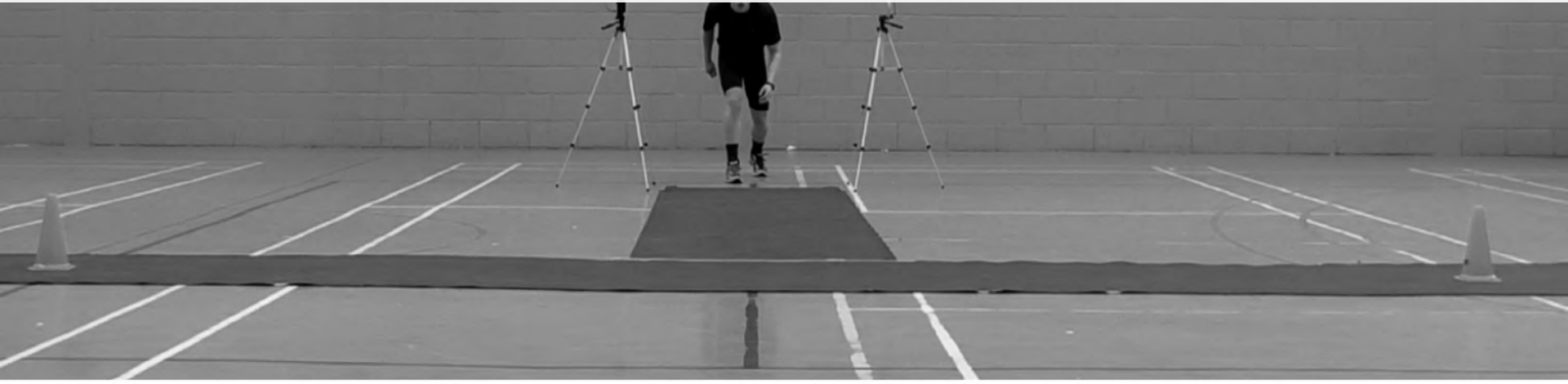
To determine the effects of FAI on performance and measure changes performance post-surgery

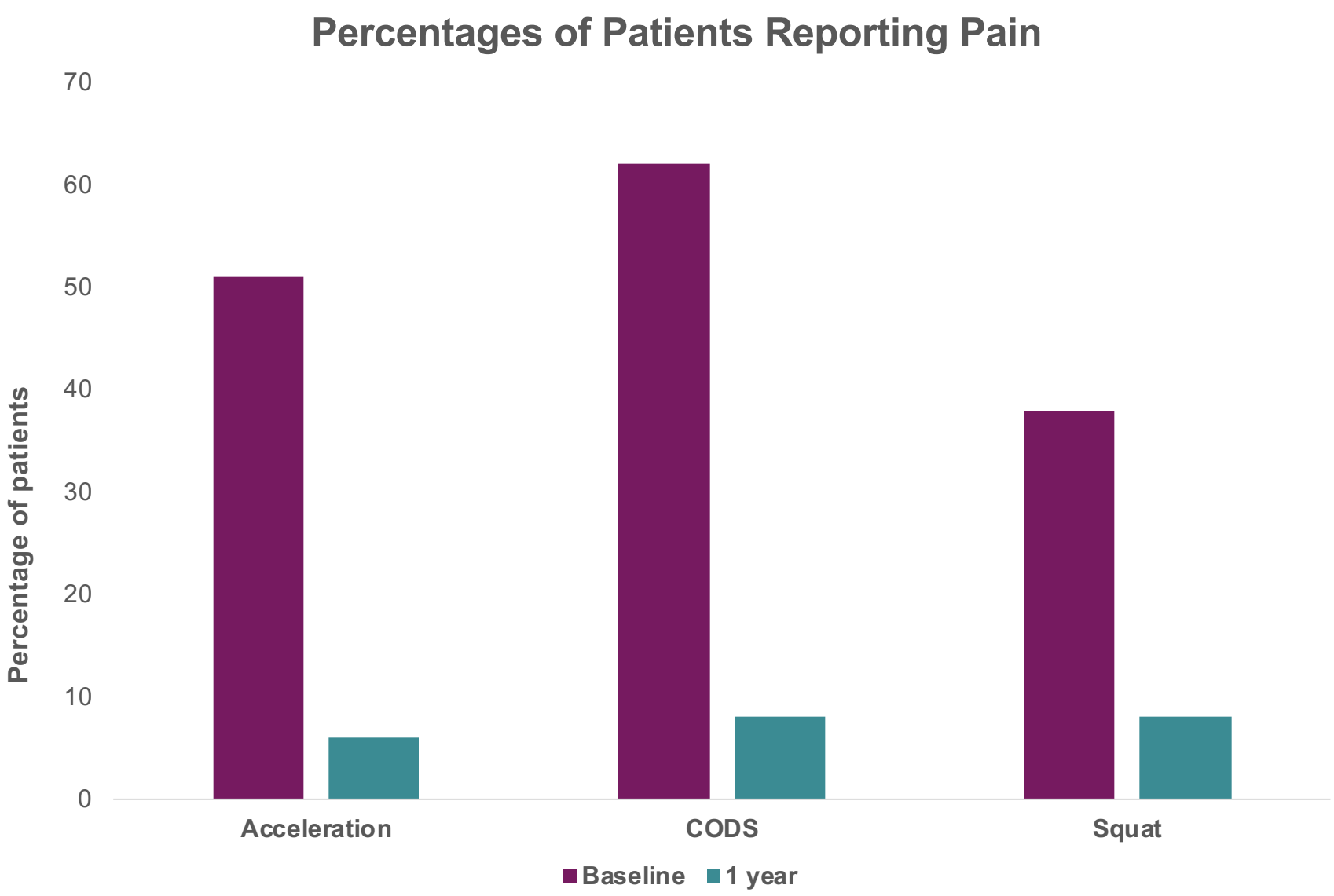



18-35 year old males recruited for study
Exclusion criteria;
Non-athletes
Previous arthroscopic intervention for FAI
Presence of OA
Secondary lower limb injury
Presence of groin pain (controls only)
FAI Group (n=58)
3 removed due to OA on radiograph
8 removed due to prior surgery
Control Group (n=35)
2 removed due to prior surgery
1 removed due to presence of anterior groin pain
FAI Group (n=47)
Control Group (n=32)

Functional Tests

- Patients sig. slower on 10m-Sprint (3%)
- Patients sig. slower on Modified agility T-test (8%)
- Patients had reduced internal rotation
- Patients had increased pain



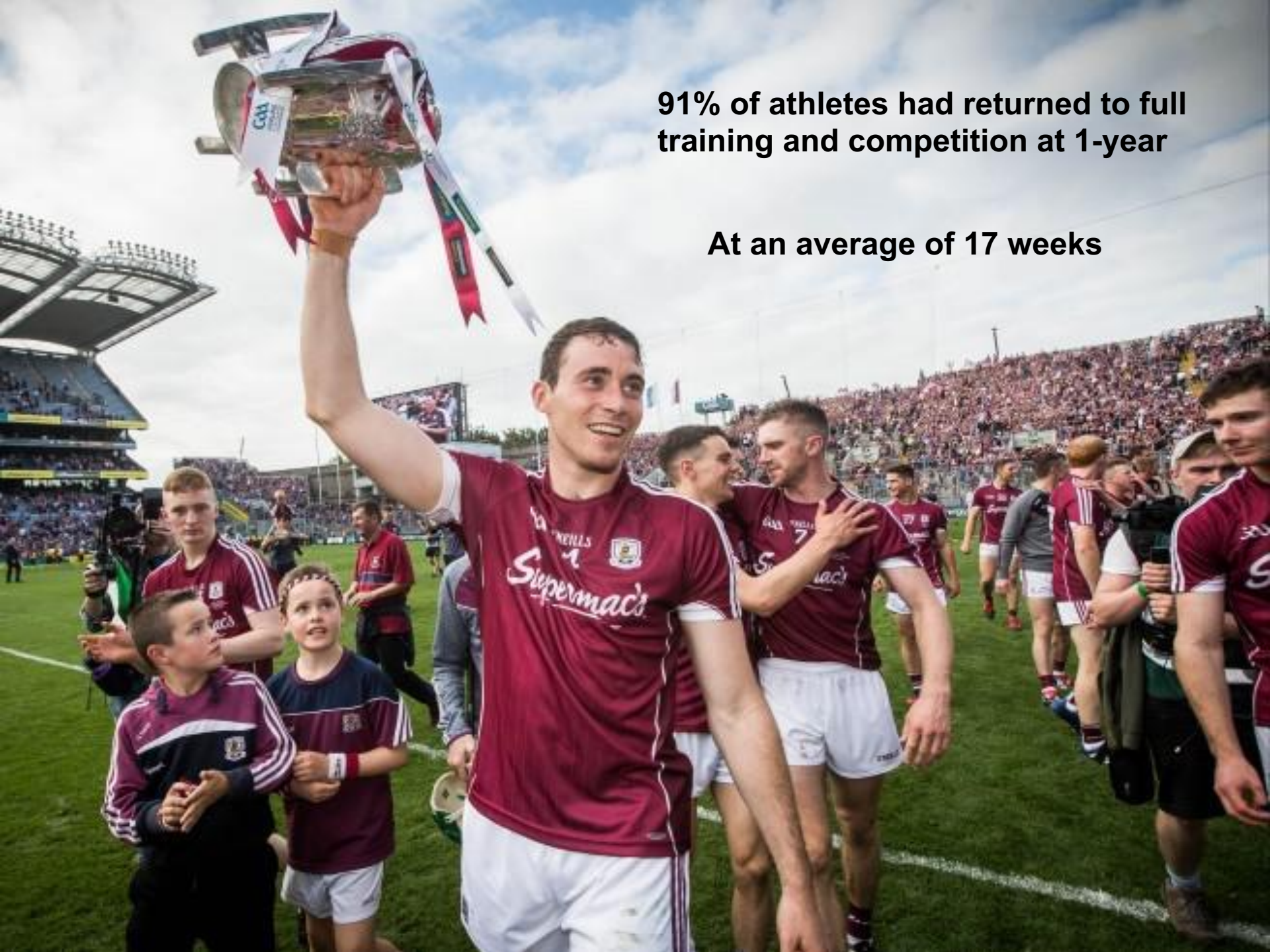

Percentages of Patients Reporting Pain
70
60
50
40
30
20
10
0
Percentage of patients
Acceleration
CODS
Squat
Baseline
1 year

Measure	Baseline Result	1 Year Result
10m-Sprint (s)		
Patient	1.70 ± .10*	1.68 ± .10
Control	1.65 ± .09*	1.65 ± .10
T-Test (s)		
Patient	7.90 ± .80*†	7.36 ± .68†
Control	7.17 ± .41*	7.29 ± .37
Squat Depth (cm)		
Patient	49 ± 12†	52 ± 10†
Control	50 ± 12	50 ± 13
RSI		
Patient	1.15 ± .24†	1.20 ± .22†
Control	1.17 ± .21	1.21 ± .16

*** Between group significance**

† Within group significance

Measure	Baseline Result	1 Year Result
Flexion	116.5 ± 8.7	117.2 ± 6.9
Abduction	50.9 ± 9.8	52.2 ± 6.4
Adduction	24.6 ± 6.1†	27.8 ± 2.8†
Internal Rotation	23.8 ± 8.5†	27.4 ± 3.9†
External Rotation	38.7 ± 7.6†	44.5 ± 53.3†


91% of athletes had returned to full training and competition at 1-year
At an average of 17 weeks

Increased change of direction speed

PAIN

Increased change of squatting depth/ROM

RTP

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Thank you

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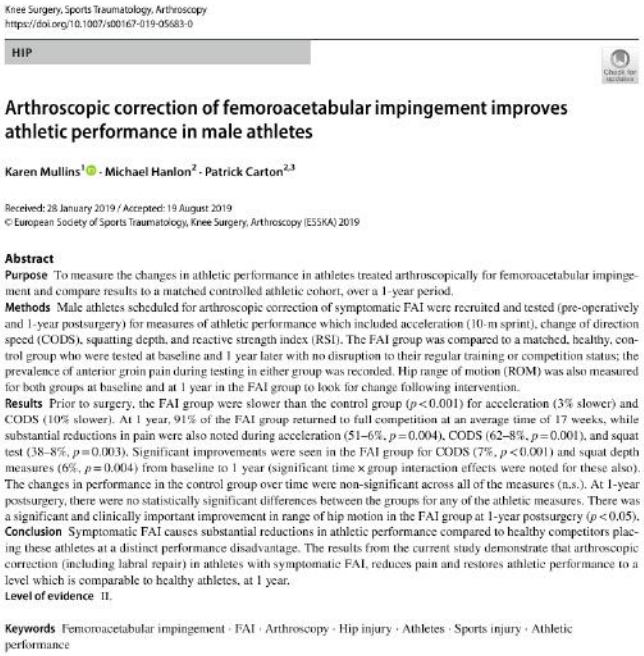

Knee Surgery, Sports Traumatology, Arthroscopy
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HIP

Arthroscopic correction of femoroacetabular impingement improves athletic performance in male athletes

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Abstract

Purpose To measure the changes in athletic performance in athletes treated arthroscopically for femoroacetabular impingement and compare results to a matched controlled athletic cohort, over a 1-year period.

Methods Male athletes scheduled for arthroscopic correction of symptomatic FAI were recruited and tested (pre-operatively and 1-year postsurgery) for measures of athletic performance which included acceleration (10-m sprint), change of direction speed (CODS), squatting depth, and reactive strength index (RSI). The FAI group was compared to a matched, healthy, control group who were tested at baseline and 1 year later with no disruption to their regular training or competition status; the prevalence of anterior groin pain during testing in either group was recorded. Hip range of motion (ROM) was also measured for both groups at baseline and at 1 year in the FAI group to look for change following intervention.

Results Prior to surgery, the FAI group were slower than the control group ($p < 0.001$) for acceleration (3% slower) and CODS (10% slower). At 1 year, 91% of the FAI group returned to full competition at an average time of 17 weeks, while substantial reductions in pain were also noted during acceleration (51–6%, $p = 0.004$), CODS (62–8%, $p = 0.001$), and squat test (38–8%, $p = 0.003$). Significant improvements were seen in the FAI group for CODS (7%, $p < 0.001$) and squat depth measures (6%, $p = 0.004$) from baseline to 1 year (significant time × group interaction effects were noted for these also). The changes in performance in the control group over time were non-significant across all of the measures (n.s.). At 1-year postsurgery, there were no statistically significant differences between the groups for any of the athletic measures. There was a significant and clinically important improvement in range of hip motion in the FAI group at 1-year postsurgery ($p < 0.05$).

Conclusion Symptomatic FAI causes substantial reductions in athletic performance compared to healthy competitors placing these athletes at a distinct performance disadvantage. The results from the current study demonstrate that arthroscopic correction (including labral repair) in athletes with symptomatic FAI, reduces pain and restores athletic performance to a level which is comparable to healthy athletes, at 1 year.

Level of evidence II.

Keywords Femoroacetabular impingement · FAI · Arthroscopy · Hip injury · Athletes · Sports injury · Athletic performance

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SPORTS MEDICINE ROADSHOW

Castletroy Park Hotel, Limerick

29th October 2019