High Return to Play and Minimal Salary Impact after Hip Arthroscopy in National Hockey League Players

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Disclosures

- No relevant disclosures to this talk

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Introduction

- Femoroacetabular impingement (FAI) is widely prevalent amongst ice hockey players
  - 69.1% of all NHL intra-articular hip injuries from 2006-2010

- NHL players had significantly shorter careers and worse performance metrics postoperatively compared to their counterparts in the NFL, NBA, and MLB

Objective

- The purpose of this study is to **quantify the impact of FAI managed with hip arthroscopy** on NHL athlete performance, career length, and salary in NHL athletes.

Methodology

- Retrospective review of all NHL players who underwent hip arthroscopy to manage labral tears from 2000- 2021 were identified from an online database

- 2:1 matched control cohort was used for comparison
  - Players were matched based on age, body mass index (BMI), position, and years of experience.

- Game usage and performance metrics were collected at 1 season and 3 seasons before and after the index season (injury season)

Methodology

- Index and post-index salaries were collected for each player in the two cohorts

- Three groups were created based on the players' index season salary, and both injury and matched cohorts were divided into:
  - Group A: <$1,000,000
  - Group B: $1,000,00 - $3,500,000
  - Group C: >$3,500,000.

- Mean annual salary and cumulative salary of those players were compared at index season and 1, 2, 3, and 4 seasons post-index.

Results

- 66 of the 75 (88%) NHL players who underwent hip arthroscopy returned to play and were matched to 132 players.

- **No difference was found in career length** (11.2 ± 4.1 seasons vs. 11.7 ± 4.2 seasons; P=0.434) between the two cohorts.

- After one season post-index, the operative cohort demonstrated **significantly decreased games played** (58.8 ± 21.8 vs 47.2 ± 26.9, P=0.013) and Corsi % (50.8 ± 4.2 vs 48.4 ± 5.2, P=0.024) compared with the year prior.

- Compared to controls, the operative cohort demonstrated **lower Corsi %** (48.4 ± 4.9 vs 51.1 ± 5.0, P=0.012) and Fenwick % (48.4 ± 5.0 vs 50.9 ± 4.7, P=0.008) at one season post-index.

Results

- At three seasons post index, **no differences in performance** were found between the operative cohort and controls.

- **No differences were found in salaries** between the operative and control cohorts in all four post-index seasons.

- Injured players in Group A demonstrated a lower salary at post-index season two ($1,360,417 ± $907,761 vs $3,947,128 ± $3,303,647, P=0.012), however **no differences were found in post index season 3 and 4**.

Demographic characteristics of NHL players who underwent hip arthroscopy versus matched controls

Response	Hip Arthroscopy (n = 66)	Matched (n = 132)	P Value
Age	28.6 ± 4.1	28.9 ± 4.1	0.619
Height	73.3 ± 1.7	73.5 ± 2.0	0.325
Weight	200.2 ± 13.1	203.6 ± 15.6	0.122
BMI	26.2 ± 1.5	26.5 ± 1.6	0.192
Position			0.989
C	16 (24.2%)	28 (21.2%)	
D	14 (21.2%)	28 (21.2%)	
G	17 (25.8%)	34 (25.8%)	
LW	8 (12.1%)	18 (13.6%)	
RW	11 (16.7%)	24 (18.2%)	
Handedness			0.459
Left	41 (62.1%)	89 (67.4%)	
Right	25 (37.9%)	43 (32.5%)	
Seasons in Career	11.2 ± 4.1	11.7 ± 4.2	0.434
Seasons after RTP	3.4 ± 2.6	4.1 ± 3.6	0.511

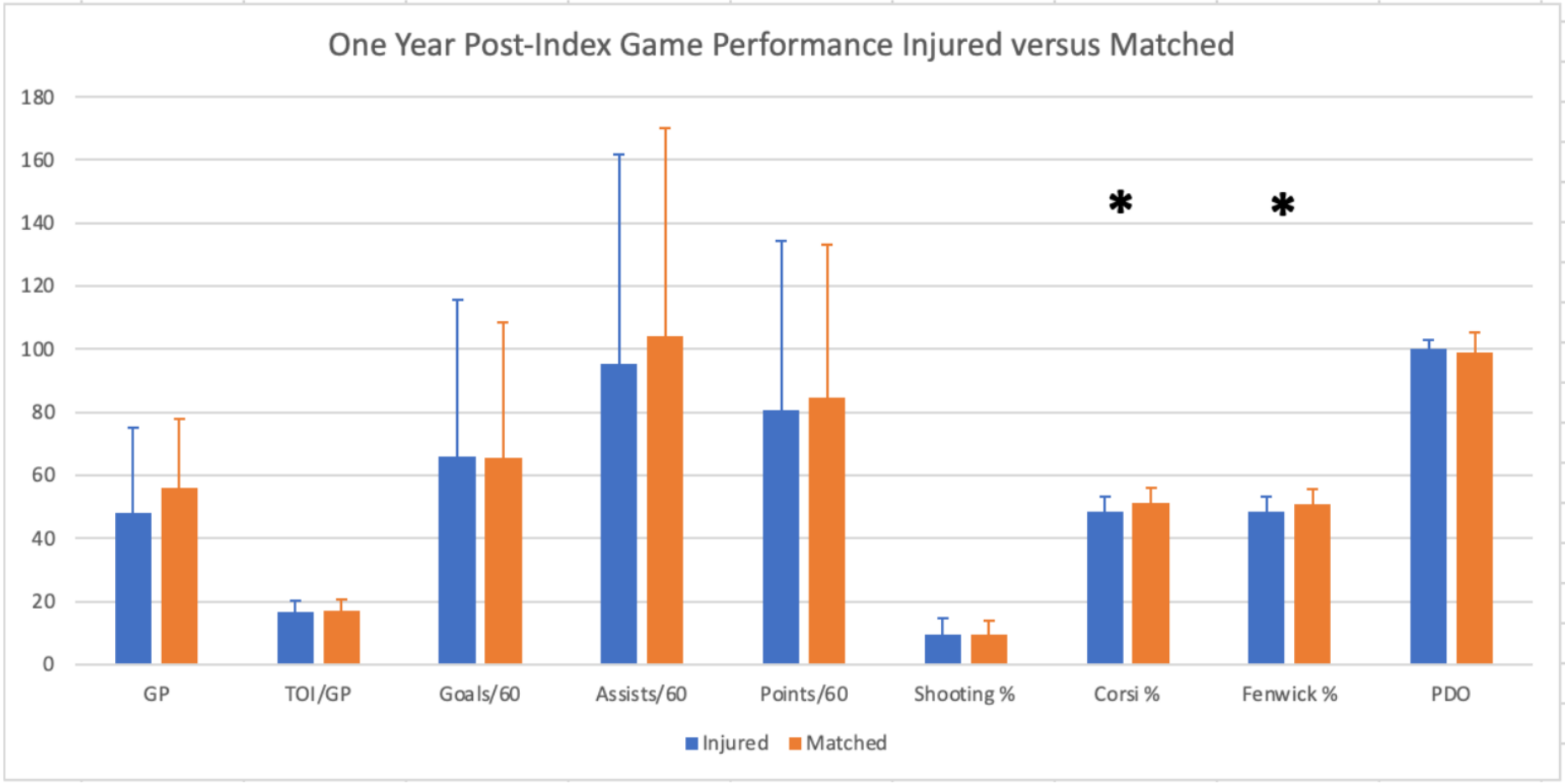

Figure 1. Comparison of game use and performance between injured and matched players 1 season after index. Goals/60 and Assists/60 are scaled x100 and Points/60 are scaled x50. * $P < 0.05$ indicates significant differences between the two cohorts.

Annual NHL Player Salary Post-Hip Arthroscopy

Total	Season 1	Season 2	Season 3	Season 4
All: Injured	$3,703,551 ± $3,216,137	$3,082,500 ± $2,281,480	$3,752,586 ± $2,128,404	$4,016,534 ± $2,254,866
All: Controls	$3,661,020 ± $2,890,051	$3,397,795 ± $2,749,978	$3,422,401 ± $2,383,299	$3,805,321 ± $2,682,820
P Value	0.936	0.546	0.534	0.758

Group A	Season 1	Season 2	Season 3	Season 4
Group A: Injured	$1,640,000 ± $1,453,438	$1,360,417 ± $907,761	$2,714,286 ± $1,489,607	$3,187,500 ± $1,993,479
Group A: Controls	$2,120,940 ± $2,399,330	$3,947,128 ± $3,303,647	$3,787,897 ± $2,902,330	$4,303,923 ± $3,548,988
P Value	0.480	**0.012**	0.365	0.563

Group B	Season 1	Season 2	Season 3	Season 4
Group B: Injured	$2,410,385 ± $2,066,626	$3,272,222 ± $1,866,667	$4,570,000 ± $1,260,754	$2,733,333 ± $2,241,837
Group B: Controls	$3,361,565 ± $2,190,237	$3,134,438 ± $2,085,979	$3,258,281 ± $3,222,922	$3,382,143 ± $2,156,529
P Value	0.218	0.871	0.229	0.645

Group C	Season 1	Season 2	Season 3	Season 4
Group C: Injured	$5,978,048 ± $3,327,238	$4,080,263 ± $2,681,425	$3,939,706 ± $2,445,517	$4,528,373 ± $2,293,103
Group C: Controls	$4,978,850 ± $2,971,362	$3,024,870 ± $2,506,986	$3,224,750 ± $2,053,351	$3,768,167 ± $2,356,404
P Value	0.234	0.179	0.340	0.387

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Conclusions

- NHL players had a **high return to play** following hip arthroscopy.
- **Career length was similar** between NHL players undergoing hip arthroscopy and healthy players
- At one season post injury, **less game use and performance** compared to their prior season
- **No usage or performance differences at three seasons** post-injury.
- NHL players demonstrated **no significant salary change** after hip arthroscopy compared to healthy players

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