

# Hip Arthroscopy Results in Improved Patient Reported Outcomes Compared to Non-Operative Management of Waitlisted Patients.

Luke Spencer-Gardner, MD.

Ruch Dissanayake, MBBS (Hons)

Amir Kalanie, MBBS, FRACS

Parminder Singh, MBBS, MRCS, FRCS(Tr&Orth), MS, FRACS

John O'Donnell, MBBS, FRACS, FAOrthA

# Disclosures

- Luke Spencer-Gardner
  - No financial relationships to disclose
- Ruch Dissanayake
  - No financial relationships to disclose
- Amir Kalanie
  - No financial relationships to disclose
- Parminder Singh
  - Medacta consultant
- John O'Donnell
  - No relevant financial disclosures

# Introduction

- The optimal management of hip pain in the young adult population, prior to the onset of osteoarthritis, is a current topic of debate<sup>1</sup>.
- While many believe that hip arthroscopy (HA) is an established treatment option to address intra-articular pathology of the hip, other health care providers encourage non-operative management (NOM) in isolation<sup>2,3</sup>.

# Introduction

- The aim of this study is to compare the clinical outcomes of (NOM) in a group of waitlisted patients, with matched controls that undergo HA for the treatment of intra-articular hip pathology.

# Methods

- Design: Retrospective matched pair analysis
- Non-operative group:
  - Age < 60, pre-arthritic intra-articular pathology (labral tear, isolated chondral lesion, cam deformity, ligamentum teres tear), placed on waitlist for surgery.
  - Patients were instructed to avoid specific positions and activities in order to reduce the likelihood of symptom exacerbation.
  - Patient reported outcomes were collected prospectively while an unstructured program of activity modification was completed.

# Methods

- Operative group:
  - Patients with prior HA were matched 1:1 by the following criteria: age within 5 years, sex, BMI within 5 kg/m<sup>2</sup>, baseline non-arthritic hip scores (NAHS) within 10 points, and time to follow up
- Outcome measures: NAHS and the modified Harris Hip Score (mHHS).
- Scores were recorded at baseline and then at 6 months, 12 months and annually thereafter.

# Results

- Demographic Data

Variable	Non Operative	Operative	P value
<b>N</b>	37	37	
<b>Age</b>	37 (14-58)	38 (15-59)	0.97
<b>Sex</b>			
<b>M</b>	16 (43%)	16 (43%)	1.00
<b>F</b>	21 (57%)	21 (57%)	1.00
<b>BMI</b>	25.3 (19.8-40.4)	25.8 (20.3-37.0)	0.77
<b>Baseline NAHS</b>	57.5 (17.5-85.0)	56.3 (10-78.5)	0.73
<b>Baseline HHS</b>	49.3 (23-79)	58.9 (30.8-82.5)	0.004*
<b>Follow up</b>	17 (5-26)	15 (6-36)	0.28

Values reported as mean or median (range) and count (percentage).

# Results

- Diagnostic / Treatment Data

Intra-articular Pathology	Non-operative <sup>+</sup>	Operative <sup>*</sup>
Labral tear	30	16
Labral repair	n/a	5
Cam deformity	19	16
Femoral Osteochondroplasty	n/a	16
Chondral lesion	5	14
Microfracture	n/a	5
Ligamentum teres tear	8	15
Ligamentum teres debridement	n/a	15
Capsular plication	n/a	4

<sup>+</sup>Non-operative diagnoses based on MRI

<sup>\*</sup>Operative diagnoses based on assessment at the time of arthroscopy



# Results

- Clinical Outcomes Data

Paired T-test			
	Baseline	Final Follow up	P value
<b>Non-operative</b>			
NAHS	57.5	50.0	0.05*
HHS	49.3	49.6	0.91
<b>Operative</b>			
NAHS	56.3	87.5	<0.001*
HHS	60.5	84.7	<0.001*
Independent T-test			
	Non Operative	Operative	P value
NAHS	50.0	87.5	<0.001*
HHS	52.0	84.7	<0.001*

# Discussion

- The key finding of this study is the marked improvement in PRO in the HA treatment group when compared to patients awaiting surgery.
- There is a lack of high quality evidence for both non-operative and surgical treatment of pre-arthritic hip disease<sup>4,5</sup>.

# Discussion

- In practice, a step-wise progression of treatment as outlined by Hunt et. al, incorporating conservative management, followed by injections, and then surgery for patients that fail to improve is most commonly implemented<sup>6</sup>.
- Using this protocol, 44% were satisfied with conservative management for a variety of pre-arthritis hip conditions<sup>6</sup>.

- Strengths:
  - Inclusion of a well matched control group.
- Limitations:
  - Potential selection bias of those in the non-operative group.
  - Lack of long term follow up.

# Conclusions

- HA leads to significant improvements in PRO when compared to recommended activity modification for waitlisted patients at early follow up.
- Ongoing prospective randomised studies with long term follow up will add to our understanding of the role of surgical and non-operative management in the field of hip preservation.

# References

1. Reiman, M.P. and K. Thorborg, *Femoroacetabular impingement surgery: are we moving too fast and too far beyond the evidence?* Br J Sports Med, 2015. 49(12): p. 782-4.
2. Emara, K., et al., *Conservative treatment for mild femoroacetabular impingement.* J Orthop Surg (Hong Kong), 2011. 19(1): p. 41-5.
3. Khan, M., et al., *Arthroscopy Up to Date: Hip Femoroacetabular Impingement.* Arthroscopy, 2016. 32(1): p. 177-89.
4. Wall, P.D., et al., *Nonoperative treatment for femoroacetabular impingement: a systematic review of the literature.* PM R, 2013. 5(5): p. 418-26.
5. Wall, P.D., et al., *Surgery for treating hip impingement (femoroacetabular impingement).* Cochrane Database Syst Rev, 2014(9): p. CD010796.
6. Hunt, D., et al., *Clinical outcomes analysis of conservative and surgical treatment of patients with clinical indications of prearthritic, intra-articular hip disorders.* PM R, 2012. 4(7): p. 479-87.