

Comparable Minimum Two-Year Patient-Reported Outcome Scores Between

Circumferential and Segmental Labral Reconstruction

for the Management of Irreparable Labral Tear and Femoroacetabular Impingement Syndrome
in the Primary Setting: A Propensity-Matched Study



Benjamin G. Domb, M.D.

Medical Director, American Hip Institute
Chair, AHI Research Foundation

Acknowledgement:

David Maldonado, M.D.

American Hip Institute Fellowship Alumnus

Disclosures

I (and/or my co-authors) have something to disclose.

Detailed disclosure information is available via:

AAOS Orthopaedic Disclosure Program on the AAOS
website at

<http://www.aaos.org/disclosure>

Background

- In the case of irreparable labra, labral reconstruction has demonstrated favorable outcomes
- Currently, the two main techniques for labral reconstruction are the segmental and circumferential approaches
- However, the superiority of the circumferential technique is yet to be proven

Purpose

- Assess minimum two-year follow-up PROs in patients who underwent primary acetabular circumferential labral reconstruction and segmental labral reconstruction using propensity-matched groups, in the context of irreparable labral tears and FAIS

Methods

- Study period: August 2010 to December 2017
- Data registry was retrospectively reviewed for all patients who underwent hip arthroscopy for symptomatic intra-articular hip pathology.

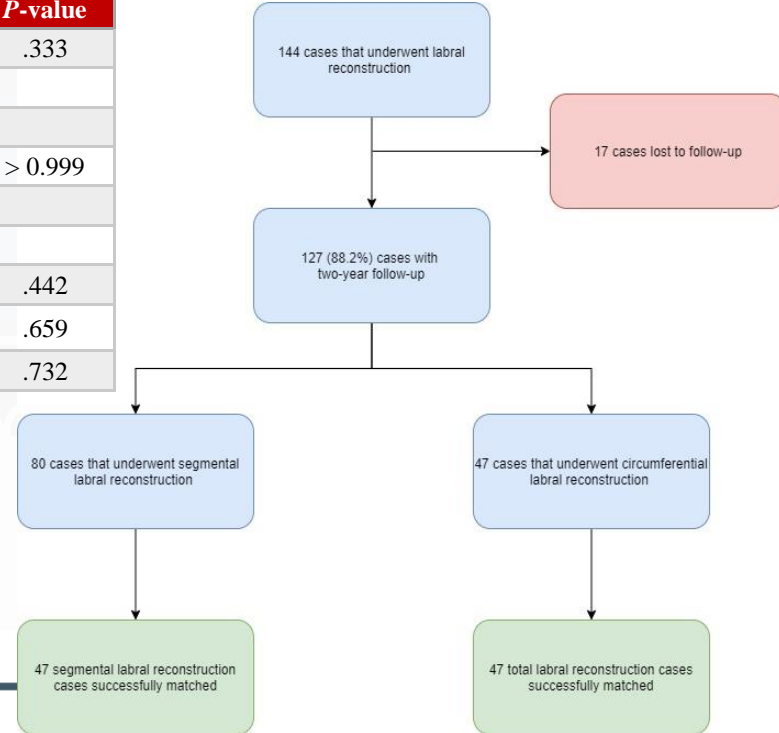
Inclusion criteria	Exclusion criteria
<ol style="list-style-type: none">1. Primary hip arthroscopy.2. FAI and labral reconstruction3. Minimum 2-year postoperative measures mHHS, NAHS, HOS-SSS, iHOT-12, VAS.	<ol style="list-style-type: none">1. Tönnis grade > 1.2. Previous hip conditions.3. Previous ipsilateral hip surgeries.

Methods

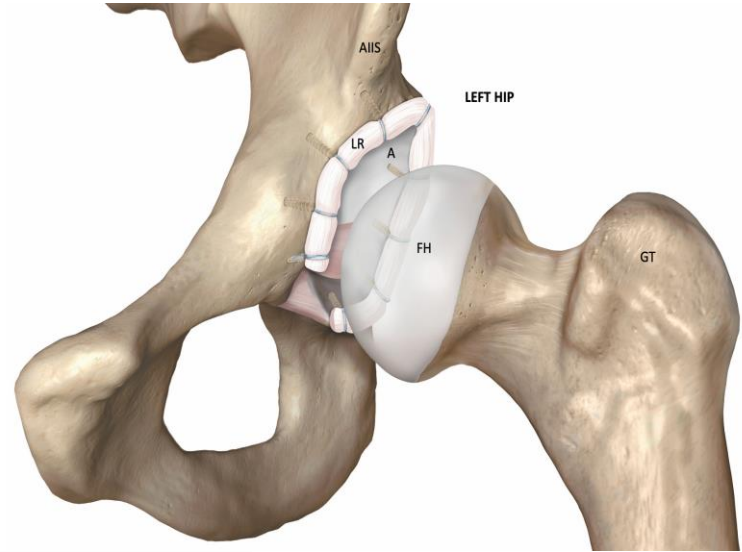
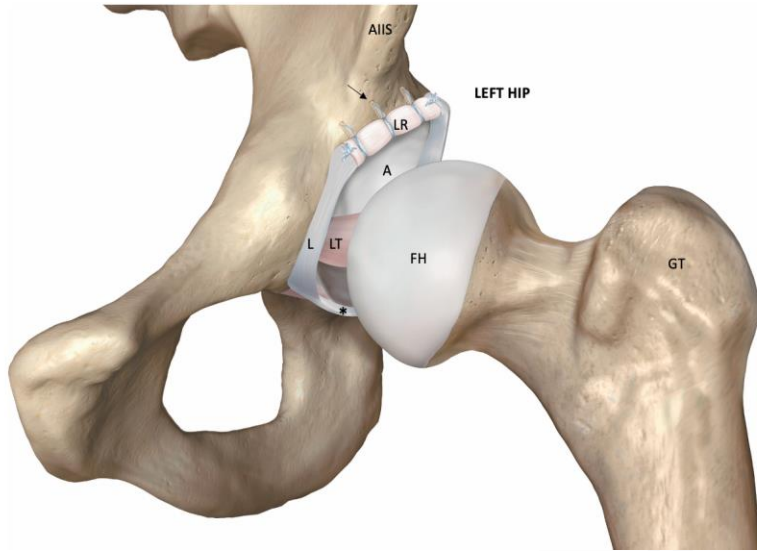
- **Group 1: FAI + circumferential labral reconstruction**
- Group 2: FAI + segmental labral reconstruction
- Propensity score matched 1:1 based on age, sex, and BMI
- Power analysis: 45 in each group
- MCID for mHHS, HOS-SSS, VAS, and NAHS
- PASS for mHHS, HOS-SSS, iHOT-12

Results

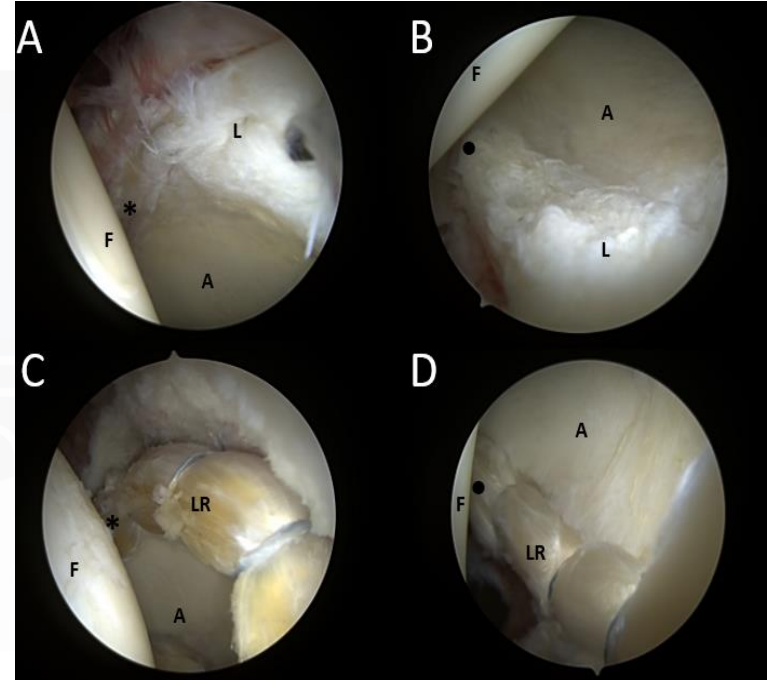
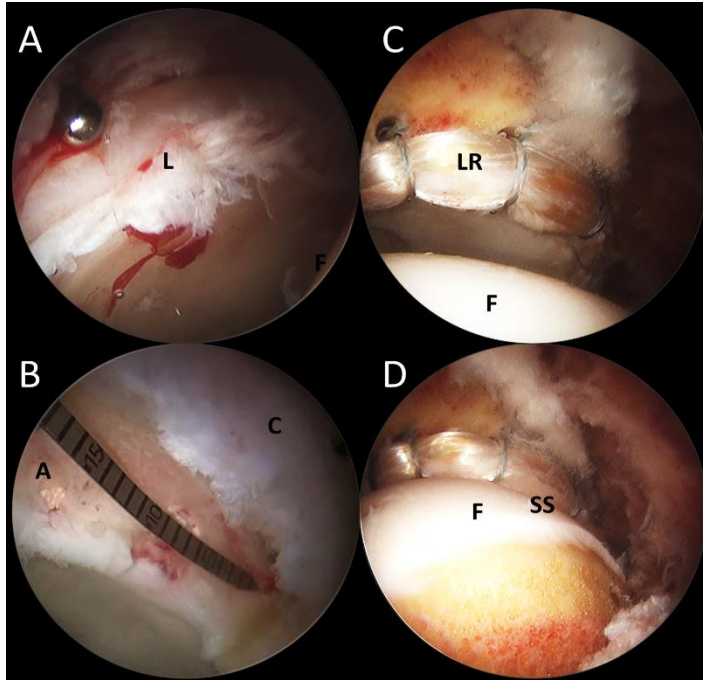
Demographics	Segmental	Circumferential	P-value
Hips included in study			.333
Left	18 (38.3%)	24 (51.1%)	
Right	29 (61.7%)	23 (48.9%)	
Gender			> 0.999
Female	23 (48.9%)	24 (51.1%)	
Male	24 (51.1%)	23 (48.9%)	
Age at surgery (years, mean, SD, CI)	43.1 ± 9.4 [40.4, 45.8]	44.7 ± 10.2 [42.1, 47.2]	.442
BMI (kg/m ² , mean, SD, CI)	27.4 ± 5.5 [25.8, 29]	27.5 ± 4.9 [26.3, 28.8]	.659
Follow-up Time (months, mean, SD, CI)	29 ± 7.8 [26.8, 31.2]	27.9 ± 7 [26.2, 29.7]	.732



Results



Results



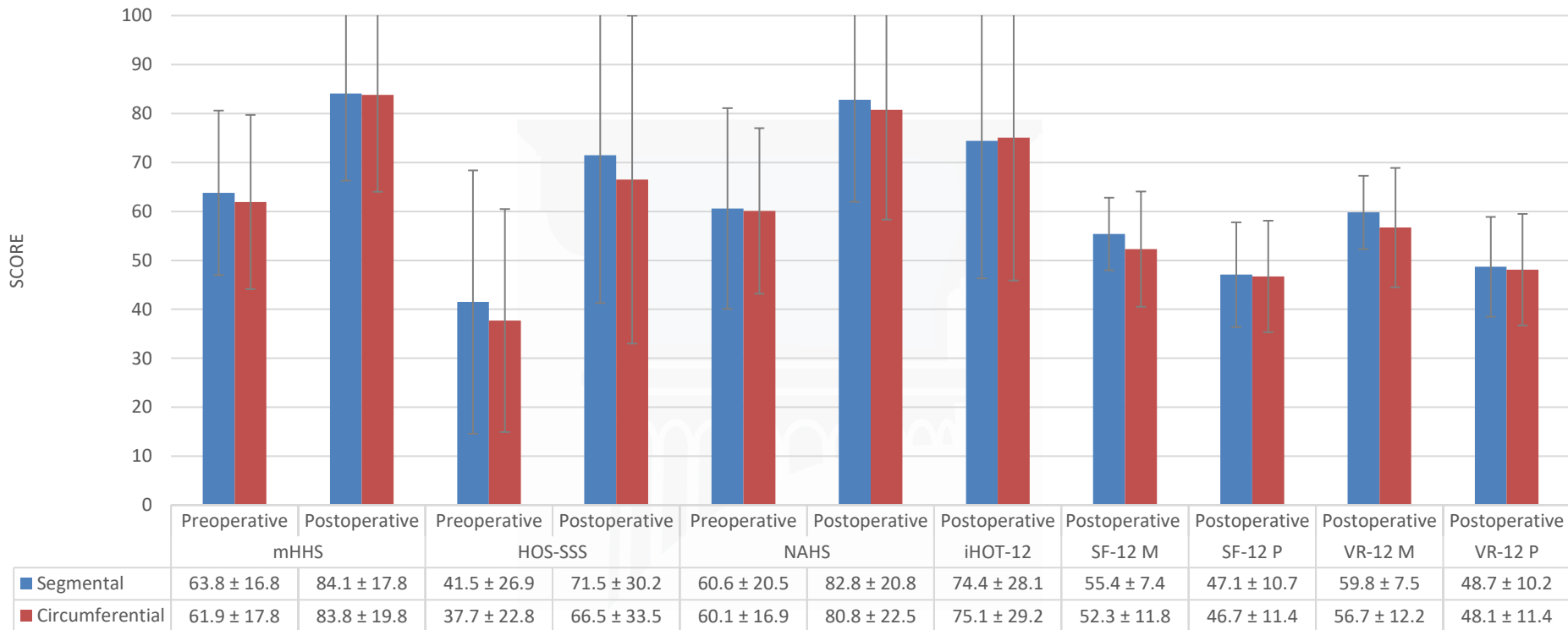
	Segmental [mean, 95% CI]	Circumferential [mean, 95% CI]	P-Value
mHHS			
Preoperative	63.8 ± 16.8 [59, 68.6]	61.9 ± 15.6 [58, 65.9]	.585
Latest	84.1 ± 17.8 [79, 89.1]	83.8 ± 19.8 [78.8, 88.7]	.706
Pre-Postoperative P-Value	<.0001	<.0001	
Delta	19.6 ± 15 [15.4, 23.9]	21.7 ± 17.5 [17.3, 26.1]	.542
HOS-SSS			
Preoperative	41.5 ± 26.9 [33.8, 49.1]	37.7 ± 22.8 [31.9, 43.4]	.484
Latest	71.5 ± 30.2 [62.9, 80.2]	66.5 ± 33.5 [58.1, 74.9]	.527
Pre-Postoperative P-Value	<.0001	<.0001	
Delta	27.7 ± 34.2 [17.9, 37.4]	31.3 ± 24.6 [25.1, 37.5]	.605
VAS			
Preoperative	4.8 ± 2.4 [4.1, 5.4]	5 ± 2.2 [4.4, 5.5]	.482
Latest	2.2 ± 2.5 [1.5, 2.9]	2.4 ± 2.7 [1.7, 3.1]	.743
Pre-Postoperative P-Value	<.0001	<.0001	
Delta	-2.4 ± 2.4 [-3.1, -1.7]	-2.5 ± 2.9 [-3.3, -1.8]	.803
NAHS			
Preoperative	60.6 ± 20.5 [54.8, 66.5]	60.1 ± 16.9 [55.8, 64.3]	.885
Latest	82.8 ± 20.8 [76.8, 88.7]	80.8 ± 22.5 [75.1, 86.4]	.574
Pre-Postoperative P-Value	<.0001	<.0001	
Delta	21.1 ± 17.5 [16.1, 26.1]	20.4 ± 17.4 [16.1, 24.8]	.625
Postoperative			
iHOT-12	74.4 ± 28.1 [66.4, 82.5]	75.1 ± 29.2 [67.8, 82.4]	.640
SF-12 M	55.4 ± 7.4 [53.2, 57.5]	52.3 ± 11.8 [49.3, 55.2]	.576
SF-12 P	47.1 ± 10.7 [44, 50.1]	46.7 ± 11.4 [43.8, 49.5]	.748
VR-12 M	59.8 ± 7.5 [57.7, 62]	56.7 ± 12.2 [53.6, 59.8]	.446
VR-12 P	48.7 ± 10.2 [45.8, 51.7]	48.1 ± 11.4 [45.2, 51]	.788
Satisfaction	7.8 ± 2.9 [7, 8.7]	7.4 ± 3.2 [6.6, 8.2]	.688

MCID, PASS	Segmental, n (%)	Circumferential, n (%)	P-value
mHHS			
MCID (8.4, 8.4)	35 (76.7%)	35 (77.8%)	.848
PASS 74	36 (78.3%)	33 (73.3%)	.583
HOS-SSS			
MCID (13.4, 11.4)	24 (64.9%)	28 (77.8%)	.223
PASS 75	21 (55.3%)	22 (55.0%)	.981
VAS			
MCID (-1.2, -1.1)	32 (71.1%)	31 (68.9%)	.818
NAHS			
MCID (10.2, 8.4)	31 (68.9%)	34 (73.9%)	.596
iHOT-12			
PASS 63	31 (75.6%)	32 (71.1%)	.638

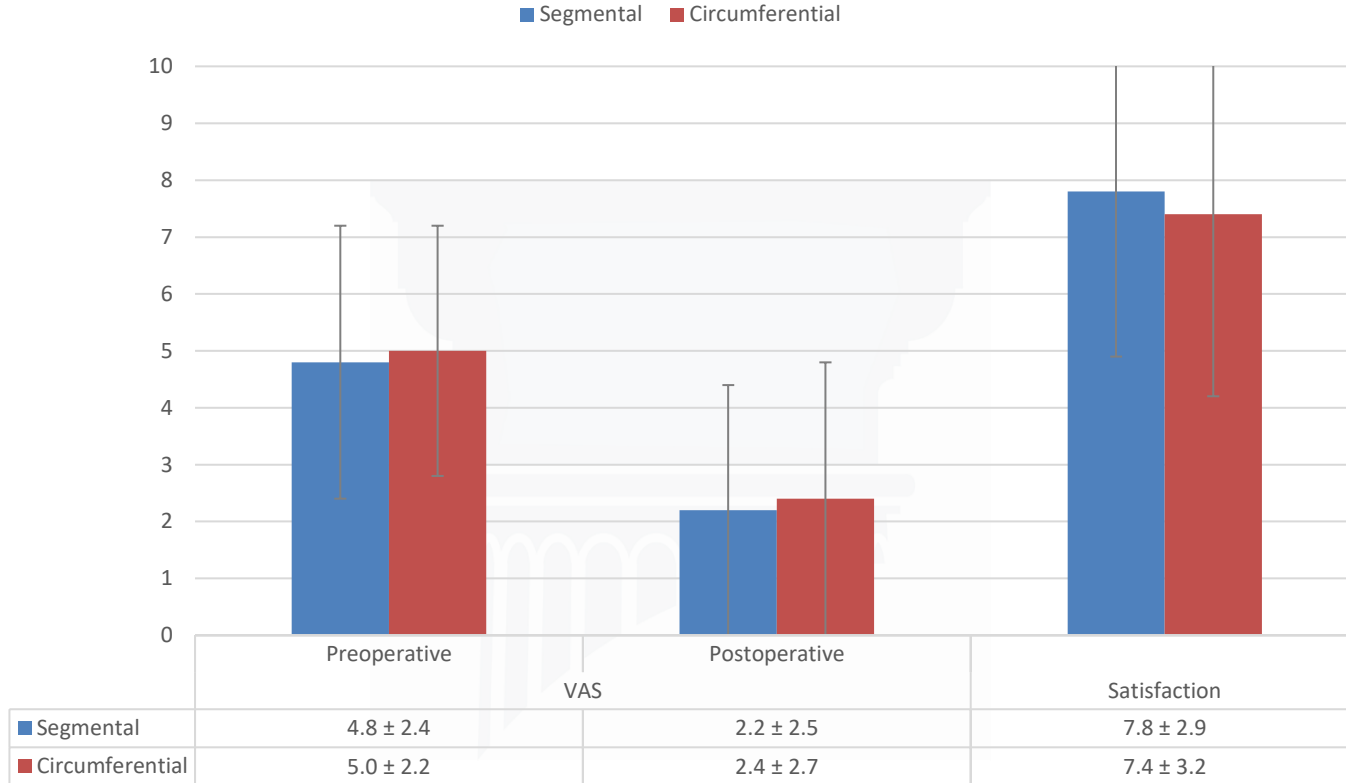
Secondary Surgeries	Segmental	Circumferential	P-value
Secondary arthroscopies (n, %)	2 (4.3%)	1 (2.1%)	.557
THA (n, %)	5 (10.6%)	3 (6.4%)	.440
Time to THA (months, mean, SD, range)	28.9 ± 19.4 (11.1-32.8)	23.4 ± 10.9 (11.0-31.6)	.669

Minimum Two-Year Patient Reported Outcomes

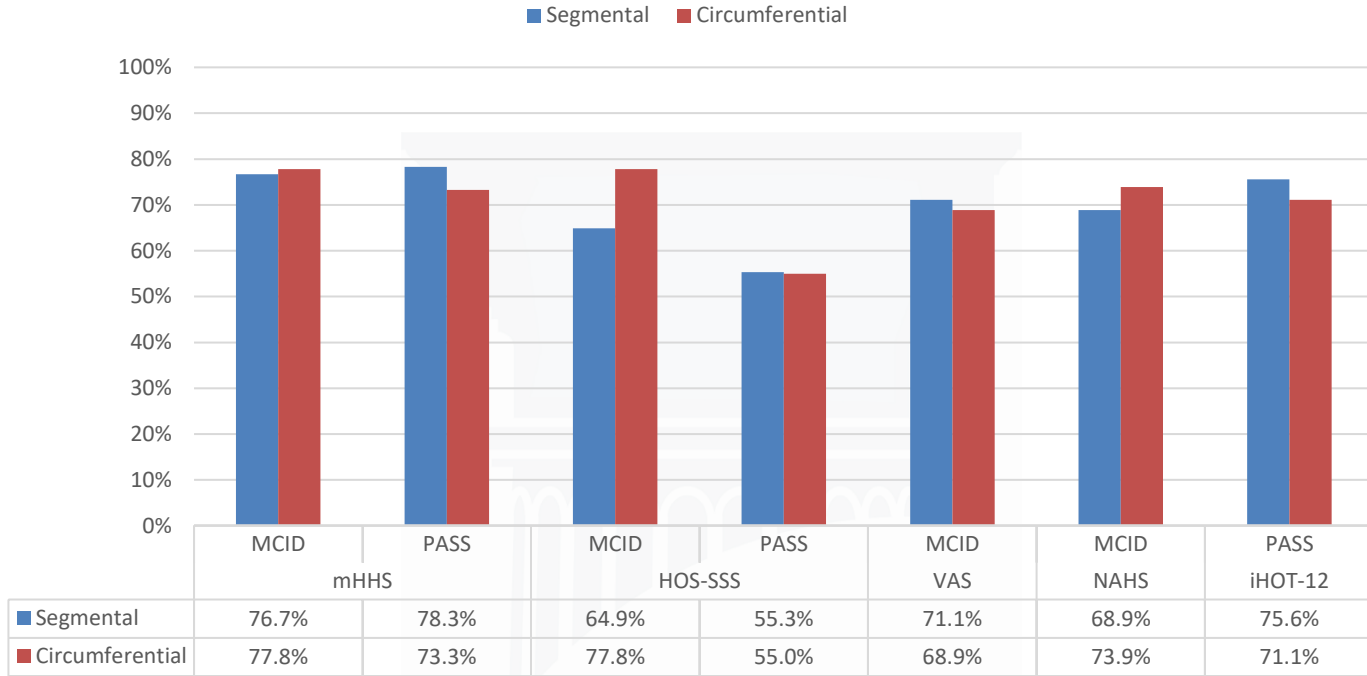
■ Segmental ■ Circumferential



VAS and Satisfaction

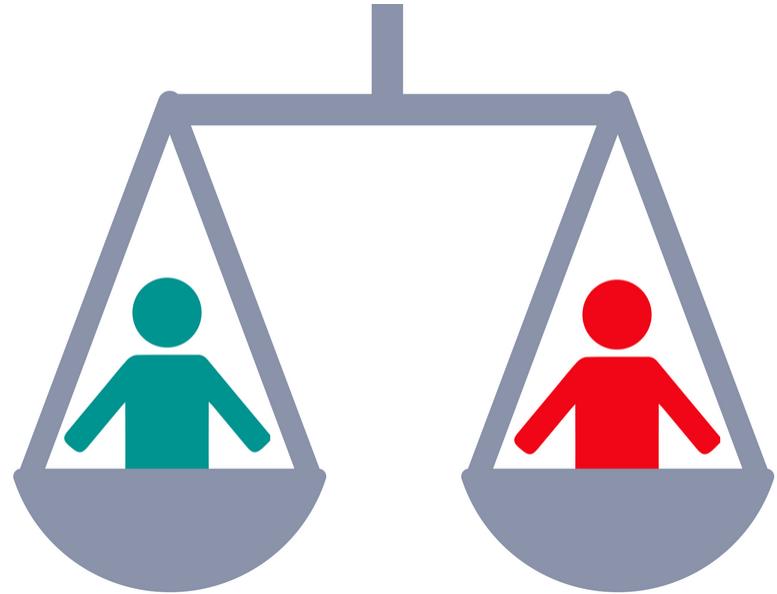


Rates of Achieving MCID and PASS



Discussion

- Significant improvement in PROs at minimum 2-year
- Comparable PROs and clinical results



Strengths

- Propensity matched study design
- Multiple PROs
- MCID, PASS



Limitations

- Nonrandomized study
- Retrospective design
- Single center-single surgeon
- Longer FU



Conclusions

- Patients who underwent primary hip arthroscopy for either circumferential or segmental labral reconstruction in the context of irreparable labra and FAIS reported significant improvement and similar postoperative scores for all PROs

AMERICAN HIP INSTITUTE

898

Benjamin G. Domb, M.D.
Medical Director, American Hip Institute
Chair, American Hip Institute Research Foundation