

Severity of Chondral Damage Increases with Age, but Does Not Affect Short-Term Outcomes for Hip Arthroscopy Patients

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Background

- Despite the clinical success of hip arthroscopy in treating intra-articular pathologies of the hip, clinical failures do occur.
- Age has been identified as a potential detractor to performing hip arthroscopy, as older patients may experience inferior outcomes¹⁻³.

Study Aim

- The present study was undertaken to examine the degree of chondral damage present in the hip at time of arthroscopy at different decades of age and determine the effect of multiple patient factors, including age, on short-term outcomes following arthroscopy.



Methods

- Between 2012 and 2014, we identified 149 patients who underwent arthroscopic evaluation of their hip.
 - 99 females, 50 males
 - Average age: 36.5 ± 11.9 years
- Patients were divided into four groups based on their decade of age

Age Group	Number of Patients
< 30 years	49
30 – 39 years	38
40 – 49 years	40
> 50 years	22

Methods

- The articular cartilage of the posterior, superior, and anterior regions of the acetabulum and femoral head were assessed for signs of chondral damage during arthroscopy.
- The degree of damage was classified as
 - Absent
 - Mild (grades I or II)
 - Moderate to severe (grades III or IV)
- The degree of damage was compared between each age group using Chi-Square analyses ($p < 0.05$).



Methods

- All patients completed the modified version of the Harris Hip Score (MHHS) at 3 months post-surgery
 - Total score was compared between each age group using One-way ANOVA ($p < 0.05$)
- Good-Excellent outcome (GEO) was defined as > 80 points on the MHHS
 - Patients were grouped based on whether they achieved GEO
 - Factors that may contribute to GEO were assessed using Chi-Square analyses (age, sex, dysplasia, revision, low back pain, presence of severe damage)



Results

- The percentage of patients without articular cartilage damage on the femoral head decreased with each decade of age for all regions.

	< 30 years	30 – 39y	40 – 49y	> 50 years	P-value
Superior	95.9%	89.5%	72.5%	59.1%	0.003
Anterior	91.8%	92.1%	80.0%	63.6%	0.029
Posterior	98.0%	100.0%	97.5%	86.4%	0.031

Results

- The percentage of patients without articular cartilage damage on the acetabulum decreased with each decade of age for the superior and posterior regions.

	< 30 years	30 – 39y	40 – 49y	> 50y	P-value
Superior	91.8%	78.9%	60.0%	45.5%	0.001
Anterior	34.7%	36.8%	32.5%	9.1%	0.249
Posterior	87.8%	92.1%	70.0%	68.2%	0.041

Results

- MHHS scores at 3M did not differ between age groups ($p = 0.35$)
- The percent of patients who achieved GEO did not differ between age groups ($p = 0.27$)

Age Group	MHHS Score	% GEO
< 30 years	82.9 \pm 13.0	65%
30 - 39 years	78.7 \pm 12.9	45%
40 - 49 years	80.9 \pm 13.3	60%
> 50 years	78.0 \pm 12.2	55%

Results

- Factors which contribute adversely to GEO at 3 months post-arthroscopy
 - Female Sex **p = 0.04**
 - Age Group p = 0.15
 - Revision p = 0.22
 - History of low back pain (LBP) **p = 0.005**
 - Presence of severe damage (SEV) p = 0.07
 - Dysplasia p = 0.44
- Fewer females (52%) achieved GEO compared to males (68%)
- Fewer patients with LBP (32%) achieved GEO compared to patients without LBP (62%)

Conclusions

- Our findings demonstrate that, while the degree of chondral damage increased during each decade of age, age did not result in inferior outcomes at 3 months post-arthroscopy.
- The only factors that independently resulted in reduced outcomes were female sex and history of low back pain.
- Although we only assessed short-term outcomes, our findings suggest that outcomes following hip arthroscopy can be affected by a multitude of factors, and patient age alone should not deter from arthroscopic treatment, particularly if mechanical symptoms are present.



References

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