

Hip Arthroscopy In Patients Over Age 40: A Systematic Review

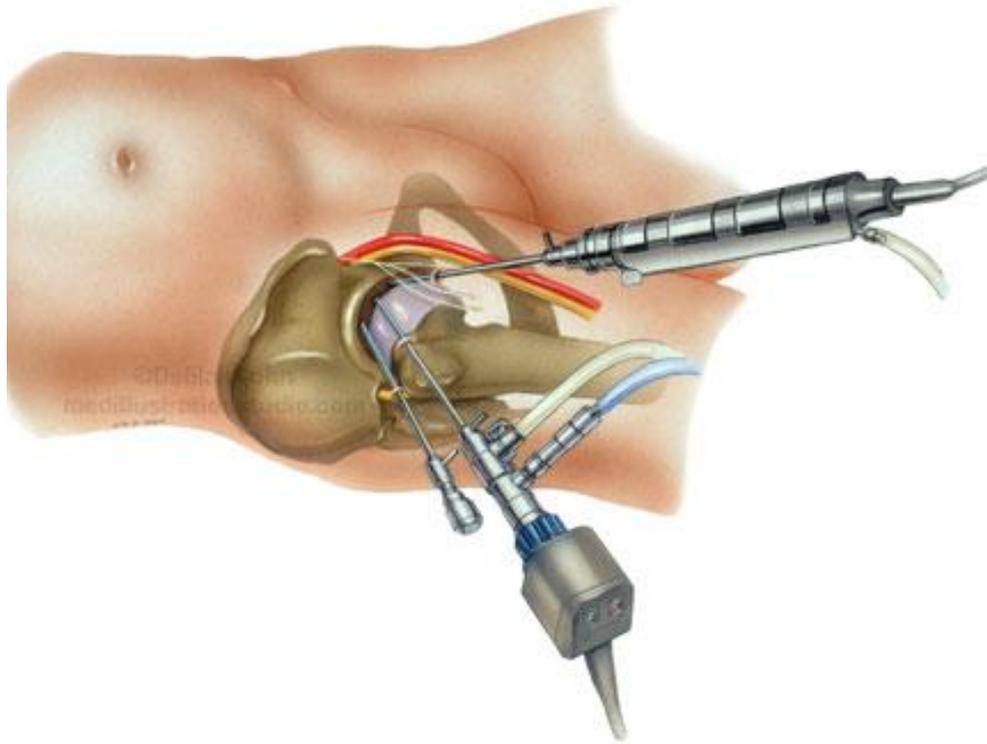
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Overview of Study

- **Purpose:** The purpose of this study was to evaluate the existing literature for the indications, outcomes and rates of conversion to total hip arthroplasty (THA) for hip arthroscopy in patients over the age of 40.
- **Methods:** The electronic databases MEDLINE, EMBASE, and PubMed were searched for relevant studies and pertinent data was abstracted.
- **Results:** There were 17 studies included in this review comprising 16,327 patients, 9,954 of who were over age 40. All studies reported statistically significant improvement in outcomes after hip arthroscopy for either unspecified indications, femoral osteochondroplasty, or labral repair. Obesity predicted poorer outcomes, while osteoarthritic changes were an even better predictor of poor outcomes than age. The rate of conversion to THA was 18.1% for patients >40, 23.1% for patients >50 and 25.2% for patients >60 which were all significantly higher than in patients <40. The average time to THA was 25.0 months. Only one of three studies directly comparing the two groups found that patients >40 had significantly less improvement in a standardized hip outcome score than patients <40 after hip arthroscopy.
- **Conclusions:** Indications for hip arthroscopy including femoral osteochondroplasty and labral repair resulted in clinically significant improvements in patients over 40 whereas labral debridement did not produce clinically significant improvements post-operatively. In this patient population, the rate of conversion to THA is significantly higher than in patients under 40 and increases with each decade of life. The presence of osteoarthritic changes or obesity also acts as a predictor of worse outcomes in these patients. Although hip arthroscopy may be suitable for some patients over 40, patient selection is key.

Introduction and Background

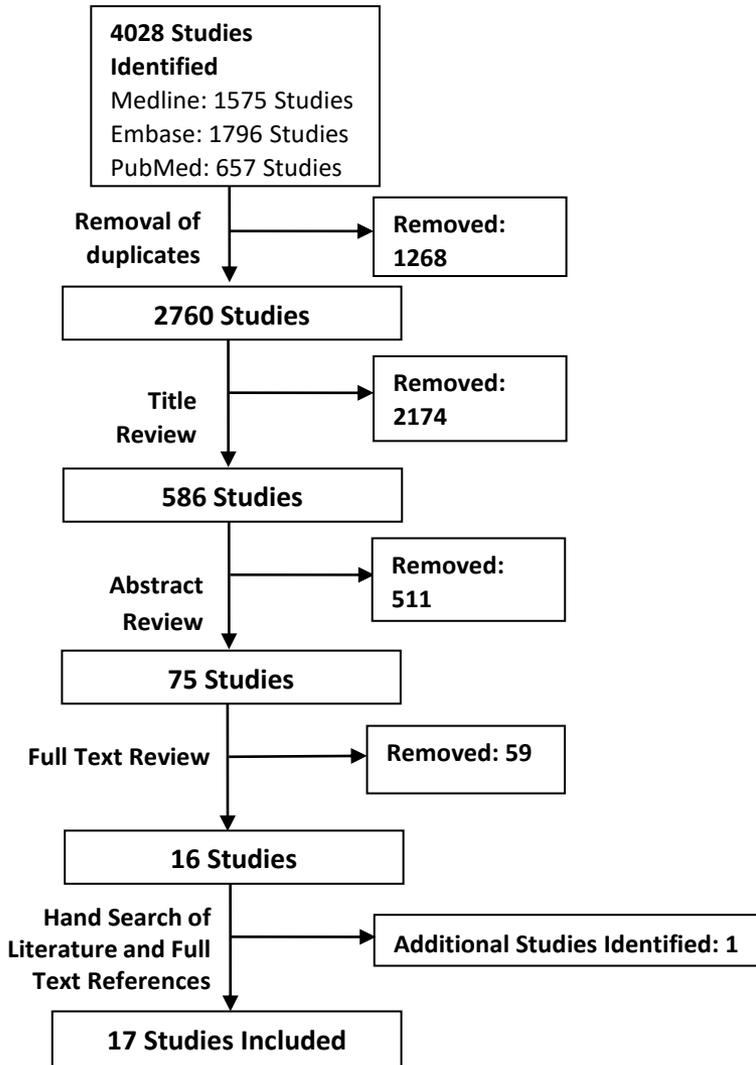
- Femoroacetabular impingement (FAI) is the result of proximal femoral and acetabular dysmorphology leading to impingement, accelerating both chondral and labral damage, and potentially osteoarthritis (OA) [1].
- FAI represents one of the most common indications for hip arthroscopy [2].
- FAI is known to be much more prevalent in athletes, and for this reason hip arthroscopy is generally thought of as being a treatment for young, fit patients [3].
- The literature on hip arthroscopy in the middle aged population has been limited and equivocal [4].
- The presence of OA has been shown in many studies to be a poor prognostic factor in hip arthroscopy [5,6].

Purpose & Hypotheses

- The purpose of this review was to
 - a) Report clinical outcomes, complication rates, and THA conversion rates for patients over the age of 40 undergoing hip arthroscopy
 - b) Report any age-related predictors of outcome identified in the literature

- We hypothesized that
 - a) Patients over 40 would have relatively less positive outcomes compared to younger patients
 - b) The presence of degenerative changes would predict poorer outcome

Methods



- Included studies reporting at least one clinical or radiographic outcome in male or female patients over age 40.
- All levels of evidence
- Excluded any case series/reports with a patient sample size <3.

Results

- Systematic review of the literature yielded 17 included studies with a total of 16,327 patients.

Demographic Data	
Total N	16,327
Total N over 40	9,954
% Male	39.6%
Mean age (range)	56.3 years (40-83 years)
Mean follow-up (range)	43.9 months (0.5-20 months)

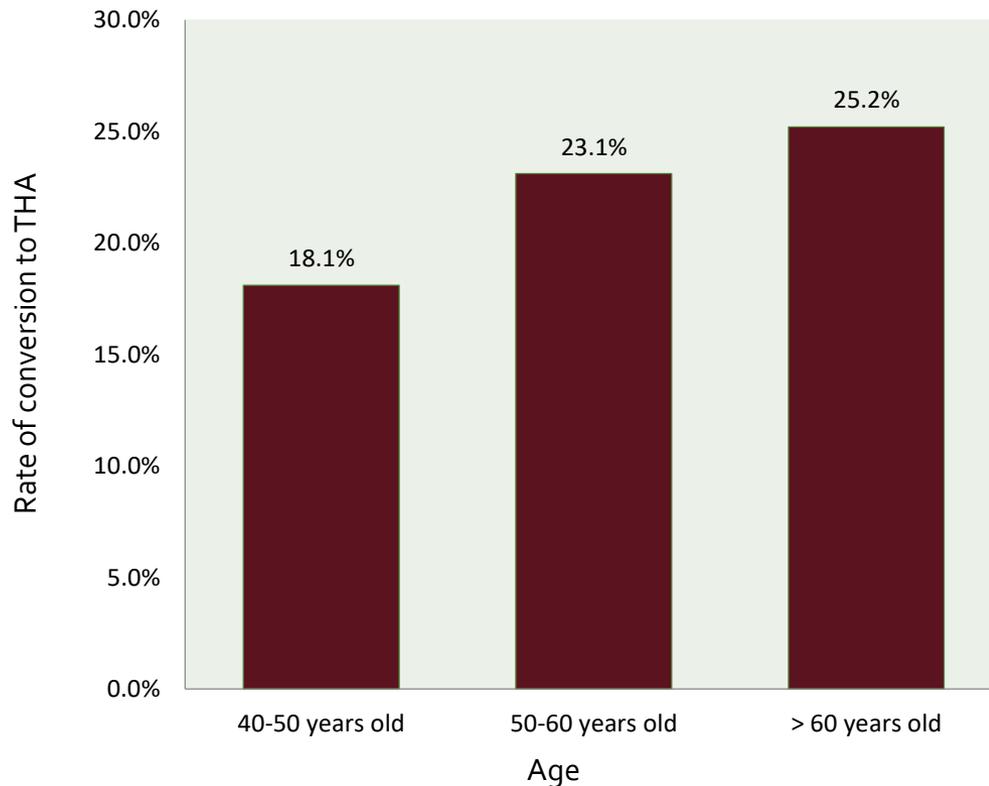
Results

- Patients over 40 demonstrated statistically significant improvement on various outcome scores (mHHS, HOS, WOMAC, NAHS, SF-12), in all eight studies which commented on the presence or absence of a significant improvement
- The only exceptions to the above were two studies which did not find a significant improvement in SF-12 mental scores and one study which did not observe a significant improvement in the WOMAC stiffness score.
- Predictors of worse outcome after hip arthroscopy:
 - Osteoarthritic changes – best predictor of poor outcome
 - Age
 - Obesity

Results

- Eight studies directly compared outcomes of patients over 40 to outcomes in younger patients after hip arthroscopy.
 - **Five studies:** older patients more likely to convert to THA
 - **Two studies:** no significant difference in patient-reported outcome scores
 - **One study:** significantly lower post-operative outcome scores in older patients
 - **One study:** younger patients returned to sexual activity more quickly

Results



- Many studies have short to mid-term follow-up time, thus risk of lifetime THA conversion likely underestimated
- Compared to younger patients, those >40 had significantly higher rates of conversion to THA

Limitations

- No meta analysis possible due to lack of comparative studies.
- Many studies did not stratify outcomes by indication for hip arthroscopy, thus it is difficult to conclude which indications provide the most significant benefit to patients over 40 and which do not.

Conclusions

- Patients over 40 showed clinically significant improvement following hip arthroscopy for
 - Femoral osteochondroplasty
 - Labral repair
- No clinically significant improvement following labral debridement in patients > 40
- Significantly higher rate of THA conversion in patients > 40
- Rate of THA conversion increases with each decade of life
- Osteoarthritic changes and obesity predict worse outcomes in patients > 40

References

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