Two Year Follow-up Of Hip Arthroscopies: A Match-controlled Study Comparing Patients Over 50 Years To Under 30 Years

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Objectives: Few studies have addressed the issue of hip arthroscopy in the aging population, and none has compared it directly to a young cohort. The purpose of the study was to compare the outcomes and patient characteristics of hip arthroscopy procedures in patients 50 years and over with a matched control group of patients 30 years and younger, at a minimum post-operative follow-up of two years.

Methods: Between September 2008 and March 2010, data was prospectively collected on all patients 50 years and over undergoing primary hip arthroscopy. Sixty-four cases met our inclusion/exclusion criteria, of which 57 (89%) were available for follow-up at a minimum of two years. A gender-matched control group of 57 patients 30 years and younger was created. All patients were assessed pre- and post-operatively, using four patient-reported outcome (PRO) measures: the modified Harris Hip Score (mHHS), Non-Arthritic Hip Score (NAHS), Hip Outcome Score Activity of Daily Living (HOS-ADL) and Sport-Specific Subscales (HOS-SSS). Pain was estimated on the visual analog scale (VAS) and satisfaction was measured on a scale from 0-10. Pre-operative radiographic assessment was performed on all patients, and intra-operative findings were recorded.

Results: The mean age of our study group was 55.68 (50-76), and the control group was 21 (14-30). The groups were gender-matched, including 17 (30%) male and 40 (70%) females in each group, with an average follow-up of 32 months (range 24-54 months). The two-year survivorship for the study group was 82%. The mean time from arthroscopy to joint replacement was 18.4 months (range 3.5-38.5 months). At latest follow-up, survivorship was 6 of 12 (50%) for patients with Tonnis 2 arthritic grade, versus 32 of 45 (71%) for patients graded Tonnis 0 or 1. For patients 50 and over, the score improvement from preoperative to two-year follow-up was 64 to 89 for mHHS, 60 to 88 for NAHS, 67 to 90 for HOS-ADL, and 42 to 77 for HOS-SSS. For patients 30 and younger, the score improvement from preoperative to two-year follow-up was 55 to 84.5 for mHHS, 53 to 80 for NAHS, 58 to 83 for HOS-ADL, and 35 to 62 for HOS-SSS. All improvements in both groups were statistically significant (p<0.05). There were no significant differences seen between the groups in score improvements for mHHS, NAHS or HOS-ADL. However, the improvement in the HOS-SSS was greater in the control group (p=0.03). The post-operative VAS was similar between the groups: 3.1 for the 50 and over group and 2.5 for the 30 and younger group. Satisfaction was 8.27 for the 50 and over group and 8.41 for 30 and younger group, and was also similar between groups.
Figure 1A-D: PRO Measures pre and postoperatively. A

HOS-ADL

![Graph showing HOS-ADL measurements pre and postoperatively for ages >50 yrs and <30 yrs.]

HOS-SSS

![Graph showing HOS-SSS measurements pre and postoperatively for ages >50 yrs and <30 yrs.]

B

C
Conclusion: Overall, survivors 50 and over years of age experienced similar improvement to patients 30 and younger after hip arthroscopy regarding pain, functional scores, and patient satisfaction. Patients 50 and over with Tonnis grade 0 or 1 have higher survivorship than those with Tonnis grade 2. While a certain subset of patients in the older group may progress to hip replacement, the two-year survivorship of patients 50 and over was high (82%). These results present favorable two-year clinical outcomes for the older group when compared to a matched control group of younger patients. Therefore, we believe that hip arthroscopy should be considered a valid option when treating hip pain in patients 50 years and over with arthritic grade Tonnis 0 or 1.