

## **Surgical Treatment of Femoroacetabular Impingement: A Minimum 10-Year Outcome and Risk Factors for Failure**

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**Introduction:** Femoroacetabular impingement (FAI) is one of the well-known causes of hip pain and dysfunction in active young adults. Surgical treatment has been widely popularized during past decades. However, most reported results are limited to short- and mid-term follow up. The long-term success rate and risk factors for failure are largely unknown. This study aims to report our long-term (minimum 10-year) clinical outcome and the risk factors for treatment failure of femoroacetabular osteoplasty (FAO) and labral repair.

**Methods:** Using our prospective hip preservation database, 164 patients (178 hips) who had undergone FAO between January 2005 and April 2009 were identified. Patient demographics, clinical history, duration of preoperative symptoms, radiographic parameters (pre and postoperative alpha angle, hip dysplasia and retroversion, Tönnis grade for osteoarthritis) and intraoperative findings (chondral lesion, labral tear, subchondral cyst, size of the cam lesion) were reviewed and compared between success and failure group. At minimum 10-year follow-up, clinical functional outcome (modified HHS and SF36 at 6 weeks, 6 months, one year and after 10 years) and failure rate (conversion to total hip arthroplasty [THA]) were collected.

**Results:** The mean age was  $34.3 \pm 10.4$  years and 65 (39.6%) patients were female. There was significant improvement post-FAO in mean mHHS ( $58.2 \pm 3.9$ - $86.4 \pm 3.2$ ) and SF36 ( $60.4 \pm 4$ - $85 \pm 4.1$ ). At the latest follow-up (range: 10-14 years; mean: 12.5), 12.3% (n=22) of hips underwent THA and mean time to THA was  $7.4 \pm 3.8$  years. Older age, longer preoperative symptomatic period, higher preoperative alpha angle, presence of hip dysplasia and full thickness acetabular chondral lesion were detected as risk factors for conversion to THA.

**Conclusion:** Patients with symptomatic FAI who undergo surgery experience pain relief and functional improvement that appears to endure over a decade in the majority. This study on a large cohort with long-term follow-up has also identified patients who are at higher risk of failure.