

## Periacetabular Osteotomy for Acetabular Dysplasia: Are Male Patients at Higher Risk for Secondary Femoroacetabular Impingement?

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**Introduction:** Favorable outcomes following periacetabular osteotomy (PAO) occurs in most patients, but a cohort exists that is complicated by secondary femoroacetabular impingement (FAI). We hypothesize that males presenting with acetabular dysplasia have a higher incidence of FAI and are at risk for secondary FAI. The purpose of this study was to investigate the association of patient sex with clinical, radiographic, and intraoperative findings that increase the risk of secondary FAI after PAO surgery.

**Methods:** Retrospective review of patients with a primary diagnosis of acetabular dysplasia treated with PAO was performed. Clinical data including patient demographics, physical exam and radiographic measurements, intraoperative findings and patient-rated outcome scores were collected.

**Results:** There were 156 females and 50 males. Mean age was similar among sexes; however, BMI was higher in males compared to females (25.7 vs. 23.7 kg/m<sup>2</sup>,  $p < 0.01$ ). Males had higher preoperative UCLA (7.3 vs. 6.3,  $p < 0.05$ ) and Harris Hip score (63.2 vs. 58.0,  $p < 0.05$ ). Males had less hip range of motion including internal rotation at 90° of flexion (14.0° vs. 24.6°,  $p < 0.001$ ), external rotation at 90° of flexion (31.1° vs. 37.7°,  $p = 0.05$ ). A crossover sign (76.6% vs. 47.1%,  $p < 0.001$ ) and posterior wall sign (85.1% vs. 61.1%,  $p < 0.001$ ) were more common in males. Males had higher alpha angles on both the frog lateral (62.8° vs. 54.8°,  $p < 0.01$ ) and Dunn views (63.6° vs. 56.3°,  $p < 0.05$ ). The incidence of an impingement trough was higher in males (40.0% vs. 19.2%,  $p < 0.05$ ).

**Conclusion:** Males patients have a higher prevalence of clinical and radiographic signs consistent with FAI on both the femoral and acetabular side. Preoperative evaluation of acetabular dysplasia in males should include careful attention to factors associated with FAI and be treated if indicated at the time of surgery to minimize the risk of secondary FAI after PAO correction.