



## Femoral Morphology in Acetabular Dysplasia: Are Cam-lesions Common?

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**Introduction:** Controversy exists regarding the true prevalence of cam-like deformity in the setting of acetabular dysplasia. We hypothesized that classic dysplasia hips (anteverted) would have a low prevalence of associated cam morphology.

**Methods:** We retrospectively reviewed 204 patients (229 hips) that had undergone PAO from two institutions. Preoperative AP and frog-lateral radiographs were analyzed for LCEA, alpha angles, anterior-offset and retroversion. Hips were classified as dysplastic (LCEA<20°, group A, n=168), borderline dysplastic (LCEA 20°-25°, group B, n=36) and other (LCEA>25°, group C, n=25). There were 150 females and 54 males with an average age of 28 years (range 13-56).

**Results:** LCEA was a mean 7°(range, -33° – 19°) for group A, 22° (range 20°– 25°) for group B and 32° (range 26°-46°) for group C. Mean alpha angle was 44° (range, 19° – 72°) for group A, 46° (35° – 78°) for group B and 48° (25° – 76°) for group C. Mean anterior offset was 11 mm (95% CI, 11mm – 11mm) for group A, 10mm (95% CI, 9mm – 12mm) for group B and 10mm (95% CI, 9mm – 11mm) for group C. 9% of group A femora had an alpha angle >55°. Prevalence of cam FAI (alpha angle >55°) for group B was 11% and 16% for group C. Retroversion was present in 11%, 52% and 88% in groups A, B and C respectively (p<0.001).

**Conclusion:** Prevalence of true Cam lesions in dysplastic hips having undergone PAO is less than the general population. Although flattening of the femoral head-neck junction is common, and likely associated with common valgus deformity and typically within the sphere of the alpha angle measurement; therefore, the pathomechanics of this deformity likely differs substantially from typical cam-impingement without associated acetabular dysplasia. Careful radiographic measurement should be performed to avoid over-treating these hips with unnecessary osteochondroplasty procedures.