



Average 10 Year Results of the Bernese Periacetabular Osteotomy for Severe Acetabular Dysplasia

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Introduction: The Bernese periacetabular osteotomy (PAO) has been shown to be effective in reducing the symptoms of acetabular dysplasia. For patients with severe acetabular dysplasia with subluxation of the femoral head or presence of secondary acetabulum, surgical realignment procedures remain controversial and the efficacy of acetabular reorientation has been questioned. The purpose of this study was to analyze the average 10 year clinical and radiographic results of the PAO in the treatment of adolescent and young adult patients with symptomatic, severe acetabular dysplasia.

Methods: This retrospective study reviewed patients who underwent a PAO for severe acetabular dysplasia as defined by Lateral center edge angle (LCEA) $< 5^\circ$. All patients had hip pain and sufficient hip joint congruency on radiographs to be candidates for PAO. Clinical data collected included patient demographics, radiographic measurements, and modified Harris Hip score.

Results: The hip preservation database of one of the authors was queried and 40 patients (47 hips) were identified who had been treated with a PAO for severe acetabular dysplasia. 28 females and 12 males with average age of 22.2 years (range, 11-60) and BMI 23.5 kg/m² were followed for an average of 128.5 months (range, 86-199). LCEA improved 29.0° on average (from -6° to 26.1° , $p < 0.001$) and Acetabular center edge angle 26.7° on average (from -3.8° to 22.7° , $p < 0.001$). MHHS improved an average of 16.4 points (from 66.9 to 82.6, $p < 0.01$). Two hips (9.1%) required conversion to total hip arthroplasty and three required revision PAO (13.6%). One patient (5.3%) died of causes unrelated to PAO surgery.

Conclusions: The PAO can be an effective treatment for severe acetabular dysplasia. Our clinical and radiographic outcomes demonstrate improved hip function and major deformity correction. These data indicate favorable 10 year outcomes for the majority of patients treated with PAO for severe acetabular dysplasia