

## **Adolescent and Adult Hip Dysplasia on Plain Radiographs. Analysis of Measurements and Attempt for Optimization of Diagnostic and Performance Approaches for Patients with Periacetabular Osteotomy (PAO).**

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**Abstract :** 105 plain AP radiographs of normal adult pelvises (210 hips) were evaluated. Different measurements of normal and dysplastic hip joints in 45 patients were analyzed. Attempt was made to establish reproducible, easy applicable in practice approach for evaluation and follow up of patients with hip dysplasia. The youngest of our patients was 11 years and the oldest was 47 years. Only one of our patients needed conversion to total hip replacement (THR) during ten years of follow-up. It was emphasized that selected set of measurements was built for purpose to serve, especially those who's scheduled or undergone PAO. This approach was based on concept of acetabulum-femoral head complex and importance of reliable reference points of measurements. Comparative analysis of measured parameters between normal and dysplastic hips was performed. Among 10 selected parameters, we use already well established such as lateral center edge angle and head extrusion index, but to serve specific group of patients with PAO, new parameters were considered such as complex lateralization and complex proximal migration. By our opinion proposed approach is easy applicable in busy clinical practice, satisfactorily delineate hip pathology and give to surgeon who's going to perform PAO guidelines in condensed form. It is also useful tools for postoperative follow up after PAO.

**Keywords :** periacetabular osteotomy, plain radiograph's measurements, adolescents, adult

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