

## **FROG-LEG LATERAL PELVIC RADIOGRAPHS ARE RELIABLE FOR THE MEASUREMENT OF ACETABULAR INDEX IN DEVELOPMENTAL DYSPLASIA OF THE HIP**

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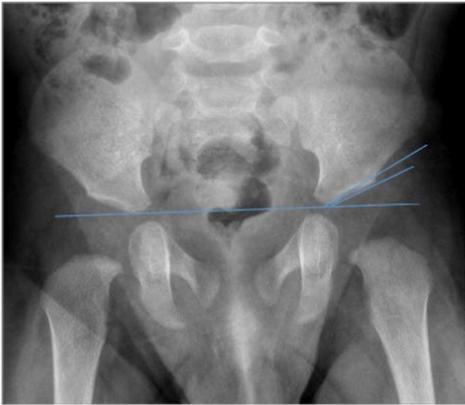
**Background:** The most commonly utilized radiographic measure for developmental dysplasia of the hip (DDH) is the acetabular index. However, there is variability in measurement of acetabular index which makes it less reproducible. We have observed that frog-leg lateral (FL) positioning allows more consistent visualization of the acetabular sourcil compared with AP. The purpose of this study is to determine if there is any difference in acetabular index measurements on AP vs. FL radiographs and to determine if there is less measurement variability on FL than AP radiographs.

**Materials/Methods:** An IRB approved, retrospective, study was performed on 274 hips that underwent screening AP and FL radiography for DDH. Radiographs were reviewed using a standard measurement technique. Interobserver measurement differences and the differences between measurements made on AP and FL radiographs were calculated.

**Results:** 233(85%) were normal, and 41(15%) had DDH. The average acetabular index on AP was 24.13 and on FL was 23.66 (P=0.147). The interobserver difference for acetabular index on AP was 0.48 (P=0.001) and for FL was 0.18 (P=0.114).

**Conclusions:** There was no significant difference between acetabular index measurements made on the AP and FL radiographs. However there was statistically significant variability with measuring the acetabular indices on AP view but no on the FL view. These improvements in reliability on FL positioning are likely due to a more orthogonal projection of the sourcil creating a single sclerotic line with which to perform measurements. Screening pediatric patients for DDH, using the FL view to measure the acetabular index is more accurate. When both imaging studies are ordered routinely, we recommend using the FL radiograph for measuring acetabular indices in the assessment of DDH.

**Images / Graph / Table**



AP



Frog lateral