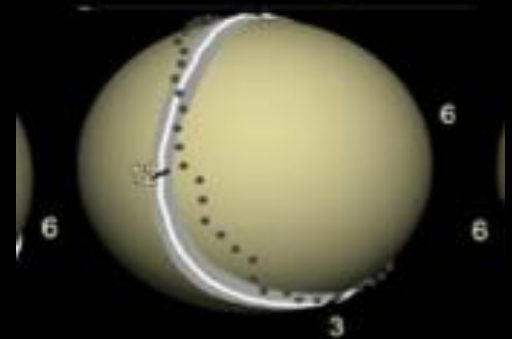


# Three-Dimensional Characterization Of Acetabular Morphology In Borderline Acetabular Dysplasia: Variable Deformity Patterns



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# Disclosures

- Smith and Nephew – Consultant, Research
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# Background

- Borderline hip dysplasia is a controversial and poorly understood clinically entity.
- A subset of patients with radiographic borderline hip dysplasia appear to have instability-based symptoms while other have impingement-based symptoms, as well as some patients potentially having both.
- The three-dimensional acetabular deformity in this population remains poorly understood.

# Purpose

- The purpose of the current study was to characterize the three-dimensional acetabular anatomy in patients with symptomatic borderline acetabular dysplasia.

# Methods

- Twenty-five consecutive hips undergoing surgical treatment of symptomatic instability with radiographic evidence of borderline acetabular dysplasia were included.
- Preoperative CT scans were analyzed with Dyonics Plan software to characterize the acetabular anatomy relative to normative data.

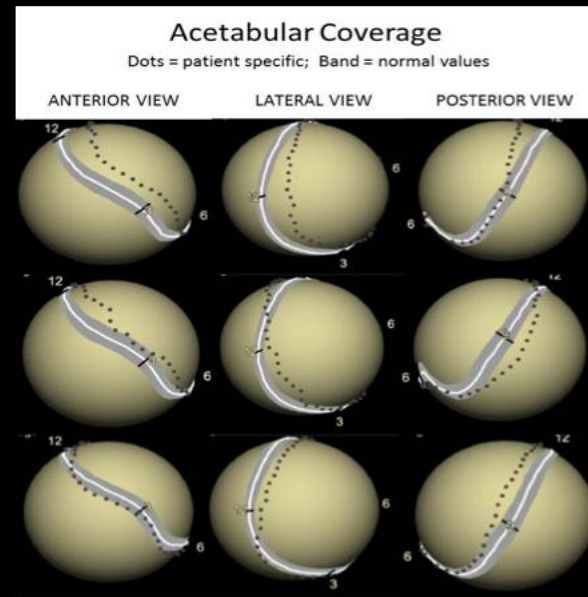
# Methods

- Patterns of acetabular deficiency were characterized by 3 types

Global

Anterior-Superior

Posterior-Superior



# Results

- Lateral center edge angle averaged 21.4 degrees (range 20 - 24).
- Positive crossover sign was seen in 30% of hips
- Positive posterior wall sign in 50% of hips.
- Cranial retroversion (1:00) was present in 15% of hips.
- The most common pattern of acetabular deficiency was anterosuperior (30% of hips), followed by isolated lateral (25%), posterosuperior (25%), and global (20%) deficiency.
- Regional anterior coverage averaged 36.7% (range 33.6-39.5%), lateral coverage averaged 55.5% (range 49.5-60.9%), and posterior coverage averaged 45.3% (range 39.9-53.1%).
- Total coverage averaged 36.5% (range 31.3-41.1%).

# Summary

- Hips with radiographic borderline acetabular dysplasia demonstrate variable patterns of acetabular deformity, with anterosuperior deficiency occurring most commonly (30%).
- Lateral, posterior superior, and global acetabular deficiency patterns also commonly occur.
- Three-dimensional characterization of radiographic borderline acetabular dysplasia is valuable for precise characterization of underlying deformity to guide treatment decisions.