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CORR INSIGHTS®

CORR Insights®: Variations in the Use of Diagnostic Criteria for Developmental Dysplasia of the Hip

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Where Are We Now?

Developmental dysplasia of the hip is a common abnormality, yet it remains poorly defined. Specialists agree on the characteristics of normal and dislocated hips, but the dysplastic hip remains a grey area, variably characterized by numerous clinical and radiographic findings. With the advent of new technology, we have fallen prey to diagnostic information that supersedes our understanding of the disease. As a result, we are without a recognized standard of diagnosis, and a poor understanding of which radiographic and sonographic characteristics in infancy correlate with actual morbidity. The absence of agreed upon diagnostic criteria likely results in erroneous reporting of prevalence data, misleading reporting of outcomes, and inconsistent treatment algorithms.

Early management of developmental hip dysplasia is critical since the fate of a dysplastic hip can be radically altered with treatment initiated in infancy. Widespread ultrasound screening programs have been suggested because late diagnosis can lead to significant morbidity. However, without clearer diagnostic criteria, we may overuse resources without improving the frequency with which we make the right diagnosis. Universal treatment also has been proposed since complication rates are relatively low; however this approach could be costly and there is no evidence that it will decrease overall morbidity.

Where Do We Need to Go?

We need further studies to better understand which clinical or radiographic features during infancy are associated with the highest risk of residual hip dysplasia and morbidity. The appropriate duration of treatment also needs to be established. Without improved and defined diagnostic criteria, further studies will be plagued with inconsistent reporting of prevalence and outcomes. We need to establish a standard or agreed upon method which clinicians can use for comparison.

Roposch et al. present followup of previous work establishing a consensus of the most relevant criteria to diagnose developmental hip dysplasia in early infancy. In the previous study, researchers used the Delphi technique to identify 37 items in three domains: patient history, physical examination, and radiographic findings. The authors ranked these items yielding the most commonly used criteria to establish a diagnosis. The authors pointed out that the results of the Delphi technique did not provide information on how to best diagnose developmental hip

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dysplasia, but rather point to current diagnostic practices. The current study further examined how we, as specialists, value the 37 individual elements of diagnostic information. Although we do not isolate these elements in practice, this process allows us to quantify our differences of opinion. This is the first study that quantifies how specialists value diagnostic criteria for developmental hip dysplasia, and it shows that we are surprisingly inconsistent. When grouped geographically, there is only a slight increase in agreement in some areas.

We need to ask why there is such wide variation among specialists for such a relatively common problem. Is this an education issue? Would we achieve greater consistency if specialists were grouped by age, availability of diagnostic tools (such as ultrasound), or regular attendance of specialty conferences? Is this a research issue? Are there not enough data to support reasonable clinical practices? Does consensus affect outcomes? It would be important to know whether regions that achieved a better consensus on diagnostic criteria have lower rates of morbidity?

How Do We Get There?

We must reconcile our differences of opinion to establish meaningful criteria on which to base additional studies and improve patient care. If meaningful consensus cannot be reached, then we need to redirect our focus.

The most practical option is to develop an expert committee. Our internal medicine colleagues developed a committee for the complex task of creating diagnostic and classification guidelines for diabetes. That committee was composed of 17 international members, including clinicians and researchers from academia, the private sector, the NIH, and the American Diabetes Association. Their guidelines are available online and are revised periodically as new information becomes available.

Perhaps we should follow suit with a joint effort from the European Paediatric Orthopaedic Society (EPOS), the British Society of Children's Orthopaedic Surgery (BSCOS), and the Pediatric Orthopaedic Society of North America (POSNA). Each society should create a nomination and election process that includes clinicians in the academic and private sectors. The group also should include an epidemiologist, either on the panel or available for consultation. The committee should perform a literature review to identify the best evidence available and derive a consensus for diagnostic criteria and classification. These guidelines should be available online, sponsored by the POSNA, EPOS, and BSCOS, and serve as the basis for outcomes research that correlate clinical and radiographic findings in the infant to residual dysplasia and morbidity in the adolescent and adult.