



Symposium: 2016 Bernese Hip Symposium

Editorial Comment: 2016 Bernese Hip Symposium

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Because research on hip-preservation surgery continues to evolve so rapidly, we convene a group of like-minded clinician scientists every other year in Bern Switzerland to share what we have learned; the best of the papers from the 2016 meeting are presented in this month's issue of *Clinical Orthopaedics and Related Research*®.

One focus of the symposium was the increasingly complex analysis and understanding of hip joint deformities.

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Hip morphology analysis became more complex when we included torsional deformities of the femur and the acetabulum, as well as malorientation of the femur in the frontal plane into the three-dimensional (3-D) concept of femoroacetabular impingement (FAI) or hip joint instability. While this information is helpful, it has mainly been gathered from a retrospective evaluation of FAI and hip-instability procedures that did not relieve patients' symptoms in the ways we had hoped. Future studies—prospective ones—are needed to help us determine which abnormalities are most important to correct, and which ones can be safely left alone. Cam deformity found in a patient with slight dysplasia may be asymptomatic and of little importance, but it may cause accelerated arthritis in the patient who also has femoral retrotorsion. Clearly more work on this topic is needed.

We must continue refining our evaluation of hip joint pathomorphologies including through the use of 3-D analysis. Too often we confuse the presence of a cam deformity (a morphological finding) with symptomatic cam-type impingement (a pathophysiological finding), which can lead to either the overtreatment of these deformities and/or insufficient



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management of other underlying abnormalities.

Hip-specific morphological MRI is considered the gold standard for detecting cartilage and labral lesions. However, this method underestimates cartilage damage. Alternative techniques like biomolecular imaging (dGEMRIC) or specific T2-weighted sequences add to our knowledge regarding the biomolecular status of the cartilage and may be more helpful in identifying irreversible cartilage damage or predicting failure of surgical intervention [1]. However, the value of biomolecular imaging and its clinical correlation still lack validation. A standardized method for monitoring cartilage changes in the long-term after

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either nonsurgical or surgical treatment of impinging or unstable hips is needed.

Our symposium also focused on improving our understanding of hip-joint preservation surgery. Although an appropriate outcome measurement after hip joint preservation lacks a consensus among researchers, long-term studies (30-year followup after surgical intervention) clearly increase our knowledge and help us identify the negative predictive factors for this type of surgery [2].

The appropriate treatment recommendations for a slipped femoral capital epiphysis (SCFE) remain controversial. The introduction of a modified Dunn procedure based on surgical hip dislocation and the creation of an extended soft-tissue retinacular flap has provided a method for immediate anatomical realignment of the capital epiphysis. A modified Dunn procedure bears the risk of the devastating complication of avascular

necrosis of the femoral head. On the other hand, nonanatomical alignment in teenagers treated for SCFE result in a substantial number of young adult hips with pain, FAI, and even early severe osteoarthritis. It is clear that short-term followup studies are meaningless for this young patient population. The institutional separation between pediatric and adult orthopaedic hip surgeons implies a difficulty to obtain proper long-term followup studies.

Looking ahead, hip joint preserving surgery will continue to evolve, with new analyses and greater challenges. The increasing number of analytic parameters describing hip joint pathomorphologies, as well as new sophisticated MRI and 3-D CT-analysis have carried us beyond the point of simple classification systems. We need more reliable treatment guidelines beyond differentiation into pure cam, pincer, or mixed FAI and a simple definition of a hip dysplasia. It is time

to refine the diagnostic algorithm. The largely unknown natural course especially in hips with symptomatic FAI continues to be a problem. Long-term outcome studies and prospective randomized studies can help us identify predictive factors.

References

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