Editorial Commentary: Hip Joint Space as a Predictor of Cartilage Pathology: A Basic Tool for a Complex Task

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Abstract: Predicting articular cartilage pathology in the hip with radiographic joint space has been unreliable for patients having joint spaces >2 mm in width. Joint space width is a tool that can be used, but with some limitation. Other methods of investigation such as magnetic resonance imaging should be used in conjunction with radiographic joint space.

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When their eyes have recovered from measuring almost 1,900 radiographs, the authors will be able to see the praise given for the efforts completing the study entitled "Radiographic Joint Space Narrowing Poorly Predicts Chondral Damage Diagnosed During Hip Arthroscopy."[1] Rosinsky, Chen, Lall, Wojnowski, Shapira, Maldonado, and Domb provide a detailed analysis of the relationship, or lack thereof, between joint space and cartilage damage in hips undergoing arthroscopy. They performed an analysis of >8 years' worth of hip arthroscopy data collected from the senior author's high-volume hip practice.

After an extensive analysis of the data, they showed that there was no significant correlation between patients with the narrowest of joint space and chondral damage on the femoral head or acetabulum. In short, there is a normal variability in joint space and, absent other arthritic findings, that does not really matter. They did show that a relative narrowing of the lateral joint space compared with the medial joint space could indicate acetabular chondral damage. This is a newly reported finding and provides a new tool in preoperative decision making.

Rosinsky et al.[1] add to the previous discussion about joint space and hip arthroscopy, which has previously focused on 2 mm. In a short-term follow-up study of 112 patients undergoing hip arthroscopy for femoroacetabular impingement, Philippon et al.[2] first reported that a joint space <2 mm correlated with a 39-times increased risk of conversion to total hip arthroplasty. In 2013, Philippon et al. reported an 81% incidence of THA in the over-50 crowd.[3] These hips are arthritic and should not be scoped—at <2 mm, the ship has sailed, the sun has set. Thanks to these studies, we know not to scope a hip with <2 mm of joint space.

But what about the >2 mm crowd, the afternooners? How much time does that hip have before the sun sets on it? The 2-mm threshold does not help surgeons who want to predict cartilage lesions in these "normal" joint space patients. We want to know which hips have plenty of daylight left.

As surgeons determine who will benefit from hip arthroscopy and guide expectations, numerous factors other than joint space are considered. A noted limitation in the Rosinsky et al. study is that, in practice, we have the contralateral hip to compare. Relative narrowing has been a very reliable predictor in my practice. For the cam femoroacetabular impingement (FAI) patients, large α-angle is associated with risk of high-grade acetabular chondral damage.[4,5] We also consider bone marrow edema, cysts, and chondromalacia on magnetic resonance imaging (MRI). Some surgeons have dGEMRIC or T2 mapping to ponder.

Do not forget about the patient. An irritable hip on examination often has an effusion and synovitis. These patients will have normal joint space early in the course but are likely on their way to total hip arthroplasty.

As we continue to optimize our outcomes and set patient expectations, we need as much information as possible at our disposal. Using joint space

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measurements as a tool along with the rest of our toolbox, surgeons can be more accurate in predicting the somewhat difficult task of predicting chondral pathology in the hip.

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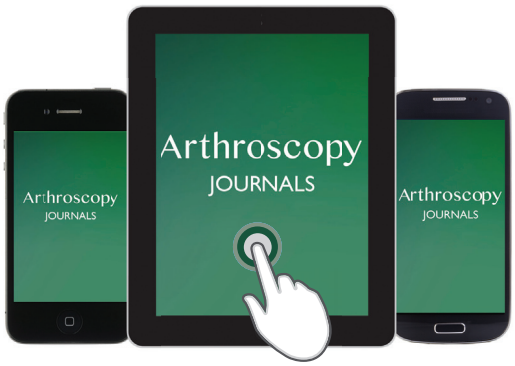

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