

## **Caution in diagnosing acetabular labral tears as the source of hip pain as MRI and clinical findings can both be misleading.**

### **Article reviewed:**

### **Similar prevalence of Acetabular Labral Tear in Professional Ballet Dancers and Sporting Participants.**

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Advances in imaging technology (3T MRI) and increased clinical awareness has led to a greater diagnostic prevalence of acetabular labral tears in our patient population. Previous studies (Duthon et al) found that labral lesions were found in 85% of all hips in the elite dancer population, and other studies showed labral lesions in as high as 83% of the sporting population. This study aimed to determine if ballet specific loading of the hip joint had a significant and detrimental effect on the labrum of this population.

Two groups were studied in this case-control study. 49 ballet dancers were age and sex matched with 49 athletes in the sport-control group (athletes who played tennis, netball or basketball from the age of 10 years old onward at least 3x/week). Anyone with previous hip trauma, surgery or inflammatory joint disease were excluded from the study. Data was analyzed after all participants were given multiple pain score questionnaires, examined by a clinician (same clinician throughout), and had a 3T MRI of bilateral hips (read by same radiologist).

The results of the study showed that the prevalence of a labral tear was significantly less than Duthon's study (54% of the ballet cohort vs 85%) and there was no significant difference in the number of labral tears (by MRI) between the ballet (54%) vs the control group (47%). It was also shown that those with labral tears were usually older and more often had cartilage defects. More importantly, acetabular labral tears diagnosed by MRI showed no relation with outcome, pain, or ROM testing. Ie. there was no association between hip pain and labral tear seen in this study. FAI testing (flexion, adduction, internal rotation with hip flexed at 90 degrees) showed a sensitivity of 50% and specificity of 96% in this study.

In summary, it was shown that the prevalence of labral tears were similar in the dancer population vs the matched sport participants. This suggests that the torsional stress and load imposed by many years of dancing may not be as detrimental to the labrum as previously thought. There was no correlation found between the sex of the participants and prevalence of labral tears. There was no association between hip pain and prevalence of labral tears found on MRI. There was however a strong relationship between the presence of labral tears and cartilage defects although a causal relationship could not be established. Together, this study reveals that the findings on the MRI of a labral tear may or may not be clinically relevant, and may not be the source of your patients hip pain.

Although this study does not venture into diagnostic methods, the primary care physician should be aware that an ultrasound guided intra-articular hip injection of bupivacaine can be done to help aid in the diagnosis if one is still unsure of the labrum as the source of pain after a thorough history and physical exam (+/- MRI).

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