Background:
• Femoroacetabular impingement and associated labral tears are a common source of hip pain in adolescent and young adult athletes.
• The sensitivity of MRI to detect labral pathology in adults has been reported to be 71-91%. However, the sensitivity of MRI for adolescent and young adults is unknown.

Purpose:
• Determine the sensitivity of MRI for diagnosing acetabular labral pathology in adolescent and young adult athletes.

Methods:
• Patients who had arthroscopic hip surgery between 2006-2018 were retrospectively reviewed
• All patients had arthroscopically confirmed labral pathology
• Patients were excluded if they had previous ipsilateral hip surgery, were > 30 years of age, and if they did not have an MRI with an available radiologist report. MRI radiology reports were reviewed and compared to surgical findings
• Additionally a fellowship trained orthopaedic sports medicine surgeon who was not involved in the care for this cohort reviewed a subset of the MRI images and was blinded to the radiologist reports. These findings were then also compared to arthroscopic findings.

Results:
• 147 hips in 137 patients
• 109 females and 28 males.
• Mean age 17 ± 3.0 years.
• The MRI radiology reported labral pathology in 76 of 147; indicating that MRI has a sensitivity of 55% and a false negative rate of 44%.
• The MRI images reviewed by the orthopedic surgeon noted the presence of labral pathology in only 92 of 140 MRIs; indicating a sensitivity of 65% and false negative rate of 34%.

Conclusion/Significance:
• MRIs have a low sensitivity and high false negative rate for labral pathology in adolescent and young adult athletes regardless of reviewer, even in the presence of retrospective bias.
• The sensitivity of MRI for labral pathology in this population is much lower than that reported in the literature for adult patients.
• These findings have implications for clinicians who rely heavily on MRI reports/results in their clinical decision making when diagnosing labral pathology

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