

Cam-type deformities linked to MRI detected hip damage in asymptomatic young men

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Hip impingement (femoracetabular impingement) may be a risk factor of osteoarthritis (OA) of the hip. A new study reveals that the presence of an underlying deformity, known as cam impingement, is associated with hip damage in young men without any arthritis symptoms and detected using magnetic resonance imaging (MRI). Full findings are now published in *Arthritis & Rheumatism*, a journal of the American College of Rheumatology (ACR).

Medical evidence reports that hip OA is a major cause of pain and disability, and accounts for more than 200,000 hip replacements in the U.S. each year. Cam impingement limits full range of motion in the hip socket due to bony bumps on the femoral head. The cam-type deformity causes hip pain as the bump moves inside the socket, applying extreme pressure to cartilage and may eventually lead to OA in the hip. Studies have shown that cam impingement is often seen in young male athletes referred to orthopedic specialists after experiencing groin pain, and hip rotation is found to be diminished.

"Given that cam-type deformities are common in young asymptomatic males, we examined whether the deformities were associated with early signs of MRI detected hip damage," explains lead author Dr. Stephan Reichenbach from the Institute of Social and Preventive Medicine at the University of Bern in Switzerland. The researchers recruited participants from a population-based group of male individuals enrolling in the Swiss army at a single recruiting center. A total of 244 males with a mean age of 20 years reported having no hip pain and were qualified for the study. MRIs were conducted and one hip in each participant was examined for cam-type deformities, labral lesions, signs of cartilage damage and impingement pits.

Researchers detected 67 definitive cam-type deformities in study participants with these men having higher body mass index and decreased

internal rotation. Labral lesions were detected in 85% of participants with cam-type deformities and in only 67% of those without the deformity. Labral avulsions were found in 76% of participants with the deformity and 58% of those without. In participants with cam-type deformity versus those without, impingement pits were observed in 30% and 12%, respectively.

The authors report an adjusted prevalence of 24% for cam-type deformities in the study population along with a high frequency of signs of joint damage. The signs of joint damage found in participants could be an outcome in the sequence from normal to osteoarthritic hips, they suggest. "Our study is the first population-based MRI study to confirm the role of cam-type deformities of the hip as a potential risk factor for joint damage," concluded Dr. Reichenbach. "Longer-term studies are needed to determine if cam-type deformity increases risk of developing [hip](#) OA."

More information: "Association Between Cam-Type Deformities and MRI Detected Structural Damage of the Hip: A Cross-Sectional Study in Young Males." Stephan Reichenbach, Michael Leunig, Stefan Werlen, Eveline Nüesch, Christian W Pfirrmann, Harald Bonel, Alex Odermatt, Willy Hofstetter, Reinhold Ganz and Peter Jüni. *Arthritis & Rheumatism*; Published Online: September 8, 2011 ([DOI: 10.1002/art.30589](https://doi.org/10.1002/art.30589)).

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