

Painful legacy of teen sports

July 19 2011

Vigorous sports activities, like basketball, during childhood and adolescence can cause abnormal development of the femur in young athletes, resulting in a deformed hip with reduced rotation and pain during movement. This may explain why athletes are more likely to develop osteoarthritis than more sedentary individuals, according to Dr. Klaus Siebenrock, from the University of Bern in Switzerland, and colleagues, whose work is published online in Springer's journal *Clinical Orthopaedics and Related Research*.

Siebenrock and colleagues found that, in those studied, osteoarthritis of the [hip](#) was more prevalent in high-level athletes than in those who do not take part in regular sports. It is also linked to higher intensity activities and greater physical loading of the hip. He noted other investigations have found that male athletes, particularly those who play soccer and handball, and take part in competitive track and field activities involving running and jumping, are at greater risk of early osteoarthritis of the hip.

Siebenrock and colleagues compared the prevalence of cam-type hip deformity in high-intensity athletes during childhood and adolescence and age-matched controls. Cam-type hip deformity is a condition characterized by abnormal [bone development](#) on the head of the femur affecting contact between the femur and the [hip socket](#). They looked at the physical condition and range of movement of 72 hips in 37 male professional basketball players and 76 hips in 38 [control participants](#) who had not participated in high-level sports.

They found evidence of deformity of the head of the femur, leading to abnormal contact between the femur and the hip socket, in men and adolescents who played in an elite basketball club since they were eight years old. As a result, internal hip rotation was reduced and hip movements were more likely to be painful. These differences became more pronounced after closure of the femoral growth plate during late adolescence. Overall, the athletes were ten times more likely to have impaired hip function than the controls.

Siebenrock and colleagues conclude: "Our data suggest that this hip deformity is in part a developmental deformity, and its expression in young adulthood may be triggered by environmental factors such as high-level sports activity during childhood and around the time of closure of the femoral growth plate. Given the role of the deformity in degenerative changes in the hip, morphological features of the [femur](#) resulting from vigorous sporting activity are a key component in the elevated incidence of hip osteoarthritis observed in [athletes](#)."

More information: Siebenrock KA et al (2011). The cam-type deformity of the proximal femur arises in childhood in response to vigorous sporting activity. *Clinical Orthopaedics and Related Research*. [DOI 10.1007/s11999-011-1945-4](https://doi.org/10.1007/s11999-011-1945-4)

Provided by Springer

Citation: Painful legacy of teen sports (2011, July 19) retrieved 27 April 2024 from <https://medicalxpress.com/news/2011-07-painful-legacy-teen-sports.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.