



Ask the Expert with Dr. Darrell Menard

Find Answers to your Sport Medicine Questions!

Can Osteoarthritis Run in the Family?

Q: *My mother was diagnosed with osteoarthritis in both her knees when she was 48 and had both her knees replaced before she was 60. My older brother was just told he has osteoarthritis in his right knee. I have been very active throughout my life and while my knees currently are pain free I am worried that I am doomed by my genetics to have osteoarthritis of the knees in the future. Can osteoarthritis be hereditary? Worried*

A: Dear Worried – there are many types of arthritis and osteoarthritis happens to be the most common. Osteoarthritis can affect almost any joint in the body where it causes a progressive breakdown of the cartilage found in these joints. It is very commonly seen in weight bearing joints such as the knees, hips and spine.

Cartilage consists mainly of water and proteins and in joints it functions to reduce friction and absorb shock. Osteoarthritis causes is the process where cartilage to gradually loses its elasticity and becomes stiffer. These changes leave cartilage more vulnerable to tearing and wearing down. Unfortunately the body is unable to replace damaged cartilage and over time people may reach the point where some of their joints literally have no cartilage.

There are a number of risk factors for osteoarthritis and they include: advancing age, a previous history of joint injury, increased body weight and heredity genetics. Heredity Genetics play a role in several ways. Some people inherit defects in one or more of the genes responsible for making cartilage and this leads to the production of lower quality cartilage that will break down faster than normal. You can also inherit conditions that result in loose joints and this laxity will promote early joint wear. Heredity may play a role in obesity and excessive body weight places great stresses on weight bearing joints. The structure of your knee joints may also affect how quickly they wear out. For example people with bowed legs are at a higher risk for developing knee osteoarthritis. Your gender can even be an issue as women are at higher risk of developing osteoarthritis of the hip than men.

The bottom line is that heredity does play a role in the development of osteoarthritis but you can reduce this risk by staying sensibly active, maintaining a healthy body weight and avoiding injury. It also helps if you pick your parents very carefully.

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Dr. Darrell Menard is the Surgeon General's specialist advisor in sport medicine. He has worked extensively with athletes from multiple sports and has covered Canadian teams competing at multiple games including the 2012 Olympics and the 2016 Paralympic games. These articles were originally published in the Canadian Forces Journal, the Maple Leaf.

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