

Better understanding of knee arthritis

Richard Béliveau

Translated from Le Journal de Montréal, October 30, 2017

According to a recent study, the number of people affected by knee arthritis has more than doubled over the past 50 years, possibly due to our increasingly sedentary nature and poor diet.



ARTHRITIC SKELETONS

To better understand whether the current incidence of **osteoarthritis** of the knee is really higher than in the past, a team of scientists searched for the presence of this malady in the skeletons of people who had died at age 50 or greater at the beginning of the industrial era (1904-1940) or during the modern industrial era (1976-2015), and for whom the body mass index at death was documented. The presence of knee arthritis was also searched for in older skeletons, dating back 300 to 6000 years.

These comparisons allowed the scientists to conclude that knee arthritis (observed macroscopically as ossification of the articular cartilage) has become twice as frequent since the middle of the 20th century¹. More specifically, these results show that 16% of “modern” skeletons show signs of arthritis, compared to 6% of those dating to the beginning of the industrial era and 8% of the prehistoric specimens. The severity of the osteoarthritis was also greater in the modern arthritic skeletons, with 42% of the cases showing changes in both knees, compared to 30% for the skeletons from the beginning of industrialization and 17% for the prehistoric era.

⁽¹⁾ Wallace, IJ et al. Knee osteoarthritis has doubled in prevalence since the mid-20th century. Proc. Natl. Acad. Sci. USA 2017;114:9332-9336.

A LIFESTYLE FOR AVOIDING ARTHRITIS

The rising incidence of knee arthritis observed in recent years cannot be explained simply as an inevitable consequence of the aging population or the epidemic of obesity.

According to the authors, it is likely that several factors come into play, particularly our extremely sedentary way of life: this may seem paradoxical, but the lack of exercise is very bad for the joints!

For example, in people who do not move much, there is less demanded of the articular cartilage and it thins, which favours the development of arthritis. The muscles around this cartilage are also weakened and can no longer correctly maintain the cartilage of the knee.

HEALTHY EATING

Eating habits also play an important role: the modern diet, which is rich in fat and sugar, favours the creation of a chronically inflamed environment within the joints which can contribute to the deterioration of the joint cartilage. It is also interesting to note that people who develop other diseases which are associated both with being sedentary and with this type of unbalanced diet (cardiovascular diseases, type 2 diabetes) are also often affected by knee arthritis, which strongly suggests the presence of similar risk factors.

We should thus consider knee arthritis as another example of a chronic disease whose development is strongly influenced by our lifestyle. And, like the other chronic diseases, the best way to prevent these joint disorders is to move more, to eat more plants and to reduce the consumption of pro-inflammatory foods such as products that have been overloaded with sugar and fat.

PAINFUL KNEE

The word “arthritis” makes reference to over 100 distinct diseases which possess the common characteristic of provoking pain in the musculoskeletal system, particularly the joints, ligaments and bones. The most common form of arthritis is osteoarthritis, characterized by a progressive degradation of the joint cartilage which protects the bone. These bone alterations can be very painful and disabling, and joint movements as simple as moving fingers, turning wrists or even bending knees can become difficult.

The knee is the most common joint to be affected by arthritis (80% of cases) and this form of osteoarthritis affects about 20% of the North American population over age 45. At present, two principal factors have been proposed to explain the high incidence of knee arthritis:

1. Since the incidence of osteoarthritis increases with age, it is possible that the increased lifespan of the population is accompanied by greater wear of the joints during the aging process.
2. The marked increase in body weight of the population which has occurred in recent years could also play a role. This surplus weight not only produces excess mechanical strain which prematurely wears down joints such as the knee, but the excess fat also creates a chronic state of inflammation which participates in this deterioration of the joint.