

HEALTHCARE MATTERS

Written by
Idai Makaya

Osteoarthritis of the knee – Is it an issue just for the elderly?



Moderate regular running has low, if any, risk of osteoarthritis

This month **Idai Makaya** discusses osteoarthritis of the knee. Osteoarthritis is an extremely common condition and has probably never been as common as it is in Britain today – due to the fact that life expectancy has increased by many years and we now have almost as many elderly people living in Britain as we do young people. However, osteoarthritis is not a condition affecting only the elderly.

To briefly introduce the condition, osteoarthritis of the knee is regarded as a degenerative condition affecting the knee joints, caused primarily by mechanical wear and tear. Basically, if the wear and tear on your knees occurs at a greater rate than your body is able to repair and regenerate itself, the cartilage which helps cushion your knee joints will eventually wear out.

To get further insight into the important things we all need to know about osteoarthritis of the knee (whether we are young or old) I called on the wisdom of a clinical specialist who spends most of his time managing health conditions affecting the bones and joints of the lower body.

Yega Kalairajah is a Consultant Orthopaedic Surgeon who looks after patients from communities in Hertfordshire, Bedfordshire and Buckinghamshire. He qualified from Cambridge University and carried out his training in London and Australia. He has particular expertise in conditions affecting the lower limbs.

Here's a summary of our discussion:
Q. Mr Kalairajah, could you

briefly outline the main causes of osteoarthritis of the knees?

A. Hello Idai. Osteoarthritis, or OA, is not a single disease but rather the end result of a variety of disorders causing the structural and functional failure of a joint where repair cannot keep pace with the breakdown of the protective cartilage that allows the joints to move smoothly.

Despite years of research the reason for the breakdown of this repair process is unknown. However there are several causes that are thought to contribute to the development of osteoarthritis.

The main ones being firstly genetic – studies on twins have shown that up to 50 per cent of osteoarthritis has been attributable to familial inheritance, but no specific genetic markers have been identified.

Obesity – individuals who are overweight have a high prevalence of knee osteoarthritis. One study showed that a reduction in weight of 11lbs reduced the risk of osteoarthritis by 50 per cent. My own published research on patients who need knee replacements has shown that morbidly obese patients require their knees replaced 13 years earlier than the usual average age of 72.

Jobs which involve kneeling, squatting and heavy lifting have been associated with increased osteoarthritis, possibly a 15-30 per cent contribution – particularly in men.

Previous joint injury, deformity, muscle weakness and ligament injuries are believed to result in abnormal stresses on the joint – resulting in the increased risk of later osteoarthritis. Females also have a slightly increased prevalence of OA.

Age is certainly a significant risk factor and symptomatic OA rises steeply after the age of about 50.

Q. What measures can be taken, if any, to avoid developing this condition?

A. Obviously you cannot change your parents or your age, but you can

certainly help yourself by controlling your body weight, carrying out sensible lifting practices and regular low or non impact exercises to the joints, such as freestyle swimming. If you do get injured during sporting activities then suitable rest from that activity and full rehabilitation should occur before resuming play.

Dietary supplements such as glucosamine sulphate 1,500mg and chondroitin sulphate 1,200mg may delay OA progression of the knee and improve pain and swelling. Unfortunately the clinical trials on these are not entirely conclusive but they do show that they tend not to cause much harm. Although national guidelines do not recommend these supplements, I would usually discuss this with my patients to see if they would like to try a course of these for a six-week period, as long as they do not have shellfish allergy, are not a diabetic or suffer from asthma, nor on blood thinning medication.

Low dietary Vitamin C and D has been associated with increased progression of OA and therefore I would also advise individuals to ensure that they have a balanced diet.

Several other supplements are promoted for treating osteoarthritis, such as Zingiber officinale (ginger), Harpagophytum procumbens (devil's claw), Curcuma longa (turmeric), and methylsulfonylmethane, but there is insufficient reliable evidence regarding long-term safety or effectiveness.

Q. What are the main causes of osteoarthritis of the knee for younger people – and how young is a “young sufferer” of this condition?

A. Osteoarthritis in young adults is most commonly a result of a previous injury to the knee. This can be evident in individuals as young as 25 but are more usually in their late 30s.

Q. Would you say that sports participation and exercise increase our risk – or do they actually protect us? How should we get around the

conundrum of keeping healthy through exercise and simultaneously avoiding excessive wear and tear on our knees?

A. This is a very interesting question and I get asked this regularly. The scientific literature suggests that sports such as moderate regular running has low, if any, risk of osteoarthritis. Sports activities that appear to increase the risk of osteoarthritis include those that demand high-intensity, acute, direct joint impact with other players, the playing surfaces or equipment. Repeated joint impact and twisting are also associated with osteoarthritis – for example football. Good training, equipment, improved playing surfaces and early treatment and full rehabilitation before resuming playing are likely to reduce this effect.

On the other hand muscle weakness also almost definitely contributes to degenerative knee changes. A modest increase in strength of the muscles around the knee by 20 per cent reduces the odds of having osteoarthritis by

about one third. Lack of exercise also contributes to obesity and other medical problems, such as heart disease. So being a couch potato is certainly not the answer!

Q. At what age do the majority of your patients present with osteoarthritis of the knee?

A. Patients with symptomatic arthritis usually present after the age of 50. The majority that need surgical intervention are in their sixties and seventies.

Q. How can modern medicine help the younger osteoarthritis sufferers conquer the condition?

A. Non-surgical options, such as a good exercise and weight loss programme, are always explored first – followed by simple medical management. Other treatment with medications, such as visco-supplemental injections, may be explored.

When surgical solutions are required, they are aimed at preventing or treating early arthritis in this age group. If there has been a ‘meniscal injury’ to the knee, traditionally these used to be removed. Nowadays, however, if a tear that is potentially repairable is identified it is repaired by knee surgeons – the aim of this would be to minimise the arthritic effect of their removal.

Repair of cartilage over localised sites of absent or damaged cartilage in the form of microfracture to encourage “scar” cartilage formation or matrix allograft transplantation are now possible and may potentially delay the problems of OA.

More drastic interventional surgery – such as breaking and resetting of bones to correct abnormal alignment – or a partial or full knee replacement, may also become necessary. There have been major developments in terms of improved placements of these components, their design and the material that they are made with to reduce their wear and tear and improve movement, all hopefully to delay the time before revision surgery.

More recently there are trials of stem cell injection into the knee and meniscal transplants which appear promising

Q. How can modern medicine help the older sufferers of osteoarthritis of the knees?

A. Once again all the techniques mentioned above would be considered and can help the older individual. Advanced age alone is not a contraindication for a total knee replacement.

Q. How successful are these treatment options and what impact do they usually have on the patients' quality of life?

A. Arthritis is the major reason elderly individuals are not active or limit their activity. When conservative means of treatment with exercise, pain killers and so on still limit the activities of day to day living and simple exercises – the time has come to consider a joint replacement. With modern knee replacements, performed by a highly experienced surgeon, we would expect it to last 15 to 20 years (before needing a revision) and we expect more than 90 per cent of such patients to carry out their lives in a pain free and satisfactory fashion. Last year alone, in the UK, in excess of 70,000 knees were implanted!

Mr Yega Kalairajah is a Consultant Orthopaedic Surgeon based at the Luton & Dunstable Foundation Hospital and the Spire Harpenden Private Hospital. He can be reached at Spire Harpenden Hospital on 0800 585 112.

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Arthritis of the knee
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High impact sports such as football can be a cause of osteoarthritis