

# Osteoarthritis

## What is osteoarthritis?

Osteoarthritis is by far the most common form of arthritis. Unlike rheumatoid arthritis which is caused by inflammation, osteoarthritis is considered to be caused by ageing and long-term wear-and-tear in the joints. After years of use, the cartilage that cushions the joints can break down, until bone rubs against bone.

Osteoarthritis is rarely as crippling as rheumatoid arthritis, but it can have a big impact on a person's life. It can make it hard to do every day activities like getting dressed and walking up the stairs. It most commonly affects the knees, hands, hips and spine. It does not affect both sides equally and symmetrically as commonly as rheumatoid arthritis. It causes more mobility disability in people over 65 than any other condition. Mobility disability means needing help walking or going up the stairs. Over a period of one year, about a quarter of people over 55 suffer from persistent knee pain. Osteoarthritis is the cause of knee pain in over half of people over 55.

The condition is the number one reason for joint-replacement surgery. It can take decades for enough cartilage to wear down to cause osteoarthritis. It occurs mostly in men after the age of 50 and in women after the age of 40. Women develop osteoarthritis mostly after menopause. After menopause, women are twice as likely as men of the same age to develop the condition. Being overweight and a family history of arthritis makes you more prone to the condition.

## What happens?

Osteoarthritis occurs when the cartilage at the ends of bones becomes damaged. Cartilage is a hard, slippery and flexible substance that coats the end of a bone which allows it move smoothly against the next bone without rubbing together.

When cartilage is damaged the affected bone tries to compensate and repair itself by thickening and growing out. These outgrowths are called "spurs" or osteophytes. However, these outgrowths in osteoarthritis grow abnormally and make the problem worse. The bone can grow into an abnormal shape making the joint unstable & painful.

## Risk Factors

The exact causes are unknown and it is not all due to ageing and wear and tear. Certain factors make it more likely:

- Being over the age of forty
- Women are more at risk than men
- If you are overweight or obese as there is greater strain on the joints
- Playing a lot of high impact sport (eg) Gaelic football and rugby

- If you have an injury or an operation on a joint, you are more likely to have problems later on
- There is some evidence it runs in families. However, it has less of a tendency to run in families than rheumatoid arthritis

## Symptoms

The main symptoms of osteoarthritis are pain and stiffness of the joints. The joints may also become swollen although this is less common than in rheumatoid arthritis. The pain is usually exacerbated by activity and relieved by rest. Unlike rheumatoid arthritis, where pain and stiffness tends to be worse in the morning, the pain of osteoarthritis tends to get worse throughout the day. With severe osteoarthritis, the sufferer can experience pain even at rest. The joints may not be able to move as easily as before. There may be a crunching feeling in the joints. Joints may make creaking sounds called crepitations. As osteoarthritis progresses, the joints may become misshapen and look knobbly, and they may become unstable. Muscle weakness may occur around the affected joints.

Some people find that the symptoms are affected by changes in the weather or the amount of activity they do. Sometimes pain and stiffness can be more severe in the early stages, especially in women who develop osteoarthritis around the time of the menopause. It then tends to settle down over the next few years.

## Diagnosis

Unlike other forms of arthritis, there is no single test that can check for osteoarthritis, so a GP will ask about symptoms and examine the joint. He or she will look for bony outgrowths, swelling, creaking, instability and reduced movement of the joint. An X-ray can show up any narrowing within the joint or outgrowths of bone. X-rays only give limited information and in the early stages of osteoarthritis, joints may look normal.

## Treatment

### Self-help

Certain actions can prevent and reduce the symptoms of osteoarthritis including losing any excess weight, wearing shock-absorbent shoes, using a walking stick and wearing a knee brace.

Taking regular exercise is important as it keeps weight down and strengthens muscles which support the joints. Swimming is the best exercise for osteoarthritis as it strengthens muscles without putting strain on the joints. Walking and cycling are also beneficial. There is a lot of evidence that exercise helps osteoarthritis of the knee but there is less evidence that it helps osteoarthritis of the hip.

**Braces and orthotics-** Knee braces can be very beneficial for those with instability of the knee. A knee brace can take pressure of the knee joint and hence provide pain relief. However, knee braces are not suitable in all cases and patients should get medically assessed before using a knee brace as it can make the problem worse if not used appropriately. Research has shown that heel wedges can reduce pressure on the knee joint however there is no evidence that they improve knee symptoms if used alone.

## **Medicines**

There is no cure for osteoarthritis however certain medication will relieve symptoms.

**Paracetamol-** Over-the-counter painkillers such as paracetamol can help. They should not be used in combination with alcohol or in those with liver problems. Paracetamol is safe for most patients once taken within the recommended dosage limits.

**NSAIDs-** If the pain is more severe, the doctor may prescribe anti-inflammatory medicines known as non-steroidal anti-inflammatory drugs (NSAIDs) to reduce the inflammation. These are helpful in reducing pain, swelling and stiffness. Examples include diclofenic (Difene<sup>®</sup>, Diclac<sup>®</sup>), naproxen (Naprosyn<sup>®</sup>) or etoricoxib (Arcoxia<sup>®</sup>). Nurofen<sup>®</sup> is an NSAID available over the counter in pharmacies. Whelehans sell a generic version of ibuprofen called Buplex<sup>®</sup> which is less expensive than Nurofen<sup>®</sup>. NSAIDs should be avoided or used in caution with asthma and heart problems and can cause stomach ulcers if over used. COX 2 selective NSAIDs are particularly associated with cardiovascular events in older people so should be avoided in the elderly (eg Arcoxia<sup>®</sup>, Celebrex<sup>®</sup>). Before starting an NSAID, a blood test may be considered by the doctor to check if an NSAID is safe to use. Blood tests that are done before starting NSAIDs include creatinine concentration (checks kidney function) and liver function tests. These should especially be considered for the elderly and people with chronic illnesses (eg) Kidney problems, bronchitis. Doctors often prescribe stomach protection medication such omeprazole (Losec<sup>®</sup>) or lansoprazole (Zoton<sup>®</sup>) in combination with NSAIDs to prevent side effects like stomach ulcers or bleeding.

**Topical preparations-** Many NSAIDs are available in topical forms such as creams or gels which can be rubbed on to give a local effect (eg) Difene Gel<sup>®</sup>, Fastum Gel<sup>®</sup>. These topical forms have fewer side effects than NSAIDs taken orally. However they are likely to be less effective as less of the drug is absorbed. NSAID creams and gels are available on prescription and are allowed on Medical card. Prescription strength diclofenic is now available over the counter in pharmacies. Whelehans sell a generic version of it called Diclac gel<sup>®</sup> which is better value than other brands. Creams and gels containing capsaicin can give relief. Zacin<sup>®</sup> cream is a capsaicin cream available on prescription only. Studies have shown that two thirds of people who used capsaicin for two weeks experienced relief of osteoarthritis of the hands. Heat therapies such as Cura<sup>®</sup> heat patch can also give some relief. Heat therapies are not allowed on medical card.

**Opioid Analgesics-** Opioid analgesics such as tramadol are prescription only painkiller which may be considered in cases where NSAIDs are not tolerated or ineffective. However, opioids can become addictive. Side effects include drowsiness & constipation.

**Steroid Injections-** Steroid injections into the affected joints may be a treatment option. It should only be considered where there is inflammation in the joint. However, the effects of steroid injections only last up to four weeks (often only a week) so it is not a long term solution.

**Supplements-** Glucosamine and chondroitin supplements may provide pain relief. These chemicals are found naturally in cartilage and it is thought that taking these supplements may improve the condition of damaged cartilage. They may also slow down thinning of the cartilage. However, there is not enough evidence yet to prove that glucosamine and chondroitin help osteoarthritis. Both are available over the counter in pharmacies, separately or in combination products. Whelehans high strength Glucosamine and Chondroitin Capsules are €9.99 for a month's supply. This is less expensive than leading brands such as Vitabiotics Jointcare®. Glucosamine is allowed on the medical when prescribed by a doctor (eg) Dona®, Pharma-Nord Glucosamine®.

## **Surgery**

Surgery should only be considered when all other options have been tried. Surgical options available have advanced recently. Some options such as realignment and hip resurfacing are available even if you have only mild osteoarthritis. Hip resurfacing is an alternate to hip replacement and is more often used in younger patients.

It involves replacing the socket where the top of leg attaches to the pelvis with a "metal socket". The advantages of this compared to hip replacement is that it is very durable for young and active patients. It allows the patient to maintain full mobility and even return to active sports in many cases. Some research shows that there is less pain and stiffness after hip resurfacing compared to hip replacement. However more research is needed to confirm this. Patients normally can resume normal daily activities a few weeks after hip resurfacing. Hip resurfacing lasts for 10 to 15 years on average.

If you have a particularly painful joint you may need an operation to replace it. This is most commonly done for the hip and knee joints and both of these have high rates of success in improving mobility and reducing pain. With proper selection of patients, 95% of hip and knee replacements have excellent results with 95% of replacement joints lasting 15 years. 85% of hip and knee replacements are due to osteoarthritis.

## **Arthritis: Can natural medicines help?**

As a pharmacist I am often asked what natural medicines are beneficial to those living with arthritis including the likes of Osteoarthritis (the most common type of arthritis and caused by wear and tear) and Rheumatoid Arthritis (the most debilitating form of arthritis caused by severe inflammation of the joints). I will discuss a few of the most popular ones. There are thousands of natural and herbal pain relief products marketed in magazines, newspapers, the internet, health food shops etc. and most have little or no evidence and are gimmicks to help you part with your money (as when you are in constant pain you will try anything to try relieve it). My main advice, before try any alternative, natural or herbal product, check with a health professional like your

pharmacist or GP first as they will advise you if there is any evidence of effectiveness and more importantly on any interactions with other medicines you are taking or potential side effects.

### **Omega 3 Fish oils**

- Fish oil is recommended for a healthy diet because it contains the omega-3 fatty acids, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), precursors to eicosanoids that reduce inflammation throughout the body.
- Because of their anti-inflammatory effect they tend to be more beneficial to those living with Rheumatoid arthritis rather than Osteoarthritis.
- Omega 3 fatty acids are primarily found in oily fish such as salmon, fresh tuna, mackerel, herring, sardines and pilchards. We should eat two portions of fish per week, one of them oily.
- I am often asked which Omega 3 supplement is most effective for reducing inflammation and helping ease arthritis type pain and swelling.
- One I find good results with is an Omega 3 product on the market called "Lyprinol®".
- It appears to demonstrate quite a powerful anti-inflammatory effect and comes with none of the fishy taste associated with traditional fish oils and side-effects commonly seen with steroids or prescription anti-inflammatory medication such as NSAIDs (e.g.) ibuprofen, diclofenac, naproxen.
- Lyprinol® comes from the New Zealand Green Lipped Mussel, which has long been recognised by the Maori people for its nutritional qualities. Lyprinol® is said to be 200 to 300 times more inflammatory action than other fish oils and flax seed. As a result, Lyprinol® has been shown in research to be beneficial for arthritis and joint pain.

Unlike rheumatoid arthritis, fish oils and omega 3 supplements are not very effective at relieving the symptoms of osteoarthritis. This is because osteoarthritis is not caused by inflammation and omega 3 supplements work by reducing inflammation.

### **Flexiseq®- a new drug free gel for Osteoarthritis**

#### ***Is it worth trying?***

Flexiseq® is new drug-free joint pain gel for osteoarthritis. Flexiseq® has got a lot of attention due to comments from the likes of *Arthritis Ireland* and experts.

Flexiseq® was researched and developed in Germany for the management of pain and joint stiffness in patients with osteoarthritis. **Flexiseq®** is a gel containing nanostructures called Sequeesome™ vesicles, which are able to cross the skin and target sites of pain when rubbed in. Once inside the joint, Sequeesome vesicles accumulate on the damaged cartilage forming a lubricating layer.

Research shows its benefits in relieving pain with comparable efficacy to celecoxib, a leading prescription drug used for treating osteoarthritis pain. Daily application in the morning and evening can potentially give improvement in joint pain in as little as two days.

## **Flexiseq® is a Medical device...not a drug**

Flexiseq® is registered as a medical device; thus Flexiseq® does not contain any pharmaceutically active ingredients meaning it doesn't contain any drugs that might interact with medication you may be taking for pain or any other ailment.

John Church, CEO of Arthritis Ireland said *"We welcome any new innovative approach to making life easier for the 450,000 people living with osteoarthritis in Ireland."*

Professor Philip Conaghan, from the University of Leeds, and lead author of a major study published in the British medical journal called *Rheumatology* said: *"Many living with chronic osteoarthritis pain can't take or can't tolerate current oral analgesics because of side effects. Referring to his study involving Flexiseq® he said "the new study is interesting because it suggests that a novel topical therapy, that doesn't include a topical anti-inflammatory drug, may help osteoarthritis pain"*.

## **Glucosamine and chondroitin supplements**

Glucosamine and chondroitin supplements have traditionally been used to provide pain relief for osteoarthritis pain. These chemicals are found naturally in cartilage and are thought to improve the condition of damaged cartilage in osteoarthritis. They may also slow down thinning of the cartilage. However, there is not enough evidence yet to prove that glucosamine and chondroitin help osteoarthritis. In fact, NICE (*National Institute of Clinical Excellence*) who advise the NHS in the UK on what medicines are effective, cost effective safe etc., advise that glucosamine and chondroitin supplements should not be allowed on NHS prescriptions due to little evidence of their efficacy. The HSE has followed NICE's advice and Glucosamine was taken off the GMS list in 2012 (meaning it was no longer covered by the medical card) with the HSE citing lack of evidence of effectiveness as the reason to no longer allow.

Both Glucosamine and chondroitin are available over the counter in pharmacies and health food shops separately or in combination products. Whelehans high strength Glucosamine and Chondroitin Capsules are €9.99 for a month's supply. This is less expensive than leading brands such as Vitabiotics Jointcare® and Pharma-Nord Glucosamine®.

Lyprino® and Flexiseq®, Glucosamine etc. are alternative therapies; they should not replace conventional treatments prescribed by your doctor. It can complement other arthritis treatments. Always consult your doctor.

**Disclaimer: Information given is general; Please ensure you consult with your healthcare professional before making any changes recommended**

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