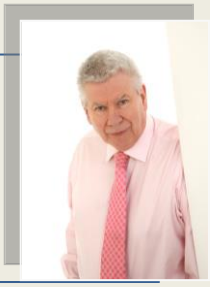


Medicine for Managers

Dr Paul Lambden BSc MB BS BDS FDSRCS MRCS LRCP DRCOG MHSM

Treatments for Arthritis

Arthritis has been around since there were joints and there have been a variety of treatments, some better than others. However in the last forty years or so, there have been strides, literally and figuratively, in the treatment of the disease

Just by way of a recap, what is arthritis? Simply it is a disease which causes inflammation, pain, stiffness and reduced mobility in joints. It forms part of about two hundred identifiable rheumatic diseases and 95% of people over the age of sixty have at least some arthritic changes in one or more joints. It may be a localised problem confined to a joint or joints or it may be part of a more complex generalised disease affecting other body systems. It can affect children as well as adults. Joints commonly affected are the hip and the knee but almost no joint is immune. Up to a quarter of disabilities are caused by arthritis.

Diagnosis of arthritis is usually not difficult, just by looking at the joint. It is often swollen, knobbly, it may be hot and red, it may be tender and it will probably be limited in movement. Normally, if investigation is needed, blood tests and a plain X-ray will make the diagnosis.

Consider the hip as an example. A typical healthy normal hip is shown in the first X-ray.

The head (ball) of the femur is located in the acetabulum (socket) of the pelvis. The surface of the femoral head looks smooth, there is a clean dark gap between femur and pelvis and a distinct edge to the pelvic socket.

The second X-ray is of a grossly arthritic hip. The discrete line of the femoral head has gone, there is no dark space within the joint and the socket is obliterated.

So, what are the treatments for arthritis. Well, although arthritis was found in the ankles and feet of dinosaurs, the oldest known evidence was found in human remains 4,500 years before Christ. Indeed arthritic change is ubiquitous found in Persian soldiers, Egyptian mummies and, in Northern Europe, stone age, bronze age and many skeletons of every age since. Every group or civilisation had their recommended treatments for pain and stiffness. Many were as creative as they were ineffective. Others such as heat, cold compresses, herbal remedies and aspirin may well have helped.

In the last fifty years, treatments have moved on. They are tailored to the patient, their age, the nature of the disease, other associated symptoms and the options available.

Medication still forms a mainstay and has done so since Victorian times. Drugs are of variable success in controlling symptoms and all may be associated with side effects. Drugs used are essentially of several types:

- ***Analgesics*** (pain killers) include paracetamol, co-codamol (paracetamol and codeine), dyhydrocodeine and a number of more powerful analgesics depending on the severity of the pain. Whilst paracetamol is reasonably safe in prescribed dosage, the more powerful drugs may cause a variety of side effects associated with opiate usage.
- ***Non-steroidal Anti-inflammatory Drugs (NSAIDs)***. These drugs have an analgesic effect but in addition exert an anti-inflammatory effect. They are useful for acute exacerbations of most types of arthritis and may be combined with other analgesics to obtain the best pain control. These drugs can also be used locally at the site of the pain and come as a tube of cream or ointment (e.g. *Voltarol, Ibugel*)
- ***Steroid Drugs***. Steroids may be prescribed either as tablets or as an injection into a specific joint. The action of the steroid is to reduce inflammation and therefore pain. Steroids in tablet form are used in short courses to control flares-up of some types of inflammatory arthritis. By injection the drug (commonly *depo-Medrone*) can be administered into a single joint to obtain the desired effects of symptom relief.
- ***Disease-Modifying Anti-Rheumatic Drugs (DMARDs)***. This type of drug is used to treat the inflammatory forms of arthritis (such as rheumatoid arthritis). They are often used combined with other medication and particularly NSAIDs. They tend to work slowly and progressively and they do have serious side effects in some people and so regular monitoring with blood tests is essential. Such drugs include *sulphasalazine* and *gold*).
- ***Anti-TNF Drugs***. These drugs are used to treat rheumatoid arthritis and some other types, normally as a second line therapy when DMARDs have been

unsuccessful. They act by interfering with the process of inflammatory development. Such drugs target *Tumour Necrosis Factor* (*TNF*) and include *infliximab* and *etanercept*. They have potential serious complications and are used with care under specialist supervision combined with regular monitoring.

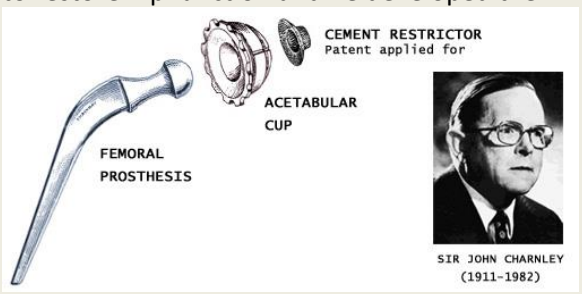
Medication may be used alone or in combination with ***physical therapies***. Such treatments include:

- ***Physiotherapy*** or ***osteopathy***. The manual therapies include exercises, massage, manipulation and the use of heat, cold and ultrasound.
- ***Hydrotherapy***. This involves exercising in a warm pool. The water renders the patient relatively weightless enabling movements to be undertaken with less strain on the muscles.

Surgery for arthritis.

As a student I remember watching what I regarded as a rather primitive operation. For a patient with intractible pain in the hip and immobilised by the gross arthritic changes, the surgeon carried out what was called a ***Girdlestone Procedure***. This involved cutting off and removing the femoral head so that no joint remained at the hip level. Patients were almost completely immobilised by the operation but it did reduce the pain being suffered.

Then along came ***John Charnley***, later Sir John, widely regarded as the founder of modern hip replacement surgery. Charnley was an orthopaedic surgeon trained in Manchester. After the war, he returned to Manchester and later went to Wrightington Hospital in Bury where he concentrated on trying to find a way to restore hip function and he developed the



artificial hip. He realised that he needed a 'slippery surface' to line the acetabulum (socket) of the hip joint and he found ***Teflon*** which suited his purpose. His operation involved the removal of the femoral head, replacement with a metal implant and a socket fitted into the pelvis. The Teflon proved not to work well and he found an alternative in ***High Molecular Weight Polyethylene*** (***HMWP***) which did in fact work very effectively. He began testing in the early '60s but it was over five years later that he announced his technique as a success and its use quickly spread throughout the UK and the world. He designed much of the equipment and the joints and continued to work on developments up to his death in 1982 at the age of 70.

More recently there have been a variety of different designs of hip and all have their protagonists. Perhaps the greatest element of surprise has been that the lifetime of such

replacements has considerably exceeded the forecasts with many lasting 20 years or more.

After the development of the hip, work on other joints occurred. The hip and the knee are now the most commonly replaced joints but it is possible to have replacement surgery of the shoulder, ankle, elbow, wrists and a number of others. Joint replacement surgery has been one of the major medical advances of the last forty years

There are now a wide range of knee replacements of which the picture shows a typical one.

Surgery is very successful but is not without complications:

1. Infection – post operative infection of the joint site may lead to the failure of the implant
2. Deep vein thrombosis is a risk, particularly with hip and knee replacements, because of the immobility of the limb. Modern techniques to avoid DVT and possible pulmonary embolism have reduced the risk considerably. Stockings and heparin injections are valuable adjuncts to surgery.
3. Loosening of the joint. Now less of a problem than it used to be , it occurs where the stresses of use result in a loosening of the joint at the attachment of the prosthesis to the bone.
4. Dislocation of the components of the prosthesis
5. Excessive wear of the joint necessitating replacement
6. Blood vessel or nerve damage during or after surgery.

Arthritis is so common, so troublesome and often so difficult to control. The quote below is anonymous but it does sum up how many feel:
Every morning is a battle to get ready for the day. Every night is a fight to find sleep and between every night is another one, fighting pain, constant pain, all day, all night, every single night. The pain has stopped but it hasn't stopped me.
Arthritis sufferers have our sympathy.

paullambden@compuserve.com