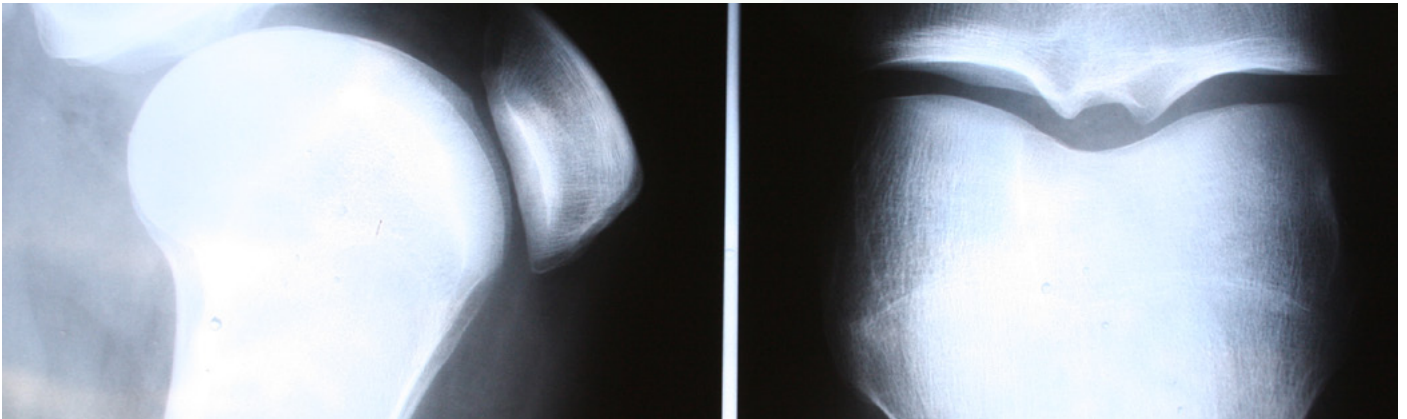


OH MY AGING JOINTS!



HOW TO REDUCE THE IMPACT OF THE SEEMINGLY INEVITABLE.

by Professor Greg Whyte PhD FACSM

A recently published study reported that by 40 years of age 49% of professional footballers will have developed osteoarthritis in at least 1 joint. Whilst this is a shocking statistic, of greater concern was the fact that 78% of those diagnosed with osteoarthritis were concerned with how it would affect their quality of life in the future. Indeed, the results of the study suggested that quality of life was significantly reduced for those with osteoarthritis compared to those without. But exercise is beneficial for joint health I hear you cry! Your right, physical activity is very important in maintaining healthy joints. Unfortunately, however, competitive sport, in particular those sports that result in injury to joints through contact trauma can increase the risk of osteoarthritis. Indeed, it has been suggested that rugby may cause more problems than football with 80-90% of players suffering from osteoarthritis by age of 40!

Whilst competitive sport may increase the risk of osteoarthritis we are all susceptible to the effects of joint 'wear and tear' that lead to loss of mobility, painful joints and osteoarthritis. Aging alone causes a number of changes in the articular cartilage that may result in the development of osteoarthritis. So what is osteoarthritis and, if it is inevitable, how can we protect our joints and reduce the impact of the disease on our joints?

OSTEOARTHRITIS IS THE MOST COMMON FORM OF ARTHRITIS ...

The commonest disorder of the joints in middle aged and older people affecting the hands, hips, shoulders, and knees. Osteoarthritis is a chronic condition with a variable pattern of progression and severity and is a major cause of a reduced quality of life and disability. In osteoarthritis, the cartilage that protects the ends of the bones breaks down and causes pain and swelling. The major symptom of osteoarthritis is joint pain, a problem that ranges in severity from mild to debilitating. Joint pain is often increased when the affected joint is used, however maintaining activity is important in protecting the joint, reducing pain and maintaining mobility when the joint is diseased. There are a number of factors that can accelerate the development of osteoarthritis. The most important factor appears to be trauma injury to the articular surface. Other important factors include obesity and inactivity. Obesity appears to lead to metabolic changes of the cartilage and damage associated with a chronic increase in weight bearing forces. In contrast, inactivity fails to exert adequate mechanical forces on cartilage to promote growth and repair. Therefore it is important to maintain physical activity, particularly in later life, to optimise the growth and repair of articular cartilage, maintain a healthy weight and protect our joints.

The standard treatment for osteoarthritis and general joint pain are the non-steroidal anti-inflammatory drugs (NSAID's). Unfortunately, routine, long term use of NSAID's has a number of disadvantages. There is concern that NSAID's may be toxic to articular cartilage and that they may accelerate the course of osteoarthritis. Because of this a number of non-drug alternatives have been suggested in the treatment of osteoarthritis including; glucosamine sulphate/hydrochloride, chondroitin, hyaluronic acid, bromelain, n-3 polyunsaturated fatty acids (n-3PUFA), and vitamin/mineral supplements. The rationale for the use of these supplements is based upon a local deficiency in some key natural substances. Thus, it is assumed that they act as natural 'building blocks' or assist in promoting regeneration of the cartilage matrix.

Glucosamine compounds have been closely examined in the scientific literature and have attracted a great deal of attention in the lay press. Glucosamine is a natural substance found in the body and plays an important role in the health and resilience of cartilage. Glucosamine supplementation has been shown to regenerate cartilage and to produce some anti-inflammatory effects. There are very few side effects of glucosamine supplementation and as such is widely recommended to limit cartilage degeneration and promote repair helping to maintain healthy joints.

INDIVIDUALS WITH A PREDISPOSITION TO OSTEOARTHRITIS OFTEN SUFFER FROM A GENERALISED VITAMIN DEFICIENCY ...

Studies have demonstrated that vitamin supplementation, particularly vitamins C, B1, B6, B12, C, D and E, may exert a beneficial effect on the symptoms experienced in degenerative joint disease. The action of these vitamins is not clear, however their role as anti-oxidants and/or precursors for cartilage repair may be important mechanisms in reducing degeneration and promoting repair of cartilage. Thus, vitamin supplementation may assist in the maintenance of healthy joints.

CONCLUSIONS ...

Joint disease causes pain, stiffness and decreasing functional capacity. Osteoarthritis is the commonest type of arthritis that affects nearly 9 million people in the UK. The causes of degenerative joint disease are multi-factorial, however inactivity and obesity are 2 important lifestyle factors that we can easily affect. Maintaining activity and a healthy weight will reduce the progression of joint disease and improve symptoms in diseased joints. Furthermore, nutritional supplements including glucosamine and vitamins can assist in limiting degeneration and promote regeneration of cartilage. Unlike pharmacological drugs in the treatment of joint disease, nutritional supplements are slower acting, taking a longer time to improve symptoms and joint health.

Adopting a healthy lifestyle through exercise and diet can help to avoid the inevitable and significantly improve quality of life.