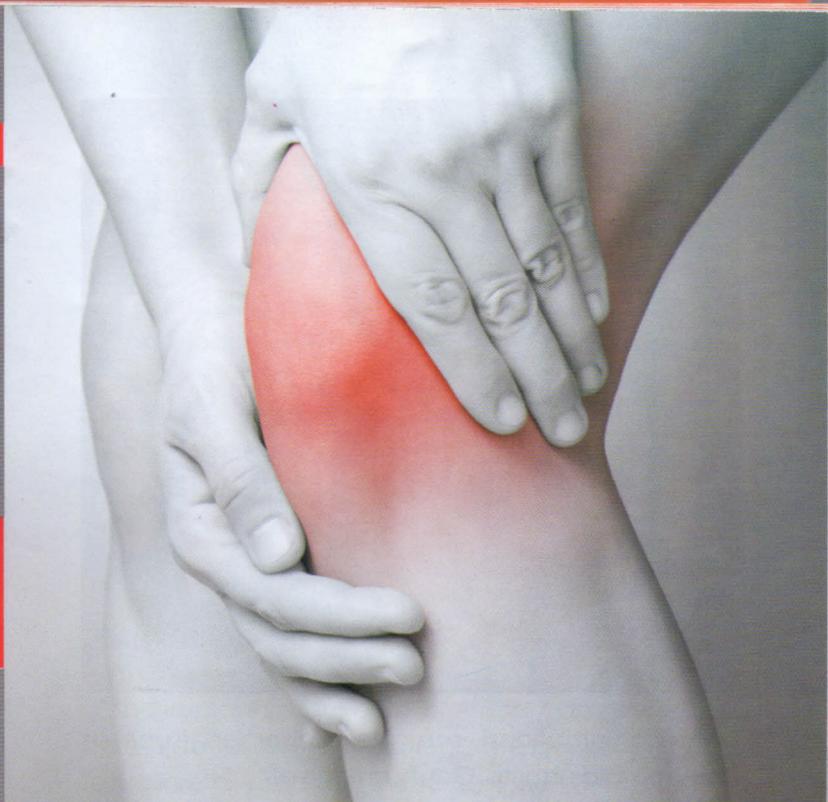


KNEE DEEP IN OSTEOARTHRITIS!

What to do?



THE TREND - Over 180 million or 18 crore Indians suffer from knee pain due to osteoarthritis. This number is far greater than most other well known diseases such as diabetes, AIDS and cancer. Our country has the second largest number of sufferers from knee pain globally. Two decades ago this condition was known primarily to affect those in their late sixties and above. But today we see an increasing number in their forties and even thirties coming with complaints of knee pain and being diagnosed with osteoarthritis. Our changing lifestyle, growing obesity, sedentary nature of our work due to increasing dependence on machines and tools, junk food culture have contributed in part to this trend.

WHAT IS OA..?

Osteoarthritis (OA), also known as **Degenerative arthritis** or **Osteoarthrosis** or **Degenerative joint disease** (DJD) is a disease of the entire joint and its various components such as the cartilage, ligaments and the underlying bone. It is a progressive disorder initially caused by gradual loss of cartilage. As the disease progresses, there is development of bony projections called spurs and osteophytes, formation of cysts within the bones, erosion of the bone and changes in the very shape of the bones forming the joint.

Our understanding of osteoarthritis has radically changed from the 'old' view -i.e., a degenerative

disorder resulting from excessive wear and tear on the joints, to the current understanding that it is due to excessive remodeling of joint tissues in response to abnormal joint mechanics, systemic factors, and genetics and driven by localized inflammatory mediators. There are complex molecular, environmental and genetic factors at underplay here. Rather than just cartilage breakdown and loss, it is clear that OA is a condition that affects the joint as an organ. The destruction of the cartilage plays a major role in the initiation of the disease process. However cartilage is predominantly devoid of any nerve endings and receptors. Hence the onset of pain cannot be due to mere cartilage destruction and is rather the result of progressive affection of other joint structures as well such as the synovium, bone, menisci, capsule, bursae and ligaments.

PRIMARY AND SECONDARY OA...

Osteoarthritis is classified into two types based on the mechanism of onset: **Primary osteoarthritis**- which results from abnormal stresses on various joints, frequently affecting the finger joints, knees and hips. Often the joints may show enlargements- in the fingers such enlargements are called *Heberden's* and *Bouchard's* nodes.

Secondary osteoarthritis - results from a variety of insults affecting or injuring the joint such as- trauma, sports-related injuries, repetitive stress to the joint in certain occupations, infections (Tuberculosis,



bacterial infections), metabolic disorders (such as Rheumatoid arthritis, Gouty arthritis etc).

DIAGNOSING OA..

THE PRESENTATION- Patients with osteoarthritis come to the doctor's clinic complaining of pain and varying degree of stiffness of joints. Some patients come with deformity of the joint or instability and loss of balance while walking. In diabetic patients the first symptom may not be pain- as neuropathy may have rendered the nerves in the joint ineffectual in transmitting the pain impulses. Such patients with neuropathic arthropathy present with instability and a history of falls as their leading complaints.

THE ASSESSMENT- Once the patient is seen and examined by the doctor, a radiograph or an X-ray is usually asked for. X-rays show the nature and extent of the arthritis and help deciding upon the course of the management. Depending upon the clinical assessment, laboratory investigations such as RA factor, ESR, C-reactive protein, Uric acid and other similar tests may be required to diagnose the cause of a secondary osteoarthritis. Once the diagnosis of a primary or a secondary osteoarthritis is made, one of many different treatment options is instituted.

TREATMENT OF OA..

It is important to understand that currently, there are no known treatments proven to slow or stop progression of the disease. Most treatments aim at symptomatic relief of pain and inflammation or on replacing structures altering the biomechanics of the joint and producing the pain. Treatment of

Osteoarthritis is tailored to the needs of each individual. Patients vary widely on the basis of the joints that are involved, the nature and severity of symptoms, extent of disability and the responses to the various forms of treatment. Most treatment programs involve various different modalities.

Lifestyle modification and patient education

Lifestyle factors –sedentary nature of work, lack of exercise, obesity, and food habits play a deciding role in the onset and progression of this disease. Hence it is vital to emphasize on various ways these contributing factors can be changed or altered to positively affect the progression of the disease.

Psychotherapy

Chronic pain and disability affects the persons psyche. Often patients are found wanting attention, understanding and support. There is a high incidence of depression in sufferers of chronic physical pain. Patients who are depressed because of changes in employment or recreation benefit from counseling. The patient's family must be involved in discussions of household reorganization, coping with the condition and other aspects of treatment.

Physical therapy

Exercise is one way of keeping the joint well lubricated and in good shape. Exercises that improve balance, stability, flexibility and range of movement of the joint are the mainstay of a structured program to prevent and alleviate the symptoms of osteoarthritis. Other modalities such as Wax therapy and Short-wave diathermy reduce stiffness and pain in joints when instituted over a period of a few days to a few weeks.

Medications

Patients with mild osteoarthritis in the initial stages are treated with simple over-the-counter painkillers such as paracetamol, modification of lifestyle and an exercise regimen. In more advanced stages, shorter durations of more powerful painkillers- non steroidal anti-inflammatory drugs may be prescribed. Viscosupplements are a group of medicines that are said to enhance the quantity and quality of lubrication in the joint, thereby improving the condition of the joint. However their efficacy in severe osteoarthritis remains to be convincingly proved. The other causes of secondary osteoarthritis such as Rheumatoid arthritis, Gouty arthritis are treated by medications promoted specifically for these conditions such as DMARDs- ·

disease modifying anti-rheumatoid drugs etc.

Braces, ambulatory aids and devices Occasionally, depending upon the condition of the joint, patients may be prescribed braces, splints and walking sticks to mechanically alter the force distribution within the joint, reduce symptoms and enhance the stability of the joint.

Surgeries for Osteoarthritis

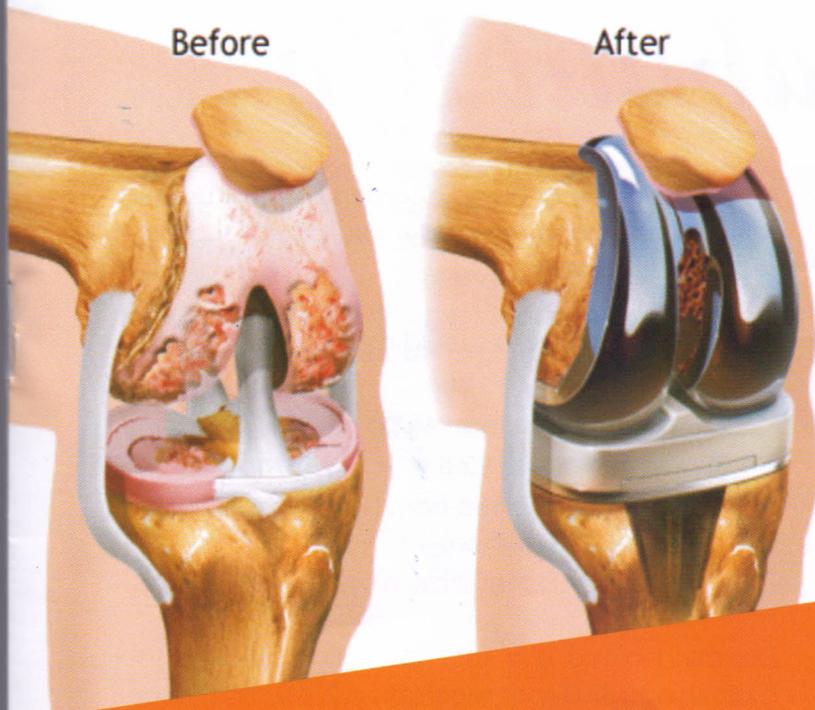
The different surgical techniques that have been advocated in order to treat osteoarthritis include –**Cartilage Transplantation** (involves removal of part of the covering of a destroyed joint surface and replacement from elsewhere); **Osteotomies** (reshaping the bone in order to redistribute the forces affecting the joint); **Joint fusion** (fixing the bones within the joint to one another) ; **Unicondylar arthroplasty** (in the context of osteoarthritis of the knee-involving only a part of- i.e a single condyle of the joint) and of course the **Total joint replacement**.

Of all these modalities of surgical treatments, total joint replacement has become synonymous with surgical treatment of osteoarthritis due to the emphatic positive results in the form of near complete pain relief and dramatic improvement in the quality of life and its resulting widespread utilization in treating this condition.

TOTAL JOINT REPLACEMENT...

Total joint replacement is the permanent treatment after exhausting all other non-surgical options for the treatment of osteoarthritis. It involves removal of all the damaged joint cartilage and part of the bone and replacing it with a man-made metal/ceramic or special plastic prosthetic that mechanically and functionally replicates the joint. In the knee joint this involves replacing the lower surface of the thighbone or femur, upper surface of the leg-bone or tibia and occasionally a part of the knee-cap bone or patella. The surgery takes between 1 ½ to 3 hours. Patients usually undergo a thorough pre-operative assessment including blood tests and X-rays and pre-operative planning including the sizing of the implants required etc. A 5 to 7 day in-patient care is necessary and patients are generally made to walk within 3 days of the surgery.

Nine out of ten patients report immediate pain relief after the surgery (90 %) and over 95 % report that they are satisfied with their procedure. About 85% of artificial knees work even after 20 years and many even after 30 years. Over the long-term it is also cost-effective when compared to the cost of taking painkillers and other measures every day for years without an end. The safety of knee replacement surgery is well documented. Serious complications occur in less than 2 % of the patients. A successful total knee replacement typically leads to a higher quality of life, less pain and better mobility. Several scientific studies have shown that total joint replacement in suitable candidates leads to a profound increase in physical activity of the patient within 1 year of the surgery. Refinements in techniques implant durability, improvements in post-operative pain control and minimally invasive techniques have promoted joint replacement to the status of being the mainstay in treatment of advanced osteoarthritis of various joints.



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