

OsteoArthritis Knee

A reliable and inexpensive treatment
is now available.



Based on the experience of past 19 years of treating
OsteoArthritis Knee with the Ilizarov Techniques,
a new, accurate and reliable treatment using
the convenience of Internal Locking Plate Systems
is now available at our Centre

Dr. Milind Chaudhary (M.S. Ortho.)

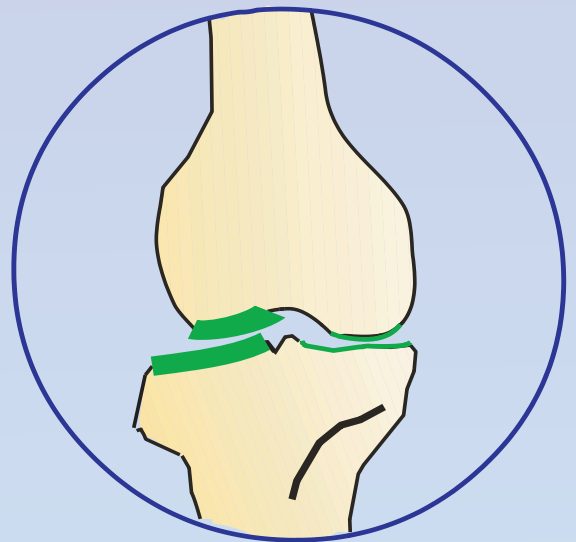
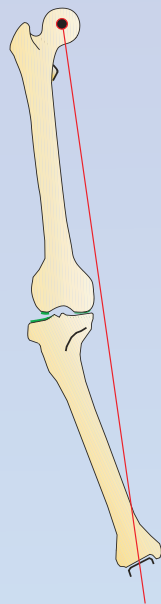
Chaudhary Hospital, Civil Lines, Akola; Maharashtra

Tel. : (0724) 2435398, 2441895.

What causes the Knee Pain?

Due to ageing process in men, and due to cessation of menses in women, bones may become osteoporotic and soft. They then bend and cause a deformity around the knee. As a result of this deformity and as a result of faulty gait patterns, there is excessive pressure on the inner compartment of the knee joint.

The excess pressure causes wear and tear of the articular cartilage of the knee. The lubrication ability of the cartilage reduces and friction increases. This gives rise to symptoms of stiffness and knee pain.



As the condition worsens, the deformity increases and pain may start appearing at rest and also at night ! The knee also deforms such that it cannot be fully straightened. In this bent position, walking becomes very tiring and hence more painful.

The muscles become weak and cannot protect the knee and this sets up a vicious cycle of worsening the wear and tear of the cartilage and further deformity.

Non Surgical Treatment

- 1) Avoid Squatting for any activities of daily living
- 2) Use soft footwear at all times
- 3) Reduce stair climbing
- 4) Reduce weight...BMI is the ratio of your height and weight. Take the square of your height in meters and divide your weight with that quantity. The result should be lesser than 25.

Try dieting, increase your exercise levels and consult your doctor.

- 5) You need special and specific exercises for your thigh muscles---walking and using the treadmill for exercise are not good for you. However, Swimming and walking in the swimming pool as well as cycling { on an exercise bicycle) are best as they strengthen muscles without causing impact stresses on the knee. .
- 6) Seek proper treatment for osteoporosis. Not only do you need calcium supplements and foods rich in calcium, but you would also need Vitamin D, Bisphosphonates, Strontium Ranelate and perhaps Nasal Calcitonin spray as some of the more modern methods of strengthening bone.



- 7) Modify your gait. A faulty method of gait will cause excessive pressure on the inner compartment of the knee. The foot should be pointing slightly outwards and the knee should bend slightly at the moment that the heel touches the ground. There should be muscular control over the knee, and it should not be a lazy method of walking.
- 8) Do not forget the walking stick! The walking stick can be your best friend! Research has shown that using the stick can reduce pressures on the knee by about 30%.

Do you need Surgery?

Yes, if

- 1) You have a lot of pain
- 2) If you have a large deformity and advanced arthritis
- 3) You have night pain
- 4) You have tried at least 6 months of conservative treatment to no avail.

Types of Surgery

- 1) Repair & Reconstruction of the Knee Joint.
- 2) Knee Replacement.

Is there no alternative to Knee Replacement?

The human body is a wonderful machine which has evolved over thousands and millions of years. The sophistication, balance, beauty and wonder that is the human knee cannot easily be replaced by any artificial joint...howsover modern and "hi-tech" it may be.

The human body is capable of repair at every age. When we sleep and rest, the body is busy repairing and regenerating all tissues in the body, including the cartilage in the knees. Hence given the right kind of "rest" and conditions, the knee can very well be repaired and the cartilage will regenerate and grow as can be seen below!



Photograph taken at surgery on the Left showing severe damage to the Cartilage due to severe arthritis .

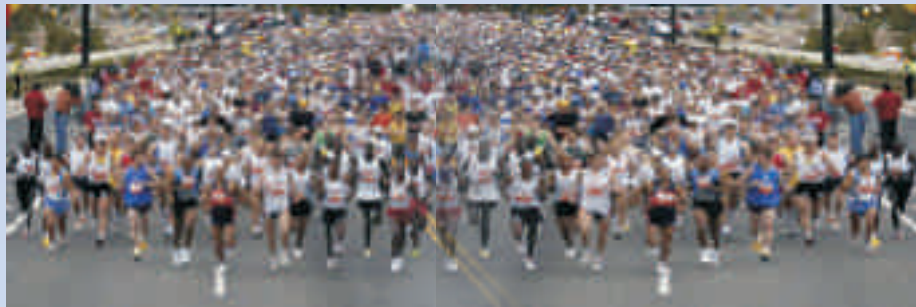
At 1.5 yrs. after surgery for realignment & repair, you can see the Cartilage is glistening white & is of full thickness & almost normal.



Knee Repair, Realignment and Reconstruction

The majority of knees with arthritis have a varus deformity of the tibia bone. This deformity is carefully analysed by taking a full length x-ray and finding the apex of the deformity. We also note that the Mechanical Axis { the line through which body weight passes in relation to the knee} is deviated inwards--causing severe increase of pressure on the inner compartment of the knee. The correction is then simulated on the PC and we are ready to perform the surgery.

Using either the external devices or Internal Locking Plates, we can accurately correct this deformity such that now the Mechanical Axis passes through the centre of the knee and balance is restored. This reduces the pressure acting on the inner compartment and the cartilage can receive nutrition again from the underlying bone and becomes healthy. This causes reduction in pain.

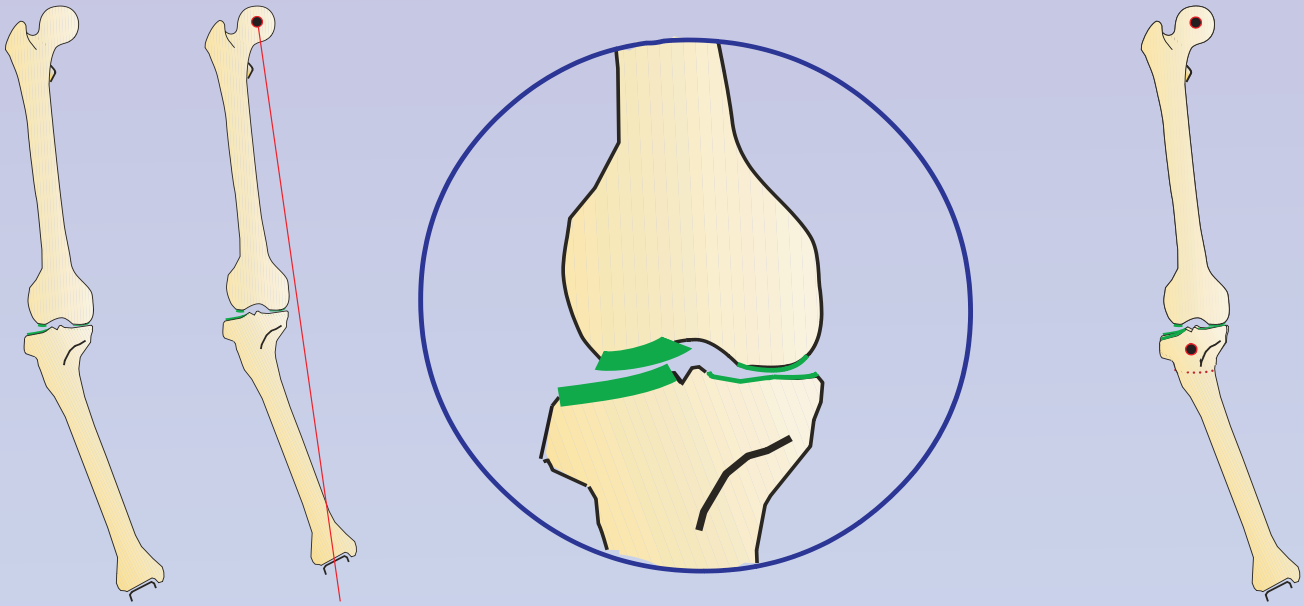


It is well known that Marathon runners may be experiencing excessive pressure on the cartilage of their knee since they run long hours and distances on hard surfaces. What is surprising is that in presence of strong muscles, the healthy cartilage actually becomes thicker--much like muscles of the bodybuilder! Hence after the deformity is corrected by surgery and the cartilage becomes healthy, the most important thing to do is exercise and strengthen muscles of the thigh!

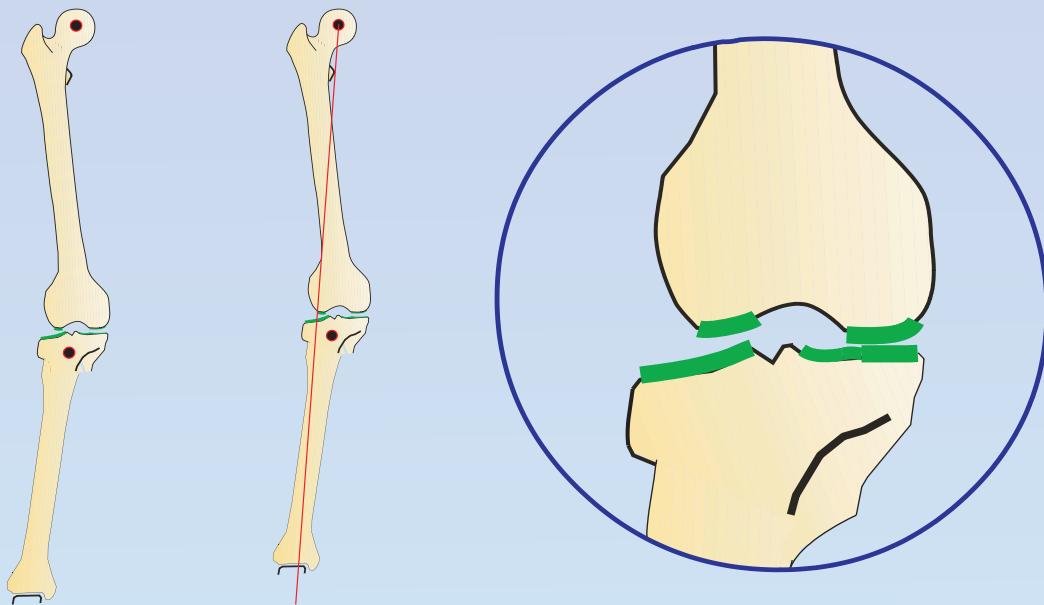
After a well performed surgery, pain relief may last for as long as 15 to 28 years as in the experience of Koshino and other scientists from Japan.

Have no doubts about the ability of the knee to repair

How do we repair the Knee?

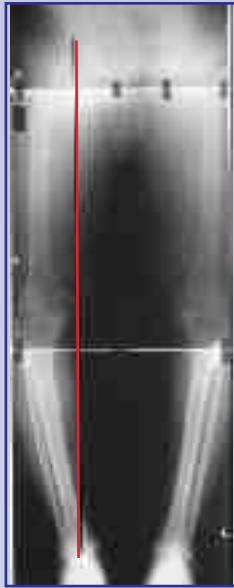


Due to a bowing deformity of the leg, the Mechanical Axis or line of body weight passes not through the centre of the knee but is deviated much more inwards causing excessive pressure on the cartilage--which wears out. This deformity is carefully analysed by computer.



and accurately corrected such that the Mechanical Axis will pass through the centre or even through the outer compartment of the knee. This unloads the cartilage and allows it to grow and regenerate and it comes back to its healthy state. This now reduces pain.

Knee Reconstruction with external method



56 year old Orthopaedic surgeon had deformity in the leg with severe pain and inability to walk and work. His full length x-ray reveals that the Mechanical Axis passes not through centre of knee but very much to the inner side.

His deformity was analysed and after simulation, careful surgery was done such that bone did not have to be removed but was merely shifted and angulated to restore the Mechanical axis and alignment of the limb. He is seen here comfortable in the Ilizarov Fixator assembly and his deformity is completely corrected, limb is straight, the knee can bend fully and he has full relief from pain.

Knee Reconstruction with Internal method



We wanted to give the reliability of our results using the Ilizarov fixator {95% patient satisfaction over 5 to 15 years}, with the convenience of Internal devices---which was much in demand by elderly patients. We turned to the Locking Plating system devised in Germany. We succeeded in getting Indian - made devices with similar quality at affordable rates for use by all of our patients.

We can see the example of this retired school teacher with severe bowing deformity with his deviated mechanical axis . We now perform the same surgery---i.e. release of the tight tethers around the Patella {knee cap} and shifting and angulation of the tibia bone [without removing any bone] and fixing it with the specially designed locking plate.

The leg is now straight, pain is gone and the mechanical axis now passes thru center of the knee!

With strengthening exercises this result can be expected to remain excellent for the next 10 to 20 years....doing away with the need for expensive Knee Replacement!

Dr. Milind Chaudhary

● Hon. Asst. Prof. Govt. Medical College, Akola ● Chief - Centre for Ilizarov Tech. Akola. ● Consultant - Jaslok Hospital, Mumbai INDIA.

www.ilizarov.org ● email-milind.chaudhary@gmail.com