



# **CENTURY CLUB**

## **Bangalore**

# **KNEE ARTHRITIS**

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## **KNEE ARTHRITIS**

**Definition:** A progressive disorder in which there is thinning ultimately leading to wearing out of the smooth layer of cartilage that covers the bone forming the knee joint.

### **Causes:**

1. Degenerative – resulting from the wear and tear in the joint as part of an aging process; accelerated by increased body weight, bowing of the lower extremity and osteoporosis among other causes.
2. Inflammatory – certain arthritic disorders like rheumatoid arthritis, gout and inflammatory arthritis among others.
3. Post injury – following fractures or ligament injuries around the knee.
4. Post infection in the knee.

### **Symptoms:**

Pain, swelling and difficulty in walking are the most common symptoms. In early stages of the disease, patients have pain on getting up from sitting on the floor or while climbing up and down stairs. Some patients may exhibit a locked sensation or a grating sensation in the joint on movement.

### **Investigations:**

1. X-rays – standing knee X-rays are useful, also full-length X-rays from hip to ankle in standing.
2. Rarely CT scans and MRI in certain special situations.
3. Blood investigations in case of inflammatory or infections.
4. Analysis of fluid from the knee in certain special situations.

### **Treatment in early or mild cases:**

1. Exercises and weight loss – One of the most important modalities to reduce wear and tear is to reduce body weight. Also strengthening of muscles of the low back and hip besides the knee help in reducing symptoms.
2. Activity modification – Avoiding high impact activities like squatting, sitting cross legged on the floor.
3. Cartilage nourishing agents like collagen and supplements like vitamin D can be used.
4. Pain medication can be used on an SOS basis. Not to be used regularly as they can have serious side effects on long term usage.
5. Injections into the knee – Biologic agents derived from blood like PRP or drugs like steroids and hyaluronates can be injected into the knee.
6. Alignment correction braces can be tried in early and mild cases.
7. Re-alignment surgeries of the knee to correct bowing can be done in certain select cases.

### **Treatment in advanced arthritis:**

In those cases where conservative treatment has been tried and failed or in which the condition has progressed to affect the activities of daily living, joint replacement procedures need to be considered.

- **Partial knee replacement** – there are strict criteria to perform this procedure in which the region of the joint affected is replaced. There are 3 components implanted into the knee, generally 2 made of metal alloys and 1 in between the 2 metal components made of a medical grade plastic. Conventional techniques have shown mixed results with this procedure. Medical data shows a clear improvement in results if this surgery is performed with a robot.

- **Total knee replacement** – here, the whole surface of the knee joint is replaced. It is a procedure much more frequently performed than partial knee replacement. There are 3 to 4 components implanted in this procedure, 2 being made of metal alloys and 2 composed of medical grade plastic. There are some other materials like ceramic which can be used as well.

Recovery from total knee replacement may take up to 3-6 months. In the early recovery period, walking is assisted with a walker and later a stick. Patients are expected to exercise 4 to 5 times a day initially in order to regain their muscle strength. Pain is usually tolerable and well managed by the current modalities available to us. Robotic knee replacement of late has become an added advantage for us to perform the procedure more accurately.