

YOUR TOTAL KNEE REPLACEMENT



Dr. M.S. Barrow
MBBch (Wits), FCS (SA) Orth.
Orthopaedic Surgeon
Suite 5, East Wing, Sunninghill Hospital
Tel: 011 806 1772
Cell: 082 925 4940
www.kneesurgeon.co.za

Waterfall Sports Medicine and Rehabilitation Centre
Tel: 011 304 7829

Barrow Physiotherapy
Waterfall City Hospital
Tel: 011 304 7829
www.barrowphysiotherapy.co.za

Jessica Barrow
B.Sc. Physiotherapy, SPT1
Cell: 083 256 0434

What is knee osteoarthritis?

Osteoarthritis affects approximately 12% of the population (approximately twenty-one million adults); it is the most common type of knee arthritis. It is a progressive musculoskeletal degenerative disease that wears away the articular cartilage and underlying bone in your knee joint, triggering chemical reactions within the knee joint that cause destruction. It can be very painful, weakening and eventually deforming.

If you have osteoarthritis of the knee, the cartilage over your knee joint bones gets scraped and worn down, becoming very thin (sometimes resulting in small fragments that float into the joint cavity and cause more aggravation). This makes your knee feel very stiff. As a result, your joint cavity produces extra fluid in the joint which is comprised of destructive proteins and enzymes that cause the cartilage and bones to deteriorate further. This causes your knee to swell up (known as "water on the knee"). The surrounding knee bones react by growing thicker. The bone at the edge of your knee joint eventually grows outward and develops into bony spurs (osteophytes), which affects your femur, tibia and patella. Your knee joint tries to repair itself by creating these bony spurs. However they generally just make your knee more painful and difficult to move, leaving thin parts on some areas of the knee and thick parts on other areas. Your joint capsule and ligaments then slowly thicken and shrink, and your leg muscles weaken (atrophy), which in turn creates instability in your knee joint (it gives way when you walk or put weight on it). Osteoarthritis of the knee usually develops slowly over the years.



1. Symptoms of knee osteoarthritis:

- Pain;
- Stiffness;
- Crepitations (creaking sounds);
- Joint deformity;
- Swelling;
- Muscle weakness.



2. Causes of osteoarthritis:

The exact reasons why you develop osteoarthritis aren't fully understood. However, certain things that may increase your risk include:

- Being over forty;
- Being a woman;
- Being overweight or obese;
- Someone else in your family having the condition;
- Playing sport professionally and injuring your joints;
- Having an injury or an operation on a joint for any other reason;
- Having rheumatoid arthritis – you may develop secondary osteoarthritis.



3. Surgery:

Dr. Barrow will have discussed the surgical options available to you. The three most definitive procedures in treating osteoarthritis are the following:

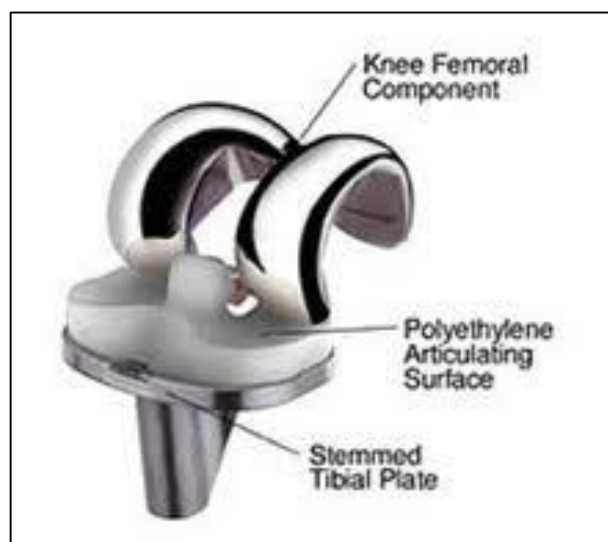
- Osteotomy;
- Uni-compartmental knee replacements;
- Total knee replacement.

Dr. Barrow will have selected for your knee the most appropriate procedure. When performing a knee replacement, Dr. Barrow usually uses intra-operative computer navigation to ensure optimal implant placement and leg alignment.



4. Total knee replacement surgery:

In this operation the bones of the femur (thigh bone) and tibia (shin bone) are chamfered and replaced with a metal (cobalt chrome) prosthesis. A polyethylene spacer is inserted between the two metal prostheses to allow smooth movement to take place. In most cases the knee cap is debrided but not removed or replaced. During the surgery the cruciate (inside) ligaments are usually removed, but the collateral (outside) ligaments are kept intact.



5. **Complications of surgery**

These are rare but include the following:

- Infection;
- Deep vein thrombosis (DVT);
- Vascular injury;
- Nerve injury;
- Tibial / femur fracture;
- Early prosthetic loosening.

6. **Immediate post-operative care:**

- You will most likely be transferred to a high care unit for twenty-four hours for observation post-surgery. In certain cases this may be extended.
- An anti-thrombotic stocking will have been placed on the leg in surgery. This is to be kept on for at least two weeks post-surgery.
- Blood thinning agents (injections / oral tablets) are a further adjunct used to prevent blood clots.
- You will be issued with an ice pack which will need to be applied from day two post-surgery. This is to reduce pain and swelling.
- A surgical drain is usually inserted during surgery to prevent excess blood collecting in the knee. This drain is removed after twenty-four hours.
- A urinary catheter is usually inserted in theatre. This is removed once you are ambulating independently.
- A total knee replacement is a painful procedure – Dr. Barrow and your anaesthetist will discuss with you and use a combination of the following to help reduce your pain:
 - Epidural;
 - Spinal block;
 - Nerve block;
 - Peri-articular blocks;
 - Non-steroidal anti-inflammatories;
 - Analgesia (intravenous / intramuscular / oral).



7. **Rehabilitation:**

Your Physiotherapy treatments will start on day one post-surgery.

Aims of therapy whilst in hospital:

- Facilitate correct ambulation on crutches and stair climbing.
- Facilitate range of movement (0° to 90°).
- Home education and advice.
- Exercise prescription.

You will need to continue with out-patient physiotherapy following discharge from the hospital in order to facilitate continued muscle strength and range of movement improvements as well as ensuring the return of neuro-muscular control and proprioception.

8. **Take-home instructions post-surgery:**

- Ambulation:
 - 2 x crutches for 4 weeks.
 - 1 x crutch for a further 2 to 4 weeks.
- Driving may resume between 4 to 6 weeks post-surgery.
- Hydrotherapy may start once the wound is closed (approximately 3 weeks).
- Overseas travel not permitted for 6 weeks post-surgery.
- Office-based / computer-based work will be manageable from 3 weeks post-surgery.
- No manual labour / heavy work for 6 to 8 weeks post-surgery.

