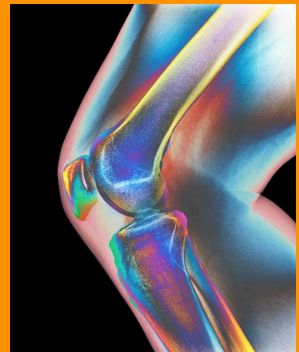


GUIDE TO:

TOTAL KNEE REPLACEMENT SURGERY (TKR)

BY DR VAIBHAV BAGARIA



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Undergoing any surgery needs preparation. Preparation by the surgical team, the family and most importantly the patient undergoing the surgery her or himself. Well informed is well prepared. Towards this end me and my team has prepared a short write up about the total knee replacement surgery. Apart from basics of the procedure, it contains frequently asked questions including what to expect after surgery, what exercises to do and what are things you shouldn't and should worry about after the surgery.

We must however remember that each patient is different and that while these provide a general guidelines, they may not contain all the relevant information specific to your case and towards that end we encourage you to ask questions. Me or a member of my team will be happy to assist you with your queries.

Some apprehension before and after the operation is natural, however we hope that this guide by means of providing a comprehensive information will allay your fears and help you cruise over your surgery in a smooth fashion. Me and my team are here to put you back in steps...

Best Regards,

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What is total joint replacement?

It is a surgery in which an arthritic or damaged joint is removed and replaced with an artificial joint called prosthesis or an implant.

What is a joint?

A normal joint is formed by the ends of two or more bones which are connected by thick smooth tissues called as cartilage. For example, the knee joint is formed by the lower leg bone, called the tibia or shin bone, and the thighbone, called the femur. The hip is a ball and socket joint, formed by the upper end of the femur, the ball, and a part of the pelvis called the acetabulum, the socket.

The bone ends of a joint are covered with a smooth layer called cartilage. Normal cartilage allows nearly frictionless well lubricated and pain-free movement. However, when the cartilage is damaged or diseased by arthritis, joints become stiff and painful. Every joint is enclosed by a fibrous tissue envelope or a capsule with a smooth tissue lining called the synovium. The synovium produces fluid that reduces friction and wear in a joint.

Why is total joint replacement necessary?

The goal of this surgery is primarily to relieve the pain caused by the damage done to the cartilage. The pain may be so severe, a person will avoid using the joint, weakening the muscles around the joint and making it even more difficult to move the joint. A physical examination, possibly some laboratory tests and x-rays will show the extent of damage to the joint. Total joint replacement will be considered if other treatment options will not relieve your pain and disability.

How is a total joint replacement performed?

You will be given an anaesthetic and our surgical team will replace the damaged parts of the joint. For example, in an arthritic knee the damaged ends of the bones and cartilage

are replaced with metal and plastic surfaces that are shaped to restore knee movement and function. In an arthritic hip, the damaged ball (the upper end of the femur) is replaced by a metal ball attached to a metal stem fitted into the femur, and a plastic socket is implanted into the pelvis, replacing the damaged socket. Although hip and knee replacements are the most common, joint replacement can be performed on other joints, including the ankle, foot, shoulder, elbow and fingers.

The materials used in a total joint replacement are designed to enable the joint to move just like your normal joint. The prosthesis is generally composed of two parts: a metal piece that fits closely into a matching sturdy plastic piece. Several metals are used, including stainless steel, alloys of cobalt and chrome, and titanium. The plastic material is durable and wear resistant (polyethylene). Bone cement may be used to anchor the prosthesis into the bone. Joint replacements also can be implanted without cement when the prosthesis and the bone are designed to fit and lock together directly.

What is the recovery process?

In general, we will encourage you to use your "new" joint shortly after your operation. After total hip or knee replacement you will often stand and begin walking the day after surgery. Initially, you will walk with a walker, crutches or a cane.

Most patients have some temporary pain in the replaced joint because the surrounding muscles are weak from inactivity and the tissues are healing, but it will end in a few weeks or months.

Exercise is an important part of the recovery process. Our physiotherapy team will discuss an exercise program for you after surgery. This varies for different joint replacements and for differing needs of each patient.

After the surgery, you may be permitted to walk, climb stair and dance. However, more strenuous sports, such as tennis or running, may be discouraged.

The motion of your joint will generally improve after surgery. The extent of improvement will depend on how stiff your joint was before the surgery.

What are the possible complications?

Please inform us about any medical conditions and any allergies that might affect the surgery. Joint replacement surgery is successful in more than 9 out of 10 people. When complications occur, most are successfully treatable. Possible complications include:

Infection-Infection may occur in the wound or deep around the prosthesis. It may happen while in the hospital or after you go home. It may even occur years later. Minor infections in the wound area are generally treated with antibiotics. Major or deep infections may require more surgery and removal of the prosthesis.

Any infection in your body can spread to your joint replacement and so it is important that after operation all infections are treated adequately and promptly.

Blood Clots-Blood clots also known as venous thrombo-embolism result from several factors, including your decreased mobility causing sluggish movement of the blood through your leg veins. Blood clots may be suspected if pain and swelling develop in your calf or thigh. If this occurs, your orthopaedic surgeon may consider tests to evaluate the veins of your leg. Several measures may be used to reduce the possibility of blood clots, including:

- blood thinning medications (anticoagulants)
- elastic stockings
- exercises to increase blood flow in the leg muscles
- Special devices that inflate with air to compress the muscles in your legs

Despite the use of these preventive measures, blood clots may still occur. If you develop swelling, redness or pain in your leg following discharge from the hospital, please contact us at earliest.

Loosening-Loosening of the prosthesis within the bone may occur after a total joint replacement. This may cause pain. If the loosening is significant, a revision of the joint replacement may be needed. New methods of fixing the prosthesis to bone should minimize this problem.

Dislocation-Occasionally, after total hip replacement the ball can be dislodged from the socket. In most cases, the hip can be relocated without surgery. A brace may be worn for a period of time if a dislocation occurs. Most commonly, dislocations are more frequent after complex revision surgery.

Wear-Some wear can be found in all joint replacements. Excessive wear may contribute to loosening and may require revision surgery.

Prosthetic breakage-Breakage of the metal or plastic joint replacement is rare, but can occur. A revision surgery is necessary if this occurs.

Nerve injury-Nerves in the vicinity of the total joint replacement may be damaged during the total replacement surgery, although this type of injury is infrequent. This is more likely to occur when the surgery involves correction of major joint deformity or lengthening of a shortened limb due to an arthritic deformity. Over time these nerve injuries often improve and may completely recover.

Preparing for total joint replacement

Before surgery, your orthopaedic surgeon will make some recommendations, such as suggesting that you:

- donate some of your own blood so that, if needed, you may receive it during or after surgery
- stop taking some drugs before surgery
- begin exercises to speed your recovery after surgery

- evaluate your need for discharge planning, home therapy and rehabilitation after surgery

Is total joint replacement permanent?

Most older persons can expect their total joint replacement to last a decade or more. It will give years of pain-free living that would not have been possible otherwise. Younger joint replacement patients may need a second total joint replacement. Materials and surgical techniques are improving through the efforts of orthopaedists working with engineers and other scientists. The future is bright for those who choose to have a total joint replacement to achieve an improved quality of life through greater independence and healthier pain-free activity.

What are the newer developments in the field of joint replacement?

Orthopaedic surgeons and engineers world-wide are working on improving both the technique and quality of the implants for replacement surgery. There has been trend to use minimally invasive approach and use patient specific instrumentation. Minimally invasive approach helps to decrease the surgical trauma and shortens the rehabilitation time. The patient specific instrumentation has instruments tailor made for the individual and helps to make the process more accurate and decreases the surgical time. We believe in 21st century health care and follow the most recent trends and practice evidence based medicine to ensure best for our patients. You may discuss the modality most suitable to you during an in person consultation with me in the clinic.



What are some common activities to be done and avoided after knee replacement surgery?

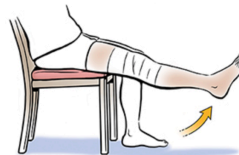
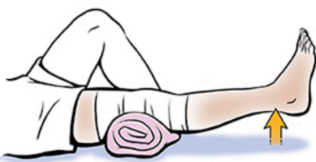
We suggest exercises such as walking, hydrotherapy and cycling. These help keep you fit and rebuild your muscles without adversely impacting the implanted joint. However even if you are painfree and there is no swelling, high impact and contact sports are best avoided specially if they involve twisting movements at knee.

When should you contact the hospital after surgery?

Your follow up instruction will be given at time of discharge and is usually between 2-3 weeks after the surgery.

If you however experience excessive pain, redness, discharge or having fever, you should report to the hospital emergency department for an assessment.

4 Simple exercises to be done after total knee replacement



ABOUT DR VAIBHAV BAGARIA

Dr Vaibhav Bagaria is the director of the department of orthopedic surgery at Sir HN Reliance Foundation Hospital, Mumbai and the president of Indian chapter of world orthopedic body - SICOT. He did his post graduation (MS) in Orthopaedics from the prestigious KEM Hospital, Mumbai after completing his MBBS from Govt. Medical College (GMC), Nagpur during which he received three gold medals. He then worked as a Research fellow at Medical College of Wisconsin, Milwaukee, USA for a year during which he also received two international awards and an honorary diploma. He subsequently undertook clinical fellowships in advanced joint replacement, computer navigation and adult reconstruction in Perth, Adelaide & Melbourne in Australia & various centre of excellence in Germany. He is the distinction of being the first Indian to top the international Diploma SICOT exam.

He has received many national and international awards. His name has been included in the current years Marquis Who's who for achievements in his field. He was chosen to solely represent the medical community in the Beijing Olympic torch relay held in India in 2008. He is also the recipient of the prestigious Korean award and Lester Lowe award at World Orthopedic congress held at Istanbul 2005. He is serving on the editorial board of many journals and has also authored many papers in national and international journals and has written many books and book chapters.

Dr Bagaria having worked with all latest technologies at different centers of excellence in the world in last 12 years of his orthopedic career is a perfect mix of youth and experience. He is proficient in performing most orthopedic surgery with a special interest in Hip and Knee replacement procedures. He has special training in Hip and knee revision procedures, Hip resurfacing and Unicondylar knee replacements. He is well versed with latest technology in the field especially Minimally Invasive Surgery (MIS), Computer Navigated Surgery (CAS) and patient specific instrumentation.



APPOINTMENT WITH DR BAGARIA

By calling the call centre: 1800221166 (Toll Free)

Through hospital website: www.rfhospital.org

For Admin support: 022 61305047 (Sonal)

Orthopedic OPD: 022 61305015 (PE team)

How to reach the Hospital: Please follow this google map link: <https://goo.gl/maps/KBXYg8SeouxV57zg7>

(Disclaimer: this is an educational document and not substitute for a medical advice)