Surgical Attachments :
P. D. Hinduja National Hospital
Veer Savarkar Marg, Mahim, Mumbai - 400 016.
Call Centre No. for Appointments : +91 (22) 4510 8181 or +91 (22) 6766 8181
Secretary : +91 22 6924 8185
Assistance for Appointments : +91 22 6924 8173
Emergency No. +98694 46644 (Whatsap Only)

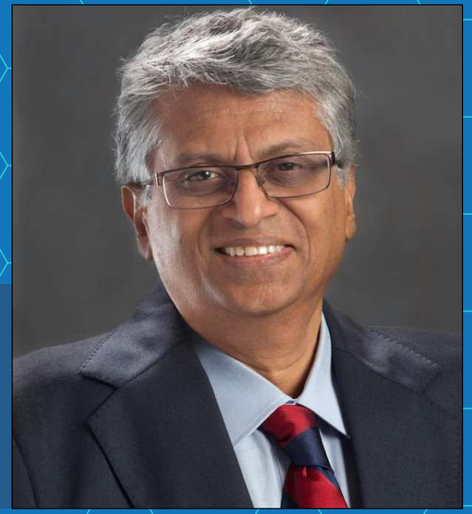
Breach Candy Hospital
Bhulabhai Desai Road, Mumbai - 400 026

Dr. Sanjay Agarwala
Head - Orthopedics & Traumatology
Director-Professional Services
P.D. Hinduja Hospital & Med.Res.Centre
Veer Savarkar Marg,Mahim(West),
Mumbai 400 016.

Agarwala Clinic:

104-B, Sukh Sagar Building, 1st floor, Abv. Kobe Sizzlers,
N. S. Patkar Marg, (Hughes Road),
Opera House, Mumbai - 400 007.
Contact No. +91 22 3554 2626 / +91 98694 80707

October 2024



DR. SANJAY AGARWALA

M.S. ORTH, MCH.ORTH
JOINT REPLACEMENT & ORTHOPEDIC RECONSTRUCTIVE SURGEON
www.sanjayagarwala.in
www.drsanjayagarwala.com









DR. SANJAY AGARWALA
Head of Department of Orthopaedics & Traumatology
Director of Professional Services (Medical Director)
D.ORTHO M.S. (ORTH)(BOM)., M.CH.ORTH (ENG).

Dr. Sanjay Agarwala is an **ADULT RECONSTRUCTIVE ORTHOPEDIC SPECIALIST** in Joint Replacements. He also manages complicated trauma cases.

He is currently the Medical Director of Hinduja Hospital and the Head of the Department of Orthopedics, operating at Hinduja Hospital & is also attached to the Breach Candy Hospital in Mumbai. He also has his private consulting chambers at Sukh Sagar, Opera House, South Mumbai.

He has held the position of AO Chairman for Western India and is the past President of ISHKS (Indian Society of Hip and Knee Surgeons).

Dr. Agarwala was awarded Gold Medals at MBBS, MCPS, M.S.Orth & Mch Orth for Academic Excellence.

His philosophy is that following Joint Replacements, patients should return to complete physiological function. All patients aspire to have a full natural function after surgery, and patients operated on by him can and will be able to do so. His publication on "Functional outcome following a large head total hip Arthroplasty" is testimony to this.

Dr. Agarwala has performed over 10000 **joint replacement** surgeries and is among the country's most experienced surgeons.

Dr. Agarwala's benchmark research on Deep Vein Thrombosis (DVT) in patients undergoing Arthroplasty surgery, the first such in India, has established the prevalence and incidence of **DVT** in orthopedic patients. This publication has resulted in patients now being given prophylaxis for this dreaded condition.

Through various scientific research work done/published by him in international journals on Avascular Necrosis (AVN), he has shown that **AVN** can be treated medically with Bisphosphonates and is now the standard of care for AVN in its early stages.

Amongst other publications, he has published a novel technique for **Box High Tibial Osteotomy (HTO),** which can be used successfully in carefully selected patients for early knee osteoarthritis. His fixation method for patella fractures and the twisted plate technique for ankle fractures has been published internationally.

He has to his credit an enormous scientific contribution to current international orthopedic literature, with over 100 publications in peer-reviewed international scientific journals.

From clinical excellence, surgical skill, and basic research, Dr. Sanjay Agarwala has successfully blended the best of the East and the West to bring world-class surgical facilities to benefit Indian patients.

Your Surgical Journey

Your Surgical Journey

Based on the patient's requirements, discussions and our team's expertise, the suggested surgical procedure has been determined to be the best option for you. **To help you understand the surgical journey, please compare this to taking an international flight.**

1. **Booking of Admission/Surgery Date.**

Before boarding a flight, you need passports, visas, and ticket bookings; likewise, for the operation, you need to first book a date for your surgery.

2. **Getting the appropriate fitness for surgery.**

Just as personal information is submitted before obtaining a visa similarly, we need to assess the patient's fitness for surgery, which requires the patient to share their entire medical history, along with **ALL** medications. (**All inputs help make the team more prepared to help the patient**). For example, tablets such as Aspirin and Clopilet, which are blood thinners, can cause bleeding during surgery. Asthmatics may need more oxygen during the surgery, and Uncontrolled Diabetes may impair wound healing. **Specific medication & conditions for the heart** (ECG, 2D Echo), lungs (PFT/X-rays), liver and kidney, etc., need to be known as various drugs can interact with their functions. The physical act of giving anesthesia may require extra tests like specialized X-rays of the spine, CT, or MRI screening so that the anesthetists are better prepared to administer safe anesthesia during the surgery.

3. **Minimizing risks.**

Just as there is a security check before taking a flight, the Physician and the Anaesthetist look through these pre-operative medical reports and examine the patient so that risks can be explained & may be further reduced proactively. In an aircraft, before take-off, there is a safety drill; likewise, in any surgery, there is a plan to minimize the anticipated risks of as many events as possible.

4. **Individualizing your surgery.**

When the pilot lands an aircraft, he has to contend with cross-winds, haze, other flights, weather changes, quality of communication, etc. Similarly, **every surgical procedure is individualized;** some are longer, some are shorter, and there are multiple variables, as not every surgery or disease process is the same. It is this ability to confront a problem safely that measures success.

5. **Ensuring your OTC (Operation Theatre Clearance).**

The OTC (Operation Theatre Clearance) is like a ticket. Just like you pay for a ticket before your travel, **the hospital expects the patient to do an OTC against a deposit before surgery /admission so that both the hospital and the patient are aware of the expected expenses. Against the paid ticket, you get a boarding pass; likewise, against an OTC, the institution permits the patient to be taken to the theatre for surgery.**

This amount is based on averages, but in an individual case, the total expenses may be more if there are emergency requirements or complications that may or may not be related to the surgical procedure. **These are inherent risks of treatment and surgery. Therefore, It should be understood that the estimated costs are based on an AVERAGE and NOT quoted as a PACKAGE. In some patients with medical co-morbidities, the cost can escalate.**

Recovery after that is a natural process, and the hospital and doctors help nature to facilitate this, with medication and teamwork of doctors, nursing, physiotherapy, and other modalities required for the recovery.

6. **Ensuring a happy and smooth hospitalization / surgical process.**

The cost of any ticket for travel supports the staff, the salaries, the fuel for the aircraft, etc. Similarly, to successfully execute the whole surgical treatment process, there is staff in the hospital in administration, security, laundry, dining, meals, air-conditioning, water, catering, etc., which is supported by the expenses incurred for each case.

Budget airlines may offer cheaper fares & skeleton services. Similarly, medical facilities may be available at lower rates. Our institution has overheads to ensure that checks and measures are carried out for the patient's safety, which necessitates the charges we quoted. We try to reach the six sigma benchmark in healthcare, which the airline industry also works towards.

Just as there are choices for traveling First class, Business class, and Economy class to reach the same destination, with different costs and comfort levels, the hospital will quote different charges for different classes of admission for the same surgical procedure.

The entire team works diligently to make this a smooth "landing."

I hope this helps you understand the process, and I look forward to greeting you on the other side with every success in your case.

FAQ's

Joint replacement surgery has given years of pain-free living to millions of people with arthritis worldwide. With advanced materials and surgical techniques and the efforts of orthopedic surgeons working with bioengineers, the future is promising for those who choose to have a total joint replacement.

1) Who needs a joint replacement?
Initially, patients with arthritis are treated with non-surgical modalities, like medications, physiotherapy, and orthoses (like knee caps, walking, sticks, etc.). It is only when these modalities, too, cannot control symptoms that Dr. Agarwala advises surgery.

Well-motivated patients with severe joint pains, affecting their bodily functions and causing restriction of movement, are candidates for surgery.

2) Pre-operative assessment ?
All patients need to undergo a series of Blood tests, X-rays, ECG, etc., prior to surgery so that medical problems, if any, can be treated before admission.

Anesthesia for surgery
There are two types of Anesthesia
1) General Anaesthesia
2) Spinal / Epidural Anaesthesia

Pain Management
We offer Multimodal pain management protocol leading to fast track recovery after a joint replacement surgery.

A few of the components of the multimodal pain management protocol are listed below :

a) Peri-articular injections during surgery
b) PCA (Patient Controlled Analgesia) This is a machine that allows patients to take continuous intravenous analgesics like morphine derivatives, and there is a provision of taking extra dose if required
c) Epidural Anaesthesia- A catheter is kept in the back (spine) at the time of spinal anesthesia through which analgesics are given post-operatively
d) Regional blocks
e) Suppositories
f) Intravenous and oral Analgesics (Paracetamol, anti-inflammatory drugs)
g) Skin patches that release drugs into the bloodstream

3) When will I be able to walk after surgery?
You will most often be made to stand up on the same day of your surgery. You will be made to walk to the toilet the next day of surgery and even taught to climb a few stairs.

4) Will I require any walking support after the surgery?
A walker will be required initially, for 2 weeks to 6 weeks, until your muscles and body adapt to the new joint, followed by a walking stick for a few weeks to support you. Normally, you will be climbing stairs within 3 days of surgery.

5) How many days do I have to spend in the hospital?
Few days. Normally hospitalization would be for 3 to 5 days, which includes a day or two before surgery (depending on your general health) and 2 to 3 days after surgery.

6) When can I resume my routine and day-to-day activities after surgery?
3-5 days. Walking around the house, bathing, and sitting in the car will all start as soon as you go home by the 3rd to 5th day. Other activities, like walking, swimming, etc., will be permitted by the end of 1st month after the surgery. You may need a walking stick for 6 to 8 weeks after surgery.

7) When will the sutures/stitches be taken out?
We often use concealed sutures that DO NOT require suture removal. This has been published by us in a peer-reviewed journal, "Concealed cosmetic closure in total knee replacement surgery. A prospective audit assessing appearance and patient satisfaction, published in Journal of Clinical Orthopedics and Trauma 2018."

8) When can I resume my work/duties?
This would depend on the distance you need to travel to your workplace and the means of transport you will use. Ideally 1-3 weeks, depending on your physical comfort level.

9) When can I drive?
You will be able to drive a car in 4-6 weeks

10) When can I return to sports?
It will take 3 weeks to 3 months for complete recovery, i.e., returning to exertional/sporting activities. Since you have had a deformity that has been corrected, the other joints, tissues, and nerves will need to readapt to the corrected normal position after surgery.

11) Am I allowed to walk barefoot on farms?
NO ! Unprotected/barefoot walking in farms, gardens, or dirty roads can facilitate bacteria reaching the bloodstream through cracks in the feet. This bacteria can, unfortunately, infect the replaced joint. Villagers and Farmers are particularly at risk.

12) Am I allowed to turn and change sides in bed while sleeping ?
Yes ! You can sleep in whatever position is convenient, including turning on the operated side.

13) Will I be able to wear high heels post-surgery?
Yes!

14) Will I have swelling in the legs?
As you have undergone a significant major surgery, the leg may have swelling for many weeks. The DVT / Pressure socks used during the day will limit this swelling.

FAQ's

15) After surgery, won't many of my activities be restricted?
Patients who have undergone total knee replacement will have little to no restriction of activities with the prosthesis and technique we propose. Given the new high-flexion knees, you should be able to squat and sit cross-legged within a few weeks, provided you have the new high flexion knees.
Patients scheduled to undergo total hip replacement will be advised regarding restrictions depending on the implant type. With the standard hip prosthesis (which has stood the test of time), you can squat, sit cross-legged on the floor, or use an Indian toilet.

16) Will I need prolonged physiotherapy after this surgery?
No. All the exercises you need to do are taught to you, during your hospitalization after your surgery till you are discharged. Exercises are ALSO shown in THIS booklet. After discharge, you may do your own physiotherapy if you are confident, otherwise, please have a physiotherapist visit you at home.

17) Are there any complications involved?
As with all major surgical procedures, complications can occur. The most common complications following joint replacement are:

- Deep Vein Thrombosis
- Infection in the joint
- Stiffness of the joint
- Loosening of the joint

This is not intended to be a complete list of possible complications, but are the most common. The rate is less than 1% for major complications (like infection) and less than 5% for minor complications (like delayed healing). This matches the complication rate published worldwide in literature.
Any known infected foot injuries need to be treated aggressively, or they may spread to the artificial joint. (**for further details please refer to my website www.drsanjayagarwala.com, www.sanjayagarwala.in**)

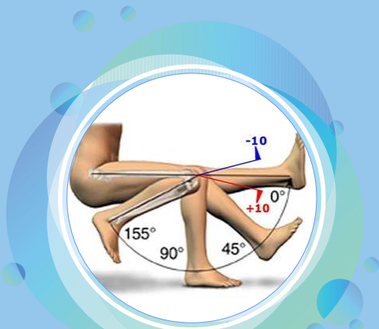
18) Am I at risk of Deep Vein Thrombosis (DVT) ?
DVT remains a serious preventable cause of post-operative morbidity in patients undergoing arthroplasty. Undiagnosed and untreated Deep Vein Thrombosis (DVT) will lead to pulmonary embolism, which is a serious complication. We were the first to highlight the true incidence of post-operative DVT and its distribution pattern in Indian patients. We have set protocols to address DVT based on our research and experience.

19) How is DVT prevented?
All patients receive either LMWH or oral drugs, including Aspirin, for 3 to 7 days following arthroplasty.

Patients are also instructed to wear compression stockings to prevent pooling and aid blood flow. We also give sequential compression devices to prevent DVT in the initial post-operative period.
Please inform us / treating physician, prior to admission if you are already on blood-thinning drugs such as Aspirin, Warfarin, or Clopidogrel.
Papers published by Dr. Sanjay Agarwala on Deep Vein Thrombosis:

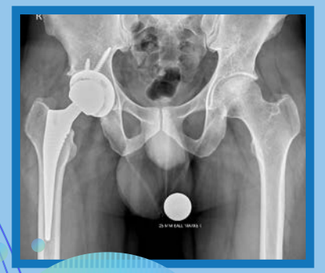
1. "Screening for DVT in post-operative orthopedic patients". Indian Journal of Orthopedics, 2002.
2. "DVT in Indian patients undergoing major lower limb surgery". Indian Journal of Surgery, 2003.
3. "Incidence of DVT in Indian Patients". Indian Journal of Orthopedics, 2003.
4. "Pre and Post-operative DVT in Indian patients - Efficacy of LMWH as a prophylaxis agent". Indian Journal of Orthopedics 2005.

20) What is the latest in knee replacement?
Joint replacement has been fine-tuned, standardized, and perfected over the last three decades. The recent innovation in knee design is a breakthrough where complete flexion can be achieved. Earlier implants provided only pain relief, while newer ones offer the additional advantage of full functional recovery.
Some people may think it's better to delay surgery until they're older because they believe that knee implants don't last long. These newer knees are designed for patients requiring knee replacement to accommodate regular movements while significantly minimizing implant wear and will also help your knee replacement last longer up to 30 years according to the manufacturer.)



21) What's new in Hip replacement?
Ceramic or Oxinium on highly cross-linked poly with a long posterior wall is the current replacement option available which offers normal functional activities, less wear rate, reduced chances of dislocation, and last longer for almost 20-30 years.

22) What are the advantages of large-head THR?
The most significant advantage is the increased range of motion. Patients can squat, sit cross-legged and even use the Indian toilet!



It also has reduced chance of impingement and subsequent dislocation. A larger femoral head travels a greater distance before subluxating or dislocating and hence is safer. It also has greater longevity due to reduced wear.

23) Implant option?
Patients are offered Ceramic or Oxinium on highly cross-linked poly arthroplasty. An acetabular cup with a screw or cemented option may be used.
The femoral head size varies from 28 to 36 based on the design of the patient's selected joint. It is often based on the patient's size and bone quality, decisions that sometimes need to be taken intraoperatively during surgery.
In knee cases, if the Original patella (knee cap) is found worthy of retention at the time of surgery, the same may be retained in the knee replacement procedure. The patient will be informed post-surgery and billing will be adjusted according to the final components utilized.

ROBOTIC Assisted Surgery (RAS) / Computer-Assisted Joint Replacement Surgery (CAS) - Theoretical Benefits

The Computer or the Robot is optional in most routine cases. We use CAS/RAS only in selected cases. Joint Replacement Surgery makes unique demands regarding implant alignment, positioning, and tissue balance. Even the slightest deviation from the desired placement can produce poor long-term results. Similar to the driver of a car who uses the GPS to find the way on the road, the computer-navigation system / robotic-assisted system uses trackers and an image-guided surgery (IGS) camera attached to the computer for complex surgeries; it helps, with routine surgeries, the extra costs and time do not justify the use.
In Computer / Robotic surgery, the camera can precisely follow the position of the transmitters firmly affixed to the patient's operative leg and transmit the data to the computer, which is then displayed on the monitor according to the patient's unique anatomy.

In experienced hands, the standard instrumentation gives equally good results.

24) Leg (Limb) Length?
During surgery, the tissue tension determines the position of the prosthesis, and there can be a minor mismatch of leg (limb) lengths. Slight adjustment, if required, post-surgery can be taken care of with minor footwear adjustments in the required limb.

25) Is Joint Replacement Surgery Permanent?
The implants used in joint replacements are available in various materials viz., Chromium Cobalt / Stainless Steel that lasts for 15 to 20 years, OXINIUM (Smith & Nephew) and BIONIK GOLD (Meril), both of which last for 25 to 30 years (as per the Companies' literature).
With newer implant materials having better metallurgic properties, it is claimed by the manufacturer that there are reduced wear and friction rates resulting in long-term survivorship of the replaced parts, lasting up to 30 years.

Knee Exercises

1. Quadriceps strengthening:

Lie on your back on a flat, firm surface. Keep one leg straight and the other bent. Tighten the muscles at the front of the thigh on the straight leg. Lift the leg 6-8 inches and **hold** it for 5-7 seconds. Repeat 12 times on this leg and then on the other leg. Work up to 3 sets of 12 repetitions.

2. Hamstring stretch:

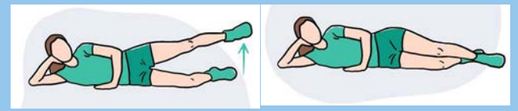
Sit on the floor with one leg forward and other bent. Lean toward your toes until you feel stretch behind your knee. Hold for 15-20 seconds. Repeat 5-7 times on each side

3. Knee range of motion exercises:

Lie on the back and bring your knee towards the chest. Grasp the shin and gently bring the heel towards your buttocks. Hold for 5-7 seconds. Repeat this for 5 times.

Hip exercises

1. Abduction exercise: Lie on your side with the body and top leg straight and the bottom leg bent. Keeping the knee straight, lift the leg to a maximum of 12 inches **and HOLD THE POSITION** before lowering the leg down. Repeat for a total of 20 times.



2. Straight leg raise: Lie on your back on a flat firm surface. Secure weights around the ankle. Keep one leg straight and other bent. Lift the straight leg to approx 12 inches and **HOLD THE POSITION** before lowering the leg down. Repeat for 10 times, then take a 30 sec rest and repeat again for 10 times.

Post Operative Protocol

POST-OPERATIVE PROTOCOL after a

TOTAL JOINT REPLACEMENT

What follows are a set of instructions given to our patients after surgery. This will help you gauge what is required in the recovery period.

DAY 0 (DAY OF OPERATION)

- Pain is natural after such a major operation. So, do not let it worry you. We often use a PCA (a Patient Controlled Analgesic) to make you as comfortable as possible. As and when you feel pain, medication is given to you at the press of a button. In addition, you may also ask for an injection from the ward sister. The pain gradually reduces over the first 24 hours.
- After the initial period of drowsiness, you can start taking sips of water or sucking on an ice cube or peppermint. You may feel some nausea. Some patients tend to vomit a few times after anesthesia. If you do, ask for medication to control it.
- There may be a couple of tubes coming out of the operation site. These are to drain away the excess **'unwanted'** blood. These tubes are often removed the next day of surgery. There may be a tube for draining urine, which will be removed when you feel comfortable about passing urine on your own, most often on the next day of surgery. Usually, you will be **made to stand up on the same day of your surgery.** You may be able to take a few steps. Initially, a walker/support will be required.
- You may turn sides if you need to, but keep a pillow between your legs when you do so.
- You may sit up with support. Alternatively, ask for your bed to be propped up.
- You should wriggle your toes as much as possible and move your feet at the ankles, which will help reduce pain and prevent swelling or DVT of the legs.

DAY 1

- After surgery, patients are made to walk around the corner, sit on the bedside chair, and use the stairs.
- You are made to sit up or sit with your legs dangling by the bedside. In case of Knee Replacement, support your leg on a chair or a stool. (Chapter published by us on "Fast-tracking Pathways for Enhanced Recovery and Patient Satisfaction in Total Knee Arthroplasty Getting better sooner" in Textbook Complex Primary Total Knee Arthroplasty).
  Abduction exercises are to be done **for the hip**.· Quadricep strengthening & Hamstring stretch exercises to be done **for the knee**. Push your ankle up or down alternately many times. Press your knee down on the bed (to pull your knee cap up) and then relax. Perform the above exercises as many times in a day as you can. They will help in reducing pain and swelling.
- You will be given elastic stockings to be worn on both legs and Calf pumps(Sequential calf compression devices) to prevent swelling and DVT. Post-operative blood tests will be done today. Your dressing may have little blood stains, which is normal. As mentioned earlier, your drain tubes and urinary catheter will come out today. You will be made to walk using the support of a walker within your room. If you're comfortable, you will be made to walk outside.

Post Operative Protocol

DAY 2 to 5

- Physiotherapist will help you take a walk with a walker on your floor. Often you may also start climbing stairs. You will also be given commode training.
- Most injectable medicines will be stopped**.**
- The dressing will be checked and a light comfortable dressing will be done.
- Knee-bending exercises in case of a Knee Replacement will be started on a special machine (CPM). You may also bend the knee by yourself depending on your comfort level.
- During these days, you will need to work on your walking and the exercises as per the exercise chart given to you earlier.
- Also learn to tighten and loosen the knee cap as many times in the day as possible (Quadriceps tightening).
- You will graduate from a walker to a single stick, depending on your comfort level.
- You will be discharged, with a full report of your treatment and medicines to be taken.
- Anticipated post-surgery time line

7 - 10 days :	Wound healing
3 – 4 weeks :	Soft tissue healing
6 weeks – 3 months :	Body and prosthesis merge together.

Post-Operative Information and Instructions

1) You can shower after covering the surgical site with suitable covers including Cling Film or a plastic bag but avoid washing over the surgical site. You do not need a bandage (unless you have drain). **If you have drainage that lasts more than 1-2 days after the bandage comes off or is cloudy or foul-smelling, call us on the emergency numbers.**
2) Do not change the dressing on your own. Minimal spotting of the dressing pad is normal and is not an alarming sign. **In case of soakage of the dressing, contact us on the emergency numbers.**
3) Do not worry if you have a low-grade fever; this is common. In case of constant high temperature, increasing pain, tenderness, and/or raised white blood counts persist for more than 5 days after surgery, the infection may be suspected.

   Following investigations, appropriate treatment is instituted. Normally, antibiotic prophylaxis for a single day after surgery is adequate. (Paper published by us in Indian Journal of Orthopedics. April 2005 pg 7 on "Post-operative pyrexia after arthroplasty when to panic") If your temperature is over 100 degrees, call the **hospital Casualty** during odd hours or my office during working hours.
4) Do not get worried about swelling. Swelling is normal; you will have it for several months (up to 9-12 months). Swelling and bruising will move with gravity into the lower legs. To help alleviate it, sit or lie with your legs propped up higher than your heart when you are at rest. The use of pressure socks **during the day** keeps swelling in check.
5) Do not get concerned if your operative joint gets hot. Wound healing will increase blood flow; this is normal. It is normal for the incision line to be red for a few weeks; this will gradually fade. **Use Ice-packs.**
6) We get concerned if you get redness, swelling, and pain in the calf or thigh. You will usually have all or more than one of the above symptoms together. Also, if you have pain in the back/chest area or trouble breathing, these can be signs of a blood clot**. Call the hospital Casualty at odd hours where there is always a doctor on call) or call my office during working hours.**
7) Upon discharge from the hospital, you will be given a written prescription for pain and other medications. You will be asked to follow-up with us on the dates given to you at the time of your discharge. In case of doubt, please contact us during office hours. In case of any problem, you may reach the Casualty department or **message us** with your Discharge Summary on our emergency number so we can guide you.
8) You will also be given a handout for exercises that need to be done at home. You can call a physiotherapist of your choice for assistance or avail of the physiotherapist services from Hinduja.
9) Follow-up with your Physician/ Cardiologist/ Endocrinologist or any other specialist for medical issues regularly after the surgery.
10) Make sure to inform your doctor about your joint replacement surgery if you are to undergo any other minor or major surgery, including a dental procedure.

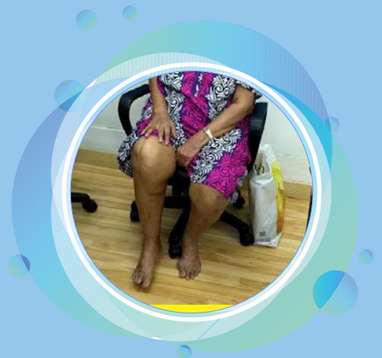
    You should receive some antibiotic coverage starting before the procedure and continue to avoid seeding the artificial joint with bacteria.

A FEW TIPS THAT YOU SHOULD FOLLOW AT HOME :

- Perform your exercise regularly
- Walk, and climb stairs according to your comfort level.
- Use a walking stick in the opposite hand.
- Watch your weight.
- Consult your doctor in case of any new symptoms.
- Take care not to trip over carpets and wires at home and on wet bathroom floors.
- Use Grab bars / Keep lights switched on.

Some degree of swelling in the foot and lower limb is normal after this surgery and need not worry you. Such swelling may remain for up to 9 to 12 months**. <u>The use of pressure socks during the day keeps swelling in check.</u>**

We would like to see you in one week, 3- 6 months, and then annually. Kindly bring along a new set of X-rays of your operated joint and your previous X-ray at your 3 month follow-up visit..



Alternatives

Knee Replacement

Visco supplementation like Synvisc® Injection

Intra-articular hyaluronic acid injection can give short term relief and is usually helpful only in early stage of arthritis.

Arthroscopy :

It is a surgical procedure involving a small incision in your skin around the knee joint, through which special scopes attached to a camera are inserted to visualize the insides of the joint and trim and repair torn tissues, in early stages.

High Tibial Box Osteotomy:

In this surgery, the leg bone is cut near the knee to restore alignment. It can be performed in a selected number of patients with early arthritis. The procedure does buy time till a Total Knee Replacement becomes mandatory.

Papers published on this topic are :

1) "Box Osteotomy. A new technique of proximal tibial Osteotomy for osteo - arthritis of the knee" in the Journal of Orthopedics and Traumatology, 2001. No 2, pg218.
2) "Staple V/s locking compression plate fixation after lateral closing wedge high tibial osteotomy in Journal of Orthopedic Surgery 2008;16(3)(303-7).
3) "Comparison of closing-wedge and opening-wedge high tibial osteotomies for medial compartment osteoarthritis of knee in Asian population – a midterm follow-up". Journal of Clinical Orthopedics and Trauma 7,(2016) 272-275.

Now we also offer medial opening wedge osteotomy in selected group of cases, yet another technique.
The time line for rehabilitation is 3 to 9 months, and it is realistic to expect 70-80% relief.

Unicondylar knees

Depending on the severity of OA, a grey zone exists when a High Tibial Osteotomy is inadequate and a Total Knee Replacement is too drastic a procedure. In these cases, Unicondylar Knee Replacement (UKR) is an option.

The advantage of the Unicondylar Knee Replacement is that it is done through a smaller incision, and only the damaged part of the knee-affected condyle is replaced. The patient can use an Indian commode squat on the floor. At the time of surgery, switching to a Total Replacement may be necessary if the entire joint appears to be affected on examination. The deformity however, is not corrected.

HIP

Avascular necrosis of the femur head (AVN) leads to hip osteoarthritis. Till a few years back, there was no non-surgical option for treating early stages. Before arthritis sets in, certain anti-osteoporosis drugs like Alendronate can control the disease process. This innovation was conceptualized by us and is now a proven treatment for early AVN.

Articles published by us on Alendronate treatment for Avascular Necrosis of the hip are given below:

1. Study of Alendronate in Avascular Necrosis of bone"
2. Alendronate in the treatment of Avascular Necrosis of the hip
3. "Efficacy of Alendronate, a Bisphosphonate in the treatment of AVN of the hip. A prospective open-label study"
4. "The use of Alendronate in the treatment of avascular necrosis of the femoral head – follow-up to eight years"
5. Ten-year Follow-up of Avascular Necrosis of Femoral Head treated with Alendronate for 3 years
6. "Caveats of Bisphosphonate abuse"
7. "Bisphosphonate Combination Therapy in the Management of Post-chemotherapy Avascular Necrosis of the Femoral Head in Adolescents and Young Adults: A Retrospective Study from India"
8. Bisphosphonate combination therapy for non-femoral avascular necrosis.
9. Avascular necrosis as a part of 'long COVID-19'
10. A Paradigm Shift in Osteonecrosis Treatment with Bisphosphonate - A 20-Year Study
11. Bisphosphonates for Post-COVID Osteonecrosis of the Femoral Head - Medical Management of a Surgical Condition

When all else fails a Total Hip Replacement restores function to the hip