



Total Knee Replacement



Please scan QR code for more information on NUHS Orthopaedic Surgery

The Department of Orthopaedic Surgery offers specialist medical and surgical treatments on musculoskeletal disorders, joint replacements, foot and ankle disorders, among other trauma injuries to patients. Our consultants and surgeons work closely with sports medicine physicians, physiotherapists, podiatrists and other healthcare professionals to help patients return to normal activities after surgery.

What is a Total Knee Replacement (TKR)?

A total knee replacement is the resurfacing of the rough damaged joint of your knee with smooth metal implants.



Who needs a TKR?

You may need a total knee replacement if you experience:

- Degenerative condition of the knee.
- Pain, stiffness or deformity of the knee, which limits your movement and affects your daily activities.



Why do I need a TKR?

Total knee replacement can help to relieve your knee joint pain and allow better range of movements. With TKR, you will be able to walk better and farther, improve quality of sleep, and reduce painkiller reliance if you have been relying on it for pain management.

During surgery, a smooth metal component replaces the damaged end of your thigh bone (femur), while a plastic component replaces the cartilage between the knee joint bones. Another metal component is used to replace the damaged end of your shin bone (tibia). Sometimes, the back of your kneecap is resurfaced if required.

If you have to undergo a TKR surgery:

- You will be invited to attend a patient education session to learn more about the procedure.
- An anaesthetist will discuss with you the different anaesthetic options available.
- A doctor or a nurse will inform you of the medications that should not be taken before the surgery.
- A financial counsellor will provide an estimated cost of your surgery and help you with payment options available.

Please scan the QR codes to find out more about TKR.

English



Chinese



Malay



Tamil



Before Surgery

+ Preparations

- Ensure you have a chair with armrests for support. When seated, your hips should be slightly higher than your knees.
- Remove loose rugs, clutter and other fall hazards from the floor. (E.g. Tie loose electrical cables and cords to avoid tripping over them.)
- Ensure you have covered shoes, or sandals with heel straps and non-skid soles.
- Ensure that you have a clear and wide enough path (about 80cm) to move around with a walking aid at home.
- Re-organise your belongings so that frequently used items are easily accessible.
- If you're sleeping on a mattress laid on the floor, prepare a bed frame to easily assist yourself on and off the bed.
- Keep floor surfaces dry and use non-slip mats where necessary.
- Ensure your home is well-lit and use night lights between your bedroom and bathroom.
- Check that you can easily get down and up from the toilet seat. Do not use a squatting toilet.



- Inform the physiotherapy and occupational therapy teams if you need to use any stairs at home.
- Identify your care-giver and ensure he/she accompanies you on the day of the surgery to receive training to take care of you at home post-discharge. If you do not have a viable caregiver, please alert our pre-operative counselling team so that arrangements such as recovery in a community hospital can be discussed with you.



+ Pharmacy / Herbal Remedies Caution

Some herbal and homeopathic remedies have side effects and can increase your risk of bleeding which may delay your surgery. You are advised to stop taking the following remedies at least one week before your operation.

- Echinacea
- Ephedra
- Tongkat Ali
- Ginkgo bilaba
- Ginseng
- Valerian
- St John Wort
- Garlic (safe in cooking)

+ What should I bring along for my hospital stay?

- Your present medication
- Toiletries (towels will be provided by the hospital)
- Outdoor shoes (fully covered shoes are preferable)

During Surgery

+ Pain Control and Management

Anaesthesia

There are different types of anaesthesia available for knee replacement surgery. These include either a spinal anaesthesia or general anaesthesia. Your anaesthetist will perform an assessment and discuss the options with you.

- Under general anaesthesia, you will be asleep during the surgery. A breathing tube will be inserted down your throat to help you breathe during the surgery. After surgery, you may experience side effects such as sore throat, nausea, and vomiting.

- If spinal anaesthesia is given instead, you may be awake or be on light sedation to keep you comfortable. You will feel numb from the waist down and not feel any pain during the surgery.

After Surgery

+ Pain Management

Managing your pain well after surgery is an important component in your recovery. Pain that is well controlled allow you to participate in your exercises and can help reduce the length of hospital stay.

You are advised to take your pain medication regularly for the first 72 hours. As your pain subsides, the number and frequency of pain medication will be adjusted accordingly to fit each patient's needs.



Water resistant dressing will be applied to your wound.



Calf pumps will be applied to your legs to help promote blood circulation and reduce the risk of blood clots development in the leg.

+ Rehabilitation

Rehabilitation can start as early as the same day of surgery, to prevent stiff knees. Your physiotherapist and occupational therapist will assist you in rehabilitation sessions and active participation will help speed up your recovery. If you have a caregiver assisting in your post discharge care, we encourage the caregiver to be present during your therapy sessions.

+ Discharge

Our counsellors would have already assessed your discharge needs before surgery and indicated if you will be going home with inpatient NUHS@Home support. You will further be assessed on the day of the surgery after your operation by the physiotherapist and occupational therapist, to determine your suitability to go home in the evening of the day of your surgery or the next day.

+ Occupational Therapy

The occupational therapist will teach you how to manage your daily activities after surgery such as dressing, toileting, and showering.

After Discharge



Scan the QR code for videos on Activities of Daily Living (ADLs) after total knee replacement surgery.

+ Managing daily activities at home

Dressing (e.g. putting on pants)

You are advised to dress your operated leg first while in a seated position, followed by your other leg. Pull your pants over your hips and stand with the assistance of your walking aid.

Using the toilet

To stand up from the toilet seat or to lower yourself down to sit, place both hands on the walking frame. Alternatively, you can position one hand on the frame and the other on the toilet seat.

Showering

You are advised to sit on the chair when you shower. After showering, ensure that the floor is not slippery before you stand or walk.

Equipment/Assistive Aids

Common equipment and assistive aids recommended for your daily activities include a wheelchair and grab bar(s). Other aids are also available:



Commode



Long-handled brush or sponge



Long-handled reacher

Please seek your occupational therapist's advice before purchasing these equipment or assistive aids. Rental options are available for wheelchairs and commode.

+ Seek immediate advice if you experience any of the following symptoms:



Unpleasant smell from the wound



Increasing or persistent pain at the wound site



Fever above 38°C



Redness



Wound discharge



Excessive Bleeding

+ Take note not to do the following:



Do not wet your wound



Do not do strenuous exercises or lifting



Do not apply creams or lotions unless otherwise recommended by your doctor



Do not aggravate your wound



Do not kneel



Do not squat



Do not touch the incision line if your wound is exposed



+ Diet and Medication

Although there are no special diet or fluid restriction (unless otherwise instructed by your doctor), having a balanced diet will help your wound to heal and your muscles to regain strength. You are to take your medication as prescribed by your doctor.

+ What will happen to my stitches or staples?

Stitches and staples are usually removed within 10 to 14 days after the surgery, but the timeline depends on the individual. Upon discharge, your doctor or nurses will inform you when the stitches or staples can be removed. You will be given an outpatient clinic appointment to remove your stitches or staples.

+ Home care and advice - Physical activity

- Exercise will help your body to heal and make you feel better.
- Continue the exercise programme as advised by your physiotherapist.
- You will need to use a walking frame for about 3-5 weeks. Thereafter, you may still need a walking stick for up to 3 weeks.
- Move about frequently but slowly, and gradually increase your activity level.
- Try walking every day, first in your home and subsequently outdoors. After walking, elevate your operated knee and rotate your ankle to reduce swelling.
- Even after full recovery, you are advised not to take part in any contact sports or activities that will put too much stress on your knee.
- It is important to discuss with your doctor before starting any new sport or activity.

+ Getting in and out of a car



1. Take the front seat. Stand close to the car seat. Rest against the car seat.
2. Reach for stable areas and place your operated leg slightly forward. Sit down or get up slowly.
3. Turn yourself into the car. Hold the operated leg and gently lift the leg into the car if not possible.

+ Recovery Timeline

- You should be able to drive 4-6 weeks after your surgery.
- In 1 month, you should be able to manage your daily activities independently.
- In 2-3 months after your surgery, you should be able to return to work.

However, please consult your doctor or occupational therapist prior to resuming these activities.

+ Medical Implant Card

Bring along your medical implant card whenever you travel abroad.

	National University Hospital
Permanent Medical Metal Implant	
Name:	
NRIC/Passport No:	
Date of Issue:	
The owner of this card has a permanent medical implant. This implant may activate a metal detection device.	
Type of Implant Device:	RIGHT KNEE IMPLANT

	Ng Teng Fong General Hospital	Implant Card
A member of the NUHS		
Orthopaedic Surgery		
(Clinic A51 – A53)		
Appointment Line: 6716 2222		
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Frequently Asked Questions

+ **What happens after my surgery?**

Rehabilitation will begin soon after your surgery as it is extremely important to start exercising to move your knee as soon as possible. This prevents stiffness, pain, swelling of your knee, and reduces the formation of scar tissue.

+ **Will I be in a lot of pain after my surgery? Is it safe for me to do these exercises?**

It is normal to experience some amount of pain and discomfort as you recover from surgery. Your doctor and a team of nurses will help you to manage the pain and discomfort. You should only perform the exercises prescribed by your physiotherapist, and as long as they are within your tolerance threshold.

+ **After my surgery, when will I be able to get out of bed and walk?**

The physiotherapist will assist you to get out of bed and sit on a chair several hours after the surgery. Rehabilitation can start as early as the same day of surgery with the help of a walking aid. The speed of recovery differs with each individual.

+ **I am unable to perform my exercises up to the recommended dosage. What should I do?**

You are advised to take intermittent rest between exercises and continue as tolerated. Gradually increase the repetition of exercises that you are able to perform.

+ **Will I need to continue with physiotherapy after I am discharged?**

Yes. Upon discharge, your physiotherapist will recommend a suitable home exercise programme. You need to be consistent with the home exercises to ensure optimal recovery. An appointment for outpatient physiotherapy will also be arranged upon discharge. Your physiotherapist will continue to advise how often you need to return for rehabilitation sessions, as well as the duration of your whole rehabilitation progress.

+ **Do I need to purchase any equipment or a walking aid?**

Your equipment and walking aid needs will be advised by your physiotherapist based on your post-operative recovery.

+ **Will I be able to climb stairs?**

It will depend on your recovery. Once you are able to walk, your physiotherapist will assist you to practice climbing the stairs.

+ **Will I be able to squat or kneel after my operation?**

It is not advisable to squat or kneel during the initial few weeks after your operation as it will be painful and uncomfortable.

+ **Will I be able to participate in other physical activities?**

You should avoid high-impact activities such as contact sports and running during the initial stage of recovery. Your physiotherapist or doctor can provide you with specific advice on resuming normal day-to-day activities.

+ **What do I need to look out for when I'm discharged?**

Pain and swelling is common after the operation and it may persist up to weeks after the operation. You can manage your pain and swelling by applying ice on your knee for 20 minutes, once or twice a day. Elevating your leg at night with a pillow under the ankle may also help to reduce the swelling. However, if you experience any excessive pain, any new numbness, tingling or discoloration in your foot, do consult your doctor or visit the clinic immediately.

Every individual's experience following surgery is different. Your course of rehabilitation will be customised based on your needs. If you have any queries, please consult your doctor or physiotherapist.

+ **When can I drive?**

You should usually wait 6 to 12 weeks before driving. Before you consider driving, you must feel confident that you have sufficient movement and strength to perform an emergency stop.



Our Patient Care Institutions

National University Hospital
Ng Teng Fong General Hospital &
Jurong Community Hospital
Alexandra Hospital
National University Polyclinics
Jurong Medical Centre
National University Cancer Institute, Singapore
National University Heart Centre, Singapore
National University Centre for Oral Health, Singapore
NUHS Diagnostics
NUHS Pharmacy



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OneNUHS Hotline: (65) 6908 2222

OneNUHS General Enquiries: contactus@nuhs.edu.sg

OneNUHS Appointments: appointment@nuhs.edu.sg

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