

A Patient's Guide to Total Knee Replacement

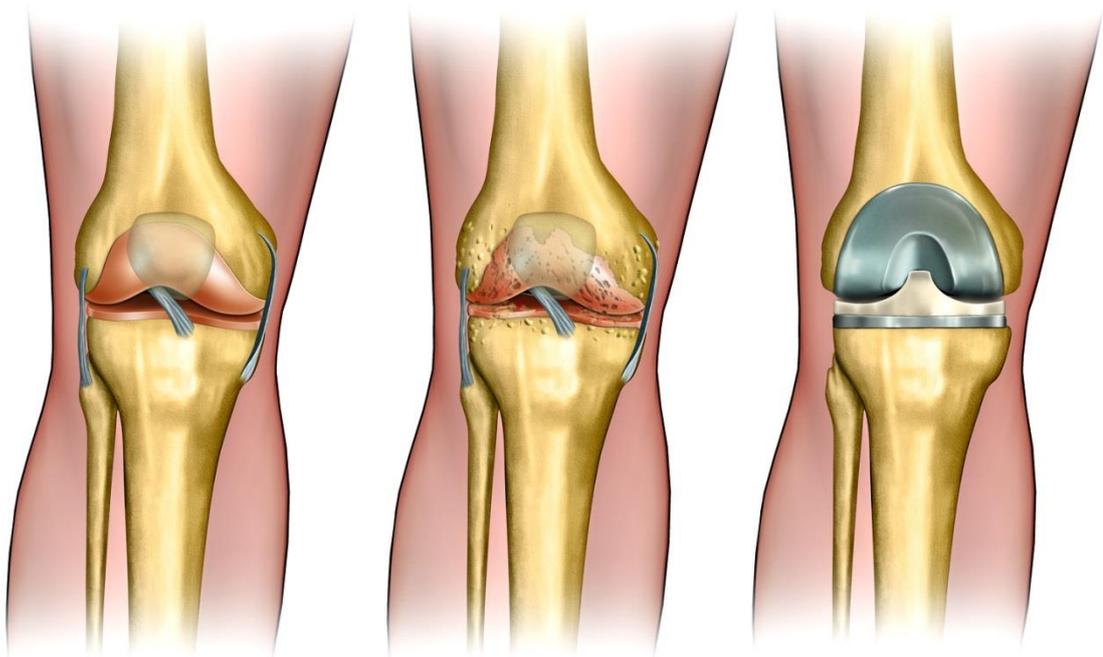


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Introduction

During your stay in St. James's Hospital you will be cared for by a multi-disciplinary team made up of doctors, nursing staff, care assistants, physiotherapists, occupational therapist and if needed a social worker.

The aim of this information booklet is to inform you

1. How best to prepare for your surgery
2. What to expect before, during and after surgery and during your hospital stay
3. What to expect and how to continue your successful recovery at home.

As a team our overall goal is to ensure that you have the best possible experience during your hospital stay and have the best possible outcome from your knee replacement surgery.

Anatomy of the Knee

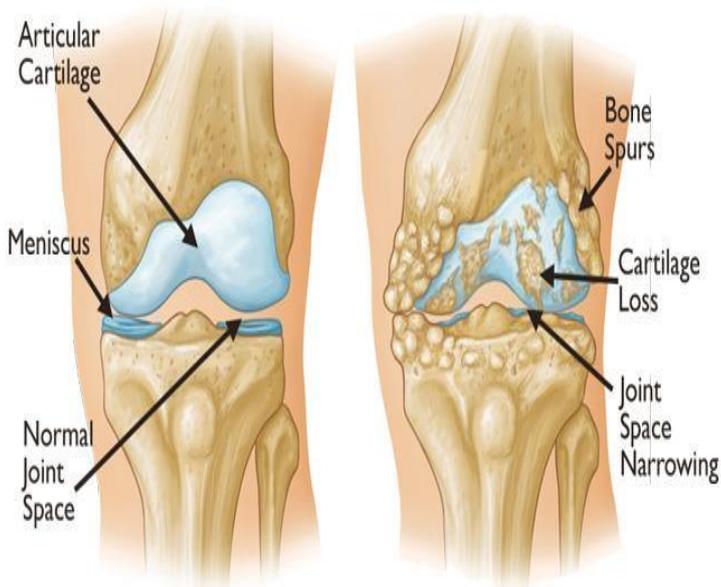
A Healthy Knee

The knee joint is made up of the end of the thigh bone called the femur and the top of the shin bone which is known as the tibia. In a healthy knee joint, the ends of these bones are covered by cartilage which allows the bone ends to glide smoothly over one another. The kneecap, also called the patella, is the moveable bone at the front of your knee. It is enclosed in a tendon which connects the muscles in the thigh (quadriceps) to the shin bone or tibia. There are numerous ligaments within and surrounding the knee joint which provide stability as well as muscles which function to allow movement of the joint. When all these structures function correctly, you should be able to walk pain free.



A Problem Knee

When someone develops arthritis in their knee, the cartilage which is normally present to allow smooth movement of the bones begins to wear away. As this happens, it becomes frayed and rough, and the protective space between the bones decreases. This can result in bone rubbing on bone, and produce painful bone spurs as well as restricted movement, swelling, giving way and difficulty walking.



What happens during surgery?

During a total knee replacement, the damaged part of your knee joint is removed and replaced with an implant. This implant can be made from many different materials and your surgeon will choose the one that best suits you. In order to fit the implant correctly, a small amount of bone is removed from the end of the thigh bone (femur), the top of the shin bone (tibia) and the underside of the kneecap (patella). Most of the ligaments and tendons of your knee will be left in place to help with bending and straightening your knee as well as keeping the knee stable.



Your operation will be carried out under spinal/epidural anaesthesia or general anaesthetic.

Preparing for surgery

Exercise

Exercising in the lead up to your surgery will help to improve your strength, range of motion and endurance as well as help you to lose weight if necessary. Ensuring that your body is prepared for the surgery in this way will help lead to a successful outcome and recovery.

Please see the exercises at the back of this booklet for some ideas.

Diet and Nutrition

Healthy eating before your surgery will aid the healing process in the post-operative period. Examples of this include the following:

- Drinking water to ensure you stay hydrated.
- Eating fibre rich foods to avoid constipation which can sometimes be caused by pain medications (e.g. broccoli, whole wheat pasta and breads, peas, beans)
- Eating foods that are rich in iron (e.g. lean red meats, dark green leafy vegetables)
- Eating foods that are high in vitamin C to help your body absorb iron (e.g. citrus fruits, tomatoes)
- Ensuring that you are getting enough calcium in your diet to keep your bones strong (e.g. milk, cheese, yoghurt).



Smoking

Smoking puts you at an increased risk of respiratory complications post-op as well as slowing recovery and increasing risk of infections and blood clots. If possible, it is advised that you try to quit at least a few weeks prior to surgery. Talk to your Doctor about smoking cessation services if you need help with this process.

Alcohol

Please be honest with your team when asked about how much or if you consume alcohol. This information is important in order to assess your risk for alcohol withdrawal and other alcohol-related complications.

Diabetes

If you have diabetes it is very important to manage your blood sugar levels before surgery to help reduce risk of complications after surgery.

Medications

Some medications thin your blood and increase the risk of bleeding during/after surgery or may interfere with healing. These include medications that contain anti-inflammatories, aspirin, warfarin or arthritis medications. If you are taking any of these, discuss them with your surgeon/doctor prior to surgery to check whether they need to be stopped.

Preparing your home prior to surgery

It is important to be aware of and remove any potential hazards that may increase your risk of falls, prior to the surgery. These include:

- moving electrical cords and phone lines out of the way
- storing items within easy reach in the kitchen and bathroom for example (i.e. moving things from lower presses into higher ones)
- removing rugs which could cause you to trip
- being cautious around pets and young children
- being cautious with slippy floors and any potential spills of liquid

What to bring to the hospital with you

- Loose, comfortable clothes for after your surgery – tops, tracksuit or tracksuit bottoms
- Undergarments
- Socks and comfortable runners or shoes suitable for walking in
- Personal toiletries
- Glasses if needed
- Hearing aids and batteries if needed
- List of current medications
- Mobile phone if needed and list of important contact numbers
- Medical card if you have one
- *do not bring valuables if possible*



After Surgery

Immediately after the surgery, you will likely have a large dressing around your knee as well as a small tube to drain excess fluid from the knee joint. You will also be advised to move your feet and ankles regularly to aid circulation and you will likely have compression stockings on.

On the day after your surgery, you will be visited by a physiotherapist who will help you to get out of bed and take a few steps to sit in a chair usually using a pair of crutches or a zimmer-frame. Unless told otherwise, you will be allowed to put as much weight through your operated leg as you are able to.



Your physiotherapist will also put your leg on a machine called “Continuous Passive Motion” or CPM which helps to bend and straighten you knee.

Your physiotherapist will also give you other exercises similar to those at the back of this booklet to help regain your movement and strengthen your muscles.

It is very important that while in bed or sitting out in a chair, that your operated leg is elevated either on a chair or stool. Please ensure, however, that you **do not sit** with a pillow under your knee alone as this may prevent your knee from straightening fully if kept in this position for a long period of time. Elevation along with ice packs will help to control swelling which is normal in the early post-op period.



Pain Management

Pain is a normal part of recovery after any operation and it is important to ensure that it is well managed to enable you to walk, perform everyday activities and engage with physiotherapy. If you have pain, it is advisable that you take regular pain relief as prescribed by your Doctor and not to wait until the pain is severe. Ensure that you have allowed enough time for your pain relief to begin working prior to your physiotherapy review or before going for a walk (30-40 mins). If you feel that your pain relief is not adequate enough, please talk to your doctor who may be able to alter your prescription. Aside from pain medication, the use of an ice pack will also help to control pain as well as swelling after a knee replacement.

Rehabilitation and Discharge Planning

Over the days following your surgery, you will continue with your rehab on the ward. This involves increasing the distance you are walking, increasing the bend in your knee, progressing from a frame to crutches if you are able as well as increasing your independence with getting in and out of bed and performing your personal care on the ward.

You will also need to practice the stairs if you will need to use them on discharge.

Stairs:

It is best to take 1 step at a time for the first few days.

Going Up: Step up with the good leg first, then with the operated leg (and finally the crutch if necessary).

Going Down: Lead with the crutch first (if necessary), then step down with the operated leg and follow with the good leg.

Just remember:

Good leg to heaven, Bad leg to hell!!

Discharge planning begins from the moment you come into the hospital for your surgery. If possible, the goal would be that you would be discharged straight home from hospital, usually within one week after your surgery. However, if this is not possible, for example if you are still needing assistance to walk or perform daily activities that cannot be provided at home or if you live alone and will not be able to manage, you will be given the opportunity to go to convalescence, where you will have more time to recover.

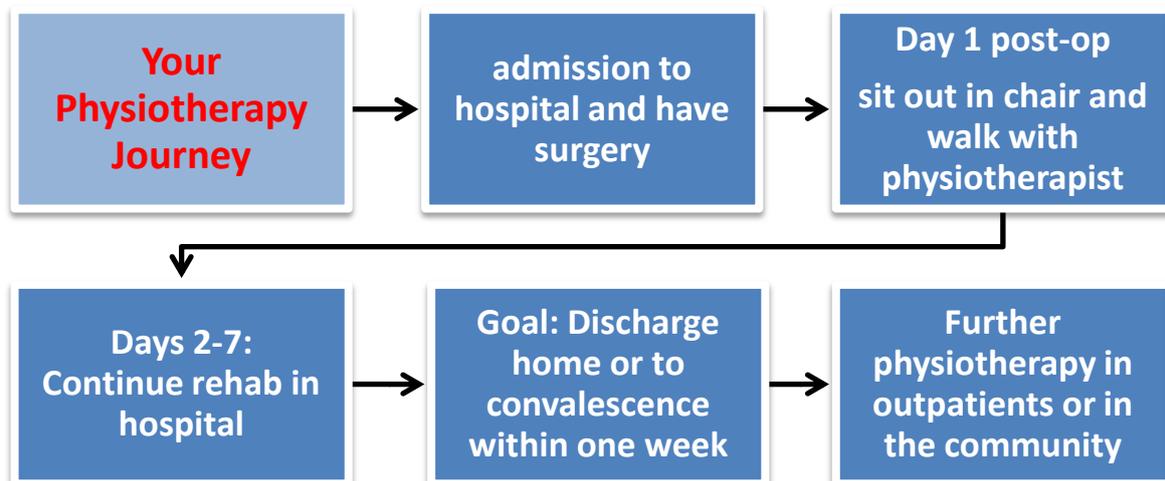
Examples of where you could go for convalescence in Dublin include Clontarf, Kiltipper, Kilcock and St Lukes.

Prior to discharge home, it is also our goal that you will have achieved at least a 90 degree knee bend and be able to straighten your knee completely.

Physiotherapy Pathway

After leaving hospital or convalescence you will either be referred for further physiotherapy input in the physiotherapy outpatient department or in the community, in your local primary care centre.

It is very important that you attend these appointments in order to continue to improve the range of motion and strength of your knee as well as to progress your mobility further and work on your balance if necessary.



Potential Complications

The vast majority of patients do not experience any complications after a Total Knee Replacement. The table below includes complications that could potentially occur and gives suggestions on how you can minimise the risk of developing them

Complication	Signs and Symptoms	Examples of how you can minimise the risk
Blood Clots	Pain and/or redness in your calf and leg unrelated to your incision Increased swelling of your thigh, calf, ankle or foot Increased skin temperature	Exercising and staying active Blood thinners (if prescribed by your Doctor only) Compression stockings
Pulmonary Embolism (when a blood clot travels to the lungs from elsewhere)	Shortness of breath and chest pain or pain when breathing	Blood thinners (if prescribed by your doctor) Exercise and staying active Compression stockings
Infection	Increased pain and redness around wound Any unusual drainage from your surgical wound, particularly if very discoloured	Letting your doctor /dentist know you have had a total knee replacement as you may need antibiotics

In general patients do very well at home following total knee replacement. However, if you experience any of the symptoms described above, it is important that you seek medical advice promptly

Car Transfers

Getting into car – move seat back as far as possible, stand with your back to the car and lower yourself down slowly onto the seat with your operated leg slightly out in front of you. Twist your bottom and swing your legs into the car.

Getting out of the car – reverse of getting into the car, ensuring the operated leg is out in front of you before you stand

Going Back to Work

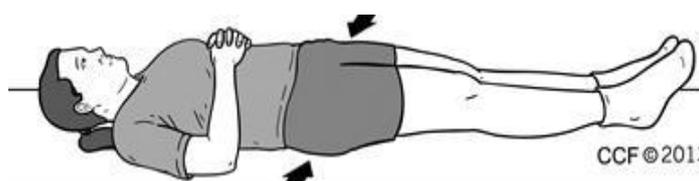
Depending on your job you may be able to go back to work after 6 weeks (if in a more sedentary profession). This may take longer if your job is more active. This however, is only a guide and it is advisable to speak to your surgeon before deciding when to return to work.

Knee Exercise Programme

As discussed earlier in the booklet, it is advisable that you do exercises before, as well as after surgery, in order to ensure that your body is in the best possible shape it can be prior to having your surgery. Below are some examples of exercises you can do.

1. Gluteal sets

Lying on your back or sitting in a chair, squeeze the muscles in your bottom together. Hold for 5 seconds and repeat 10 times



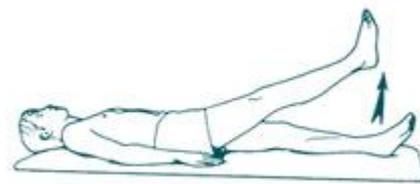
2. Quadriceps sets



Lying on your back with your legs straight, squeeze the muscles at the front of your thigh by trying to push the back of your knee down into the bed. Hold for 5 seconds and repeat 10 times

3. Straight Leg Raise

Lying on your back with your affected leg straight, pull your toes up towards your head and while keeping your knee straight, lift your leg approximately 20cm up off the bed. Hold for 5 seconds and slowly lower leg back down onto the bed. Repeat 10 times

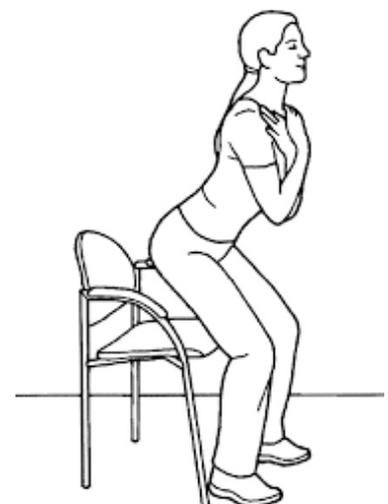


4. Knee flexion (Heel slides)

Lying on your back with your legs straight, slowly bend your affected knee by sliding your foot up towards your bottom as far as you can. Hold for 5 seconds and repeat 10 times

5. Sit to stand

Sitting in a chair with your feet flat on the floor and hip width apart, rise up into standing position without using your arms if possible. Squeeze the muscles in your bottom as you stand. Slowly lower yourself back down into chair to sit down





6. Seated knee extension

Sitting in a chair, pull your toes up towards your head and straighten your knee as shown in the picture. Hold for 5 seconds and repeat 10 times

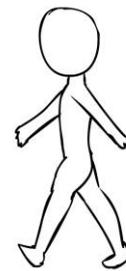
7. Ankle pumps

Lying on your back or sitting in a chair, move your ankle up and down as shown in the picture. This exercise is also good for your circulation.



8. Walking/water-based exercise

Before your surgery, it is important to do some form of aerobic/cardiovascular exercise to help improve your endurance. This type of exercise includes walking, water-based walking/swimming or using an exercise bike. These types of exercise will also help with flexibility and overall strength.



*** You will likely do many of these exercises again after your knee replacement, however, it is best to ask your physiotherapist in the hospital when to start them again after your operation***

