



Enhanced Recovery After Surgery (ERAS)

Total knee replacement

A guide for patients



The ERAS Collaborative
Jointly Better



**MINISTRY OF
HEALTH**

MANATŪ HAUORA



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This booklet is designed to provide you with information about having a total knee joint replacement.

It will explain how you can prepare for your operation, what to expect during and after your operation and how to prepare for your return home from hospital.

It is recommended that you read this booklet thoroughly before your operation and write down any questions you may have in the back of it.

The better prepared you are for surgery, physically and emotionally, the quicker you will recover from it.

Knee joint replacements are performed for severe arthritis of the knee when there is disabling pain. The replacement is made of metal parts, which replace the ends of the femur (thigh bone) and tibia (shin bone), and a plastic part that separates the two metal pieces.

There are different types of knee replacement surgery available. Your surgeon will discuss which one is best for you.

More than 90 percent of knee replacements last beyond 10 years*.

Your District Health Board is using the Enhanced Recovery After Surgery (ERAS) pathway. ERAS is a programme that is dedicated to assisting your recovery so you can go home from hospital earlier and return to your normal activities sooner.

For this programme to be successful, you need to play an active role in your recovery.

Please share this information with your family/whānau and/or support person.

Consent form

You will need to sign a consent form. The form will say that you agree to the operation and the collection of specimens and technical data. A full explanation of the operation and risks will be given to you before you sign the consent form. You will also need to give consent for anaesthesia, blood transfusion and joint registration.

* New Zealand Orthopaedic Association. (2013). The New Zealand Joint Registry *Fourteen Year Report*, 1-148.

Support from family/whānau and friends is important for your recovery.

The more you inform family/whānau and friends about your health, the more helpful they can be.

We encourage you to bring along one key person to your appointments, so they know what is happening and can support you.

It is essential to plan for how you will manage your care in your home once you have been discharged from hospital.

It is also important to plan for your transport home so that you are ready to go on the day you are discharged.



Smoking

If you smoke, now is the time to think about stopping before your operation and staying smokefree during your recovery. Ideally you should stop smoking about eight weeks before your operation. This greatly reduces your risk of developing complications. Ask your family doctor for the contact details of your local stop smoking services to receive free and confidential advice as well as subsidised nicotine replacement therapy.

Alcohol

Alcohol may affect your recovery so it is important to stop drinking alcohol or reduce your intake at least one week before your operation.

Exercise

Remain as fit and active as possible before your operation. Walking, cycling and swimming are ideal activities. It is important to start any exercises recommended by your clinical team as soon as possible as this will strengthen your muscles and help speed up your recovery.

Healthy diet

It is important to eat well. Your body needs good nutrition to recover. If you are overweight, a total knee joint replacement can be more difficult to perform due to more tissue being around the knee. It can be hard to lose weight, but exercise and changes in diet even without weight loss can reduce your chance of complications after surgery.

Medications

Some herbal remedies are not recommended before your operation. In general, it is advised that all prescribed medication should be taken as normal, except diabetic and blood thinning medications, which usually need to be stopped. You will be given instructions if you need to stop any medications. If in doubt, check with your anaesthetist or the pre-admission nurse before your operation.

Dentist

It is a good idea to visit your dentist before your operation. Loose teeth, cavities or poor mouth hygiene can lead to infections in the area of the operation.

Keeping well

Let us know at least two days before your operation if you have:

- a cold, cough or other infection
- skin problems – such as a sore, scratch, pimple or eczema, especially around your operation site
- burning pain or passing urine more frequently than usual
- any illness – such as diarrhoea, vomiting or high temperature.

Any of these conditions could lead to the postponement of your operation. For your safety it is important that your clinical team knows about them prior to your operation. You will also need to tell them if you have been admitted to hospital since your last appointment.

Before your operation you may be invited to attend an education class.

This is typically held two to three weeks before surgery.

This is a group session run by some of the clinical team members who will be involved in your care. The class is designed to help you to be better informed and prepared for your operation.

You are encouraged to ask questions, however minor you may feel they are.

You may be loaned home equipment and crutches during this class that will need to be carried back to your car, so it is recommended that you bring a support person with you.



It is important that you are assessed before your operation to minimise the risks associated with your operation.

Most people will have their first assessment for their fitness for surgery with a nurse in a pre-admission clinic. This clinic typically takes place about four to six weeks before admission.

During your assessment, the nurse will ask you about your general health, medical history and previous anaesthetics. A record will be made of any personal or family history of anaesthetic problems; medicines, pills, inhalers or alternative medications that you use; allergies; smoking; alcohol; and whether you have any loose, capped or crowned teeth.

You will have investigations, such as blood tests, a heart trace (ECG), urine tests and X-rays.

This helps your anaesthetist to consider any medical issues that may increase the likelihood of problems or complications during and after the operation.

The nurse will give you time to ask questions about the possible complications and give advice and education on your admission, the operation and activities after surgery.

Before the operation, your anaesthetist will talk to you about your health, the types of anaesthetic and pain relief that can be used, and their risks and benefits. Consent for your anaesthetic will also be sought at this time.

Nothing will happen to you until you understand and agree with what is being planned. You have the right to refuse if you do not want the treatment suggested or if you want more information or more time to decide.

The anaesthetic that will be best for you depends on many factors, mostly relating to your safety and pain relief after the operation.

The different types of anaesthetic include:

Spinal Anaesthetic

Using a very small needle, a measured dose of local anaesthetic is injected into the area of the back that contains spinal fluid. The injection is generally well tolerated and will make you go numb from the waist down. This means you will feel no pain, though you will remain awake. If you prefer, you can also have drugs that make you feel sleepy and relaxed (sedation). This will mean you will not be aware of what is happening during surgery though you may hear some background sounds. If you do not wish to hear these, it is a good idea to take earplugs or a music player with you to hospital.

Advantages

- A spinal anaesthetic generally provides better pain relief, and as such you do not need as much strong pain-relieving medicine in the first 24 hours after the operation.
- There is some evidence that less bleeding may occur during surgery, reducing your risk of needing a blood transfusion or developing blood clots.
- You remain in full control of your breathing, so you have a lower chance of developing a chest infection.
- Less sickness and drowsiness after the operation so you may be able to eat, drink and walk sooner.

Risks

- Common side-effects include headache, dizziness, bladder problems, aches and pains, and bruising/soreness.
- Uncommon side-effects include itching and existing medical conditions getting worse.
- Rare side effects include serious drug allergy, nerve damage, equipment failure, heart attack, stroke and death.

General Anaesthetic

This is a very common anaesthetic where you are put to 'sleep'. You will receive anaesthetic drugs, strong pain-relieving drugs, oxygen to breathe and sometimes a drug to relax your muscles. You will need a breathing tube in your throat once you are unconscious and will be put on a breathing machine (ventilator) during your operation.

Advantage

- You will be asleep during your operation.

Risks

- Common side-effects include headache, sore throat, feeling sick or vomiting, dizziness, bladder problems, damage to the lips or tongue, temporary confusion or memory loss, aches and pains, and bruising/soreness.
- Uncommon side-effects include chest infection, muscle pains, damage to teeth, waking up during your operation, slow breathing and existing medical conditions getting worse.
- Rare side effects include damage to the eyes, serious drug allergy, nerve damage, equipment failure, heart attack, stroke and death.

Fasting

Please eat and drink normally the day before your operation, unless advised otherwise. You can eat up to six hours before your operation and you can drink clear fluids up to two hours beforehand. Clear fluids are fluids you can see through, without fruit pulp or milk. Avoid carbonated or fizzy drinks, and drinks that contain caffeine, including tea and coffee.

Shaving

Do not shave around the surgical site as this can irritate the skin, increasing the chance of infection. The surgical team will do this before your operation if necessary.

Chlorhexidine wash/shower

The evening before your operation you will need to shower using your Chlorhexidine wash. Ensure you wash all of your body except your face and head.

Medications

Remember to follow the instructions given to you about what medication you can take before your operation.

What to pack for your hospital stay

When packing your bag for your hospital stay, it is recommended that you pack:

- all the medications that you are currently taking in their original packaging with the pharmacy labels attached
- a yellow medication card if you have one
- personal toiletries
- nightwear
- loose-fitting day clothes (remember staff will need to attend to your wound)
- appropriate footwear (remember your feet tend to swell after surgery and you will not be able to bend down to tie shoelaces)
- your patient education booklet(s).



You are welcome to bring a relative or friend with you on the day of your operation.

Chlorhexidine wash/shower

Have another shower using your Chlorhexidine wash. Ensure you wash all of your body except your face and head.

Medications

Remember to follow the instructions given to you about what medication you can take on the day of your operation. This is very important as your operation can be cancelled if you do not follow this.

Keeping warm

Please wear something that keeps you comfortably warm in the hours leading up to your operation. Keeping your body warm reduces the risk of complications during surgery.

What happens next?

Once checked in at reception, you'll be given paperwork to fill out and you'll be asked to change into a theatre gown. Depending on where you are placed on the operating list there may be some waiting time.

Staff will advise you on where your personal belongings will be stored.



Getting ready for theatre

Before your operation, you will see your anaesthetist and surgeon. You may like to ask them questions. It's a good idea to have your questions written down as you may not remember them on the day.

Your surgeon or their registrar will review and confirm your operation details and will mark the operation area with a marker pen.

Your anaesthetist will also explain the anaesthetic options available to you.

You will be fitted with a thrombo-embolic deterrent stocking on the leg that isn't being operated on. This helps to keep your blood flowing while you are not mobile.

Your blood pressure, temperature and heart rate will be taken. You will be washed with a disinfecting solution.

In the pre-operative area

Your surgeon will check your leg and discuss the consenting process. You are also likely to have a drip or cannula (tube) placed in your arm so that you can be given medication.

In the operating theatre

You will be wheeled to the operating room, where the surgical team will look after you. The team includes the anaesthetist and an assistant, the surgeon and operating theatre nurses. Once everything is ready, you will be given your anaesthetic and the surgeon will perform the operation. Your operation will take between one and two hours.

In recovery

After your operation, you will be transferred to the recovery room. Nursing staff will check on you frequently, closely monitoring your condition to make sure you are safe and comfortable. You may have:

- an intravenous (IV) drip in your arm for fluids, antibiotics and painkillers
- an X-ray taken
- a drink, if you feel able to tolerate fluids
- a facial mask or nasal prongs to give you oxygen.

When staff are satisfied that you have recovered safely from your operation and anaesthetic, you will be taken to the ward.

On returning to the ward

Depending on the time of your operation, you may get out of bed on the same day or it may be the day after. You can expect the following to happen:

- Your condition will be monitored regularly, particularly in the first two hours.
- You will be encouraged to drink and eat as soon as you are able.
- Your wound dressing will be checked.
- A physiotherapist may see you to demonstrate simple exercises that you can perform in bed. He/she may also get you up on your feet depending on your progress.

After your operation, you will be encouraged to get up and move as soon as it is practical and safe.

Research shows that moving early reduces some complications of big operations and starts you on the road to a quicker recovery.

You will be shown simple exercises that you can do in bed and you will be assisted to sit in a chair for all your meals.

You will be assisted by staff to walk short distances with crutches or a walking frame, once your anaesthetic has worn off and staff have assessed that you are safe to move.

Going home

A nurse will talk to you about when you might be able to go home.

Assistance with everyday tasks

You will receive help with tasks such as washing, dressing and walking to the toilet, but the aim is for you to become as independent as possible, as soon as it is safe to do so.

Pain relief

With any major operation you'll experience some pain or discomfort but your team will do their best to manage this. Pain relief will be given regularly for some people, while others may only need it on an 'as required' basis.

Constipation

Constipation is a common side-effect after big operations. Drinking plenty of fluids, especially water, and moving around can help to prevent constipation but laxatives can be prescribed if it becomes a problem.

Swelling

After your operation, your leg will swell. This is perfectly normal. The swelling should go down, but if you're lying on your bed, ensure your leg is raised above your heart. If you sit for periods of 45 to 60 minutes you'll notice swelling in your ankles and feet. It isn't dangerous and won't cause any damage but it will become uncomfortable, so it is best not to rest for this long. Walking around will help reduce the swelling.



On day two after your operation you will continue working towards your goal of going home early or on time.

It is likely that you will continue to:

- do your exercises and go for walks
- receive regular pain relief
- wash, dress and go to the toilet as independently as possible
- sit out of bed for all your meals

You may also have your blood count checked and have an X-ray taken.

An occupational therapist may assess you to see what equipment you may need at home. Most of the equipment you may need will be supplied by the hospital for you to take home on loan.



You will be discharged on day three after your operation.

Usually this is done in the morning. If you need to wait for transport you may be moved to the discharge lounge.

A physiotherapist may visit you to ensure that you can do your exercises independently and walk safely with crutches or a frame.

You may also be seen by an occupational therapist, who will ensure you can manage essential everyday tasks, such as getting on and off a bed, chair and toilet.

It is important you take pain relief to help you walk and move as well as possible. This may include regular paracetamol, anti-inflammatories or other medications. Your anaesthetist and ward nursing staff will advise you on the best pain management before you go home.

Ward nursing staff will discuss your discharge arrangements with you to ensure everything is in place for a safe return home.

Support from family/whānau and friends is important for your recovery. The more you inform them about your condition and what you need, the more helpful they can be.



Diet and exercise

It is important to drink plenty of fluids, especially water, and eat regularly. Even if you don't feel like it, try to have something small three to five times a day.

Remember to do your exercises for at least 12 weeks after your operation. You'll benefit from doing them for up to a year following surgery.

The physiotherapy department may contact you to organise an outpatient physiotherapy appointment.

Keep using crutches until you are advised otherwise.

Expected activities after surgery

The aim of surgery is for you to be able to resume normal everyday activities without pain. These include climbing stairs, walking, swimming, golf, driving, light hiking, cycling and ballroom dancing.

Activities not suitable after surgery include jogging or running, contact sports, jumping sports and high impact aerobics. The reasons for this are that the knee replacement will wear out faster or an injury involving the replacement may be difficult to treat.

Strenuous activity should not be resumed for 10 to 12 weeks after surgery.

Avoid short and long haul flights in the first six weeks unless necessary.

Ongoing health concerns

When you return home, keep an eye out for:

- chest pain
- calf pain or swelling
- shortness of breath
- fever or chills
- nausea or vomiting
- bleeding
- any unusual discharge or bad smell from the dressing.

If you have any concerns about your health after you are discharged from hospital, please seek advice from:

- your family doctor or an after-hours clinic
- the emergency department at your nearest hospital.



Antibiotic cover

It is important that you talk to your family doctor about getting appropriate antibiotic cover should you have any further surgical procedure, including dental surgery. You will also need antibiotic cover if you develop any abscesses, boils, or skin, chest or urinary infections.

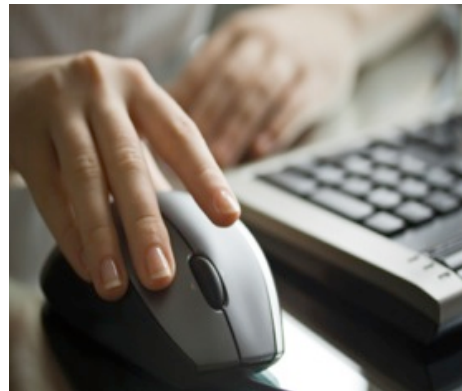
Sexual activity

When you resume sexual activity, remember to think about your knee and movements you need to avoid. Consider using pillows to help with positioning. You can discuss this with your occupational therapist or physiotherapist.

Returning to work/hobbies

It is important not to take on too much too soon. Plan your day so that you spend small amounts of time doing different tasks. Remember that you need to rest when you are tired. Most people can usually return to sedentary jobs between six weeks and three months following surgery. If your job involves stooping, bending, heavy lifting or operating heavy machinery, it may be unwise to return too quickly. If in any doubt, do not return to work without discussing it with your surgeon.

When returning to hobbies it is important to think about the activity involved and how long it may take to complete. If you are concerned, talk to your surgeon at your follow-up appointment.



You are likely to find household tasks difficult while you are still using walking sticks or crutches.

When you return home, ask your family/whānau or friends to help you with chores such as cleaning bathrooms and floors, vacuuming and changing bed linen.

Dressing and undressing

Wear loose-fitting clothing.

Sit in a chair or on the side of the bed when you are getting dressed.

Dress the operated leg first and undress the operated leg last.

Use a long-handled shoehorn and/or sock aid.

Making your bed

Stay in bed and pull up the top sheet and duvet. When you get out of bed, the task should be simply smoothing the covers.

Meal preparation

Avoid lifting heavy saucepans. Slide them across the bench instead.

The contents of your cupboards should be arranged so that essential items are within reach without bending or stretching (between shoulder and waist height).

If you live alone, you may need a trolley to move heavier items across the room.

You should think about using a stool while preparing food, washing up and using the stove top, to provide short breaks from standing.

Avoid using the oven if it is not at waist height.

Small items can be carried in a backpack or an apron with pockets.

Think about using a frozen meal or meal delivery service.

Laundry

Wash small loads of clothes over the week, rather than large, heavy loads.

Adjust the clothesline to avoid stretching or try using a clotheshorse for smaller items.

Showering

Use a shower chair or stool that has been adjusted to the correct height.

Use a reacher with a sponge or flannel wrapped around it to wash your legs.

Wrap a towel around a reacher to dry your legs.

Do not sit in a bathtub.



Shopping

Consider shopping for groceries on the internet or shop with someone who is happy to carry items for you.

Avoid shopping during peak times.

Do smaller, regular shopping trips to avoid heavy shopping bags and trolleys.

Have items packed into several smaller bags for easier carrying.

If possible, use a trolley to push your groceries rather than carry them. If you must carry shopping, divide the weight evenly into at least two bags with one in each arm, or try using a backpack.

Cleaning

Once you return to cleaning, use long-handled aids and lightweight items to limit twisting and bending.

Getting in and out of a car

If possible, get into the car on a flat area such as a driveway or road, rather than from the footpath. This allows room for your mobility aid and makes the car seat higher.

Have the passenger seat pushed as far back as possible with the back of the seat in a recline position.

Back yourself up towards the car so that you are facing away from it. You will be getting into the car bottom-first.

Reach for the seat back or dashboard, not the car door.

Gently lower yourself down to the seat, bending your operated leg only as much as is comfortable but no more than 90°.

Shuffle yourself backwards into the seat as far as possible, leaning back against the seat until you are able to bring both legs into the car.

Getting out of the car is done in the same way, only in reverse.

Tip: Sitting on a plastic bag makes moving your bottom around much easier.

Driving

You may not be able to drive for up to six weeks following your surgery. You should discuss this with your surgeon. Before you return to driving you need to be able to get in and out of the car safely and also control the vehicle in an emergency.



Quitline

0800 778 778

Arthritis NZ

0800 663 463

St John Medical Alarm

0800 785 646

Age Concern (national office)

(04) 801 9338
