TOTAL KNEE JOINT REPLACEMENT

Journey through your new knee
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The information in this booklet will help you, your family and support people prepare for your surgery. It will also explain your stay in hospital and tell you how to take care of yourself following your discharge.

Please look after this booklet and bring it with you on admission, and to all of your hospital appointments regarding your knee.
WHAT IS A TOTAL KNEE JOINT REPLACEMENT?

A total knee joint replacement is an operation where your natural knee is replaced by an artificial one. Reasons for replacing a knee are varied but the most common is degeneration due to osteoarthritis. The operation is designed to reduce pain and increase mobility.

Anatomy
The knee joint is made up of three bones and a variety of ligaments. The knee is formed by the femur (the thigh bone), the tibia (the shin bone), and the patella (the kneecap). Several muscles and ligaments control the motion of the knee and protect it from damage at the same time. Two ligaments on either side of the knee, called the medial and lateral collateral ligaments, stabilise the knee from side-to-side.

Total knee replacement replaces the damaged cartilage and bone with an artificial surface, made of metal alloy and polyethylene (plastic). The procedure is performed by separating the muscles and ligaments around the knee to expose the capsule (the ligament envelope surrounding the knee joint). The capsule is then opened, exposing the inside of the joint. The worn ends of the tibia and femur are removed and sometimes the underside of the kneecap (patella). The artificial parts may be cemented into place.
WHAT YOU CAN DO TO PREPARE FOR SURGERY

Look after your lungs
Avoid getting chest infections (stay away from people with coughs and colds) and give up smoking at least two weeks before the operation date. Staff can issue you with a Quit Card so you can get subsidised nicotine patches, lozenges or gum to assist you.

Alcohol
If you drink alcohol cut down or stop before your surgery. Alcohol can add to the risk of developing confusion following an anaesthetic.

Reduce sources of infection
Surgery may be cancelled if you have any source of infection such as ulcers, tooth problems, sores or open wounds. Please see your GP or dentist if you have any of these.

Regulate your weight
If you are overweight a total knee joint replacement can be more difficult to perform due to there being more tissue around the knee. The added weight going through your knee also makes recovery harder and more painful. It can be hard to lose weight, especially with reduced mobility but exercise and changes in diet even without weight loss can reduce your chance of complications after surgery.

Before going into hospital
Organise your home for your return two to five days after the operation. For example:
• remove rugs and mats, loose cords and anything that can be a trip hazard
• prepare extra meals and freeze them so that they only need to be re-heated when you need them
• place items that you use daily at bench top height
• if you live alone, it would be helpful if a friend or relative could stay with you for a week or two.
Plan your hospital stay
• Organise night clothes, easy to wear day clothes, shoes or slippers and toiletries.
• Bring something to occupy your spare time while in hospital.
• You may also bring your own pillow which will make your hospital stay more comfortable. Please make sure your pillowcase is not blue or white (these are hospital colours).
• Please name your personal belongings.

Organise transport
You will not be able to drive yourself for six weeks after surgery, so you will need to organise a driver or alternative transport. Insurance companies will not cover accidents caused by patients who have had a total knee replacement within the past six weeks.

THE OPERATION AND YOUR STAY IN HOSPITAL

The night before surgery
Please have a shower using one of the tubes of antiseptic wash which was given to you at preassessment clinic. You will also need to have a further shower using the second tube of antiseptic wash in the morning before admission to hospital.

Day of surgery
• Unless otherwise stated, you will not be allowed any food for six hours before your anaesthetic (this includes milk, lollies and chewing gum). You can have water only, up to three hours before surgery.

• Take morning medication as instructed by Pre-Assessment staff.
• A nurse will settle you into the unit and will discuss with you what to expect.

• You will be checked to make sure you are not allergic to iodine and you will be asked to dress in a ‘theatre gown’.

• At this time a nurse may supply you with white elastic compression stockings, which you will need to wear for up to six weeks (unless told otherwise) after surgery to reduce the risk of developing blood clots.

• Your surgeon will visit you in the unit to mark the operation site with a marker pen.

• You will see your anaesthetist prior to surgery to answer any anaesthetic questions you may have. You will also sign your anaesthetic consent form if not previously completed at preassessment clinic.

• You may be given a tablet or injection about an hour before the operation to make you feel drowsy.

• You will be wheeled, or you may walk to theatre where you will be handed over to the care of our theatre staff. Part of your preparation may be a shave of the operative area in theatre.

After surgery

• You will wake up in a recovery room before going to the orthopaedic ward.

• Nursing staff will take your blood pressure, pulse, temperature and check your wound at regular intervals.

• Please let staff know if you are experiencing pain before it becomes severe. Pain relief will be given to you as per your chosen pain management option, as discussed with the anaesthetist at preassessment.

• You will have an intravenous line (IV line) in your arm to make sure you have sufficient fluid and you will also be able to drink small amounts of fluid. You will be given antibiotics and possibly pain relief through this line which will be removed when you are able to eat and drink normally.
• Whilst you were in theatre you may have had a urinary catheter inserted. This is a plastic tube that goes up into your bladder and drains your urine. This stays in until you are up out of bed (usually the first day after your operation).

• You may be given oxygen on the day of surgery and overnight, or for as long as you require it.

• You may have a drain from your operation area; this is normally removed after one or two days.

• You may have foot pumps attached to your feet. Every few seconds these will squeeze your feet to assist circulation and help reduce your chance of getting a blood clot. These can be uncomfortable and a bit noisy but it is important to keep them on; they normally remain on until you are up walking around.

• You will be helped to get out of bed and walk by the physiotherapist and/or nurses with the aid of crutches or a walking frame. You will now be able to go to the toilet and have a shower with assistance from your nurse/health care assistant.

• The physiotherapist will visit you daily while you are in hospital to instruct you in bed exercises and walking with a frame or crutches. Your knee will be painful to move after surgery but it is extremely important to get it moving straight away. It is very difficult to get good movement later if you wait and rest your knee. Therefore, you are encouraged to be proactive in performing the exercises the physiotherapist prescribes you.
• In some cases a continuous passive motion (CPM) machine may be used on your knee. Your leg would be placed on a CPM machine anytime within the first 48 hours post operation. This machine gently bends your knee up to a set number of degrees then slowly lowers your leg down until it is straight. The CPM should be on your leg for as long as tolerated. As your knee bends you will no longer require the CPM machine.

• If you want to do some exercise before the Physiotherapist arrives you can do the exercises listed on page 15.

• Recovery from a knee joint replacement requires you to actively participate in your rehabilitation, where you will need to regularly do your exercises to build up your muscle strength again. Be prepared to use 1-2 crutches for approximately 6 weeks or as the Surgeon/Physiotherapist directs.

• Kneeling - this may be uncomfortable initially but it is not harmful to your knee. Some people are able to kneel after their knee surgery but not everyone.

• You may notice some numbness around the scar on your knee and your knee may feel warm.

• Swelling is common after a total knee joint replacement.

DURING YOUR STAY IN HOSPITAL

• You may be seen daily by the pain team for the first two to three days following surgery. They will ask how you are managing with your pain relief and make changes as needed.

• The occupational therapist may visit you during your stay to review your equipment needs and home environment.

• The social worker may visit you during your stay to review your care needs and help coordinate your discharge. Please let a staff member know if you wish to see a social worker.
• Maori Health Services, if you would like to talk with a kaupapa social worker please let a staff member know.

• Most patients are able to be discharged two to five days after the operation.

• If you have clips, or sutures that are not dissolvable, they will be removed at home by the district nurse.

• An appointment will be made at the outpatient clinic for you to see the orthopaedic surgeon four to six weeks after discharge. You will receive the appointment card in the post.

LOOKING AFTER YOURSELF WHEN YOU GET HOME

After you leave hospital and go home you should stay active. The key is not to overdo it! You should notice a gradual improvement over time.

The following information helps you to perform tasks in a way so that you are keeping to the knee precautions.

These descriptions are not the only way to perform these tasks safely but they may be helpful.

Dressing and undressing

• It is more practical to wear loose fitting lower body clothing.

• It is recommended that you sit in a chair or on the side of the bed.

• Dress operated leg first and undress operated leg last eg underwear and trousers.

• Use the aids eg a reacher, long-handled shoe horn and/or sock aid.

• Discuss your needs with the occupational therapist.
Advice for showering /washing

• For safety, sit on the shower chair, stool or bathing equipment given to you on short-term loan from the hospital. This should be adjusted to the correct height for the knee precautions.

• Use a reacher with a sponge or flannel wrapped around to wash your legs. Buy a long-handled body brush prior to surgery and bring it with you to the hospital.

• Wrap a towel around a reacher to dry your legs.

Sitting position

It’s advisable to sit in an armchair with a high back and firm seat. Do not sit on a low soft chair or sofa, or use a deck chair, rocking chair or office/swivel chair on wheels.

Tips:
If a chair is only knee height or lower when you stand beside it, it is too low! Keep a blanket in your car, it can be folded and placed in a chair to raise the height. Think about where you may be visiting in the community (doctor, dentist, hairdresser and café) as their chairs may not be high enough.

Toilet:
Toilets are traditionally low, therefore use the appropriate toilet equipment provided to you by the hospital.

Bed:
Should be high with a firm mattress; if you feel that your bed is not high enough, discuss this with the occupational therapist.

Shower:
You can stand to shower, however if your balance is an issue, a height adjustable shower stool or shower chair will be provided by the occupational therapist. When stepping into the shower your operated leg goes in first.
Bathing:
Do not sit in the bottom of a bath tub. If you only have a bath discuss your needs with the occupational therapist.

**Household tasks /shopping**

- Because you need to walk with two crutches (or a frame), you will not be able to carry out any heavy housework, such as bed making, vacuum cleaning and laundry. Have someone else do these chores.
- Consider using a back pack to carry around essential items such as a phone, medications, snacks and a water bottle.
- Use aids to help you, eg long-handled reacher to pick up items from the floor (BBQ tongs work too!)
- If not already done before admission have someone remove clutter, cords and scatter rugs to prevent falls.
- Use a stool to avoid standing too long a period for ironing or meal preparation. Your occupational therapist can assist you with this so that the seat height is correct.
- Consider purchasing frozen meals or Meals on Wheels.
- Shop with family or friends who can carry shopping items.

**Getting in /out of a car**

Avoid very low and very small cars; do not get in the back of a 2-door car.

**Getting into the passenger seat:**

- Have the car parked away from the curb so your feet are on the road.
- Push the passenger seat back as far as possible for plenty of leg room and recline the seat a little, so that you can lean back easily.
- Back up to the car seat.
• Put your operated leg forward and slowly lower yourself down onto the seat.

• Move your bottom back as far as possible, and then lift your legs in.

**Handy Hint**
Raise the passenger seat by placing a folded blanket on it, and put a plastic bag on it to help you swivel round and slide your hips in.

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**Getting out of the car is the reverse procedure.**

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**AFTER YOU LEAVE HOSPITAL**

**Outpatient Physiotherapy**

**Western BOP patients**
If you live in Western BOP you are encouraged to attend Physiotherapy at Tauranga Hospital after your surgery. You will be given an appointment at Outpatients about 10 days to two weeks after you are discharged from hospital. You will have a one-to-one appointment with a physiotherapist and then attend an exercise class for approximately six weeks.

**Whakatane Patients**
If you live in the Whakatane district you will be strongly encouraged to attend the knee gym class run by the Whakatane Hospital Physiotherapy Department. You can attend this twice a week for six weeks. It is held on Tuesdays and Fridays 1.00pm to 1:40pm.

If you are unable to organise transport to the class a community physiotherapist may visit you at your home. The community physiotherapist would aim to see you within two weeks of discharge. Subsequent visits would depend on your need.

**East Coast Patients**
You have the option of travelling to Opotiki for Physiotherapy. The other option is having the community physiotherapist visit you at your home. The community physiotherapist would aim to see you within two weeks of discharge, however the frequency of subsequent visits cannot be specified.

**Opotiki Patients**
If you live in Opotiki you will be referred to the local physiotherapist who may see you in their clinic or at your home.
Return to work
As a guideline; for light work expect to return after six to eight weeks. For more physical type work, you can expect to resume work after eight to 12 weeks. Discuss this with your orthopaedic surgeon.
Your GP or surgeon can provide you with a work medical certificate.

Intimacy
Intimacy and sexual relationships are a sensitive and private topic for many people. If you would like some information on intimacy, please ask your health professional prior to discharge from hospital.

Hobbies Exercise and Sport
You may return to many of your normal hobbies including exercise and sport once you have recovered and rehabilitated from your surgery. This will usually be around three months after surgery. Suitable activities could include walking, swimming, golf, bowls, dancing, cycling on level surface, doubles tennis, lifting weights, and gardening. Unsuitable activities include high impact or contact sports such as running or jumping activities, soccer, rugby, hockey and netball. Also avoid activities that involve over stretching of the joint. Talk to your surgeon regarding other specific activities that you wish to partake in.

WHAT ARE THE RISKS OR COMPLICATIONS OF KNEE REPLACEMENT SURGERY?

Infection
An infection can occur in the wound or deep around the prosthesis. This could happen while you are in hospital, after you go home and can even occur years later, any infection in your body can spread to your joint replacement. Minor infections are usually treated with antibiotics but major infections can sometimes require surgery and removal of the prosthesis.

Stiffness
Occasionally, despite physical therapy, knee stiffness can occur and you may find that you are unable to bend or straighten your knee properly. If this occurs, you may be required to go to the operating theatre where, under an anaesthetic, your knee will be manipulated to assist it to bend and straighten appropriately.
Blood clots, deep vein thrombosis (DVT)
A deep vein thrombosis is a blood clot that can form in a deep vein in the body. This most commonly occurs in the legs and can partially or completely block the flow of blood in a vein. For more detailed information please refer to the DVT pamphlet in your information pack.

Nerve injury
It is unusual to damage any major nerves or blood vessels. However a nerve palsy can develop if the nerve is stretched during surgery. Over time nerve injuries often improve and may completely recover.

Wear
All joint replacements will eventually wear out and will require revision surgery. Depending on how active you are, a knee joint replacement can last 15 years or more.

If you think that you may be experiencing any of the above complications following surgery, please discuss them with your GP.
**Deep breathing exercises:**

Lying or sitting down, take a deep breath in through your nose and feel your tummy rise. Then breathe out slowly through your mouth. Take four deep breaths every hour.

**Ankle exercises:**

Move your feet up and down at the ankles. Repeat 10 times each hour. This is to help your circulation.

**Quadriceps (thigh) exercises:**

Press the back of your knees down into the bed. Hold for five seconds, then relax. Repeat 10 times each hour.

**Gluteal (buttock) exercises:**

Tighten your buttocks together. Hold for five seconds and relax. Repeat 10 times each hour.
**DAYS 1 - 3**
Repeat all exercises 4 - 5 times a day. Build-up how many repetitions you do.

**Quadriceps (thigh) exercises:**
Pull your toes towards you.
Press your knee down into the bed.
Hold for five seconds, relax.
Repeat five times.

**Inner-range quads:**
Place a rolled up towel under your knee.
Keep your thigh resting on the towel and lift your heel so that you straighten your knee.

**Straight leg raise:**
Keep your knee straight and your toes pulled back.
Tighten your thigh muscles.
Lift your leg about 10cm off the bed.
Lower slowly.
**Knee straightening:**
Place your heel on a pillow or rolled up towel. Let your knee hang down.
This will stretch out the structures at the back of your knee, helping you to get a straight leg.
Do it for a minute to start with and build up.

**Knee bends:**
Bend your knee and slide your foot towards you.
If this is difficult we can give you a board to do it on.
At home you can use a tray or plastic bag.

**Sitting knee bends:**
Sit in a chair with your foot on the ground. Slide the foot firmly towards you and then release.
Hold for five seconds each time in the fully bent position.
Do not allow your hips to move, just the foot.
You can use your “good” foot to help slide the “operated” leg back.
**Knee extension:**

Sit on a chair (if you like, you can have a small 1-2kg weight around your ankle).

Pull your toes up, tighten the front of your thigh muscle and straighten your knee slowly.

Hold for approximately five seconds, lower slowly.

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**Sustained knee extension:**

Rest your foot on a foot stool, let your knee straighten.

Let gravity pull your knee down straight.

Hold as long as you can tolerate (eg - one minute to 10 minutes).
MORE CHALLENGING EXERCISES

Assisted knee flexion:
While sitting, bend your operated knee as far as you can.
Then cross your good leg over your operated leg to assist further knee bend.
Hold for five seconds.

Knee flexion in standing:
Stand, holding on to a solid support.
Keeping your knees together, bend your foot up behind you.

Mini knee squats:
Stand and lean against a wall.
Place feet hip width apart, about 20cm away from wall.
Gently slide down wall as far as comfortable.
Hold for five seconds.

Gentle lunges:
Place your operated leg in front. Stand by a step, hold railing for support.
Place operated leg onto step. Gently bend knee and lunge forward.
Hold for three seconds.
GETTING AROUND

Standing and sitting with crutches

Do not stand up or sit down with your hands through the crutches.

Place your crutches together to make an “H” shape. Hold the handles of your crutches together with your operated side hand and place your other hand on the arm of your chair or on the edge of your bed. Push up from the bed / chair and your un-operated leg to stand up.

Once standing, place one arm into one of the crutches and hold onto the other crutch as you put your other hand in it. Then bring your crutches out to each side.

To sit, reverse this procedure remembering to put your operated leg out in front of you when you sit.

Walking with crutches / frame

Stand up straight and keep your head up.

To take a step:

• take both crutches forward first

• step forward with your affected leg and take the weight through your arms

• step forward with your good leg

Walk with your feet pointing straight ahead — try not to let your affected leg turn out to the side.

Turning — do not pivot or swivel on a fixed leg, but lift feet up and take small steps around.
**Going up and down stairs:**
You may use two crutches or one crutch and the handrail.

A good way to remember which leg goes first when going up / down stairs with crutches, is using the acronyms GAS and SAG.

**Going up**
- Place **GOOD** leg first
- Then **AFFECTED** leg up same step
- Followed lastly by **STICKS** (crutches)

**Going down**
- Place **STICKS** (crutches) down a step first
- Then **AFFECTED** leg on step
- Followed by **GOOD** leg on same step
Day 0

- Eat and drink as tolerated
- Foot and ankle exercises – see booklet

Day 1

- You can eat and drink
- Urinary catheter may be removed
- Drain from your wound may be removed
- Oral pain relief and your drips disconnected
- You will get up out of bed take a few steps (with crutches or a frame)
- Spend some time sitting in a chair
- Bed wash or a shower
- Start doing physiotherapy exercises

Day 2

- Walk to the bathroom (with crutches or a frame) for a shower
- Get dressed in your own clothes
- Start day 2 physiotherapy exercises
- Start walking a little further
- Practice getting in and out of bed
- Work on exercises independently
- Have all meals sitting up in chair

Day 3

- Walk with crutches without supervision
- Get dressed in your own clothes
- Sit-up in a chair most of the day and for all meals
- Practice going up and down stairs
- You may be able to go home today

Day 4

Go home today if you:
- Can get in and out of bed by yourself
- Walk by yourself with crutches/frame
- Know your physiotherapy exercises
- Can go up and down stairs
The Bay of Plenty District Health Board has an active commitment to the Treaty of Waitangi and the improvement of Māori health.

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