

Patient information
Total Knee Replacement





Welcome to The Wesley Hospital

The Wesley Hospital is part of UnitingCare and is a not-for-profit hospital operated by the Uniting Church of Australia, Queensland Synod.

We provide a comprehensive range of services and utilise the latest technology to assist staff and accredited medical practitioners to deliver a high standard of patient care and services.

This handbook provides helpful information to assist you during your stay with us.

As most of our patients are funded by their private health insurance, it is important that you have a good understanding of your level of cover and discuss your upcoming stay at The Wesley with your health fund.

Thank you for choosing The Wesley Hospital. We hope that the care and service you receive during your stay meets your physical, emotional and spiritual needs.

Acknowledgment of Country

We acknowledge the traditional custodians of the land on which we work and serve. We acknowledge that these custodians have walked upon and cared for these lands for thousands of years. We acknowledge the continued deep spiritual attachment and relationship of Aboriginal and Torres Strait Islander peoples to this country and commit ourselves to the ongoing journey of reconciliation.

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This booklet will provide you with a step-by-step guide to your stay at the Wesley.

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Introduction

This booklet has been compiled by your Orthopaedic Care Team at The Wesley Hospital and is appropriate for patients undertaking partial (unicompartmental) knee replacement, total knee replacement (TKR) or bilateral TKR (where both knee joints are replaced).

It explains:

- + The preparation needed before surgery;
- + What is involved on the day of your surgery?
- + Information about your recovery in hospital; and
- + Advice and information for when you go home.

What is a total knee replacement?

A total knee replacement is an operation designed to replace the diseased or worn bones and cartilage of the knee joint, with a precision made artificial joint or prosthesis.

Knee prosthesis

The prosthetic knee replacement is made up of three parts:

1. The Femoral Component – fits onto the end of the femur (thigh bone) and is made of metal.
2. The Tibial Component – fits on top of the tibia (shin bone) and is made of metal. A plastic component is inserted to act as a cushion.
3. The Patella Component – (if needed) replaces the cartilage under the kneecap and is made of plastic.



Commit to your rehabilitation

It is important to note that your surgery marks the start of your recovery journey. To optimise your surgical outcome, it is important to dedicate both time and energy to your rehabilitation over the coming weeks and months. Your Orthopaedic Care Team will guide you through your inpatient rehabilitation. Please note you will be in the very early phase of recovery when you leave hospital, and it is normal to still experience pain/discomfort at this stage. You will continue to recover for at least 3-6 months after your surgery.

Preparing for surgery

Prehabilitation is often recommended prior to your surgery. The goal of Prehabilitation is to prepare you for your operation and to aid recovery for an improved outcome. Prehabilitation can be a combination of fitness, strength and functional task training designed to suit each individual person.

There are several things you can do to improve your health and prepare for surgery:

- + Reduce excess weight by considering your diet, and consulting your GP or Dietitian for advice.
- + Continue gentle exercise including activities such as gentle walking, exercise in water, or gentle cycling.
- + Take care to avoid skin cuts/tears e.g. gardening, as your surgery may be postponed because of the increased risk of infection.
- + Reduce or cease smoking. This enhances your rate of healing and can reduce the risk of complications such as blood clots and lung infections. Please note the hospital is a non-smoking site. Talk to your doctor or pharmacist about options for your hospital stay.



Carbohydrate loading

- + Carbohydrate loading prior to surgery may assist in your recovery. During surgery-related fasting the body uses carbohydrates stored in the liver and muscles as fuel. Carbohydrate loading helps to prevent the use of muscles as energy during fasting. It is **NOT** recommended you follow carbohydrate loading if you have diabetes.
- + The carbohydrate loading protocol uses sports drinks (e.g. Maximus/ Powerade/Gatorade) as they are clear fluids and free from fibre, fat and protein. They are also emptied from the stomach quickly.
- + Nil by Mouth/"Fasting" = No food or fluids to be consumed after the time specified.
- + Refer to the instructions provided by your surgeon/anaesthetist for your individually specified timings for fasting prior to surgery. If your "fasting" time is set for midnight the night before surgery, only follow "the day before surgery" instructions as below.

Carbohydrate loading protocol

Choose ONE of the below Sports Drinks	Day BEFORE Surgery	Day OF Surgery
NOTE: Do not choose the "Zero"/Sugar free versions – you need the sugar for the carbohydrate loading	Consume your usual food and fluids PLUS:	Up until the time specified by your doctor as Nil By Mouth (NBM) you may consume these fluids only. **DO NOT have these fluids IF your doctor has advised you to be NBM from MIDNIGHT**
Maximus Isotonic Sports Drink	1350ml	675ml
Powerade – ION4 or Isotonic	1750ml	850ml
Gatorade	1750ml	850ml

Need more Information? For further information contact: Wesley Nutrition Services (07) 3232 7435.

Pre-admission clinic

Prior to your surgery, The Wesley Hospital provides a pre-admission service that delivers timely and useful information about your upcoming surgery from our experienced nursing and allied health teams. In some cases, it also provides referrals for investigations such as blood tests, ECG and Xrays if required by your surgeon." Please contact the Pre-Admission Clinic on 3232 7316 to schedule your appointment as soon as possible.

Pre-surgery home preparation

Prior to your surgery it is important that you prepare your home in anticipation of your discharge from hospital. Things to consider include:

- + Set up and prepare equipment to assist with completing your daily tasks such as showering and toileting. Note: some people prefer to sit whilst showering or use an aid over the toilet to assist standing up and sitting down.
- + De-clutter and ensure your home is safe to move around with no obvious trip hazards, such as loose rugs or power cords.
- + Develop a plan for boisterous pets.
- + Prepare some meals in advance by cooking and freezing, or arranging a meal delivery service.
- + Arrange a support person (family, friend or neighbour) to assist with household tasks or transport in the first few weeks after you go home.
- + Consider options for physiotherapy follow-up after your discharge. There are several options available depending on your health fund cover. These will be discussed at your pre-admission appointment.

On the road to recovery

Preventing blood clots

Following a major operation your risk of experiencing a blood clot is higher than usual. A blood clot that forms in the deep veins of the leg is called a Deep Vein Thrombosis (DVT). A portion of this clot may break off and travel to the lung, this condition is called a Pulmonary Embolism (PE).

Symptoms of DVT

- + Pain, swelling or a feeling of tightness in your leg (most commonly calf).
- + Increased warmth or a change in skin colour in your leg.

Symptoms of pulmonary embolus

- + Difficulty breathing or shortness of breath.
- + Pain in your chest or lungs.
- + Feeling faint or generally unwell.
- + Coughing up blood.

Pain control

Post operatively it is expected that you will experience some degree of pain; however the pain should not prevent you from moving or completing your exercises. You are likely to need some form of pain medication. Discuss the options with your doctor and care team.

Effective pain management after surgery helps you to:

- + Sit out of bed, shower, and start walking;
- + Relax and sleep more restfully;
- + Practice your exercise program more comfortably; and
- + Have fewer complications, recover faster and leave hospital sooner.

Constipation

The use of pain medication following your knee replacement, particularly opioid based medicines, can cause constipation by slowing down movement to the bowel. This can be uncomfortable, distressing and problematic for many people. Following your surgery, it is important that you monitor for signs of constipation and the need to take aperients. If your bowels are not opening, please discuss with your doctor and care team.

Day of surgery mobilisation

It is usual post-operative care to commence mobilisation (walking) on the day of your surgery. The physiotherapist will determine your suitability to mobilise, in conjunction with your nursing team. If appropriate, you will be assisted to sit on the edge of the bed, stand, or go for a short walk. Early mobility is important for preventing blood clots, gaining confidence in your new joint and improving your recovery time.

Physiotherapy

Post-operatively you will be working with a physiotherapist to commence your rehabilitation. During your recovery, the physiotherapist will advise which activities you can safely complete on your own.

The main focus areas of physiotherapy in hospital are:

- + Management of pain and swelling
- + Improving functional mobility
- + Commencing gait re-training
- + Prescription of an appropriate exercise program
- + Assisting to plan for discharge

To achieve the best possible results after your surgery it is important that you have a clear understanding of your physiotherapy program and are practicing this independently before leaving hospital. To assist we have prepared a Daily Routine for you to follow both in hospital and at home. This is a guide only and maybe adjusted by your physiotherapist if necessary (see page 20).



Management of pain and swelling

Pain relief

To facilitate your recovery, it is important to ensure that your pain is manageable (mild to moderate) at all times. **Please note that some of your pain relief will arrive at set times, and others will only be provided on request. Please alert your nursing staff if pain is beyond a moderate level.

Ice

Request the 'Iceman' to be applied to your knee at regular intervals each day during your stay. Ice therapy can be an effective non-medical method of aiding management of post-operative pain and swelling.

Positioning

You may sleep on your back, or on your side with a pillow between your knees. For comfort in the first few days after your surgery, you may need to use the bed controls to bend your knee slightly when resting on your back. However, this should be used for short periods only, and weaned as soon as possible, to avoid difficulty achieving full knee extension (straightening) long term.

Elevation

Regularly resting on the bed allows you to elevate your leg. A horizontal position is sufficient. If you experience significant swelling, then your care team may elevate your legs further by adjusting the bed controls. Avoid sitting out for prolonged periods. Aim to sit out of bed for 30 minute sessions only in the first few days.

Pacing activity

Perform activity in regular, short episodes. During your stay you will spend time in bed, sitting, walking short distances and performing exercises. **It is important to change position regularly (approximately every 2 hours during the day). Walking to the bathroom and sitting out for meals are good opportunities for a change of position.

Gradual progression

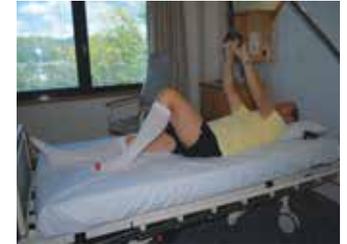
As you recover, you will gradually spend less time resting, and more time up and about. Slowly increase your walking distance and the number of repetitions of each of your prescribed exercises as pain and swelling allows. Remember that pain and swelling may not always limit you at the time but can become evident after a period of overactivity. If you progress gradually, you are less likely to over do things.

Functional mobility

Moving around in bed

The team will teach you how to move in the bed, as this is an important start to your recovery. To assist your movement in bed you can use the overhead ring or push through your arms and non-operated leg to lift your bottom. This technique is known as 'bridging'. Practice this bridging technique regularly as an exercise to relieve pressure or when changing positions.

Remember: Please notify a member of your care team if any areas of your body become tender, in particular your heels or bottom.



Lying to sitting

- + Move towards the edge of the bed using the bridging technique.
- + Push up on your arms to sit forward slightly, lower your legs to the floor, one at a time. Your physiotherapist and nursing staff will assist you initially.



Sitting to standing

- + Adjust the bed to an appropriate height.
- + Slide your bottom forward to the edge of the bed.
- + Place both hands on the bed.
- + It may be comfortable to have your operated leg slightly forward however you should push through both legs to stand.
- + As you stand up, move your hands from the bed onto your walking frame or crutches.



Sitting to standing with bilateral knee replacements

Initially, as needed, your physiotherapist will show you how to raise the height of the bed and/or pull up on the walking frame to assist you to stand. As you improve you will be advised to push up with your hands on the bed.

Walking and gait re-education

Walking is an important part of your recovery process. Throughout your stay you will progress your walking pattern (gait), mobility aid and walking distance.

Walking Pattern

It is important to start working towards a normal (heel-toe) walking pattern as soon as possible after your surgery. Your walking aid will assist in de-loading your new knee joint, to minimise any limp. Retraining your gait can take considerable practice before it starts to feel more automatic.

Walking aid

Your physiotherapist will assist in determining the most suitable walking aid for both your safety and home environment. It is important that you feel confident using your walking aid, so that you are able to practice walking regularly.

Walking distance

Remember that it is important to progress your walking distance gradually to avoid exacerbating pain and swelling. Walking regularly is more important than distance in aiding your recovery.

Walking with crutches

- + Keep the crutches about 10cm from the sides of your feet.
- + Move the crutches in front of you.
- + Step the operated leg forward, level with the crutches.
- + Take some weight down through your arms and some weight through your operated leg as you step forward with your non-operated leg.
- + As pain allows, aim to step your non-operated 'good' leg past your operated leg. This is called a 'step-through' pattern which helps you to take more weight on your operated leg.
- + As you continue to improve, you will be able to adopt the 'four-point' gait pattern described below.



Walking with bilateral knee replacements

If one leg is less sore, you will use the 'step-through' walking pattern described above.

If both knees are similar in terms of discomfort and strength, then you will be instructed to use a 'four-point' gait pattern as follows:

- + Start with your crutches approximately 10cm from the side of your feet.
- + Move one crutch forward, then step with the opposite foot.
- + Move the remaining crutch forward, then step with your other foot.
- + Continue to repeat these steps so that each crutch moves forward with the opposite foot. This will replicate a "normal" walking pattern.

Stairs

If handrails are available it is safer to use one hand rail and one crutch in the other hand. Your physiotherapist will teach you how to safely carry the spare crutch.

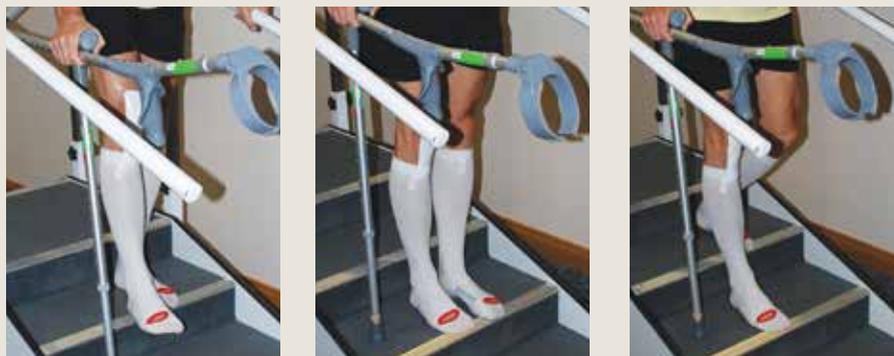
Going up with crutches

- + Take your weight down through your crutches/hand rail.
- + Step your non-operated 'good' leg up onto the step.
- + Follow with your operated 'bad' leg and crutch.



Going down with crutches

- + Holding the hand rail, lower your crutch down onto the step.
- + Take your weight down through your crutches/handrail and step down with your operated 'bad' leg.
- + Follow with your non-operated 'good' leg.



Stairs with bilateral knee replacements

Negotiating stairs can be more difficult following bilateral knee replacements as you don't have a 'good' leg. However, if one knee is less sore, this becomes your 'good' leg.

Note: When walking downstairs, you may find it easier to descend facing the handrail and sidestepping down with your 'bad' leg first. Your physiotherapist will show you how to do this if needed.

Exercise Program

Your exercise program is an essential part of your recovery. It assists in reducing your risk of post-operative complications as well as improving both movement and strength in your new knee joint.

Post operative bed exercises

These exercises help to reduce your risk of developing post operative complications. Complete hourly.

1. Deep breathing

Take a slow breath in, trying to fill your lungs completely, then relax and breathe out. Repeat 5 times.

2. Ankle pumps

Move your feet up and down at the ankle to pump your calf muscles strongly. Repeat 20 times.



3. Static quadriceps

Maintain contraction of your thigh muscle for 3-5 seconds then relax.

4. Static gluteals

Squeeze the cheeks of your bottom together. Hold for 3-5 seconds then relax.



Bed exercises

Inner range Quadriceps

Place a rolled towel under your knee. Try to lift your heel off the bed by pushing the back of your knee into the rolled towel. You should feel your quadriceps muscles tighten as your knee straightens.

Remember: Keep the back of your knee resting on the roll. DO NOT lift the whole leg.

Hold for 3-5 seconds.

Repeat ____ times.



Seated exercises

Knee bending in sitting

Sit with your feet on the floor. Place your hands underneath the lower part of your thigh. Slide your heel back towards the chair to bend your knee and hold for several seconds. You should feel your hamstring tendons tighten as you do this.



Seated lunge

Sit with your operated knee bent as far as you are able. Keep your foot on the floor and use your arms to help slide your bottom forward towards the edge of the chair as able. This technique allows you to passively bend your knee a little further. Hold for 3 -5 seconds.

Repeat ____ times.



Knee straightening in sitting

Sit with your knee slightly bent. Tighten your thigh muscles to straighten your knee and lift your foot off the floor. Aim to completely straighten your knee as able.

Repeat ____ times.



Standing exercises

The following exercises should be performed 2-3 times each day. For safety, hold onto a firm support whilst performing these exercises.

1. Knee straightening in standing

Let your operated knee gently relax and then straighten your knee firmly as you tighten your quadriceps muscles. Hold for 3-5 seconds.

Repeat ____ times.



2. Mini squats

Stand with feet shoulder width apart and toes pointing forwards. Imagine you are about to sit on a high stool. Poke your bottom out and gently bend both knees, keeping your heels on the floor. To return to an upright position, push through your heels, tighten your thigh and bottom muscles.

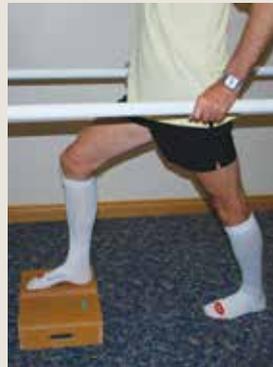
Repeat ____ times.



3. Standing lunge

Stand with your operated leg forward. Gently lunge forward onto your operated leg to bend the knee. Hold 6 seconds

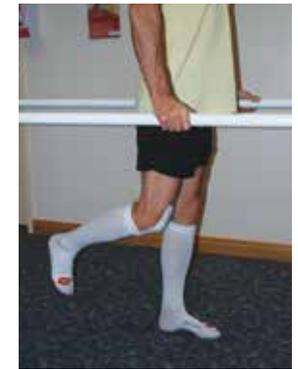
Repeat ____ times.



4. Standing hamstring curl

Keep your hips straight. Bend your operated leg behind you so you lift your heel up towards your bottom.

Repeat ____ times.



5. Calf stretch

Step forward with your non-operated 'good' leg. Gently lunge forward keeping the heel of your operated leg on the floor. You should feel a gentle stretch in your calf and back of the knee. Hold for 20 seconds.

Repeat ____ times.



6. Hamstring stretch

Place the heel of your operated leg on a small block or step. Keeping your knee straight, bend forward at your hips to feel a gentle stretch in the back of your thigh. Hold for 20 seconds.

Repeat ____ times.



Daily Routine

Pain relief

Continue taking pain relief, as required, to keep your pain at a manageable level. Remember additional pain relief can be provided (on request), if needed. Generally, you have additional pain relief available every 3-6 hours. Please discuss with your care team.

Ice

Aim to ice your knee 3-4 times per day for 20-30 minutes for the first week. The Iceman may be applied for longer durations whilst in hospital. Please advise your care team whenever your Iceman needs re-filling.

Walking

Aim to practice your walking every 2 hours, slowly progressing your distance as pain allows. You should unwrap the Iceman pad when practicing your walking. As a guide, by discharge you should be able to walk approximately 50m 4-6 times/day.

Sit out for all meals

Sitting out is important to allow your knee some bending time. Remember to keep these periods relatively brief (30-60 minutes) so that you do not exacerbate swelling.

Exercises

Your physiotherapist will indicate which exercises are appropriate for you. It is important that you follow the number of repetitions advised by your physiotherapist as these will be suitable for your stage of recovery. Your exercise program should be completed 3x/day, or as indicated by your physiotherapist.

Rest

In the first few weeks after your surgery it is important to continue resting at regular intervals. This is to manage pain, swelling, and fatigue. As you recover, you will gradually spend less time resting, and more time up and about.

Discharge planning

Going home

Your surgeon will have discussed your expected length of stay in hospital. Our experienced orthopaedic team will work with you to achieve the following criteria prior to your discharge:

- + Pain adequately controlled
- + Independently showering and toileting
- + Independently transferring in/out of bed and chair
- + Walking independently with aid
- + Able to negotiate stairs (with supervision, if needed)
- + Equipment and follow-up physiotherapy organised
- + Services arranged (if necessary)

Ongoing physiotherapy

- + To assist in achieving the best possible outcome following your surgery, it is advised that you continue ongoing physiotherapy on discharge. There are many options for ongoing physiotherapy, these will be discussed during your Pre-admission appointment.
- + The Wesley Hospital Day Rehabilitation Service offers patient-specific treatment sessions for post-operative recovery. This program allows people to attend therapy sessions as an outpatient.
- + Continue your current exercise program and follow the Daily Routine (page 20), until your follow up physiotherapy appointment.

Assistive aids

On discharge you will still be in the early phase of recovery. Some tasks such as going to the toilet, having a shower or reaching down to your feet when dressing may be more difficult or cause discomfort. You may find some assistive aids useful in allowing you to complete your daily activities independently. Some of these may include an over toilet frame, a shower chair or a long handled reacher. Your potential equipment needs will be discussed during your Pre-admission appointment.



Wound care

Your ongoing wound care will be discussed prior to discharge home.

Driving a car

You need to be able to control your leg well before trying to drive. Consult with your surgeon about return to driving.

Getting into a car

As a passenger, make sure the seat is pushed back and slightly reclined. Sit your bottom on the seat, lean back and lift your leg up and around into the car. A firm cushion can be used on the seat to increase the seat height if it is too low, or difficult to get in and out of.



Home activities

- + It is safe to do light household tasks after surgery.
- + Pace yourself, work in short sessions with frequent rests.
- + You may require help at home with some activities until you gain more movement, strength and balance.

Sport

You can usually start gentle exercise in water at approximately two weeks after your surgery, once your wound has completely sealed.

Check with your surgeon when it is safe to resume low impact sports such as golf and bowling. Avoid running, jumping or high impact activities unless cleared by your surgeon.

References

Wainwright TW, Gill M, McDonald DA, Middleton RG, Reed M, Sahota O, Yates P, Ljungqvist O. Consensus statement for perioperative care in total hip replacement and total knee replacement surgery: *Enhanced Recovery After Surgery (ERAS®) Society recommendations*. Acta Orthop. 2020 Feb; 91(1): 3-19. doi: 10.1080/17453674.2019.1683790. Epub 2019 Oct 30. Update in: Acta Orthop. 2020 Feb 14;:1. PMID: 31663402; PMCID: PMC7006728.

Zhu S, Qian W, Jiang C, Ye C, Chen X. *Enhanced recovery after surgery for hip and knee arthroplasty: a systematic review and meta-analysis*. Postgrad Med J. 2017 Dec; 93(1106): 736-742. doi: 10.1136/postgradmedj-2017-134991. Epub 2017 Jul 27. PMID: 28751437; PMCID: PMC5740550.

Ljungqvist O, Scott M, Fearon KC. *Enhanced Recovery After Surgery: A Review*. JAMA Surg. 2017 Mar 1;152(3): 292-298. doi: 10.1001/jamasurg.2016.4952. PMID: 28097305.

Soffin EM, YaDeau JT. *Enhanced recovery after surgery for primary hip and knee arthroplasty: a review of the evidence*. Br J Anaesth. 2016 Dec; 117(suppl 3): iii62-iii72. doi: 10.1093/bja/aew362. PMID: 27940457.

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Disclaimer:

This information is intended as a guideline and reflects the consensus of the authors, at the time of publication. The sources used are believed to be reliable and in no way replace consultation with a health professional.

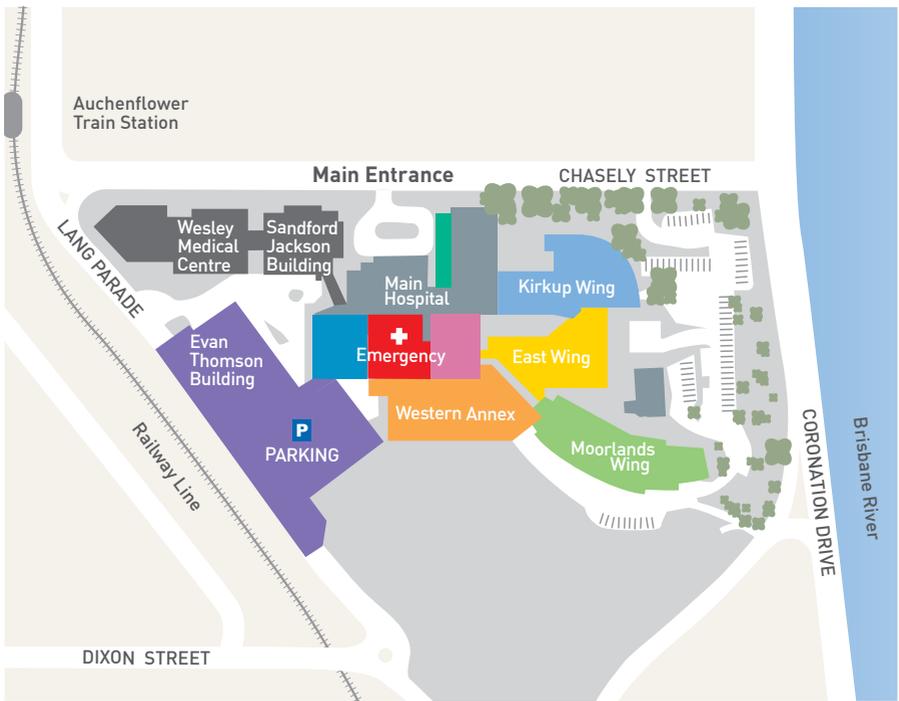
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