HIP REPLACEMENT SURGERY



A PATIENT'S GUIDE

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This information is provided as a guide and has been designed to give you a better understanding of your procedure. You will learn how to prepare yourself and make your home ready following your hip surgery.

You are encouraged to read this information prior to your admission to hospital. If you have any questions, please feel free to contact your Doctor's rooms.

It is hoped that this information will assist in alleviating some of your anxieties about your surgery.

The information presented in this guide is of a general nature only; it is not intended to form the basis of informed consent for hip surgery. It is designed to help you make a list of questions to ask your surgeon. Check with your surgeon's office for additional patient education materials that may be required to meet your individual needs.

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Hip anatomy and function



The hip joint

The hip joint

The hip joint is one of the largest weight bearing joints in the body. The hip is a ball and socket where the femur [fee-mer] (thigh bone) meets the cup-like acetabulum (asi-tab-ya-lam) of the pelvis.

The following aid to stabilise and protect the hip from damage:

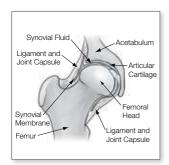
Cartilage

The moving surfaces of the hip, when healthy, are covered with a smooth surface called articular [are-tick-u-lar] cartilage. It covers the ball (femoral head) of the thighbone, and lines the socket the thighbone fits into. The cartilage acts as a cushion between the two bones and allows the hip to rotate easily in the socket. Because the cartilage is smooth, it provides a slick, low friction surface.

Labrum

The Labrum [Ley-bruhm] is a cartilage like material that extends the edges of the acetabulum to make it deeper and as a result more stable.

Hip anatomy and function



Hip joint structures



Pelvis and acetabulum

Ligaments

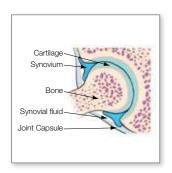
Ligaments are strong bands of fibrous connective tissue that join bones to other bones. The ball is normally held in the socket by very powerful ligaments that form a complete sleeve around the joint (the joint capsule).

Muscle

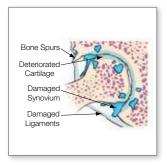
Muscles not only provide active movement to the hip joint, but also play a very important role in aiding stability of the joint. The muscles maintain a constant compressive force which keeps the ball located in the socket.

These combined structures of bone, cartilage and muscle allow for smooth, painless motion as you walk, bend and straighten your hip.

Hip anatomy and function



A healthy joint



Osteoarthritis

Healthy joint versus osteoarthritis

Healthy joint

A normal joint is enveloped by a fluid filled sac called a joint capsule. The fluid in this capsule is called synovial fluid which is produced by a thin membrane called the synovium. In a healthy joint, the ends of the bones are encased in smooth articular cartilage. The synovial fluid functions to lubricate the joint and also provides nutrients to the cartilage and connective tissues within the joint capsule.

Osteoarthritis

Is also known as 'degenerative arthritis'. Osteoarthritis can be a result of excessive wear and tear, but it has been postulated that there may be a genetic predisposition to the condition. The cartilage in your joints deteriorates causing your bones to contact each other directly. This will feel like soreness and stiffness of the joint. Hips, knees and wrists are common areas to experience this condition.

Severe osteoarthritis

With osteoarthritis, the cartilage becomes worn away. Spurs grow out from the edge of the bone, and synovial fluid increases. Altogether, the joint feels stiff and sore.

Partial or total hip replacement surgery



Total hip prosthesis

Total hip replacement (THR) has evolved from humble beginnings in the 1940's to a precise, reproducible procedure using tried and tested surgical techniques and state of the art implant design, materials and instrumentation.

Total hip replacement has been found to be a safe, costeffective treatment for alleviating pain and restoring physical function in patients who do not respond to non-surgical therapies. In Australia, over 32,000 people have hips replaced each year.

Hip replacement surgery is a surgical procedure for relining of the bone end surfaces of the hip joint with artificial parts called a prosthesis [pros-thee-sis]. This commonly occurs as the end result of severe osteoarthritis.

- This is due to the gradual deterioration and loss of the articular cartilage on the joint surface, which may occur due to progressive wear and tear as we age, or from the effects of a previous injury to the hip.
- Another form of arthritis is caused by inflammatory conditions of the joint, known as 'rheumatoid arthritis'. This destroys the surface cartilage of the joint.
- With mild arthritis there is joint stiffness and some degree of discomfort. As the disease progresses and the cartilage surface deteriorates, the pain will increase and permanent joint stiffness develops. At this point it may be difficult to carry out normal daily activities. Walking may become difficult because of the pain and stiffness. You may have difficulty going up and down stairs and may need assistance getting out of a chair or car.
- Generally, total hip replacement is considered only in those cases where more traditional or conservative treatments have either failed or been deemed impractical.

Partial or total hip replacement surgery

Every hip presents with differing levels of severity, and so the hip replacement which is chosen for you is the type deemed the most suitable by your surgeon.

On completion of surgery, over time your ligaments and muscles will heal, stabilise and mobilise your hip, allowing you to resume most activities. The successful total hip replacement can provide nearly complete relief of pain after the initial healing stages. Motion in the affected limb will generally be improved and in most cases, canes and crutches may be discarded within a few months after the surgery.

In some situations, however, where there are other disabilities and the patient may not become completely mobile again, there can be a significant improvement brought about by the relief of pain alone.



Hip Osteoarthritis

Partial or total hip replacement surgery

Hip implants

There are several types of hip implants in general use today including hemiarthroplasty; both Unipolar and Bipolar, Total Hip Replacement and also Hip Resurfacing Implants. The implant selected for a particular patient is usually determined by the particular type and severity of damage your surgeon sees in your joint. All types of implants are similar in their primary purpose to replace damaged bone and cartilage with new surfaces which slide freely upon each other to relieve pain and restore motion.



Hemiarthroplasty is usually performed as a result of fracture of the femoral neck. Just one side of the joint is replaced (the ball and stem), and this articulates with the acetabulum (cup) of the patient.

Total Hip Replacement

These implants have either a metal or ceramic head which can articulate with a metal, ceramic or polyethelene lining in a metal cup. Both the head and cup of the implant are implanted separately with no mechanical connection to the other. For this reason, at least some of the natural ligaments of the hip must be present and intact to give the joint stability.

Hip Resurfacing Implants

Another type of implant is designed to replace the surfaces of the hip joint whilst removing the least amount of bone possible. A metal cap is used to cover the femoral head, and this articulates with a highly polished metal cup. Hip Resurfacing is not indicated for everybody; your surgeon will discuss if this is an option for you.



Hemi-arthroplasty



Total hip replacement



Hip resurfacing

Potential risks and complications

No surgery is without risks. It is necessary for you to have an understanding of the risks of surgery in order to make an informed decision about your desire for surgery.

General anaesthesia

General Anaesthesia during surgery places an increased stress on the body. The most common side effects from a general anaesthetic are usually minor and temporary.

Following surgery, you may experience hoarseness, sore throat, headaches, nausea and even temporary confusion or memory loss.

Serious complications from general anaesthesia can include heart problems, pneumonia and lung problems, stroke, organ failure (ie kidneys) and even deaths have been reported.

Fortunately, these only occur in a very small percentage of patients undergoing surgery. A thorough medical evaluation prior to your surgery can minimise these risks.

DVT (deep vein thrombosis)

DVT (deep vein thrombosis) is the formation of blood clots, commonly in the leg veins. It is important to prevent this from occurring. The following measures will help you to prevent DVT:

- Perform gentle ankle and toe exercises every hour when awake. This will stimulate your blood circulation (like the airline exercises).
- Apply TED (thrombo embolic detterent) compression stockings preoperatively and wear them continuously for at least 6 weeks after surgery.
- Following surgery, you may be given an injection of anticoagulant daily to thin your blood. A pulmonary embolism is a rare complication, but may occur if a blood clot detaches and becomes caught in the lungs. This is a serious complication, causing sudden breathlessness, collapse or, very rarely, death.

Potential risks and complications

Infection

Infection is a serious complication.

Precautions are taken by administering antibiotics and using other strict measures to prevent an infection from occurring, however the risk cannot be completely eradicated.

Nerve damage

During surgery steps are taken to protect neural structures, however, damage can occur to the nerves around the hip area. The extent of damage can range from a mild transient loss of function to permanent, irreversible damage. Symptoms of nerve injury include the inability to detect pain, heat, cold or pressure over the skin along the course of the nerve, or, rarely, weakness of foot movement.

Damage to nearby blood vessels

Massive blood loss can rarely occur if a major blood vessel in the hip is damaged.

It is your surgeon's responsibility to inform you of all the relevant potential risks of surgery, no matter how uncommon some may be.

Please discuss any concerns with your surgeon, who can specifically address the likelihood of complications that may be specific to you. This should be done before you sign any form giving consent to the surgery.

Potential complications after surgery

Dislocation

During surgery your hip must be dislocated to gain access to get both the acetabular and femoral components implanted. In some patients there is a risk that the head (ball) of the femur (thighbone) may come out of the acetabulum (cup) of the pelvis in the months following surgery. This risk is significantly reduced by following the precautions listed on page 16.

Physical health

As with any surgery, you have to prepare yourself. Maintaining good physical health is important.

Smoking is associated with a significant increase in risks, including heart attack, lung collapse, wound breakdown and infection. If you are a smoker, you should not smoke for at least two weeks prior to surgery.

Activities to increase your upper arm strength would be helpful, as you will be using your upper arms more than you realise following surgery.

Examples:

- Using a monkey bar to pull yourself up in the bed as well as helping yourself getting in and out of a chair.
- Using a walking frame when you first start to walk after surgery, then using crutches when you are mobile.

Lose excess weight

Excess weight places strain on an already damaged joint, and may be associated with an increased risk of infection.

Losing weight can help ease the condition of your hip and optimise the results of your surgery. Please consult with your doctor before commencing a weight reduction plan.

Dental work

If you need dental work, this needs to be completed before your operation. An infected tooth or gum could be a possible source of infection in the new hip.

Medications

Your surgeon may recommend that you cease taking anti-inflammatory medication and any aspirin based medicines 7–14 days before surgery. Check with your general practitioner (GP) before discontinuing any medication.

Start making arrangements for going home

Your stay in hospital could be 3–5 days, depending on your surgeon's preference. Some patients may first go to a rehabilitation hospital prior to going home.

When you are discharged, you will need someone to assist you at home. You may need help to dress, bath and prepare meals for a short time.

Start getting your home ready

- If you live in a double storey house, you may wish to prepare somewhere to rest downstairs during the day, to avoid using the stairs too much.
- Remove all scatter rugs, or tape down their edges.
- Keep walkways clear of furniture as well as all telephone or electrical cords. If necessary tape the cords down so you can manoeuvre freely, to prevent you from having a fall if the stick or crutch should get caught up in the cords.
- Have a good firm chair with solid arm supports, and place a table near your chair, with telephone, TV remote, and anything you may need to save you from getting up and down all the time.
- You may need a chair in the shower for the first couple of weeks. Put your soap into a stocking and tie it to the cold water tap. If you drop the soap it makes it easy to retrieve.



Remove all scatter rugs, or tape down their edges.



Bring all your X-rays with you to hospital.

Day of surgery

- You should be able to take your routine medications (unless instructed not to take them).
- BRING ALL YOUR X-RAYS WITH YOU TO HOSPITAL.
- You will be instructed when to stop eating and drinking.
- Your hospital will advise you of your admission time and schedule on arrival.
- About one hour before surgery, you will be required to change into a hospital gown, pants and a cap. If you have drug allergies you may be required to wear a red cap.
- You may be requested to mark the leg you are having the operation on with a black marking pen.
- You may be measured and fitted with TED stockings on the limb which is not to be operated on.
- Remove all jewellery (except, if you wish, your wedding ring which will be taped on). No nail polish or makeup is allowed.
- You will wait in a bay where the anaesthetist will interview you and commence getting ready for the anaesthetic.
 You may have an IV medication to help calm you while waiting.
- You will be asked several times, by several different people to confirm which leg is to be operated on. Please be aware of the importance of this, and treat it as you would security questions at the airport.

Immediately after surgery

Immediately following your surgery, you will be taken to the recovery ward for a period of monitored observation.

- You will have an oxygen mask on your face with continuous flow of oxygen. A blood pressure cuff will be on your arm and a probe on your finger to check your oxygen saturation. Your blood pressure and pulse will be taken frequently.
- Checks of your circulation, sensation and pulses in your feet called 'neurovascular observations' are also recorded.
 It is important that you tell the nurse if you feel numbness, tingling or pain in your legs or feet.

Circumstances vary from patient to patient. You will likely experience some or all of the following after surgery.

- A dressing may be on your operated leg to maintain cleanliness and to absorb any blood loss.
- Once you are fully awake and the anaesthetist is satisfied with your condition, you will be transferred to the ward.
- An intravenous (IV) drip, started before or during surgery will continue until you are drinking adequate amounts of fluids and ready to have oral antibiotics, usually for 24 hours.
- Patient Controlled Analgesia (PCA) this is a method of pain control for the first day or two after surgery where you can self-administer IV pain medication as needed.



An intravenous (IV) drip, started before or during surgery will continue until you are drinking adequate amounts of fluids and ready to have oral antibiotics. This usually lasts for 24 hours.



PRECAUTIONS

There are several movements you should avoid following your Surgery unless otherwise instructed by your surgeon or physical therapist.

- 1. Do not bend your hip beyond 90° (this includes sitting on low chairs or reaching for objects on the ground).
- 2. Do not cross your legs.
- 3. Do not turn your leg inwards, when turning around take short steps and turn away from the operated leg.





Use of ice postoperatively

This may be used during your hospital stay and at home to help reduce the swelling in your hip. Pain and swelling may slow your progress when doing exercises. An ice pack or a bag of crushed ice may be placed in a towel over your hip for 10–20 minutes. At regular intervals, check skin integrity when using the ice, as you may experience a decrease in sensation around your hip following the surgery.

Movement following surgery

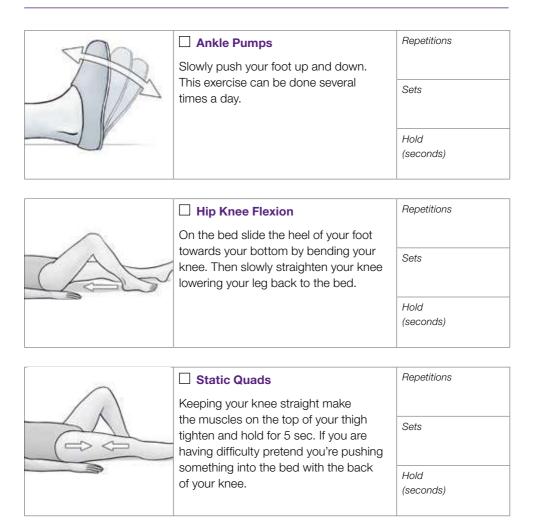
You may have your white TED stockings as well as calf compressors. Plastic sleeves are attached to a machine which circulates air into the sleeve and massages your leg. This is another method of promoting blood flow and decreases the chances of DVT. You may be given an injection of an anticoagulant and encouraged to do your ankle exercises hourly.

If you experience nausea postoperatively from the pain medication (PCA), you may need medication to minimise the nausea and vomiting, so please inform the nursing staff.

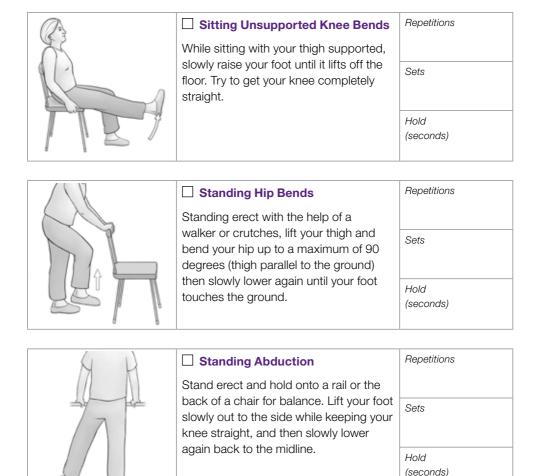
Postoperative exercises

Deep breathing and coughing exercises are important to help prevent complications, such as lung congestion or pneumonia.

☐ Deep breathing and coughing	Repetitions	
Relax your shoulders and upper chest.		
Inhale deeply (through your nose if possible), hold the breath in and then	Sets	
slowly exhale through your mouth.		
After repeating 3-5 times, attempt to clear your chest by coughing.	Hold (seconds)	



1920	☐ Inner Range Quads Roll up a towel and place it under your	Repetitions
	thigh. Slowly lift your foot off the bed to straighten your knee, hold for 5 seconds and slowly lower.	Sets
		Hold (seconds)
		Danatitions
	☐ Straight Leg Raises Tighten your thigh muscle with your	Repetitions
	hip fully straightened on the bed. As your thigh muscle tightens, lift your leg several inches off the bed, hold, then	Sets
	slowly lower.	Hold (seconds)
	☐ Static Gluts Clench your buttocks together and hold,	Repetitions
	count for 5 seconds and then relax.	Sets
		Hold (seconds)



	Standing Extension Exercises Stay in the same position as the	Repetitions
	Abduction exercise on the previous page. Slowly take your foot away from your midline behind you while keeping	Sets
	your knee straight. Try not to lean forward when doing this exercise.	Hold (seconds)
	Supplementary Exercise 1	Repetitions
		Sets
		Hold (seconds)
	Supplementary Exercise 2	Repetitions
		Sets
		Hold (seconds)





Figure (a)

Figure (d)

Figure (b)

Figure (c)

Lying in bed

 It is best for you to lie on your back. Your bed needs to be a good height and you need a firm mattress.

Getting out of bed

- Get out of bed on the operated side. Figure (a).
- Move buttocks to the edge of the bed.
 Figure (b).
- Stretch out the operated leg until it touches the floor. *Figure (c).*
- Keep operated leg in front until standing. *Figure* (d).

Getting into bed

- Sit down on edge of bed, reaching back with one hand at a time.
- Enter the bed by supporting your upper body with your arms and bringing your legs into the bed. (This is why you need to build up your upper arm muscles).





Figure (a)



Figure (c)

Figure (b)



Figure (d)

Sitting in a chair

- Sit in a firm, straight back chair with arm rests to help support you when getting in and out of the chair. Figure (a).
- Back up slowly until you feel the chair against the back of your legs.
- Slide your operated leg forward and lower yourself slowly into the chair using the armrests.

Going from sitting to standing

- Slide forward in the chair with the operated leg extended in front of you. Figure (b).
- Use both your arms and your unoperated leg to push yourself up to the standing position. You may then reach for the walker or crutches. Figure (c).



Walking frame



Crutches



Walking sticks

Walking

Proper walking is the best way to help your hip recover. At first, you will need a walker or crutches.

Your surgeon or physiotherapist will advise you how much weight to put on your leg.

Using crutches or a walker

When walking the sequence is always:

- 1. Move walking aid forward.
- 2. Step with the operated leg.
- 3. Step with your unoperated leg.
- **4.** When turning around you must not twist your new hip. Take small steps and turn away from your OPERATED leg.



Upstairs



Downstairs



Stair climbing without crutches

Using the stairs with crutches

Use your crutch to support your operated leg going up one step at a time.

Upstairs

- 1. Step up with **unoperated** leg.
- 2. Step up with operated leg.
- 3. Move crutch or aid.
- **4.** Use a handrail if possible with your free hand.

Downstairs

- 1. Down with walking aid first.
- 2. Step down with operated leg.
- **3.** Step down with unoperated leg.

Remember "up with the good and down with the bad".

Using the stairs without crutches

The ability to go up and down the stairs requires strength and flexibility. At first you will require the use of a handrail for support.

Always lead up the stairs with your unoperated hip and down the stairs with your operated hip.



Using handrail for support



Toilet surround or metal handrail

Toileting

Most toilets are too low for comfortable postoperative use. You will need to use a raised toilet seat or an over toilet aid for safety. A toilet surround or metal handrail will help you raise yourself off the toilet.

- 1. Place toilet paper within easy reach before you sit.
- Back up slowly until you feel the toilet press against the back of your legs. Slide your operated leg forward and lower yourself slowly onto the toilet, using handrail or surround to help support you.



Physiotherapy



Using a walking frame

Postoperative physiotherapy

The physiotherapist will visit daily in the first couple of days to show you how to do your exercises as well as assist you in and out of bed for the first time.

Before you start your exercises, it is important that you take pain medication at least 20–30 minutes before you start your exercises. Why is this important? If the exercises are painful, you may not do the exercises to your best advantage, thus making you reluctant to bend and straighten your hip. Your pain will gradually lessen, making exercising and movement much easier as time progresses.

- The aim of the exercises is to regain the natural movement of your hip. How well you regain strength and motion is highly dependent upon how well you follow your physiotherapy advice.
- The first time you stand and walk you will use a frame, your Physiotherapist will progress you to crutches and/or walking sticks as your mobility improves. The physiotherapist will supervise you walking up and down the stairs using the crutches/sticks before you are discharged.

Upon discharge from hospital you will have achieved some degree of independence in walking with crutches or a stick, climbing stairs, getting in and out of bed, and going to the bathroom without assistance.

You will need someone at home to assist you for the next 6 weeks or until your energy has improved. You may need assistance in dressing and showering.

Medication

- You will continue to take your medications as prescribed by your surgeon.
- You may still be taking prescribed medication for pain. You may wish to take your pain medication 30 minutes before commencing exercises. If pain becomes unbearable please call your doctor.

Activity

- Continue to walk with your crutches or stick as directed by the physiotherapist.
- Bear weight and walk on the leg as much as is comfortable, unless your doctor directs you otherwise. Walking is one of the better kinds of therapy for muscle strengthening.

- Continue to do your exercises that you were doing in hospital. Walking is excellent therapy, however, it does not replace the exercise programme which you were taught in hospital.
- Avoid doing any strenuous housework or gardening for the first 12 weeks after surgery.
- Avoid kneeling.

White (TED) stockings

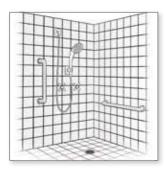
 You may be required to wear your white stockings until you visit your surgeon for your 6 weekly checkup.

Your incision

 Keep the incision clean and dry. Be alert for certain early warning signs. If you have swelling, increased pain, tenderness, redness or drainage from the incision site or if you have a high temperature, report this immediately to your doctor.



Shower seat



Place shampoo, soap and other equipment within easy reach.

Toileting at home

- Most toilet bowls are too low and for comfort you may still need to use a raised toilet seat or toilet surround.
- A metal handrail can also assist you to get off the toilet.

Remember to place toilet paper in easy reach before you sit, and use the rail or surround to help support you on and off the toilet.

Showering

- You may find it safer to have a shower chair when showering. Please use a purpose built chair that will not slip on the tiles. Plastic garden chairs may slip on the tiles and cause you to have a fall.
- Place shampoo, soap and other equipment within easy reach.
- Use soap on a rope or place a bar into a stocking and tie
 it to the cold water tap. If it drops, you don't have to bend
 down to pick it up.

Using a bath

 It is best not to use a bath if possible. A bath chair with a handheld shower may be used as an alternative.







Dressing 1

Dressing 2

Dressing 3

Dressing

- Take care not to bend too far forward when dressing.
- Long handled equipment can assist you to dress (i.e. easy grasper, sock or stocking aide and a long handled shoe horn).
- Dress and undress your operated side first.

Housework

- Avoid heavy housework tasks for at least 6 weeks.
- Place items frequently used within easy reach, to reduce bending and reaching.
- It is better to slide items along the bench top rather than carry them.
- Use long handled graspers to pick up items from the floor. Figure (a).
- A high stool may be useful when preparing food, washing up or ironing. *Figure (b).*





Figure (a)

Figure (b)

Driving

Unless you are given written permission by your doctor, you will not be able to drive for several weeks after surgery. It is important to speak with your doctor regarding when you are able to resume driving as all your insurance will be void until you have medical clearance.

Getting in and out of the car

DO NOT drive until you have clearance from your surgeon. If you drive without permission and have an accident, your insurance will not cover you.

- Use the front passenger seat.
- Have the seat pushed back as far as it can go, recline the seat back to give as much room as possible.
- **1.** Back up to the car seat and slide your operated leg forward. Reach back to support yourself with one hand on the back of the seat with the other on the dashboard. *Figure (a)*.
- **2.** Slowly lower yourself onto the seat. *Figure (b).*
- **3.** Gently swing your legs into the car. *Figure (c).*







Figure (a)

Figure (b)

Figure (c)

Sexual activity

- Let your partner take the active role.
- You may find some positions more comfortable than others.

Dental work

If you need any dental work please inform your dentist that you have had a joint replacement.

Public transport

- Try not to stand on moving public transport.
- · Use the aisle seat whenever possible.
- DO NOT run for buses or trains.
- DO NOT get on or off any moving vehicle.

Air travel

Your new hip joint may activate metal detectors at airport security and some venues. Tell security that you have had a hip replacement. Ask your surgeon about an implant ID card from the manufacturer, or take a small X-ray of your hip with you (this is useful as it has your name and a date on it).

Resuming lifestyle activities

Your health and wellbeing is a worthwhile investment. You can play an important role in the postoperative healing process.

Whether it is playing golf, bowling, swimming, cycling, walking, gardening, fishing or generally leading a full life, your Australian designed and manufactured hip replacement is designed to enhance your lifestyle and enable you to successfully resume your chosen activities.

Acknowledgements: Sydney Southwest Private Hospital – 'A Patient's Guide to Total Hip Replacement' Margaret Favelle and Michelle Thompson.

Notes





