

# TOTAL HIP REPLACEMENT

INFORMATION BOOKLET

FOR PATIENTS of DR KALANIE

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### **STOP THE FOLLOWING MEDICATIONS PRIOR TO YOUR SURGERY**

Many tablets can cause excessive bleeding during and after your surgery.

It is therefore essential to take note of the medications listed below and cease taking any that apply to you well beforehand.

If you are taking medication for problems with your heart and/or blood pressure, it is important that these are continued up to the time of surgery. If in doubt, please contact the office.

### **STOP THE FOLLOWING ONE MONTH (30 DAYS) PRIOR TO ADMISSION**

Hormone Replacement Therapy (excluding Prednisone)

Tamoxifen      Arava

### **STOP THE FOLLOWING ONE WEEK (7 DAYS) PRIOR TO ADMISSION**

Alka-Seltzer	Chemgesic	Percoden
Asasantin	Codiphen Forte	Persantin
A.S.A. Aspirin	Cliopidogrel	Plavix
Aspirin	Codis	Rheumat-ese
Aspalgin	Codox	Rhusal
Aspro Clear	Codral Forte	Winsprin
Solocode	Soluble	Disprin
Asprodeine	Distrin	Solprin
Astrix	Doloxene	SRA
Bex	Ecotrin	Salicylamide
Bufferin	Cartia	Iscover Vincents powder/tabs
Cardiprin	Morphalgin	Ensalate
Clusinol	Orthoxical Cold & Flu Tablets	

### **ANTI-INFLAMMATORY DRUGS (7DAYS PRIOR)**

ACT-3	Clinoril	Inza	Prioheal
Aclin	Crysanal	Mefic	Prioxicam
Actiprofen	Dinac	Methotrexate	Proxen
Advil	Doloboid	Mobic	Rafen
Arthexin	Feldene	Naprogesic	Rheumacin
Arthrotec	Fenac	Naprosyn	Surgam
Brufen	Nurofen	Tilcotil	Toradol
Bugesic	Ibuprofen	Orudis	Candyl
Indocid	Oruvail	Tri-profen	Flexin
Celebrex	Inflam	Ponstan	Voltaren

### **STOP THE FOLLOWING 5 DAYS PRIOR TO ADMISSION**

#### **ANTICOAGULANTS**

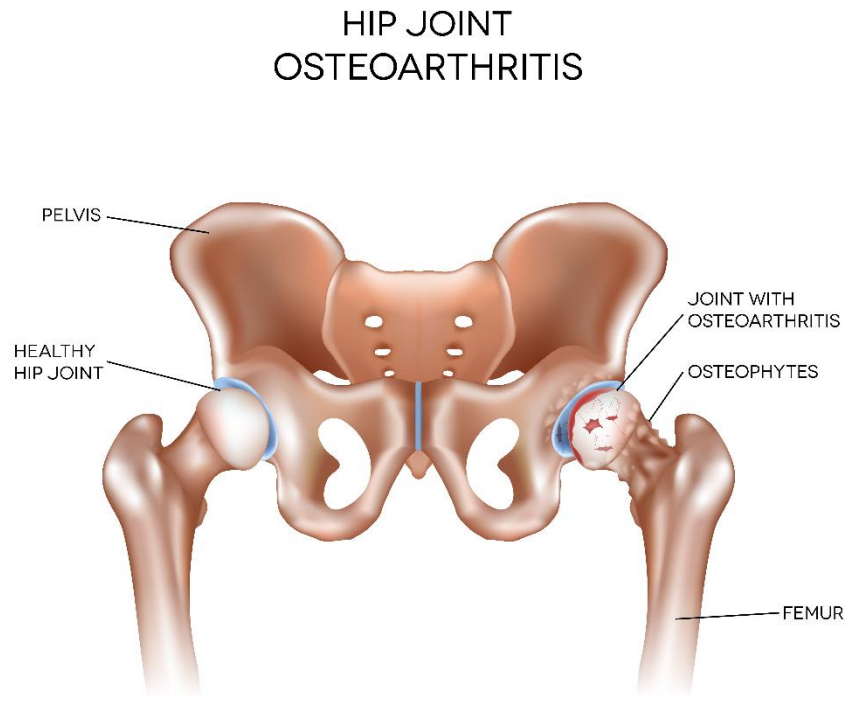
Warfarin      Xarelto  
Pradaxa      Coumarin  
Eloquis Marevan

The tablets will have to be withdrawn prior to surgery to prevent excessive bleeding and **LOW MOLECULAR WEIGHT HEPARIN** injections will be arranged by us or a cardio-vascular physician. **ANTICOAGULANT** tablets will be resumed after surgery under the direction of St Vincent's Bone & Joint or Cardio-vascular physician.

### **HERBAL MEDICINE (5 DAYS PRIOR)**

Arnika	Ginkgo	Garlic	Echinacea	Fish Oil Krill Oil
Ginger	Ginseng	Saw Palmetto Vitamin E	Primrose Oil	Krill Oil / Deep Sea Krill Oil

## What is total hip replacement (THR) and when is it indicated:



Primary osteoarthritis of the hip is simply a time related structural damage, which results in wear of the shiny slippery joint surfaces leading to a painful and stiff hip. This is the commonest indication for needing a THR.

Other conditions that can lead to osteoarthritis, otherwise known as secondary OA, are:

1. Inflammatory arthritis (eg: Rheumatoid arthritis, Psoriatic arthritis, Gout, etc.)
2. Post-traumatic arthritis (ie following a fracture)
3. Dysplasia of the hip including developmental dysplasia of the hip or Femoroacetabular impingement (FAI)

In early stages of OA simple measures such as altering your activity level, rest, weight loss, regular low impact exercise, and use of simple analgesic medication can be enough to manage the pain. However, as the disease progresses, the pain becomes more severe and constant, even at rest. The hip becomes progressively stiff, so that simple tasks such as getting in and out of the car or putting one's socks and shoes on can become a challenge.

In cases of early to moderate OA, sometimes an injection of a gel, known as Hyaluronic acid, may help in greatly reducing the patient's symptoms and delay the need for a THR for many months to even years.

However, once all non-operative measures have failed and the pain starts to impact severely on the patient's quality of life then a THR is the next most appropriate intervention.

Age is not by itself a rigid indicator for or against surgery. The only absolute indication for surgery is ongoing moderate to severe pain that has failed to respond to non-operative measures and is impairing your enjoyment of life. Patients as young as 20 or an active patient in their 90's can safely undergo THR with excellent long-term results.

Hip replacement is a highly successful operation that has been around for many decades and has constantly been shown to be highly effective at eliminating pain, restoring function and quality of life in well over 98% of patients. With continuous improvement over the years in the materials used to manufacture the prosthesis, along with improvements in surgical techniques, use of sophisticated pre-operative planning software and intra-operative computer assisted navigation, we can achieve excellent long-lasting results.



## **Preparing for surgery**

### **Medical Evaluation**

If you decide to have joint replacement surgery, Dr Kalanie may organise for you to see one of our Vascular Physicians, with whom we work, for a complete medical assessment and to optimize your fitness for the operation. This is especially likely if you have a strong history of DVT, serious cardiac disease or are on anticoagulants or other blood thinners. Your Physician in conjunction with your Surgeon and Anaesthetist will provide a comprehensive team approach medical care during your stay in hospital. Professor Abdullah Omari frequently works with Dr Kalanie in this regard.

### **Preadmission Clinic**

You will attend preadmission clinic a week or 2 before your scheduled operation. Make sure you bring along a list of all current medications on the day.

For patients who live long distances away, we will often try to get you seen the same day or day prior to surgery.

At preadmission, the clinic nurse will arrange routine blood tests, iron studies, urine analysis, ECG and X-rays including a chest X-ray.

You will also be seen by your Anaesthetist who will discuss the anaesthetic options that are best for you, and inform you of any risks specific to you.

### **What to bring to the hospital**

1. Nightshirts rather than pyjamas.
2. Toiletries and personal items
3. Loose fitting garments.
4. **X-rays** or investigations relevant to surgery.
5. Usual medications

### **Preparing Your Skin and Leg**

The area to be operated on should not have any skin infections or irritation. Your lower leg should not have any chronic swelling. A skin antiseptic will be given to you to use for several days before operation to clean the area and sterilize the skin. Chlorhexidine soap should be used the night prior and on the morning of surgery.

Contact Dr Kalanie prior to surgery if there is any issues with the skin around or near the area being operated on.

### **Dental Evaluation**

Although the incidence of infection after joint replacement surgery is very low, an infection can occur if bacteria enter your bloodstream. Treatment of significant dental disease (including tooth extractions and periodontal work) should be considered before your hip surgery.

There should be no gum or mouth infection present prior to elective joint replacement surgery.

## The Operation

The day prior to your surgery you will receive a call from the hospital advising your fasting details and admission time.

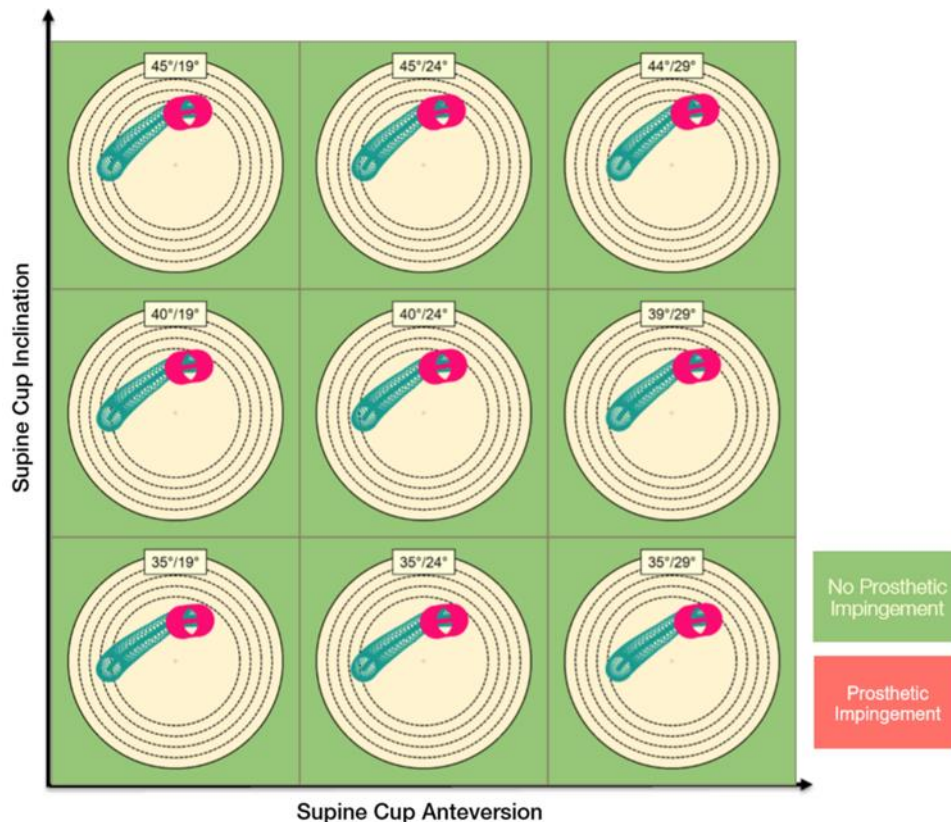
You will be admitted to the “Same Day Centre” on level 5 on the day of your surgery.

After admission, you will be evaluated by a member of the anaesthetic team. The most common types of anaesthesia are general anaesthesia, in which you are asleep throughout the procedure, and spinal anaesthesia, in which you are sedated but your legs are anaesthetised .

After anaesthesia is administered, an indwelling urinary catheter (IDC) will be placed in a sterile fashion inside the OR with antibiotic cover. This monitors urine output, and is more comfortable for you for the first 48 hours until you are more mobile.

The most important determinant of good outcome is careful pre-operative planning. For every case, Dr Kalanie dedicates a great deal of time planning the size and positioning of the implants specifically for each individual patient based on their anatomy and spinal-pelvic mechanics. This is done by using the state-of-the-art 3D digital software, known as the OPS (<https://www.youtube.com/watch?v=YXv6zAgsbGQ>) that captures the dynamic movements of the hip and pelvis through a wide range of motion, allowing the surgeon and engineers to ascertain the optimal position for the cup and stem for each patient. This in turn greatly reduces the risk of impingement, dislocation and early wear which can all result in a sub-optimal hip replacement and result in need for early re-operation/revision surgery. The highly accurate pre-operative planning also ensures that the leg length and offset of the femur are reproduced with a high degree of accuracy in each patient for optimal outcome.

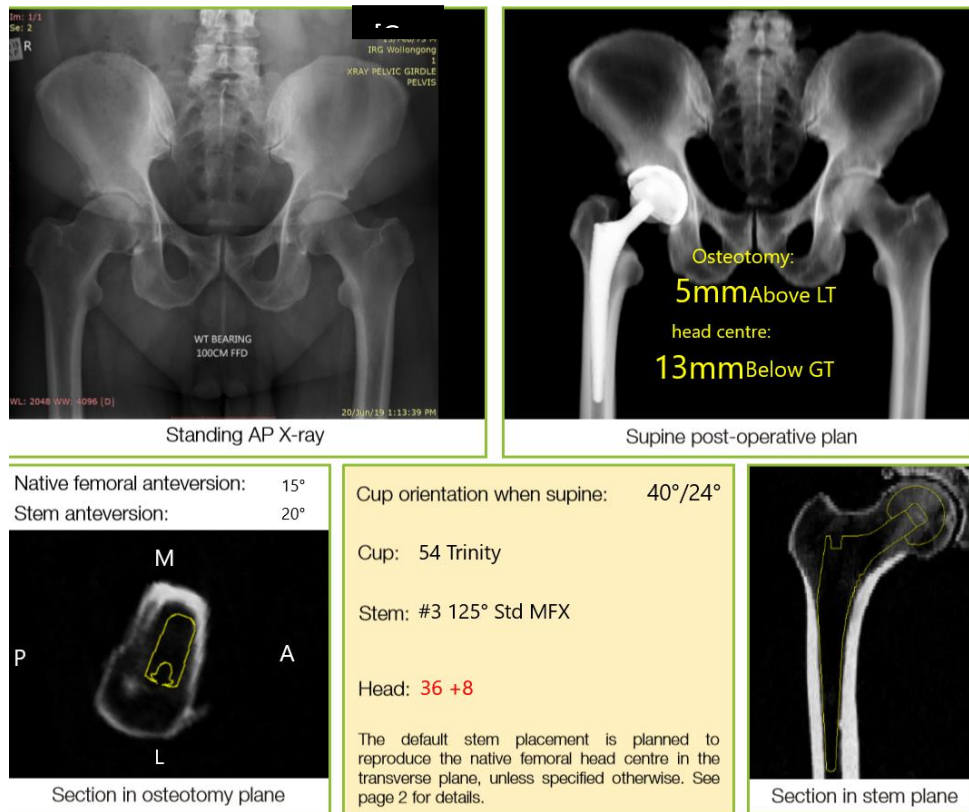
## Computerised planning



Picture showing simulated movements of femoral head within the socket positioned at different orientations.

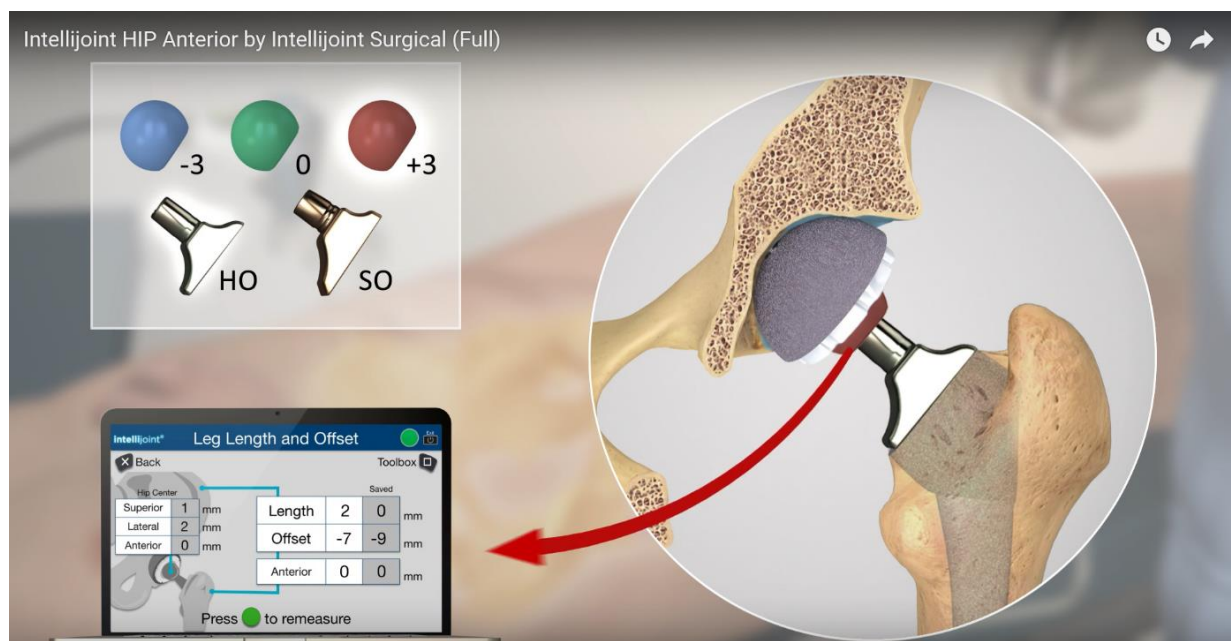


### 3D CT planning



The next important step is the implementation of this highly accurate and detailed plan at the time of actual operation. Here, Dr Kalanie uses sophisticated computer guidance, known as Intellijoint (<https://www.youtube.com/watch?v=LBT6QCfdktA>), intra-operatively to accurately place the implants as per the original digital planning. Dr Kalanie is one of the few surgeons in the southern hemisphere to combine the OPS preoperative planning with an intra-operative computer delivery system to ensure highly accurate and reproducible placement of the implants, resulting in high level of patient satisfaction.

*Intra-operative intellijoint computer navigation allows for precise restoration of patient's leg length and hip anatomy*



*Picture demonstrating how intellijoint hip computer navigation is able to give real time assessment and feedback regarding the position of the cup, allowing for implementation of the OPS plan*



If you wish to know more about the actual surgery please watch Dr Kalanie live surgical video on our website <http://www.stvincentsboneandjoint.com.au/live-surgery-dr-kalanie.html>

The procedure itself takes about two hours.

After surgery, you will be moved to the recovery room, where you will remain for one to two hours while your recovery from anaesthesia is monitored. After you awaken, you will be taken to your room in the hospital, usually on Sister Bernice ward level 7 or 8 (all rooms are private in this ward).



## Post op recovery



Over the past 5-10 years, extensive work has been done looking into what we now call **RAPID RECOVERY PROTOCOLS**. Rapid recovery is the culmination of many closely integrated steps taken by the team looking after the patient and includes the following:

1. Pre-operative period:
  - a. Pre-operative optimization of the patient's medical status prior to surgery
  - b. Consultation with appropriate specialists to resolve any major cardiovascular or hematologic conditions
  - c. Pre-admission clinic and optimisation of the anaesthetic plan for the patient
  - d. Pre-operative 3D CT/XR templating and planning to ensure custom positioning and sizing of implants for each specific patient
2. Intra-operative
  - a. Spinal anaesthesia to minimise blood loss, DVT/PE risk, optimise pain relief, reduce the need for opiate pain relief.
  - b. Minimally invasive surgery to reduce tissue damage and blood loss
  - c. Use of computer navigation to ensure precise and accurate positioning of implants for every single case
  - d. Use of Tranexamic acid to reduce blood loss, need for blood transfusion and joint swelling/stiffness

- e. High volume long lasting Local Anaesthetic infiltration and local anaesthetic infusion catheter to ensure optimal post-operative pain management
3. Post-operative
- a. Early mobilisation on the day of surgery
  - b. Early initiation of physiotherapy/rehabilitation/aquatic therapy
  - c. Restricted use of opiate analgesia, reducing post-operative nausea, vomiting, light headedness, and constipation
  - d. High protein diet to allow encourage anabolic physiologic state and improved healing
  - e. Early discharge from hospital and return to normal daily routines as soon as possible.

This early return to function, mobility and normalcy has been shown to be associated with earlier recovery, less pain, improved muscle function, improved metabolic function, reduced DVT/PE rates, and reduced post-operative complications. Optimal time of hospitalization is 3days +/- 1 day. Longer hospital stay is associated with higher rates of complication and slower recovery.

Immediately following the operation, you'll have an indwelling urinary catheter and a Local Anaesthetic infusion bag, both of which are removed on day 2 following the surgery.

There are routine steps taken during your hospital stay to reduce DVT/PE formation and these include the use of calf compressors, daily oral Aspirin, and compression stockings.

If you have a history of DVT/PE formation, then other strong blood thinning agents such as Clexane may be prescribed for you.

**Following your discharge there's no need to continue wearing compression stockings.**

Following your discharge, it is perfectly okay for you to go home and continue your physiotherapy and rehabilitation on an outpatient basis. There's strong evidence to suggest that inpatient rehabilitation holds no advantage over outpatient rehab with regards to recovery or function following surgery. In some instances, such as elderly patients who live alone, a short period of inpatient rehab can be beneficial prior to discharge home.

You'll be given one or two crutches prior to your discharge from hospital. Dr Kalanie is happy for you to discard these at your discretion. If you find that you're confident and feel well balanced without them then you can discontinue their use.

Regardless of whether your surgery is done from anterior or posterior approach, no special post-operative precautions such as use of highchairs for toileting or pillows between legs while sleeping are necessary.

Most patients will go home with a 4-6 week supply of Aspirin which they should complete. This helps lessen the risk of post-operative DVT/PE formation.

## Possible risks and complications after surgery

- **Blood clots.** Clots can form in your leg veins after surgery. This can be dangerous because a piece of a clot can break off and travel to your lung, heart or rarely your brain. Your doctor may prescribe blood-thinning medications to reduce this risk.

### Warning signs, that clot has formed in your calf:

- Increasing pain in the calf on movements of the foot and ankle
- Tenderness and swelling in and around the calf region

### Warning signs that a clot has travelled to your lungs

- Sudden onset of shortness of breath
- Chest pain with deep breathing or coughing
- Racing/fluttering heart beat

If you experience any of the above, notify the staff immediately.

- **Infection.** Infections are very rare, in the range of 0.5-1%. Superficial infections are often easily treated with a few days of tablet antibiotics and dressing changes. Deep infection around the prosthesis can be very troublesome and require major revision surgery to remove and replace the infected implants. If following your surgery, you ever experience increasing pain, redness, or heat around your hip, notify your doctor immediately. If you are not able to see your doctor urgently then present to a near by A&E for immediate attention as early treatment can be instrumental for preventing the spread of infection.
- **Fracture.** During surgery, healthy portions of your hip joint may fracture. Sometimes the fractures are so small that they heal on their own, but larger fractures may need to be corrected with wires, pins, and possibly a metal plate or bone grafts. The most common type of fracture encountered is a small hairline crack that occurs in the top of the femur. This can easily be stabilized with circumferential placement of one wire or two wires and the surgery can then proceed as normal without any change to post-operative rehabilitation or recovery.
- **Dislocation.** Certain positions can cause the ball of your new joint to become dislodged, particularly in the first few months after surgery. However, with advent of large femoral heads, use of OPS digital planning, intra-operative computer assistance and anterior hip surgery, the risk of dislocation has greatly diminished. In the rare instance that your hip continues to dislocate, then repeat surgery may be required to stabilize the hip joint.
- **Change in leg length.** Despite extensive planning and use of technology to prevent leg length discrepancies, occasionally a new hip makes one leg longer or shorter than the other. Sometimes this is caused by a contracture of muscles surrounding the hip. Often this discrepancy, if it occurs, is less than 1 cm and can be corrected with appropriately sized insoles. Larger discrepancies, may need repeat surgery for correction.
- **Loosening.** Although this complication is rare with newer implants, your new joint may not become solidly fixed to your bone or may loosen over time, causing pain in your hip. Surgery might be needed to fix the problem.

For antibiotic treatment for dental procedures please refer to the recommendation from the Arthroplasty Society hand out in your booklet.

If you sustain grazes or cuts to your skin, attend to them quickly by performing basic cleaning first aid treatment. If there's any sign of redness/pain or suggested infection, see your G.P. urgently for possible antibiotic treatment.

### **SUCCESS RATE**

Following these protocols, the current success rate, measured by patient satisfaction rate, is approximately 95% for primary hip replacement surgery. This means that 95% of patients are very happy with their operation, have no regrets in having proceeded with surgery and would have the operation performed again, if required.



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**THIS PROTOCOL IS NOT TO BE RELEASED TO, OR REPRODUCED BY A THIRD PARTY  
WITHOUT SPECIFIC PERMISSION.**

# Frequently Asked Questions

## **How long will I be in hospital?**

You will be in hospital between 3-4 days following your surgery.

## **How long will I be in rehabilitation?**

If rehab is required, you will spend 5-10 days as an inpatient at your chosen rehabilitation facility followed by a thrice-weekly visit for 3-4 weeks as an outpatient.

## **When can I return to driving after my surgery?**

You can return to driving anywhere between 2-4 weeks.

## **How long should I wait after my surgery until I can fly?**

Domestic flights (under 3 hours) can be taken 2 weeks following surgery.

International flights can be taken 6 weeks post-surgery.

## **How long should I wait until returning to sport?**

You can return to playing sports after 3 months post-surgery however, we recommended that you assess your rehab progress and act accordingly to your comfort level.

## **Will I need antibiotic prophylaxis for any future dental procedures?**

Any dental work needing to be done within 3 months of your operation will need antibiotic prophylaxis. This is not required beyond 3 months post-surgery unless suffering from specific conditions. Please see recommendation from Arthroplasty Society of Australia form in your information booklet.

## **How long do I need to keep my TED stocking on?**

You can discontinue the TED stockings following discharge. However if you find that it helps with continuing swelling you may wish to wear them for 2-3 weeks following the surgery.

## **How long will I need to use Crutches?**

Dr Kalanie encourages you to discard your crutches as soon as you're comfortable, sometime between 2-4 weeks.

## **Additional Hospital Costs may include**

These fees are only an estimate and subject to change. Depending on your Level of health fund, you may be eligible to claim a rebate.

Anaesthetist	Will contact you prior to surgery with estimate of fees
Assistant Fee	20% of surgeon's fee
Pathology	\$400
X-Ray & Legogram	\$430.10
ECG	\$55.00
Chest X-Ray	\$171.00
Hip X-Ray	\$413.50

## Out of pocket expenses (gap cover)

A 'gap' is the amount you pay either for medical or hospital charges, over and above what you get back from Medicare or your private health insurer. Some health funds have gap cover arrangements to insure against some or all of these additional payments.

Before you go to hospital, you should ask your doctor for an estimate of their costs, if there will other doctors involved in your care (e.g. Anaesthetist, assistant surgeon) and what their charges will be. You should also check with your health fund to find out exactly how much is covered with your policy.

## Hospital gaps

Many hospitals have arrangements with health funds to fully or partially cover costs relating to hospital accommodation. If you go to a hospital that does not have an agreement with your health fund, you may face significant out-of-pocket expenses for your treatment.

If your health insurance policy has an excess or co-payment, you will have to pay the agreed amount of excess or co-payment towards the cost of hospital treatment out of your own pocket, even if your hospital has an agreement with your fund.

## Medical gaps

Some health funds have gap cover doctors agreements made with particular doctors that may cover all or some of the doctors' fees for your hospital treatment. If your fund does not have an agreement with your doctor you may have to contribute towards the doctor's bill out of your own pocket.

The Government does not set doctors' fees and the doctor is free to decide on a case-by-case basis whether he or she wishes to use an insurer's gap cover arrangement.

## Prostheses

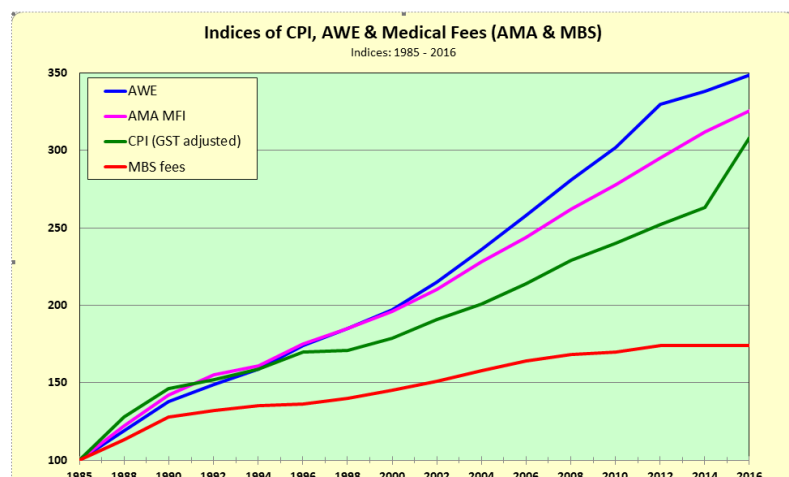
A prosthesis is an artificial substitute for a missing body part, used for functional or cosmetic reasons or both. Surgically implanted prostheses are sometimes required during a medical procedure, such as a replacement lens for a cataract surgery, an artificial hip joint, a pacemaker, or a heart valve.

For medical procedures covered by the Medicare Benefits Schedule (MBS), your health insurer will fully cover the cost of at least one prosthesis, if required (called a 'no gap' prosthesis).

In some cases, an alternate prosthesis may be available which costs more than the 'no-gap' version. If one of these prostheses is used, you will have to pay the difference between the 'no gap' amount and the total amount charged by the supplier for the prostheses.

For each procedure, you should check with your health fund if you are covered, how much your policy will pay for a particular prosthesis, and whether you will have any 'gap' to pay.

**The fee chart highlights the disparity in increases between MBS fees and the AMA, CPI and AWE (average weekly earnings) indices**





## Position Statement of the Arthroplasty Society of Australia

### Recommendations for Patients with Hip or Knee Joint Replacement who Require Dental Treatment.

#### Dental problem in the first 3 months following hip or knee joint placement surgery

*Infection with abscess formation:* Urgent and aggressive treatment of the abscess. Remove the cause (exodontic or endodontic) under antibiotic prophylaxis.

*Pain:* Provide emergency dental treatment for pain. Antibiotics are indicated if a high- or medium-risk dental procedure performed.

*Noninfective dental problem without pain:* Defer non-emergency dental treatment until 3 to 6 months after prosthesis replacement.

**Dental treatment after 3 months in a patient with a normally functioning artificial joint** Routine dental treatment including extraction. **No antibiotic prophylaxis required.**

#### Dental treatment for patients with significant risk factors for prosthetic joint infection

*Immunocompromised patients include:*

- those with insulin-dependent diabetes
- those taking immunosuppressive treatment for organ transplants or malignancy
- those with systemic rheumatoid arthritis
- those taking systemic steroids (e.g., patients with severe asthma, dermatological problems) Consultation with the patient's treating physician is recommended.

*Failing, particularly chronically inflamed, artificial joints:*

Consultation with the patient's treating orthopaedic surgeon is recommended.

Defer non-essential dental treatment until orthopaedic problem has resolved.

*Previous history of infected artificial joints:*

Routine non-surgical dental treatment – no prophylaxis indicated.

#### Recommended antibiotic regimens where indicated

1. Dental clinic LA extractions or deep curettage  
Amoxycillin 2-3g orally 1 hour prior to procedure

Theatre procedures

Amoxycillin 1g I/V at induction

Followed by 500mg amoxicillin I/V or orally 6 hours later.

2. Penicillin hypersensitivity, long term penicillin, recent penicillin/other B-lactam.  
Clindamycin 600mg 1 hour prior to procedure or Vancomycin 1g I/V 1 hour to finish  
2 hours or Lincomycin 600mg just prior to the procedure

3. High risk case

(i.e., Gross oral sepsis/severely immunocompromised/previous joint infection.)

Gentamicin 2mg/kg I/V just before procedure (*can be administered 3mg/kg provided there is no concomitant renal disease*) PLUS Amoxycillin 1g I/V just before procedure followed by 500mg I/V or orally 6 hours later.

If hypersensitive to penicillin replace amoxicillin with Vancomycin 1g I/V over 1 hour to finish just before procedure.

Ref: Scott JF et al, Patients with artificial joints: do they need antibiotic cover for dental treatment? **Aust Dent J** 2005;50Suppl 2S45-S53