Unicompartmental Knee Arthroplasty (UKA)

Essential Information

For Patients Undergoing Knee Surgery.

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Unicompartmental Knee Arthroplasty. (UKA)

Surgical techniques and joint replacement technology are rapidly evolving, providing treatment to restore people to pain-free active living.

The traditional approach to knee reconstruction has been a **total knee replacement (TKR)** which replaces all three compartments of the knee. This surgery provides excellent pain relief and has been shown to be very durable. For people who need two or more of their knee compartments resurfaced, total knee replacement is an excellent choice to relieve pain and restore function of the knee.

However total knee replacement is a major surgical procedure and may not be necessary in all patients.

Patients that exhibit osteoarthritis predominantly in one compartment may not need a total knee replacement to relieve pain and restore function of the knee.

An alternative option is ***unicompartmental knee arthroplasty (UKA) which resurfaces one compartment of the knee only.*** These implants are much smaller than a total knee prosthesis and leave the healthy tissues intact. Implants can either be medial (inner) or lateral (outer) depending upon which compartment of the knee is being resurfaced.

Unicompartmental knee arthroplasty can also be termed:

a) Unicondylar Knee Replacement
b) Partial Knee Replacement
c) Hemiarthroplasty
d) Unicondylar Resurfacing Arthroplasty

The first unicompartmental knee arthroplasties date back to the early 1970's and showed mixed success. But over the last 25 years implant design, instrumentation and surgical technique have improved making unicompartmental knee replacement a successful treatment for unicompartmental osteoarthritis of the knee.

Osteoarthritis of the Knee. **(*Osteo = bone. Arthritis = Pain and swelling*)** is the most common joint disorder encountered world wide. Ten percent of people over the age of 60 have osteoarthritis of the knee.

What is Osteoarthritis ? (OA)

Knee cartilage can be compared to the rubber tread on a car wheel, very durable but susceptible to wear over time. Osteoarthritis is a degenerative process which results in the wearing out of the articular cartilage (joint surface). Over time the joint surface slowly breaks down until the underlying bone is exposed. This exposed bone can be very painful when the joint moves and bears weight. Driving on bare rims makes the ride very uncomfortable !

The normal knee is a complex joint consisting of bone surfaces and soft tissue ligament structures that are designed to move and endure the forces of everyday activity. The forces of the knee are centralised in three areas or compartments. Two of the compartments are located at the junction of the tibia and femur (medial and lateral compartments) and the third compartment lies under the knee cap (patellofemoral compartment). Each compartment absorbs the stress of activity through cartilage, a rubbery tissue that protects the bone

Who Gets Osteoarthritis ?

The incidence of osteoarthritis increases with age. It is more common in females, people who have damaged their knees playing sports or in people whose work practices have involved prolonged bending, squatting, lifting, twisting, climbing and walking/standing on hard surfaces over a long period of time.

Treatment of Osteoarthritis of the Knee.

Since osteoarthritis is a progressive disease, in the short term it can be managed non operatively with treatment such as anti-inflammatory drugs, analgesia, cortisone injections, orthotics and exercises including weight and fitness programmes that can delay the need for surgery.

Knee arthroscopy is often performed to debride (clean) the knee of loose cartilage associated with knee osteoarthritis however it is unpredictable in outcome and may in fact increase pain.

Eventually, after conservative measures no longer give significant relief from knee pain and disability, surgical replacement of the knee may be necessary to continue an active lifestyle.

Who can benefit from a unicompartmental arthroplasty ?

The knee is made up of three compartments. Osteoarthritis of the knee often develops in one weight-bearing compartment of the knee while the other two compartments remain relatively healthy.

The criteria for patients considering knee unicompartmental arthroplasty is:

1) When the osteoarthritis of the knee (bone on bone) involves predominantly one compartment. This is best detected by special x-ray views not widely available. (Rosenberg views).

2) When pain and restricted mobility interferes with lifestyle choices. It has been clearly shown there is a deterioration in general health when walking is significantly compromised.

3) When there has been unsatisfactory response to non surgical treatment.

Advantages of Unicompartmental Knee Arthroplasty Compared to a Total Knee Replacement.

- Less invasive procedure.
- Smaller incision.
- Shorter hospital stay. (usually 2 nights)
- No need for blood transfusion
- Less post-operative discomfort
- Shorter recovery time. (Most people walking day after surgery)
- Less need for physiotherapy.
- Less bone removed. The hard exposed bone is smoothed with a dental burr to allow the implant to be secured.

There is also no disadvantage should a total knee replacement become necessary in the future.

Choice of Implant Type for UKA.

There are two broad types of implants used for this surgery. One is a fixed bearing implant eg. GRU or Repicci and the other is a mobile bearing implant eg. Oxford.

The mobile prosthesis has shown to be vulnerable to dislocating especially in the lateral compartment and in patients with deficient anterior cruciate ligaments and for this reason it is no longer used by Dr Rowden.

The current implant of choice is the GRU prosthesis (Global Resurfacing Unicompartmental Arthroplasty). This is a fixed bearing device and like the Repicci prosthesis it is a modification of the original Marmor implant developed in the early 1970's.

Dr Neville Rowden was asked to help design the GRU prosthesis to allow improvement of surgical instrumentation and better range of femoral and tibial sizes. This allows the surgeon to insert the prosthesis more accurately and thus improve the lifespan of the bearing surface. This has been confirmed in our experience with this implant.

In accordance with Clause 36 of the Medical Practice Act 1992 Dr Neville Rowden discloses that he has a pecuniary interest in giving the referral or recommendation to the use of the Global Resurfacing Unicompartmental Knee Device.

Oxford Knee Score.

The Oxford knee score is a questionnaire used to measure the degree of pain and disability in osteoarthritis of the knee.

You will be asked 12 short questions before surgery and the questionnaire will be repeated six months after surgery, one year after surgery, three years after surgery and every two years thereafter.

Score ranges between 0 – 48 with zero being the worst possible knee and 48 a knee with full, pain free function. The average score for people before undergoing unicompartmental arthroplasty is 21. The average score after surgery is 39 giving an 18 point improvement.

Please note however this score may be unreliable in patients with co-existent hip, spinal or alternate knee pathology.

Deciding to Undergo Knee Replacement Surgery.

Before consenting to surgery you should be satisfied you understand the reason/s and nature of this procedure and that it is the appropriate treatment in your case. You should take your time to make the decision to proceed with surgery and, if you would feel more confident, seek a second opinion.

As this is elective surgery, it is very important for patients undergoing this operation to understand the reasons for the procedure and to have a major role in making the informed choice to proceed with surgery rather than non-surgical methods of management.

In most cases the decision to proceed with surgery is made because the advantages of surgery outweigh the potential disadvantages.

It is important you have **a realistic expectation of your surgical outcome** and you should discuss this fully with your surgeon. No surgery will restore your knee to youthful, pre- disease or pre- trauma status. However successful knee replacement will give you a pain free knee with reasonable mobility allowing you to undertake day to day activities without discomfort and to engage in social and /or sporting activities that do not place frequent and high demand on the weight bearing surfaces of the knee..

We encourage our patients to be informed and invite your input so as to promote co-operation and a team approach in working together to restore your knee function to the best possible state.

Preparing For Your Operation

Once you have made the decision to proceed with a unicompartmental knee replacement, it is important to understand that a major factor in achieving a better recovery from this surgery is to regain your quadriceps (thigh) strength as soon as possible following surgery.

It is beneficial to you if you practice thigh strengthening exercises **PRIOR** to your operation. The quadriceps muscles are found on the front of your thigh and are sometimes called **thigh** muscles. For instructions please see diagrams on the last page of this brochure.

Where reduced fitness and muscle weakness complicates surgical outcome, your surgeon may advise referral to a sports physician or physiotherapist, for a pre operative and/or post operative fitness programme.

Past history of skin infection/s:

If you have had any **history of infection** in you limbs, eg cellulitis or dermatitis, you must tell Dr Rowden before booking surgery, as this may increase your risk of developing post operative infection/s.

Your Hospital Admission - The Booking Process.

Dr Rowden: Surgery performed at St George Private Hospital.
1 South St. Kogarah. NSW 2217. Tel: (02) 9598 5555. Fax: (02) 9598 5000

Hospital stay for this procedure is usually 1-2 nights.

Our secretary will complete the necessary admission papers at the time the operation is booked and send it to the hospital on your behalf..

Pre Operative Preparation.

You will be provided with a folder that will include referrals for the following standard pre operative tests.

- Referrals for blood tests (FBC, ESR/UEC),
- Urine test (MSU)
- ECG.
- A nasal swab to ensure you are not carrying an infection.

- **For patients who have no known history of cardiac problems or major health issues**, a letter will be given to take to your local medical practitioner in the week before your surgery, requesting he/she perform a general pre operative medical check up to assess your fitness to undergo surgery.

- **For patients with a history of cardiac problems (or other major health issues)**, and whose condition has/is being treated by a cardiologist or relevant specialist, you will be given a referral requesting he/she perform a pre operative medical check up to asses your fitness to undergo surgery.

- **For patients who have a history of cardiac problems or other major health issues, but do not have a treating specialist,** an appointment will be made with a cardiologist, to assess your fitness for surgery.

Pre Admission Clinic:

Once St George Private Hospital has received your admission papers, a nursing sister will contact you by phone and arrange an appointment for you to attend the Pre Admission Clinic. This is an education session that will take about 2 hours and you will be given instructions about your procedure and the type of post operative care you will require when discharged from hospital. The session is held at the hospital and a nurse will meet you in the main foyer on the Ground Floor. You may take a support person with you when you attend.

You have the option of having your pre operative tests done at the Pre Admission Clinic or you can choose to attend a pathologist of your choice. .

Getting ready to go to hospital - pre operative preparation..

It is essential that you are particularly careful with your personal hygiene before admission to hospital. Many infections are endogenous (ie within the body).

It is recommended you shower, (including washing your hair) for **three days before surgery, including the day of admission,** using **TRICLOSAN.** This is an antibacterial soap that can be purchased from your Pharmacy without a prescription.

You should shower using a clean Chux or face washer, enuring you wash your entire body and being careful not to miss awkward areas and crevices such as arm pits and groin.

Finger nails should be clean and devoid of nail polish or acrylic substances if possible.

You should **NOT** shave your knee.

Patients are advised not to take jewelry or valuables to the hospital.

Skin problems:

If you develop any **rash**, **abrasions**, **cuts**, **pimples** or **sores** on the leg you are having surgery upon, please notify our office immediately. This sometimes means the operation will have to be deferred until the area has healed.

X-rays and scans. Please ensure you take all relevant x-rays/scans to the hospital.
Smoking: You are advised to stop smoking for as long as possible before surgery.

Crutches: Please ensure you take a pair of crutches to hospital on admission. You will usually need them for the first 1 – 2 weeks following surgery and can discard them once you can fully weight bear.

Medications:

Please take a list of your current medications and known allergies to the hospital on admission for the anaesthetist's records.

Hypertensive (blood pressure) and cardiac (heart) medications should be taken at the usual time with a small sip of water unless you have been advised otherwise by the anaesthetist or cardiac physician.

Aspirin and/or other anticoagulant and anti-inflammatory medications should have been ceased 10 - 14 days before surgery as advised, unless in special medical circumstances. Sometimes these medications can be called by generic names, eg. Cartia, Astrix , Iscover, Plavix etc, so it is important you are informed by your GP, the type of medication you are taking and for what purpose you are taking it.

You are also asked to cease taking fish oil and Glucosamine 7 days before surgery.

Take all your regular medications with you to the hospital. Most other regular medications can be deferred and taken after the surgery, unless advised otherwise by anaesthetist or cardiac physician.

Admission Time:

You will be admitted to the hospital the **day of your surgery.** You are asked to ring Hurstville Knee Clinic on (**02) 8568 6700** between 9.30am – 11.30am, the working day before your operation and you will be advised what time you are required to arrive at the hospital. You will also be given fasting instructions. (ie. You will be told when you must stop eating and drinking before your surgery).

St George Private Hospital Quality Assurance Programme.

St George Private Hospital is participating in a routine patient derived surgical outcomes programme.

On admission to the hospital, Dr Rowden's patients will be asked to complete a questionnaire regarding their general health and an Oxford knee score. You will also receive a similar questionnaire six months post surgery.

This is in addition to the Oxford knee score/s requested by Dr Rowden at the Hurstville Knee Clinic.

All information that is given to the hospital is entered into the data base in de –identified form ie: no names or information that can identify you as an individual is processed.

Your participation in providing this information will be very much appreciated and will in the long term, contribute to improved surgical outcomes for all patients.

The Anaesthetic and Surgery.

Your anaesthetist (ie the doctor that gives you the anaesthetic that puts you to sleep during the operation) will usually visit you in hospital before the procedure and you will have the opportunity to discuss the effects, possible complications, and any concerns you may have before proceeding with the procedure.

You should provide the anaesthetist with your list of medications, advise him of any known allergies and discuss any previous anaesthetic problems.

The operation is usually performed under a spinal anaesthetic. This is not to be confused with an epidural anaesthetic which is often used when a woman is having a baby.

You will be fully sedated throughout the procedure. You will be in the Operating Theatre for approximately 1 – 1 ½ hours and in the Recovery Room for a further 2 hours.

When you wake up you will be in the Recovery Room and you may experience some soreness for which you will be kept comfortable with pain control medication. You will have an intravenous drip in your arm.

NB: If you are concerned about the potential for complications or the advantages and disadvantages of a decision to proceed with surgery, from an anaesthetic view point, you may prefer to discuss your situation with the anaesthetist before admission to hospital.

Dr Rowden's regular anaesthetists are Dr Russell Hancock and Dr John Hamilton.
Both anaesthetists are part of the St George Anaesthetic Group. (Contact details are on Page 14)

PLEASE NOTE: Although Dr Rowden has regular scheduled anaesthetist/s, occasionally situations may arise that results in another anaesthetist being used without notice.

Standard Post Operative Nursing Care Following Knee Replacement.

In order to assist your recovery, your surgeon requires the following protocol to be implemented, after you have returned to the ward.

- You should be given regular pain medication. If this fails to control your pain to a tolerable level, please advise the nursing staff.

- Regular icing helps reduce swelling. The day after your surgery, your personal cold pack should be provided and applied every 2-3 hours and left on for 20 minutes.

- The foot of your bed should be elevated during your hospital stay.

- You should be careful that no one touches your wound unless they have washed their hands thoroughly, including yourself.

- It is important you begin the exercises shown on the last page of this brochure, as soon as the anaesthetic has worn off.

- You should be assisted in some mobilization/walking the morning following surgery, either by a physiotherapist or if unavailable that morning, by nursing staff.

- A physiotherapist should visit you some time each day following surgery and you should be instructed in appropriate exercises to help your recovery.

  By the time you leave hospital, you should be confident using your crutches or walking frame.

- The bandage on your leg should be removed the day after your surgery and you will be left with the dressing over the incision during your hospitalisation.

- This dressing **must be kept clean & dry at all times** and if by accident it becomes damp, it must be changed immediately.

- You will be given an anti-coagulant injection daily whilst you are in hospital.

- You should wear TED (compression stockings) for up to 4 weeks following your surgery, unless your surgeon tells you otherwise. If you think the stockings are too tight and uncomfortable due to swelling, please inform nursing staff. Failure to comply with this instruction will place you at increased risk of developing a DVT (blood clot).

Note: It is important to realise post operative progress varies from patient to patient. Therefore some variation to this standard protocol may be authorised by your surgeon according to individual requirements.

Before Going Home From Hospital.

- Prior to discharge from hospital, the bandage around the knee will be removed and a dry dressing applied. **This must be kept dry.** If the dressing becomes wet or soiled you must replace it with a clean dressing or band-aids.

  In most cases, dissolvable sutures are used for this surgery and therefore do not have to be removed.

- Please make sure you have procured the medication for pain control that has been prescribed for you when you leave hospital. Ensure you understand what to take and when to take it. Please make sure you have appropriate prescriptions and an adequate supply. `

- As a precaution to minimize the risks of developing deep venous thrombosis (blood clots) it is recommended you take one tablet of low dose Aspirin once a day for four weeks following surgery. **Cartia** (i.e. Aspirin with a coating to protect the lining of your stomach) can be purchased without a prescription from your chemist. However this medication is not suitable for patients with a history of gastrointestinal problems and should be ceased immediately if you develop any gastrointestinal discomfort.

Rehabilitation Options:

As a general rule, Dr Rowden encourages patients to return to their homes and transference to a Rehabilitation Hospital is only indicated for people with special needs. Infection rates are lower for people who return to their homes.

At Home Following Surgery: (Surgery telephone no: (02) 8568 6700).

- An appointment to see Dr Rowden about 14 days after surgery, has usually been made for you when your operation was booked. This is usually noted on the inside of your Knee Folder. However if you do not have an appointment, please make one when you return home.

- You can discard your crutches when you can fully weight bear – usually about 3-5 days post surgery.

- You will be unfit to drive a motor vehicle for approximately 4 weeks following partial knee replacement. Research has shown there is a delayed response time in breaking for 1-4 weeks following knee surgery. You must only drive when you have regained full knee function.

- It is recommended you do not travel long distances by car or plane for four weeks following surgery owing to increased risk of developing DVT's (Blood clots). If circumstances demand you must travel, speak with Dr Rowden about precautions that can be taken to minimise this risk.

- For people that have had a Global Orthopaedic implant, the company can provide a Patient ID Implant card, which alerts Airport Security of your metallic implants. This ID card is also helpful to show dentists and other doctors who in the future, may need to know information regarding your knee implant. If you would like one, please advise our staff and you will be given a form to complete which you can send to Global for your ID card.

  Dental work: Following surgery you will **always** need to advise your dentist when having invasive dental work that you have undergone joint replacement surgery. As a general rule your dentist will need to administer 2 grams Ampicillin one hour before undertaking any invasive dental work.

  NB: For people who are allergic to Penicillin, it is recommended that you take 600mg Clindamycin orally, one hour before proceeding with dental work.

  Future infections: An artificial knee implant can become infected **in the future** if there is infection elsewhere in the body. For this reason you are advised to see you general practitioner promptly for anti-biotic cover if you develop any infection in your body eg urinary tract infection.

  Return to Work: You may return to normal duties as your knee function improves well enough for you to do your particular job.

  As a general guide you will be unfit for sedentary duties for 2-3 weeks following surgery and unfit to resume manual duties for one month following surgery.

  If your occupation requires particularly strong knee function such as kneeling, bending, lifting, squatting or climbing stairs you may require more time on modified duties.

CAUTIONS.

- If you experience swelling and excessive pain and/or calf pain which does not respond to ice, elevation and rest you should contact our office during business hours.

- If you require assistance outside of office hours, please contact St George Private Hospital on (02) 9598 5555 and speak with the Sister in Charge of the Orthopaedic Ward, or go to your GP or nearest public hospital.

How To Improve Your Recovery Process:

Rapid recovery from this operation revolves around:

- **R**educing swelling.
- Strengthening muscles.
- Reducing pain.

Failure to address these goals will slow down your recovery considerably.

Remember if pain, swelling and thigh weakness persists for more than a few weeks your recovery will be considerably prolonged.

Reduce Pain.

It is normal for the knee to be sore and swollen for a few weeks following surgery. You should ensure your pain medication is taken as prescribed as a means to **PREVENT** significant pain rather than waiting until pain is severe and impacting on your ability to do appropriate exercises.

Activities should be increased gradually. You should avoid prolonged walking or standing. You should avoid trying to bend your leg beyond 90 degrees as this will cause pain and swelling. Most uncontrolled pain is due to excessive swelling.

Excessive pain can be due to spending too much time on your feet before the thigh muscles have been adequately strengthened or inadequate or non compliance to pain medication.

Reduce Swelling.

Initially elevation, regular quadriceps contractions, cold packs for 20 minutes every two hours and anti-inflammatory medication (optional) should diminish swelling rapidly.

If swelling or fluid in your knee persists it is likely you are spending too much time on your feet. However if swelling does not gradually decrease after the first few days despite these measures, contact our office.

Thigh Strengthening Exercises.

The thigh strengthening exercises you practiced before your surgery should also be continued until your muscle strength has returned to normal. (see back page)

When you have seen Dr Rowden at your post operative appointment, he will be able to advise you whether you require ongoing supervised physiotherapy or if you are suitable to continue with a self supervised, home based exercise programme.

Long Term Outcome Studies.

A data base of over 3000 patients who have undergone joint replacement surgery over the last nine years is being complied by the Hurstville Knee Clinic.

Following surgery it is essential you have regular reviews to assess your progress and check implant wear. This will necessitate you returning for review with updated x-rays one year after your operation, and then two yearly thereafter. **This is standard practice regardless of the data base requirements.**

However, once you have had your operation, your assistance in compiling the data base would be greatly appreciated and it is an ideal time to collect relevant information when you return for your assessment visits. If you are willing to participate, you will be asked to complete the Oxford Knee Score and your updated x-rays will be photographed when you return for your post operative assessments.

You will also receive an Oxford Knee Score in the mail six months after your surgery which you are asked to complete and return by mail. If data is used for statistical purposes it will be in de-identified forms, ie no names or personal information can be recognised.

Your Hurstville Knee Clinic Folder.

You will have been given a folder when your operation is booked containing information on the hospital, pre operative tests and instructions and a copy of this brochure. A questionnaire will be included which you are to complete once you have read and understood this brochure. Please return to our office in the envelope provided. Please feel comfortable in contacting our office if you require further information regarding your operation.

It is suggested that you take your folder with you to hospital, to the Pre – Admission Clinic and any other consultation that you are undergoing in preparation for your surgery. Please keep all relevant information regarding your knee surgery, in the folder. A copy of your operation report can be obtained from our office and kept in the folder. This can then be kept as a record of you knee surgery for future reference.

Expected Operation Fees for Total Knee Replacement.

When you surgery is booked you will be given an estimation of expected fees for the surgery and a questionnaire ensuring you understand the nature of the procedure, limitations and possible complications. Copies are placed in your folder, and one copy is to be signed and returned to our office in an envelope provided, before surgery.

There are 3 main costs for people undergoing surgery in a private hospital.

1) **Hospital.** You are asked to ring St George Hospital, quoting your health fund details and item number of surgery. The hospital can then advise whether you will have any out of pocket expenses.

2) **Anaesthetist**. You may ring the St George Anaesthetics on (02) 9588 1616 quoting the item number and date of surgery and you will be advised of the fee and method of payment.

3) **Surgeon and his assistant**. You will be advised of the surgeon and his assistant's fees when you book the surgery. Usually there is a discount opportunity available **provided** a deposit is paid before surgery and the Medicare and health fund cheques are received within 6 weeks of surgery.

Other costs that may be incurred are radiology, pharmaceuticals, physiotherapy, orthotics, pathology etc.

Unicompartmental Knee Replacement Surgery Item No.

The usual item number for unicompartmental knee replacement procedures is: **49517**

Possible Complications of Knee Surgery.

Most serious risks associated with knee surgery are rare and major complications following knee replacement surgery are uncommon. The surgical technique has been refined to reduce the incidents of problems and complications that were more common in the past. Surgeons who do a lot of these procedures would be expected to have a low complication rate.

However all surgery carries potential risks and the possibility of complications. Despite the advances in surgical technique and the experience of the surgeon, problems and complications can still occur and **it is our duty to inform you and your right to be made aware** of the possibility of complications. We have therefore outlined some specific complications of knee replacement surgery, some complications of general surgery and anaesthesia. This list of complications is not exhaustive. Rare and unusual problems can occur, although most of these are treatable and do not affect the end result.

Some Specific Complications Following Knee Surgery

Infection: The infection rate is very low. Antibiotics are given at the time of surgery to reduce the risk of infection. The operation is performed in a sterile environment. However despite these precautions infection can still occur. Consequences of infection include joint stiffness, joint surface destruction and implant failure. Treatment involves antibiotics and often further surgery. Chronic bone or distant organ infection is extremely unlikely but remains a possibility.

Joint Stiffness: Scar tissue can form in the knee after surgery. This can limit joint movement. Modern implant techniques combined with adequate rehabilitation keep this likelihood to a minimum. Treatment depends on the degree of joint stiffness. Sometimes a slight loss in the ability to straighten the knee can be tolerated by the patient. Treatment for lack of motion can involve physiotherapy which may be extensive and occasionally further surgical procedures to remove the scar tissue. These procedures are not always successful in restoring full motion to the knee.

Bleeding: Bleeding into the knee can occur following surgery despite the routine use of drains. A small amount of bleeding inside the joint after the surgery can be considered normal and needs no treatment. It will resolve in time.

Larger amounts of bleeding can occur in patients who have blood clotting abnormalities or who have been taking Aspirin or anti-inflammatory medications prior to surgery. Patients are therefore advised to avoid Aspirin or anti-inflammatory medication two weeks prior to surgery. You must ensure your surgeon is aware of all medications you are taking or have recently taken, including non prescribed medications, prior to surgery.

Excessive bleeding into the knee can require aspiration of the blood with a needle under local anaesthesia and occasionally an arthroscopy.

Damage to Associated Structures: Knee replacement carries a very small risk of damage to blood vessels and nerves of the leg. Damage to these structures could cause further disability and require further surgery. Nerve damage can cause numbness and weakness in the leg below the knee which may not fully recover.

Deep Venous Thrombosis: This term refers to the formation of blood clots within the blood vessels. If they form in the veins they are known as deep venous thrombosis (DVT) which can cause swelling and pain in the legs and restriction of blood flow. These clots can travel to the lungs and cause a pulmonary embolus. This complication is more likely to happen in overweight people, women taking oral contraception and smokers. For this reason patients are advised to stop smoking.
Long aeroplane flights also increase the chance of blood clots forming and therefore patients should not fly and have surgery in the same 4 – 6 week period.

Regional Pain Syndrome (Reflex Sympathetic Dystrophy): This rare condition is not well understood by the medical profession. It involves over activity of nerves in a limb. It can occur after surgery or after injuries. It can occasionally occur spontaneously. It causes pain sweating and swelling of the limb. If treated early the end result is much better than if treatment is delayed. It can cause prolonged disability.

Implant Failure: It is possible to have wearing, loosening or dislocation of the implant (up to 5% by ten years).

1) Wearing and loosening of the implant most likely occurs in patients who:
   - Engage in excessive heavy lifting and high impact activities
   - Prolonged walking (5-10 kilometres per day)

Numbness: Numbness in part of the leg below the knee can occur due to interruption of skin nerves. This is often unavoidable and can be permanent. The numbness often reduces in time. The function of the knee joint is not affected.

Some people can find this sensation irritating but it does not cause any functional disability related to the stability of the knee.

Compartment Syndrome: Excessive swelling in the leg below the knee after surgery may cause pressure on the muscle tissue to build up and cut off effective circulation to the muscles. This is an extremely rare problem but if it occurs it is serious and requires surgical release of the tight fascia surrounding the muscles in the leg. Permanent damage to the muscle and nerves can result if this condition is left untreated.

Summary: Complications following partial knee replacement in experienced hands are not common. This list of complications is not exhaustive. Rare and unusual problems can result. Most of these are treatable and do not lead to failure of the operation.

The success rate of this procedure in restoring stability to the knee is very good although there can be some deterioration over time. Most patients are happy with the outcome of this operation.

Complications of General Surgery .

General anaesthesia in Australia is extremely safe and has one of the best records for anaesthetic safety. The general risks of surgical procedures include the following:

Respiratory tract infections: This includes the development of pneumonia which can follow anaesthesia for surgical procedures. It is more common in the aged and very uncommon in the young and healthy. Treatment involves antibiotics, physiotherapy and respiratory support. Treatment is not always effective.

Thromboembolic problems: This term refers to the formation of blood clots within the blood vessels. If they form in the veins they are known as deep venous thrombosis (DVT) which can cause swelling and pain in the legs and restriction of blood flow. These clots can travel to the lungs and cause a pulmonary embolus. This complication is more likely to happen in overweight people, women taking oral contraception and smokers. For this reason patients are advised to stop smoking. Long aeroplane flights also increase the chance of blood clots forming and therefore patients should not fly and have surgery in the same two week period.

In emergencies, special precautions are taken. Treatment of this condition usually involves anti-coagulant (medication to prevent the blood from clotting) administered either by intravenous drip and follow up medication or by oral anti-coagulant therapy. Therapy for this condition is not always successful. If clots form in the arterial system then a stroke may occur.

Infection: This can occur following surgery, Operating theatres are designed to minimise the risk of bacterial infections. Surgical procedures are carried out in a sterile manner. In higher risk operations antibiotics are given to decrease the likelihood of infection.

In low risk operations such as arthroscopy, antibiotics are not given because the complication rate from the antibiotic treatment is greater than the potential complication rate from infection.

Despite expert treatment and antibiotic cover infections still occur. These can cause prolonged disability and require treatment with antibiotics and occasionally surgery. Infections can affect the operative site, the lungs and urinary system.

Complications of Anaesthesia:

Anaesthesia itself entails a degree of risk, some of which has been outlined. Rare and unusual problems can occur as a result of surgery and anaesthesia. Your anaesthetist will visit you in hospital before the procedure and you will have the opportunity to discuss the effects, possible complications, and any concerns you may have concerning your anaesthetic before proceeding with the procedure.

If you are concerned about the potential for complications or the advantages and disadvantages of a decision to proceed with surgery, from an anaesthetic view point, you may prefer to discuss that with the anaesthetist before admission to hospital.

Dr Rowden's regular anaesthetists are Dr Russell Hancock and Dr John Hamilton. Both doctors are part of the St George Anaesthetic Group and their office can be contacted on (02) 9588 1616. Occasionally another anaesthetist may be used. If there is any doubt in your mind concerning the anaesthetic, we would strongly recommend that you seek an independent second opinion.

Exercise Programme

It is recommended you commence thigh strengthening exercises:

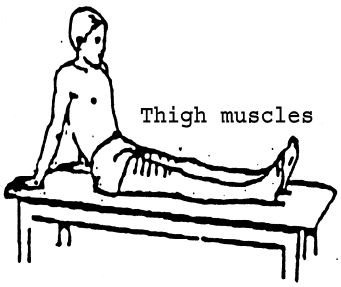
a) Before your surgery

b) In the Recovery Room immediately following surgery.

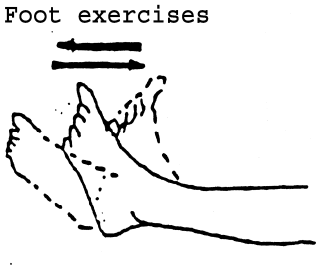
c) For the week following surgery until your post operative visit.

d) Following your post operative assessment – as directed by your surgeon.

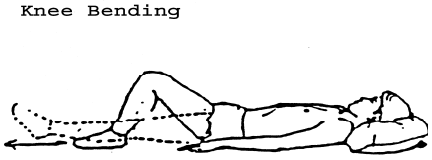
Exercises



1) With your leg completely straight, contract your thigh muscles strongly and hold for three seconds. Rest for three seconds in between contractions. Repeat the muscle contractions ten times per session. This set of exercises should be undertaken at least ten times per day.



2) From a lying position, move your foot backwards and forwards as far as it will go. Repeat this exercise five times in a session. Do this set of exercises at least ten times per day.



3) Knee bending and straightening. From a lying position bend your leg to 45 degrees. Repeat this exercise five times in a session. Do this set of exercises at least 10 times per day.

All these exercises should be done gently. Exercise up to the point of mild discomfort is beneficial and it is very unlikely you will harm the knee with this routine post operative exercise programme.