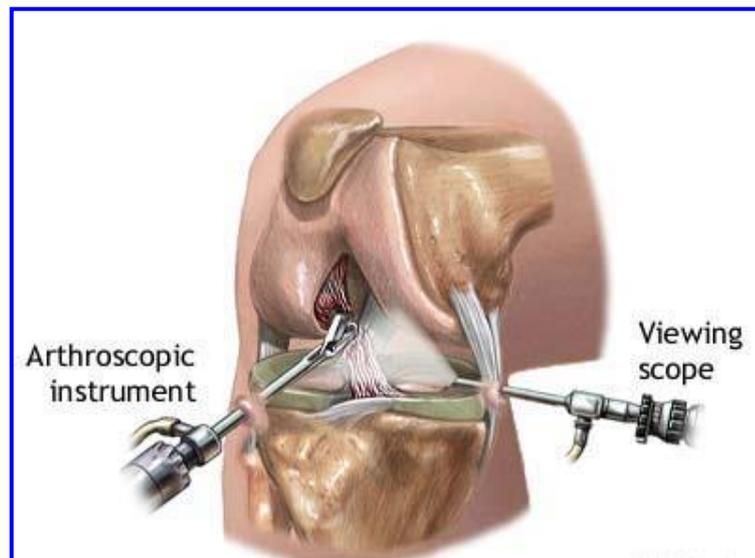




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Knee Arthroscopy



This booklet provides information for you and your family regarding Arthroscopic Knee Surgery performed by Dr Bruce White at the Mayo Private Hospital or the Forster Private Hospital. Please read it carefully and write down any questions you may have at the end of the booklet, so that we can answer these prior to your surgery.



The Knee

The **femur** (thigh bone) and the **tibia** (shin bone), meet at the knee to form a hinge joint. The joint is protected in front by the **patella** (kneecap).

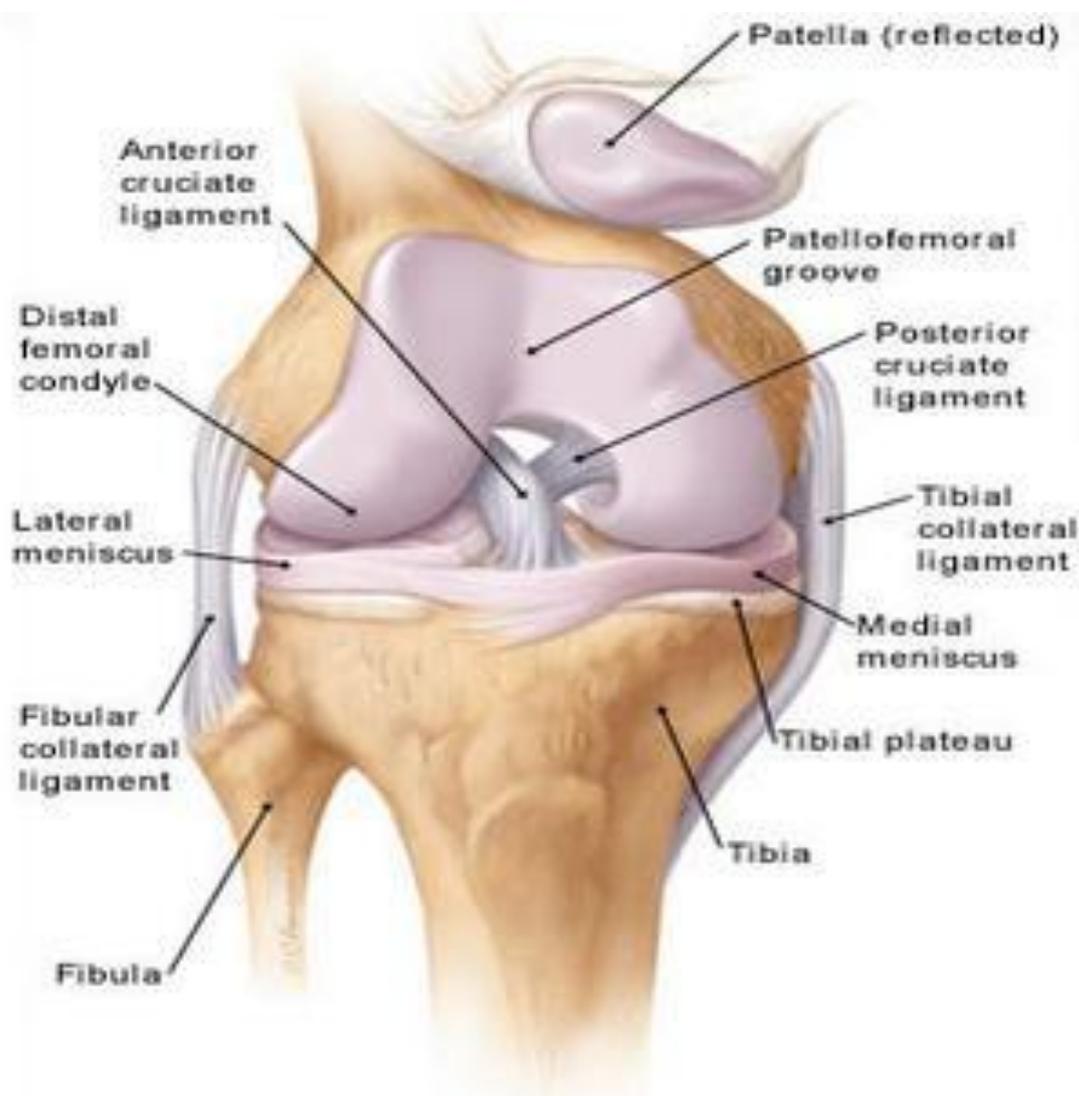
The surface of the knee joint has a very smooth lining 5mm thick, the **articular cartilage**. This covers the end of the tibia and femur as well as the under surface of the patella. It is this smooth surface that gives us our ability to move and put weight on our knee. It is these surfaces that are affected by wear and tear, disease, or injury and damage to these surfaces which leads to arthritis.

The **lateral meniscus** and **medial meniscus** (lateral = outside, medial = inside) are pads of cartilage that further cushion the joint and act as shock absorbers between the bones. It is these structures that are affected when someone “tears a cartilage”. The **Collateral ligaments** (lateral and medial) run along the sides of the knee and limit sideways movement. The **Posterior Cruciate Ligament**, or **PCL** (located at the back of the knee) limits backward motion of the tibia.

The **Anterior Cruciate Ligament**, or **ACL**, connects the tibia to the femur at the centre of the knee. It has two functions; the first is to limit forward motion of the tibia but its more critical function is to prevent rotation of the femur on the tibia. Rupture of the ACL causes significant instability which usually requires surgery known as an **ACL or Knee Reconstruction** (please see separate handout).

The knee **extends** (straightens) by using the **Quadriceps** (front thigh muscle). It **flexes** (bends) by using the **Hamstrings** (back thigh muscles) and **calf muscles** (back leg muscles).

These parts of your knee work together to keep the knee stable and moving freely. When one or more are injured the knee can become painful and fail to perform normally.



Common Knee Problems

Meniscal Injuries (Cartilage tear)

This occurs when the forces of the femur on the tibia tear the meniscal cartilage. This often occurs from a twisting injury to the knee. As we get older it is surprising how little force is required to tear the cartilage.

This type of injury can cause pain, swelling, catching or locking of the knee. You may find the knee doesn't fully straighten without pain and clunks on movement.

Treatment: is based on removing the torn section of the cartilage and leaving as much of the meniscal cartilage as possible. In certain younger patients it is possible to repair the meniscus depending on the type of tear. I never perform a chondroplasty (scraping the joint) as it usually makes the knee more painful.



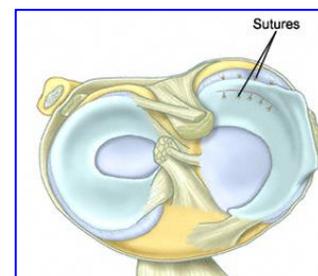
Ligament Injuries

These usually occur as a result of the knee being bent or twisting in an abnormal way. The ligaments can be either sprained partially or completely torn. The symptoms of a ligament injury include pain and swelling and depending on the severity of the injury, you may feel that your knee is unstable; it may not take your weight and will 'give way'.

These are serious injuries to your knee and need to be treated carefully. The most significant of these injuries is rupture of the Anterior Cruciate Ligament (ACL).

Treatment: Initial treatment immediately after the injury is to use the **RICE** method (rest, ice, compression, elevation). It is important to do some gentle exercise (see end of booklet) to reduce the degree of wasting you develop.

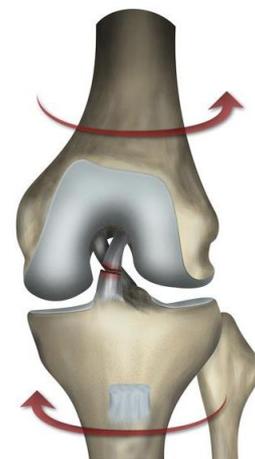
The next step involves accurately diagnosing what structures are involved in the injury. This involves a full clinical assessment, x-rays and when required an MRI scan. I run an **acute knee injury clinic** on Mondays and Thursdays to provide assessment and treatment as soon as possible after the injury. Once the investigations are available I will discuss with you the appropriate treatment for your injury which may be physiotherapy, bracing or surgery (see separate handout).



Patellar Problems

The patella forms its own joint with a groove at the front of the femur (thighbone). This joint can also wear and on occasions the patella can slip out of the groove, causing a patellar dislocation.

Treatment: Once the patella is back in place the knee will be braced and a specific exercise program followed. If the patella keeps dislocating then surgery (medial patellofemoral ligament reconstruction) will be required to prevent further dislocation.



Osteo-Arthritis

This is the "wear and tear" arthritis that we tend to inherit from our parents. As we grow older the lining surfaces of our knees become thinner. If this continues it eventually leads to bone from one rough surface rubbing on bone on the other rough surface. This causes pain, swelling and stiffness of the joint. This wearing out can catch the cartilage resulting in cartilage (meniscal) tears. Bone spurs can break off, leading to loose fragments of bone within the knee known as 'loose bodies'.

Treatment: This is initially based on avoiding painful activities, using anti-inflammatory medication, weight control, knee bracing and gentle strengthening exercises. Knee arthroscopy may be indicated to remove a section of torn meniscus or loose fragment of bone shown on the MRI studies. This is **not** however a cure for arthritis and is only used to reduce the mechanical type symptoms that are present in the knee.

There is a good prospect that some of the new techniques we are using such as **Platelet Rich Plasma (PRP)** and stem cell injections will continue to reduce the symptoms of Arthritis.

If these measures fail to give relief then you may need to consider joint replacement surgery (see separate handout).



Summary

I will provide an initial assessment and arrange timely investigations to give you a clear diagnosis of your particular problem. We can then discuss the best option for you which could include medication, physiotherapy, bracing or surgery.

What is a Knee Arthroscopy?

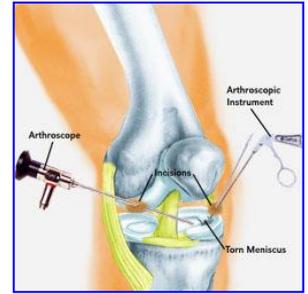
Knee arthroscopy is “keyhole surgery” using 2 or 3 incisions 1cm long. The **Arthroscope** is inserted into the knee joint using one of the **Portals** (incisions) and the image is passed to a small camera then projected onto a television screen. The other portal is used to insert different tools to make a full assessment of your knee and to operate on the damaged parts of your knee. To be able to see the inside of your knee accurately we inflate the knee with a saline solution that is slowly resorbed by the body. This is why your knee may still feel swollen after the arthroscopy.

The first part of knee arthroscopy is to drain any fluid or blood already present in the knee. If any fluid is present it is sent to pathology for assessment.

The second part is to fully assess all areas of the knee, both visually and with a small probe to give an accurate diagnosis of the problem.

Thirdly the damaged areas are then operated on to remove torn pieces of cartilage, remove loose fragments of bone and shave away spurs that may be present in your knee.

The knee is then thoroughly washed out and drained of fluid. Some of the fluid will remain in your knee after the surgery (that’s why it might be a bit swollen) with the body resorbing this fluid over the following weeks.



What is required before admission to hospital?

After discussing the surgery with Dr. White he will give you a booking form and ask you to see one of his secretaries who will ensure that we have your correct details and arrange a suitable time for your surgery. It is not usually necessary to have any tests performed prior to the surgery. Dr. White will arrange these if any particular tests are required.

You will need to book in for your surgery with the hospital concerned. Please take your signed booking form to the hospital prior to your surgery day.

Dr White uses a ThermoActive Knee Support Brace after surgery. This has a bladder which can be frozen and placed inside the brace. The brace can then be inflated to provide an even pressure around the knee to reduce the pain and swelling. **Never put the icesleeve directly on your skin.**

The cost of this brace is \$100.00 and needs to be purchased from Dr White’s secretary prior to your surgery. Unfortunately you are not able to claim the cost of this from Medicare but your private health fund may give you a refund (not all funds cover this).

You will need to cease taking blood thinning tablets (Aspirin, Cartia, Plavix, Fish oil or Krill) 5 days prior to surgery. Please let Dr. White know if you are taking Warfarin.



What happens on admission to hospital?

- The afternoon before your surgery (2:30 – 4:00pm) please phone the hospital to obtain your fasting time (when you need to stop eating and drinking) and the time to present to the hospital. Mayo: 65393600 or Forster: 65551333
- You will need to bring any x-rays or scans of your knee to hospital with you.
- The surgery is usually done as a day-only procedure with your admission to the day-only unit of the hospital. The nurses will ask you questions about your health; take your blood pressure, pulse and temperature. They will ask you to change into a theatre gown; there is no need for you to remove your underwear.
- You will be asked to mark the knee to be operated on with a felt pen. The nursing staff will clip any hair and paint your knee with antiseptic solution before covering the knee with a surgical towel.
- You will have an armband for identification. The anaesthetist will place a cannula (drip) in a vein in your arm so that he can put you to sleep.



What happens after the surgery?

You will wake up in recovery with a mask on your face giving you Oxygen, leads on your chest to monitor your heart and an IV drip in your arm to give you fluid. The ThermoActive knee brace will be on your knee over a sleeve of Tubigrip. **Never put the brace directly on your skin.**

Once you are more alert you will be taken back to the day-only unit where you will need to stay for another 4 hours. The nursing staff will ensure you have enough pain relief and have had something to eat and drink before removing the intravenous cannula.

When you are comfortable and have had the dressing changed you can be discharged.

You are not allowed to drive yourself home.

Your Dressing

The small incisions are closed with dissolving sutures (no need for removal) and the edges glued together. Waterproof dressings will cover the incisions; these can remain in place for a week. The tubigrip should stay on to reduce the swelling of your knee. You can remove it and shower over the waterproof dressings. After showering dry your leg well and reapply the Tubigrip. It is common for the small incisions to leak slightly for the first 48 hours after surgery but if this is excessive return to the hospital and the nursing staff will change the dressing for you. Remove all the dressings the night prior to your follow-up appointment with me. If the incisions bleed slightly cover with a Band-Aid type dressing.

Pain Relief

Rest, elevation, ice packs (ThermoActive Knee Brace) and some mild pain medication will all help to reduce your discomfort after the surgery:

Resting the leg helps to give the healing process a head start, so allow plenty of this when recovering. Often pain is the first sign of over activity and your body's signal to take it easy. Please arrange at least 2-weeks away from work after surgery.

Ice & Compression with the ThermoActive Knee Brace helps to numb the area and control swelling.

Elevation of the leg will help to reduce swelling which in turn relieves pain and promotes healing. It also helps to prevent pooling of blood in your leg. When elevating your leg, make sure your knee and ankle are above the level of your heart. Lying down with your leg on at least two pillows (lengthways) is the best position.

Medication will be arranged prior to your discharge. If taken as directed on the packet it should minimise any further discomfort you may be feeling, particularly at night. When these tablets are finished; tablets that include Panadol with a small amount of codeine can be purchased from a chemist without a script.



What happens after I go home



Circulation Exercises

These are designed to prevent stiffening of the joints as well as blood clots in the legs. Just point and flex your foot and wiggle your toes as often as you can for a week or so after the surgery.

Walking aids

The majority of people do not require crutches or a stick. If you are unable to walk unaided, crutches will be made available for you.



Exercises after knee arthroscopy

Rebuilding the muscles that support your knee is important to help your knee fully recover. You should begin the following exercises as soon as you leave the hospital. Attempt each exercise several times each day however remember to stop if you feel fatigue or discomfort. Use slow, steady movements and perform the exercises on both legs. This helps to maintain good muscle balance.



1. Ankle Rolls

Whilst sitting or standing supported, roll your ankle in a large circular motion, first clockwise and then anti-clockwise. Repeat this 5-10 times for each ankle.



2. Straight Leg Raise

Lie on your back and gently lift the leg 25cms (about 10 inches).

Hold for 5-10 seconds and slowly lower the leg to the ground. Repeat 10 times.

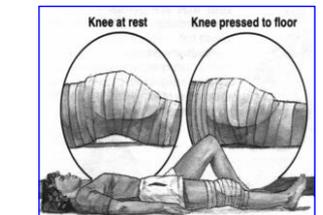


Then, lying on your stomach, lift your leg gently off the floor or bed, hold for 5 seconds and slowly lower. Repeat 10 times.



3. Foot Slide

Lying or sitting on a firm surface, bend your knee as you slowly slide your heel along the surface towards your buttocks. Bring your heel as close to your buttocks as you comfortably can. Hold for 5 seconds and slowly slide the heel away from you until the knee is straight.



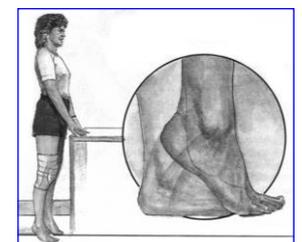
4. Knee Press

Lying or sitting with your legs in front, gently press your knee downwards so that it becomes flat along the floor or bed.

Hold 5-10 seconds, and then relax. Repeat 10 times.

5. Calf Raise

Holding onto something for support, rise onto the balls of your feet, hold for 10 seconds and slowly lower your heels back to the ground. Repeat 10 times.



Physiotherapy

The above exercises are all that are required for the first 10 days. The need for a more extensive physiotherapy program will depend on the type of knee problem you have, how long the problem has been present and the degree of wasting in your leg muscles. If needed a referral for physiotherapy can be arranged at your follow-up appointment.

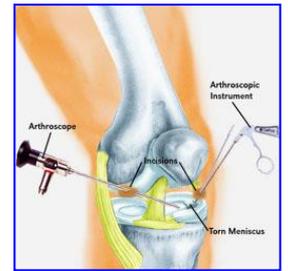


What are the risks of knee arthroscopy?

Knee arthroscopy is a relatively simple procedure and serious complications are uncommon. The following list is some of the more significant complications.

Blood Clots

Clots (deep venous thrombosis or DVT) can occur in the veins of the legs after surgery. Occasionally these clots travel to the lungs causing a clot in the lung (pulmonary embolus or PE). A pulmonary embolus has the potential to cause death. If you develop pain or swelling in your calf or find you suddenly become short of breath, please contact Dr White, the hospital or your local doctor immediately. Failing all three above call an ambulance and go to hospital. Better safe than sorry.



To reduce the risk of clots forming we:

- Apply special compression sleeves to your calves during the operation
- Teach you calf muscle exercises to perform after the surgery (see above)
- Help you to mobilise as quickly as possible after surgery.



Infection

This can be a very serious complication which occurs in approximately 1 in a thousand cases.

We take measures to reduce this risk by:

- Ensuring there is no infection present in your body at the time of the surgery
- Preparing the limb on the ward with antiseptic prior to your surgery
- Giving antibiotics at the time of surgery
- Promptly treating any infection if one does develop.



If an infection does occur then it is important to seek treatment immediately. An early arthroscopy and washout of the knee combined with antibiotic treatment will usually result in a good outcome.

Bruising

During the arthroscopy we apply a tourniquet to your leg and place your leg in a special knee clamp. It is not uncommon for there to be a bruise over your thigh and occasionally for the bruising to slowly extend down to your foot after the operation. This bruising will slowly resolve.

Swelling

As outlined previously the knee is filled with fluid to perform the arthroscopy and this fluid takes a couple of weeks to resolve. Occasionally this fluid persists, particularly in patients with a moderate degree of arthritis within their knee. The swelling improves if you reapply the Tubigrip and use the ThermoActive Knee Support Brace. If the fluid hasn't resolved by 4 weeks after the arthroscopy you should phone Dr. White's secretary and arrange a further review.



Nerves and Arteries

Important nerves and arteries lie immediately behind the knee joint and it is possible, although very rare for these to be injured during knee arthroscopy. Should this occur, further surgery may be necessary to repair the nerve or artery and reduce the chance of permanent damage occurring.

Persistent Pain

We do our best to make sure the symptoms you have can be corrected with arthroscopic surgery. Occasionally the findings at surgery are worse than shown on clinical assessment and MRI. This may mean your symptoms may fail to improve and may even become worse if there is significant arthritic damage to the knee.

Frequently asked questions

When can I drive?

When you are strong enough and confident enough to be safe, usually after 10-14 days.

When can I play golf?

As soon as you can comfortably hit the ball and manage the course. It's best to practise putting and chipping first and work your way up to driving. A cart may be a good idea for the first few rounds.



How much will I be out of pocket for the operation?

Dr. White, his Assistant Surgeon and the Anaesthetist are all covered by Veteran Affairs, and all “no-gap” health fund schemes. Any prostheses used are fully covered by Veteran Affairs and all the health fund schemes. Please check with your health fund to ensure that you have appropriate cover. The Item number for the procedure is **49561**.

Dr. White uses a ThermoActive Knee Support brace after surgery at a cost of \$100.00 which cannot be claimed at Medicare. This will usually be your only out of pocket cost if you are privately insured apart from any excess that you may have with your health fund on admission to hospital.



What should I be concerned about after the operation?

If:

- There is undue pain
- You experience pain in the calf or back of the thigh
- You become breathless
- You develop a fever
- The knee becomes red or swollen
- You are unable to cope at home
- **If you are in any way concerned**



Then

Don't hesitate to contact Dr White by calling his secretaries on **65500705**. If it is out of normal hours call the hospital where the surgery was performed and they will contact Dr. White.

Call the Mayo Private Hospital on **65393600** and Forster Private Hospital on **65551333**.

Your Follow-Up Appointment – Dr White

Your follow up appointment with Dr White will be about 10-days after your surgery. My secretaries will give you this appointment at the time of booking your surgery. If in doubt call them on 65500705.

Questions?