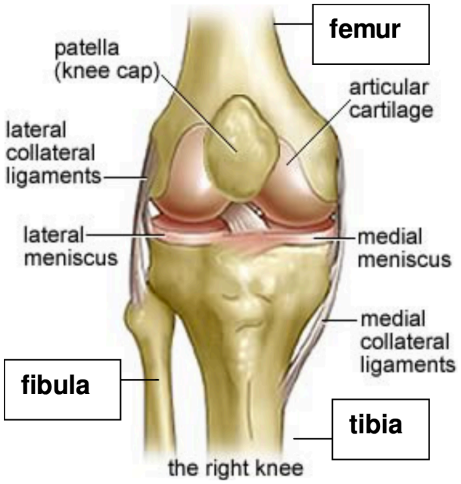
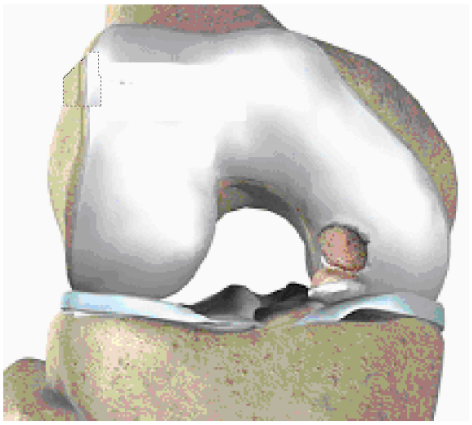
Patient Information And Rehabilitation Guidelines Following Microfracture Surgery

This booklet gives you information on articular cartilage damage, the procedure involved and the rehabilitation process.

Anatomy





The knee is a complicated joint between the femur (thigh bone) and tibia (shin bone). The ends of these two bones are covered with a layer of articular cartilage.

This is similar to the cartilage that you will have seen at the end of a chicken bone. This smooth, shiny surface ensures that when two bone ends meet they glide and slide over each other without rubbing.

This reduces wear and tear stresses across the joint surfaces. This layer of articular cartilage can wear away over time; commonly known as osteoarthritis.

It can also be damaged through injury in a more localised area (known as a lesion or defect) and can give symptoms such as pain, swelling or giving way of the knee.

If you have injured this cartilage layer you will have a roughened area in the normally smooth surface. This occurs most commonly on the ends of the femur (thigh bone) but can occur behind the patella (knee cap) and on the top surface of the tibia (shin bone) as these areas all have articular cartilage covering them.

Operation

An arthroscopy is a 'keyhole' operation, which allows your consultant to look inside your knee joint using a special camera.

The procedure is usually carried out under general anaesthetic and involves inserting a fibre optic camera that is about the size of a pencil into the joint through incisions that are approximately 1cm in length. Fluid is then passed into the joint; allowing the structures in the joint to be seen.

Occasionally it may be necessary to use a larger incision which will be closed with staples.

Microfracture involves making multiple small holes in the bone at the bottom of the cartilage defect. This causes bleeding and a clot is formed in the hole. This clot enables new cells to form a repair cartilage (fibrocartilage) that fills the gap. Although this is not exactly like the original cartilage it provides a better surface than bare bone. It is indicated for shallow lesions less than 2-4 square centimeters in area.

It is normal to be very sore for a while after this surgery and this does not mean that it will not work.

After surgery it is important to protect this clot so that new cells can form. This is done by limiting weight bearing. **You are allowed to place your foot on the floor, but not to take much weight through the leg for 6-8 weeks.** Return to function and sporting activities can vary between individuals but most people notice significant improvement 6 months after surgery, although **full recovery can take up to 12 to 18 months.**

If this technique is used on the patella you will be put in a knee brace, which restricts your range of movement when walking. You will be able to take weight through the leg as long as it is comfortable.

Benefits

The following symptoms should be improved following your operation, but remember this will not happen immediately.

- Reduction of pain
- Your knee should stop giving way or locking

It can take 2-6 weeks for the knee to become less swollen.

Risks of surgery

The table below outlines the risks of the surgery and how likely they are. Any surgical intervention can theoretically result in mortality (death), it is extremely rare for this to happen for this procedure but recent legal rulings have mandated this be mentioned.

Complication	Risk
Portal Infection	1 in 100
Septic arthritis (infection deep within the knee)	1 in 500
Complex regional pain syndrome (an abnormal pain reaction to any surgery)	1 in 100
Deep vein thrombosis (clot in the calf)	3 in 100
Pulmonary embolism (clot in the lungs)	Very rare but potentially life threatening
Graft hypertrophy, catching, effusion	1.2 - 15%
Arthrofibrosis (Stiffness, loss in range of movement)	1 - 2.9%
Reoperation rate	2.8 - 54%
Failure, recurrence of pain	32.5% by 15 years

Day of the operation

Things to bring:

- Toiletries and a towel
- Dressing gown and slippers if you have them
- Suitable clothes to go home in eg loose trousers/skirt
- Diversional activities eg book/magazines
- Walking aids if you use them

Admission information

You will be admitted to the ward usually the day case unit on the morning of your operation. Ensure you have followed the fasting instructions given in your letter.

You will usually be seen by Mr McNicholas and the anaesthetist. You will sign the consent form unless done in clinic. When you are ready you will be take to the theatre room, either walking or in a chair.

After the operation

You will wake up in the recovery area of the theatre. You may have 2 or 3 small wounds, which will be covered with a small dressing. You will have a compressive wool and crepe bandage on your knee.

It is normal for your knee to be a little sore and swollen for the first 48 hours. You may need elbow crutches.

You will probably be allowed to go home on the day of your operation and you will be given some painkillers on discharge from hospital. It is important that someone will be with you overnight after the operation; otherwise you will have to stay in hospital overnight.

Depending on the area treated you may not be allowed to place all your weight on the leg for the first 6 weeks. Or your leg may be placed in a brace for the first 6 weeks.

As a general rule, avoid activities that are painful and cause the knee to swell. A swollen knee is harder to bend and straighten.

You may need to keep walking distances short to keep swelling at a minimum. For the first few days rest as much as possible with your leg elevated and move feet and ankles up and down to help your circulation.

If at any times your knee becomes acutely painful, you can take pain-killing tablets and it may be worth using ice to reduce your symptoms. To do this, make sure the ice is in a sealed bag, and then wrapped in a damp towel.

Alternatively a bag of frozen peas wrapped in a damp towel may be used. Apply the ice for no longer than 10 minutes at any one time. You can use ice every hour if necessary.

Follow-up

You will be seen at 2 weeks after the operation by Mr McNicholas or his team. Your staples/stitches will be removed now (if you have them) and an explanation of your operation given.

You will also be seen 6, 12 and 26 months after the operation. The results of the surgery are monitored to provide information on our performance and how well you recover from the surgery.

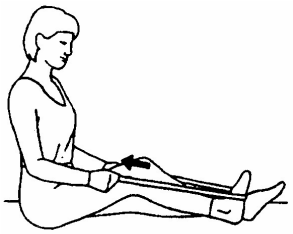
Before surgery you will receive a questionnaire to determine your knee function. This will be repeated after surgery in order to assess the success of the operation.

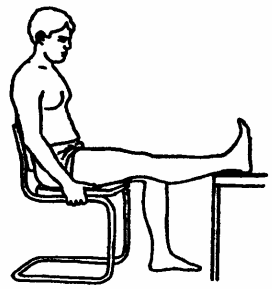
We would be grateful for your co-operation to enable us to achieve our long-term follow-up plans, which will help to further improve our knee service. If you change address in the future could you please inform us in order to continue the follow-up.

Exercises

The following exercises should be started immediately and continued at home. These should be performed **4 times each day.**

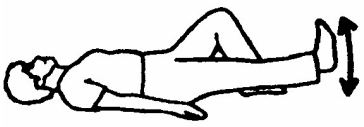
1. Sitting on the bed, place a sock on your foot. Place a slippery board/tray under your foot and a band around it. Bend your knee as far as possible. Gently pull the band to bend a little more. Hold 5 seconds. Repeat 10 times.

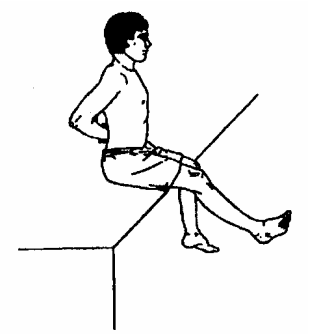




2. Sit on a chair with the heel of your operated leg on a stool. Allow your knee to straighten as much as possible for 10 seconds. Repeat 10 times. You can gently press down on your knee with your hands to stretch a little further.

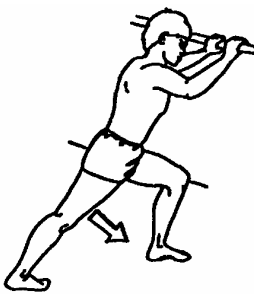
3. Lying on your back. Lift your leg 6 inches, keeping your knee straight. Hold 5 seconds. Repeat 10 times.





4. Sit on the edge of a firm bench so your feet are not supported. Your back should be straight and your hands in the small of the back to stop any slumping. Slowly straighten out your right leg. Hold the stretch for 20 seconds. Repeat 5 times.

5. Stand with the leg to be stretched straight behind you and the other leg bent in front of you. Take support from a wall or chair. Lean your body forwards until you feel the stretching in the calf of the straight leg. Hold the stretch for 20 seconds. Repeat 5 times.



General Advice

Crutch walking: Crutches and operated leg move first, and then follow through with your good leg.

Stick walking: Use the stick in the hand opposite to your operated leg. Stick and operated leg move first, and then follow through with your good leg.

Stairs: Keep both crutches or stick in one hand, hold the banister with your other hand. Going up stairs lead with your non- operated leg, when going down stairs lead with your operated leg. Always keep the walking aid on the same step as the operated leg.

Showering: You may shower provided that you keep the affected area water tight, i.e. with a plastic bag or cling film around your leg and sealed. If the dressing becomes wet or soiled, please replace it with a clean dry one.

Return to work: For desk jobs this could be 5-7 days depending on pain and swelling. For manual jobs it may take 2-6 weeks depending on activities involved and how your knee feels.

Driving: Return to driving can vary considerably from person to person. Most people are able to drive 1 to 4 weeks after surgery.

However, it is advisable that the following are achieved before trying to drive.

- You should be walking without crutches with a minimal limp
- You should be able to safely perform an emergency stop
- You should feel confident that you are in full control of your car. If you drive an automatic car and your left knee was operated on you can drive once the small wounds are healed.

You should notify your insurance company of the procedure that has been undertaken to ensure that your cover is valid. For further information follow this web link: https://www.gov.uk/driving-medical-conditions

Flying: Flying is not permitted for 8 weeks following surgery due to a higher risk of developing a blood clot. For further information follow the web link below: http://www.nhs.uk/chq/Pages/2615.aspx?C%20ategoryID=69

VTE (blood clots)

VTE is a collective term for two conditions:

- **DVT** (deep vein thrombosis) – this is a blood clot most commonly found in a deep vein that blocks the flow of blood.

- **PE** (pulmonary embolism) – a potential fatal complication where a blood clot breaks free and travels to the lungs.

Whilst you are less mobile, especially during the first few weeks following your procedure, the risk of VTE is higher because of your immobility.

Mr McNicholas may prescribe you a daily injection of Clexane to help thin your blood and these should last approximately 14 days. If this is needed, you will be shown how to inject this drug yourself.

Symptoms:

- Swelling – you will have some swelling due to your surgery but if you have any concerns please call for advice
- Pain – any new pain we want to know about
- Calf tenderness
- Heat and redness compared with the other leg
- Shortness of breath
- Chest pain when breathing in

Things you can do to prevent VTE

- Move around as much as possible. Be sensible though, short and regular movement is best
- Drink plenty of water to keep yourself hydrated
- We strongly advise you not to smoke – this will have been discussed in pre op but we can also refer you to our smoking cessation team within the Hospital.
- Move your ankle around as much as possible to keep your calf muscle pumping

Small preventative measures can have a huge impact on your recovery.

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