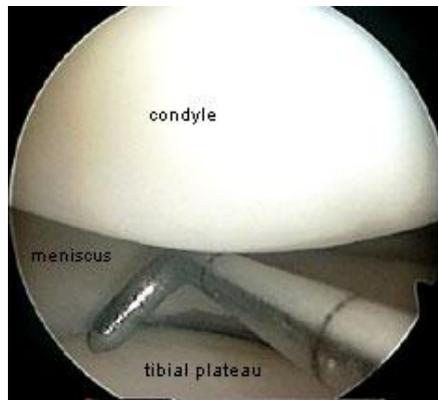


# **KNEE ARTHROSCOPIC SURGERY**

## **IN INJURY AND DISEASE**

*INFORMATION FOR PATIENTS AND PERI-OPERATIVE HEALTH WORKERS*

*IN GHANA AND SUB-SAHARAN AFRICA*



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*&*

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**Knee arthroscopic surgery – emphasis on cartilage surgery**  
(Information for health workers, the public and patients in Ghana)



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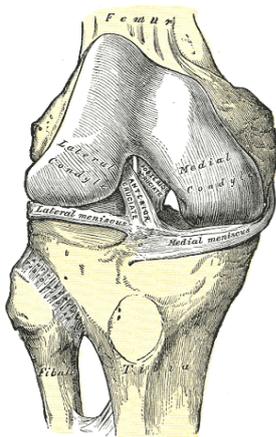
**Mrs Rachel Gevell**  
**Chartered Physiotherapist. UK**



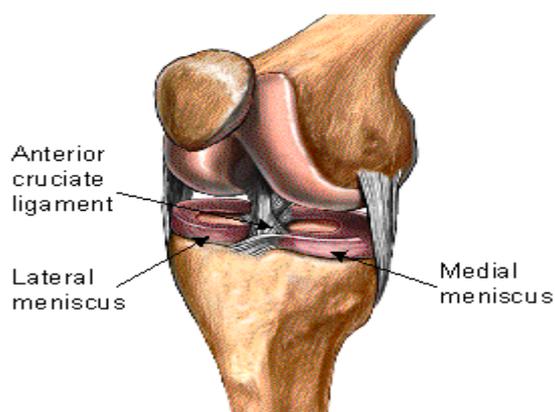
**What is an arthroscopy of the knee?**

An arthroscopy (also called 'keyhole' surgery) allows your surgeon to see inside your knee using a camera inserted through small cuts in the skin. Your surgeon can diagnose problems such as a torn cartilage (meniscus), ligament damage and arthritis, defects in the bone cartilage and underlying bone (ref 1).

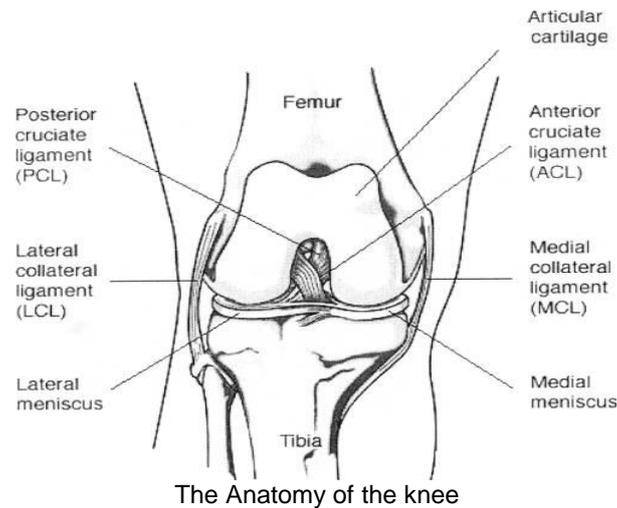
Some of the problems identified could be treated through the small wounds with small instruments without making big cuts into your knee. In a way there is often minimal injury to your knee therefore making recovery quicker. Not all conditions identified in the knee can be treated through the key holes. Sometimes, your surgeon will diagnose the condition of the knee in order to prepare for a definitive surgical or medical treatment. These days Magnetic Resonance Imaging (MRI) Scanning of the knee can narrow down the potential causes of your knee symptoms with a small percentage of false results.



GRAYS ANATOMY



[orthospecmd.com/The Knee/html](http://orthospecmd.com/The Knee/html)



### **Indications for knee key hole (arthroscopy) surgery (ref2):**

- Meniscal tears
- Damage to the articular cartilage of the joint by injury or disease
- Loose body within the knee
- Florid knee joint soft tissue (synovial) swelling (synovectomy)
- Ligament reconstruction
- Repairing certain joint fractures / assessment of the knee
- Tissue and fluid sample for laboratory tests (Biopsy/aspirate)

If your surgeon proposes arthroscopy of knee to you, you must remember that it will be your decision to go ahead with it or not. Make sure that you make an informed decision.

### **What are the benefits of surgery?**

The main benefit of surgery is to confirm the condition causing you symptoms and, in many cases, to treat the problem at the same time. The main benefit of keyhole surgery is less pain afterwards and, in most cases, a quick recovery.

### **Are there any alternatives to surgery?**

Not everyone with knee symptoms will require keyhole surgery. Problems inside the knee can often be diagnosed using a magnetic scan (MRI scan). Sometimes, your doctor can diagnose your condition from clinical assessment. MRI Scan is to help narrow down the diagnosis and minimise un-necessary surgery. MRI Scanning of knee is therefore not always indicated. Significant mechanical problems within the knee are not likely to resolve from medical management /physiotherapy without significant impact on your way of life and your personal safety.

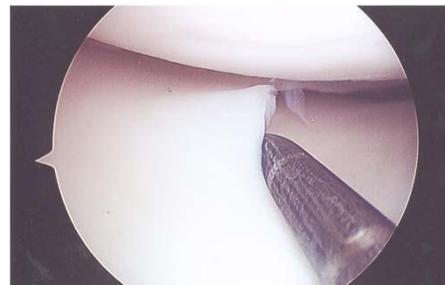
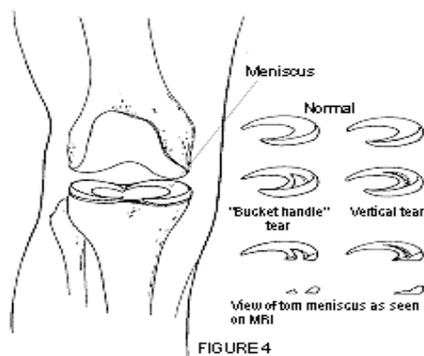
### **What will happen if I decide not to have the operation?**

Damage inside your knee may not heal without treatment, although sometimes your knee will become less troublesome after a course of physiotherapy. If you have a torn cartilage, the tear can occasionally move out of place and cause your knee to lock. If your knee does not unlock again on its own, you will need an urgent arthroscopy. Untreated torn cartilage tear may lead to osteoarthritis in the long term. Could take five to ten years to manifest. If treated, the development of osteoarthritis is minimised/slowed down..

### What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for and on the correct side. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having. Your past medical history and allergies and the details of your next of kin must be made known to your surgical team. A variety of anaesthetic techniques is possible. Your anaesthetist will discuss the options with you and recommend the best form of anaesthesia for you, but general anaesthesia is commonly used.

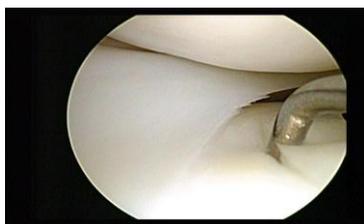
Your surgeon will examine your knee ligaments while you are under the anaesthetic and 'relaxed'. You will have two or three small wounds around the knee to enable your surgeon introduce the camera and equipment into your knee. Your surgeon will insert a special camera shaped like pencil-shaped telescope through one or more small cuts around your knee. The pictures from inside your knee will then be projected onto a television screen. The television views make it easy for your surgeon to trim, repair some structures where appropriate and wash out tissue debris from the joint. The small wounds will be stitched and local anaesthetic injected into your knee. Small dressings will be applied followed by application of wool and crepe bandage. The local anaesthetic injection into your knee at the end of the operation will help with the pain after surgery. It may last for about 4 to 6 hours so do not wait for it to wear off before you start taking your pain killers after the operation. The operation usually takes between half an hour and three-quarters of an hour. The procedure is often done as a day case but depending on where you have travelled from, social circumstances, discomfort after the procedure, a few patients is kept in hospital overnight.



**What is a torn meniscus**

**Inside a normal knee – surgeon probes meniscus,**

**(Ref 5)**

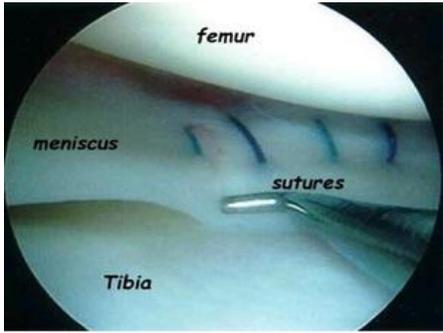


**Surgeon probing damaged**

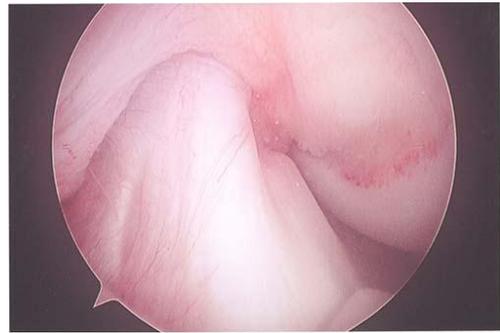


**Torn meniscus**

**bone cartilage**



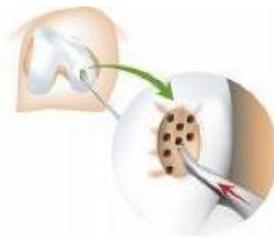
**Repaired meniscal tear**



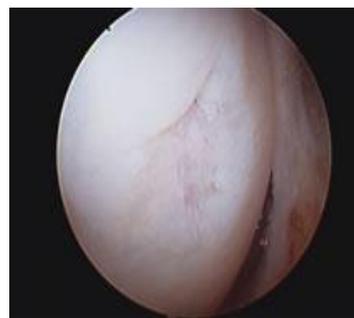
**Normal looking left knee anterior cruciate ligament**



**Reconstructed ACL Right Knee**



**Micro-fracture for cartilage-bone defect**



**Large cartilage –bone(Osteochondritic) lesions**



**Cleaned up of defect**



**Donor sites for grafting**



**Plugging the defect with donor autograft**



Osteoarthritic knee – cotton wool changes or crab meat appearance of bone cartilage and bare bone

***What complications can happen?***

**a. Complications of anaesthesia**

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic. These are very infrequent and a good pre-op assessment and appropriate medical preparation will help make your anaesthetic experience safe.

b. **Surgical complications** are also very infrequent. Some of these can be serious and can even cause death (risk: 1 in 100,000). A few of the complications that may occur are as follows:

**1. General complications of any operation** Pain, Bleeding, Infection in the surgical wound  
 Unsightly scarring  
 Blood clots  
 Difficult. If you get a lot of blood in your knee afterwards (called haemarthrosis), it will be swollen and painful (risk: 1 in 100). Rarely requires another surgery.

**2. Specific complications of this operation.** Developing a lump under the wound from bleeding is rare. It is most uncommon to get Infection in the knee, stiffness of joint and loss

of use of the knee (as may occur in rare severe cases of Complex Regional Pain Syndrome) but you must be aware that they can happen.

**a• Nerve damage** – may present as numb scar in rare cases the leg with weakness and drooping foot.

**b• Deep Vein Thrombosis.** Blood clot in the veins of the legs. The most important issues are to tell your doctor beforehand if you are on any medication like the Contraceptive pill or even more importantly, if you have ever had a clot before - which puts you at particular risk. The usual problem is a painful, swollen calf within a few days to a few weeks after your operation. It is a potentially fatal condition because the clot, if left untreated, can move into the lungs. If you do get a painful, swollen calf in the weeks following your surgery please contact your hospital as an emergency. Blood clot could spill into your lungs which could be fatal (Pulmonary embolism). Fortunately, this is rare after knee.

**c• Persistent/recurrent pain**

**d. Recurrence** - Tears of cartilage in the knee can occur again in the future.

**e. Progression** of the disease such as arthritis,

**f. Swelling**

**g. Stiffness of knee**

#### **What should I do about my medication?**

You should let your doctor know about all the medication you are on and follow their advice. This includes herbal remedies and medication to control diabetes and blood pressure. If you are on beta-blockers, you should continue to take them as normal. You may need to stop taking warfarin, aspirin or clopidogrel, some specific oral contraceptives before your operation.

#### **What can I do to help make the operation a success?**

If you smoke, stopping smoking several weeks or more before an operation may reduce your chances of getting complications and will improve your long-term health. Try to maintain a healthy weight. You have a higher chance of developing complications if you are overweight.

Regular exercise should help prepare you for the operation, help you recover and improve your long-term health. Before you start exercising, ask a member of the healthcare team or your GP for advice. You can reduce your risk of infection in a surgical wound. In the week before your operation, do not shave or wax the area where a cut is likely to be made.

Try to have a bath or shower on the day of your operation.

### **Rehabilitation - Post-operatively**

Patients are not routinely seen in physiotherapy out-patient post operatively unless requested by the medical team (i.e. ACL deficient/rupture). Most exercises can be demonstrated to you by your physiotherapist on admission.

## **Physiotherapy:**

Aims of treatment – return of function. This may involve:

1. Self management of pain and swelling;
2. Aim to fully straighten your knee;
3. Weight bear as pain allows;
4. Aim to achieve 90° knee bend and beyond; and
5. Strengthen knee muscles

Not everyone needs a course of physiotherapy after surgery.

The patient should mobilise FWB (unless stated otherwise) once they have had something to eat and drink. Exercises as should be commenced as per Appendix A. No further physiotherapy treatment should be necessary. The medical team will refer for outpatient physiotherapy if appropriate.

## **Discharge – Going Home**

Your surgeon decides when you're ready to be discharged. Discharge is based on your recovery from anaesthesia and whether your pain is under control. If you have problems or need to be watched longer, you may be admitted to the hospital. When you're discharged, someone will have to drive you home.

You may have a big bandage, brace, or ice pack on your knee that goes home with you. A nurse usually reviews home-going instructions with you, gets your prescriptions, tells you when to make a follow-up appointment with your surgeon and what to do if you have problems when you get home. It may take several hours to regain feeling in the affected knee. In the meantime, be careful not to bump or injure your knee. A physical therapist may speak with you about exercises you can do. You may also go home with the compression stocking on your unaffected leg. The compression stockings, if not worn properly could be dangerous causing tight bands on the veins thereby negating its principal objective of helping the veins to drain properly. For this reason, some centres do not encourage the application of this for use at home.

## **Before Discharge**

Before going home, your surgeon may give you a set of instructions similar to these:

- **Help at home:** For the first 24 hours after surgery you should not be left alone. This is if you need help or unforeseen problems arise; remember you cannot drive.
- **Rest and walking:** You may feel groggy for the first 24-48 hours. Rest and give your body time to recover from surgery and anaesthesia. Do not begin walking before your surgeon says it's okay, usually after 3 days. Be sure to wear

your brace if your doctor ordered one. Adjust the brace to give you support but it shouldn't be too tight. While you are resting, point and wiggle your toes and flex and s are encouraged to put full weight on the operating leg straight away but follow the instructions of your surgeon and physiotherapist.

- **Medicine:** Your surgeon may prescribe medications to relieve pain and discomfort.
- For **pain and swelling:** Your knee is likely to feel sore and be swollen for at least a week. For the first 24-48 hours ice your knee as directed. Rest and elevate your knee by supporting so that your knee is higher than your heart as much as possible especially after physical therapy and exercise, and always at night. Take pain medicine as prescribed.
- **Crutches:** Use crutches or a cane as directed by your surgeon – may be for a day or two. You can mobilise Full Weight Bearing (FWB) immediately post operatively. You may use crutches until the knee becomes more comfortable, usually a day or two.

- **Wound care:** Keep your wound and bandage dry and clean. With your surgeon's permission, you may remove your bandage a few days after the surgery. At this time you may shower as usual—use a nonslip mat and hand rails when possible until your knee is strong and stable. Do not soak your incisions in a bathtub. Check your incision every day for redness, tenderness or drainage. You may see bruising, slight swelling and a small amount of blood on the bandage.

The stitches or steristrips will be removed at clinic in 2 weeks or less post operatively. Otherwise you should be advised what to do by the ward staff.

- The wound should be kept clean and dry to prevent infection
- If there is excessive bleeding through the dressing, you should contact the hospital

## **Recovery Time**

There is often little pain during recovery from knee arthroscopy. You should expect complete recovery without complications. Allow 6-8 weeks for recovery from the surgery. Full recovery of the joint depends on the condition of your knee. Each patient is unique. The time needed for recovery depends upon your injury, disease condition, your fitness level and if you had complications. After knee arthroscopy you will have small scars on your knee from the cuts. A "simple" surgery, like removal of loose bony or cartilage fragment or bone, with no added complications, can heal rapidly. Arthritis is one kind of joint disease that is associated with slow response to surgery. In fact, up to 50% of patients with arthritis might not improve after surgery. Ligament reconstruction is a more complex surgery and usually needs more healing time.

## **Return to work**

If your job involves sitting for the majority of the time, you can return after 3 days. If the job is physically demanding and involves heavy manual work or standing for long periods then 2 to six weeks off work may be necessary.

## **Driving**

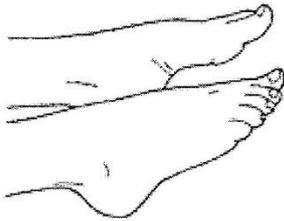
You should not return to driving until knee is pain free and knee movements are full. You **MUST** be able to perform an emergency stop, and should inform your insurance company about the surgery to ensure their cover is valid..

## **Physiotherapy Exercises following Arthroscopy of the Knee**

After your arthroscopy it is important that you strengthen the muscles which support the knee that had surgery and regain movement.

This exercise programme should be practised 3-4 times each day and continued until you see your doctor.

The first exercise is to be repeated frequently to help your circulation and prevent any complications such as a deep vein thrombosis.



Lying on your back or sitting.

Bend and straighten your ankles briskly. If you keep your knees straight during the exercise you will stretch your calf muscles.

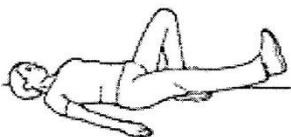
Repeat \_\_\_\_\_ times.



Lying on your back with legs straight.

Bend your ankles and push your knees down firmly against the bed. Hold 5 secs. - relax.

Repeat \_\_\_\_\_ times.



Lying on your back with one leg straight and the other leg bent.

Exercise your straight leg by pulling the toes up, straightening the knee and lifting the leg 20 cm off the bed. Hold approx 5 secs. - slowly relax.

Repeat \_\_\_\_\_ times with both legs.



Lying on your back.

Bend and straighten your leg.

Repeat \_\_\_\_\_ times.

## **Summary**

An arthroscopy allows your surgeon to diagnose and treat some common problems affecting the knee, without the need for a large cut in the skin. This may reduce the amount of pain you feel and speed up your recovery after surgery. Surgery is usually safe and effective. However, complications can happen. You need to know about them to help you make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

## **Frequently asked questions:**

### **Q. How long am I in the Hospital?**

A: In ideal circumstances approximately 4 to 6 hours but you have to travel far or you feel weak, uncomfortable and or sick from the anaesthetic, you could be kept on the ward one night after the surgery.

### **Q. Do I need crutches?**

A: Usually for the first few days.

### **Q. When can I get the knee wet?**

A: A: After about 72 hrs you may remove the bandage and shower if no wound drainage. If there is concern about the wound you wrap the knee with saran wrap. After showering cover the wounds with dry dressings or Band Aides and rewrap your leg with the ace wrap

### **Q. When can I drive?**

A: After about 3-4days if the knee is comfortable, if you are not taking narcotics and you have good muscular control of your leg in the case of the right lower extremity with an automatic transmission. If you drive a vehicle with a manual transmission further delay in driving will be necessary.

### **Q. When can I return to work?**

A: When the knee feels reasonably comfortable but try to keep the leg elevated and apply ice as much as possible such as at break times, lunch etc.

### **Q. When can I swim?**

A: After several days (6-7) if no wound drainage or redness.

### **Q. When should my sutures is removed**

Usually about 2 weeks after surgery

### **Q. How long will my knee take to recover?**

A: Depending on the findings and surgery, usually 4 to 6 weeks following the surgery unless more extensive surgery has been carried out. (see below)

### **Q. When Can I return to Sports?**

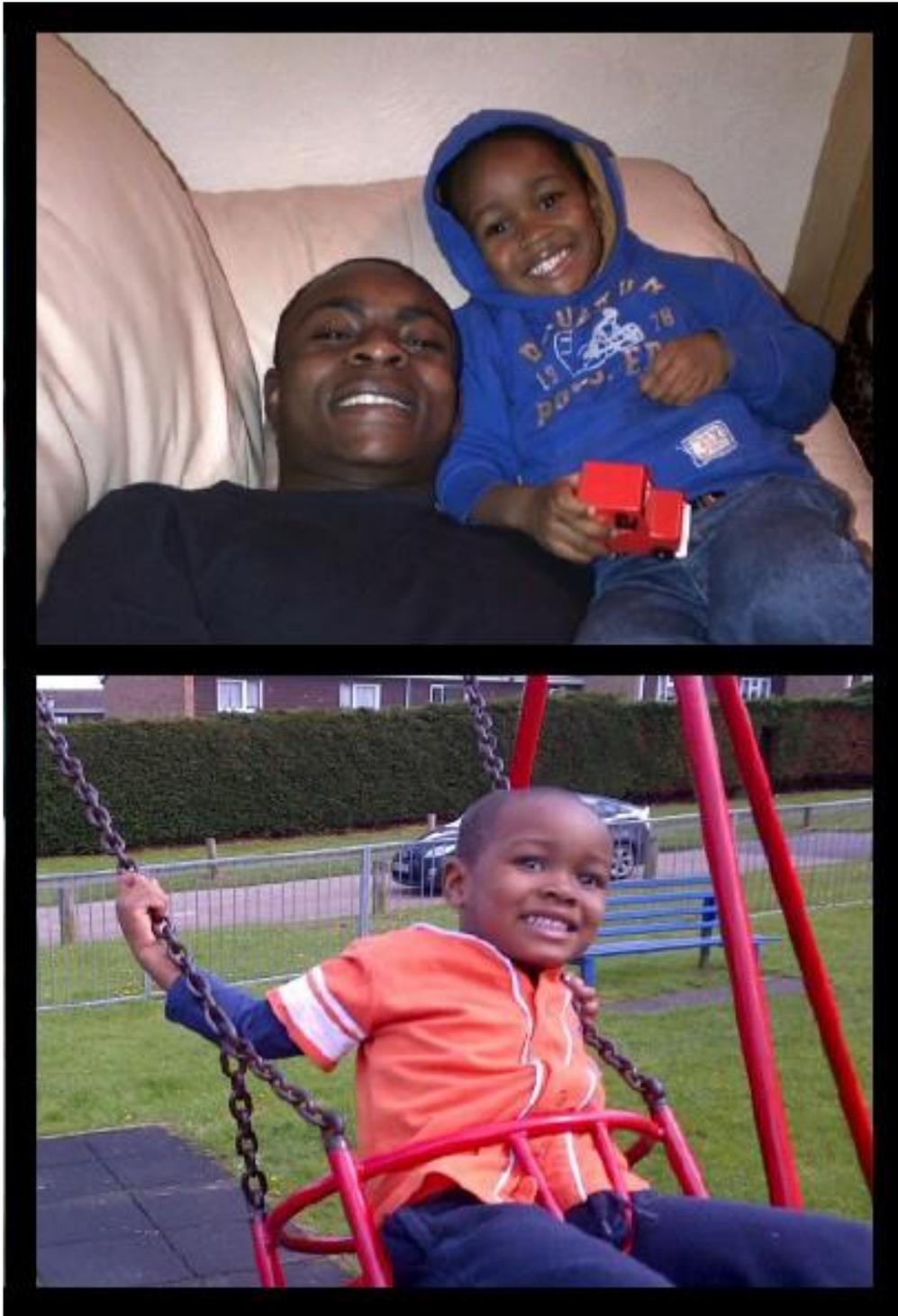
A: Depending on the findings and the procedure done, about 4-6 weeks after surgery. If a ligament reconstruction, meniscus repair, microfracture technique or other certain procedures have been done, return to sports may be 6 months to a year.

#### **References:**

1. Guidelines to arthroscopy: Milner, Stephen. Medical Illustration Copyright © 2011, expiry Dec, 22012 Nucleus Medical Art. All rights reserved.  
www.nucleusinc.com
2. Rehabilitation guidelines for patients undergoing knee arthroscopy. Royal National Orthopaedic Hospital, London. Review 2012
3. Kim et al. Arthroscopic Treatment of the Arthrofibrotic Knee. *Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 20, No 6 (July-August, Suppl 1), 2004: pp 187-194*
4. **Guidelines to knee arthroscopy – Ipswich Hospital NHS Trust, The Royal Berkshire NHS Foundation Trust**
5. Johns Hopkins Sports Medicine Patient Guide to Knee Arthroscopy

**This document is intended as a guide only and should not replace advice that your relevant health professional would give you.**

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**A HAPPY PLAY TIME FOR ALL GENERATIONS WITH THE 'RIGHT' KNEES**

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