KNEE ARTHROSCOPY

INFORMATION AND PROTOCOLS

INTRODUCTION

Arthroscopy has become vastly popular as a means of examining and treating conditions affecting the joints. Most arthroscopic procedures are carried out upon the knee joint, which because of its complexity and design is the most commonly injured large joint in the body. For instance, over two million arthroscopies are carried out per year in the United States.

The procedure is safe and reliable in expert hands and represents what most people would know as minimal access surgery or keyhole surgery.

The advantages to the patient include extremely small incisions and ease of mobilisation after the procedure. This renders most arthroscopic procedures day case activities with rapid return to full function and work status.

PROCEDURES

A vast number of operative procedures are possible during arthroscopy in addition to inspection of all the joint surfaces and the two menisci in the joint. Powered arthroscopic instruments and micro tools are available in specialized knee units which allow complex procedures to be carried out down the arthroscope.

The majority of the operations down the arthroscope are performed on the meniscal cartilages within the joint. Additionally surgery to the anterior cruciate ligament, which is situated in the central part of the knee joint and repair or smoothing down of articular cartilage (which lines the surfaces of the knee) is also possible as well as complimenting microfracture and cartilage repair techniques.

Meniscal Surgery

The menisci (cartilages) are the structures on which most of the work is carried out during an arthroscopy. Due to the design of the knee, the menisci are crucial to its function both in bending and flexing and in twisting or pivoting. The menisci act as a washer or shock absorber within the joint allowing smooth movement of the femur upon the tibia. The menisci also aids distribution of the lubricant fluid within the knee and thus aid the articulation of the joint and the friction free movement of the bones.

The menisci may be injured by sudden trauma, such as a sporting accident, or a twisting injury. Alternatively the menisci may tear as a result of minor repetitive injury associated with active movement or prolonged sporting activity.
Once the menisci are torn, the damaged edge of the meniscus becomes obstructed to the normal movement of the joint and pain results, particularly worsened by deep knee bends or twisting movements.

As well as pain, some long term damage can occur as a result of the torn cartilage damaging the bearing surface of the joint.

Meniscal surgery to a damaged articular cartilage is directed at removing the area which is torn, whilst leaving the vast majority of undamaged meniscus intact. Previous studies have shown that removal of the entire meniscus results almost certainly in osteoarthritic degeneration of the knee as the lubricant and washer facilities of the cartilage are removed and the bone of the femur begins to grate on the bone of the tibia. Every effort is therefore made to leave as much good meniscal tissue as possible.

Should the meniscal tear occupy less than 30% of the surface area, there are few long term symptoms, as the remaining 70% of the meniscus will cope adequately with the weightbearing duties of the knee. Meniscal damage that involves more than 30% of the surface area of the structure will be repaired to maintain its washout and lubricant function.

Fortunately the majority of meniscal tears that do occur are less than the critical 30%.

Articular Cartilage Surgery

Articular cartilage forms a vital function within the knee joint, coating the bearing surfaces of the femur, the tibia and the under surface of the patella or knee cap. The special qualities of this articular cartilage lining the joint allow the bones to move together with a minimum of friction and wear. It has been observed that the friction between the femur and tibia is actually less than that of two smooth blocks of ice sliding on each other.

However the smooth lining of the joint may be damaged by injury leading to painful symptoms as parts of the underlining bone are exposed, giving rise to grating and crunching symptoms along with pain and aching.

Once damaged, articular cartilage does not regenerate and there is the possibility that damage to the articular cartilage can extend.

Arthroscopic surgery is aimed at containing and smoothing these areas and promoting the growth of repair tissue. This repair tissue is basically scar tissue but in many cases this can alleviate some of the discomfort and prevent further damage to existing articular tissue. Other specialist techniques such as microfracture and cartilage grafting may be necessary to restore some of the function of the joint.

ASSESSMENT AND DIAGNOSIS

Arthroscopic surgery may also be used to assess the internal structures of the knee in particular the anterior cruciate ligament which is commonly damaged in pivoting and twisting injuries that often occur in sport. The arthroscope may also be used to examine the undersurface of the patella or knee cap, delineating the movement of the patella upon the femur, examining the under surface of the knee cap itself for damage or roughness. During such a procedure it is often possible to use powered arthroscopic instruments to smooth down or debride the under surface of the patella, enabling the joint to run a little more smoothly and reducing some symptoms of knee cap pain.

THE OPERATION

Most arthroscopic examinations are carried out as a day case. Prior to surgery you will be seen by myself to once again verify the symptoms and at this point, please feel free to ask any questions that may have occurred since our out-patient meeting. You will also be seen by the anaesthetist who is to perform the anaesthetic during your surgery.

Normally two 3mm incisions are made on the front of the knee to allow the entrance of the arthroscope on one aspect and on the other aspect the entrance of micro instruments or powered tools. If technical aspects do not preclude the performance of arthroscopic surgery, the view down the arthroscope as seen by myself, is recorded on a DVD or photographs we have taken for your better understanding and record of the procedure.

ANGELA BRIVIO'S RECOVERY APP

You will shortly be coming into hospital for your planned knee surgery.
We have developed an individualised app, which is complimentary, aimed at guiding you through the surgical process and helping you through your recovery, instructing you in exercises daily and recording your progress.
The app is free to download and you can access this by scanning the QR-code on the enclosed leaflet or going directly to www.myrecovery.app/abri.
I urge you to log on to this app in advance of your surgery so you can benefit from the full support as you go through the process.

The app contains a series of information modules which will help you understand your surgery and the postoperative rehabilitation. It also contains physiotherapy exercises which are illustrated and ways you can record your progress through the recovery programme, monitor it, and see your progress and recovery in graphical form.

Many patients have found this extremely useful as it is the daily reminder on your own telephone or mobile device to complete and log the exercises and, at the same time, receive guidance and input as to how you might feel and progress each part of your journey.
Therefore, do please go to the website or scan the code and download the myrecovery app which is relevant to you.

The major benefit is obtained by looking at this app the week before your surgery as it has a number of details which are helpful at the time of your admission to hospital.

RECOVERY

Operation Day

Following the operation, I will visit you to explain the procedure and what has been carried out at operation. Once you have fully recovered from the operative procedure and the anaesthetic it will be possible for you to return home after being seen by the physiotherapist and having some advice as regards immediate rehabilitation.

On waking up you will notice that the knee is dressed in a supportive bandage. The dressing consists of some sticky tapes (steristrips) to close the small incisions through which the instruments have been placed. I do not routinely employ sutures. Over these steristrips a white

adhesive dressing is laid and subsequently a soft woolly supportive bandage wound round the knee.

A further supportive crepe bandage will be added to complete the dressing.

Commonly, this dressing is left in place for your discharge from hospital to provide some support for the joint in the post surgical phase. The nursing staff will instruct you in the removal of the dressing on the morning after surgery.

Following the procedure you will be visited by the physiotherapist. They will show you the DVD or photos of your operation and run through some basic knee exercises which you will need to continue regularly at home. Usually following a routine knee arthroscopy you will be able to take full weight on your operated knee and will not require crutches or sticks. However, if necessary they will provide you with crutches or sticks for a couple of days and instruct you on how to use them.

Day 1

On the first post-operative day it is necessary to reduce and remove the supportive bandage. The supportive bandage may be removed by simply unwinding successive layers of the dressing.

The sterilstrips and the white adhesive dressing should be left on the skin and if the wound is kept dry, this will promote good and secure healing. Should the adhesive light dressing become displaced during the first few days after surgery it may be replaced by the use of simple elastoplast type plasters to cover the wound and keep the wound dry.

Should any bleeding have occurred from the arthroscopy wounds, the skin may be gently sponged clean, but the arthroscopy wounds should not be disturbed. During the first ten days, the arthroscopy wounds should be kept completely dry. During bathing, the knee should be kept clear of moisture.

Day 2-14

During this period, it will become progressively easier to walk and move the knee. Major knee surgery is possible using the arthroscope, therefore the knee will be uncomfortable or painful in the first few days following the procedure. Whilst the knee is uncomfortable, it is important not to over-exercise, which will make pain and stiffness worse. Only do those exercises prescribed by the physiotherapist and as the pain settles, the knee can be more active, although avoid long walks and over-activity.

During this period, one should not indulge in sporting activities. Whilst the knee is uncomfortable, it may also swell and this is an indication that activity should be further limited.

An appointment will be made for a review by the physiotherapist a week following surgery to ensure satisfactory progress.

As a general rule driving is permitted three days post surgery if all pain has settled and normal walking without a stick or crutch is possible.

HELP AND ADVICE

Should you have any queries regarding arthroscopy surgery or be concerned as regards pain or swelling in the post operative period following discharge, please feel free to contact the personnel on any of the numbers listed below:

King Edward VII Hospital

Nurses station, Ward 2	02074874202
Nurses station, Ward 3	02074874203

Desmond Rumganga

Orthopaedic Specialist Practitioner	07778470118