

Teaching Handout For Knee Arthroscopy

This patient education handout is intended to help patients and their families learn more about their medical conditions, the options available to them and the possible consequences of their decisions. This information is not intended to be used for diagnosis or treatment of any specific individual. Please consult with your physician regarding your particular circumstances.

About Your Knee:

The knee is the largest joint in the body. Knee injuries are the most common problem treated by orthopedic physicians in the U.S., requiring over 11 million visits to the doctor each year. These injuries result in over 1.5 million surgeries!

The knee is made up of three bones – the femur, the tibia, and the patella. The femur (or thigh bone) is connected to the tibia (or shin bone), by muscle and four strong ligaments. The two ligaments on the sides of the knee are called the medial and lateral collateral ligaments, and the two that cross in the middle of the knee are called the anterior and posterior cruciate ligaments. These ligaments make the knee stable.

The muscles that cross the knee joint also add stability. This involves the hamstrings, quadriceps (or thigh muscles), and even your calf muscles. As your quadriceps muscle comes down to attach to your tibia, the tendon at the end of the muscle also surrounds a third bone in the knee, called the patella, or knee cap.

After an injury, the doctor will examine your knee and diagnose the injury. They may also order imaging studies to help determine what part of the joint may be damaged. These studies may include X-rays, to check for problems with bones, or a Magnetic Resonance Imaging (MRI) scan, which uses powerful magnets to take pictures of the soft tissues (ligaments and cartilage) in your knee. Although these tests are helpful, they are not perfect and more subtle injuries can be missed. This is why the doctor will physically examine your knee. If a cartilage or ligament is damaged, the doctor will discuss the best course of action with you. You may only need a brace or you may need reconstructive surgery

Another common injury is a torn meniscus. The meniscus is a ring of cartilage situated between two bones, such as the femur and tibia. It has two main functions. First, it acts as a shock absorber between the bones, and secondly, it stabilizes the curved end of the femur against the relatively flat surface of the tibia. If you tear the meniscus, it can cause popping, locking, or an unsteady joint, as if a ball bearing were being caught inside and causing pain.

Because the meniscus has a poor blood supply, it may have difficulty healing if it is torn. That's why your doctor may suggest surgery in order to repair the injury. This surgery usually involves arthroscopy, where a small camera is inserted through a small incision in the knee in order to see the injury and repair it.

Benefits of Knee Arthroscopy:

Knee arthroscopy is a technique that allows your orthopedic surgeon to see clearly inside your knee through small incisions using an illuminated instrument camera lens.

There are many benefits of knee arthroscopy. For example:

- It is usually an outpatient procedure so you will not necessarily have to stay in the hospital overnight (although in a few cases patients do stay overnight).
- Because the incisions and scope are small, your pain will be less than if your surgeon had to perform

a traditional open procedure.

A camera attached to the arthroscope enables your surgeon to see a detailed image of most areas of your knee joint on a monitor. Pictures of the inside of your knee are often taken and made a permanent part of your medical record.

With the information this image provides to the surgeon, several corrective actions can be taken:

- Torn cartilage can be repaired and/or removed
- Ligaments can be reconstructed
- Structures, such as your kneecap, can be realigned.

Since knee arthroscopy requires small incisions, you can expect reduced scarring, less pain, increased function, and often a quicker recovery than after open surgery. A cast is rarely used after knee arthroscopy and you can expect to be moving around with crutches a few days after surgery.

Physical therapy is sometimes recommended to insure a smooth recovery. After knee arthroscopy, many people can return to desk jobs within a week and to more strenuous activities in as little as 4 to 6 weeks.

Risks of Knee Arthroscopy:

As with any surgery, there are risks associated with knee arthroscopy. Fortunately, the risks are low and they are rarely serious. The overall complication rate in knee arthroscopy is generally less than two percent.

Possible complications include:

- Adverse reaction to anesthesia
- Bleeding into the joint (generally the most frequent complication experienced)
- Blood clots
- Injury to blood vessels or nerves
- Swelling of the leg resulting from decreased blood flow
- And post-operative infection.

Some unusual, but potentially serious problems include:

- Heavy bleeding from the knee for over 48 hours
- Sticky or discolored fluid after the first week
- A persistent high spiking fever
- And symptoms of dizziness or changes in mental status.

Bleeding into the joint, called a hemarthrosis, may occur in approximately one percent of cases. There will always be some swelling in the knee after an arthroscopy due to microscopic bleeding in the joint. To be considered a complication, enough bleeding must be present to require the blood to be drawn off with a needle or drained surgically. This degree of bleeding is rare.

The second most frequently reported complication is infection. This complication is usually discovered about a week after the surgery. The signs to watch out for are increasing pain and swelling, redness and warmth about the knee and possibly some drainage from the small incisions made at the time of surgery. Treatment for this problem usually involves another arthroscopy.

A minor wound infection at one of the small incisions can occur. This is usually treated with local wound care and antibiotics and rarely needs further surgery.

Nerves and blood vessels are very rarely injured. The major nerve and blood vessels are out of harm's way during a standard knee arthroscopy because they are in the back of the knee and outside of the joint itself. Other smaller sensory nerves are in the area, but are rarely injured.

Sterile salt water is run through the knee during an arthroscopy. This is often controlled with a pump. Leakage of the fluid out of the joint can cause excessive swelling in the leg. This can lead to an inability for the body to get blood into the leg. If that occurs, small incisions may be required to relieve the pressure.

Very rarely, a knee ligament or cartilage may be slightly injured during the surgery. If that occurs, it should heal without any long-term problems.

Arthroscopy in general has a very low complication rate and it has certainly decreased problems overall compared to open surgery. Complications, when they do occur, are very treatable.

The risks of anesthesia can include:

- Difficulties maintaining an airway
- Allergies to medications
- Or development of a headache after spinal anesthesia.

Spinal headaches are probably the most common and occur in about 1 in 100 procedures. These headaches are not life threatening and can be treated with rest, fluids and pain medicine should they occur. Your anesthetist will explain the other possible complications of anesthesia in detail.

Pre-Procedure Care:

Careful attention to a few details prior to your procedure will help ensure a successful operation.

Wash the front of your knee with regular bar soap the night before your operation.

Do not shave your knee at home - that will be done for you in the holding area immediately before your operation.

Do not eat or drink anything after midnight prior to the day of your scheduled procedure. Never drink alcohol or caffeine prior to any medical procedure! These substances can alter the effectiveness of anesthesia.

Tell your doctor about any over-the-counter or prescription medications that you are taking and previous allergies and/or reactions to medication.

It is important to talk with your doctor about your present state of health. Be sure to let the staff know if you have any pre-existing illnesses.

Plan to have someone drive you home after the procedure. You will be sleepy and a bit sore.

Your Knee Arthroscopy Procedure:

Intravenous antibiotics may be given before your operation to combat infection. Consult with your anesthetist about the best option for your particular situation:

- You may have your knee numbed (using "local" anesthesia) along with intravenous sedation to relax you.
- Undergo a spinal block (called "regional" anesthesia)
- Or elect to go to sleep ("general" anesthesia)

Once positioned on the operating room table, a leg holder may be applied to the thigh to help your surgeon manipulate the knee during the operation. An inflatable cuff-like device, like a tourniquet, may be placed around your thigh to reduce bleeding. This also helps improve the quality of the arthroscopy image.

An antiseptic solution will then be applied to your knee and surgical drapes positioned.

If regional or local anesthesia is used, you may be able to watch your arthroscopic surgery as it occurs on a television monitor. Check with your doctor about this.

Two or three small incisions will be made in your knee to accommodate the arthroscope and other small instruments.

Your surgeon will then examine the entire knee joint, noting any abnormalities. The location and shape of the cartilage tear will determine whether your surgeon can repair or remove the torn cartilage. In either case, surgery takes place within the knee joint using tiny instruments.

Arthroscopy is performed "under-water" and liters of fluid are passed through the knee joint during the course of your operation. This is done to expand the tissue for better visibility, "flush" out any debris (bone or tissue) and reduce the possibility of infection.

At the conclusion of your operation, the tiny arthroscopic incisions in your knee will be closed with either strips of adhesive tape or stitches. If general anesthesia was used, your anesthetist will awaken you and take you to the recovery room. If your anesthesia has been regional or local, you will be taken to your room.

Post-Procedure Care:

Be sure to pump your foot up and down frequently to prevent clots from forming in your calf.

Rest, elevate and ice your knee whenever possible for the first 48 hours after your operation to decrease swelling and pain.

Ask your surgeon when you can start walking. In most instances, it is permissible to bear weight as soon as knee swelling and pain will permit. However, certain arthroscopic procedures require that you not walk for several weeks. Check with your doctor to find out when he or she feels is the right time for you.

For those patients at high risk for developing blood clots in the lower legs, an aspirin a day may be recommended to prevent inflammation of the walls of the veins.

Several days after surgery, your initial dressing may be removed and you can apply band-aids to the arthroscopic incisions. If excessive swelling, tenderness or redness develop, contact your surgeon immediately.

When you report for your first post-operative visit, physical therapy will be prescribed if your doctor feels it's necessary.

Don't forget to have someone drive you home!

Thank you for taking the time to review this program on Knee Arthroscopy. We hope that what you have learned today will enable you to better communicate your questions and concerns.

Remember, YOU are the most important member of your health care team!