



## **Arthroscopic Treatment of Knee Injuries**

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The knee joint is the most easily injured joint and with so many parts working together to provide mobility and speed, injuries can occur. In the past, many athletes and others simply learned to live with their knee pain. Today these individuals have a wide variety of medical treatments and surgical procedures as options. Surgery is always the last option; however arthroscopic surgical treatments have become significantly more advanced in recent years, and can reduce or eliminate knee pain for almost anyone, with a surprisingly short recovery time.

The human knee is the largest joint in the body and is made up of bones, cartilage, muscles, ligaments, and tendons. It consists of the lower end of the femur, the upper end of the tibia, and the kneecap, which slides in a groove in the femur. Four ligaments connect the femur and tibia, providing joint stability. The strong muscles surrounding the knee give it strength and mobility. The bone surfaces are covered with articular cartilage, which cushions them. The meniscus is a ring of cartilage that acts as a shock absorber and stabilizer. A thin capsule surrounds the knee and it is lined by a synovial membrane, which releases a special lubricating fluid reducing friction to nearly zero in the healthy knee.

The knee joint, unfortunately, is the most easily injured joint and with so many parts working together to provide mobility and speed, injuries can occur from overuse, strain, sports, work injuries, arthritis, and direct impact. This leads to inflammation, pain, swelling and diminished knee function.

In the past, many athletes and other individuals simply learned to live with their knee pain. Today these individuals have a wide variety of medical treatments and surgical procedures to choose from. The first course of action with knee pain or an injury is to reduce inflammation. Athletes especially can struggle with this. Ice, activity modification, and anti-inflammatory medications can give the knee a chance to get back to normal. Surgery is always the last option; however, arthroscopic surgical treatments have become significantly more advanced in recent years, and can reduce or eliminate knee pain for almost anyone, with a surprisingly short recovery time.

Arthroscopy is a minimally invasive outpatient surgical procedure in which a small fiber optic camera and light source are inserted into a joint. It is only a quarter inch in diameter,

about the size of a pencil, permitting the surgeon to make very small incisions with little or no scarring. The camera's high definition video output is connected to a television monitor in real time, so that the entire operating team can view the surgery and adjust their movements accordingly during the procedure. Often, patients can watch the surgery if they want. The knee is filled with a sterile fluid to expand the joint, allowing the surgeon to visualize it more clearly and work effectively using specialized instruments to remove or repair the damaged tissues.

Arthroscopy enables the surgeon to detect knee problems such as ligament and tendon tears, loose pieces of bone and cartilage, joint wear and tear including arthritis, cartilage tears, rheumatologic problems including gout, knee cap instability, fractures and other sources of pain and swelling. The knee is the most common joint operated on using the arthroscope; although the shoulder, elbow, ankle, hip and wrist can also be viewed and fixed by using this method.

With recent advances, surgeons are now able to do cartilage replacement and transplantation, ligament reconstruction, and fracture repair with better results than larger open procedures, as they are much less traumatic to the muscles, ligaments, and tissues than traditional surgeries that open the knee joint. Arthroscopy's benefits include smaller incisions and less scarring, faster healing, decreased infections, and a shorter, more reliable recovery time. In fact, most arthroscopic surgical procedures are performed on an outpatient basis, meaning that the patient can go home the same day as the surgery and even walk out. Some patients may need physical therapy after the procedure, to regain full mobility and strength. Recovery depends on the patients and their condition. A main benefit of this procedure is the ability to maintain a normal and active lifestyle.

Signs and symptoms that arthroscopy may be right for you include swelling, pain, locking, instability and loss of confidence in your knee. When other treatments such as medication, physical therapy and bracing have not provided the improvement you or your doctor expected, you may benefit from arthroscopy.

