Arthroscopy is a surgical procedure orthopaedic surgeons use to visualize, diagnose, and treat problems inside a joint.

The word arthroscopy comes from two Greek words, "arthro" (joint) and "skopein" (to look). The term literally means "to look within the joint."

In an arthroscopic examination, an orthopaedic surgeon makes a small incision in the patient's skin and then inserts pencil-sized instruments that contain a small lens and lighting system to magnify and illuminate the structures inside the joint. Light is transmitted through fiber optics to the end of the arthroscope that is inserted into the joint.

By attaching the arthroscope to a miniature television camera, the surgeon is able to see the interior of the joint through this very small incision rather than a large incision needed for surgery.

The television camera attached to the arthroscope displays the image of the joint on a television screen, allowing the surgeon to look, for example, throughout the knee. This lets the surgeon see the cartilage, ligaments, and under the kneecap. The surgeon can determine the amount or type of injury and then repair or correct the problem, if it is necessary.

**Why is arthroscopy necessary?**

Diagnosing joint injuries and disease begins with a thorough medical history, physical examination, and usually X-rays. Additional tests such as magnetic resonance imaging (MRI) or computed tomography (CT) also scan may be needed.

Through the arthroscope, a final diagnosis is made, which may be more accurate than through "open" surgery or from X-ray studies.

Disease and injuries can damage bones, cartilage, ligaments, muscles, and tendons. Some of the most frequent conditions found during arthroscopic examinations of joints are:

**Inflammation**

For example, synovitis is an inflammation of the lining in the knee, shoulder, elbow, wrist, or ankle.

**Acute or Chronic Injury**
- **Shoulder**: Rotator cuff tendon tears, impingement syndrome, and recurrent dislocations
- **Knee**: Meniscal (cartilage) tears, chondromalacia (wearing or injury of cartilage cushion), and anterior cruciate ligament tears with instability
- **Wrist**: Carpal tunnel syndrome
- **Loose bodies of bone and/or cartilage**: for example, knee, shoulder, elbow, ankle, or wrist

Some problems associated with arthritis also can be treated. Several procedures may combine arthroscopic and standard surgery.

- Rotator cuff surgery
- Repair or resection of torn cartilage (meniscus) from knee or shoulder
- Reconstruction of anterior cruciate ligament in knee
- Removal of inflamed lining (synovium) in knee, shoulder, elbow, wrist, ankle
- Release of carpal tunnel
- Repair of torn ligaments
- Removal of loose bone or cartilage in knee, shoulder, elbow, ankle, wrist.

Although the inside of nearly all joints can be viewed with an arthroscope, six joints are most frequently examined with this instrument. These include the knee, shoulder, elbow, ankle, hip, and wrist. As advances are made in fiberoptic technology and new techniques are developed by orthopaedic surgeons, other joints may be treated more frequently in the future.

**How is arthroscopy performed?**

Arthroscopic surgery, although much easier in terms of recovery than "open" surgery, still requires the use of anesthetics and the special equipment in a hospital operating room or outpatient surgical suite. You will be given a general, spinal, or a local anesthetic, depending on the joint or suspected problem.

A small incision (about the size of a buttonhole) will be made to insert the arthroscope. Several other incisions may be made to see other parts of the joint or insert other instruments.

When indicated, corrective surgery is performed with specially designed instruments that are inserted into the joint through accessory incisions. Initially, arthroscopy was simply a diagnostic tool for planning standard open surgery. With development of better instrumentation and surgical techniques, many conditions can be treated arthroscopically.
The surgeon inserts miniature scissors to trim a torn meniscus.

For instance, most meniscal tears in the knee can be treated successfully with arthroscopic surgery.

After arthroscopic surgery, the small incisions will be covered with a dressing. You will be moved from the operating room to a recovery room. Many patients need little or no pain medications.

Before being discharged, you will be given instructions about care for your incisions, what activities you should avoid, and which exercises you should do to aid your recovery. During the follow-up visit, the surgeon will inspect your incisions; remove sutures, if present; and discuss your rehabilitation program.

The amount of surgery required and recovery time will depend on the complexity of your problem. Occasionally, during arthroscopy, the surgeon may discover that the injury or disease cannot be treated adequately with arthroscopy alone. The extensive "open" surgery may be performed while you are still anesthetized, or at a later date after you have discussed the findings with your surgeon.

**What are the possible complications?**

Although uncommon, complications do occur occasionally during or following arthroscopy. Infection, phlebitis (blood clots of a vein), excessive swelling or bleeding, damage to blood vessels or nerves, and instrument breakage are the most common complications, but occur in far less than 1 percent of all arthroscopic procedures.

**What are the advantages?**

Although arthroscopic surgery has received a lot of public attention because it is used to treat well-known athletes, it is an extremely valuable tool for all orthopaedic patients and is generally easier on the patient than "open" surgery. Most patients have their arthroscopic surgery as outpatients and are home several hours after the surgery.

**What is recovery like after arthroscopy?**

The small puncture wounds take several days to heal. The operative dressing can usually be removed the morning after surgery and adhesive strips can be applied to cover the small healing incisions.

Although the puncture wounds are small and pain in the joint that underwent arthroscopy is minimal, it takes several weeks for the joint to maximally recover. A specific activity and rehabilitation program may be suggested to speed your recover and protect future joint function.

It is not unusual for patients to go back to work or school or resume daily activities within a few days. Athletes and others who are in good physical condition may in some cases return to athletic activities within a few weeks. Remember, though, that people who have arthroscopy can have many different diagnoses and preexisting conditions, so each patient's arthroscopic surgery is unique to that person. Recovery time will reflect that individuality.

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