



Arthroscopic Surgery

Informational Material from the Veterinary Medical and Surgical Group

What is arthroscopy?

Arthroscopy is a surgical procedure orthopedic 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 orthopedic 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 video 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 image is magnified up to 20x.

The video camera attached to the arthroscope displays the magnified image of the joint on a video monitor, allowing the surgeon to look, for example, throughout the knee (stifle) at cartilage and ligaments, and under the kneecap (patella). 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 an MRI, CT scan or ultrasound examination may be needed, as well. Through the arthroscope, a final diagnosis is made which may be more accurate than through “open” surgery (arthrotomy) 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 the joints in dogs are:

- Loose bodies of bone and cartilage:
 - OCD – Osteochondrosis / Osteochondritis Dissecans of the knee, shoulder, elbow, ankle
- Inflammation: Acute and Chronic
 - Synovitis — inflamed lining (synovium) in knee (stifle), shoulder, elbow, or hip
 - Bursitis — inflammation of a sac-like structure that surrounds ligaments
- Injury:
 - Shoulder — OCD, inflammation or tears of the bicipital tendon, rotator cuff injuries
 - Knee — cranial cruciate ligament tears with instability, meniscal (fibrocartilage) tears, chondromalacia (softening, wearing or injury of cartilage)
 - Elbow — OCD, UAP and FCP associated with elbow dysplasia
 - Hip — tearing of the ligaments or joint capsule, cartilage damage

Although the inside of nearly all joints can be viewed with an arthroscope, three joints are most frequently examined with this instrument. These include the knee, shoulder and elbow. As advances are made by engineers in electronic technology and new techniques are developed by orthopedic 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. Your pet will be given a general, spinal and/or a local anesthetic, depending on the joint or suspected problem. A small incision (smaller than a buttonhole) will be made to insert the arthroscope. Several other small 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 small accessory incisions.

How is arthroscopy performed? *(continued)*

Initially, arthroscopy was simply a diagnostic tool for planning standard “open” surgery, known as “arthrotomy”. With development of better instrumentation and surgical techniques, many conditions can now be treated arthroscopically. Several disorders may be treated with a combination of arthroscopic and standard surgery.

- Cranial Cruciate Ligament Injury in the Knee
- Elbow Dysplasia: OCD, Coronoid Disease, UAP
- Shoulder OCD
- Shoulder Injuries
- Tarsus (Hock Joint) OCD

After arthroscopic surgery, the small incisions may be covered with a dressing. Many patients need little or no pain medication from arthroscopy. Before being released, you will be given instructions about care for your pet’s incisions, what activities to avoid, and which exercises should be done to aid recovery. During the follow-up visits, the surgeon will inspect the incisions and discuss the rehabilitation program.

The amount of surgery required and recovery time will depend on the complexity of the problem and what other procedures were also performed. Occasionally, during arthroscopy, the surgeon may discover that the injury or disease cannot be treated adequately with arthroscopy alone. More extensive “open” surgery (arthrotomy) may be performed while your pet is 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?

- The arthroscope can be inserted to areas of the joint not visible in a traditional “open” surgical evaluation.
- In addition, the image is magnified up to 20 times on the video monitor, allowing for a more detailed evaluation of the joint.
- Although arthroscopic surgery has received a lot of public attention because it’s widespread use in people, it is also an extremely valuable tool for canine orthopedic patients and is generally easier on the patient than “open” arthrotomy. Thus, one of the biggest advantages of arthroscopy is that it is a much less painful procedure than “open” arthrotomy.
- Patients will use the limb earlier and better, with less loss of muscle tone and strength.
- The onset and development of osteoarthritis may also be expected to be less compared to “open” arthrotomy.

Recovery After Arthroscopy

The small puncture wounds take several days to heal. 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 pet’s recovery and protect future joint function. Occasionally, oral and injectable supplements are recommended to treat inflammation (synovitis) or cartilage damage.

Arthroscopic surgery is performed at our Glen Carbon location.

