

Arthroscopy – General Information

What is arthroscopy?

Arthroscopy is the utilization of a small camera (arthroscope) to visualize the inside of a joint. One or multiple very small skin incision(s) is/are created to introduce the arthroscope into the joint, allowing thorough inspection of the intra-articular structures (structures within the joint). The arthroscope provides a close-up, magnified view. Depending upon the pathology identified, some conditions can be treated arthroscopically by introducing specially designed instruments through additional small holes (portals) into the joint. Arthroscopy is performed in sterile manner in the operating theater.

What are the benefits of arthroscopy?

In the past and still in many situations today, a “classic or open” approach to the joint is made. This consists of a skin incision that is several inches long, followed by dissection through muscle bellies until the joint is reached. Retraction of the soft tissues surrounding the joint is then performed and the joint is inspected.

In contrast, arthroscopy is performed through small incisions. Multiple small portals are much less traumatic than a single open approach. The magnified view is often much better than the view provided by a standard “open” approach to the joint.

In addition to providing a better view of the intra-articular structures, arthroscopy results in significantly less trauma to the surrounding tissues. Consequently, patients treated arthroscopically experience less postoperative pain and enjoy a more rapid recovery from surgery than patients treated through a standard open approach. Therefore, if at all possible, when there is intra-articular (inside the joint) pathology, we will try to address it arthroscopically.

The value of arthroscopy over a standard approach is most impressive when comparing the amount and detail that can be seen of the joint during inspection of the shoulder, elbow, carpus (wrist), hip and ankle. Indeed, the use of arthroscopy can be of enormous benefit in establishing a diagnosis when the findings of a physical examination and radiographs or even more advanced imaging such as computed tomography (CT) or magnetic resonance imaging (MRI) are inconclusive. Occasionally, an arthroscopy might need to be converted and can also be used adjunctively with an open approach. The inside of the joint can also be inspected arthroscopically via a small open approach.

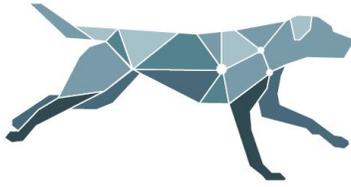
What joints are commonly undergoing arthroscopy?

The joints most commonly evaluated and treated arthroscopically are the shoulder, elbow and stifle (knee). However, the carpus (wrist), hip, and tarsus (ankle, hock) have been described and can also be examined in large dogs, but the need for arthroscopic evaluation of those joints is less frequent. Images depicting typical treatment scenarios for the most commonly examined joints are provided on the next pages.



Picture: D. von Pfeil

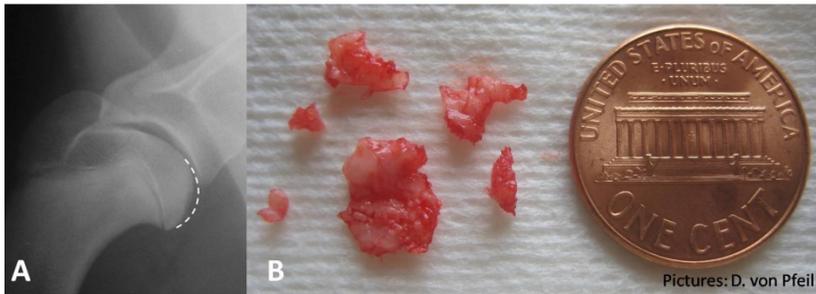
Arthroscopy of the stifle (knee joint). The inside of the joint, in this case the meniscus, can be seen on the monitor.



Shoulder arthroscopy:

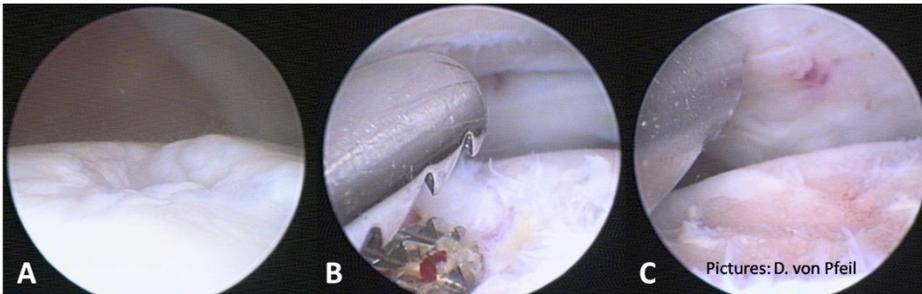
Indications for shoulder arthroscopy include intra-articular exploration, osteochondrosis dissecans (OCD) treatment, bicipital tenosynovitis treatment (inflammation of the biceps tendon), and medial shoulder instability.

See specific handouts on for more information on these disorders.



OCD: Radiograph and bone chips.

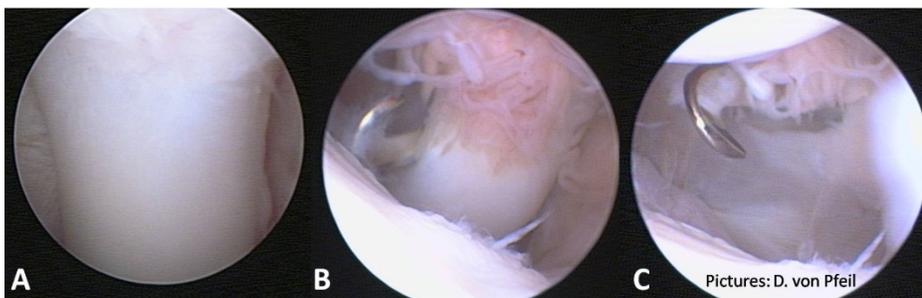
A: Osteochondrosis dissecans (OCD) lesion of the shoulder. Note the indentation of the articular cartilage (the normal joint surface is



Arthroscopic view of OCD.

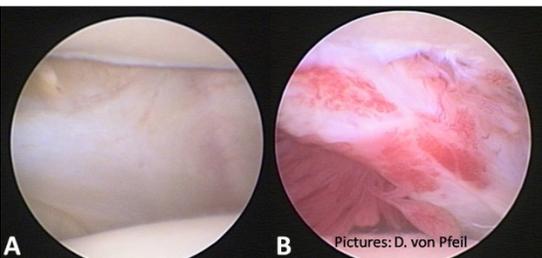
A: OCD lesion (irregular surface).

B and C: Debridement of diseased cartilage and establishment of a healthy joint surface.



Arthroscopic views for biceps tendon disease.

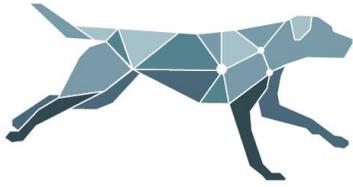
A: Normal appearing biceps tendon. B: Diseased biceps tendon prior to, and C: after biceps tendon release.



Arthroscopic views for medial shoulder instability.

A: Normal and B: inflamed medial glenohumeral ligament of the shoulder.

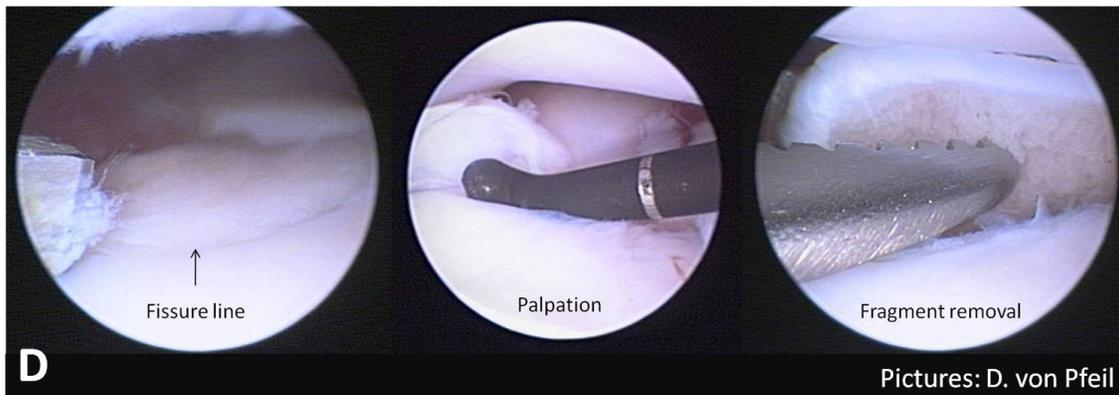
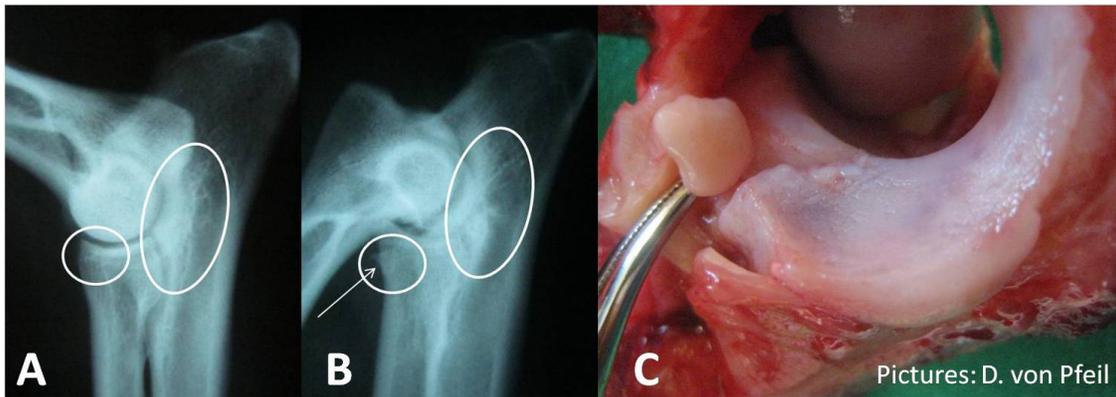
This condition is frequently seen in dogs with medial shoulder instability (MSI).



Elbow arthroscopy:

Indications for elbow arthroscopy include intra-articular exploration, removal of a fragmented medial coronoid process (FCP), and osteo-chondrosis dissecans (OCD) treatment.

See specific handouts on for more information on these disorders.



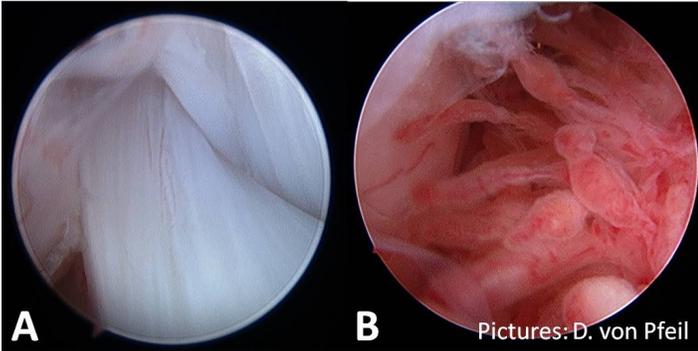
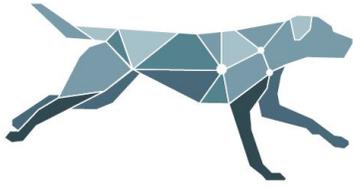
Radiographs, gross anatomy and arthroscopy of FCP.

A: Normal elbow joint. B: Elbow joint with fragmented medial coronoid process (FCP, arrow) and development of arthritic changes (compare the irregular and increased white appearing bone in the ellipse and circle of pictures B with A). C: FCP, gross anatomy. D: Arthroscopic

Stifle (knee) arthroscopy:

Indications for stifle arthroscopy include intra-articular exploration, removal of ruptured cranial cruciate ligament, removal of torn medial meniscus, osteochondrosis dissecans (OCD) treatment.

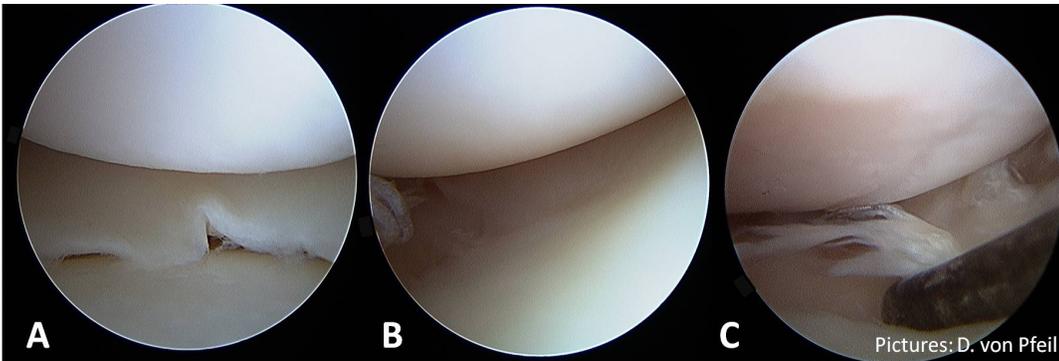
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Stifle (Knee) Arthroscopy: Cruciate Ligament.

A: Normal cranial cruciate ligament.

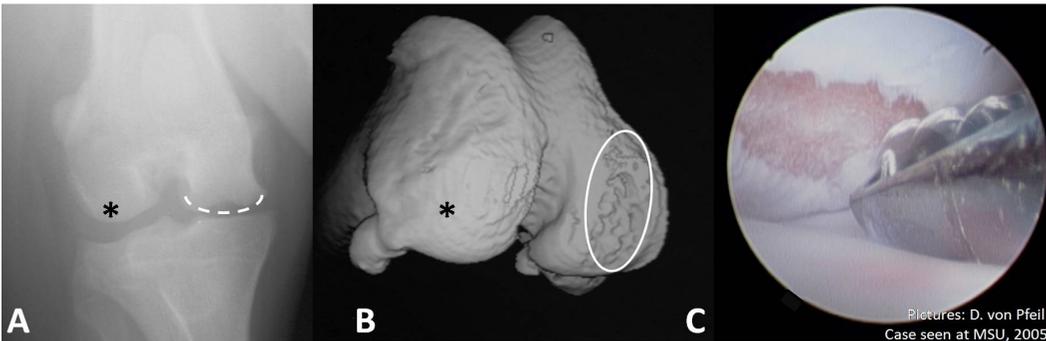
B: Severe inflammation secondary to a ruptured cranial cruciate ligament.



Stifle (Knee) Arthroscopy: Meniscus.

A and B: Arthroscopic appearance of a normal meniscus.

C: Palpation of a torn medial meniscus in the stifle joint.



Stifle (Knee) Arthroscopy: OCD.

A: Radiograph (x-ray) of a stifle joint with OCD. Compare normal (star) with diseased cartilage (white dashed ellipse).

C: Arthroscopic treatment of the OCD lesion using an arthroscopic shaver.

What are possible complications with arthroscopy?

Complications with arthroscopy surgery are extremely rare but might include but are not limited to infection, cartilage damage, nerve damage, recurrence, chronic pain. However, typically surgery goes well and we thus do not have to expect significant problems. With appropriate post-operative care we expect animals to heal well and return to normal function.