

## SUTURE OF THE MONTH

# Capsular Suture Using Optilene®

Arthrotomy is the surgical opening of a joint space and is performed for both diagnostic and therapeutic reasons.

Depending on the indication, the knee joint can be accessed from both the outside (lateral) and the inside (medial). This example illustrates the lateral approach to the knee joint.

In this case, the skin incision is made paramedian of the patellar ligament to the crista tibiae. The subcutaneous tissue is transected. The fascia is then incised and opened along the entire length of the skin incision. Depending on the size of the animal, it is important to leave 3-10 mm of fascia on the side of the patella ligament. The joint capsule is opened distal to the patella and the incision is continued proximally, along the patella ligament. Along the edge of the vastus lateralis muscle, dissection is performed in the direction of the fabella, and the patella is then luxated medially for better visualisation of the articular surface.

To close the knee joint, the thin joint capsule is carefully closed using a slow absorbable or non-absorbable suture with a small radius needle.

Optilene® is a non-absorbable monofilament made of polypropylene and polyethylene that is ideal for vascular/cardiac surgery and also for orthopaedics.

The addition of polyethylene provides the Optilene® thread with a particularly supple surface and good elastic and tensile properties, plus permanently high tear resistance. Owing to the excellent tissue penetration, only minimal tissue trauma is caused. In combination with the very stable easy slide needles, Optilene® is also suitable for stronger tissue structures such as fasciae.

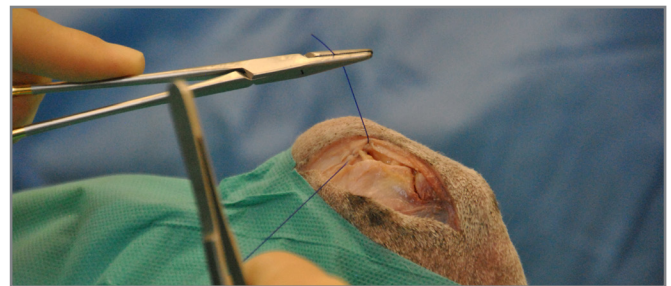
Interrupted stitches or cruciate stitches are used to close the joint capsule.

The advantages of the cruciate stitches are the better stress distribution compared to interrupted stitches, as well as saving time and reducing the number of knots.



2. Placing a cruciate stitch as a capsular suture

Accurate identification of the capsular edges and separate suturing of the capsule and fascia are important.



3. Separate grasping of capsular edges for the capsular suture

The sutures are placed tightly to prevent the synovial fluid from leaking into the surrounding tissue. 2-3 individual knots are placed on the surgical knot and the threads are cut with a short end length.



4. Shortening the knots

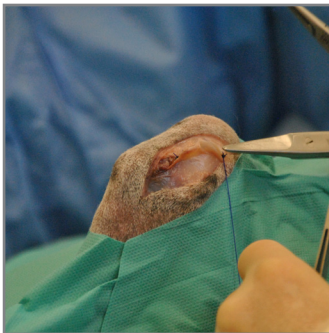


1. Start of capsular suture

The very small breeds of dogs and cats, in which sometimes a clear differentiation of the two layers is not possible, constitute an exception as patients; there, both structures can also be closed using one suture.

After closing the capsule, the fascia is sutured. A continuous stitch or cruciate stitches can be used for this purpose.

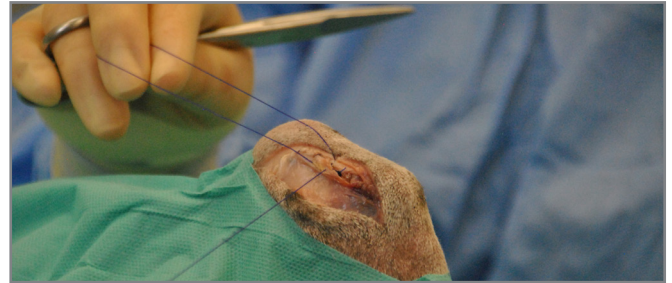
The single running suture saves time and material, resulting in less foreign material remaining in the patient. The fascial suture shall cover the capsular suture.



5. Start of fascial suture



6. Continuous stitching of the fascia



7. Covering the capsular suture with the continuous fascial suture

As an alternative, interrupted mattress sutures can also be used for fascia tightening

The subcutaneous tissue and the skin will be closed after the joint capsule and fascia have been closed. This is done, for instance, using a continuous suture and an absorbable, monofilament thread (Monosyn®) and individual stitches in the skin using for instance Dafilon® (please refer to the article on skin closure).

#### SOURCE:

"Atlas of Surgical Approaches Dog and Cat" by Jordi Franch and Carlos López.

Clinical expert: Dr. A. Wagner and Dr. Laura Rohwedder, data on file at B. Braun Group, Germany