Ligament and tendon injuries are classified into three grades:

- **Grade 1**: there is a minimal collagen fiber injury, and it does not entail functional changes.
- **Grade 2**: the breakage of collagen fibers is more extensive and there is a functional deficit.
- **Grade 3**: there is a partial (severe damage of the collagen fibers) or complete (or avulsion of the bone ligament) rupture.

Theoretically, lesions of grade 3 and some of grade 2 (depending on the functional deficit present) require surgical treatment.

As a general rule, within the first hours after the injury it is advisable to apply cold, and bandages when the injury requires it. When carrying out surgical repair, it is essential:

- Re-attach the ends when there is a complete rupture. If there is a space between the ends, the tendon or ligament will probably not heal or they will heal by fibrosis (which will result in weak healing).
- The immobilization that is normally essential. It is necessary to avoid excessive loads on the repaired structure.
- Sometimes it is important to introduce implants that protect and augment the ligament / tendon, such as nylon, fascia grafts, etc.

For the re-apposition of the ends it is necessary to manipulate as little as possible the ligament / tendon with instruments, since they can damage it even more. Therefore, it is recommended to use hypodermic needles to hold and mobilize the ends. The suture of the ends is made by means of generally non-absorbable material, such as nylon or polypropylene.

The recommended suture pattern for ligaments and flat tendons is the Kessler suture or locking-loop suture. When the tendon has a rounded structure, the recommended suture pattern is the three-loop pulley suture. If the rupture occurs in the insertion or origin of the ligament / tendon, a modification of such suture patterns is used by means of bone tunnels.

It is essential that once the ligament/tendon is sutured, no space is left between the two ends. The non-contact of the ends leads to the formation of fibrous tissue.

The immobilization of the ligament or tendon is usually achieved by means of splints that restrict joint movement and/or keep the ligament/tendon without tension. In some occasions it may be necessary to use trans-joint external fixators, screws, etc. to achieve this function. Immobilization plays an important role in the healing process. The vast majority of surgical failures are due to inadequate immobilization. On the other hand, it is described that a very prolonged immobilization (more than 4 weeks) can lead to secondary problems, such as alteration of the articular cartilage that can become permanent.

The enlargement of the ligament/tendon is a common part of surgical repair when such repair is weak, such as the suture of a collateral ligament. In these cases, the ligament is usually enlarged by the use of screws (with or without washers) and nylon, or by the use of bone and nylon tunnels. Other forms of enlargement described are the use of autologous fascia (such as fascia lata), porcine small intestine submucose tissue, etc.

Other more recent forms of enlargement are the use of interfragmentary screws and flat multifilament sutures, commonly used in human medicine for musculo-tendinous shoulder injuries. One of the main
problems with the use of multifilament sutures is their management during surgery, so that, if it is not correct, the rate of postoperative infections is high. Another enlargement system used in human medicine that is currently available in veterinary medicine is LARS (Ligament Advance Reinforcement System), which can be used for Achilles tendon ruptures.

The use of regenerative medicine as part of the treatment of ligament/tendon injuries is also described. In these therapies, Platelet Rich Plasma (PRP) is the most commonly studied. The results of the use of PRP seem promising, and its use together with a rehabilitation program seems to lead to a better outcome.

Rehabilitation is one of the surgical aspects that is recently becoming more important. It is agreed that the mobilization of the ligaments/tendons in a controlled way during the postoperative period favours healing, thus obtaining an adequate orientation of the collagen fibers. Likewise, the use of ultrasound and laser seems to favour the healing of these tissues.