

VETLIG GLOBAL



VETLIG GLOBAL is a trademark of STIF SAS.

***It's dedicated to orthopaedic veterinary surgery
and particularly to the reconstruction of ligaments,
tendons, muscles and other soft tissues.***



Background

VETLIG GLOBAL



In the 1980's the initial enthusiasm for synthetic material ligament reconstruction in humans, severely decreased, due to high failure rates.

But some researchers kept on trying to understand why it failed. It appeared that the fibers which were used were not the appropriate ones in terms of mechanical properties and, more than that, contained some undesirable substances, particularly lubricants, which were the cause of severe intolerances. It also appeared that the design of the ligaments did not correspond to the in vivo constraints and were more like shoe laces or ropes, than ligaments. The in vivo stresses are a combination of torsion, flexion and tension. The structure of the first ligaments was braided, woven or knitted, resulting in fibers over crossing. During torsion and flexion these intersecting fibers were cutting each other, causing debris, synovitis and finally ruptures. This is how was born the concept of intra-articular « free fibers » which has been a huge step towards improving the resistance to fatigue of the implant up to millions of cycles as there were no more crossing fibers in the active intra-articular portion.

And last but not least, nobody knew exactly where and how to place these implants. It's clear that synthetic fibers do not have the properties of the native fibroblastic tissue, and especially its elasticity. Therefore it is mandatory to respect a precise isometry as to not exceed the mechanical capacities of the synthetic fibers. Thus the landmarks for precise placement had to be redefined.

So all of these domains of technical, biological and anatomical research have been explored and the problems, one by one, solved.

Since about 25 years this new generation of synthetic ligaments has been widely used in humans with excellent results comparable to classical techniques, but in addition, avoiding the inconveniences of autogenous transplants and allowing immediate full weight bearing, mobilisation and fast recovery. Considering these good results in humans, it made sense, after some adaptations, to apply the same procedures to veterinary surgery.

Since 2010 this is what STIF- VETLIG GLOBAL is dedicated to and is now, after 7 years of trials in several countries, ready to launch for the benefit of the pets and their owners.

STIF (Soft Tissue Internal Fixation) VETLIG GLOBAL bring new and innovative products into the veterinary market.

The rupture of the cranial cruciate ligament is one of the most frequent pathologies in dogs.

The usual techniques like extra capsular reinforcements are known to give quite good results in very small pets for a while.

The main classical techniques like TPLO or TTA give also some good functional results but are quite invasive and create an irreversible situation in changing the biomechanics of the joint. In case of complications (11% to 17% according to publications) it's sometimes difficult to find a solution.

Using synthetic ligaments which are currently perfectly biocompatible and reliable in terms of resistance, is a good option. It's a non invasive technique which can be performed under arthroscopy. It requires only two small tunnels in the bone which do not burn the bridges and do not create any irreversible change. It really treats the problem where the problem is : reconstruction of the torn ligament itself to reproduce the function of the CrCL and recover the native mechanism of stability of the joint.

The big advantage is the immediate solidity which allows the animal to do what he feels like, with no restriction and no risk as soon as the skin is healed. No need to wait for any consolidation of the bone like in osteotomies, therefore no worries for the owner and for the surgeon.

With the same philosophy of immediate solidity Vetlig Global supplies implants and procedures for other pathologies : tendons repair (Achilles, patellar, quadriceps...) hip dislocation, hernia, muscle ruptures and any situation where soft tissue repairs need to be reinforced.

These products are currently for dogs and cats but the same technology could be applied for other animals like horses.

Vetlig believes that these products will help veterinarians to offer their patients options which were not available before and enable them to go back to normal activities with minimal inconvenience.



INTRODUCING VETLIG GLOBAL IN A FEW WORDS

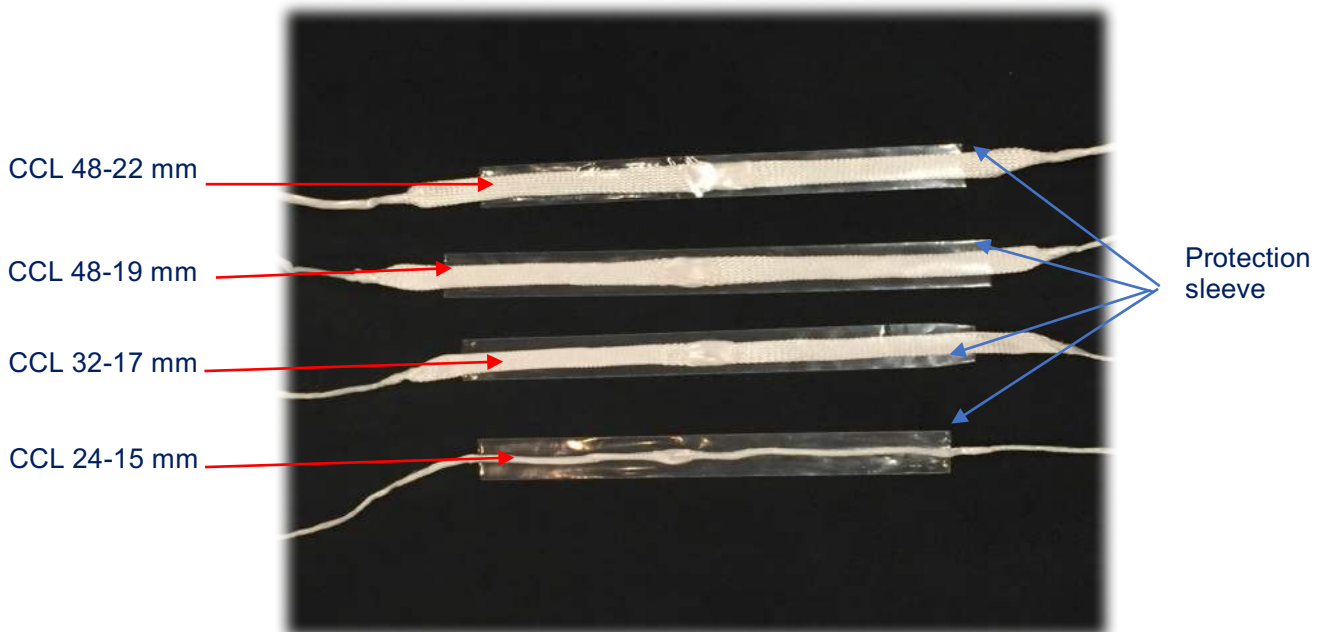
- *More than 25 years of experience in humans with thousands of patients all over the world.*
- *7 years of research, clinical trials and medical monitoring on animals (more than 200 dogs operated in different countries).*
- *Development of a product 100 % adapted to the dogs in case of ligament's or tendon's ruptures.*
- *A really innovative and interesting technique for the surgeons with the possibility of an arthroscopic procedure.*
- *A quick and durable recovery for the animal.*
- *A feeling of safety for the animals (they walk immediately). An easy and quiet post operative period for the owners.*

Every dog deserves the best



Implant : cranial cruciate ligament

Vetlig Global offers a complete range of ligaments with different resistances and lengths of the free intra-articular fibers to match the different weights and sizes of the animals.



Each implant comes from a sterile box with a sleeve which protects from any contact and helps to handle the implant keeping it perfectly clean until its passage into the joint.

Different ligaments are available according to animal's weight and size :

- 5- 7 kg : 16 fibers – free fibers 10 mm – strength approx 2000 N



- 7 - 12 kg : 24 fibers – free fibers 15 mm – strength approx 3000 N



- 12 - 25 kg : 32 fibers – free fibers 17 mm – strength approx 4000 N



- More than 25 kg : 48 fibers – free fibers 19 mm / 22 mm / 25 mm – strength approx 6000 N



For very big active dogs, over 70 kg, it's possible to combine 2 implants.

THE LENGTH OF THE FREE FIBRES IS DETERMINED INTRA-OPERATIVELY ACCORDING TO THE LENGTH OF THE NATIVE LIGAMENT.

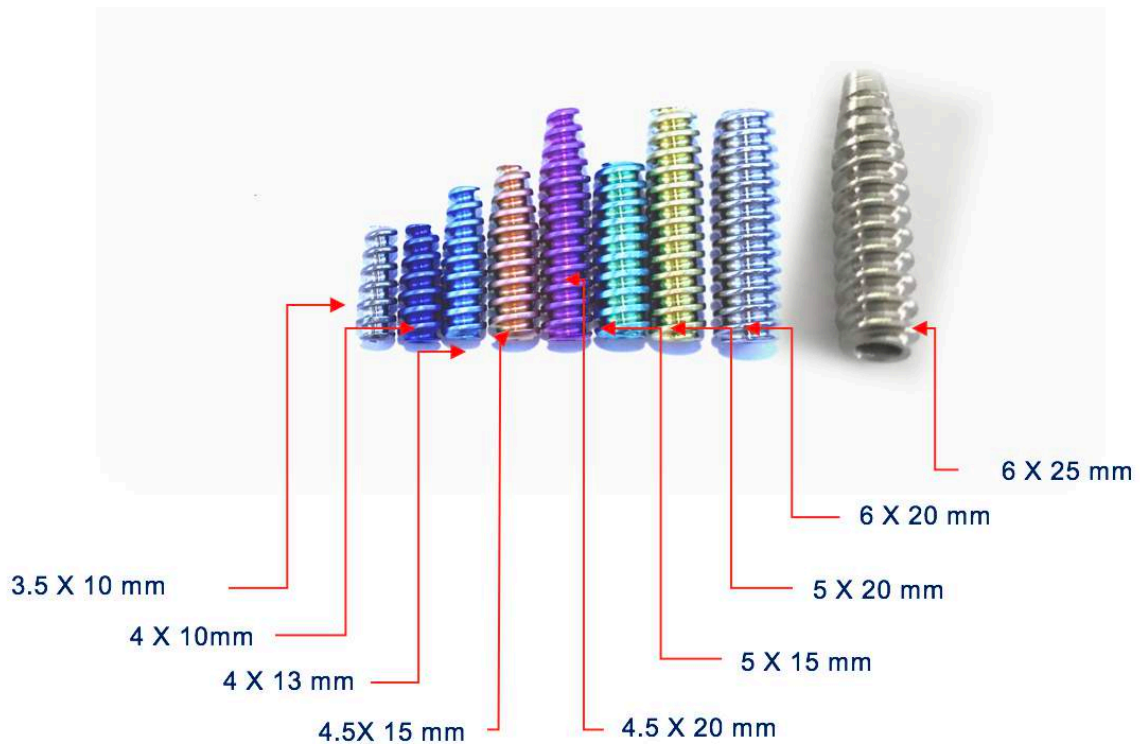
The team of STIF is flexible and reactive and if you are looking for any specific implant or have suggestions, please contact us.

CANNULATED SCREWS

The braided extra articular parts of the ligaments are anchored into femoral and tibial bone tunnels by cannulated titanium interference screws. The screw must be guided parallel to the ligament by a K-wire to avoid any divergence. The threads of the screws are round as not to damage the fibers.

Different sizes are available :

- 3.5mm X 10mm – guided by a K-wire of 0.9mm.
- 4mm X 10 mm / 4mm X 13 mm – guides by a K-wire of 0.9mm.
- 4.5 mm X 15 / 4.5 mm X 20 - guided by a K-wire of 1 mm.
- 5mm X 15 mm / 5 X 20 mm – guided by a hexagonal K-wire of 2.5mm.
- 6 X 20 mm / 6 X 25 - guided by a hexagonal K-wire of 2 mm.

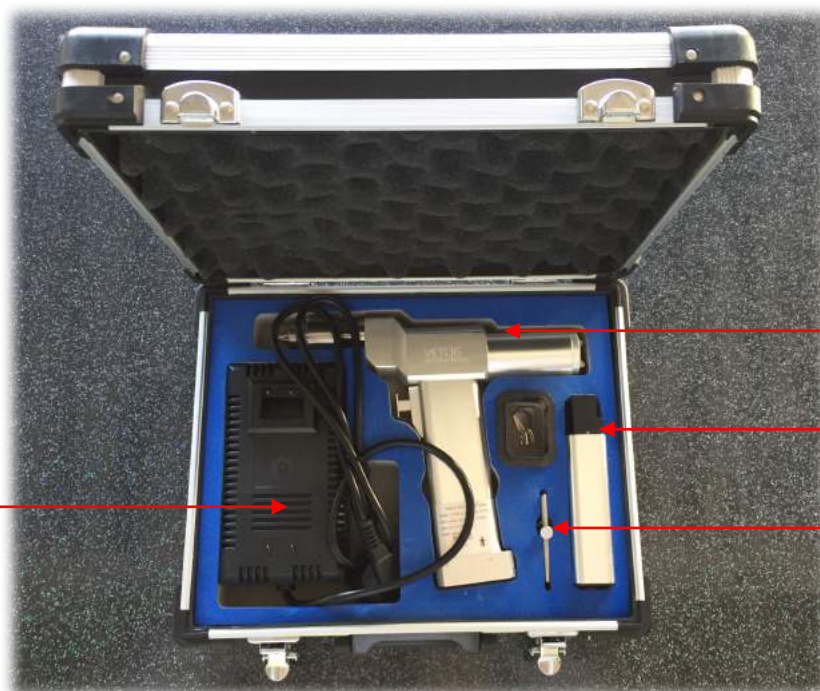


CANNULATED DRILL

The positioning of the guide pins for the femoral and tibial tunnels requires great precision. This accuracy is impossible to obtain if the 20cm long K-wires are placed in an ordinary mandrel because the operator's hand is too far from the target and the flexibility of the K-wire does not allow a precise drilling.

It is therefore necessary to have the drill and the mandrel cannulated, which allows to let just a few centimeters of the K-wire protruding and obtain the required accuracy.

Vetlig Global provides a specifically designed cordless electric drill with a rechargeable battery.

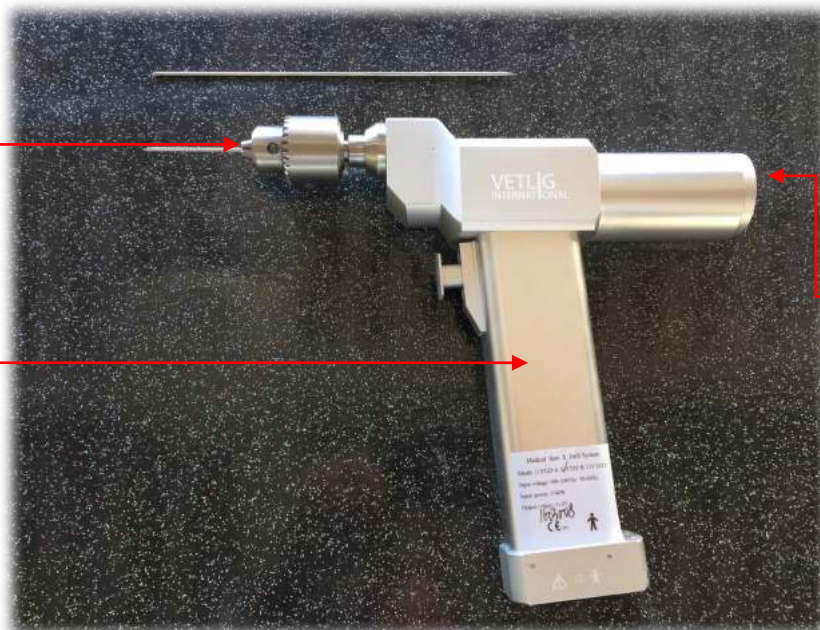


Battery charger

Cannulated drill

Battery

Notched tightening wrench



The length of the Kwire protruding from the mandrel is adjustable

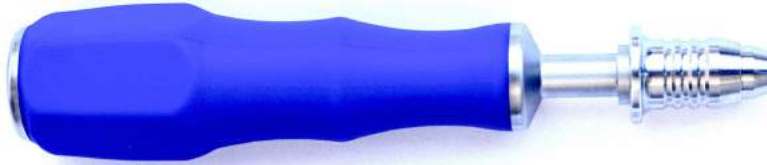
Battery housing

Adjusting the direction of rotation of the motor

SCREWDRIVERS

The use of 3 screwdrivers is necessary depending on the screw used.

A single screwdriver handle allows the use of several interchangeable tips depending on the need:



- A torx screwdriver tip cannulated at 1mm to fit the 3.5mm diameter screws (guided by the K-wire of 0.9mm).



- A hexagonal screwdriver tip cannulated at 1mm to fit the 4mm and 4.5mm screws (guided by the K-wire of 0.9mm).



- A cannulated female screwdriver tip adapted to the hexagonal K-Wire of 2.5mm, used for 5mm and 6mm screws.

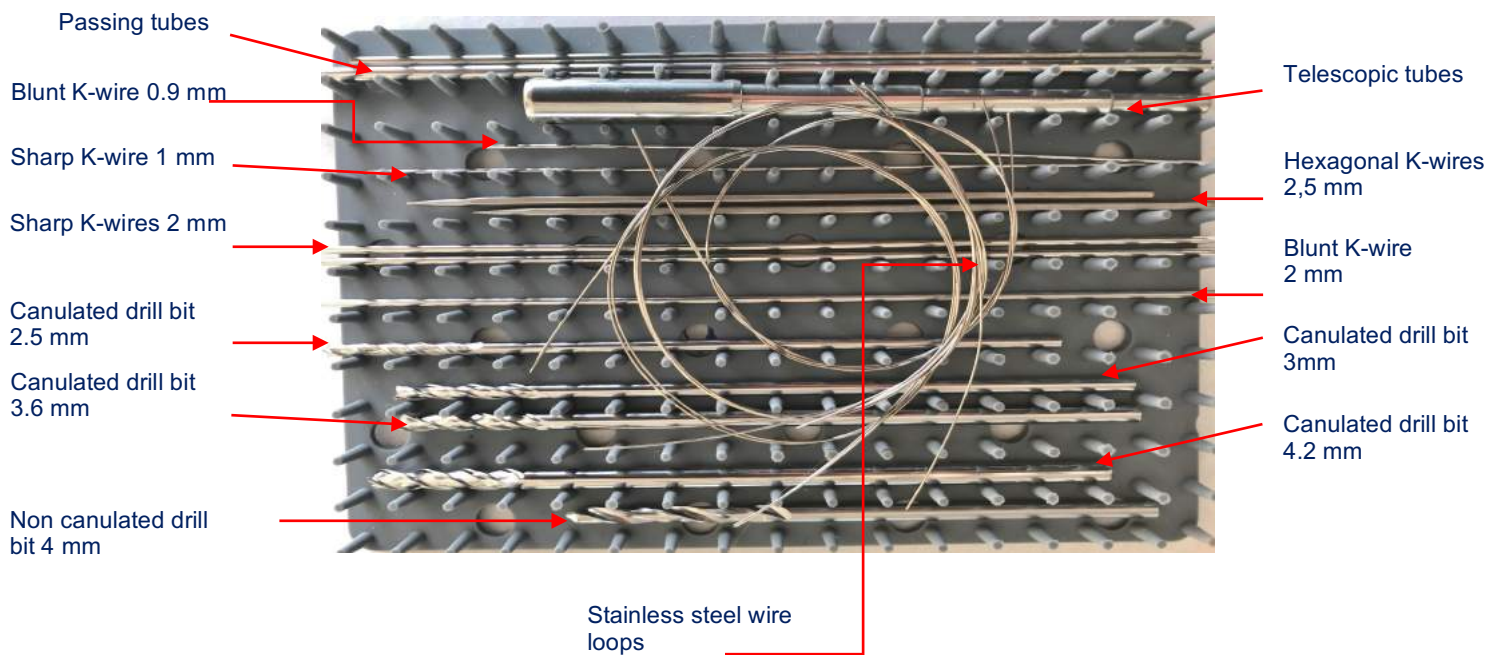


INSTRUMENTS SET

To make it easier for the surgeons Vetlig Global has developed a kit of instruments which allow a simple surgery.

The box contains :

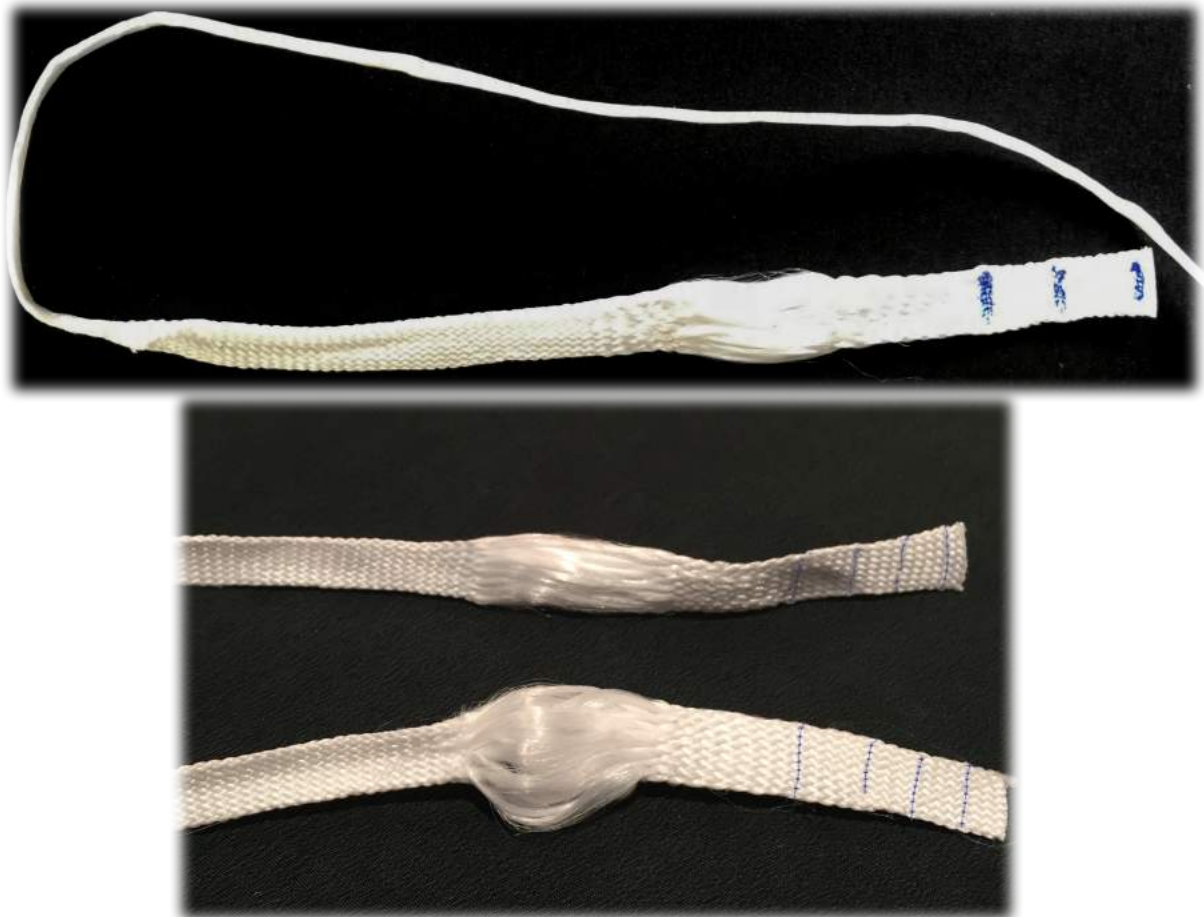
- 4 units of cannulated drill bits : 2.5mm, 3 mm, 3.6 mm and 4.2 mm
- 3 units of non cannulated drill bits : 3mm; 4mm and 4.5mm used for transversal tunnels which do not need to be guided.
- 2 units of 2 mm K-wires double trocard used as guides for the cannulated drill bits of 3.6mm and 4.2mm.
- 2 units of 1 mm K-wires double trocard used as guides for the cannulated drill bit of 2.5mm and 3mm.
- 2 units of 2 mm blunt K-wires.
- 2 units of 0.9mm blunt K-wires used as guides for the screws of 3.5mm; 4mm and 4.5mm.
- 2 units of hexagonal K-wires of 2.5mm used as guides as well as a screwdriver for the 5mm and 6 mm diameter screws.
- A set of 3 telescopic tubes from diameter 6mm; 8 mm and 10 mm to protect the soft tissues from the drill bits when needed.
- 2 passing tubes: 2.5 mm X 170 and 3.5 mm X 185 to allow the passage of the wire loops.
- 4 units of stainless steel wire loops to pull the leader threads of the ligaments through the tunnels.



TENDONS

As well as ligaments, Vetlig Global is offering synthetic implants to reinforce the repair of ruptured tendons, supported by the same philosophy of fast recovery.

One of the most frequent is the Achilles tendon but also the patellar tendon, the quadriceps tendon etc...



The flat part (on the right) is inserted into the proximal part like "in a sandwich" and sutured. Depending on the length of the proximal tendon it's possible to cut the synthetic implant above the blue lines which are there to prevent the fraying of the braided fibers. The free fibers correspond to the ruptured zone, where the colonization of the implant is the most active. The distal portion is inserted in a bony tunnel and fixed with an interference screw.

REINFORCEMENT PATCHES

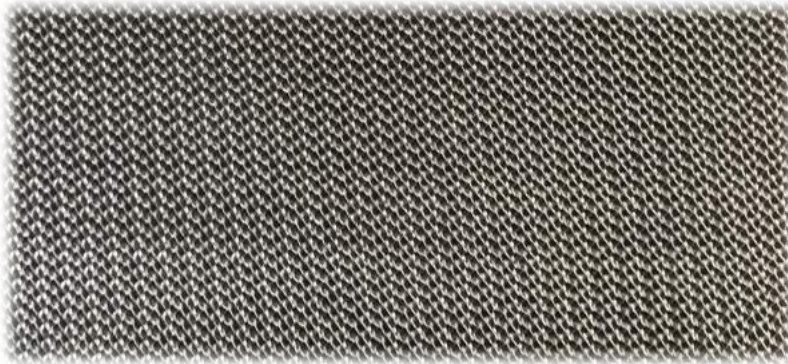
It is sometimes useful to reinforce the repair of soft tissues structures such as different types of hernias, muscles, rotator cuff, and many other situations where it's difficult to make a repair strong enough to resist the dog's activity.

There are 3 types of patches, coming in pieces of 15 cm X 10 cm which can be cut to the desired size. These patches are extremely porous and quickly colonized by the fibroblastic ingrowth. They are fixed preferably with non resorbable sutures.

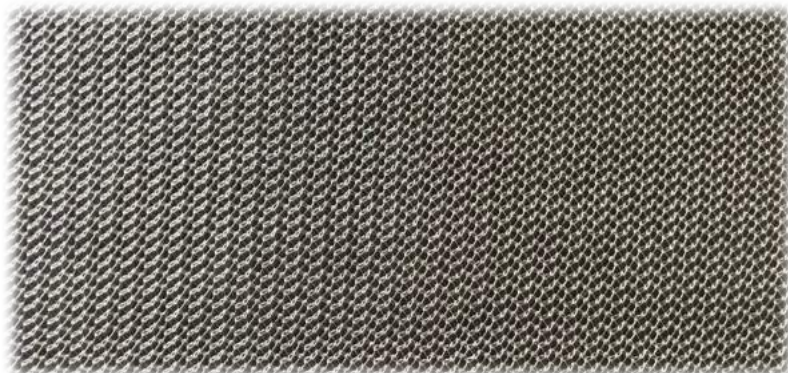
BIGPORE



STANDARD



SOFT



** The photos are not contractual.
* Vetlig Global retains the right to modify its products*

SOFT TISSUE INTERNAL FIXATION

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