

# **PATELLAR TENDON REPAIR**



**CONTINUITY OF THE BRAIDED FIBRE** The braided fibres run the whole length of the tendon thus giving strength and resistance to

whole implant.

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# PATELLAR TENDON REPAIR

#### MEDICAL **GRADE FIBRE**

Allowing perfect biocompatibility, strength and resistance.

> HIGH POROSITY Enhancing fibroblastic in-growth.

**VETLIG LTD** offers a full range of synthetic ligaments and tendons. Designed specifically for veterinary use, our products are minimally invasive and mimic the original native ligament or tendon we are replacing or reinforcing. Vetlig products aim to regain quicker post operative mobility and quality of life compared to conventional repairs.

We only use human medical grade UHMWPE Fibre that comes from CE and FDA approved human manufacturing facilities in Europe.

For the Achilles Tendon Reconstruction, we provide three sizes of tendon. Each has an approximate resistance in Newtons :

•NOVATEN® 2000 : 2000 N 2.5mm tunnel 3mm screw for cats and small dogs under 10 KG

•NOVATEN® 4000 : 4380 N 3mm tunnel 4 and 4mm screws

Under 10-35 KG

•NOVATEN® 8000 : 8200 N 3.6mm tunnel and 4.5 to 6mm screws Over 20 KG



#### THE CHOICE OF THE TENDON DEPENDS ON ANIMAL'S WEIGHT AND ACTIVITY

The selection criteria for the size of the tendon graft to be implanted is in relation to the weight of the animal, the level of activity and to be compatible with the bone size.

No need for an external fixator or a tibiocalcaneal screw post op.

#### As an indication:

NOVATEN<sup>®</sup> 2000 fits into a 2.5mm tunnel NOVATEN<sup>®</sup> 4000 fits into a 3.0mm tunnel NOVATEN<sup>®</sup> 8000 fits into a 3.6mm tunnel

# MANAGEMENT OF PATELLAR TENDON DISRUPTION IN CANINE PATIENTS USING A SYNTHETIC TENDON

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Aspeptic technique to be used at all times.

Perform a cranio-medial approach of the stifle starting proximal to the patella and extending distally to the tibial tuberosity, continue with a medial arthrotomy. Dissect the patellar tendon to isolate it. Debride and remove any scar tissue and keep the healthy tissue.

## STEP 2

Place the guide wire for the proximal bone tunnel starting at the insertion of the patellar tendon on the tibial tuberosity in a cranial proximal to caudo-distal direction in the sagittal plane of the tibia. Over drill with the relevant cannulated drill.



If you use the technique with 2 tunnels, the second tunnel is drilled in a perpendicular direction (in the frontal plane of the tibia) a few millimetres distally.

For each tunnel a 2.0 guide wire is inserted first and then a cannulated drill bit is drilled over the guide wire. The diameter of the drill bit is relative to the size of the implant used. Always use the 2.0mm guide first even if using the 3mm drill bit, swap out the 2mm wire for the 1.2mm and then over drill. The 1.2mm guide wire is not always accurate enough to drill in hard bone.

- 2mm guide wire with a 3.6mm drill for a 8000 NOVATEN
- 1.2mm guide wire with a 3.0mm/2.5mm drill for a 4000/2000 NOVATEN



After drilling; each tunnel is then cleared of debris using sterile saline flushed with a 20cc syringe.

The tunnel is pre tapped using the screw that will be used later to complete the ligament fixation. The interference screw is rotated in and out to make the introduction of the screw and ligament is easier later on.

The appropriate length of the screw is measured using a depth gage.

# STEP 3

Make a longitudinal incision in the proximal end of the tendon only halfway through the thickness of the tendon. This incision can be made on either side of the tendon (doing it "under" the tendon reduces the friction between the suture knots and the skin. The length of the incision must be as long as possible to allow for the placement of enough sutures.

A simple interrupted pattern or a continuous pattern with Fiber Tech 3 or 5 is used depending on the size of the implants and the patient to secure the NOVATEN to the proximal part of the patellar tendon doing a "hot dog" with the NOVATEN and the original ligament.

If you can; suture the ends of the torn tendon using the usual tendon suture techniques (Kessler or three loop pulley modified techniques for example).





# STEP 4 ONE TUNNEL TECHNIQUE:

The Novaten synthetic tendon is inserted through the proximal tunnel using the passing tube and the wire loop. The leader thread is inserted in the wire loop and pulled through the tunnel from proximal to distal.





# TWO TUNNEL TECHNIQUE:

If you are using the technique with 2 tunnels, the NOVATEN is then inserted in the second tunnel.

Tension is applied to allow normal function.

The tendon can be clamped using a Kocher clamp or by hand to assess the stability and tension.

#### **STEP 5**

When you are satisfied with the tension finalise fixation of the tendon with the interference screw.

#### **ONE TUNNEL TECHNIQUE:**

The screw is inserted from cranio-proximal to caudo-distal in the tibial tuberosity's tunnel.

## **TWO TUNNEL TECHNIQUE:**

The screw is inserted in the distal hole from medial to lateral.

The screw must be bicortical or as long as possible for better fixation.

Insert a blunt 1mm k-wire in the tunnel and place the cannulated screw using the k-wire as a guide and then the ratchet-screwdriver. Make sure the guide wire is alongside the ligament in the bone tunnel and not going through it so you get a good purchase with the screw.

Make sure you are happy with the tension after positioning the screw.

Cut the distal end of the NOVATEN flush to the bone.

7

5 mm



The use of Novaten® avoids having to use an external fixator.

A splint bandage is recommended for 4 to 6 weeks. Or possibly a resin on particularly active dogs.

A return to progressive exercise is recommended for 1 month after removal of the bandage. Physiotherapy is recommended.



NB : Make sure the screw diameter remains <1/3 of the bone diameter & choose the screw that will fill entirely (when possible) the tunnel length

7 mm screw



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