



NOVETECH

SURGERY

**PATELLAR TENDON
RECONSTRUCTION**

NOVATEN®

Synthetic Tendon

CONTINUITY OF THE BRAIDED FIBER

The braided fibres run the whole length of the tendon thus giving strength and resistance to the whole implant

MEDICAL GRADE FIBRE

Allowing perfect biocompatibility, softness, strength & abrasion resistance

HIGH POROSITY

Enhancing tissue-in-growth, for greater invasion by soft tissue

2

	K-wire Diameter millimètre	Drill Bit Diameter millimètre	Screw indication millimètre	Approx. resistance of the tendon newton
Novaten 2000	1.2	2.5	3.5	2000
Novaten 4000	2	3	4	4380
Novaten 8000	2	3	4	4380

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

As an indication :

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.

NOVATEN® 2000 fit into a 2,5 mm tunnel
NOVATEN® 4000 fit into a 3,0 mm tunnel
NOVATEN® 8000 fits into a 3,6 mm tunnel

We use the only one Medical Grade UHMPWE Fibre in the world to guarantee you the best resistance and proven biocompatibility.

Used in million of patients, its high softness enables it to reduce inflammatory reaction, irritation and thus accelerating recovery.

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

Developped with **DMV Philippe Buttin, Formation ECVS**
Referral Activity in the Alps, France

STEP 1

Surgical approach

STEP 2

Tunnel Preparation

STEP 3

NOVATEN® / Patellar tendon Sutures

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STEP 4

Passage of the prosthesis & Tensioning

STEP 5

Calcaneum Fixation

STEP 6

Post-operative



STEP 1

STEP 1

Perform a cranio-medial approach of the knee, starting distally at the tibial tuberosity and extend proximally above the patella. Medial Arthrotomy. Dissect the Patellar tendon to isolate it, from his enthesis to the musculotendinous junction. Debride the scar tissues on the lesion to keep healthy tissue.

4



STEP 2

STEP 2

The first bone tunnel is made from the insertion of the patellar tendon on the tibial tuberosity caudo-distally. Drill with a K wire and then over drill with the cannulated drill depending on which size implant is chosen.

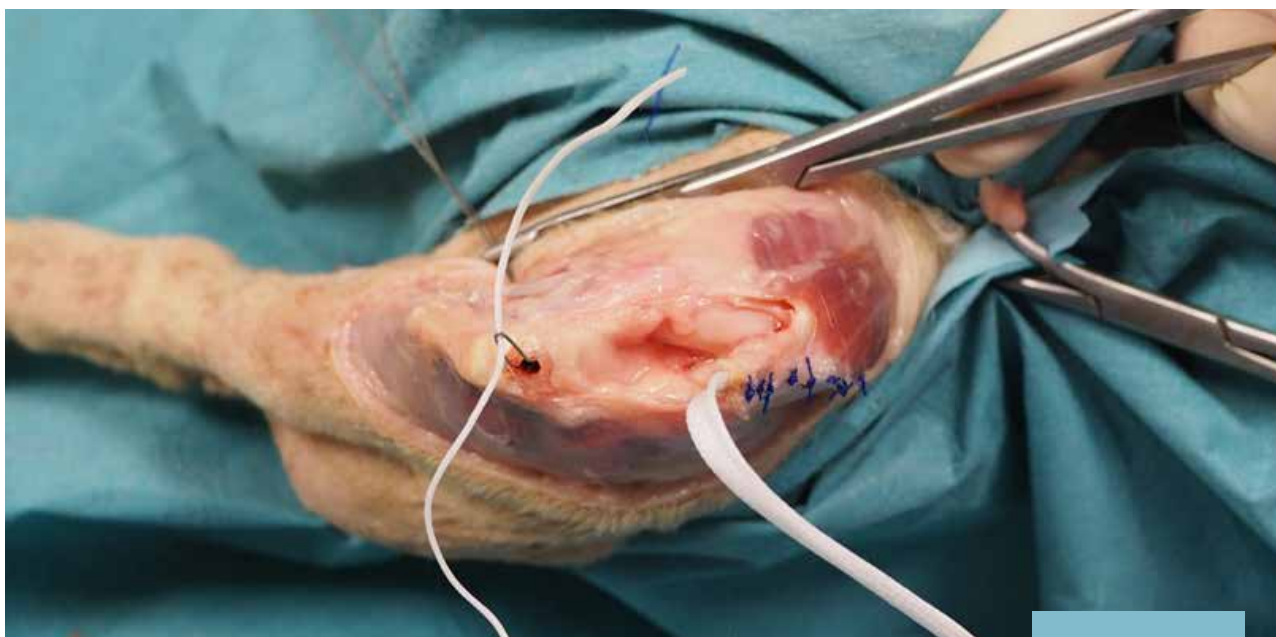
For the NOVATEN® 8000, a 2 mm K wire is used for a 3.6 mm cannulated drill bit.

For a NOVATEN® 4000, a 1 mm K wire is used for a 3 mm cannulated drill bit



The second tunnel is made perpendicular to the first one (a few millimetres distally to the exit of the first hole) using the same process (K-wire and Cannulated drill bit). Drill from the medial aspect to the lateral side of the tibia. This second tunnel is possible only if the bone is large enough to support it to avoid any risk of fracture,

The tunnel where you place the screw has to be pre-tapped.



STEP 3

STEP 3

Identify where the tendon lesion, rupture or avulsion of the enthesis or the musculotendinous junction is. Make a longitudinal incision of the proximal end of the tendon over half its diameter from the musculotendinous junction to the site of rupture. This incision can be made on the dorsal side of the tendon in order to protect the sutures from friction with the skin caused by friction. The length of the Novaten® interface / tendon and the number of sutures made will determine the strength of the overall procedure.

Insert the Novaten® into the space left by the tendon incision. Stabilize the Novaten® with single sutures spaced 5 mm apart to sandwich it inside the Patellar tendon to the site of injury (site of rupture at the level of the body of the tendon). Polypropylene thread 2: 0 to 0 (3 to 3.5 metric) is used depending on the patient's template. The use of UHMWPE wire is considered superior for tear resistance. NB: In the case of a rupture at the junction musculotendinous, it is possible to ascend proximally on the fascia of the muscle, then to insert the tendon in the distal tendinous space.

In the case of a rupture at the level of the enthesis the Novaten® traverses the whole of the tendon proximo-distally.

A Kessler suture or a «three loop Pulley» suture can be made to consolidate the join between both ends of the tendon when the affixation of the two tendon ends is possible. Once the suture is done, protect the prothesis with a compress soaked in saline so to limit the risks of contaminations.



STEP 4

The Novaten® synthetic tendon is passed through the first tunnel and the second perpendicular tunnel. It is then tensioned so it will function biomechanically and allow you to find the optimal length.

For the graft placement: insert the passing tube in the first tunnel and place the bendywire through the tube exiting proximally. Put the Novaten® ends into the bendy wire and pull through.

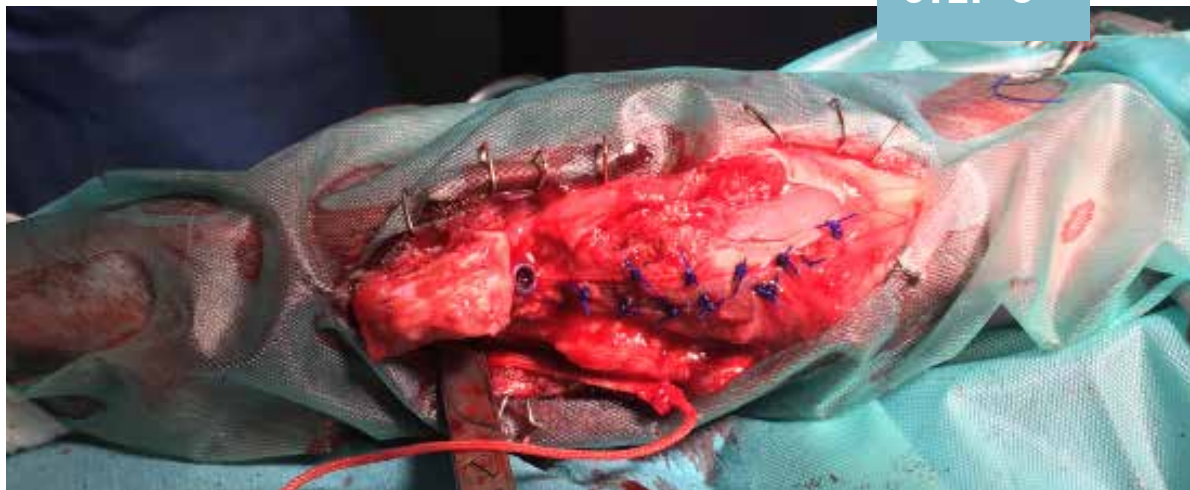
Use the same technique for the second perpendicular tunnel so that the wire exits medially on the tibial.

Use a curved Kocher forceps to pull the tendon between the two tunnels. When the correct position is you can quickly lock the forceps on the medial side of the calcaneus to prevent the slipping of the implant back through the tunnel while you select the screw.

A functional check is made before the final fixation of the prosthesis.

If the tension is not satisfactory, adjust by sliding the Novaten® in one direction or the other.

STEP 5



STEP 5

Measure the depth of the perpendicular tunnel and choose a screw that will be bicortical for a better fixation for the implant.

Insert the screw, guided a 1 mm K-wire to beyond the cortex. This allows during the second cortical passage to avoid a fracture. Use the cannulated screwdriver over the 1mm guide wire to insert the screw. Prefer a Ratchet screwdriver to preserve the axis of the screw during insertion and to avoid a deviation which may lead to fracture.

If you did not perform perpendicular tunnel, insert the crew through the main tunnel in the tibial tuberosity.



STEP 6

Fixation in the perpendicular tunnel



Fixation in the first tunnel

STEP 6

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

A splint bandage is still 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.

Improved Resistance - Improved Biocompatibility -
Larger space for suturing - Less Invasive -
Easier fixation by interference screw















NEW IMPLANT - NOVATEN®

INSTRUMENTATION

A complete instrumentation kit is available for general ligamentoplasty using NOVATEN® or NOVALIG®.



INTERFERENCE SCREW

	Diam. 2,5mm * Length 9 mm
	Diam. 3 mm * Length 11 mm
	Diam. 3,5mm * Length 11 mm
	Diam. 4 mm * Length 13 mm
	Diam. 4,5mm * Length 15 mm
	Diam. 4,5mm * Length 20 mm
	Diam. 5 mm * Length 15 mm
	Diam. 5 mm * Length 20 mm
	Diam. 5 mm * Length 25 mm
	Diam. 6 mm * Length 15 mm
	Diam. 6 mm * Length 20 mm
	Diam. 6 mm * Length 25 mm



SUTURE - FIBER TECH

We recommend the use of FIBER TECH to suture the implant to the defect tendon.

It will enable a stronger & immediate biomechanical fixation of the implants.

NOVETECH SURGERY® provides to the veterinarians a range of synthetic reinforcement systems for soft tissues based on years of experience.

In addition of the implants themselves, NOVETECH SURGERY® offers fixation systems as well as their instruments and power tools.



NOVETECH SURGERY IS THE
FOUNDING PARTNER OF IGOS .

Innovation Group for Orthopaedic
Surgery.

IGOS is an international group allowing collaboration between surgeons enhancing scientific research on physiological orthopaedic repair using latest technologies.

www.igos-vet.com

WE ARE INVOLVED IN PAIN MANAGEMENT.

We are working on pain management thanks to less traumatic procedure, or better pain management in our postoperative processes.



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WARNING : In addition to this operative technique, it is highly recommended to get a training with an experienced surgeon before any applications of this product.

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