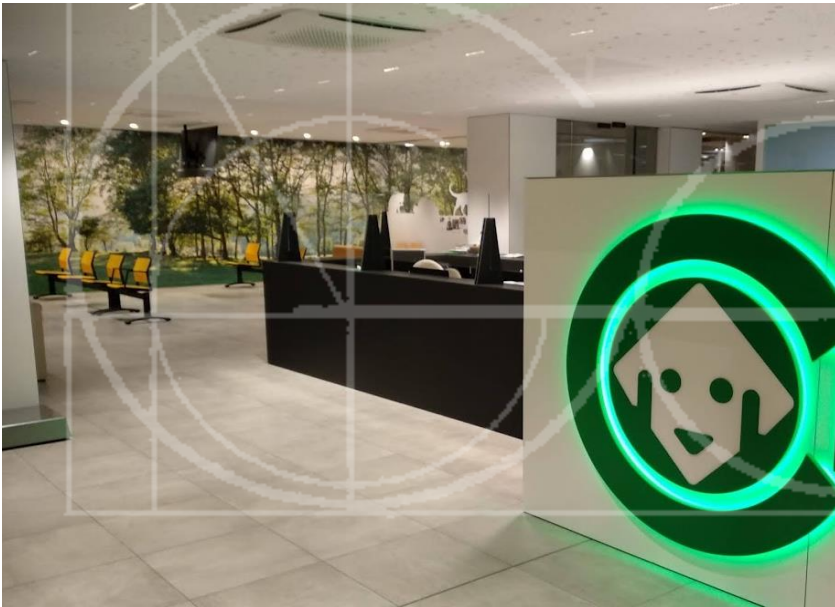


MECANISMO DE AQUILES



JORDI CAIRÓ
HOSPITAL VETERINARI CANIS
G I R O N A

XX JORNADAS GEVO

BILBAO, 18-21 de mayo 2022



MECANISMO DE AQUILES



1. PRESENTACIÓN
2. ¿DE QUE ESTAMOS HABLANDO?
3. A CERCA DE “LO CLÁSICO”
4. ¿QUE HACEMOS DIFERENTE?

JORDI CAIRÓ
HOSPITAL VETERINARI CANIS
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BILBAO, 18-21 de mayo 2022



MECANISMO DE AQUILES

¿DE CUANTAS CIRUGÍAS ESTAMOS HABLANDO?

- ▶ Número de diagnósticos 2021
 - ❑ **17** 2 no cirugía, (insuf. renal crónica)
 - ❑ Número de cirugías 2021
 - ❑ **15**
- ▶ Complicaciones 2021
 - ❑ **2/15 casos**
- ▶ Fracasos 2021
 - ❑ **cero.cero**
- ▶ Estimación cirugías 2002 / 2022
 - ❑ **150 +/- 10%**

“Lo conocido”

El tendón calcáneo común o tendón de Aquiles.

Está formado por la unión de tres tendones.

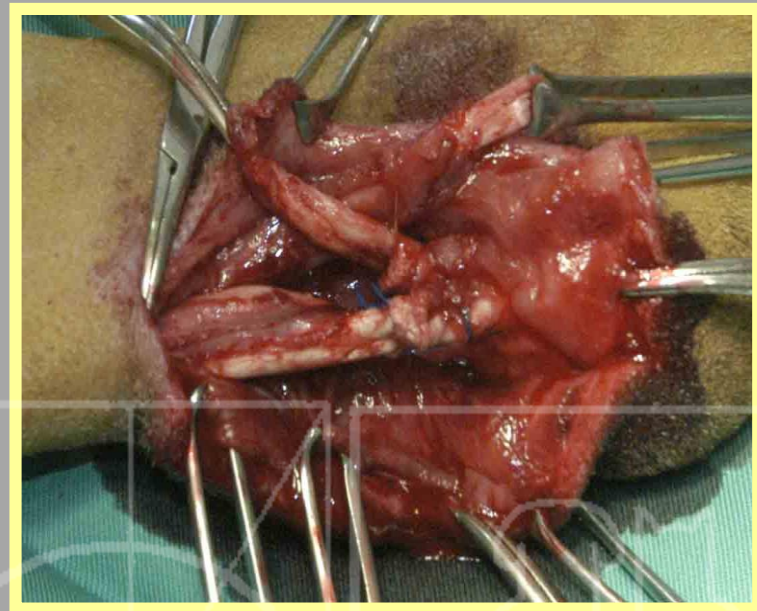
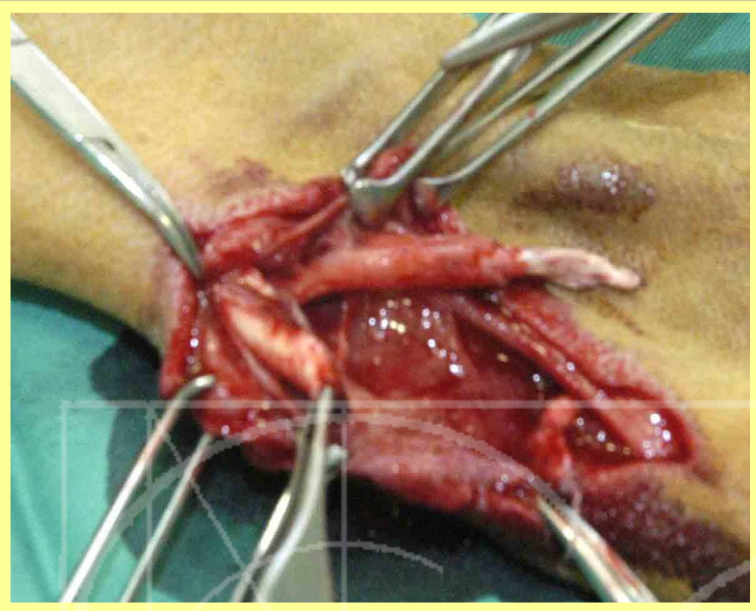
- ❑ Gastrocnemio
- ❑ Flexor digital superficial
- ❑ Común del bíceps femoral, gracilis y semitendinoso





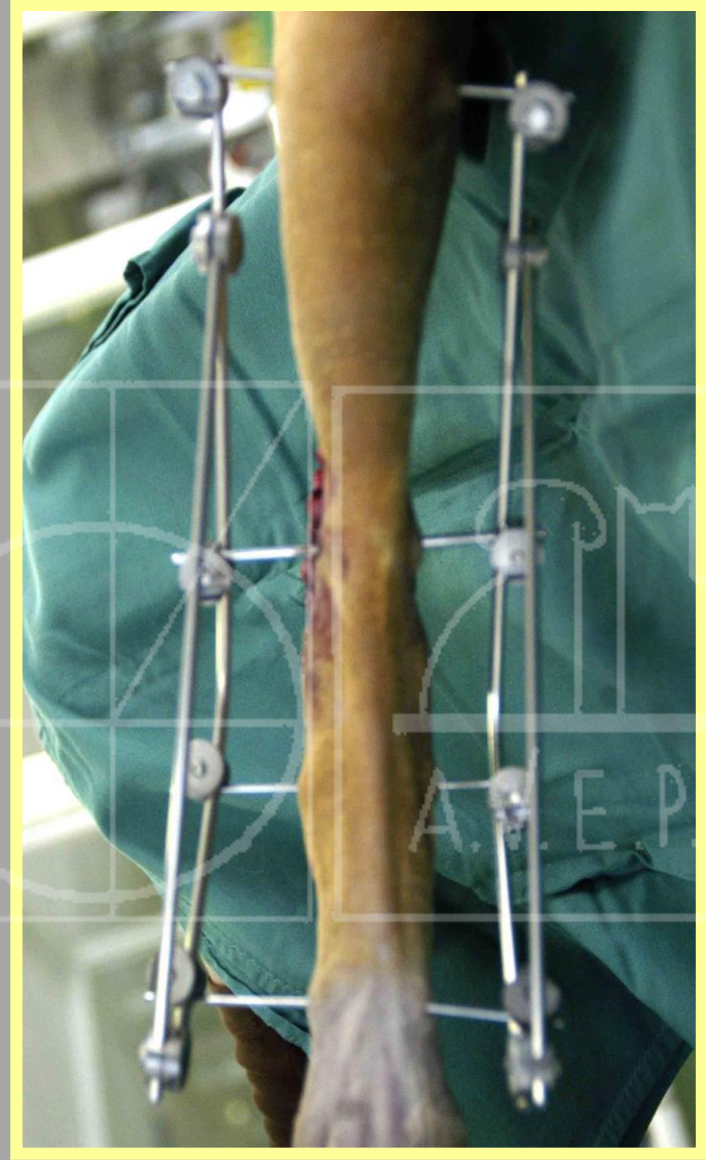
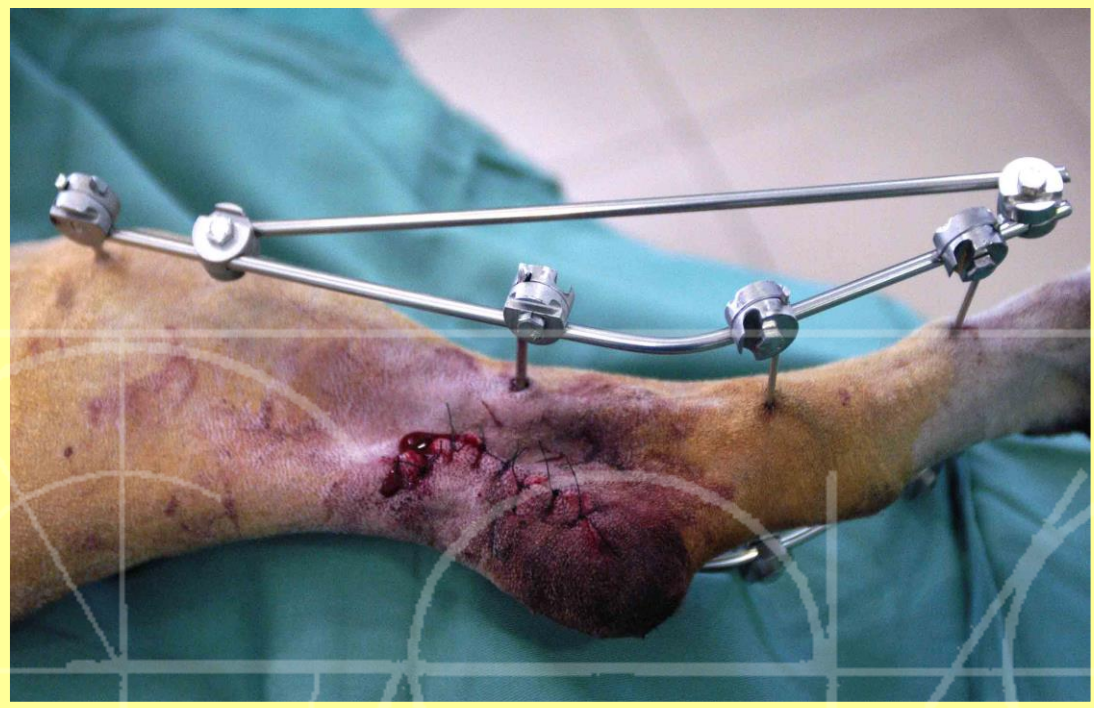


A.V.E.P.A.



- ❑ **Gastrocnemio**
- ❑ **Flexor digital superficial**
- ❑ **Común del bíceps femoral, gracilis y semitendinoso**

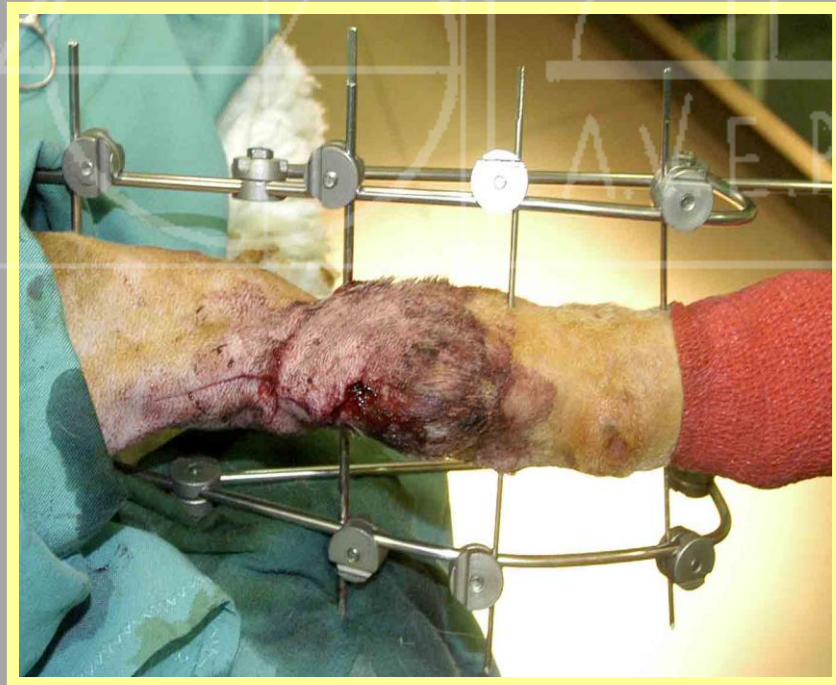
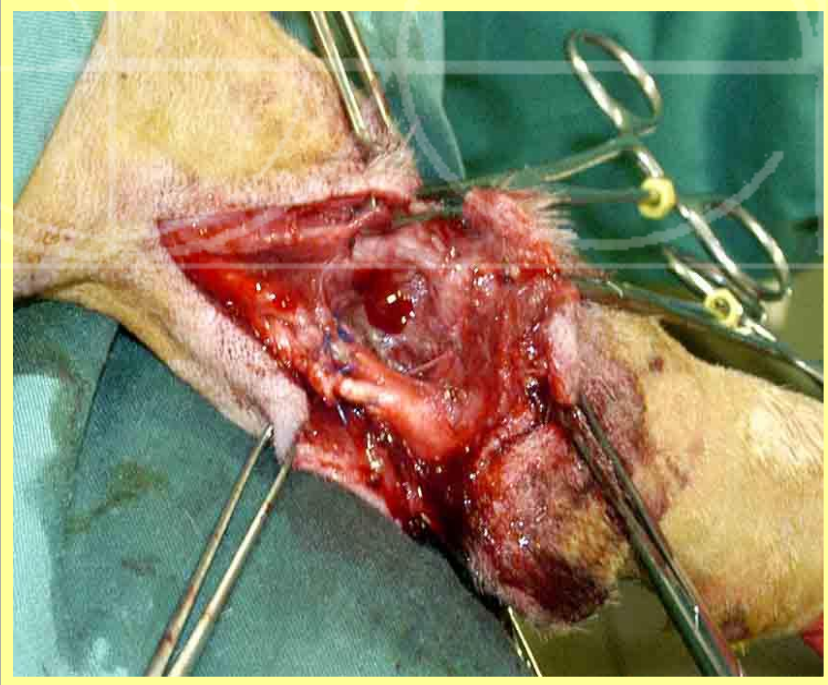
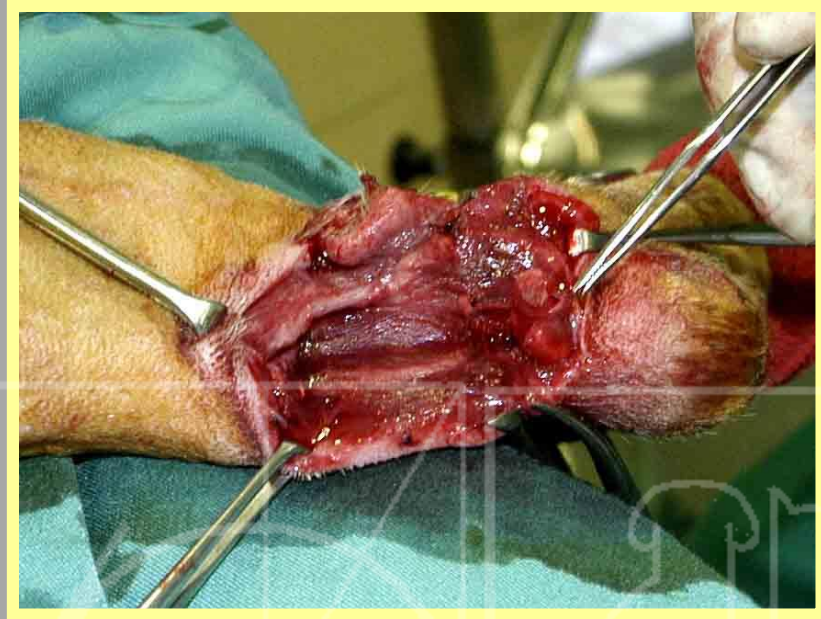
A.V.E.P.A.

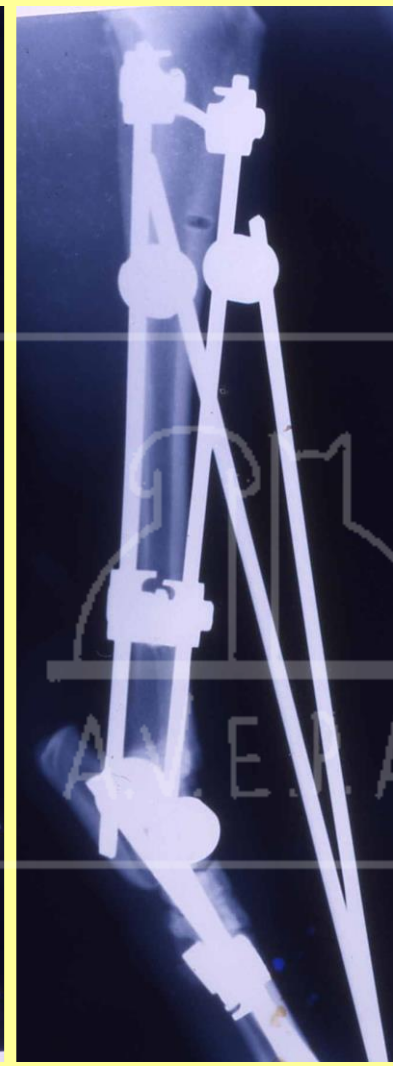


A.E.P.A.









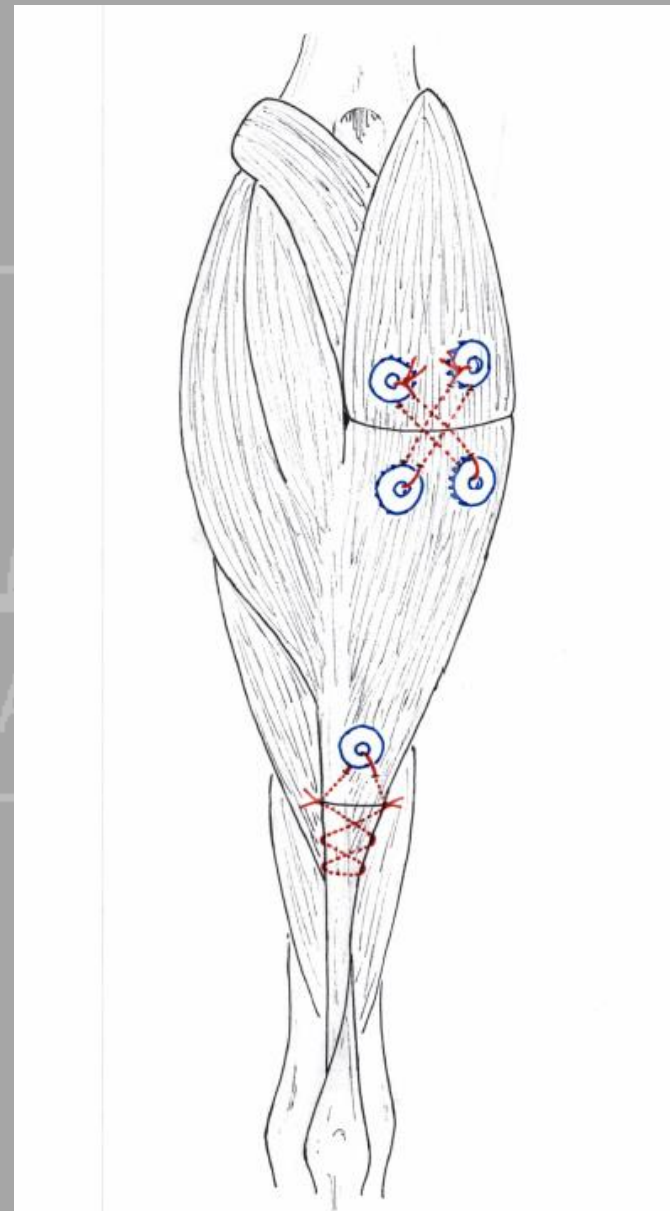
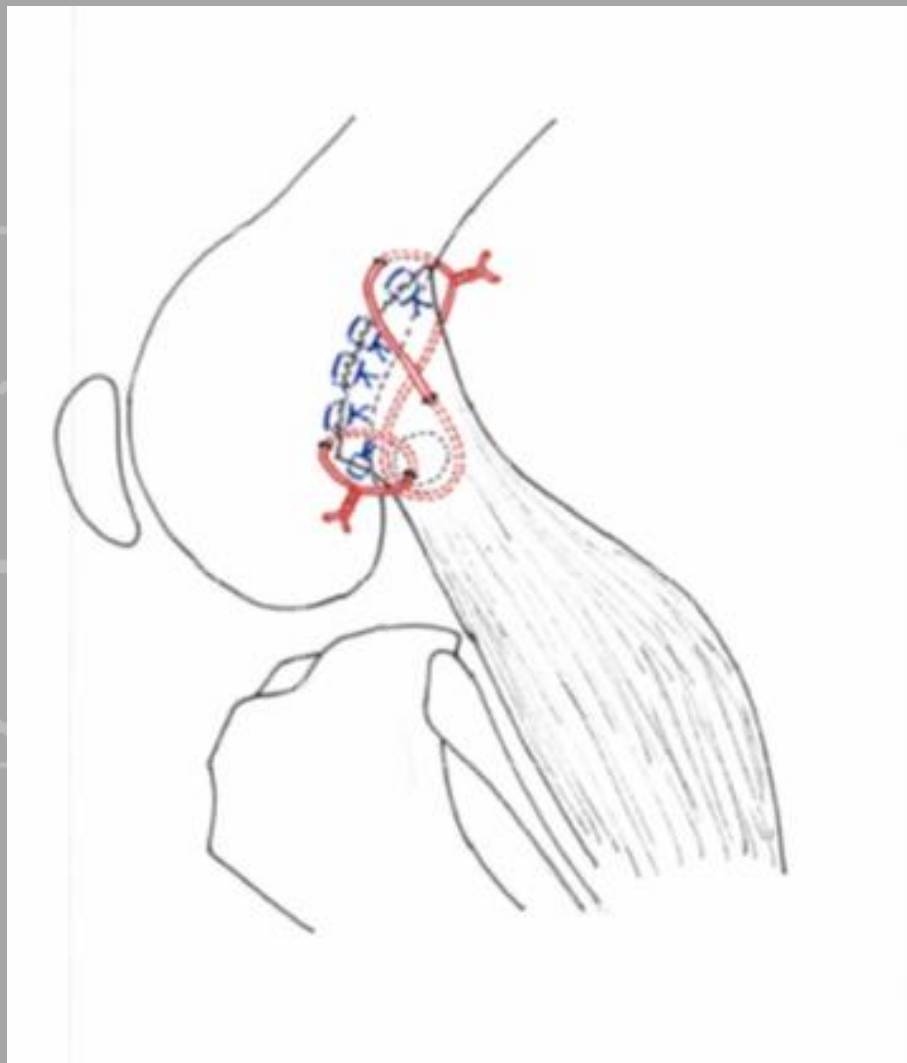
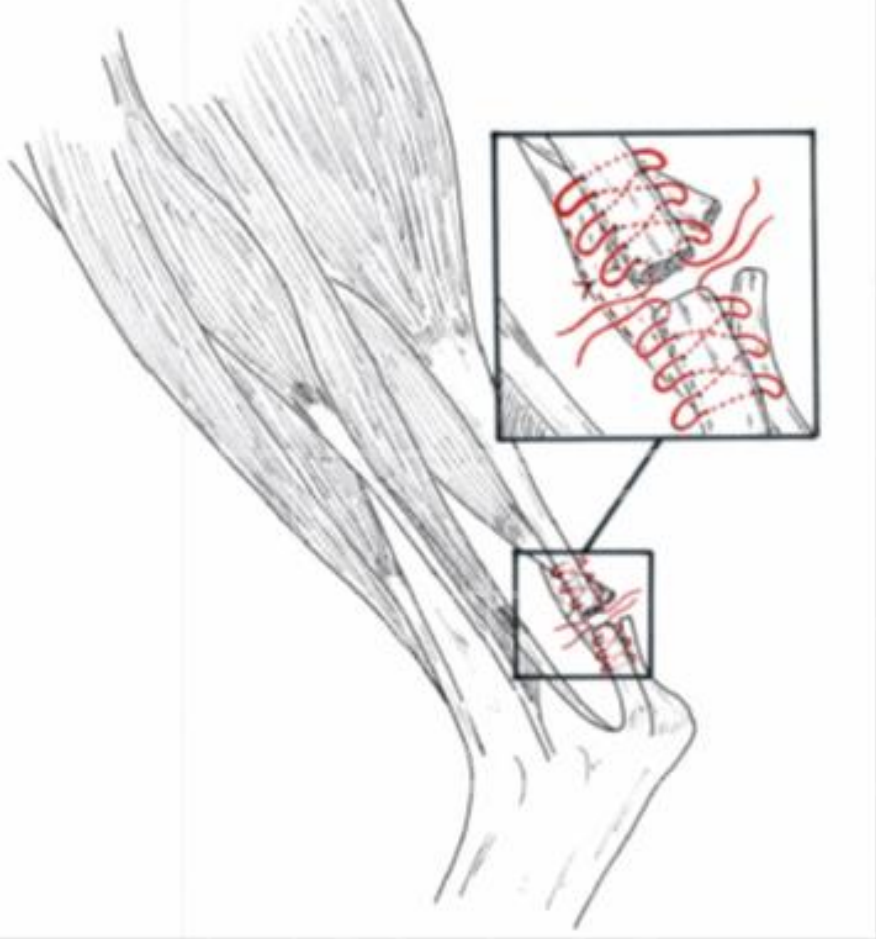
Otros métodos utilizados en la inmovilización de la articulación Tibio-tarsal



Figure 64-19 Correct angle of placement of a 4.5 mm calcaneo-tibial position screw. The screw should protrude from the cranial cortex of the tibia, but a slightly shorter screw would have been ideal in this case.



A, High-temperature thermoplastic dynamic orthosis applied to a dog's tarsus for mobilization after **Achilles tendon** reconstruction. This is a caudal shell. B, A static orthosis applied after medial collateral ligament reconstruction.



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TISSUE ENGINEERING: Part A
Volume 16, Number 3, 2010
© Mary Ann Liebert, Inc.
DOI: 10.1089/ten.tea.2009.0254

2010

Growth Factor-Rich Plasma Increases Tendon Cell Proliferation and Matrix Synthesis on a Synthetic Scaffold: *An In Vitro Study*

Lance C. Visser, B.S.,¹ Steven P. Arnoczky, D.V.M.,¹ Oscar Caballero, M.S.,¹
Andreas Kern, Ph.D.,² Anthony Ratcliffe, Ph.D.,² and Keri L. Gardner, M.S.¹

[Estudio comparativo en modelo animal de rotura aguda del tendón de Aquiles con tratamiento quirúrgico con plasma rico en plaquetas]

[Artículo en español]

JC Hernández-Martínez ¹, CR Vásquez , CB Ceja , CCE Fuentes , JF Sesma , AG Benítez

[afiliaciones](#) + [expandir](#)

PMID: 23320312

[Artículo gratuito](#)

2012

Resumen

Objetivo: Comparar el curso funcional e histológico de dos grupos animales modelo con desgarros agudos del tendón de Aquiles usando plasma rico en plaquetas.

Material y métodos: Se realizó un ensayo clínico abierto con perros donados por el zocriadero de la Universidad Autónoma de Puebla (BUAP). Los perros se dividieron en 2 grupos: un grupo de control y un grupo problema. Se les realizó desgarró quirúrgico intencional del tendón de Aquiles. Se utilizó la técnica de Krackow para reparar el tendón y el grupo control recibió plasma rico en plaquetas (PRP) como coágulo; el otro grupo no recibió PRP. Los perros fueron vistos a las 4 semanas para comprobar la funcionalidad utilizando la escala de Farell y Schwarz para valorar el grado de cojera. Fueron sacrificados en la semana 5; los tendones fueron removidos y enviados al laboratorio de histopatología.

Resultados: Los resultados de funcionalidad según la escala de Farell y Schwarz mostraron grados I y II en el grupo problema, y grados IV y V en el grupo control. Histológicamente, el grupo problema mostró proliferación vascular moderada y abundante proliferación fibroblástica. El grupo de control tenía una proliferación vascular de leve a moderada y una proliferación fibroblástica moderada.

Conclusiones: El PRP mejora la cicatrización del tendón y esto repercute en la recuperación funcional.

Pain in donor site after BTB-ACL reconstruction with PRGF: a randomized trial

Roberto Seijas, Xavier Cuscó, Andrea Sallent, Iván Serra, Oscar Ares & Ramón Cugat

Archives of Orthopaedic and Trauma Surgery
Including Arthroscopy and Sports Medicine

ISSN 0936-8051

Arch Orthop Trauma Surg
DOI 10.1007/s00402-016-2458-0

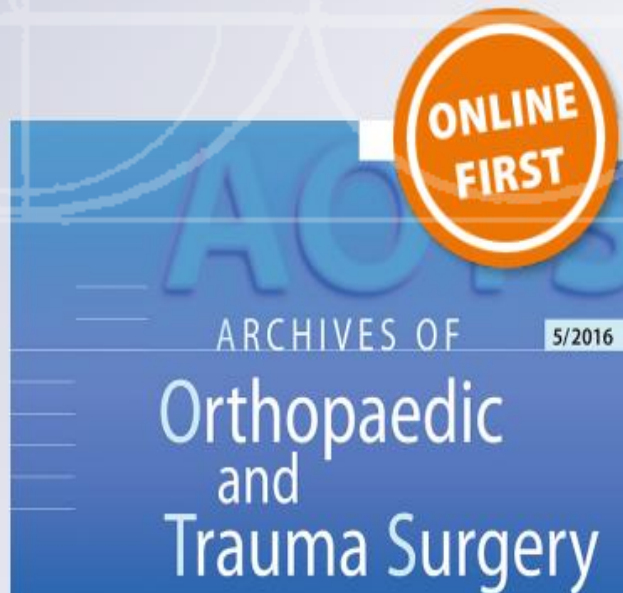


Fig. 1 Application of PRGF[®] at the patella bone void (a), patellar tendon line (b), harvest gap (c), and in the tibial bone void (d)

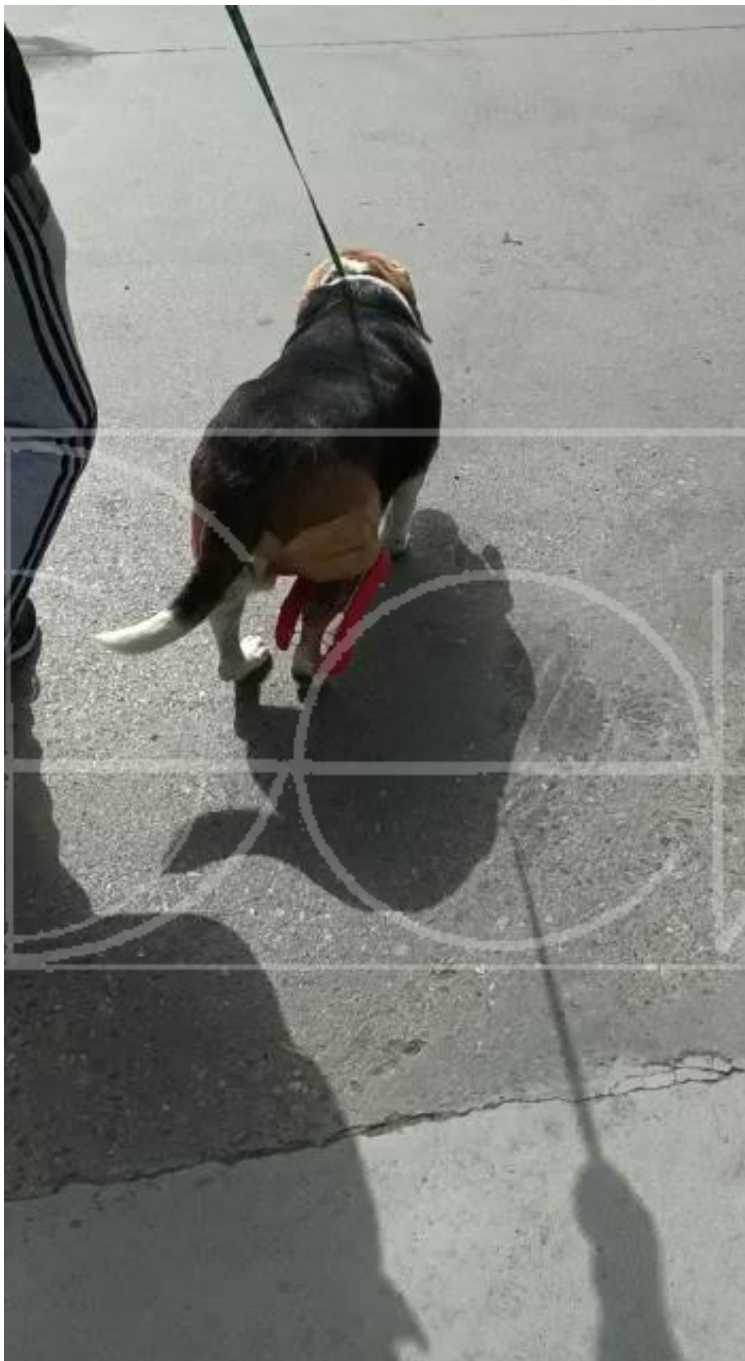
Use of Frozen Tendon Allograft in Two Clinical Cases: Common Calcaneal Tendon and Patellar Ligament Rupture

C. Iván Serra, DVM, PhD, Paula Navarro, DVM, Ricardo Guillem, DVM, DACVR, DECVDI, Carme Soler, DVM, PhD

ABSTRACT

Many surgical techniques have been described in the literature to repair chronic tendon or ligament ruptures. Although direct approximation of the edges is the surgical technique of choice, the use of synthetic, fascia lata, semitendinosus muscle, and small intestinal submucosa grafts has been described to repair large defects or augment tension repairs. The





Antes de utilizar la aplicación de factores de crecimiento hay que descartar la leishmaniosis clínica o subclínica





Evaluation of canine leishmaniosis vaccine CaniLeish® under field conditions in native dog populations from an endemic Mediterranean area—A randomized controlled trial

R. Velez^{a,b,*,1}, E. Domenech^c, A. Rodríguez-Cortés^d, D. Barrios^a, S. Tebar^b,
A. Fernández-Arévalo^{b,e}, R. Aguilar^a, C. Dobaño^a, J. Alberola^d, J. Cairó^c, M. Gállego^{a,b,*}

^a ISGlobal, Hospital Clínic - Universitat de Barcelona, Barcelona, Spain

^b Secció de Parasitologia, Departament de Biologia, Sanitat i Medi Ambient, Facultat de Farmàcia i Ciències de l'Alimentació, Universitat de Barcelona, Barcelona, Spain

^c Hospital Veterinari Canis, Girona, Spain

^d Departament de Farmacologia, de Terapèutica i de Toxicologia, Universitat Autònoma de Barcelona, Bellaterra, Spain

^e Servei de Microbiologia, Hospital de la Santa Creu i Sant Pau, Barcelona, Spain



ARTICLE INFO

Keywords:

Canine leishmaniosis

CaniLeish® vaccine

Longitudinal field trial

Serology

qPCR

IFN-γ

ABSTRACT

Dog vaccination is considered an effective way of reducing *Leishmania infantum* infection incidence in the canine population, as well as its transmission to humans. However, the use of partially effective vaccines can have the detrimental effect of “masking” vaccinated asymptomatic carriers, capable of harbouring the parasite and transmitting it to naïve individuals. After eight years on the European market, few studies have been released on CaniLeish® vaccine safety and efficacy. The present study, a one-year randomized CaniLeish® vaccine field trial, was performed in a canine leishmaniosis endemic area and included animals selected from a native dog population ($n = 168$). No severe adverse reactions were observed in vaccinated dogs ($n = 85$). Cases of active *L. infantum* infection were detected by serological, molecular and clinical follow-up of dogs. One-year post-vaccination, no differences in number or severity of *L. infantum* active infections were observed between study groups ($n = 4$ in each group). Vaccine-induced cellular immunity, assessed through interferon-γ quantification, showed significantly higher levels of this cytokine one-month post-vaccination in the vaccine group ($p < 0.001$), but no differences were observed after nine months between trial groups ($p = 0.078$). These results fail to support the reported CaniLeish® efficacy in the prevention of active *L. infantum* infection in dogs from endemic areas and naturally exposed to the parasite.

but no differences were observed after nine months between trial groups ($p = 0.078$). These results fail to support the reported CaniLeish® efficacy in the prevention of active *L. infantum* infection in dogs from endemic areas and naturally exposed to the parasite.

- ✓ En la actualidad no hay ningún estudio independiente y sin conflicto de intereses que avale la eficacia de **ninguna** vacuna frente a la Leishmaniosis canina en Europa.
- ✓ La vacuna CaniLeish ha sido retirada del mercado por ineficaz total.

CHIQUI

Yorkshire Terrier

Hembra de 4 años

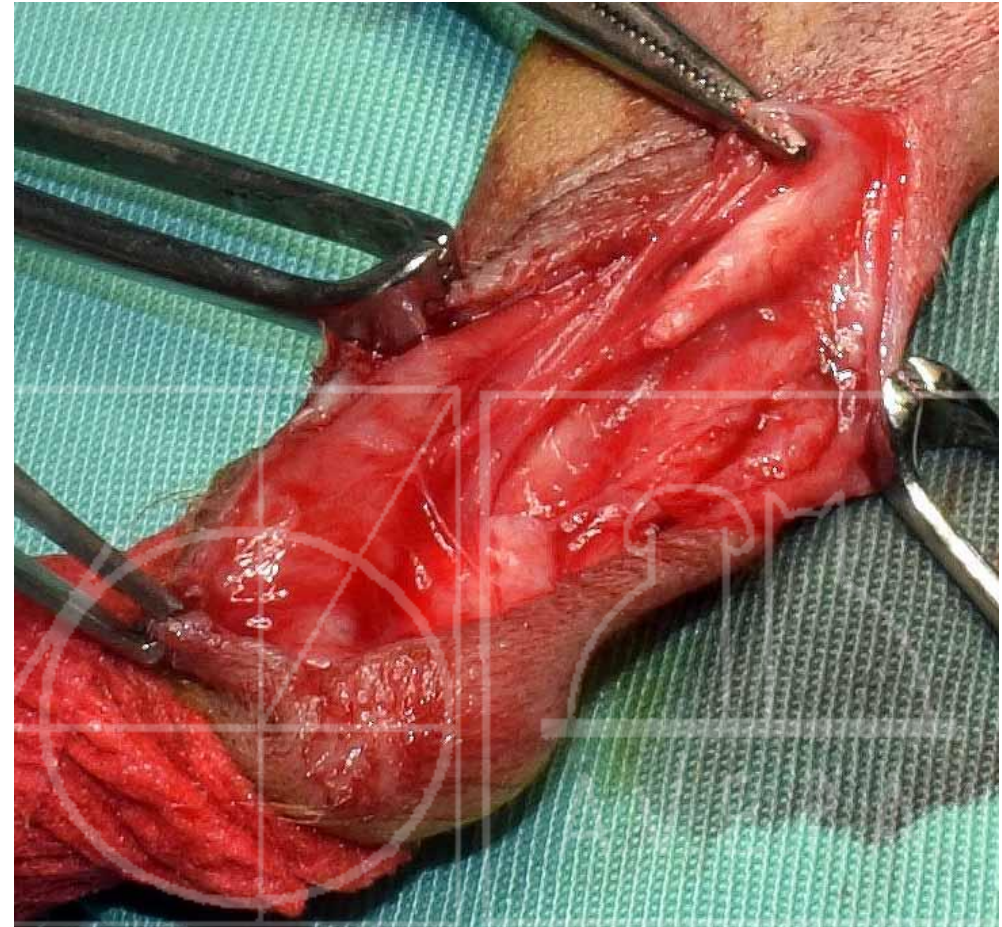
Peso 1,5 kg

Motivo consulta:

Plantigradismo

y herida cutánea

post corte de pelo



Restricción de la flexión de la articulación tibiotarsal mediante una banda de tensión de Nylon en la reparación del tendón de Aquiles de un Yorkshire Terrier Mini

Augmented Repair of an Achilles Tendon Rupture Using the Flexor Digitorum Lateralis Tendon in a Toy Poodle

Masaaki Katayama

Division of Small Animal Surgery, Cooperative Department of Veterinary Medicine, Faculty of Agriculture, Iwate University, Morioka, Iwate, Japan

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Submitted November 2015

Accepted June 2016

DOI:10.1111/vsu.12565

Objective: To report appositional augmentation of Achilles tendon rupture in a toy breed dog with an intact flexor digitorum lateralis (FDL) muscle tendon.

Study Design: Clinical case report.

Animals: Two-year-old spayed female Toy Poodle with Achilles tendon rupture.

Methods: The Achilles tendon was accidentally ruptured by hair clippers during grooming. The dog demonstrated a plantigrade stance without digital flexion of the right hind limb. The ruptured gastrocnemius and superficial digital flexor tendons were sutured to their respective cut ends using a simple locking loop pattern under a surgical microscope. The repair site was appositionally augmented by the caudally retracted intact FDL. An aluminum splint was applied on the plantar aspect to immobilize the tarsal joint for the first 2 weeks, after which a soft bandage was applied for another 2 weeks.

Results: At the 7 month follow-up no lameness was detected during walking and no complications associated with decreased FDL function such as digital contracture were observed. The range of motion of the tarsal joint had improved and could be flexed to $\sim 60^\circ$ and extended fully.

Conclusion: Use of the FDL is feasible for augmenting Achilles tendon repair in toy breed dogs.

Katayama. 2015. Vet. Surgery

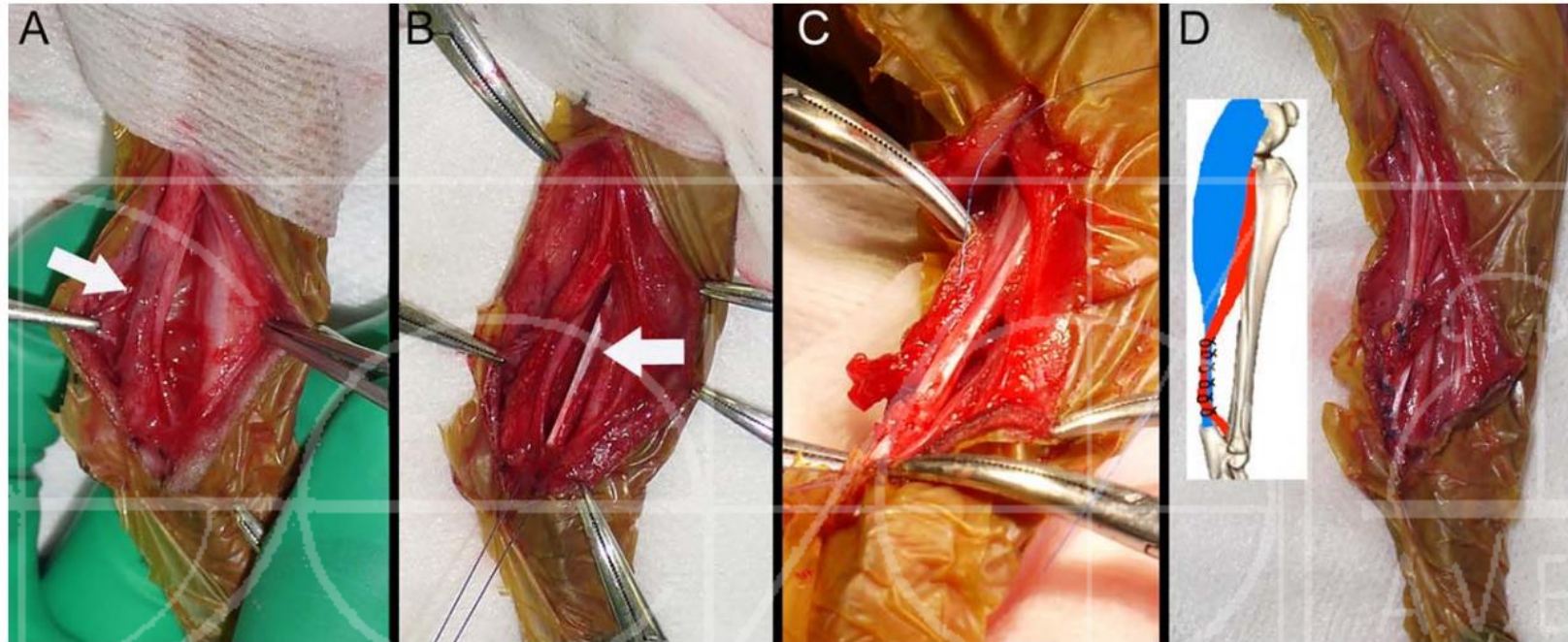
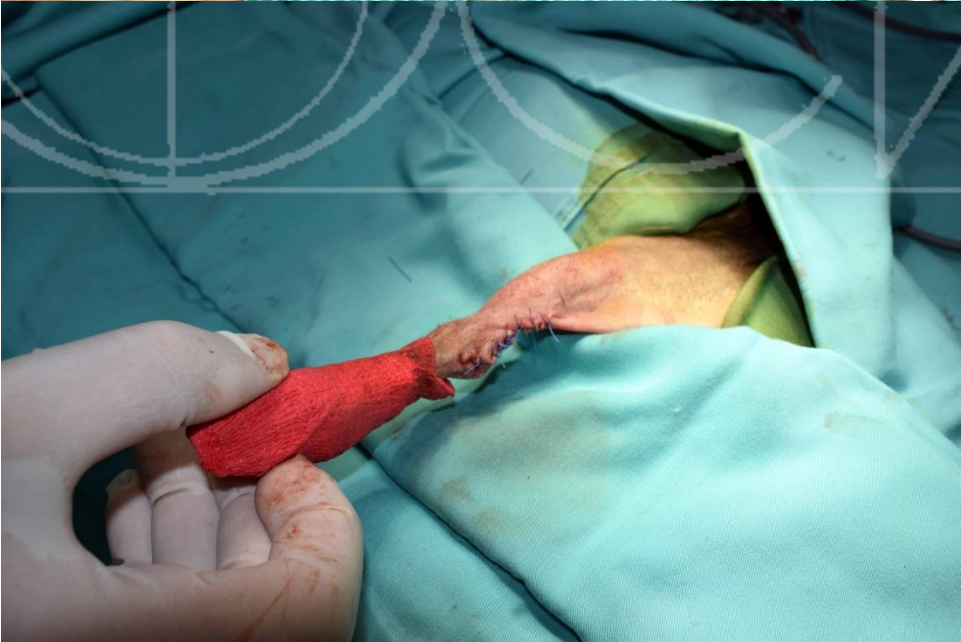
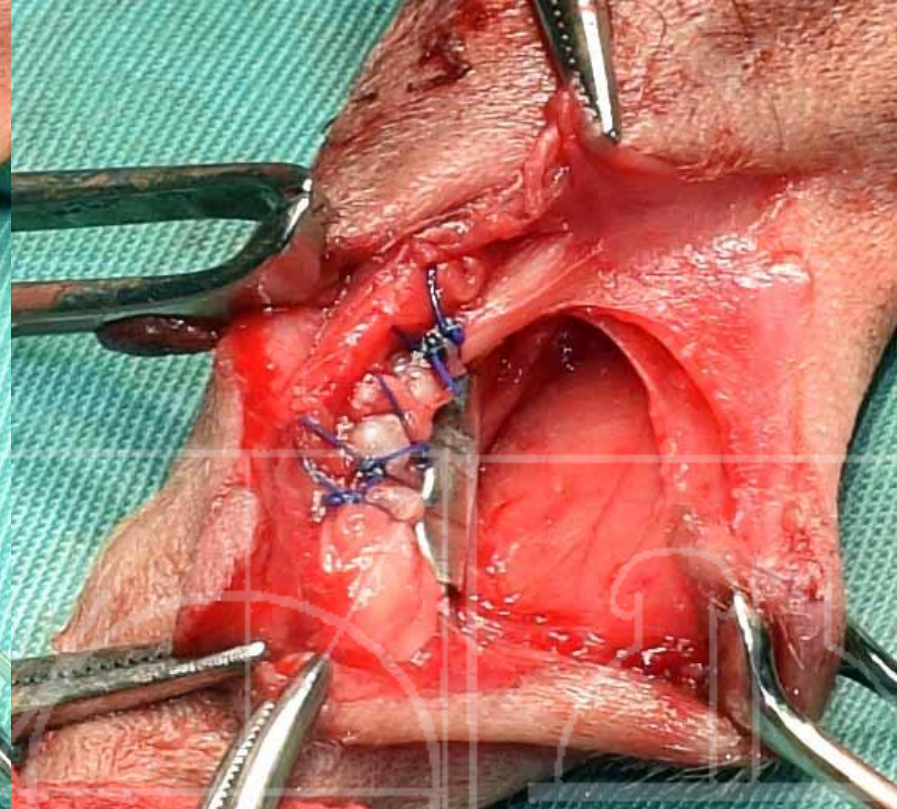
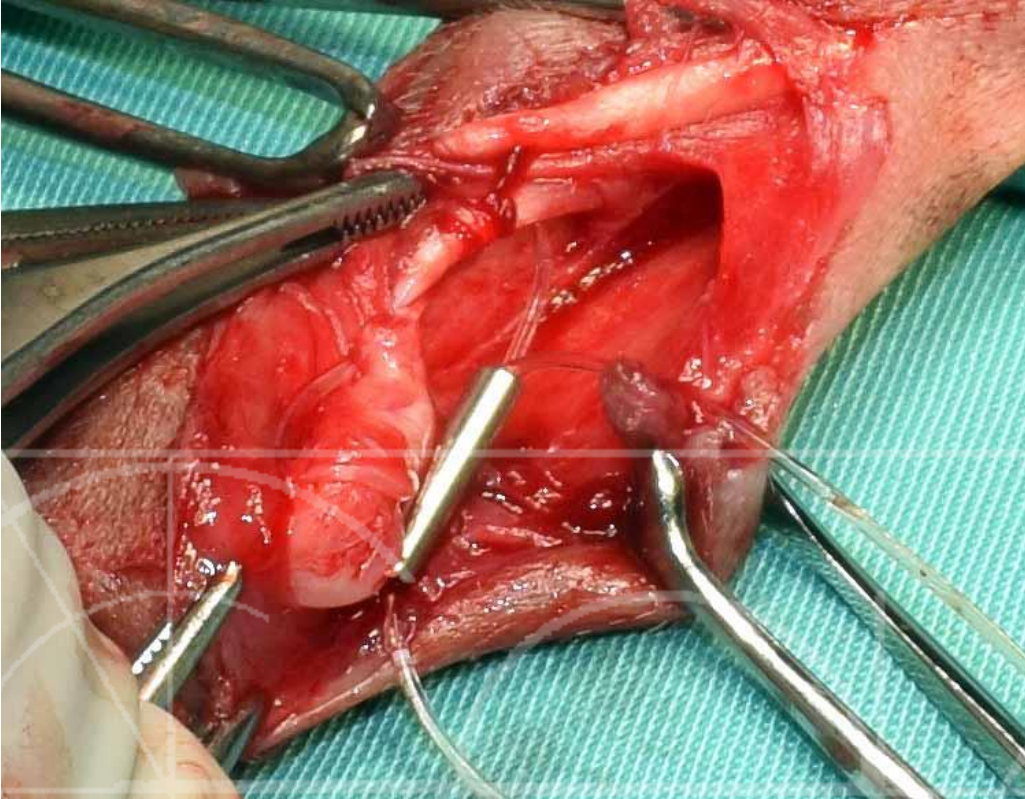


Figure 2 Surgical procedure to appose the **Achilles tendon** and provide augmentation using the flexor digitorum lateralis tendon. (A) Fibrous scar tissue (arrow) at the ruptured ends of the tendon. (B) Separation of the flexor digitorum lateralis tendon (arrow). (C) Separate apposition of the sharply cut ends of the gastrocnemius and superficial digital flexor tendons using 5-0 polypropylene in a single locking-loop pattern. (D) Augmentation of Achilles tendon repair with the flexor digitorum lateralis tendon by suturing the 2 together lengthwise using multiple simple interrupted sutures of 5-0 polypropylene.

Tendón del musculo flexor digital lateral

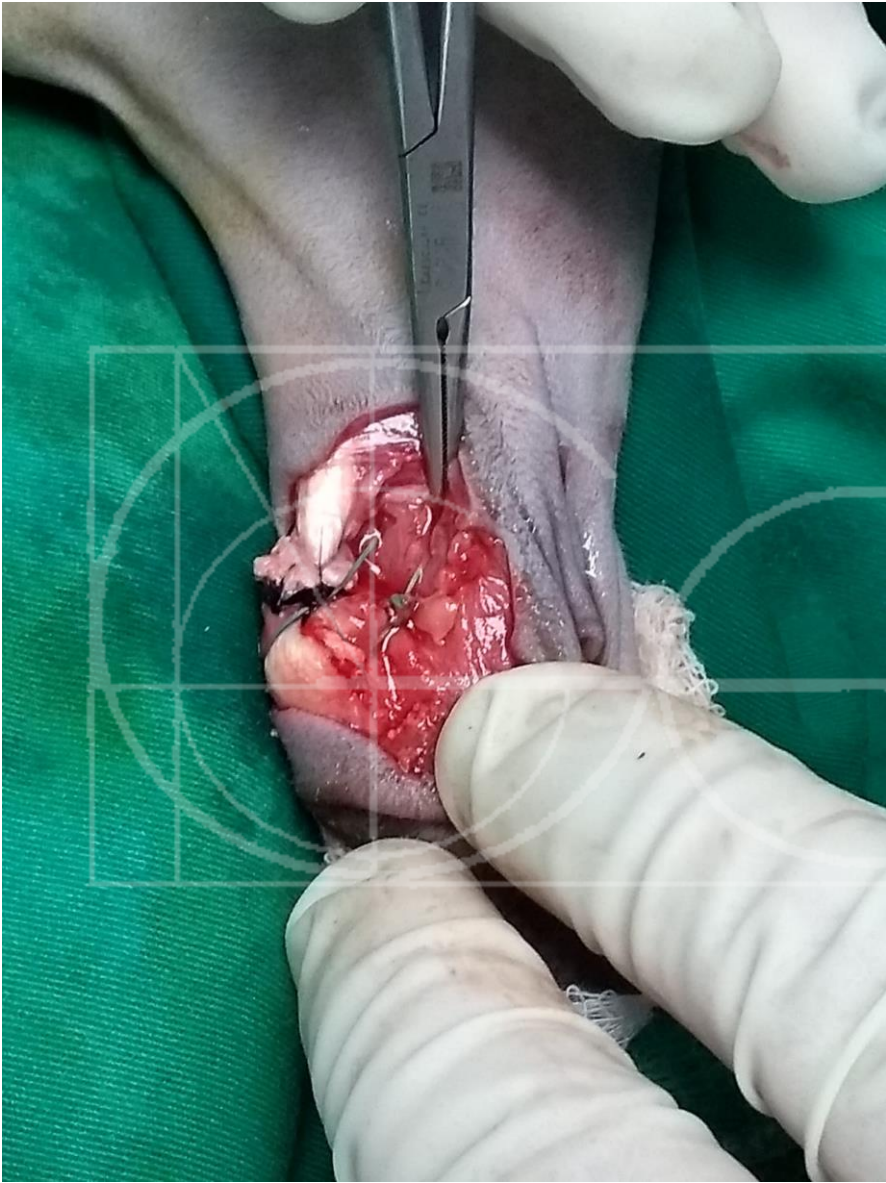




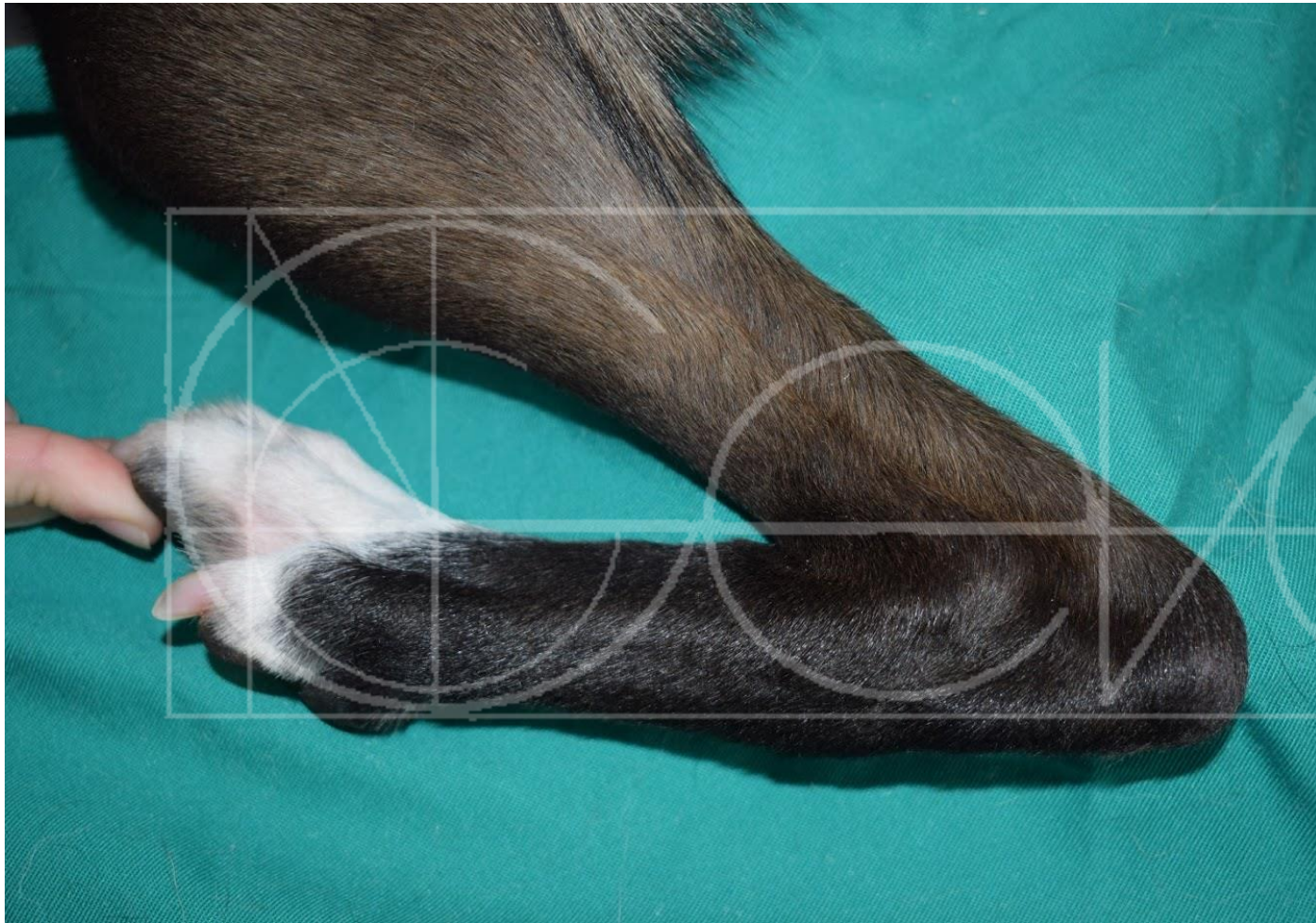


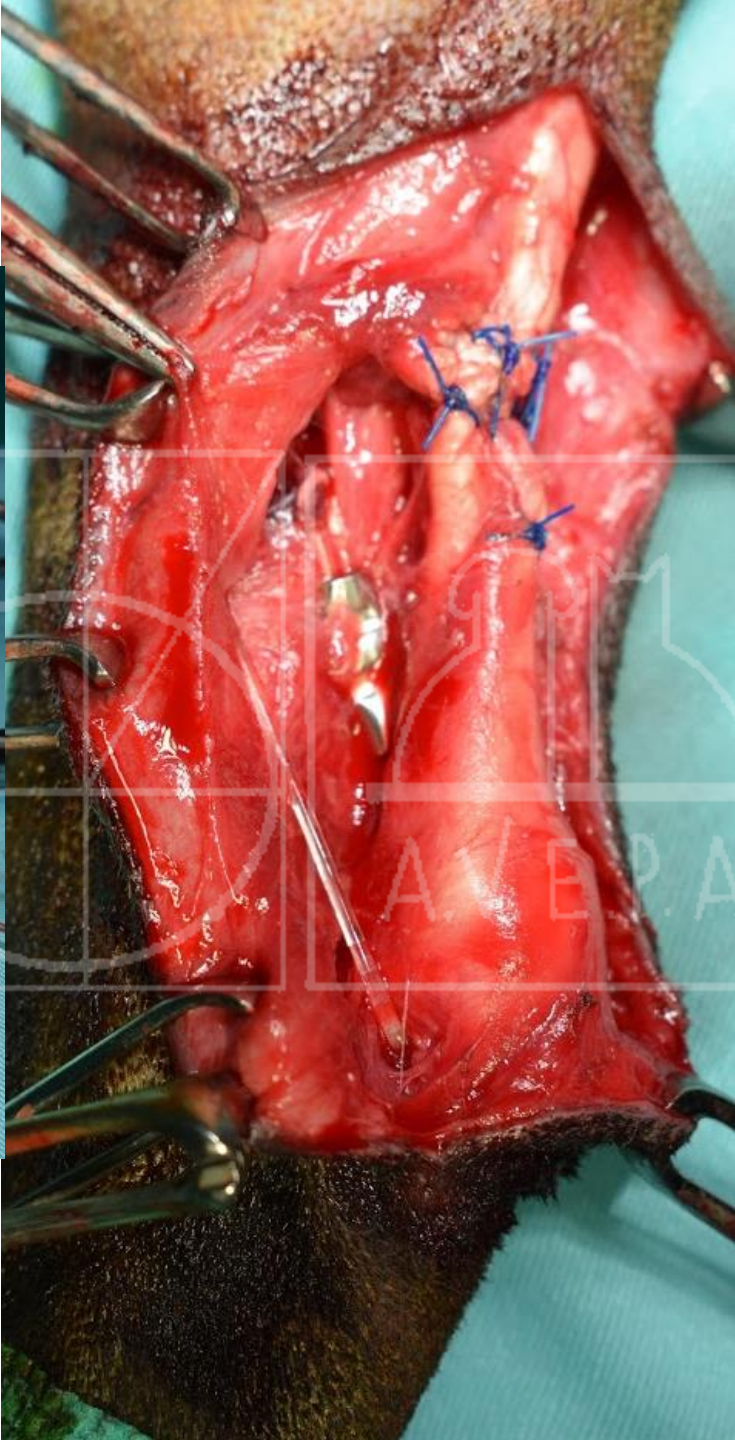
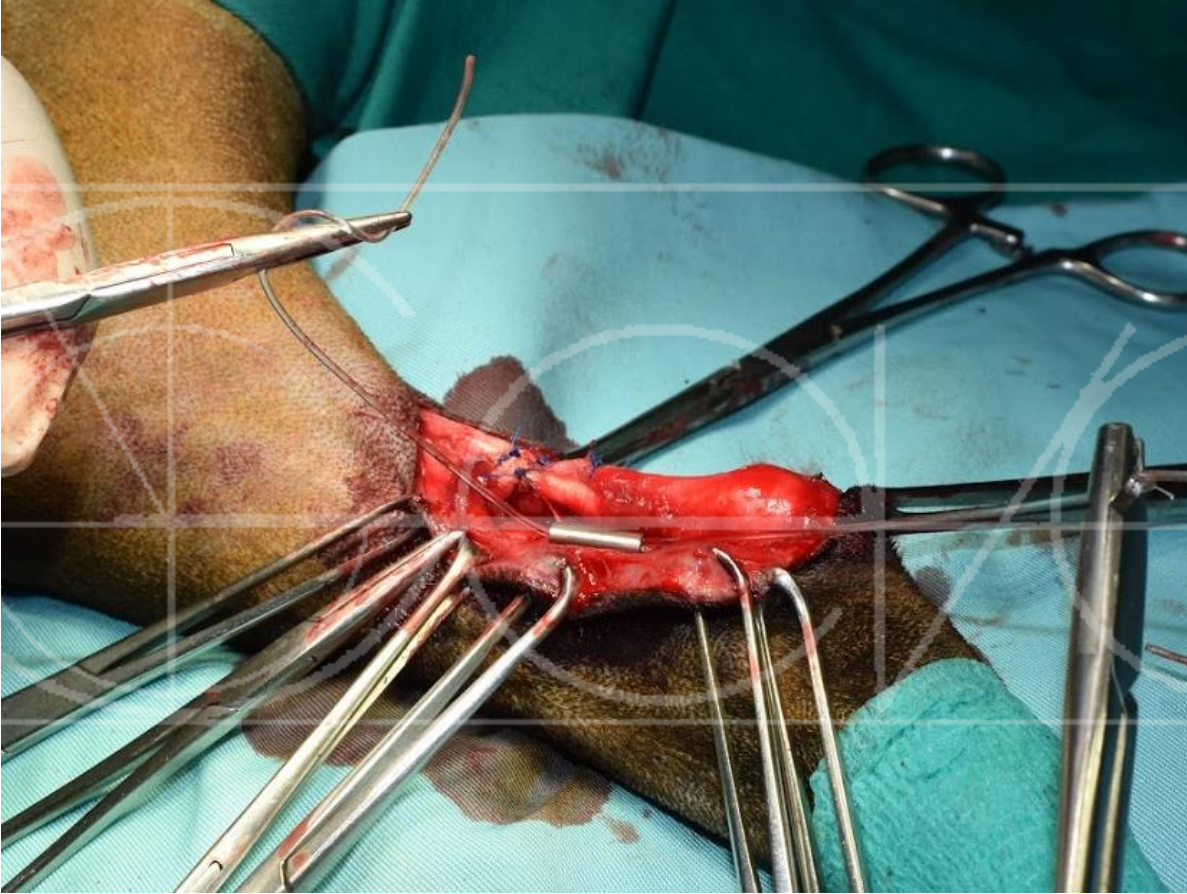
Restricción de la flexión de la articulación tibiotarsal mediante una banda de tensión de Nylon en la reparación del tendón de Aquiles

- ✓ Fácil de realizar.
- ✓ Es una buena opción.
- ✓ ¿Solo para perros de pequeño tamaño?
- ✓ ¿Puede emplearse en perros de mayor tamaño?

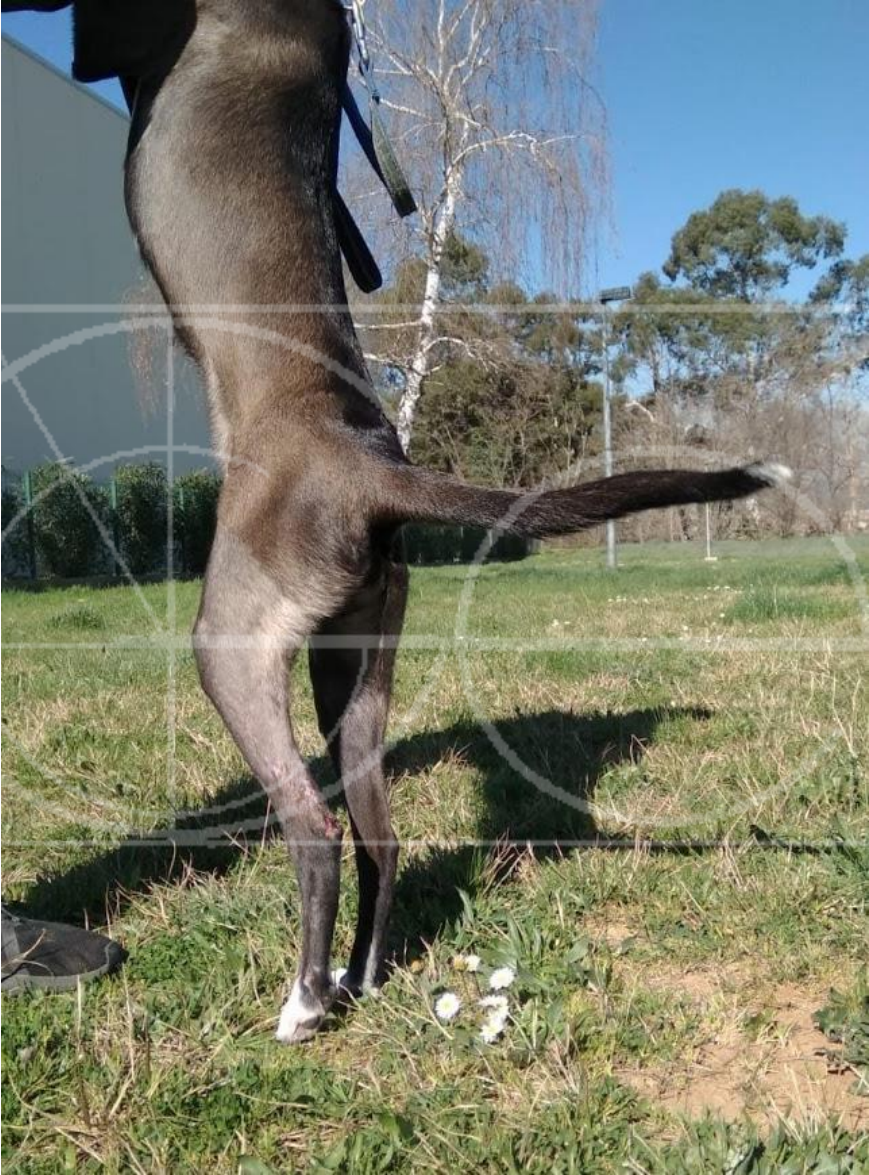


Caso clínico de Ferran Vinaixa









REHABILITACIÓN





1. PRESENTACIÓN
2. ¿DE QUE ESTAMOS HABLANDO?
3. A CERCA DE “LO CLÁSICO”
4. **¿QUE HACEMOS DIFERENTE?**

- ✓ **IMAGEN: ECO. R.M.**
- ✓ **P.R.P.**
- ✓ **Banda de tensión de Nylon**
- ✓ **Rehabilitación**



*Muchas
Gracias
a tod@s*

jordicairo@canisgirona.com

XX JORNADAS GEVO

BILBAO, 18-21 de mayo 2022

