US ΑΠΕΙΚΟΝΙΣΗ & ΚΑΘΟΔΗΓΟΥΜΕΝΕΣ ΘΕΡΑΠΕΙΕΣ ΑΧΙΛΛΕΙΟΥ ΤΕΝΟΝΤΑ

ΠΑΝΕΠΙΣΤΗΜΙΑΚΟ ΓΕΝΙΚΟ ΝΟΣΟΚΟΜΕΙΟ ΚΡΗΤΗΣ
Εργαστήριο Ιατρικής Απεικόνισης

Κάκκος Γεώργιος

OUTLINE

I. Ανατομία Αχιλλείου τένοντα

II. Τεχνική ΥΧ διερεύνησης

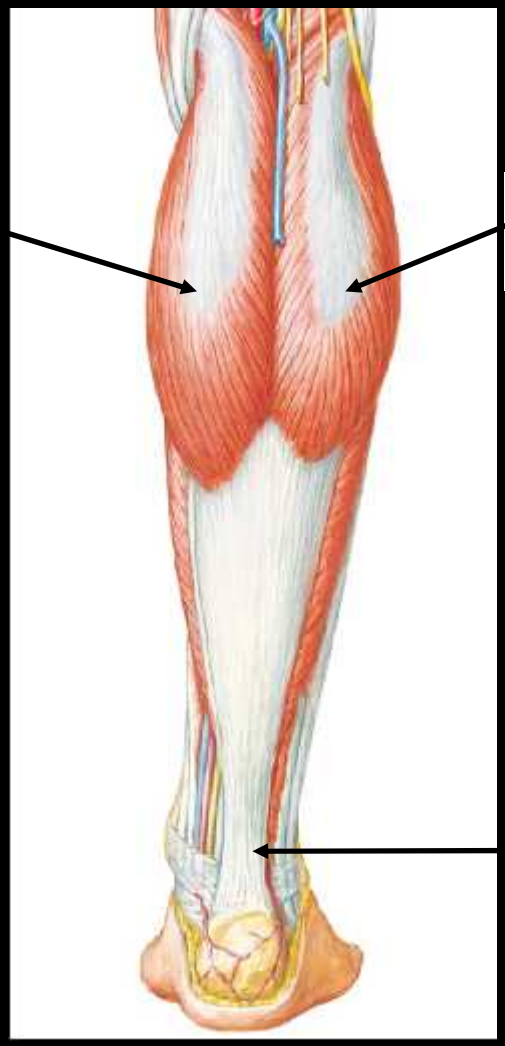
III. Βασική παθολογία στην ΥΧ απεικόνιση

IV. ΥΧ καθοδηγούμενες θεραπείες

ΑΝΑΤΟΜΙΑ

- Πιο παχύς και δυνατός τένοντας του σώματος
- Σχηματισμός από την συνένωση των ινών του υποκνημιδίου και γαστροκνημίου μυών
- Κατάφυση στην πτέρνα
- Απουσία τενόντιου ελύτρου – Παρατένοντας

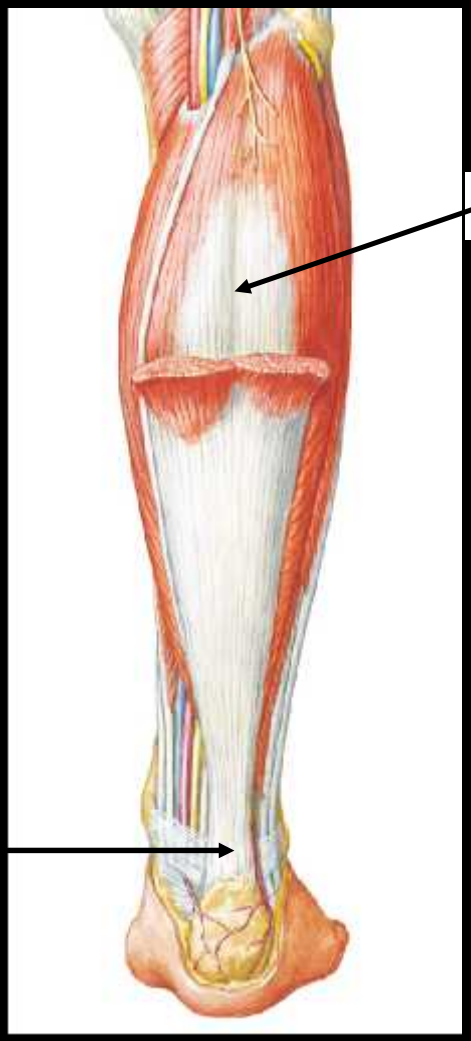
ANATOMIA



Έσω κεφαλή γαστροκνημίου

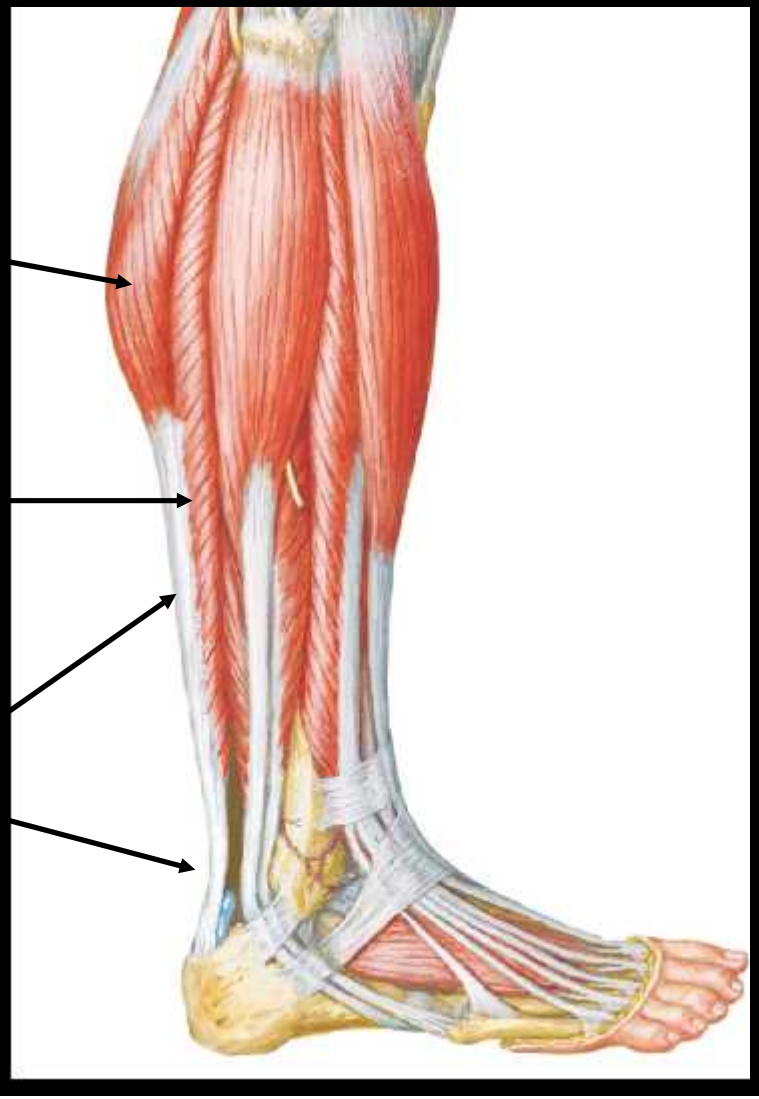
Έξω κεφαλή γαστροκνημίου

Αχίλλειος Τένοντας



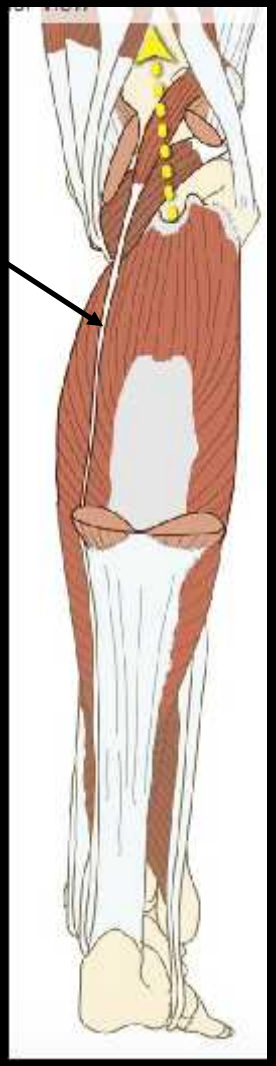
Υποκνημίδιος

ΑΝΑΤΟΜΙΑ


Έξω κεφαλή γαστροκνημίου
Υποκνημίδιος
Αχίλλειος Τένοντας

ΑΝΑΤΟΜΙΑ

Πελματιαίος Τένοντας

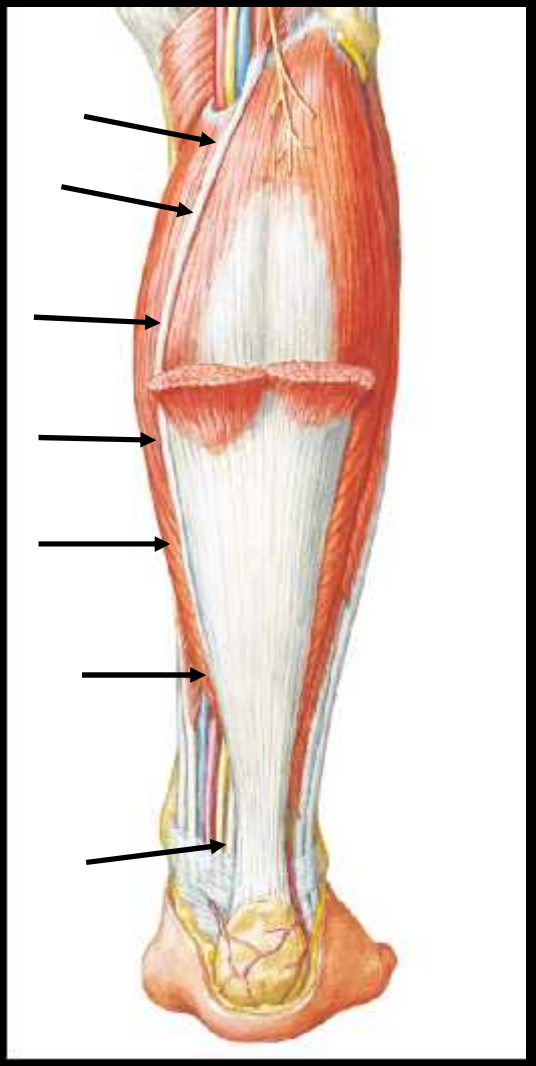


Έκφυση μυός από οπίσθιο-άνω τμήμα έξω μηριαίου κονδύλου

Μακρύς και λεπτός τένοντας

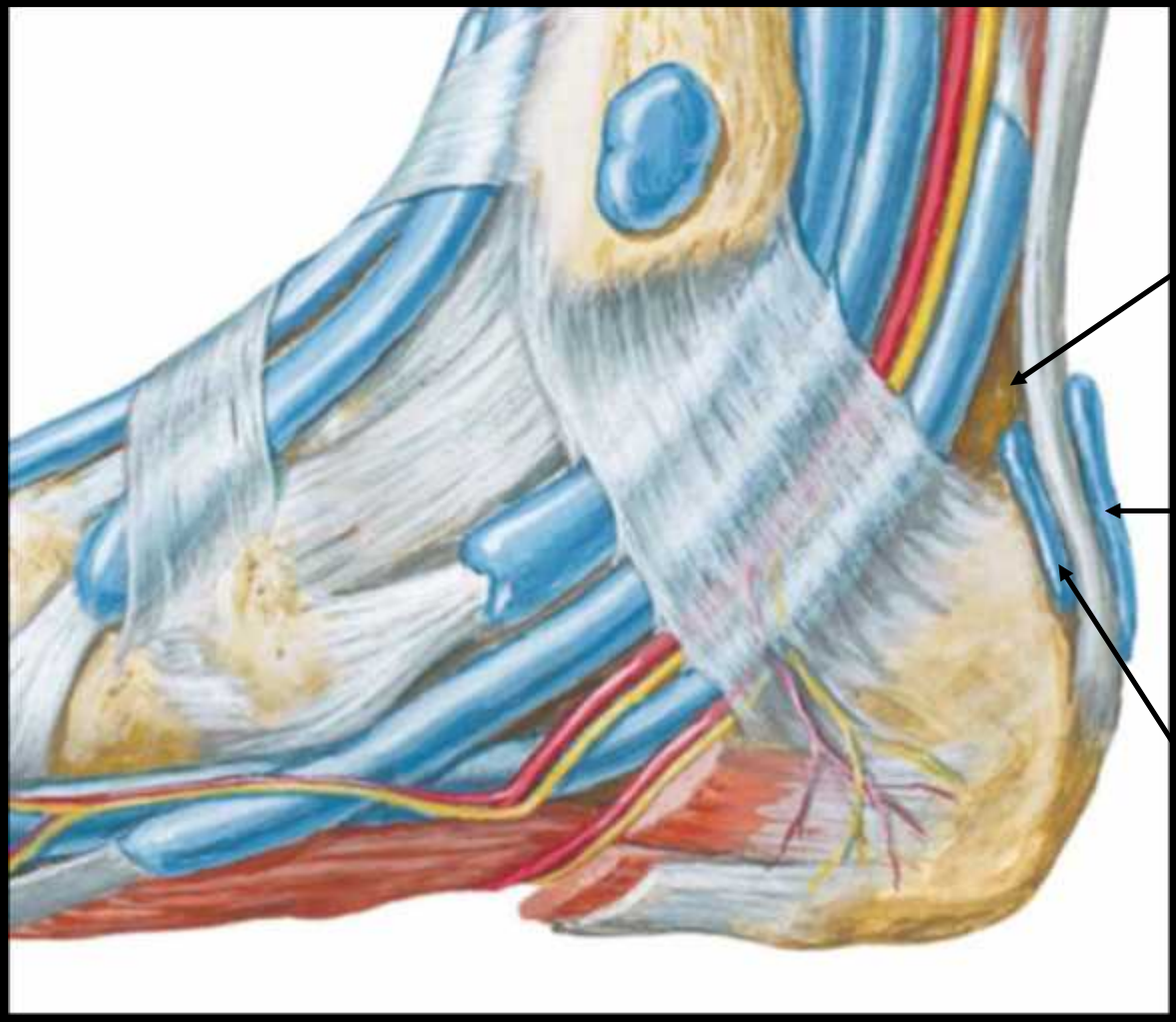
8-12% πληθυσμού απών

20% ενώνεται με το έσω χείλος του Αχιλλείου



Medical Imaging

ΑΝΑΤΟΜΙΑ



Λιπώδες σώμα του Kager

Υποδόριος/επιφανειακός ορογόνος θύλακας

Οπισθοπτερνικός ορογόνος θύλακας

ΤΕΧΝΙΚΗ

European Society of
MusculoSkeletal Radiology

Musculoskeletal Ultrasound
Technical Guidelines

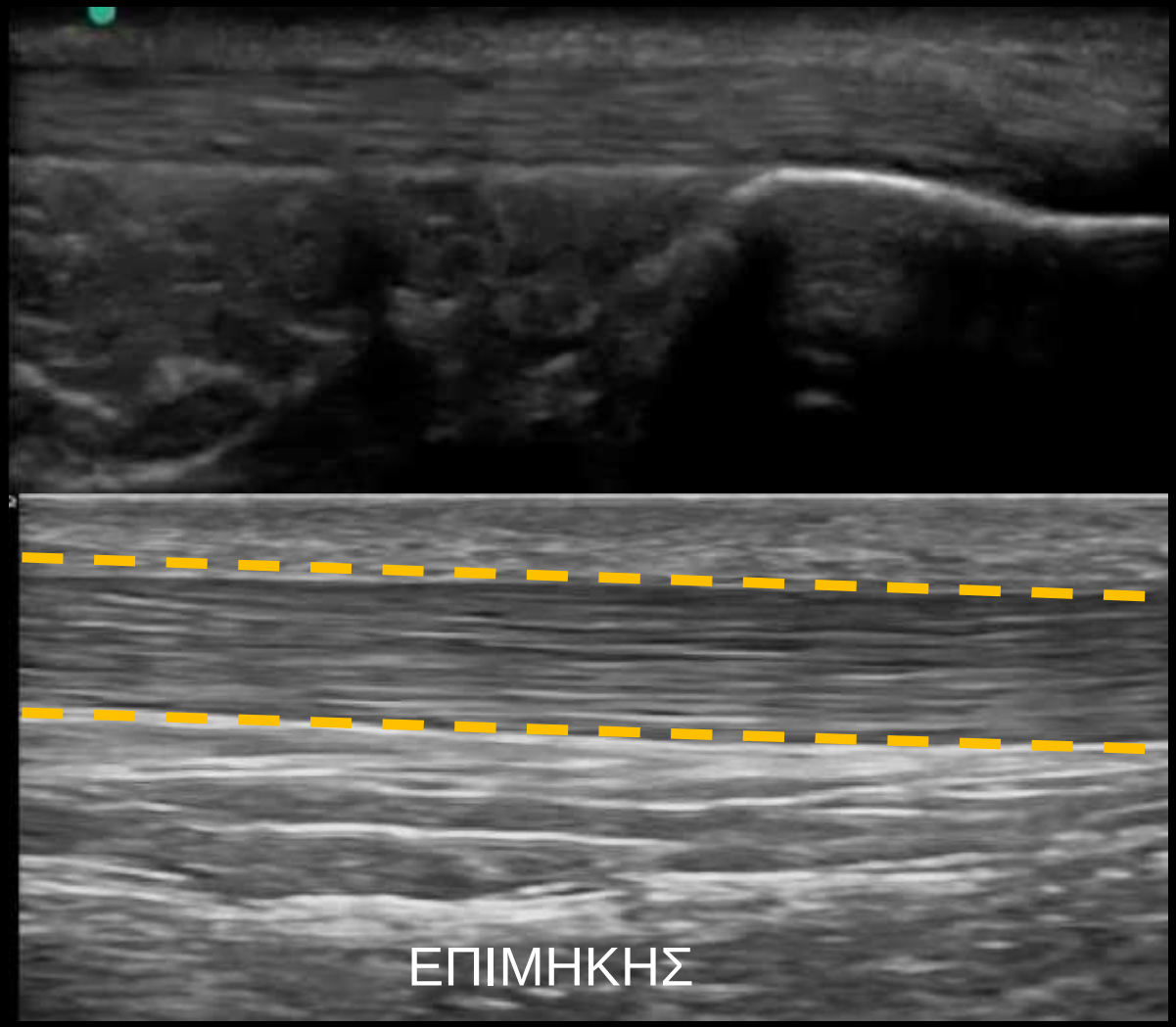
VI. Ankle

13 Achilles tendon

On a prone position, let the foot hanging out of the examination table. Look clinically to the position of the foot, comparing both sides to see any differences that can lead to the diagnosis of Achilles tendon full-thickness tear. Then, examine the Achilles tendon from its myotendinous junction to its calcanear insertion by means of transverse and longitudinal planes. While scanning the Achilles tendon on short-axis planes, tilt the probe on each side of the tendon to assess the peritendinous envelope. Measure the size of the Achilles tendon only on transverse planes. The Achilles tendon has to be followed down to its calcanear insertion. Check the retroachilles and the retrocalcanear bursae.

Medical Imaging

SONO-ANATOMY - ΕΠΙΜΗΚΗΣ

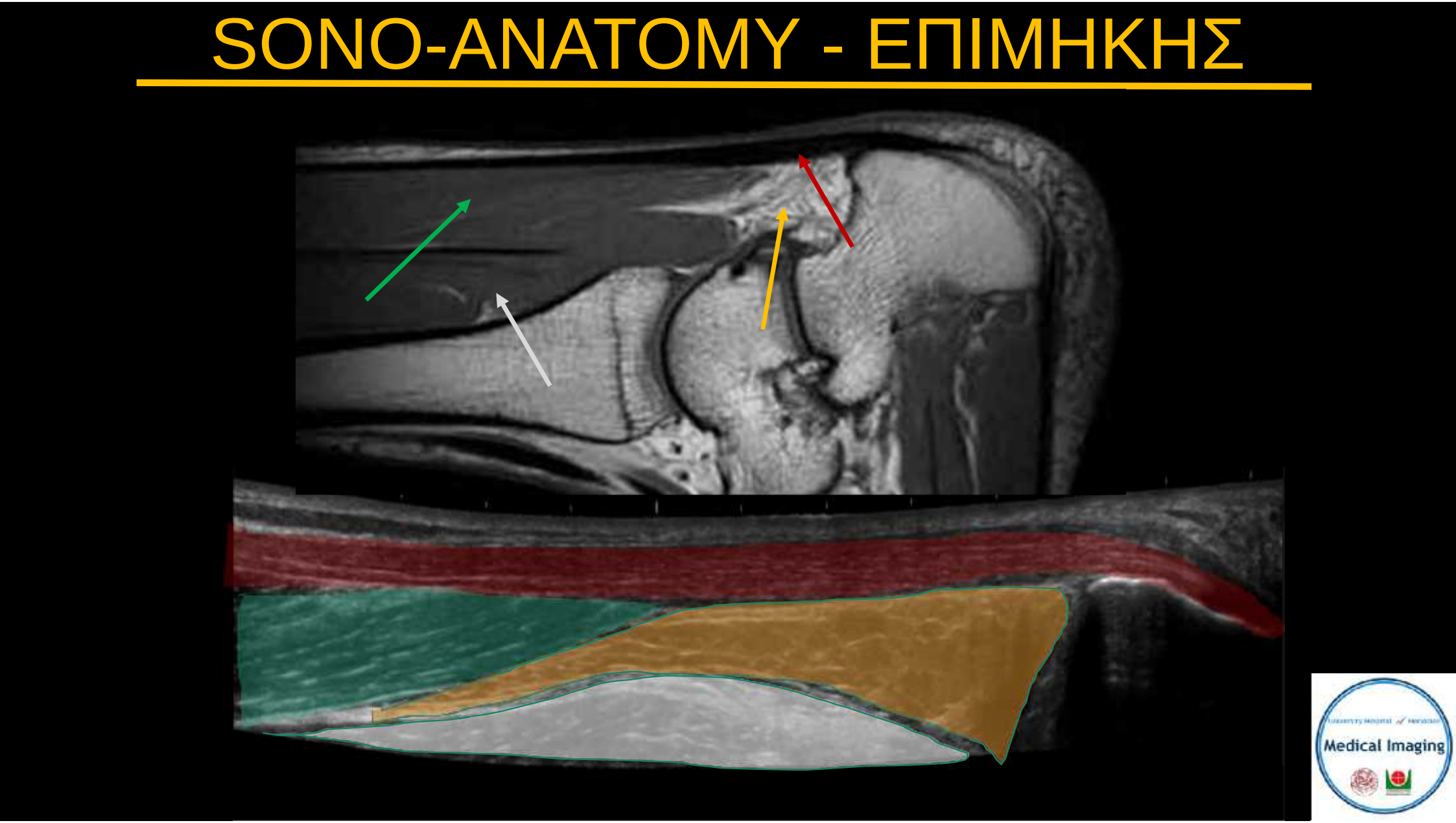


- Μήκος 12-15εκ

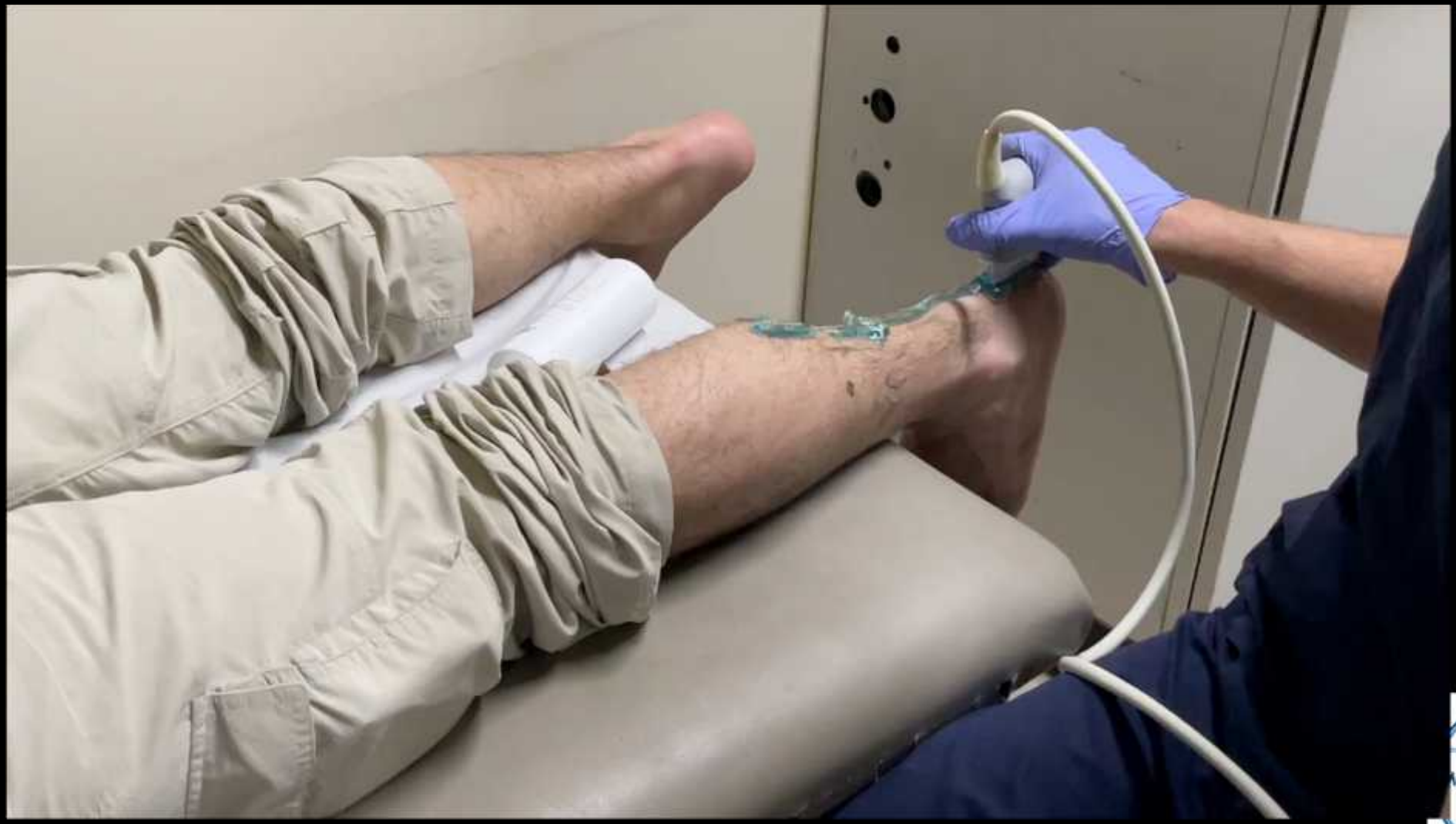
- Φυσιολογικό ινώδες πρότυπο

- Ομοιόμορφο πάχος
  και ηχοχένεια

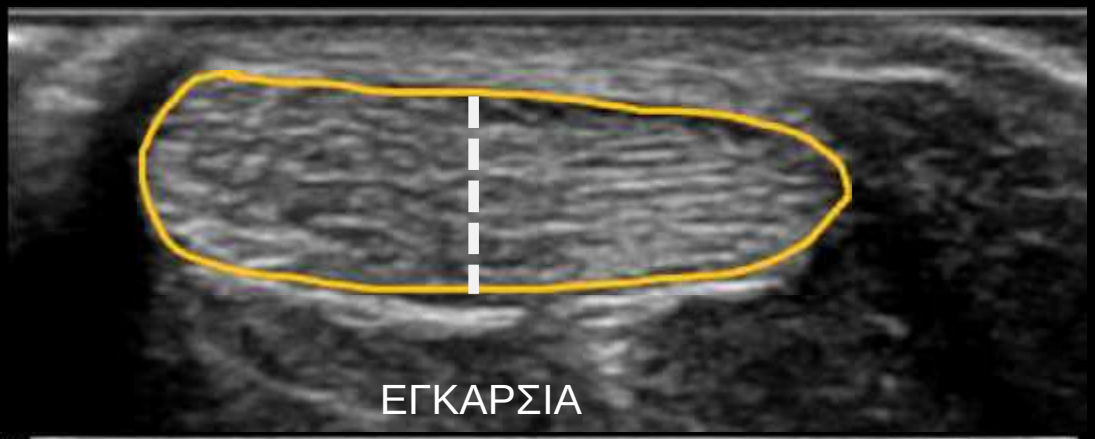
SONO-ANATOMY - ΕΠΙΜΗΚΗΣ



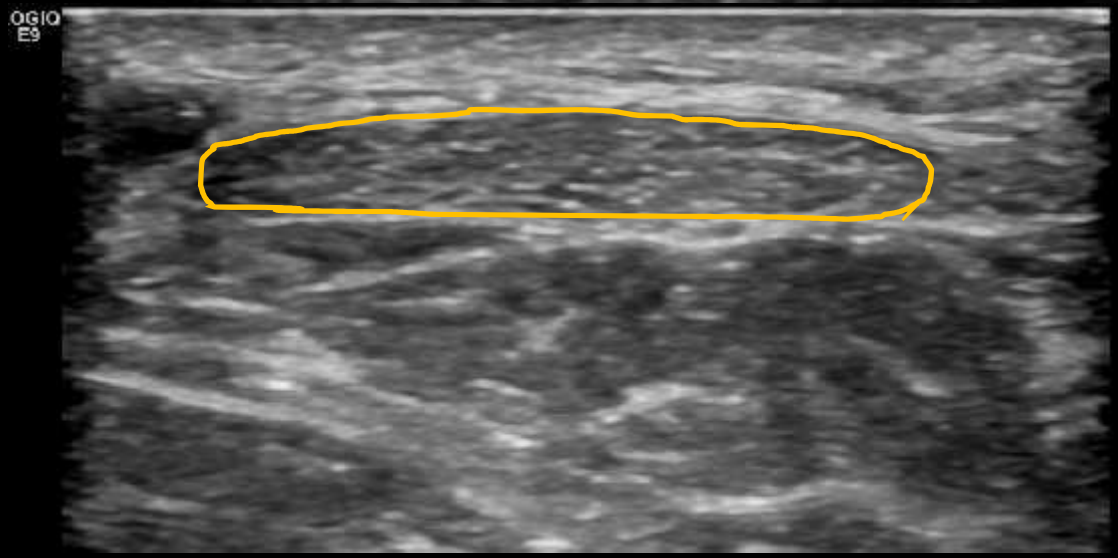
ΤΕΧΝΙΚΗ - ΕΠΙΜΗΚΗΣ

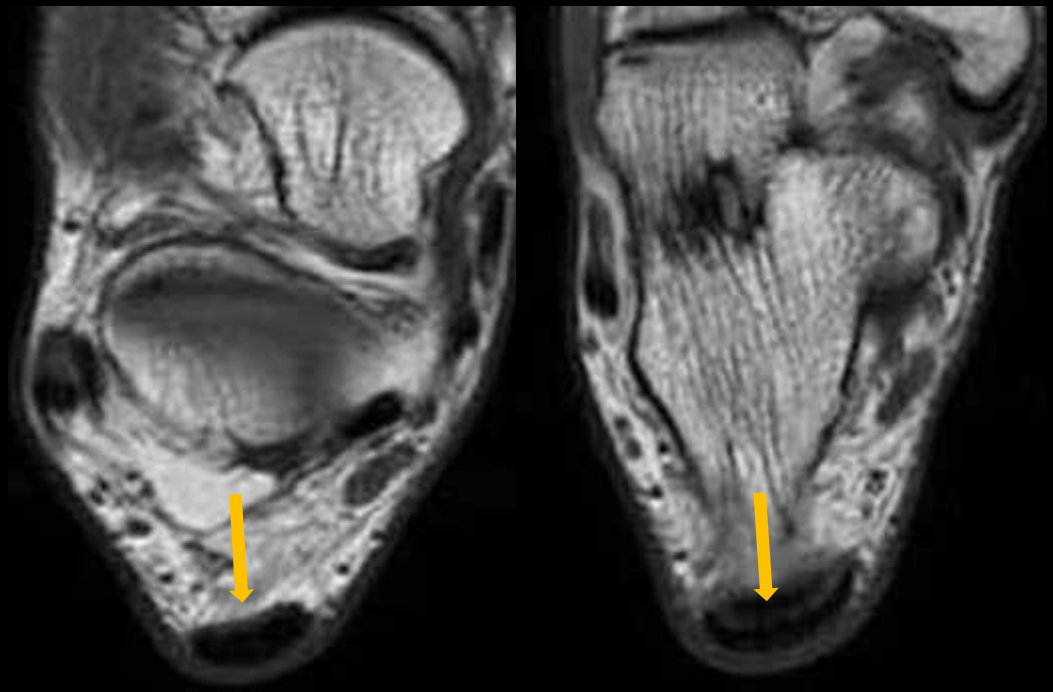


SONO-ANATOMY - ΕΓΚΑΡΣΙΑ



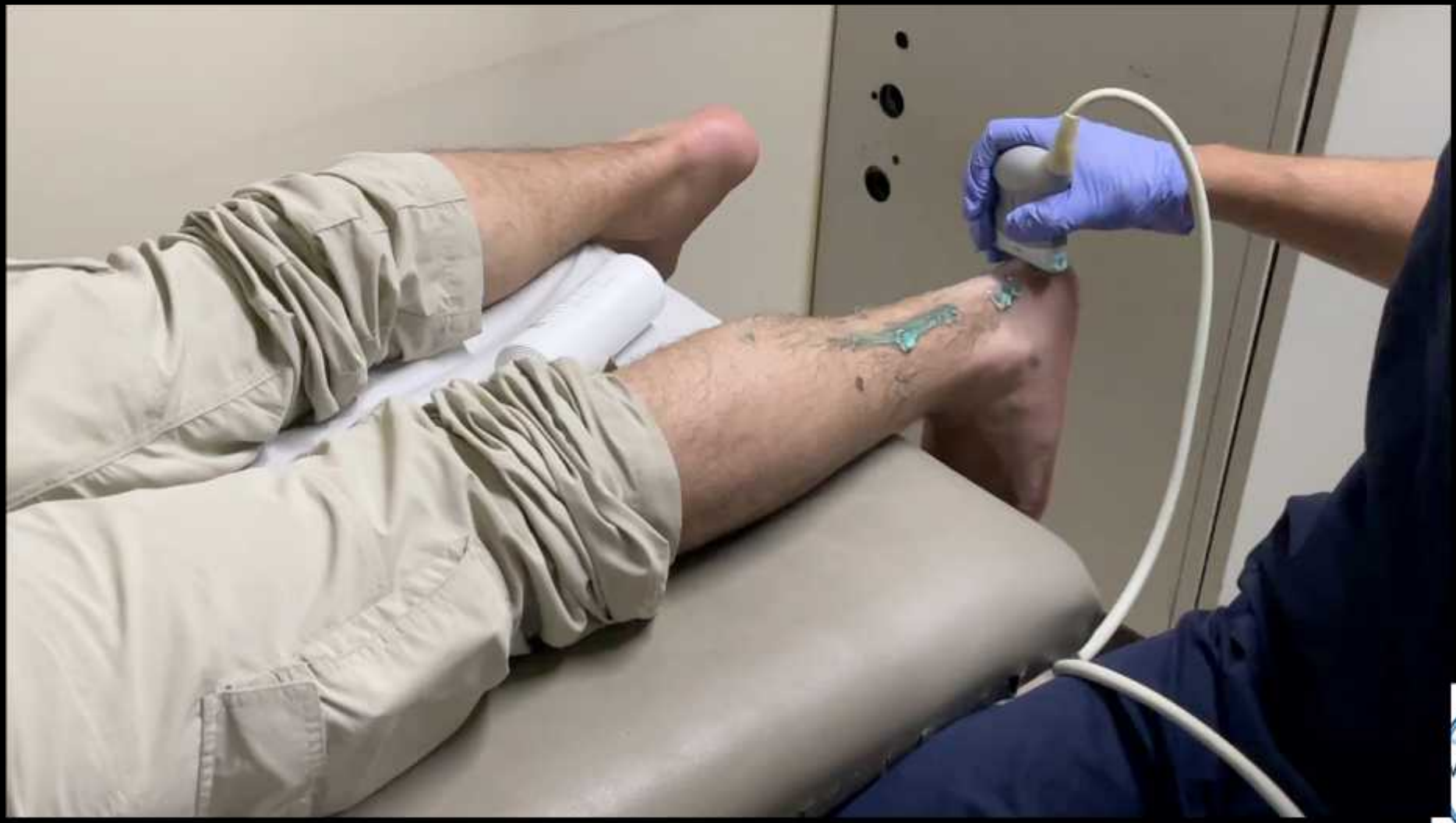
ΕΓΚΑΡΣΙΑ





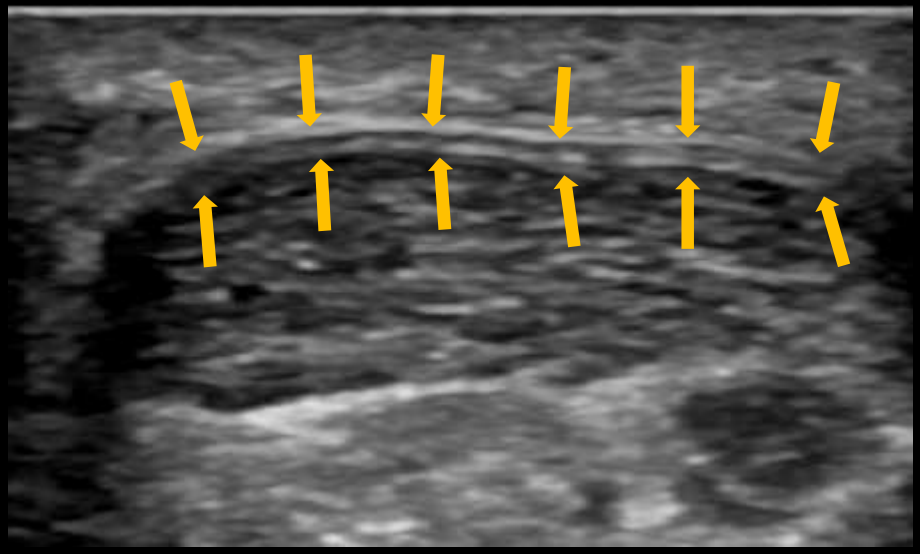
- Πρόσθιο όριο επίπεδο ή αμφίκοιλο έως ήπια κυρτότητα

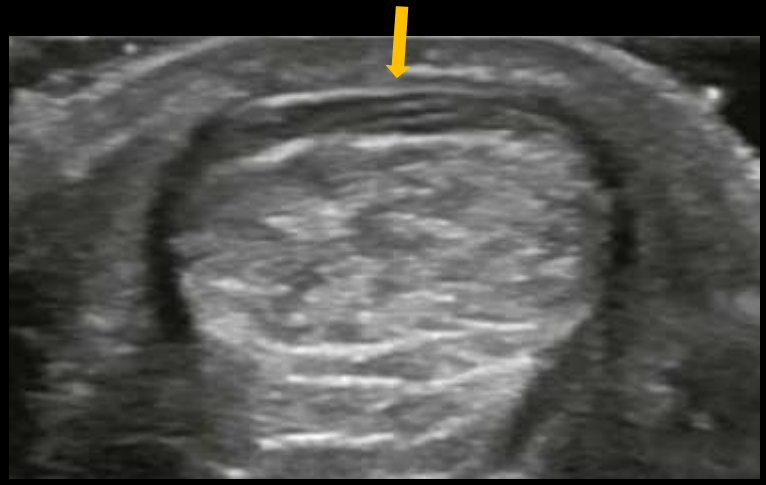
ΤΕΧΝΙΚΗ - ΕΓΚΑΡΣΙΑ

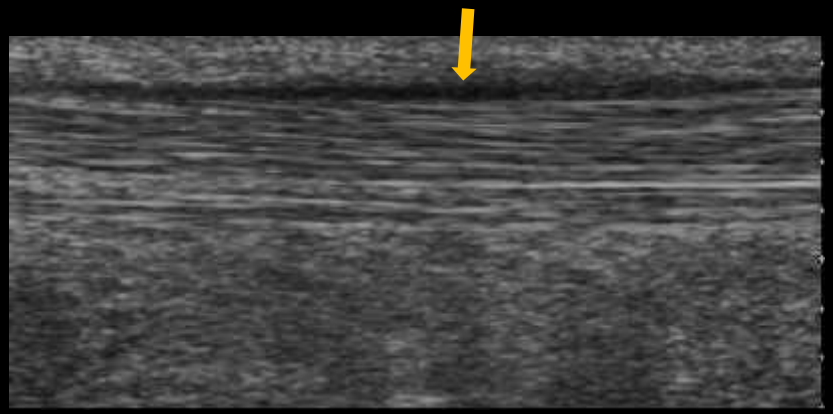


SONO-ANATOMY

ΠΑΡΑΤΕΝΟΝΤΑΣ



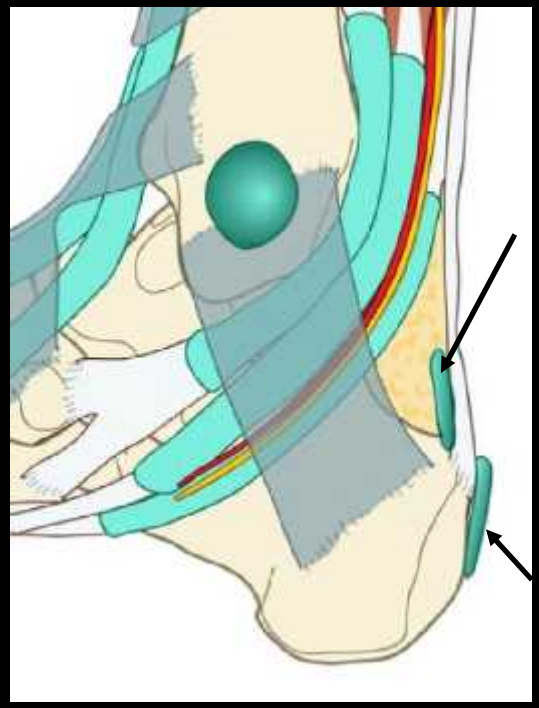


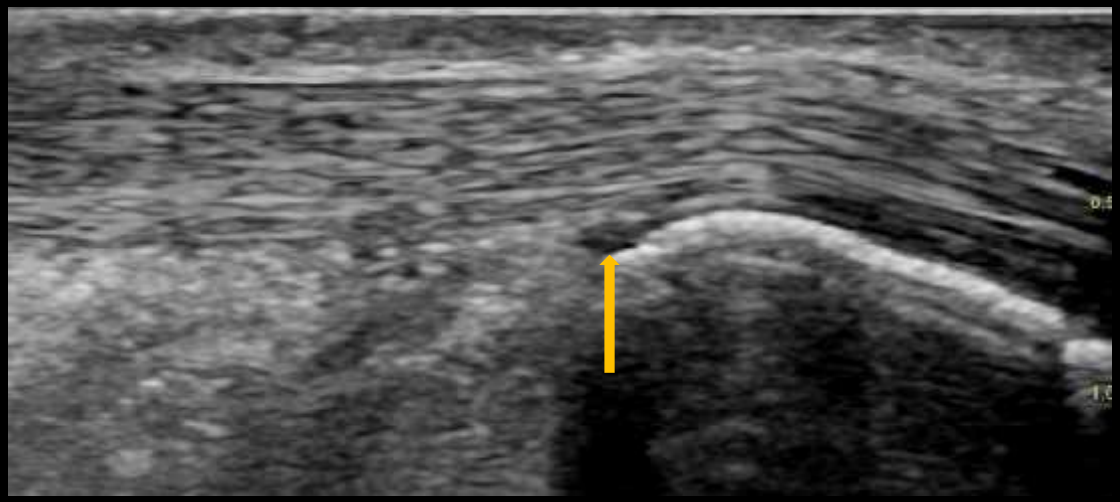


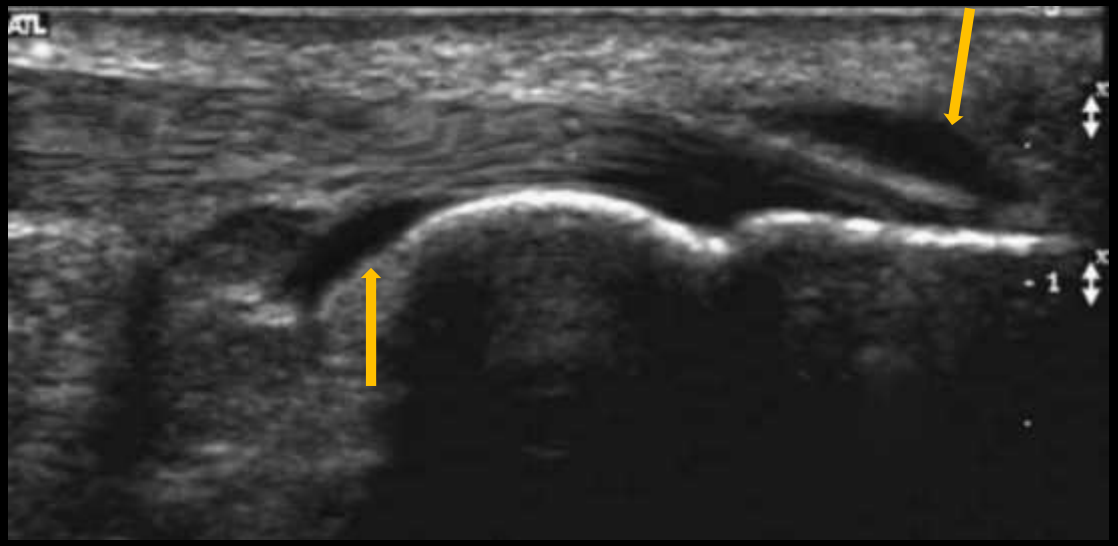
Medical Imaging

SONO-ANATOMY

ΟΠΙΣΘΟΠΤΕΡΝΙΚΟΣ ΚΑΙ
ΥΠΟΔΟΡΙΟΣ
ΟΡΟΓΟΝΟΣ ΘΥΛΑΚΑΣ

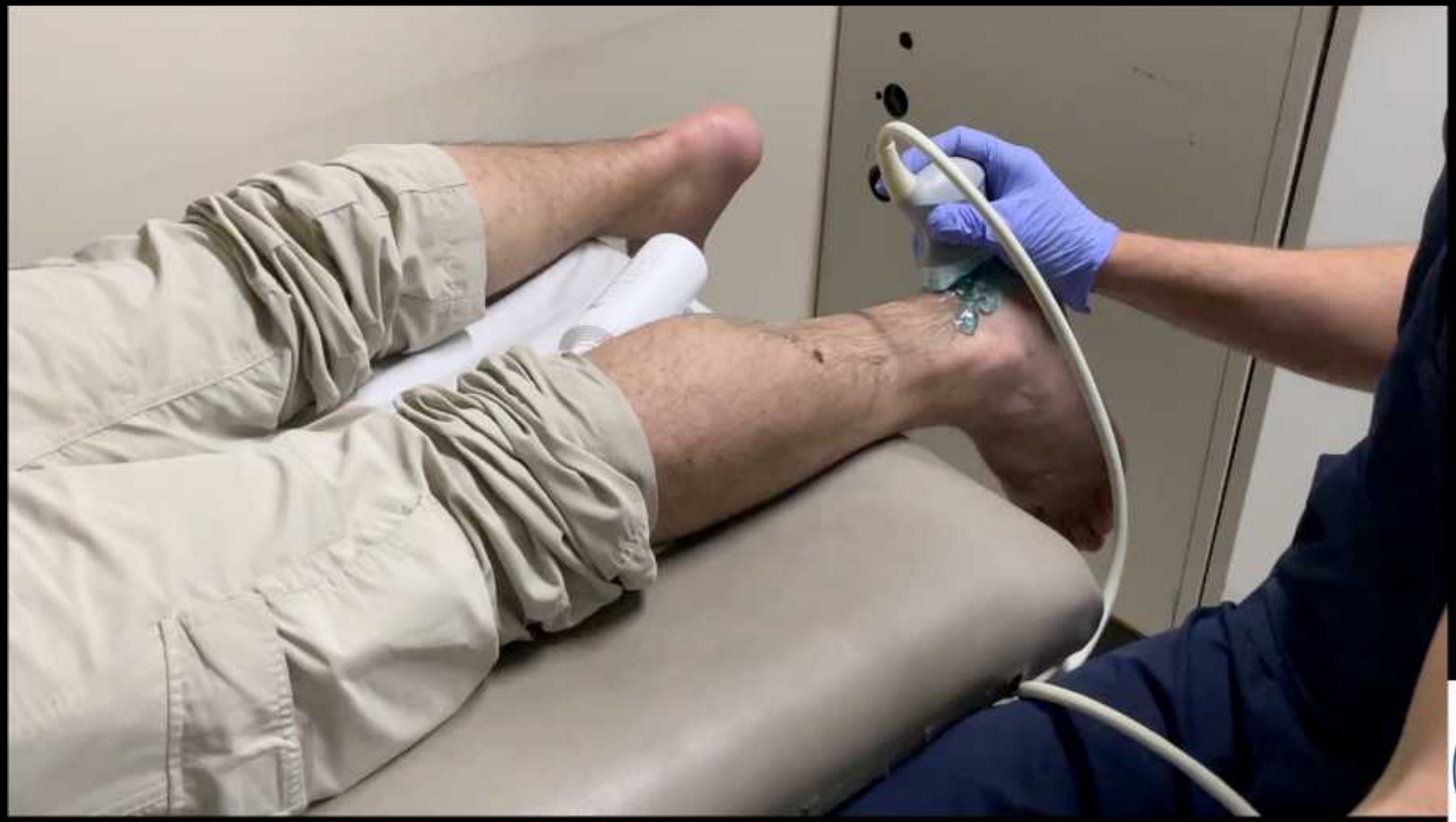






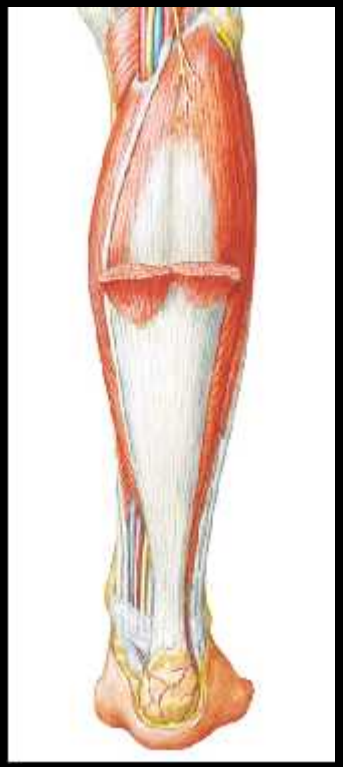
Medical Imaging

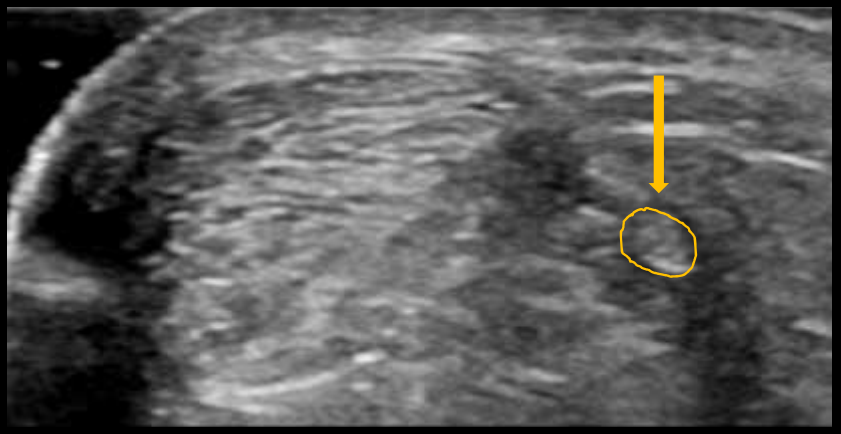
SONO-ANATOMY

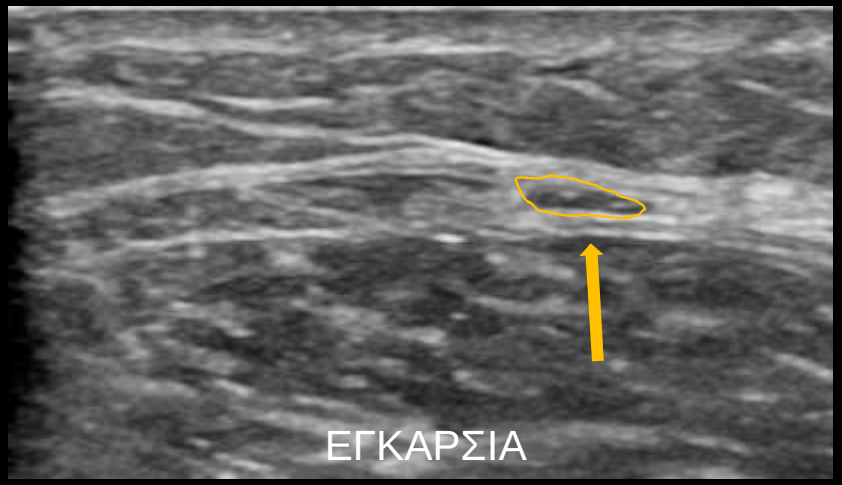


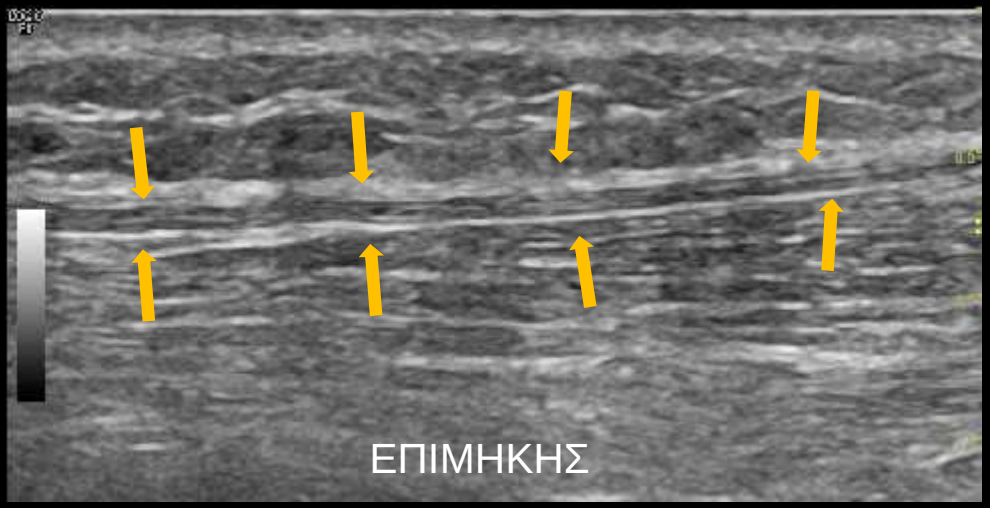
SONO-ANATOMY

ΠΕΛΜΑΤΙΑΙΟΣ ΤΕΝΟΝΤΑΣ





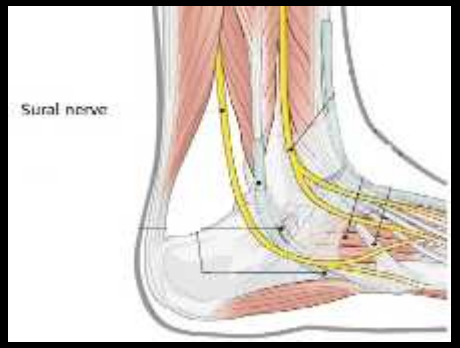


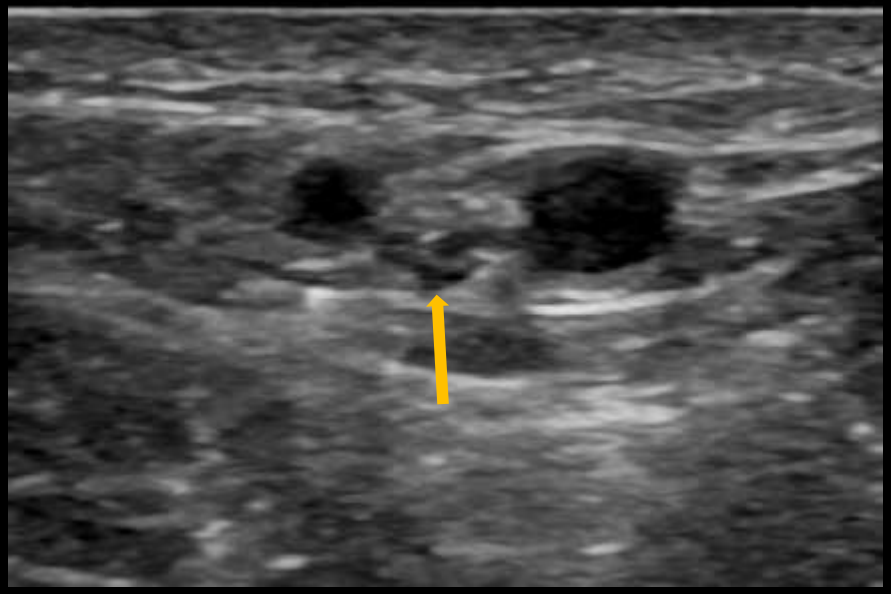


ΤΕΧΝΙΚΗ - PLANTARIS

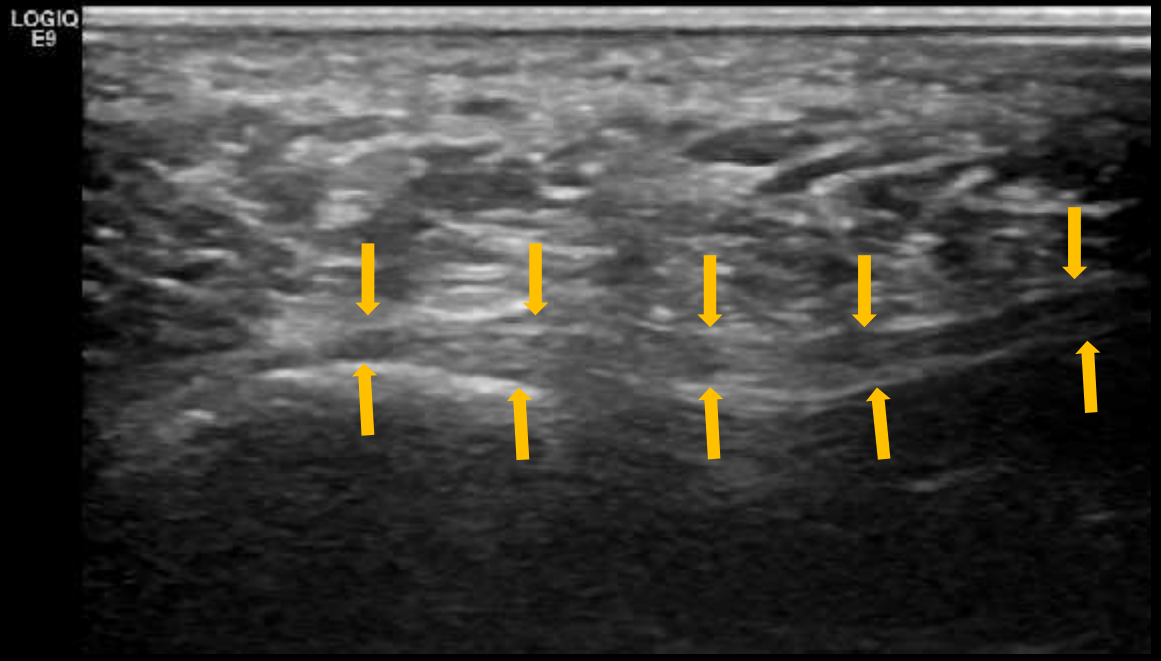
SONO-ANATOMY

SURAL NERVE



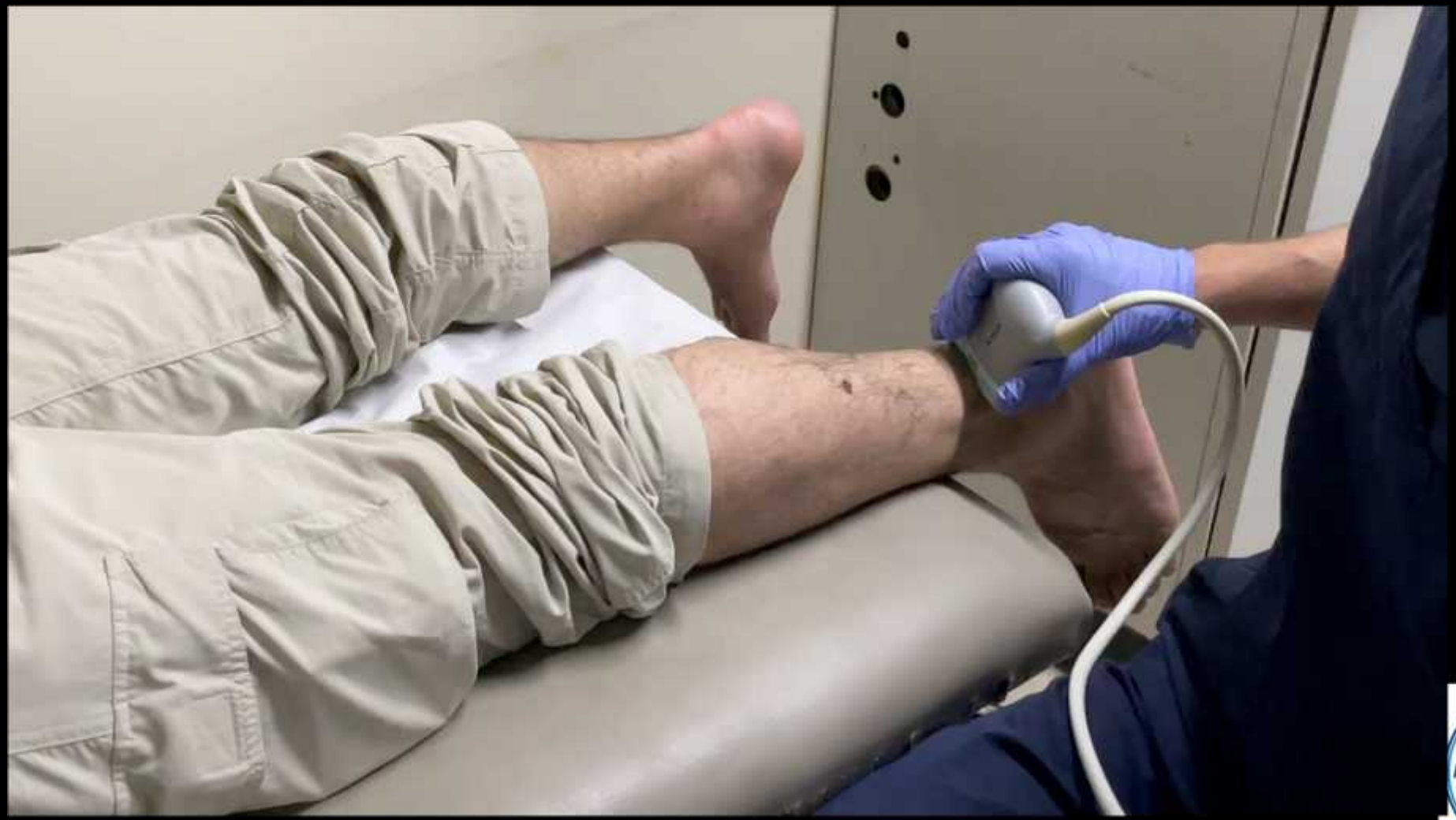


ΠΕΛΜΑΤΙΑΙΑ ΑΠΟΝΕΥΡΩΣΗ



Medical Imaging

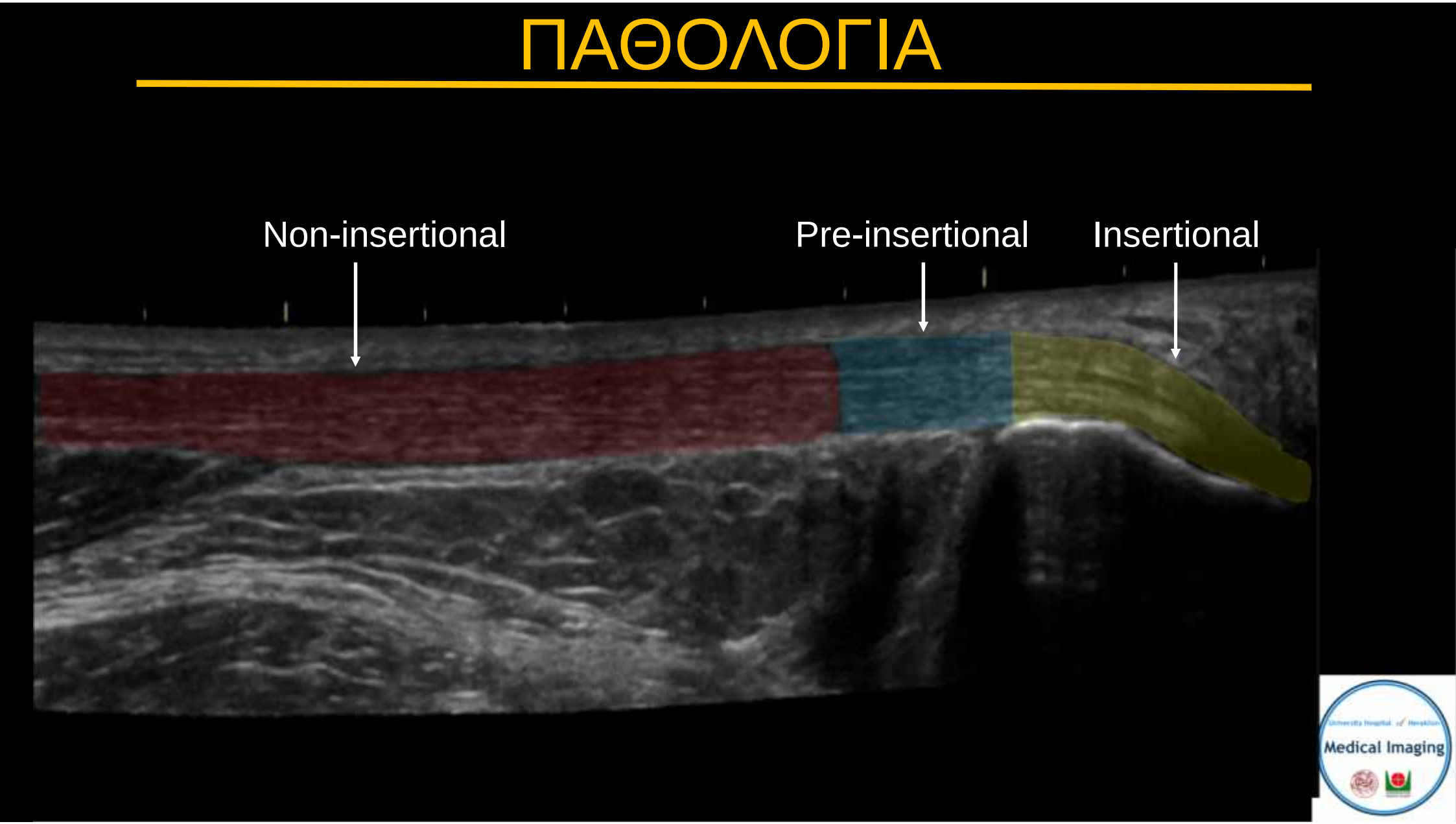
ΤΕΧΝΙΚΗ – SURAL NERVE



ΠΑΘΟΛΟΓΙΑ

- ΥΧ πρώτη απεικονιστική εξέταση σε υποψία παθολογίας
- Αυξημένη διακριτική ικανότητα με εξαιρετική ανάλυση του ινώδους προτύπου του τένοντα
- Δυναμική εξέταση
- Άμεση επικοινωνία με τον ασθενή
- Γρήγορη, φτηνή εξέταση με απουσία ιονίζουσας ακτινοβολίας

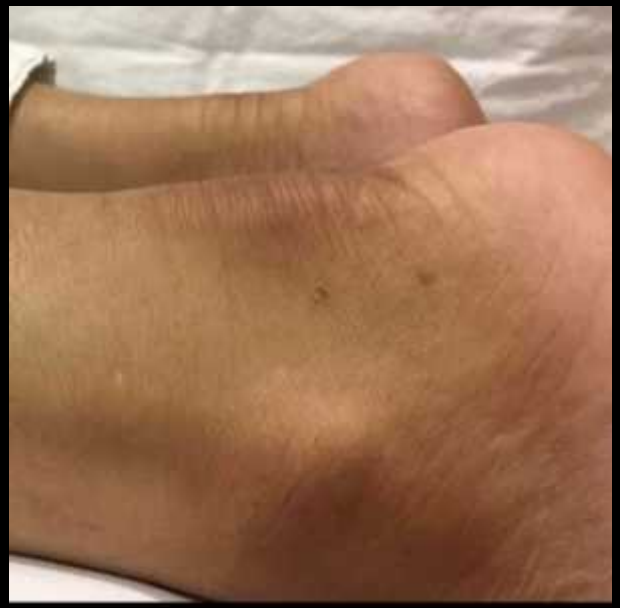
ΠΑΘΟΛΟΓΙΑ

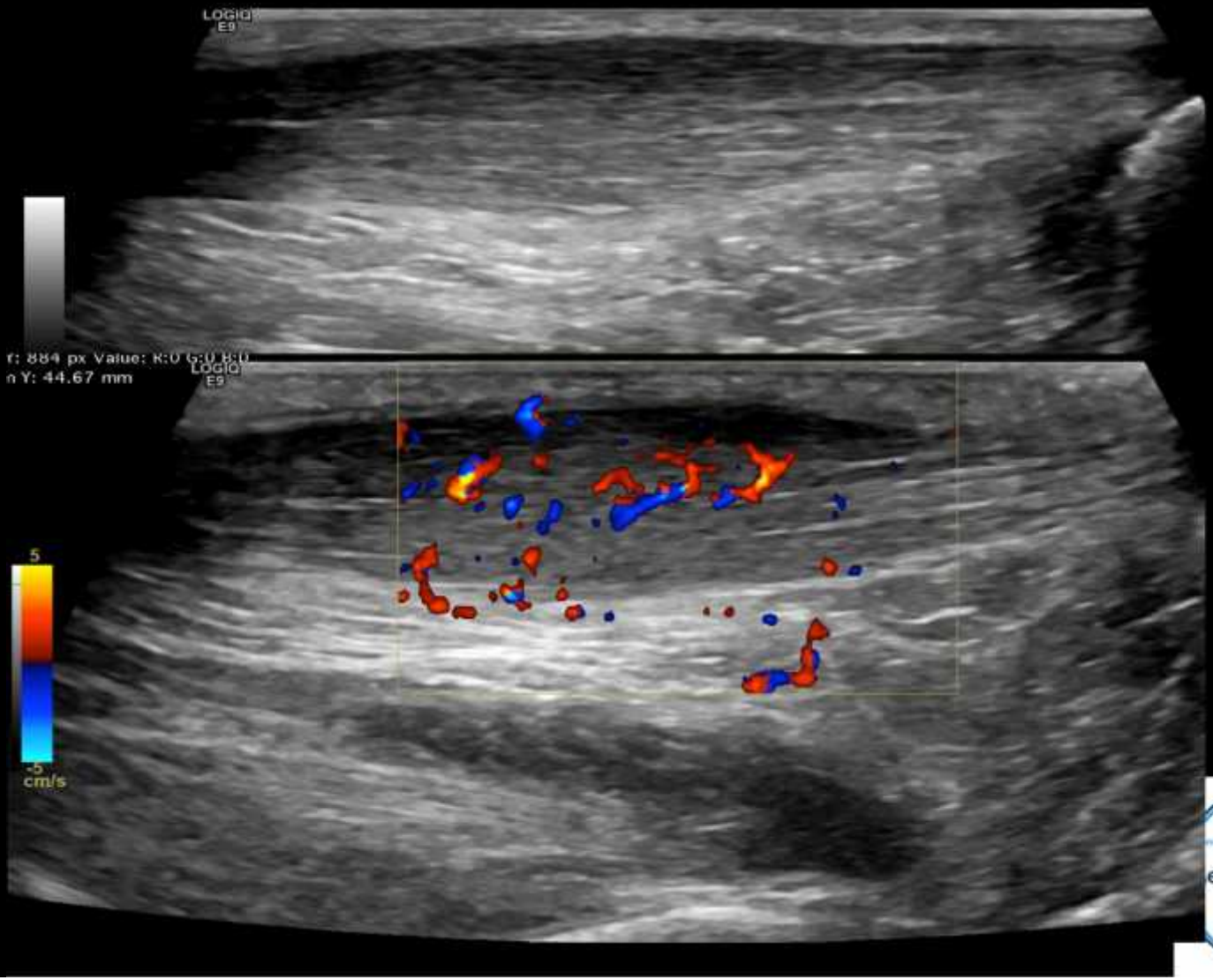

Non-insertional
Pre-insertional
Insertional
Medical Imaging

ΠΑΘΟΛΟΓΙΑ

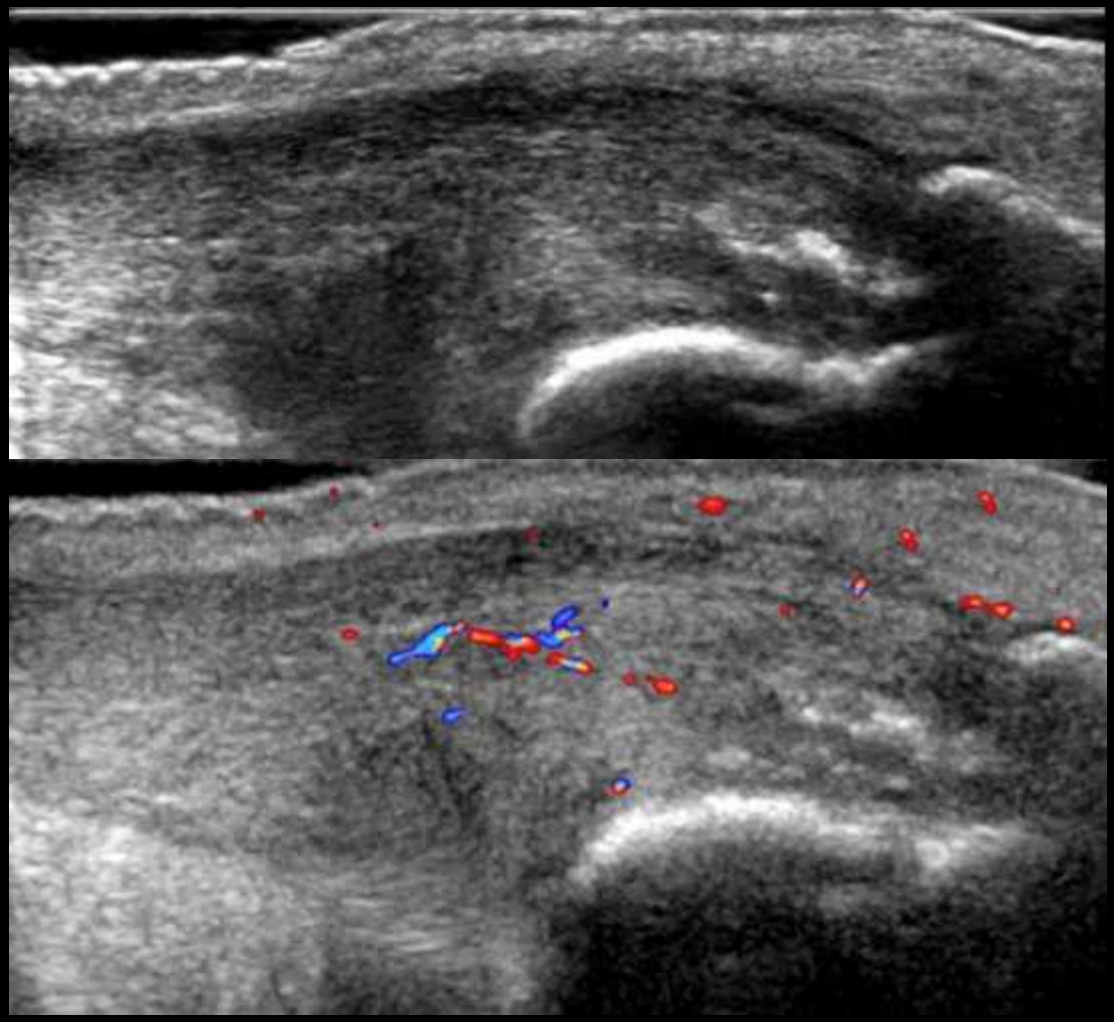
- Τενοντοπάθεια (διάχυτη ή εστιακή)
- Ρήξεις (μερικές, ολικές)
- Παρατενοντοπάθεια
- Ορογονοθυλακίτιδες

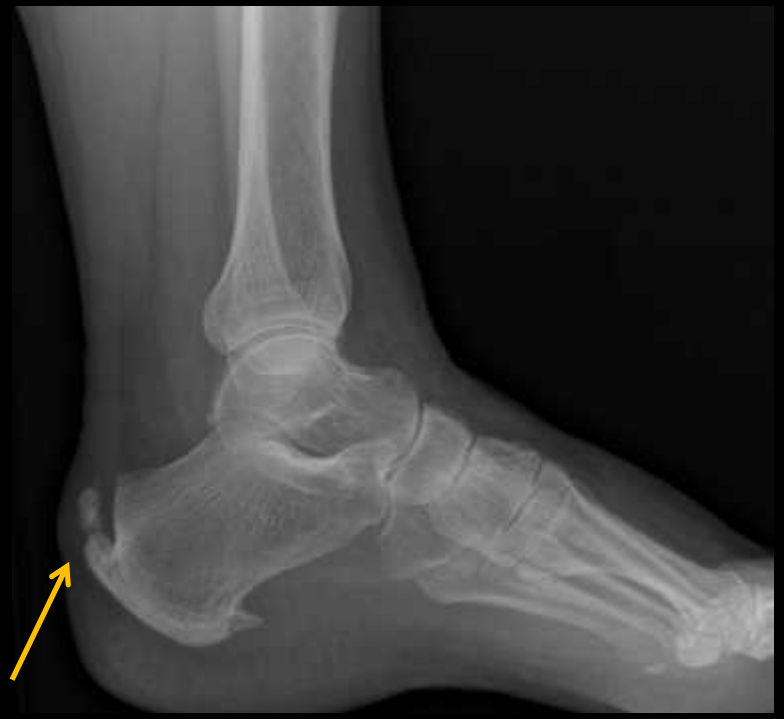
ΤΕΝΟΝΤΟΠΑΘΕΙΑ





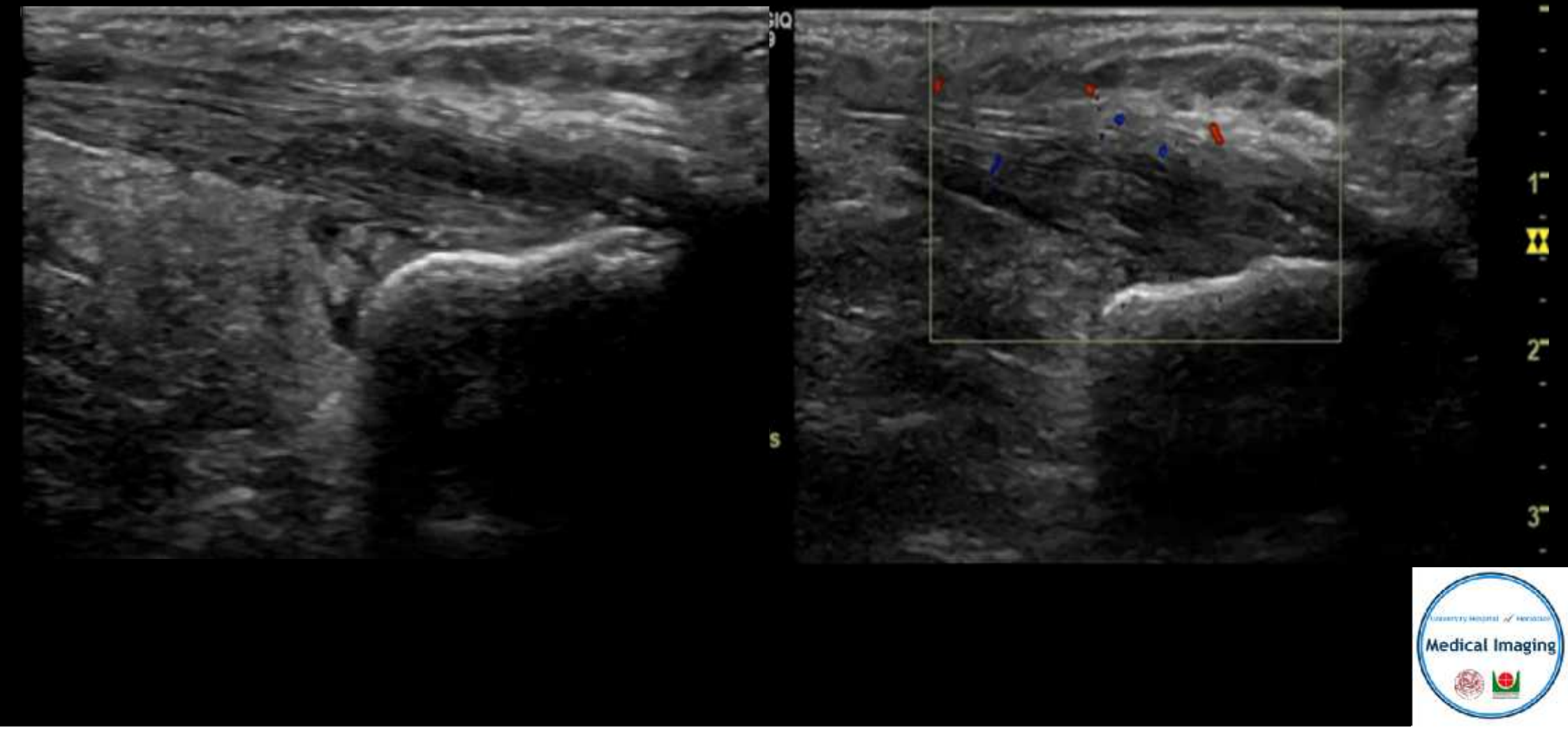
ΤΕΝΟΝΤΟΠΑΘΕΙΑ





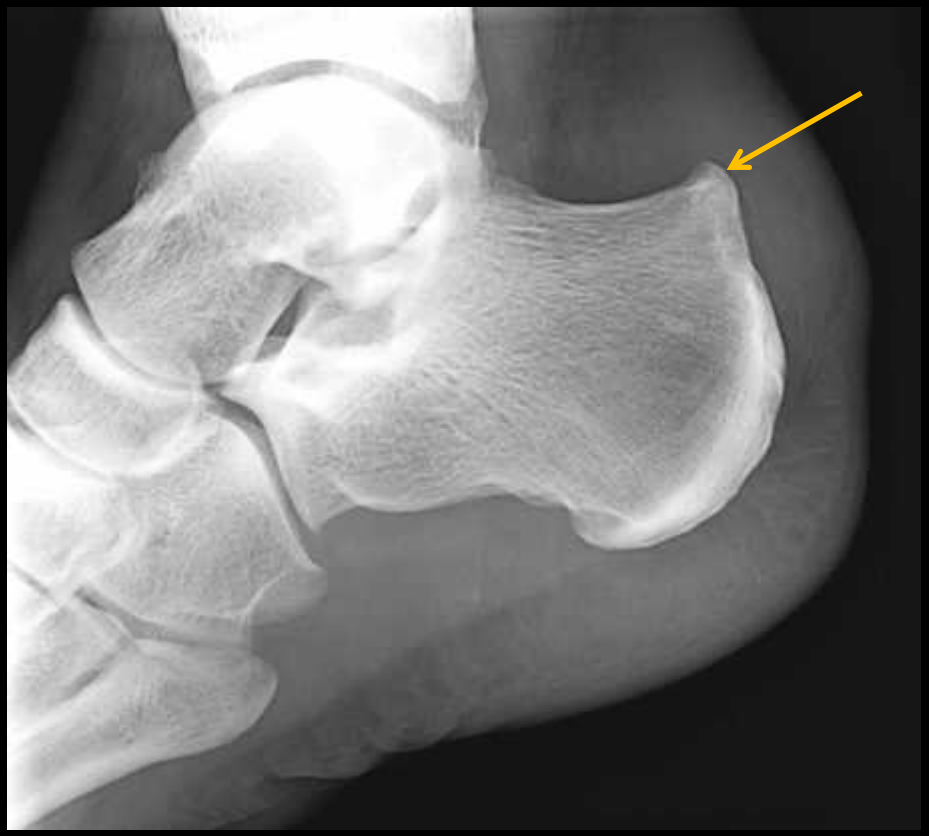
Medical Imaging

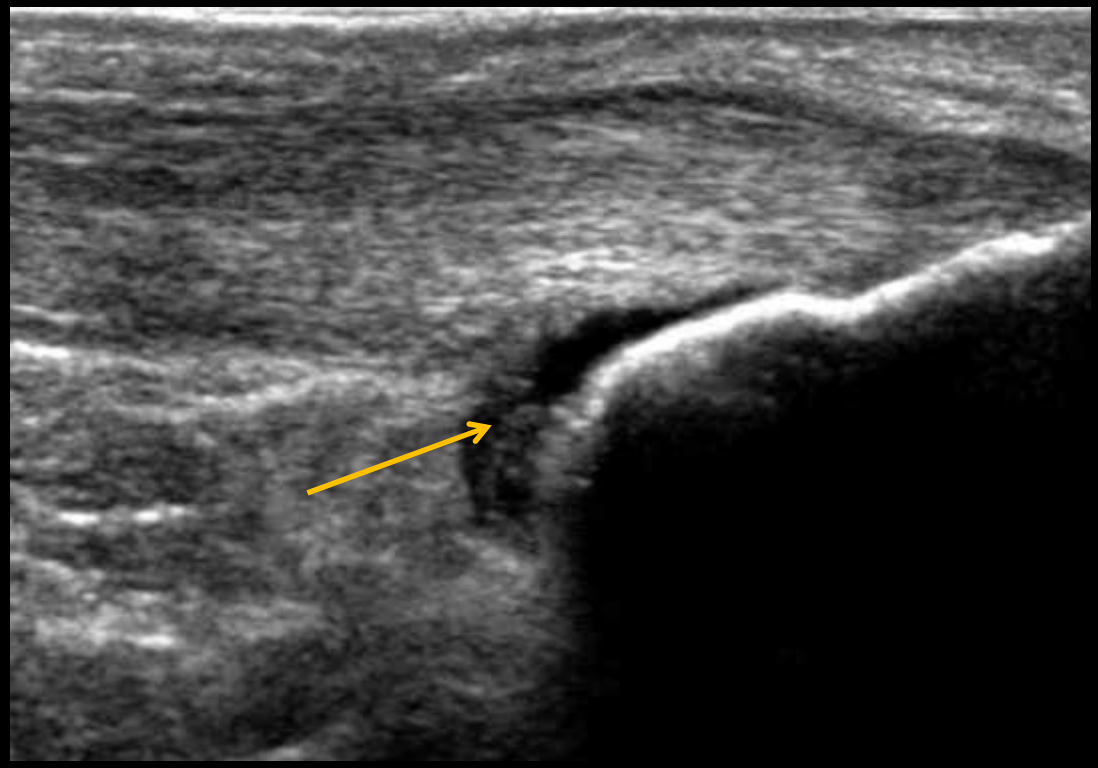
ΤΕΝΟΝΤΟΠΑΘΕΙΑ



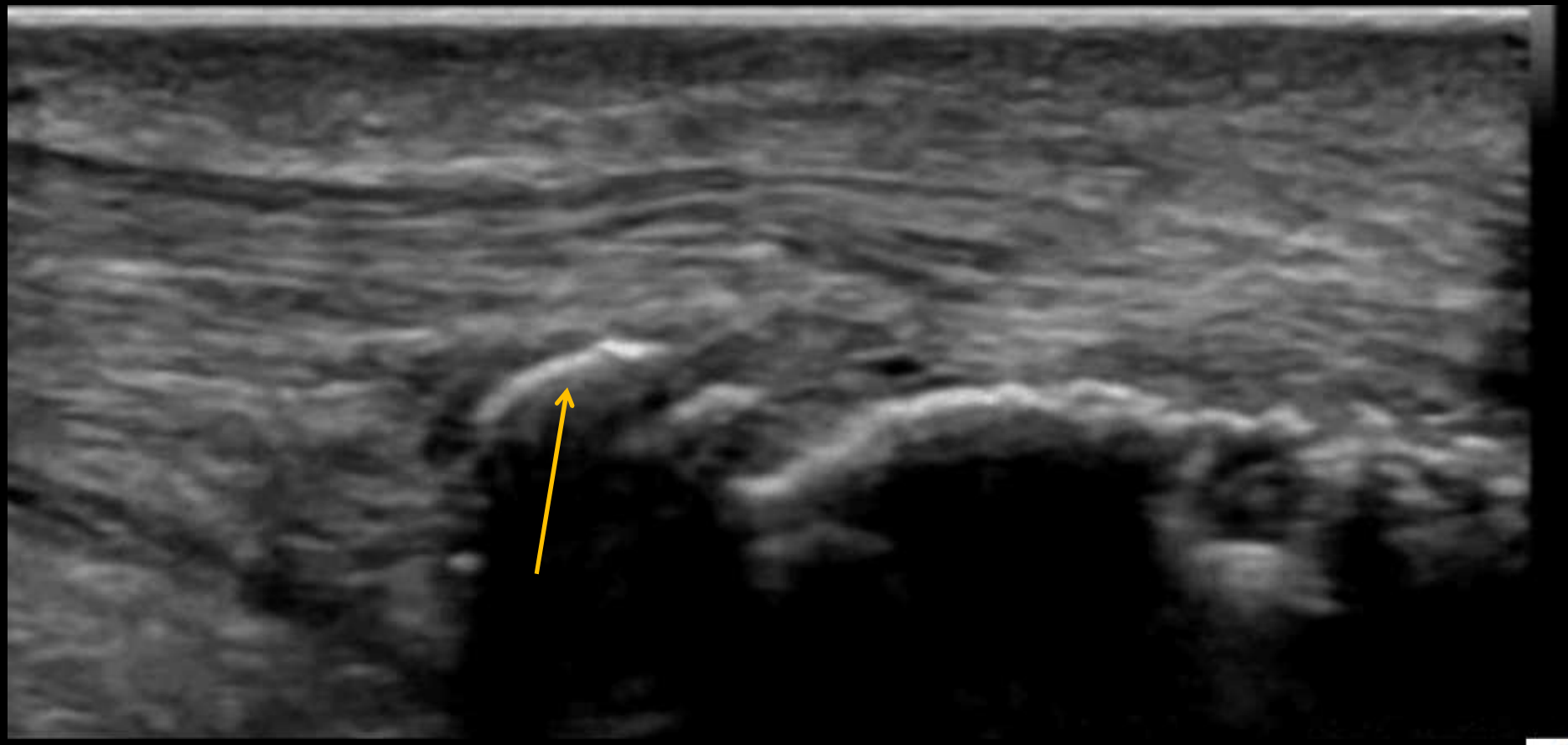
Medical Imaging

ΤΕΝΟΝΤΟΠΑΘΕΙΑ

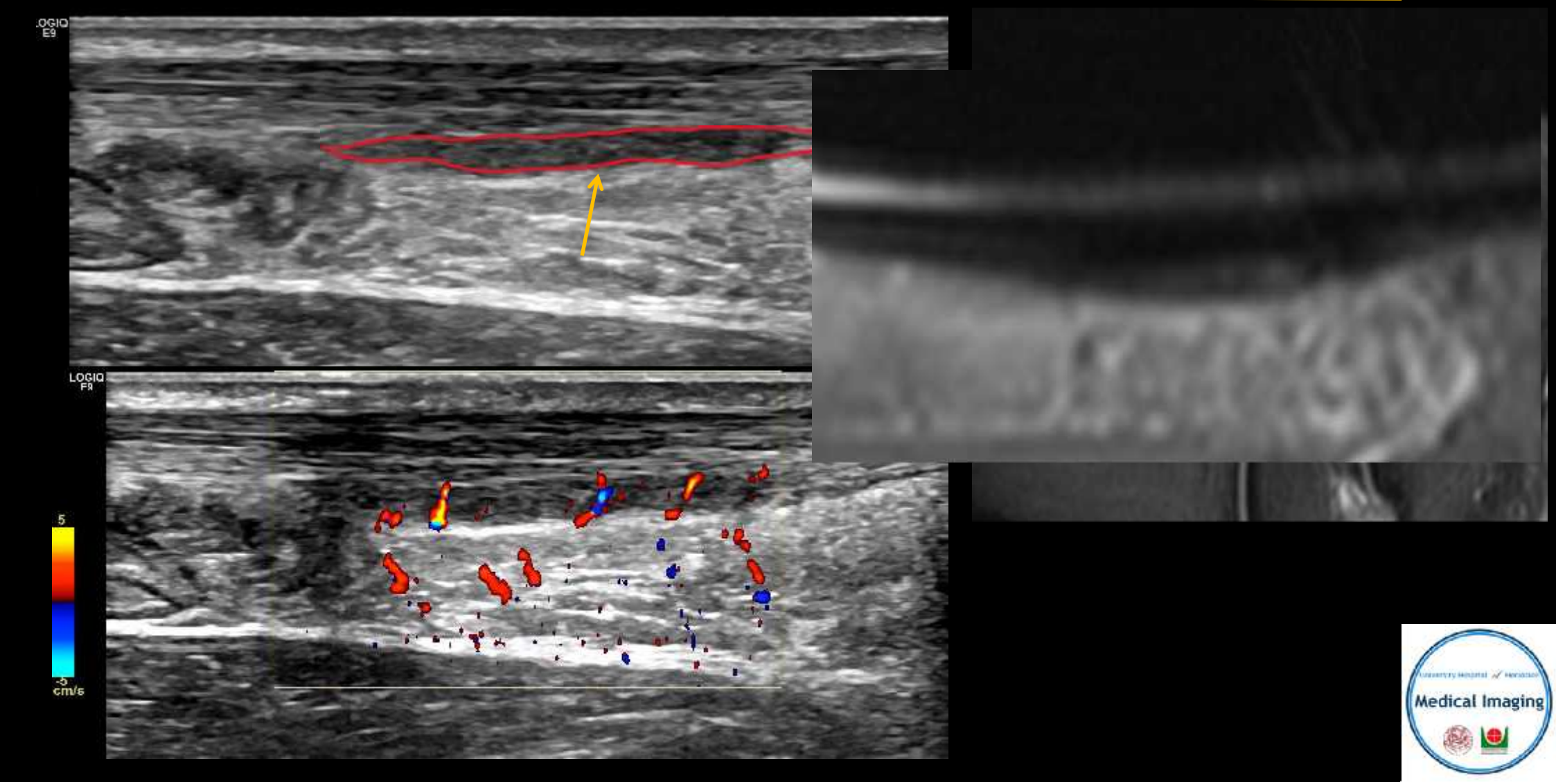




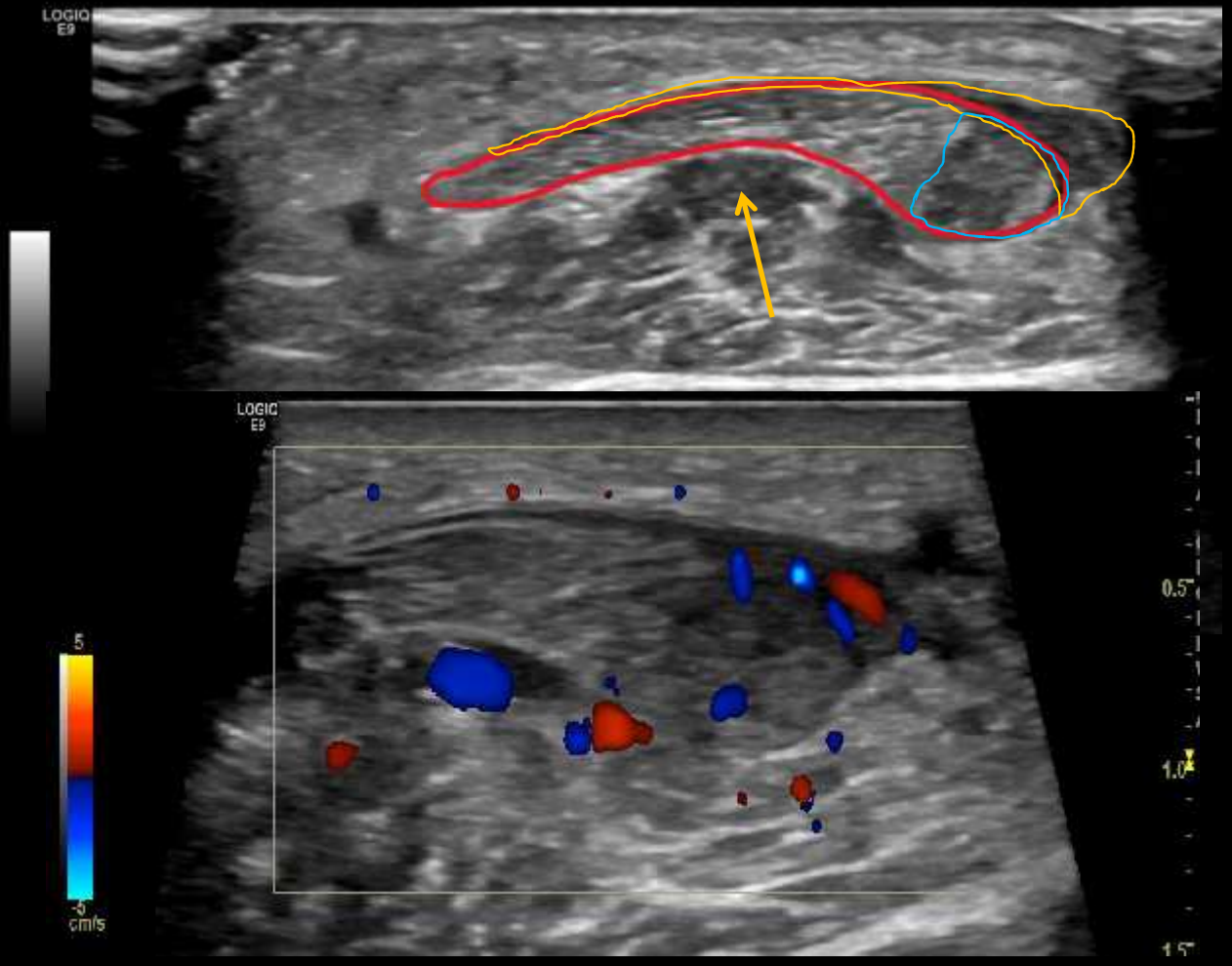
ΤΕΝΟΝΤΟΠΑΘΕΙΑ

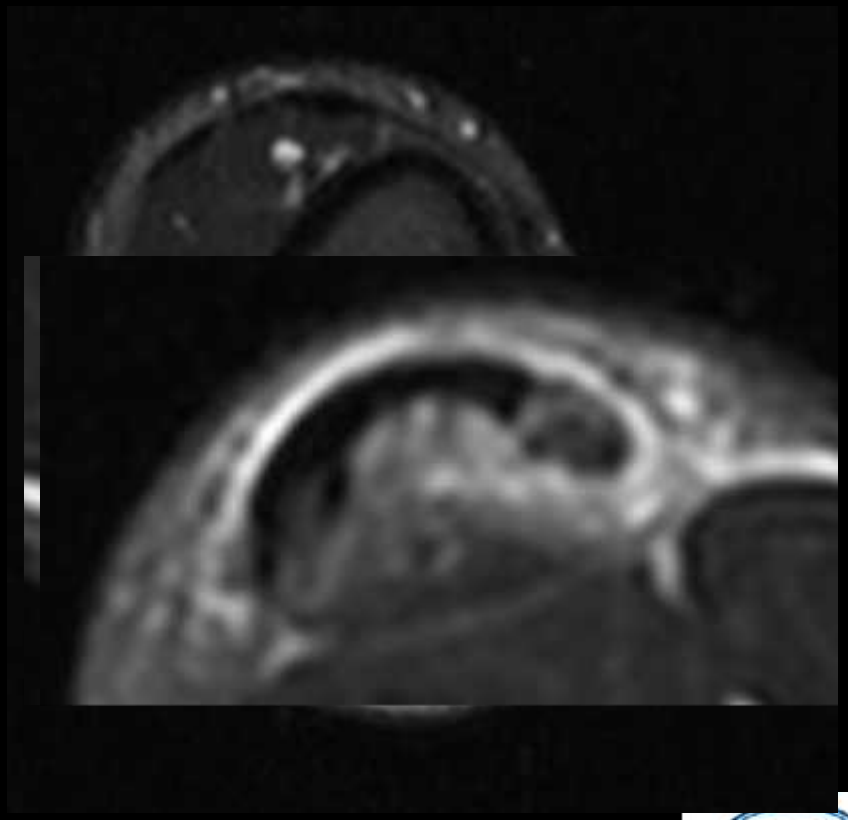


ΤΕΝΟΝΤΟΠΑΘΕΙΑ



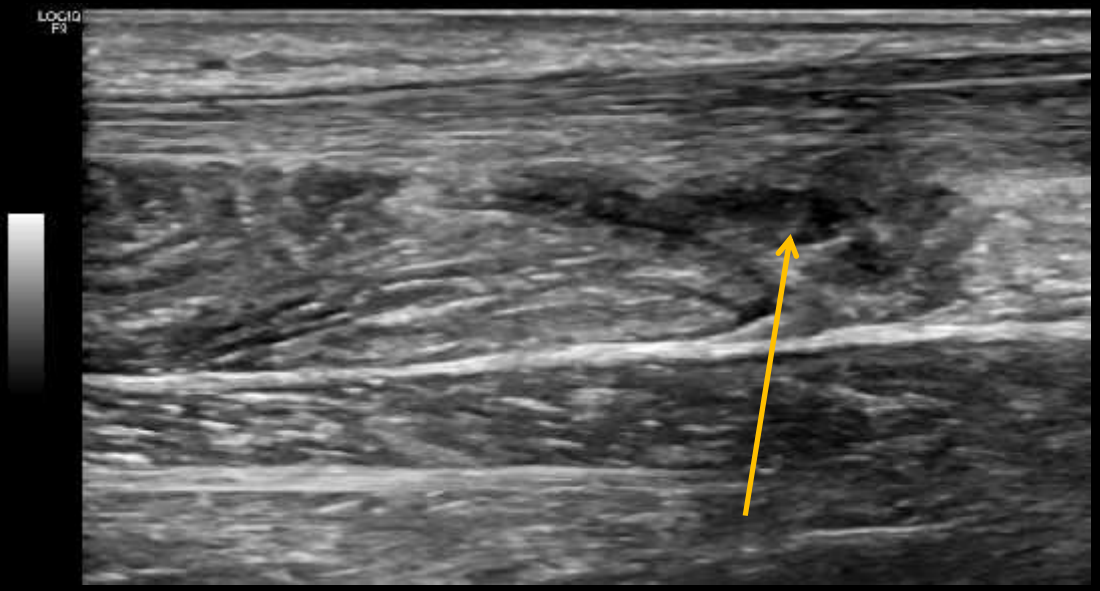
ΤΕΝΟΝΤΟΠΑΘΕΙΑ ΠΑΡΑΤΕΝΟΝΤΟΠΑΘΕΙΑ

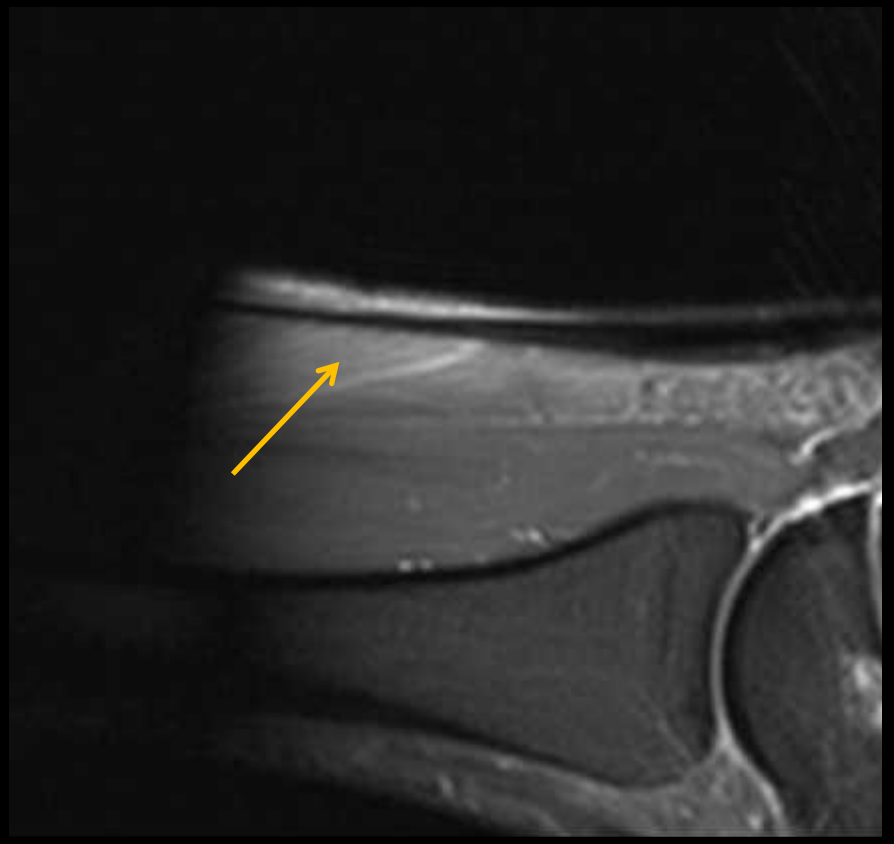




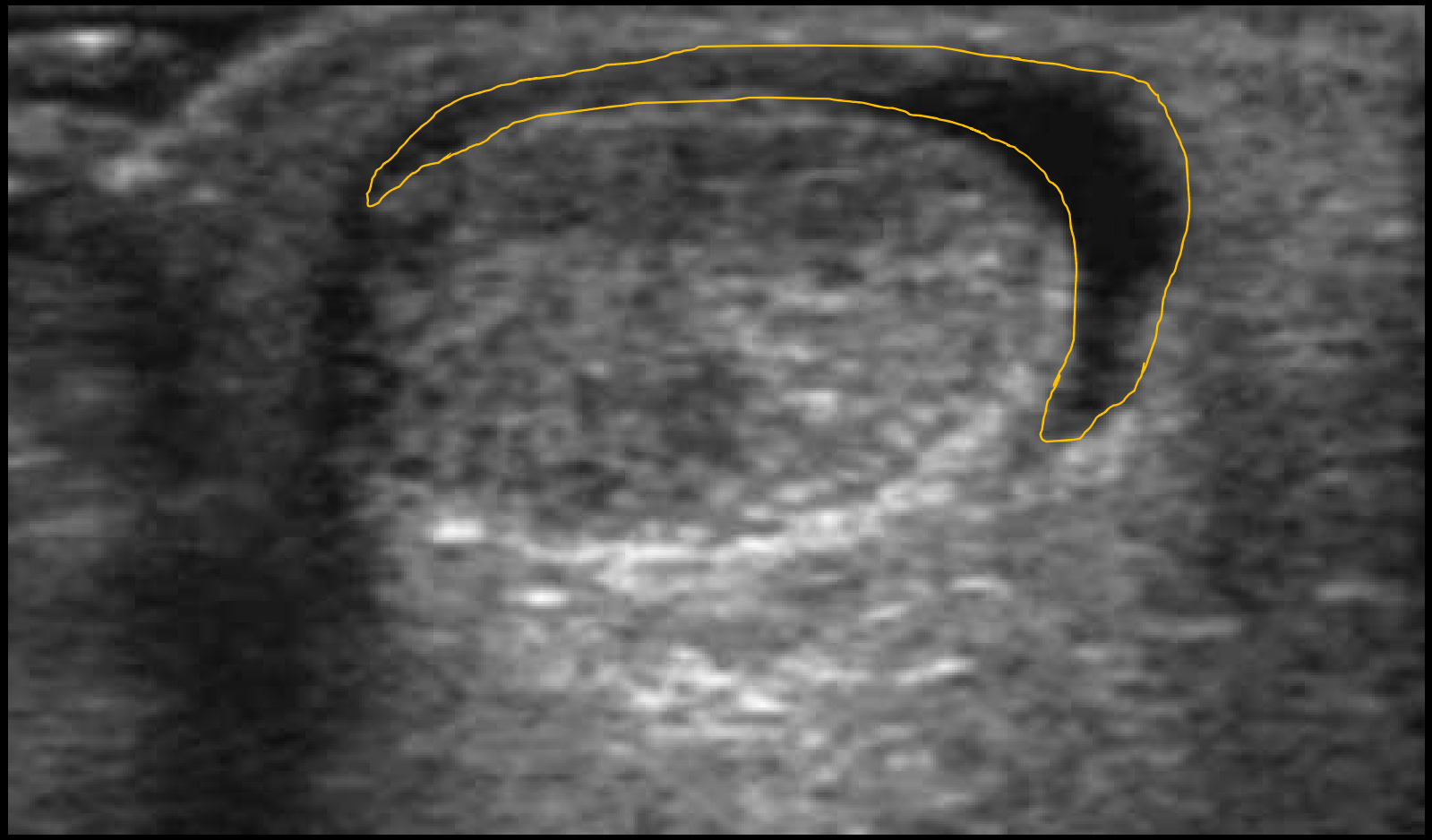
Medical Imaging

ΡΗΞΕΙΣ

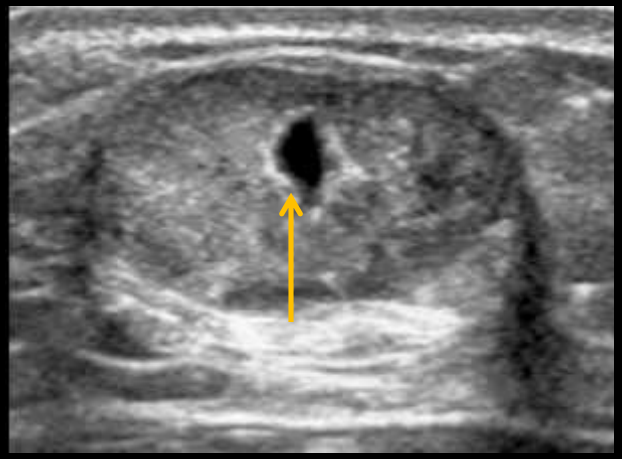


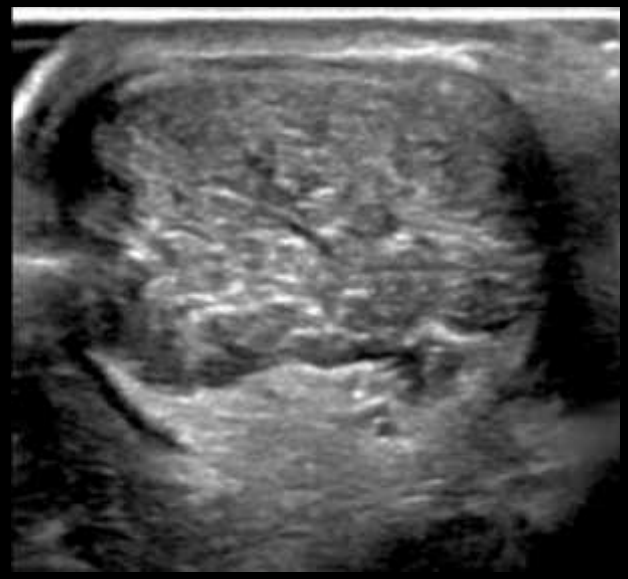


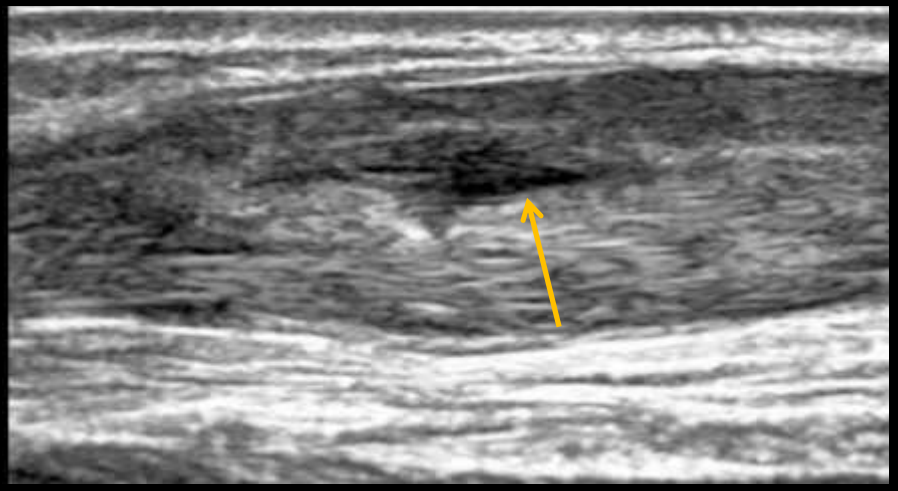
ΠΑΡΑΤΕΝΟΝΤΟΠΑΘΕΙΑ

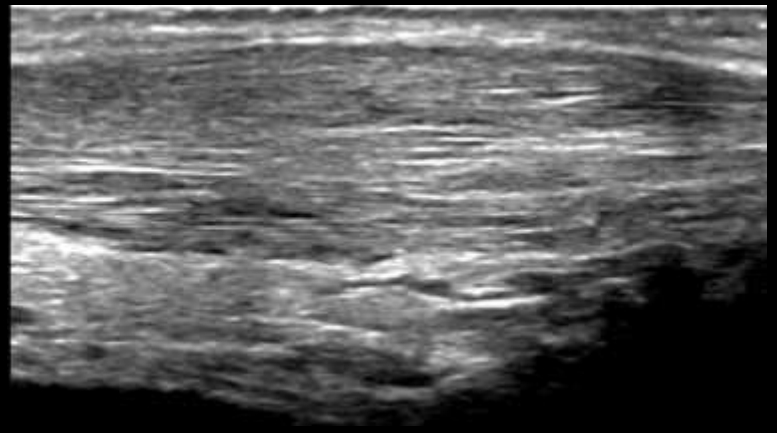


ΡΗΞΕΙΣ



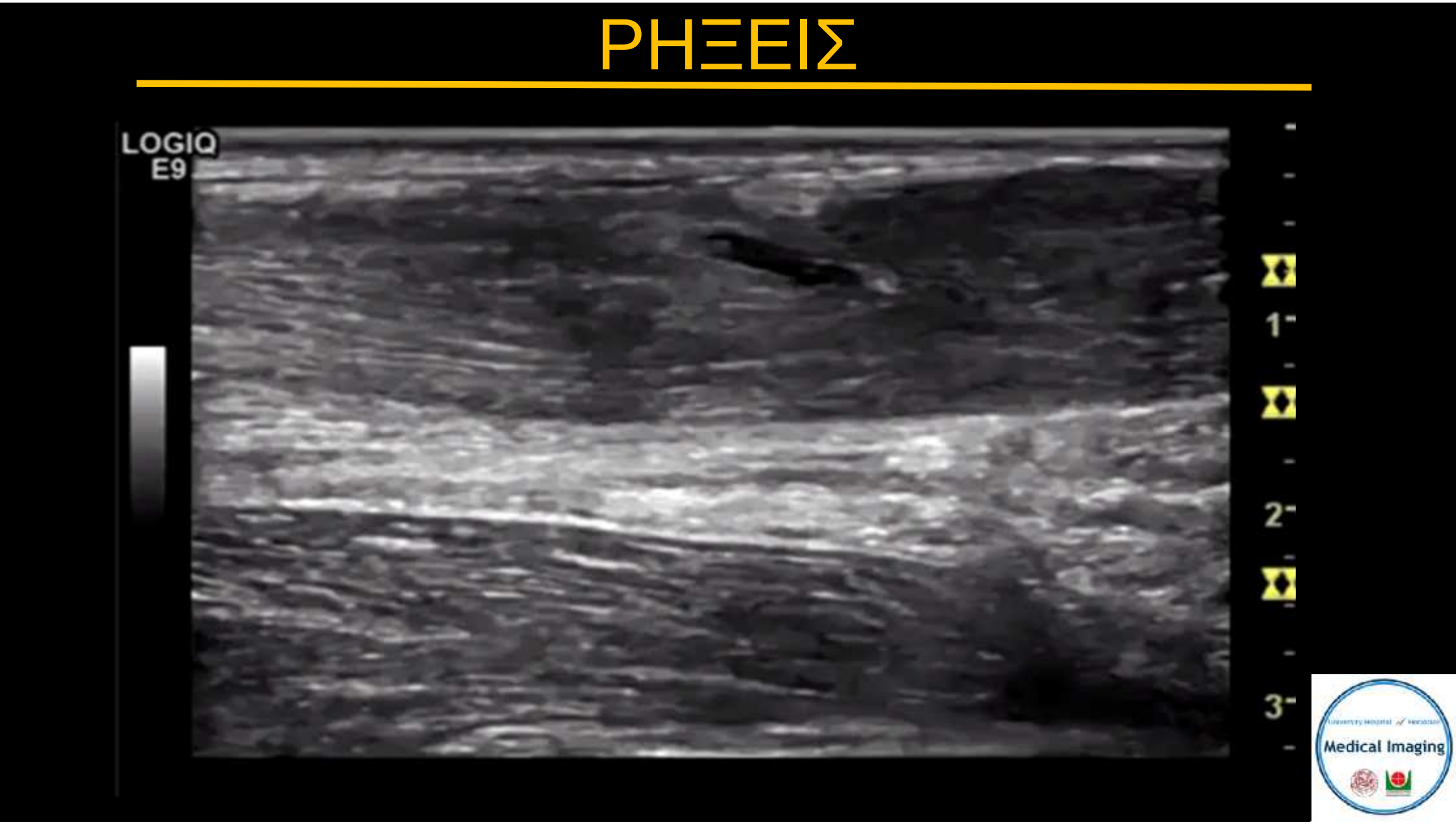




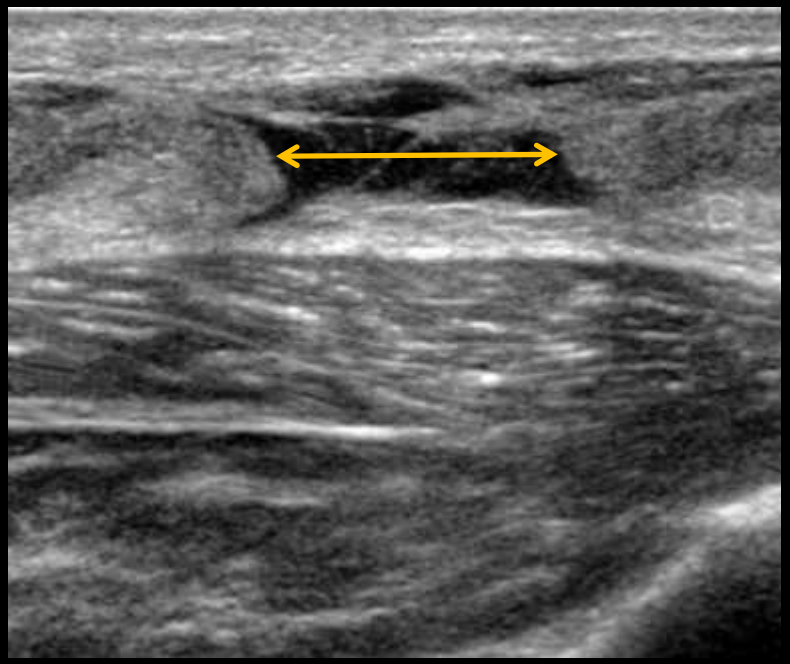


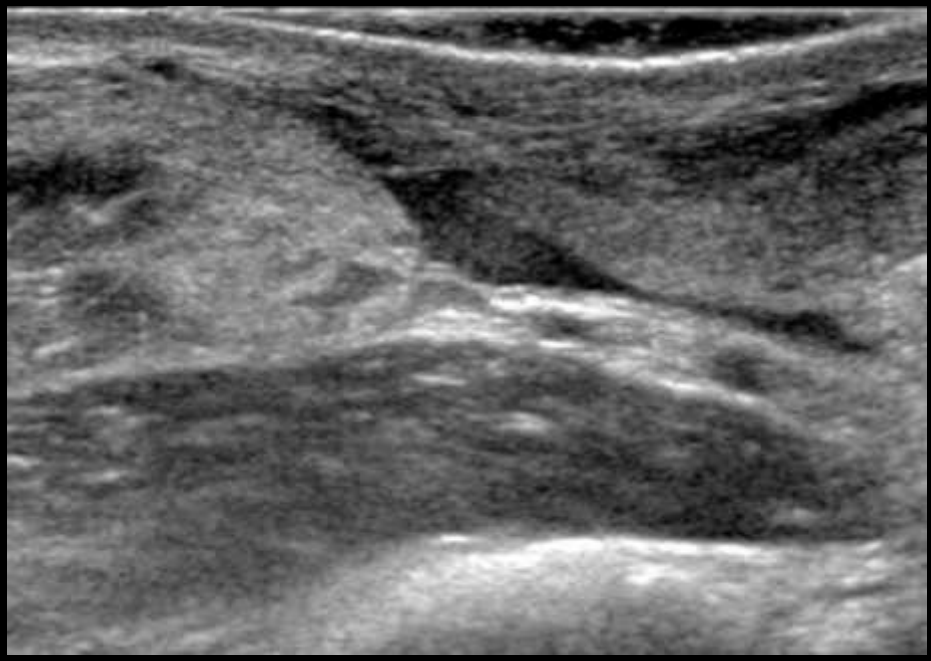
Medical Imaging

ΡΗΞΕΙΣ



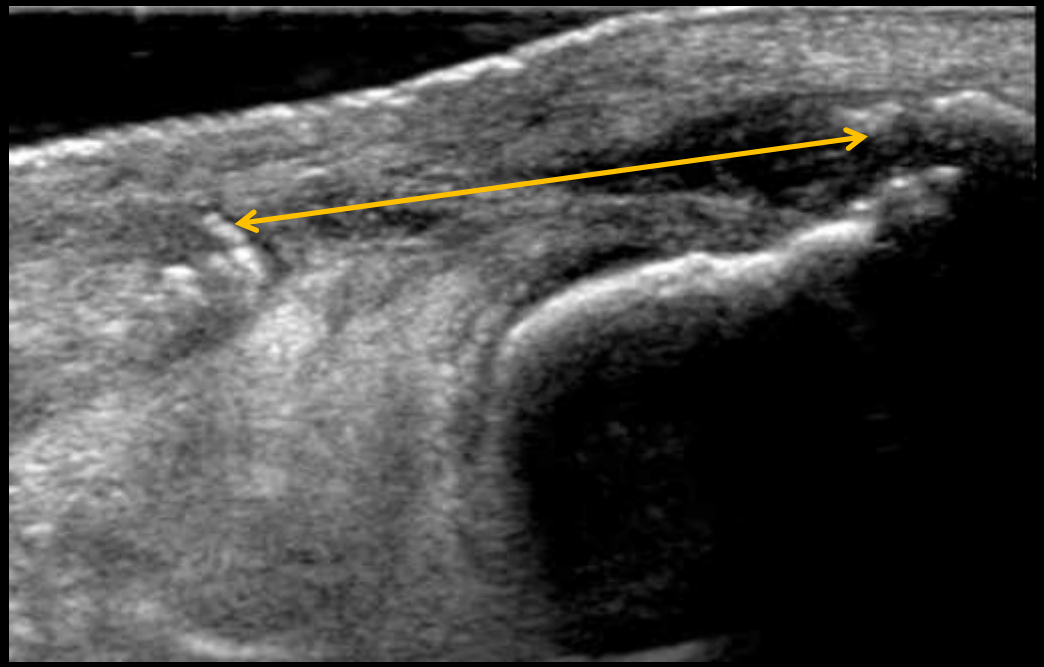
ΡΗΞΕΙΣ

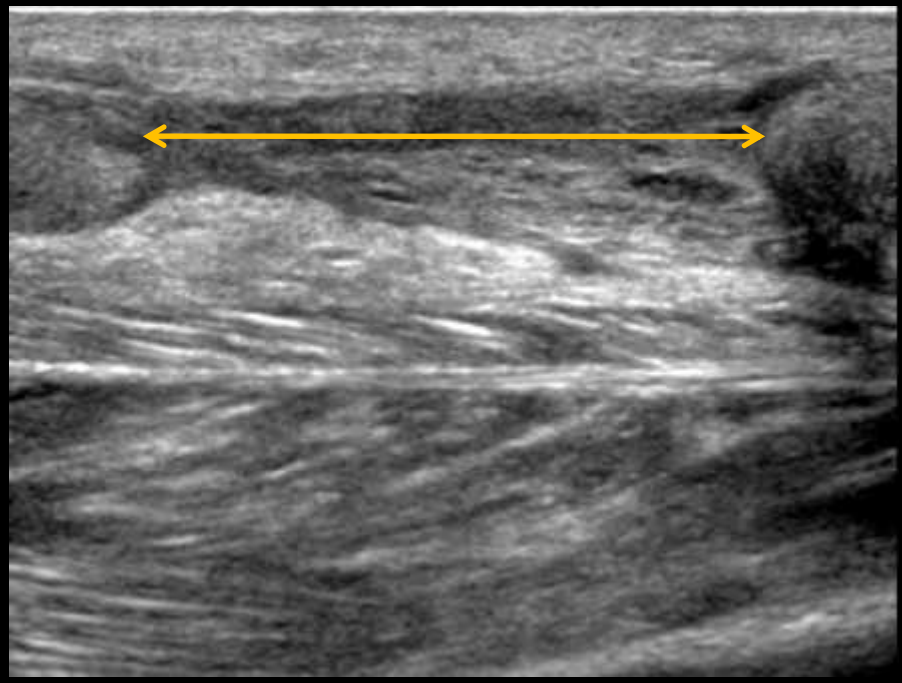




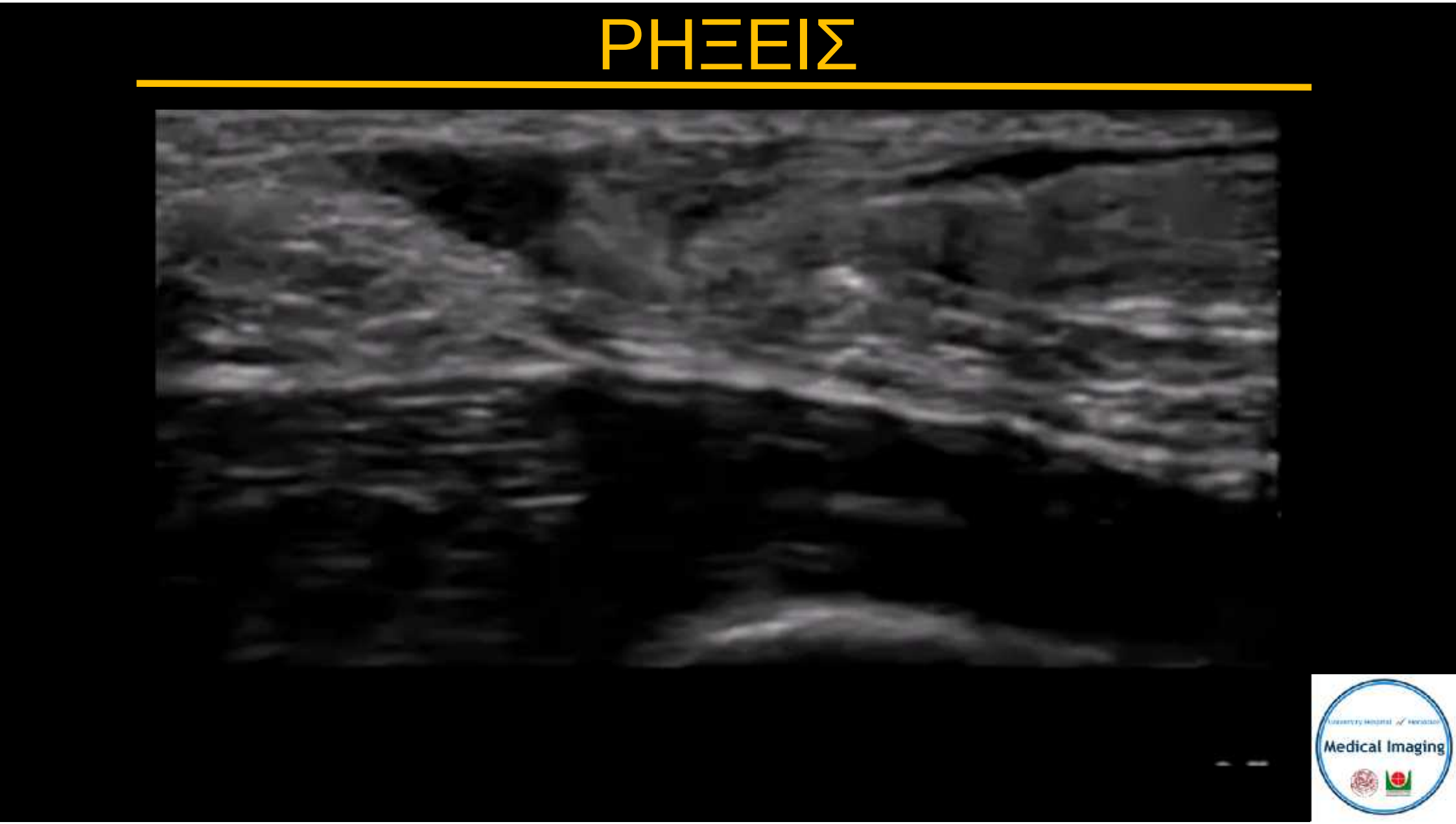
Medical Imaging

ΡΗΞΕΙΣ

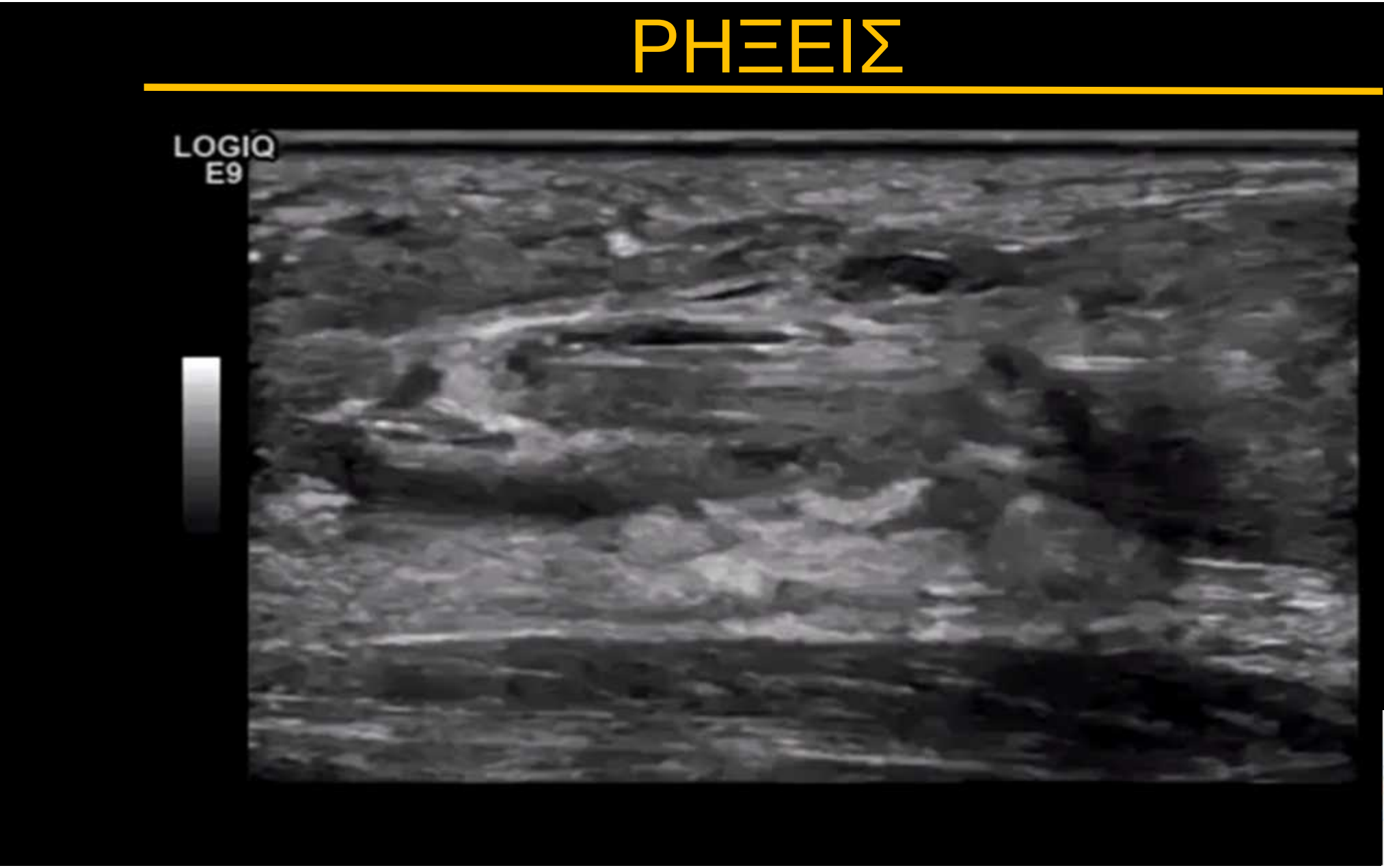




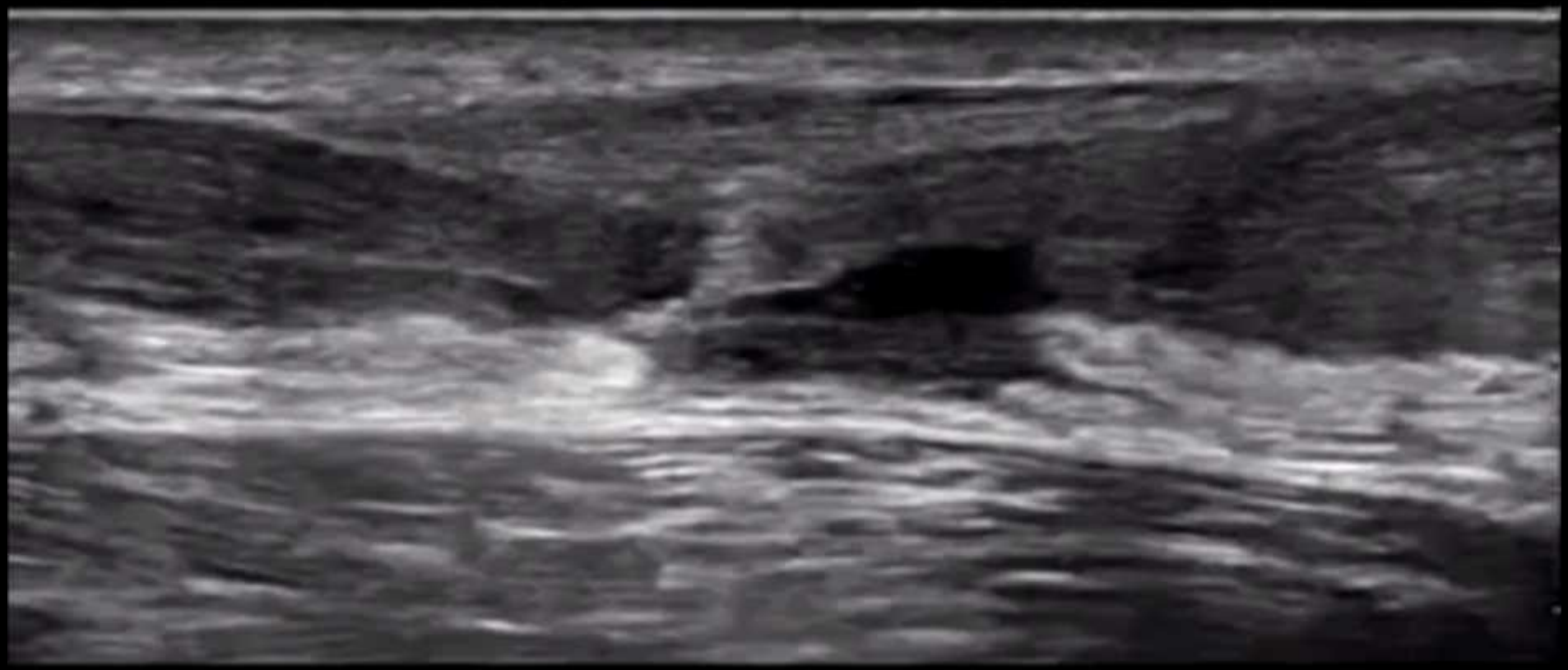
ΡΗΞΕΙΣ



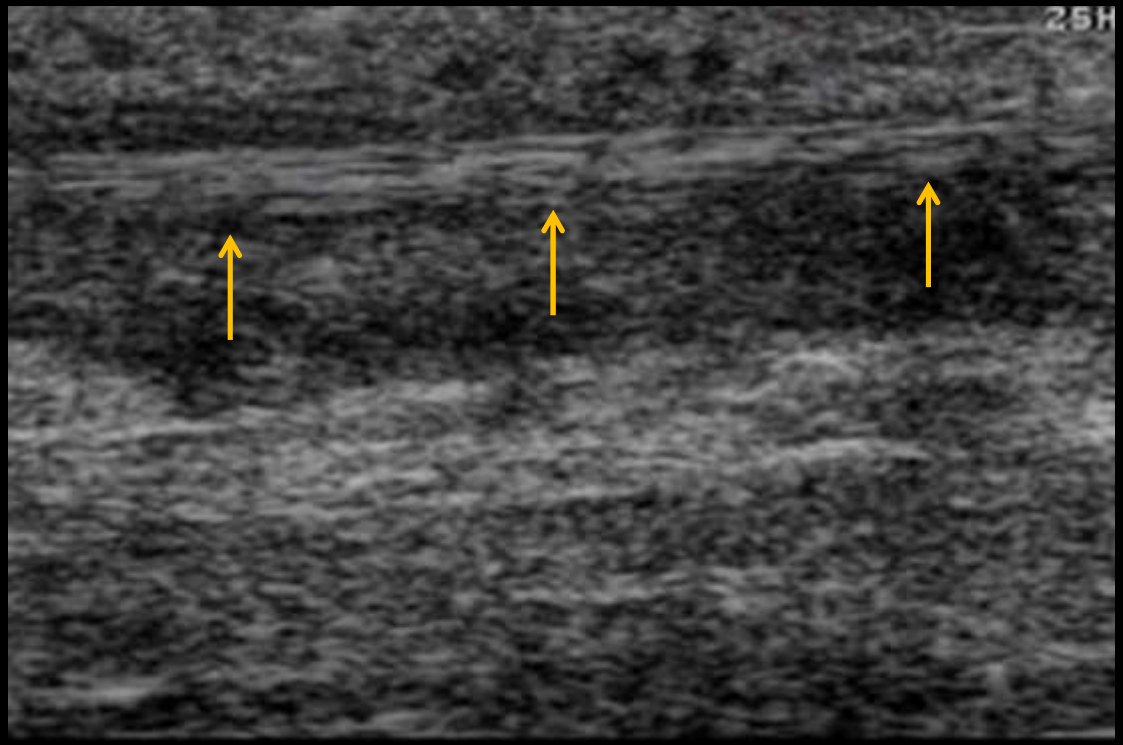
ΡΗΞΕΙΣ

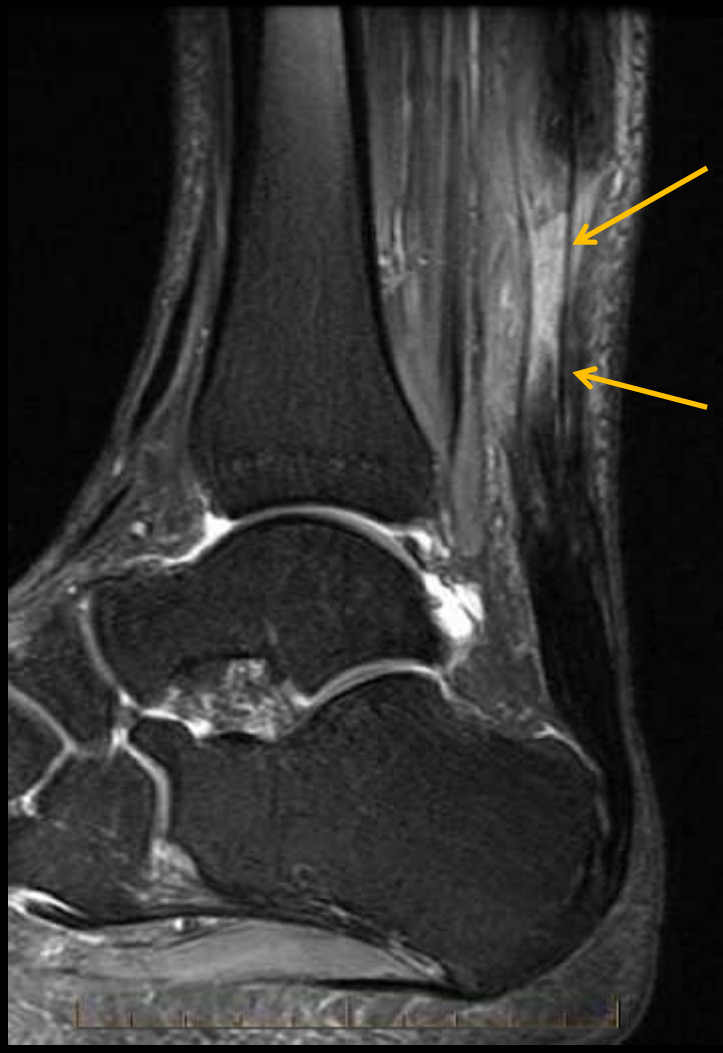


ΡΗΞΕΙΣ

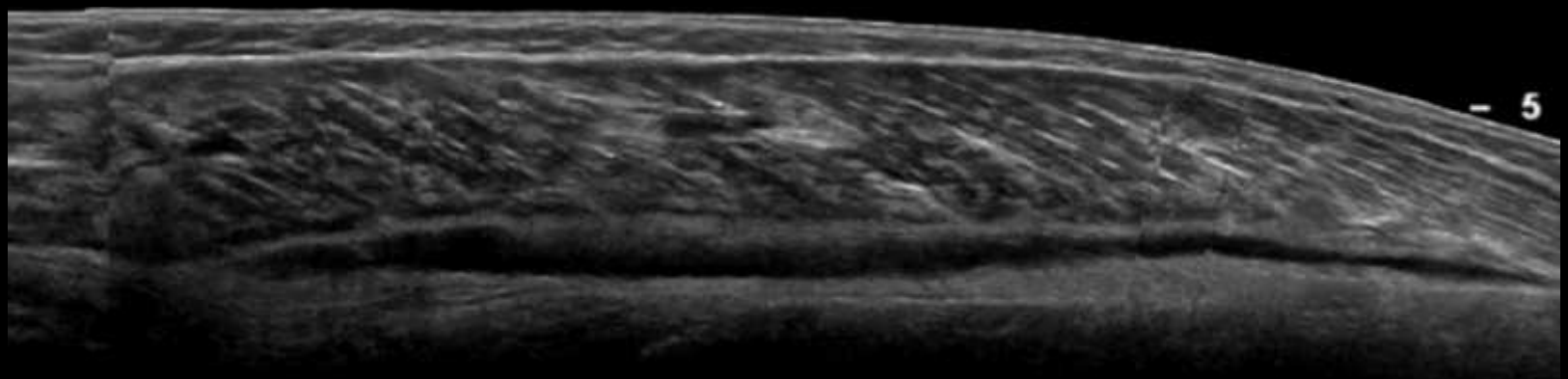


ΡΗΞΕΙΣ

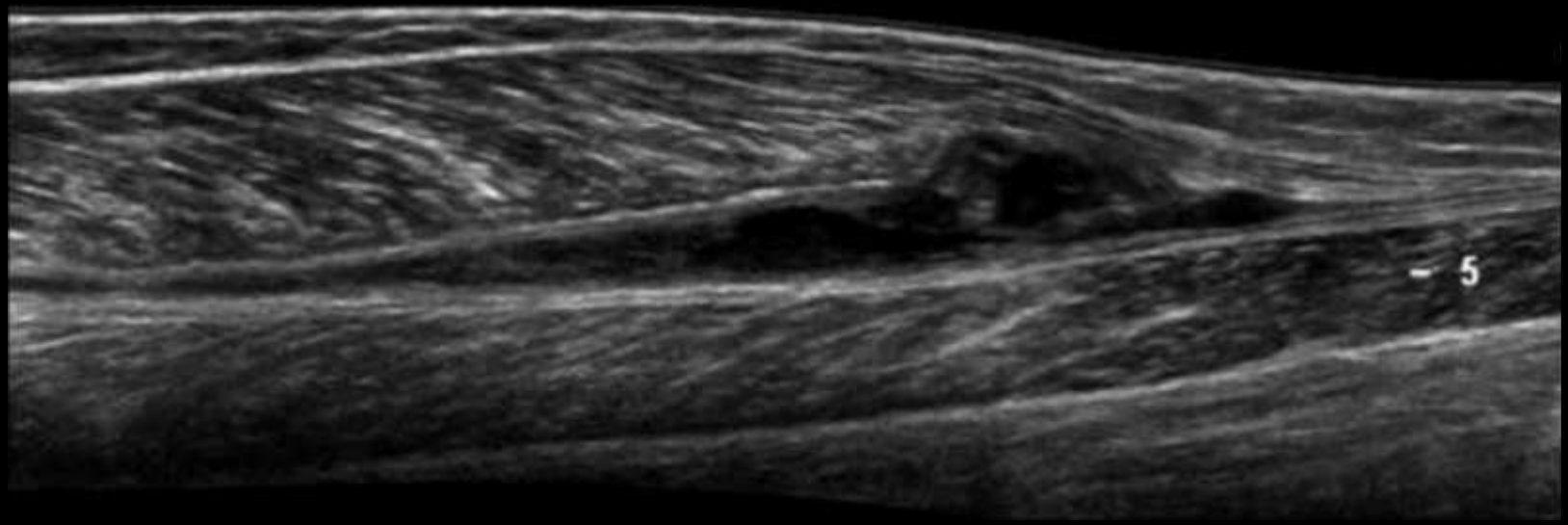




ΡΗΞΕΙΣ



ΡΗΞΗ ΠΕΛΜΑΤΙΑΙΟΥ ΤΕΝΟΝΤΑ

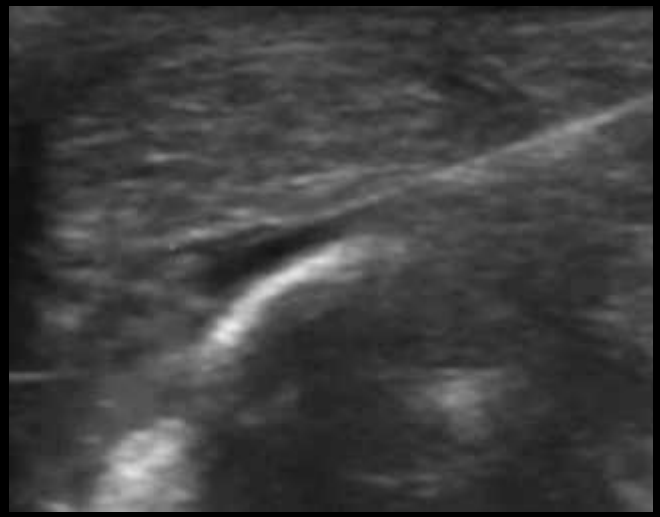


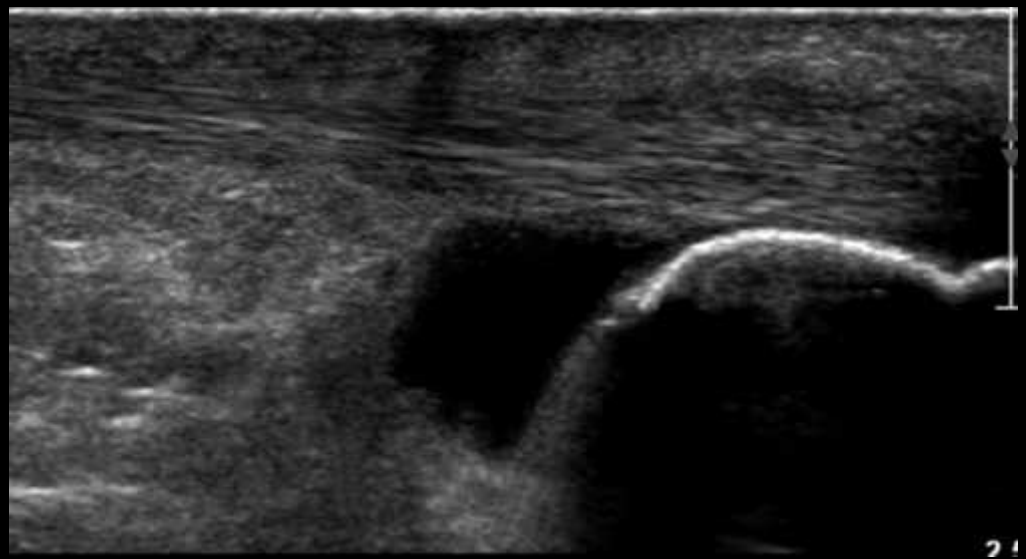
ΡΗΞΗ ΕΣΩ ΚΕΦΑΛΗΣ ΓΑΣΤΡΟΚΝΗΜΙΟΥ

ΥΧ ΚΑΘΟΔΗΓΟΥΜΕΝΕΣ ΘΕΡΑΠΕΙΕΣ

- ~~Ενδοτενόντια έγχυση στεροειδών~~
- Έγχυση στεροειδούς στον οπισθοπτερνικό θύλακα
- Brisment – Paratenon stripping
- High volume injection – Saline stripping
- ~~Prolotherapy.~~

ΕΓΧΥΣΗ ΣΤΟΝ ΟΠΙΣΘΟΠΤΕΡΙΝΚΟ ΘΥΛΑΚΑ





Musculoskelet Surg
DOI 10.1007/s12306-013-0305-9

ORIGINAL ARTICLE

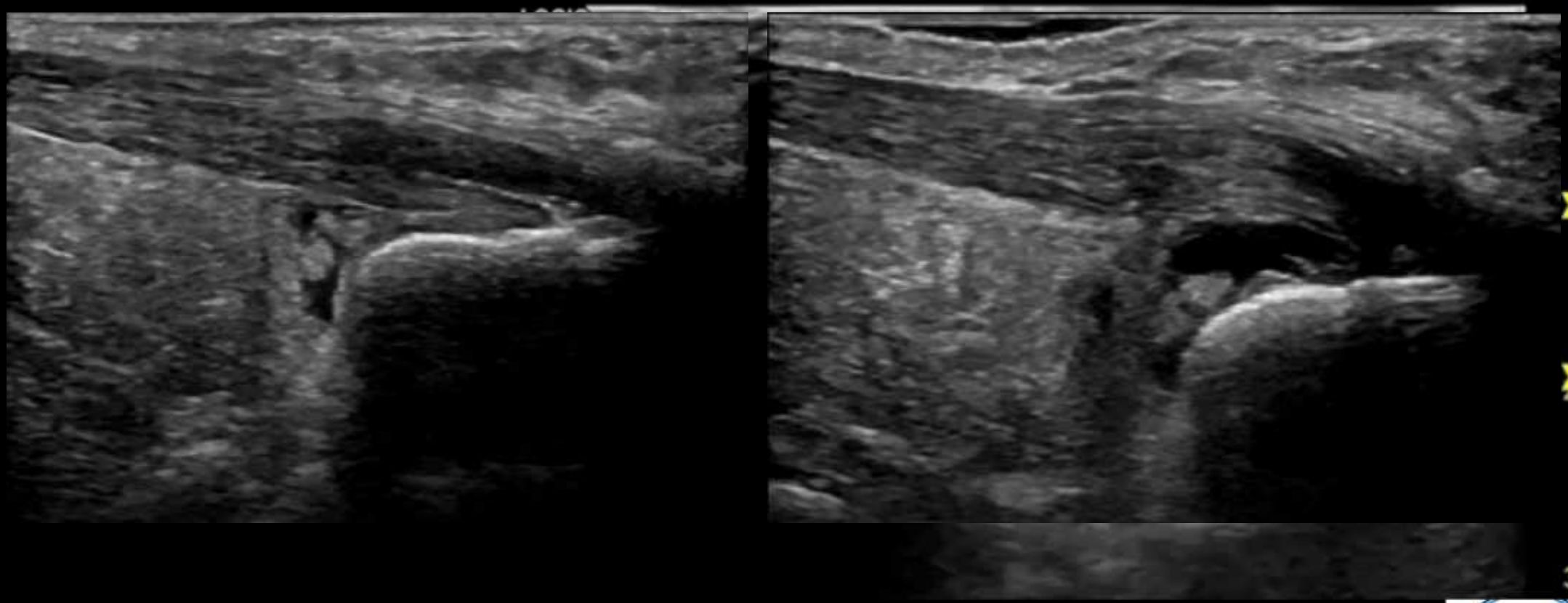
Can local corticosteroid injection in the retrocalcaneal bursa lead to rupture of the Achilles tendon and the medial head of the gastrocnemius muscle?

A. Turmo-Garuz · G. Rodas · R. Balius · L. Til · M. Miguel-Perez · C. Pedret · A. Del Buono · N. Maffulli

Conclusions Local corticosteroid injection of the retrocalcaneal bursa may help the symptoms of retrocalcanear bursitis, but pose a risk of Achilles tendon rupture. This risk–benefit has to be taken into account when corticosteroid injections are prescribed to professional and high-level athletes.

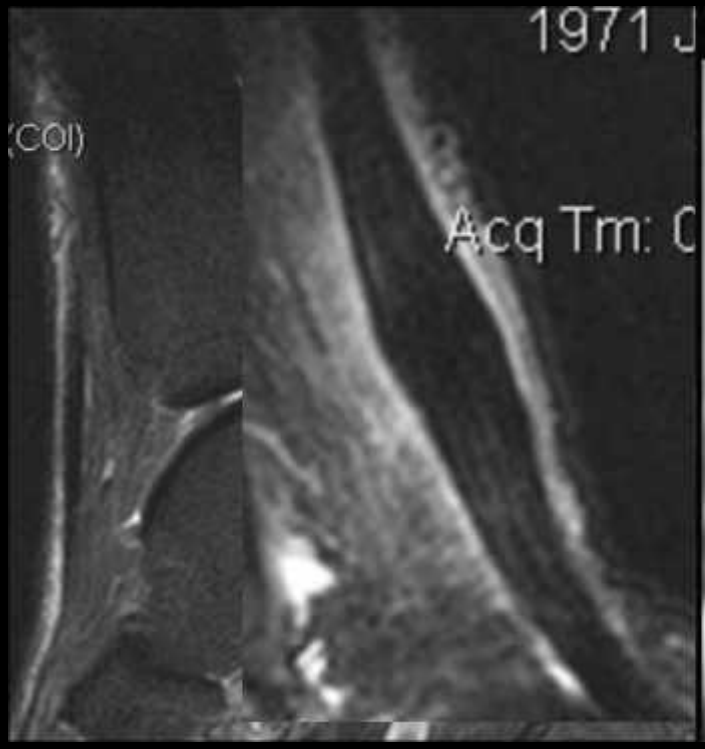
Medical Imaging

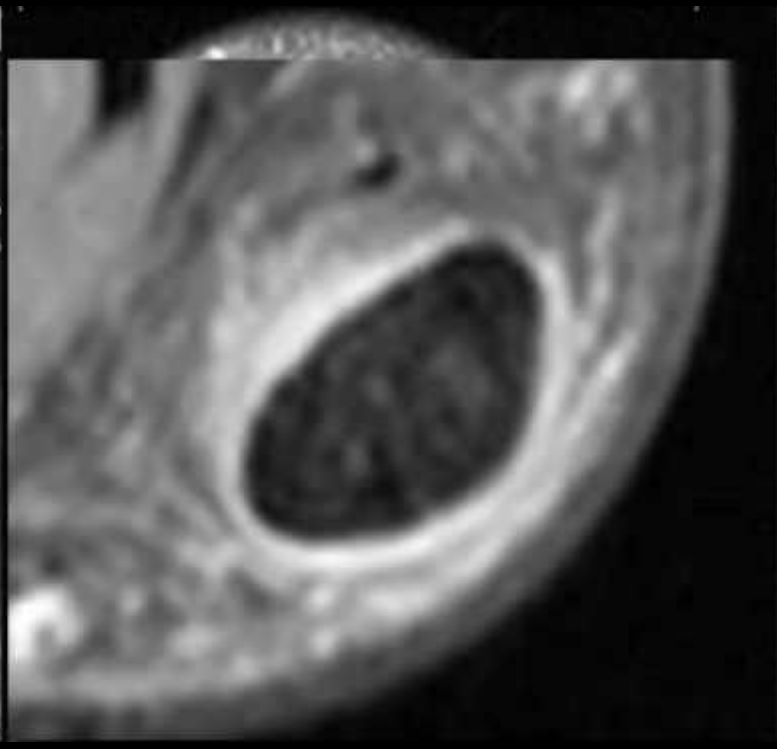
ΕΓΧΥΣΗ ΣΤΟΝ ΟΠΙΣΘΟΠΤΕΡΝΙΚΟ ΘΥΛΑΚΑ

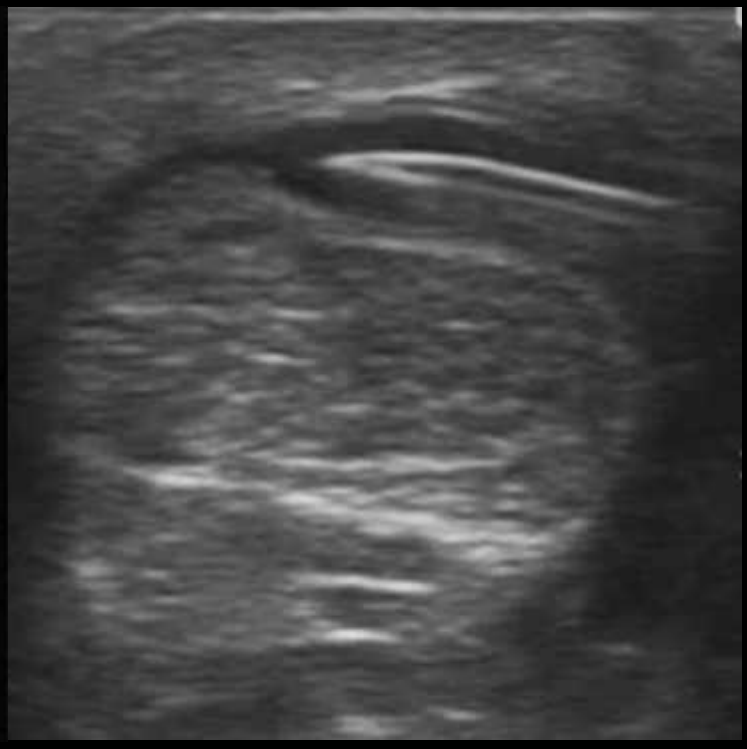


Medical Imaging

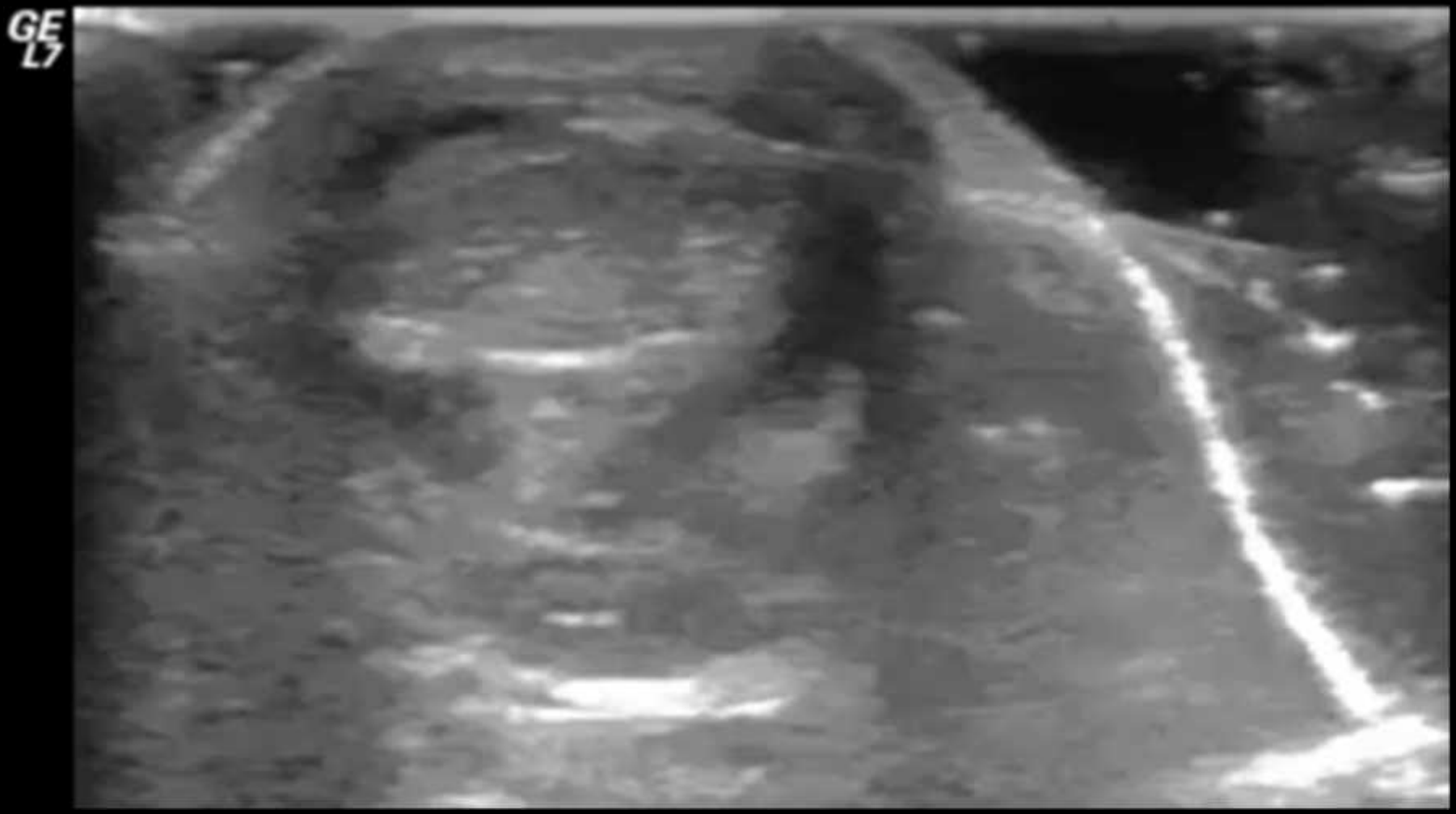
PARATENON STRIPPING







PARATENON STRIPPING



Medical Imaging

HIGH VOLUME INJECTION

US-guided high-volume injection for Achilles tendinopathy

George A. Kakkos[1], Michail E. Klontzas[1,2,3], Emmanouil Koltsakis[1], Apostolos H. Karantanas[1,2,3]

[1] *Department of Medical Imaging, University Hospital of Heraklion, Crete, Greece*
[2] *Advanced Hybrid Imaging Systems, Institute of Computer Science, FORTH, Crete, Greece*
[3] *Department of Radiology, School of Medicine, University of Crete, Greece*
Correspondence: Michail E. Klontzas, e-mail: miklontzas@gmail.com

DOI: 10.15557/JoU.2021.0021

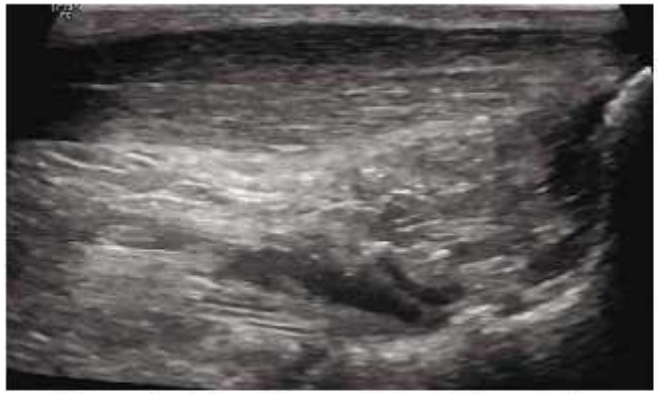


Fig. 1. *Longitudinal B-mode image of the Achilles tendon in a patient with chronic mid-portion Achilles tendinopathy. Fusiform swelling with increased anterior-posterior diameter and reduced echogenicity of the superficial part of the tendon are shown*

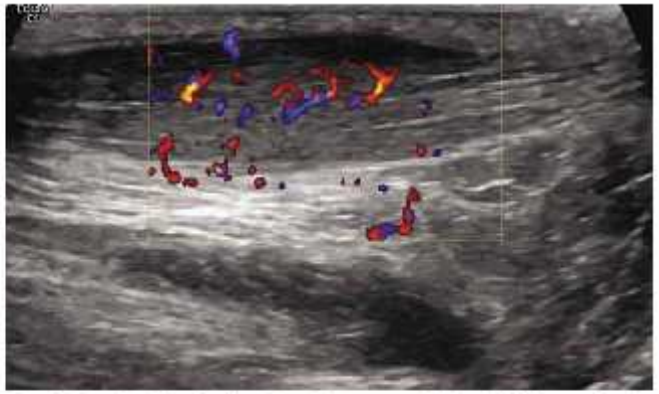
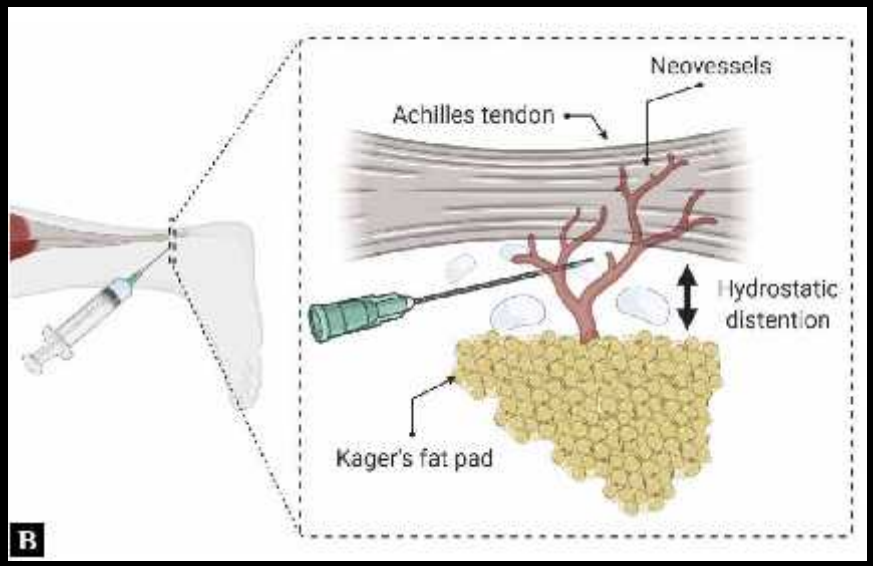
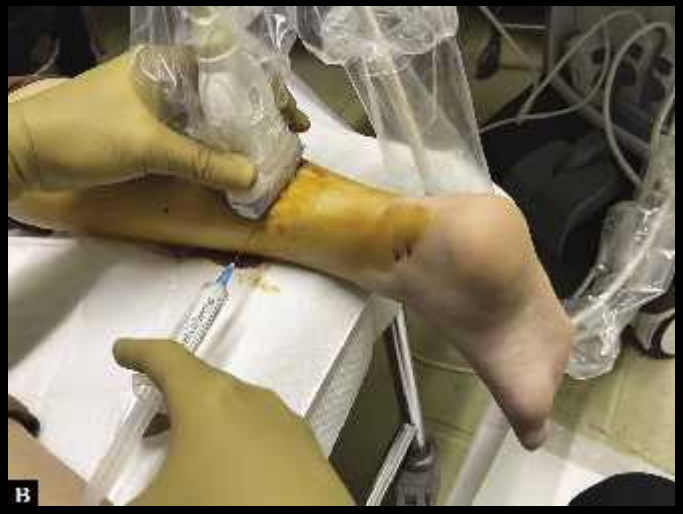


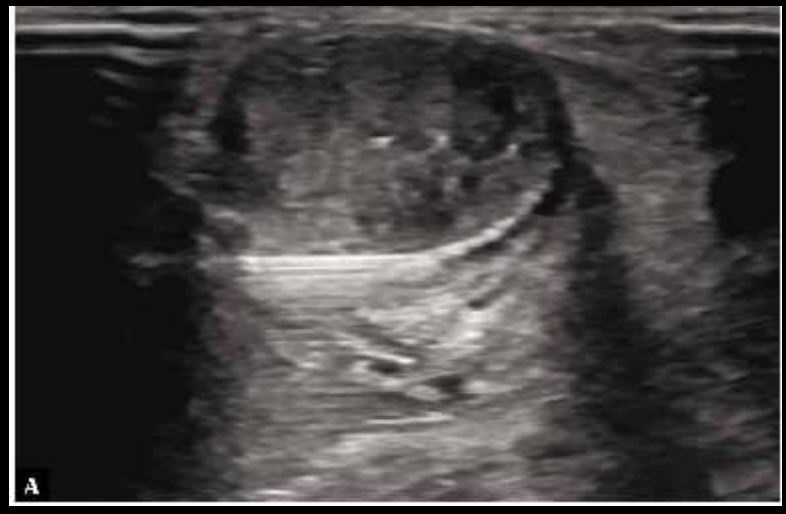
Fig. 2. *Longitudinal color Doppler image of the Achilles tendon in the same patient as in Fig. 1, demonstrating florid neovascularity with intratendinous neovessels inserting from the ventral side of the tendon*

Medical Imaging

HIGH VOLUME INJECTION

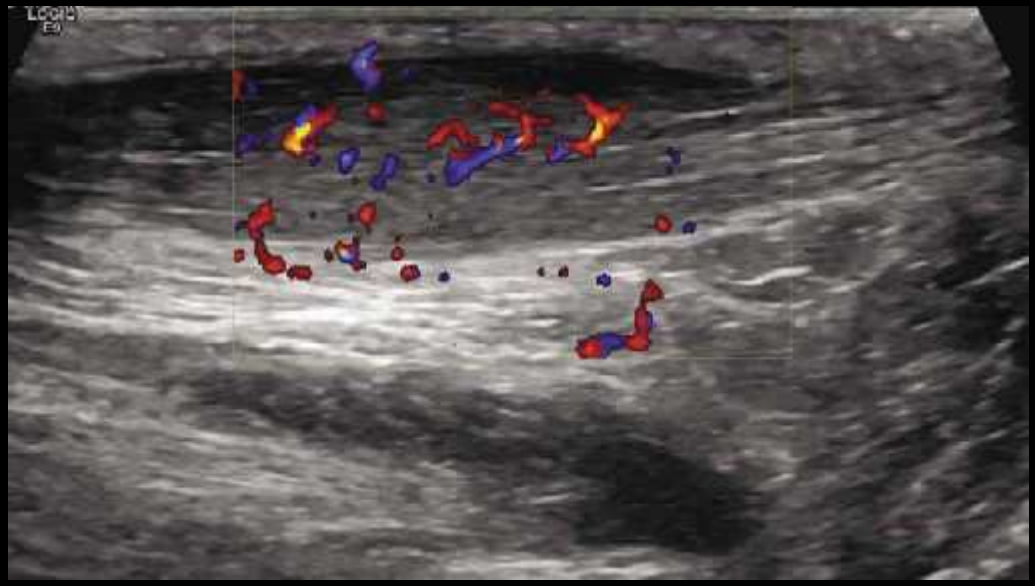




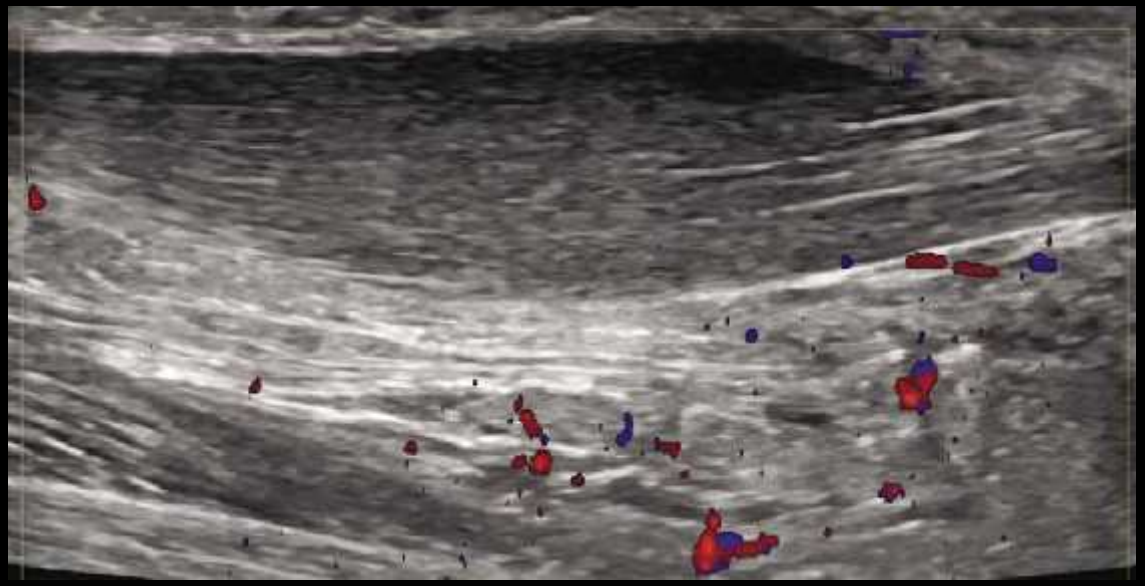


Medical Imaging

HIGH VOLUME INJECTION

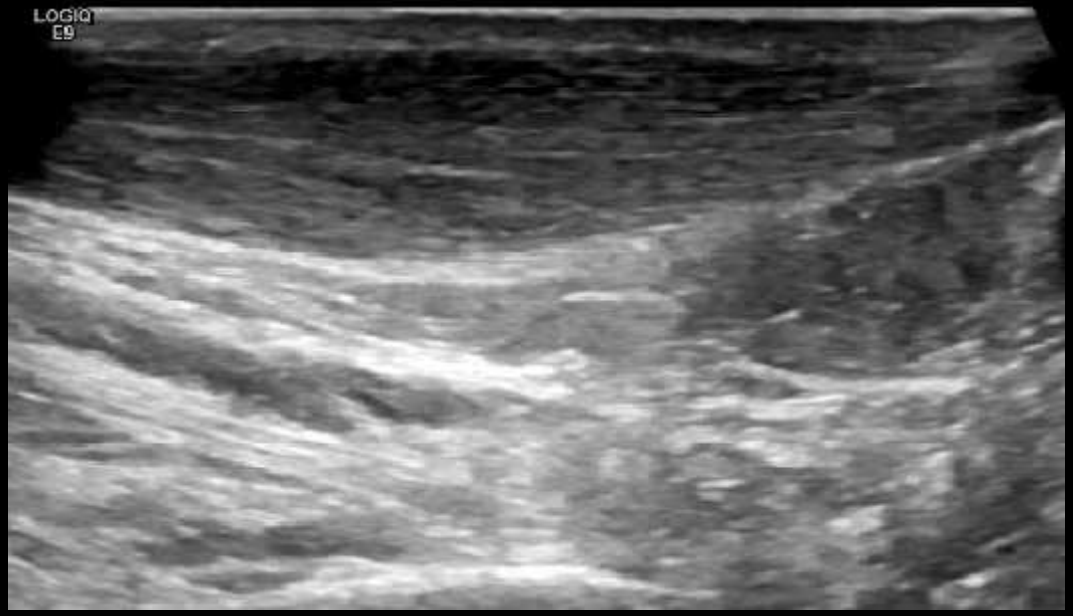


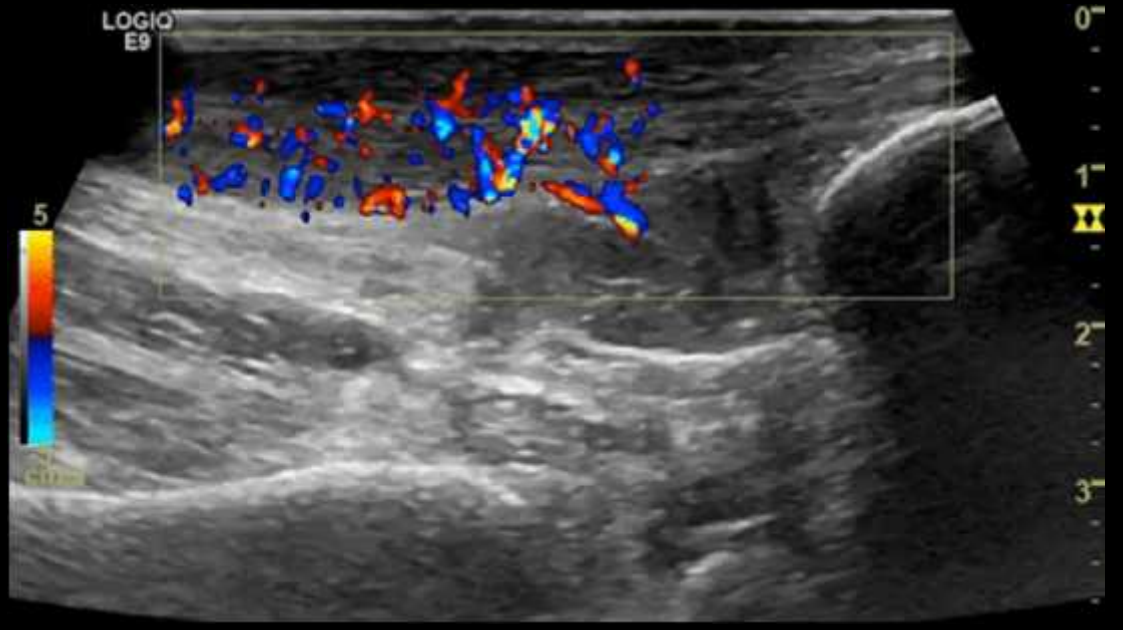
ΠΡΙΝ



ΜΕΤΑ

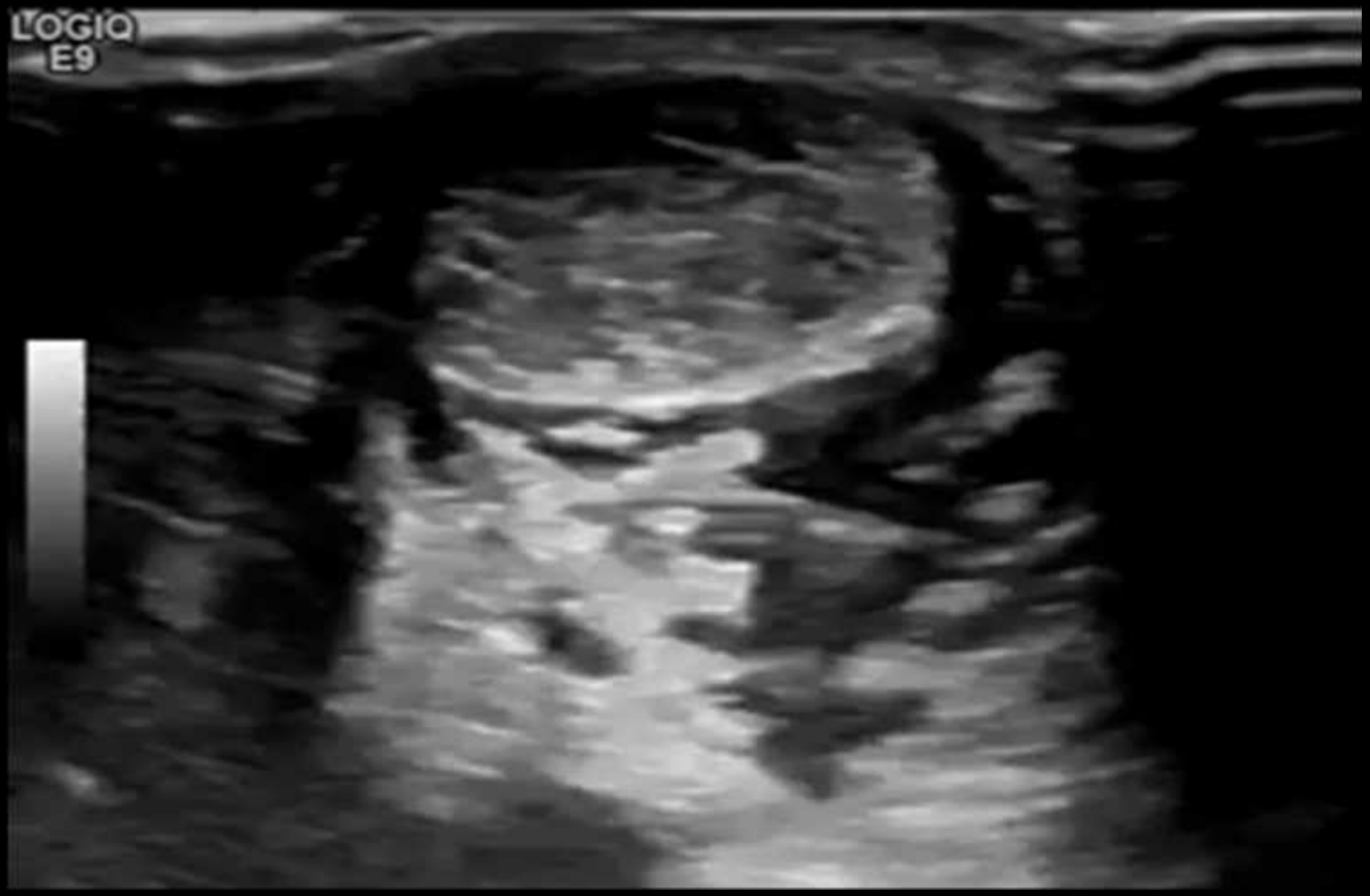
HIGH VOLUME INJECTION



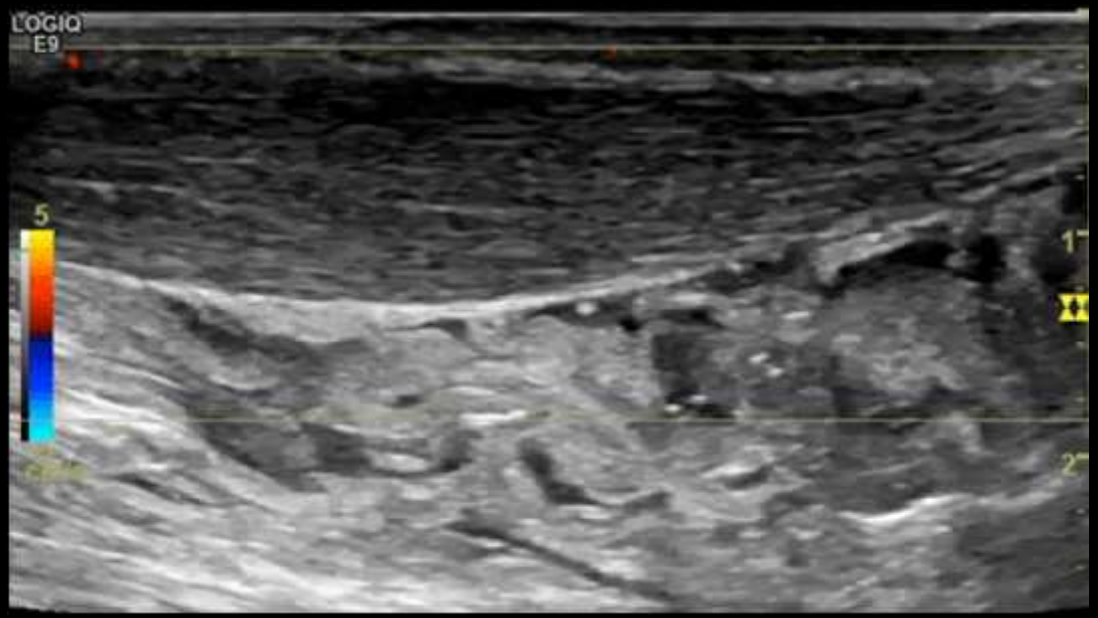


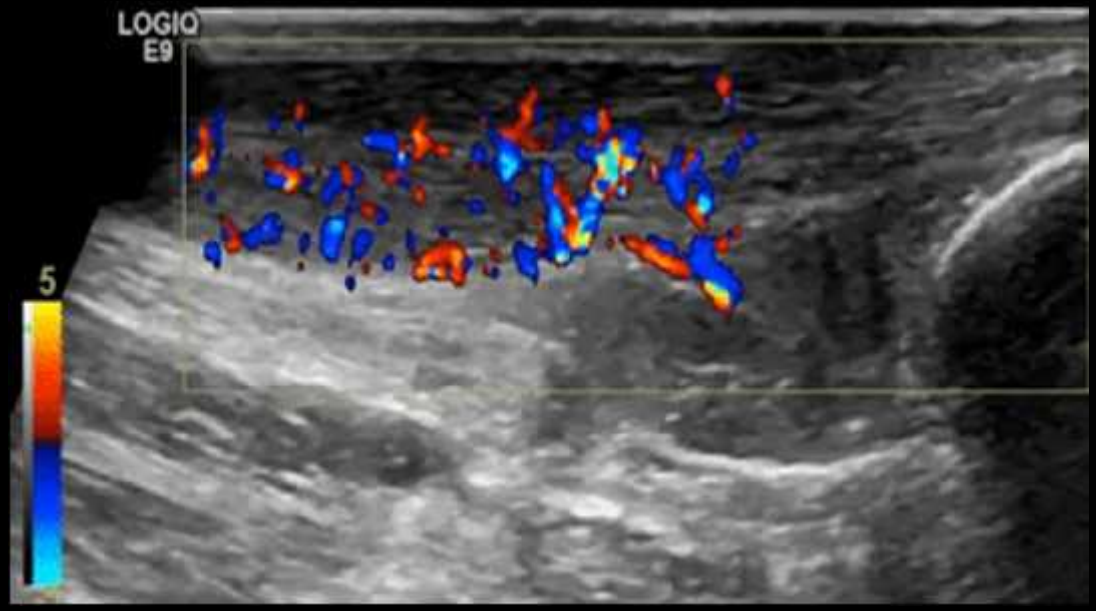
Medical Imaging

HIGH VOLUME INJECTION



HIGH VOLUME INJECTION





ΜΕΤΑ

ΠΡΙΝ


Ευχαριστώ