15/16 OTTOBRE 2022

MANUS SAPIENS

SPINE CENTER EDUCATION

Sabato 15 ottobre (ore 08.30 - 18.00)
08.30 - Accreditamento
I sessione - Moderatore -
09.00 - Fascia: anatomia, funzione e considerazioni cliniche - Saverio Colonna
09.20 - discussione
09.25 - Valutazione manuale e metodologia d'insegnamento - Marco Mazzanti
09.45 - discussione
09.50 - Novità sulla valutazione strumentale - Paolo Minafra
10.10 - discussione
10.15 - Trattamento Manuale: Principi di Tecniche - Fabio Casacci
10.35 - discussione
10.40 - pausa caffè

II sessione - Moderatore - Massimo Tranchina

11.00 - Neuralterapia fasciale - Michele Acanfora
11.20 - discussione
11.25 - Osteopatia e Fascia - Luca Franzon
11.45 - discussione
11.50 - Approccio manuale alle catene neuro-mio-fasciali - Matteo Galvani
12.10 - discussione
12.25 - Metodo Stecco - Mirko Branchini
12.45 - discussione
12.50 - Postura e Fascia - Daniele Raggi /Francesco Spagnolo
13.10 - discussione
13.15 - pausa pranzo

III sessione - Moderatore - Fabio Casacci

14.30 - Presentazione IRB_MS - Saverio Colonna
14.50 - La fascia tra postura e personalità - Fabio Colonnello
15.10 - discussione
15.15 - Interazione tra sistema fasciale e l'esercizio terapeutico - Riccardo Tarozzi
15.35 - discussione
15.40 - Rieducazione Posturale Globale - Emanuele Di Ciaccio
16.00 - discussione
16.05 - pausa caffè

IV sessione - Moderatore - Luca Franzon

16.25 - Pilates e Fascia - Eleonora Mazzoni
16.45 - discussione
16.50 - Yoga e Fascia - Rita Babini
17.10 - discussione
17.15 - Utilità del trattamento dei mezzi fisici - Matteo Buscaroli
17.35 - discussione
18.00 - chiusura giornata

Domenica 16 ottobre (ore 09.00 - 13.00)
WORKSHOP

Aula A - Esame strumentale - Paolo Minafra

Aula B - Trattamento fisioterapico della Fascia - Matteo Buscaroli

Aula C - Sistema Fasciale ed esercizio terapeutico - Riccardo Tarozzi

12.30 - Compilazione ECM
13.00 - chiusura congresso

Evento in fase di accreditamento

Date
15- 16 ottobre 2022
Sabato 15 ore 09.00 -18.00
Domenica 16 ore 09.00- 13.00

Destinatari
Medici, Fisioterapisti, Osteopati, studenti in formazione in osteopatia e fisioterapia, chinesiologo

Durata
8 + 4 ore

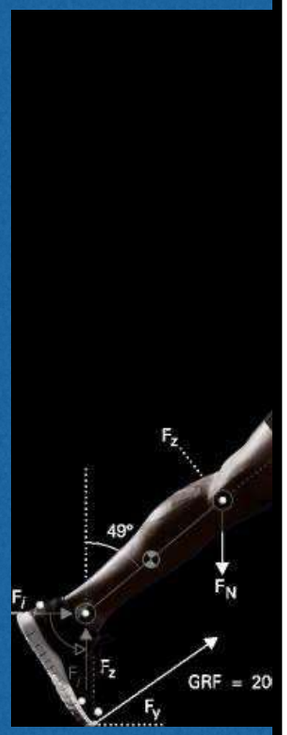
Sede
Spine Center Poject
via della Liberazione, 3-5
Bologna

Quota d'iscrizione
Euro 150 inclusa IVA

Per ulteriori info:
education@spine-center.it

coachingultrasound.com

affidea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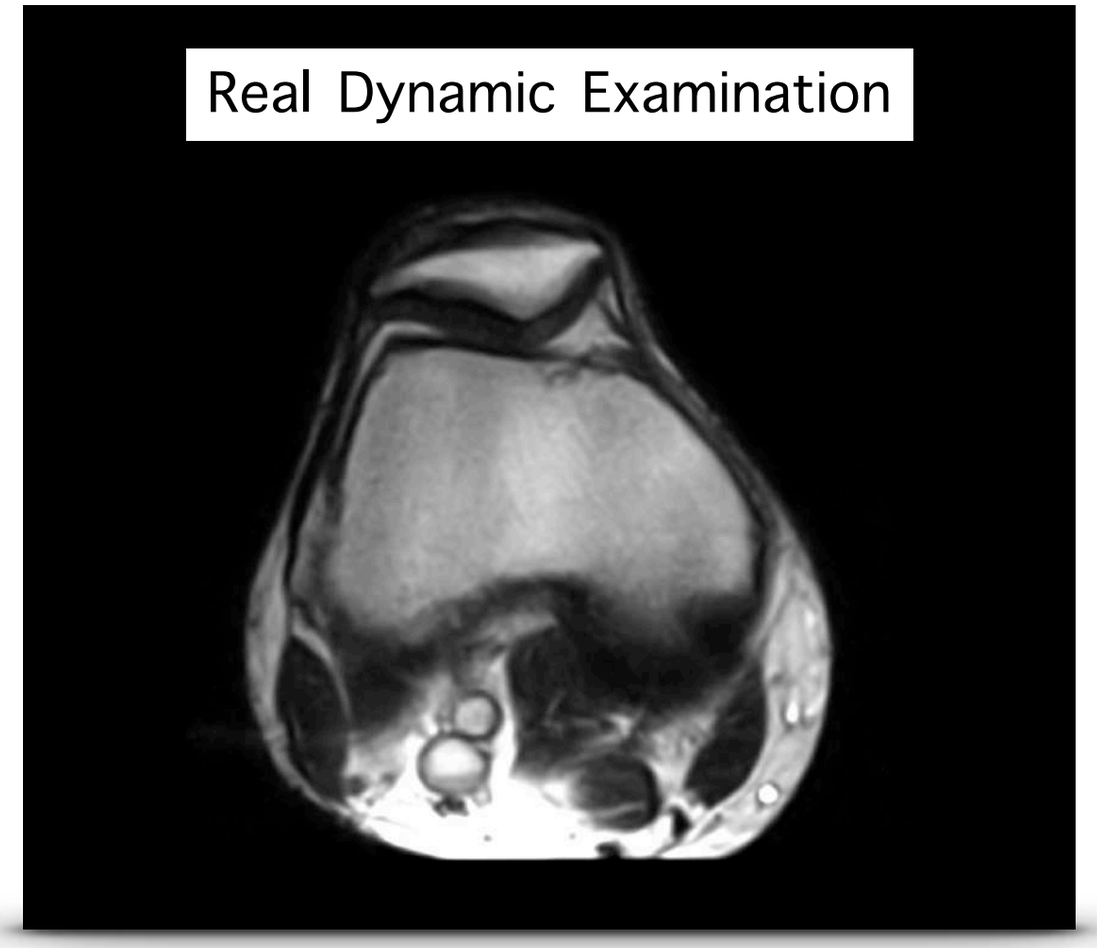
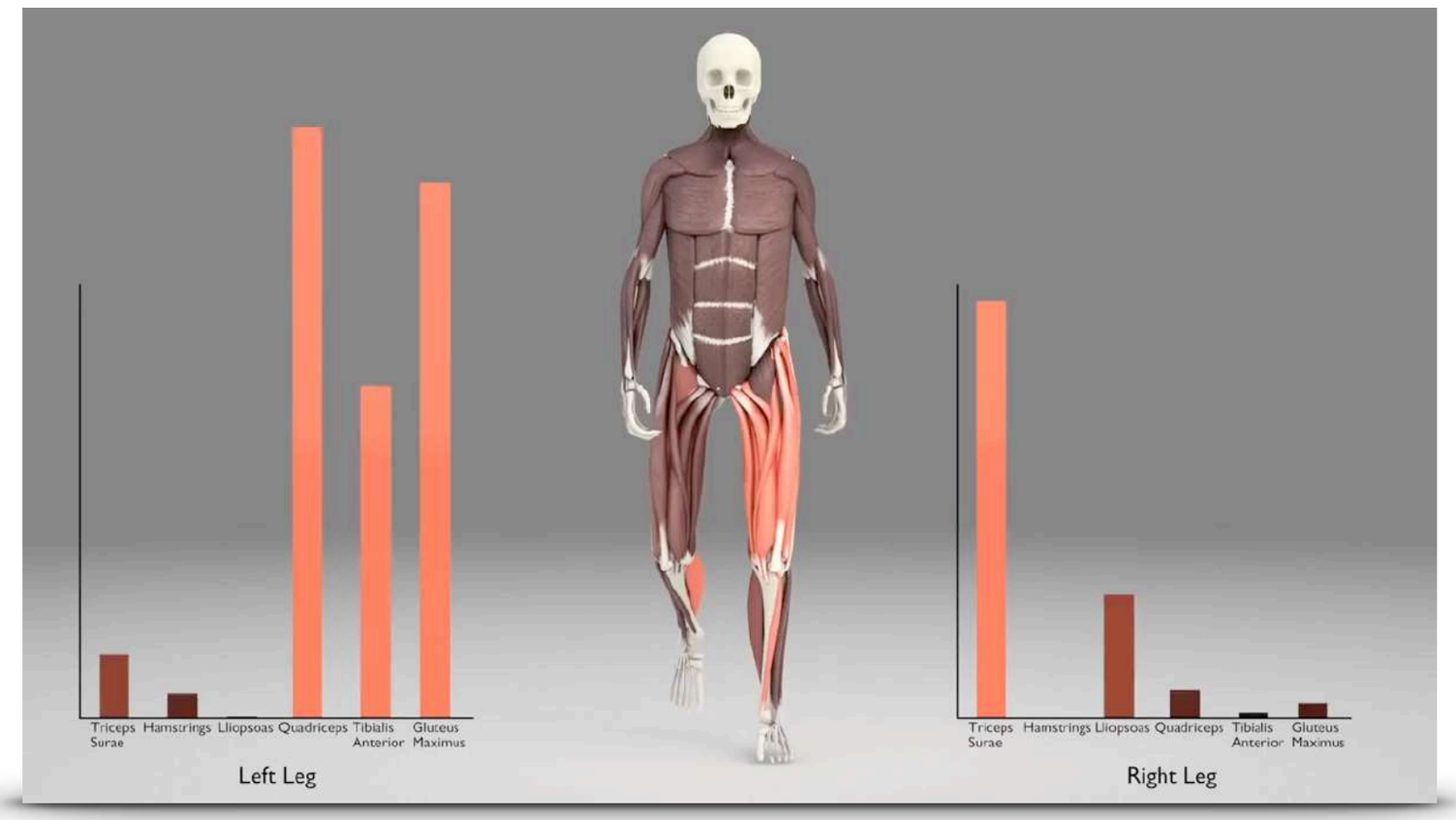
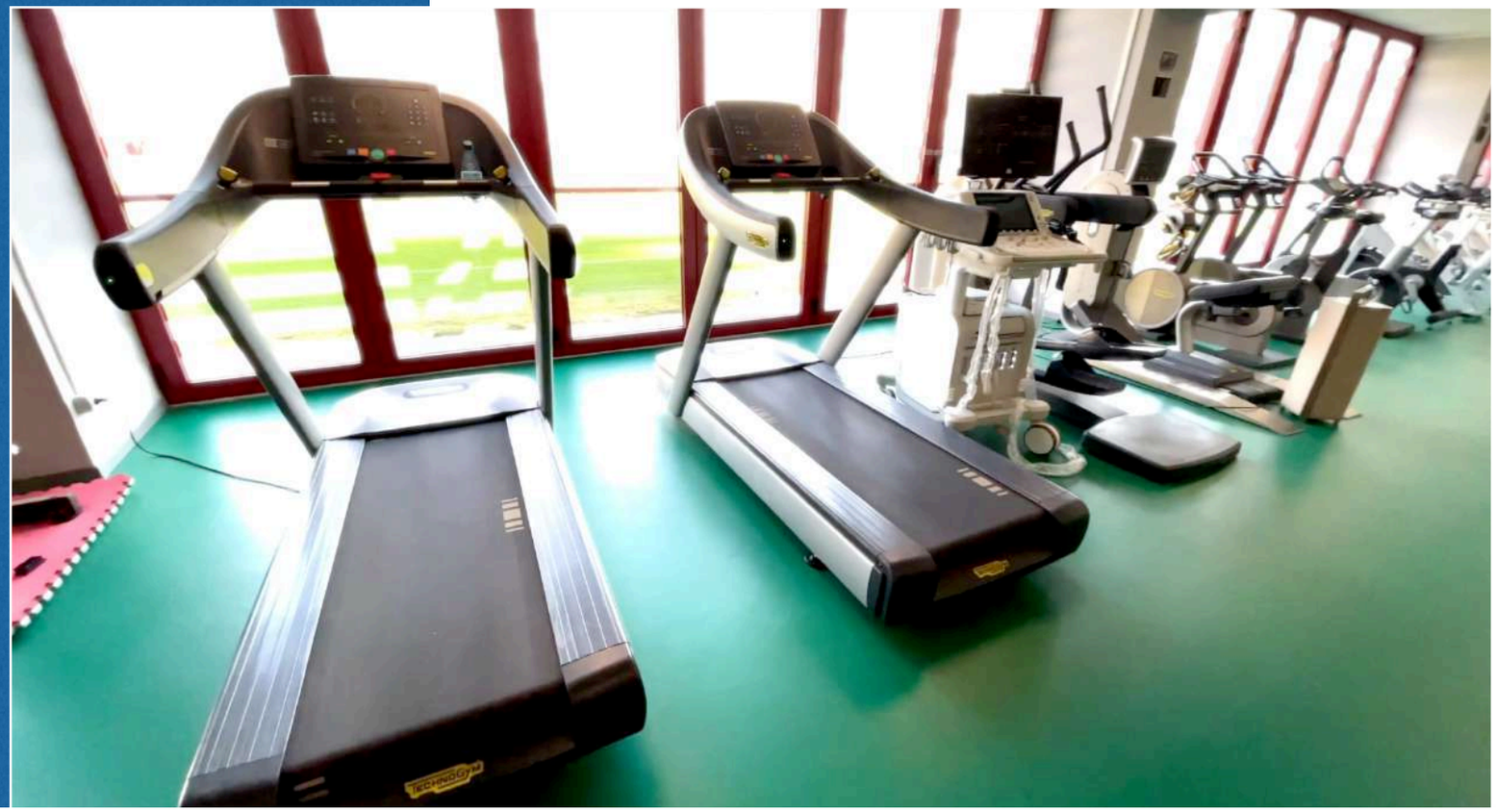
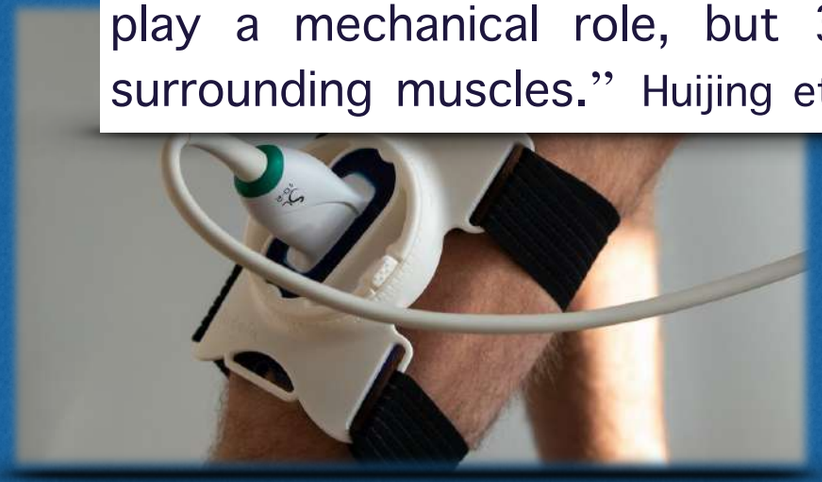

Real Dynamic Examination

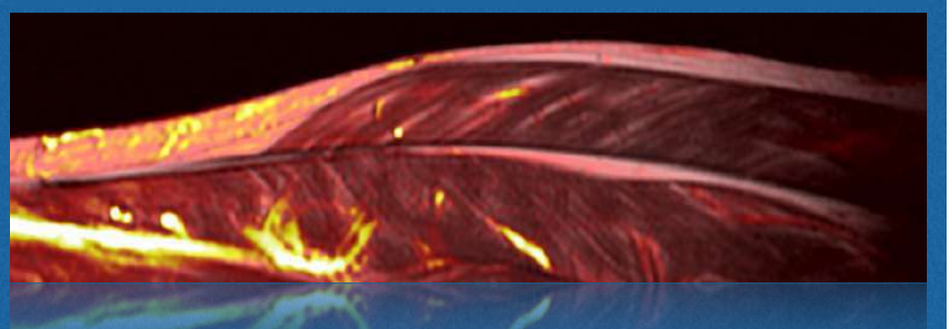

Triceps Surae
Hamstrings
Iliopsoas
Quadriceps
Tibialis Anterior
Gluteus Maximus
Left Leg
Triceps Surae
Hamstrings
Iliopsoas
Quadriceps
Tibialis Anterior
Gluteus Maximus
Right Leg

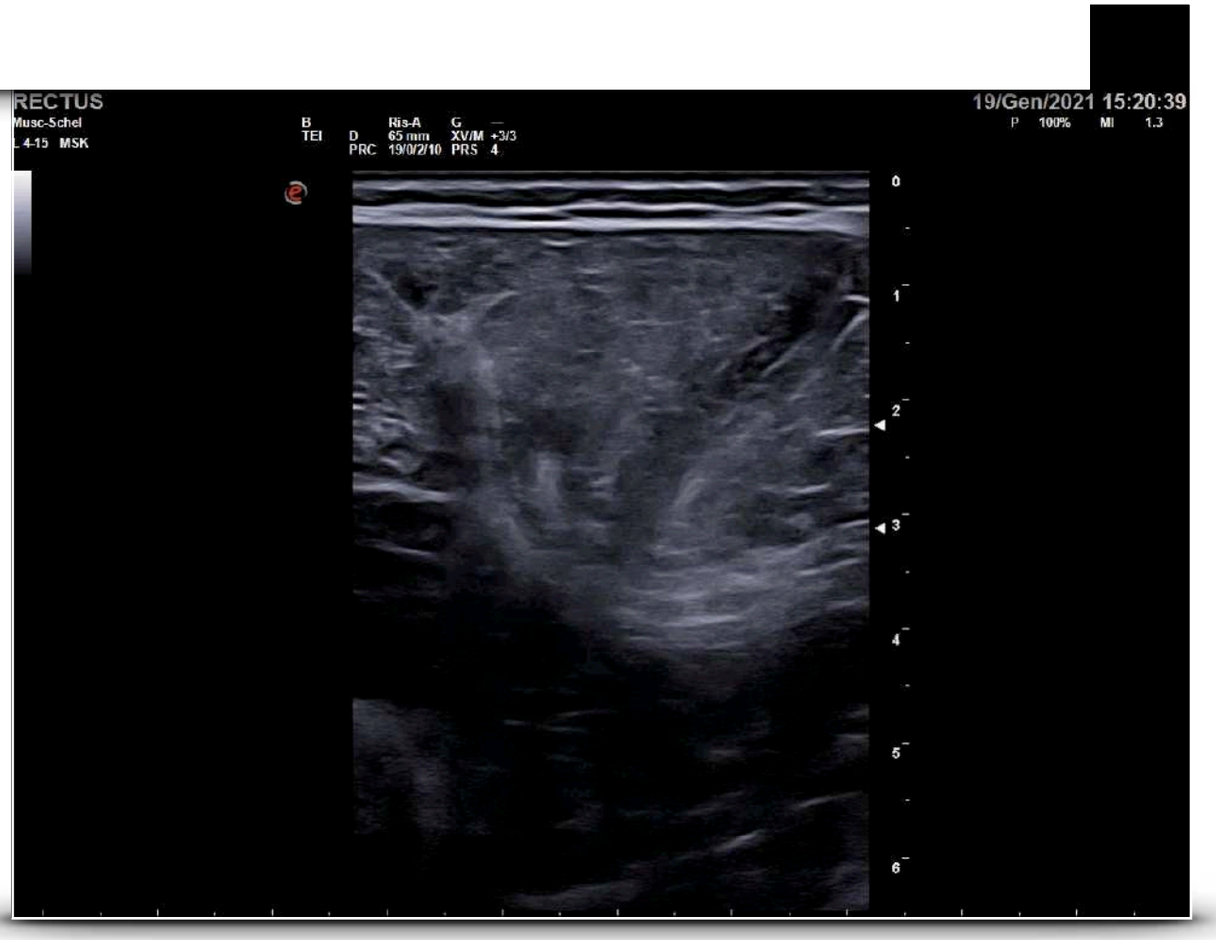


"Only 70% of muscle tension transmission is directed through tendons, which thus definitely play a mechanical role, but 30% of muscle force is transmitted to the connective tissue surrounding muscles." Huijing et al. (2003)



imaging modalities






S.P.A.L.
KEISER
TECHNOGYM


esaote
VARDYAMIC
Musc-Schel
L 4-15 Generale
B
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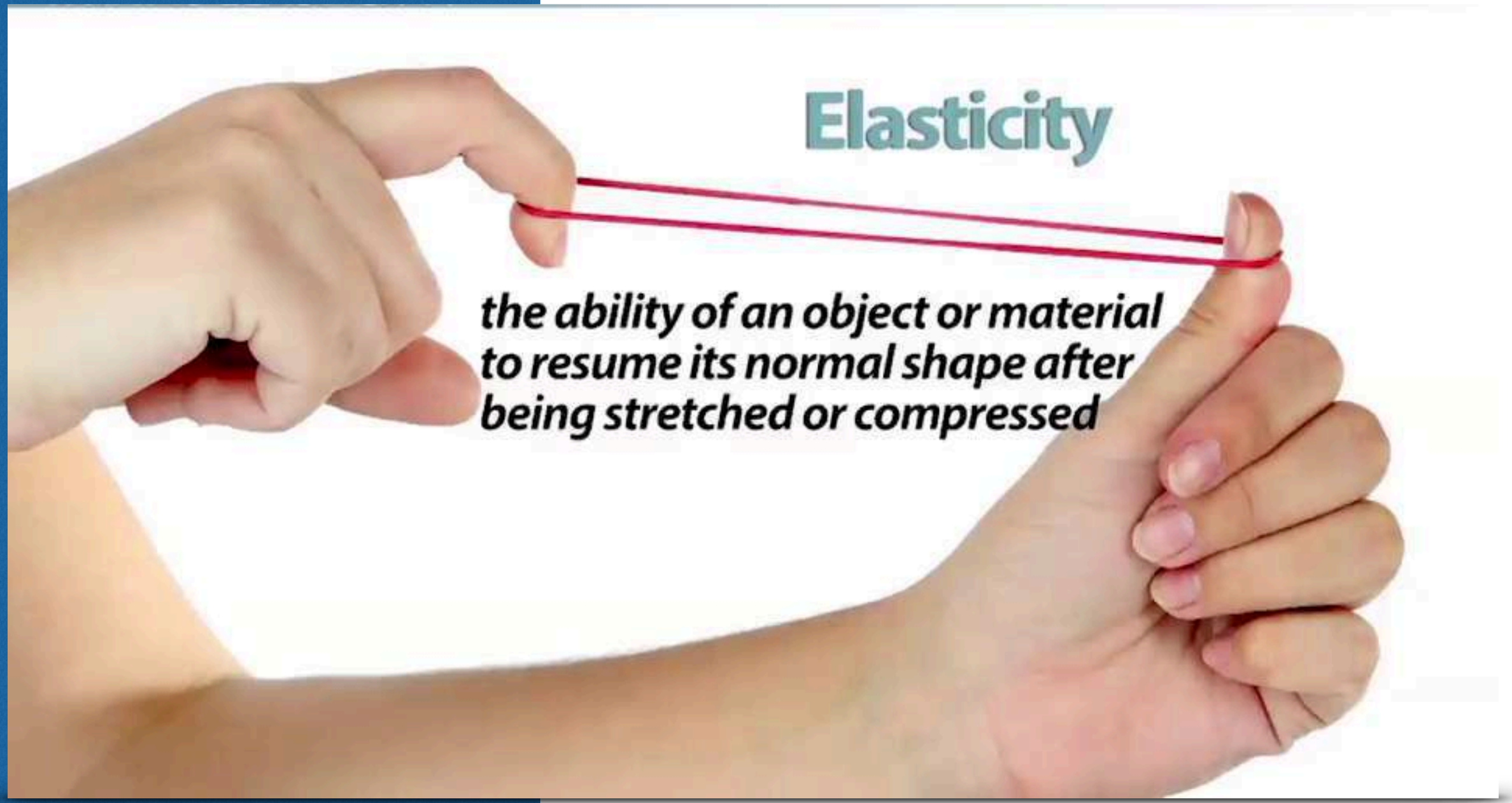
Elastosonography



JUltrasoundMed 2020

ORIGINAL RESEARCH

Shear Wave Elastographic Study of the Myotendinous Junction of the Medial Gastrocnemius

Normal Patterns and Dynamic Evaluation

Paolo Minafra, MD, Federica Alviti, MD, Raffaella Giovagnorio, MD, Vito Cantisani, PhD, Gianni Mazzoni, MD

Objectives—The myotendinous junction (MTJ) represents a specialized anatomic region through which the contractile strength is transmitted from the muscle to the tendon. The integrity of this region is essential to permit force transmission and to optimize energy expenditure during walking, running, and globally for human movement. We evaluated the MTJ with shear wave elastography to assess its elasticity variation during a functional test.

Methods—Forty professional soccer players were enrolled in the study. Shear wave elastography was performed at the level of the medial gastrocnemius MTJ both in a resting position and during a standing calf rise position to assess functional contraction.

Results—All 40 participants were male, aged between 18 and 38 years (mean age, 25 years). The results of the elastographic study showed mean stiffness values ± SD of 4.19 ± 0.86 m/s for the right medial gastrocnemius and 4.20 ± 0.87 m/s for the left medial gastrocnemius with the muscle relaxed. During contraction, the stiffness values were 8.33 ± 0.5 m/s for the right medial gastrocnemius and 8.30 ± 0.48 m/s for the left medial gastrocnemius.

Conclusions—Our study showed an increase of stiffness at the level of the MTJ during muscle contraction. This result is in line with the physiologic stiffening of the MTJ to resist the high level of force applied during muscle contraction. Shear wave elastography could be a useful method to assess the characteristics of the MTJ under both physiologic and pathologic conditions.

Key Words—elasticity; musculoskeletal ultrasound; myotendinous junction; shear wave elastography; stiffness

Received February 4, 2020, from the Società Polisportiva Ars et Labor Football Club, Ferrara, Italy (P.M., R.G.); Department of Anatomy, Histology, Forensic Medicine, and Orthopedics, Board of Physical Medicine and Rehabilitation (F.A.); Department of Radiology, Sapienza University of Rome, Rome, Italy (V.C.); and Centro Studi Attività Motorie e Sportive, University of Ferrara, Ferrara, Italy (G.M.). Manuscript accepted for publication April 20, 2020.

Quantitative Elastosonography of the Myotendinous Junction

Normal Behavior and Correlation With a Standard Measurement System During Functional Tests

Paolo Minafra, MD, Chandra Bortolotto, MD, Ermanno Rampinini, MD, Fabrizio Calliada, MD, Giuseppe Monetti, MD

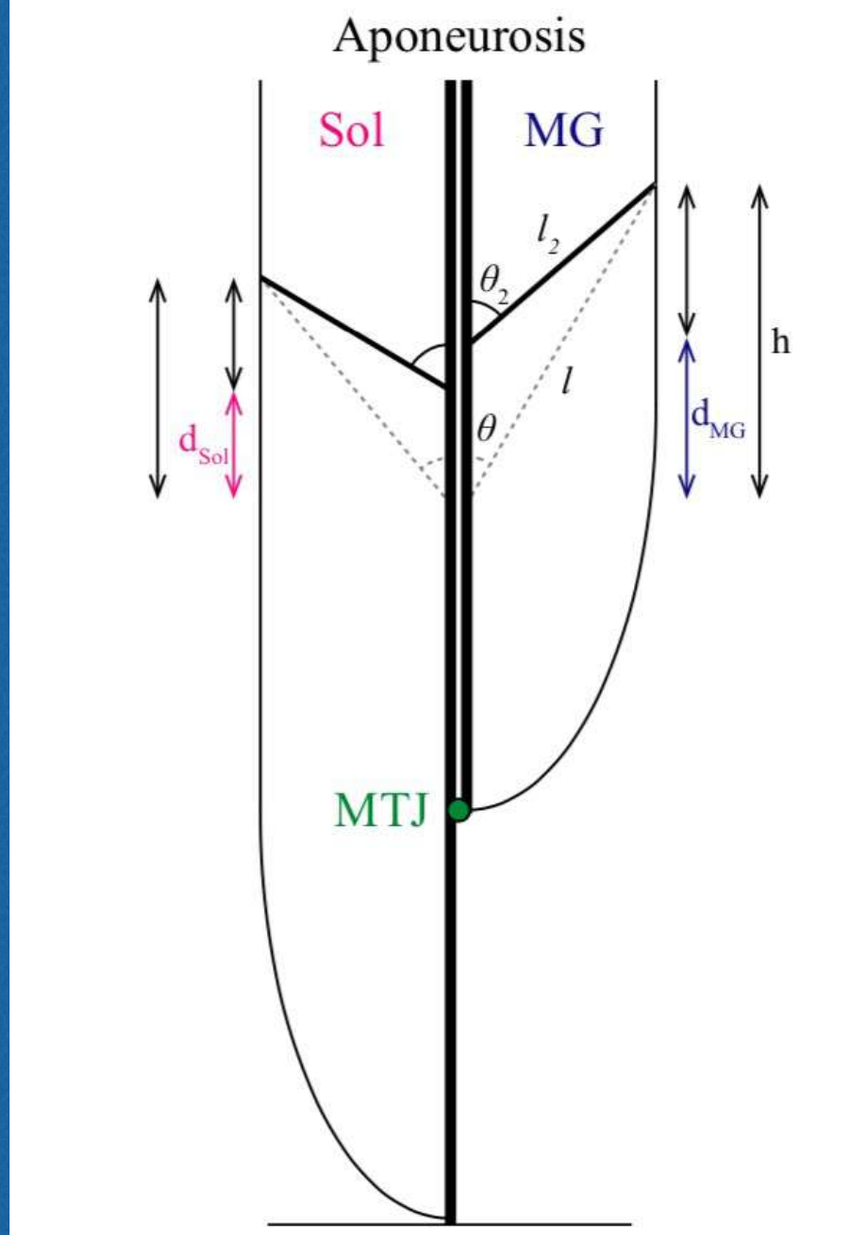
Objectives—In recent years, an increasing need to use imaging to assess normal and adaptive muscle function, in addition to its anatomy and structure, has emerged. We evaluated the myotendinous junction's elastosonographic behavior in light of the most recent literature on its physiologic behavior. The elastosonographic studies were compared with the results obtained from a standard measurement system to ensure a correlation with maximal muscle contraction.

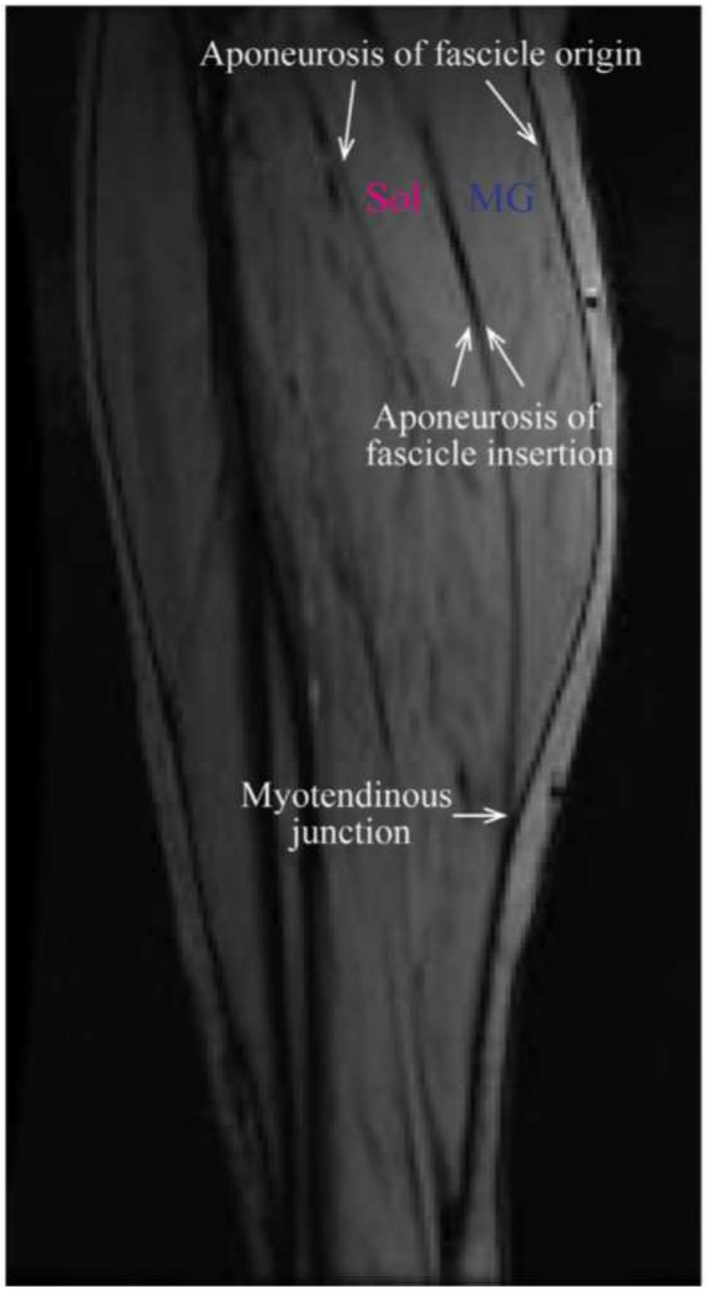
Methods—Nineteen male professional soccer players were assessed during functional tests. The participants performed 5 repetitions at 60°/s to assess muscle strength and 3 repetitions at 30°/s to assess the maximum force peak of thigh muscles. The participants were monitored by a strength-power measurement system and an ultrasound machine equipped with multifrequency (18–6-MHz) linear array transducers.

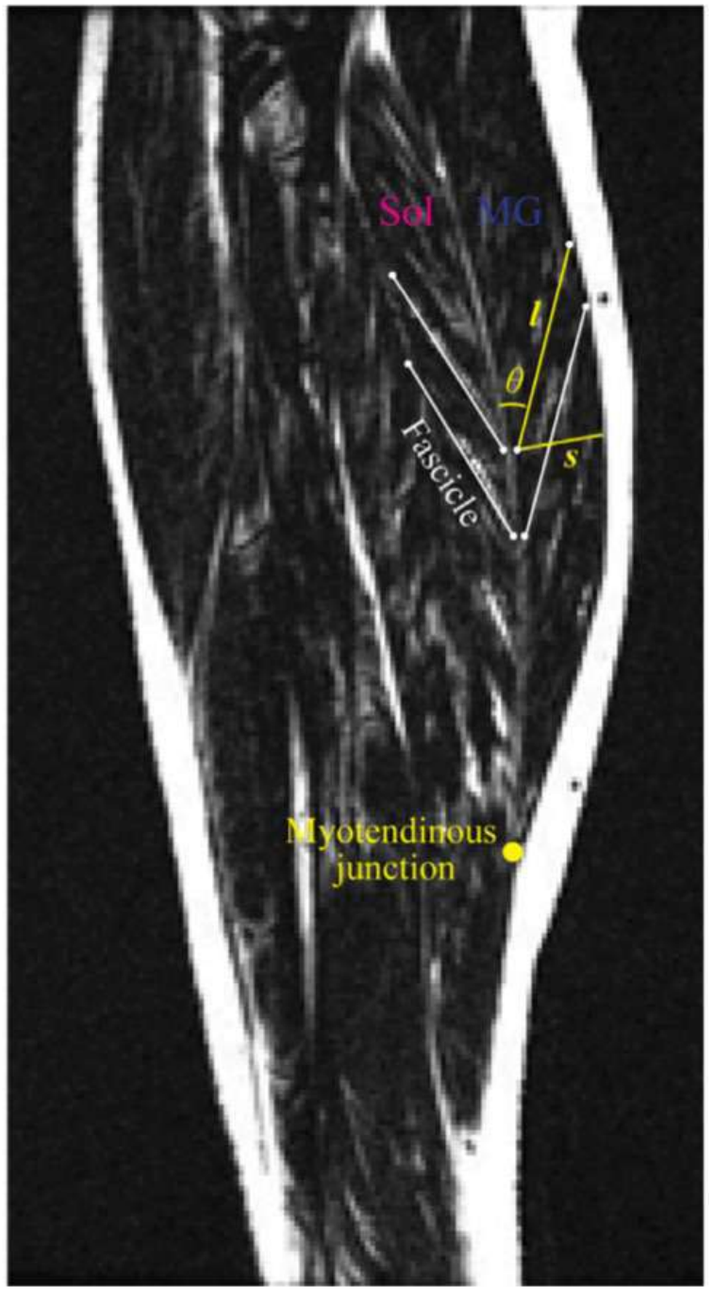
Results—The 19 soccer players were aged between 19 and 34 years (mean age, 28 years). For the right rectus femoris, the results of the elastosonographic studies showed a mean elasticity value ± SD of 30.75% ± 10.05% with the muscle relaxed and a value of 13.75% ± 8.44% during contraction (mean decrease, 17.00% ± 11.71%). Elasticity values were 36.48% ± 8.39% before contraction and 8.77% ± 6.55% during contraction of the left rectus femoris muscle (mean decrease, 27.71% ± 11.95%). For 30° eccentric contraction of the left leg, correlation with the standard measurement system showed Pearson *r* values of −0.53 and −0.51 when comparing force peak and mean work, respectively, with elasticity values.

JUltrasoundMed 2017

Myotendinous Junction Behaviour

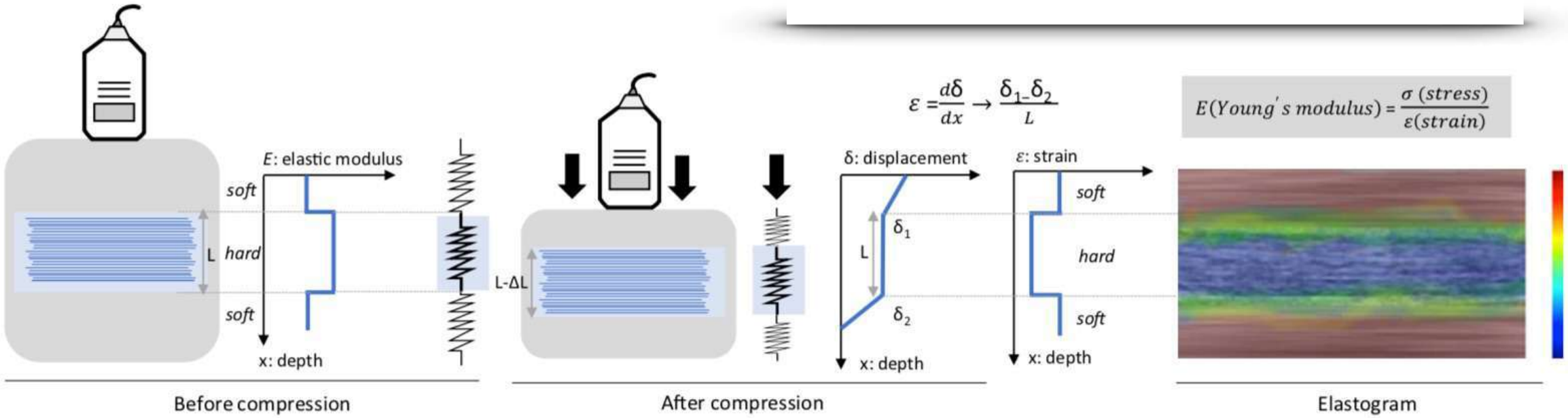




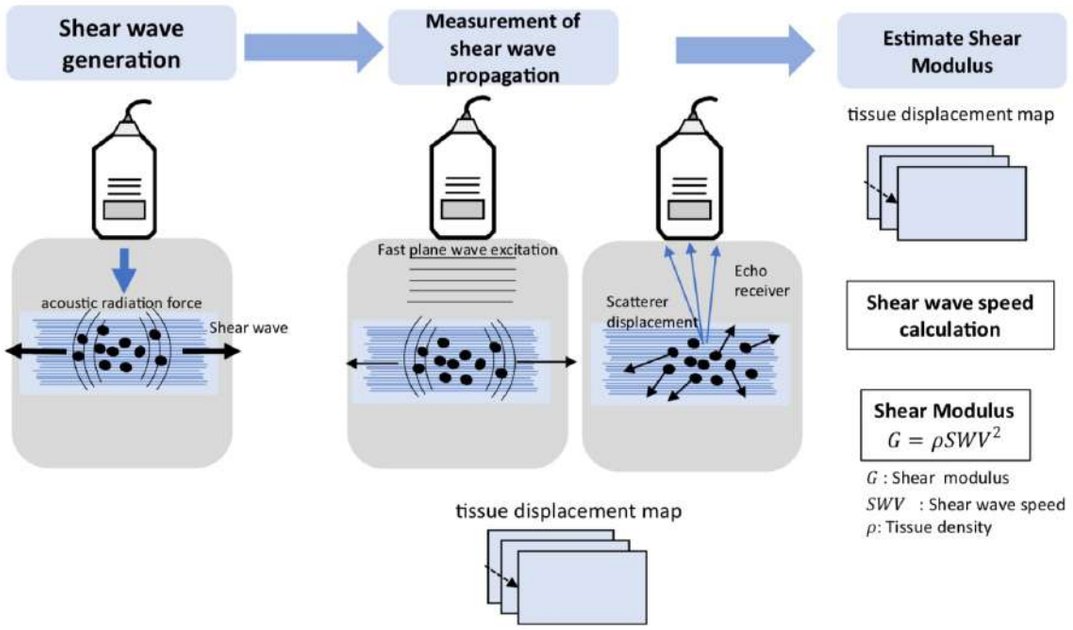


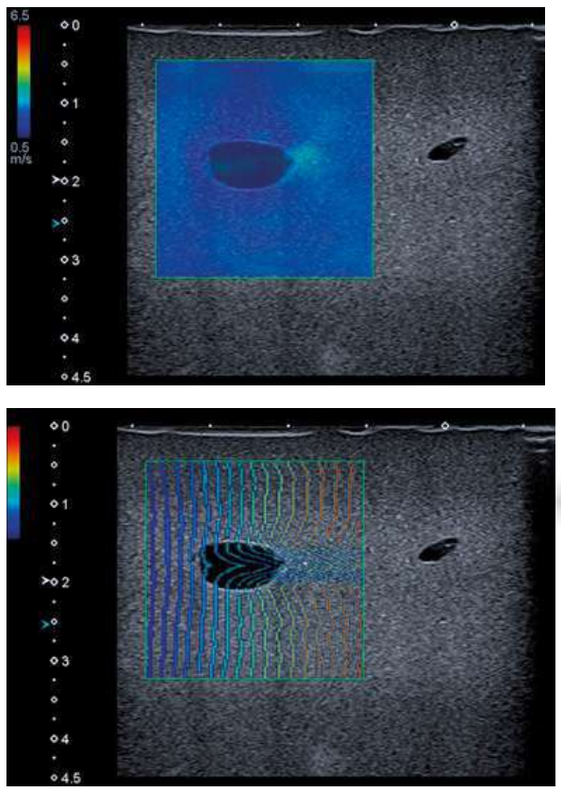
strain ratio
(compression elastography)

The strain (ε) is the ratio difference in displacement between two points to their distance pre-compression (L).



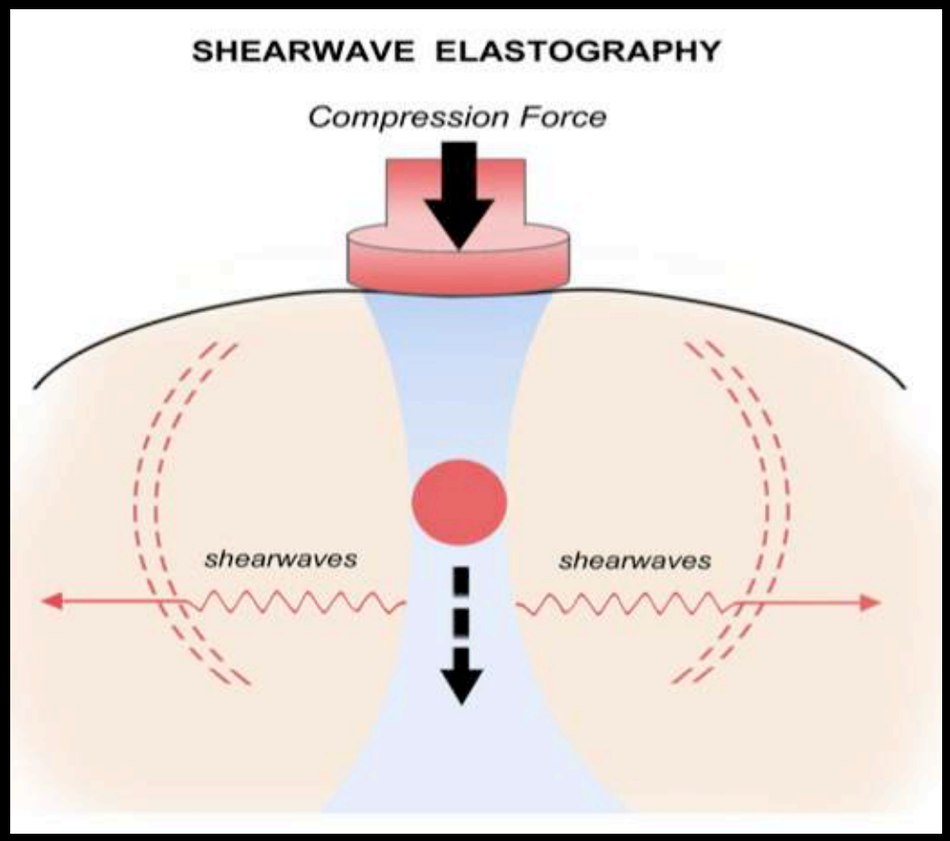
share-wave elastography

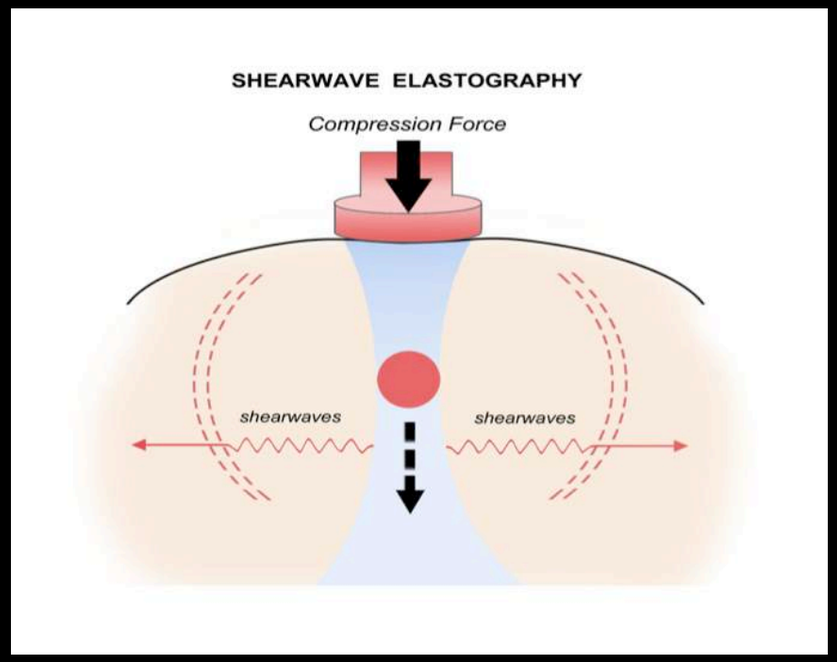


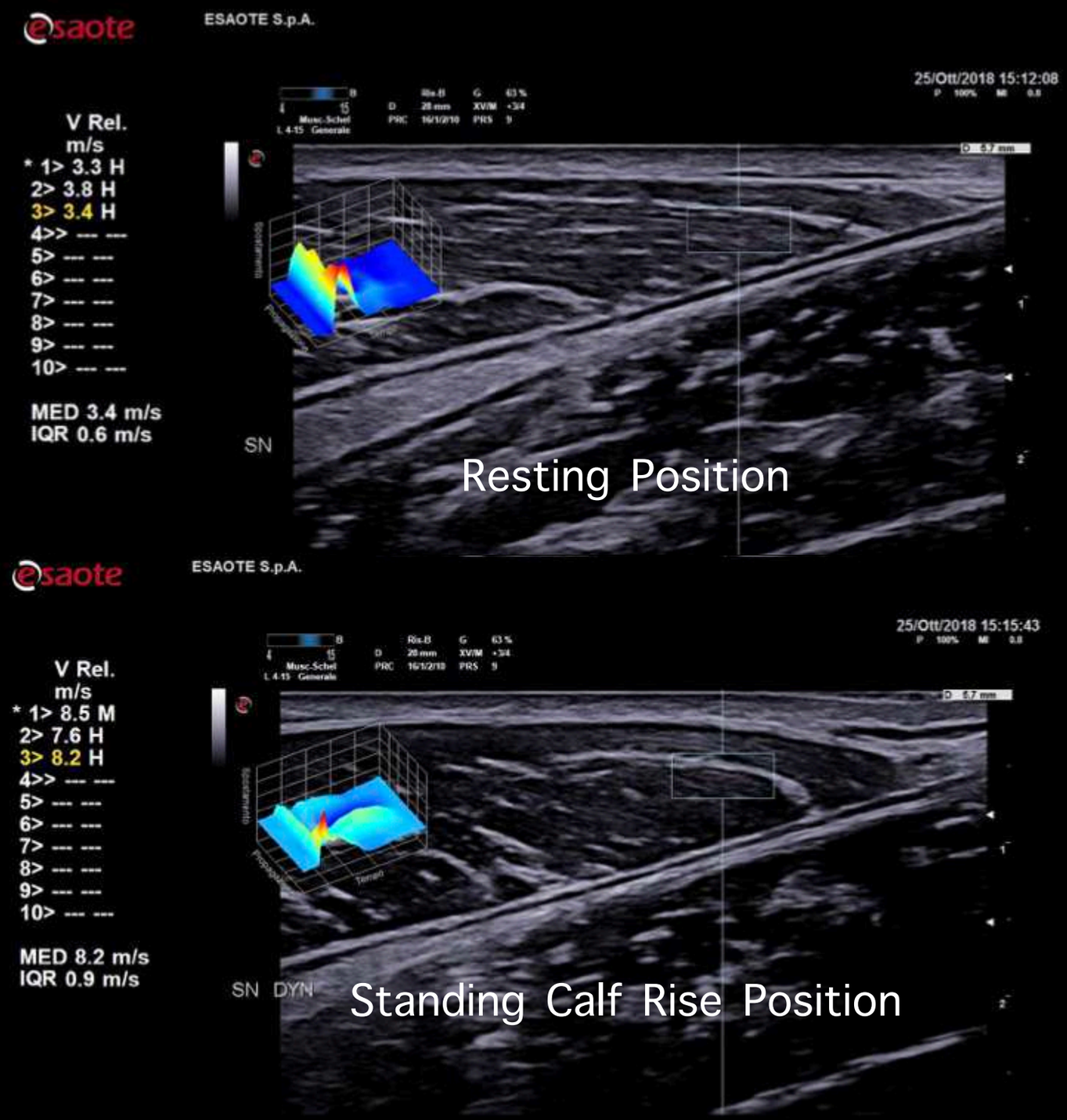


Tissue displacements are used to calculate the shear-wave velocity (Vs) and shear modulus (G)

40 male professional soccer players, aged between 18 and 38 (mean age 25), were assessed during functional tests. The participants performed standing calf rise position to assess functional contraction level of the medial gastrocnemius at the myotendinous junction. The participants were also evaluated in resting position. Participants were evaluated with an ultrasound machine equipped with a multifrequency (18–6-MHz) linear array transducers (MyLab9, Esaote, Genova Italia).




SHEARWAVE ELASTOGRAPHY
Compression Force
shearwaves
shearwaves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ESAOTE S.p.A.
25/Ott/2018 15:12:08
V Rel.
m/s
* 1> 3.3 H
2> 3.8 H
3> 3.4 H
4>> --- ---
5> --- ---
6> --- ---
7> --- ---
8> --- ---
9> --- ---
10> --- ---
MED 3.4 m/s
IQR 0.6 m/s
SN
Resting Position
esaote
ESAOTE S.p.A.
25/Ott/2018 15:15:43
V Rel.
m/s
* 1> 8.5 M
2> 7.6 H
3> 8.2 H
4>> --- ---
5> --- ---
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8> --- ---
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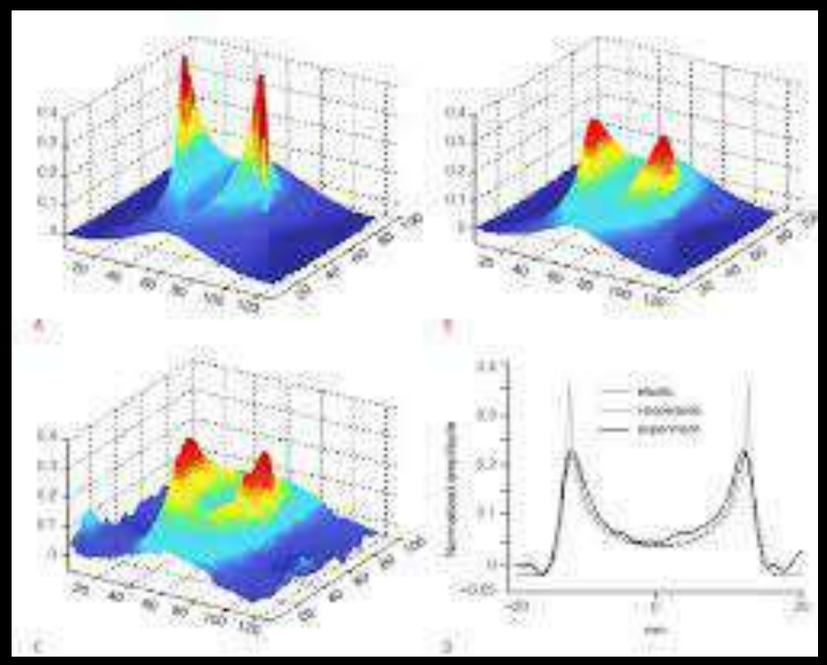
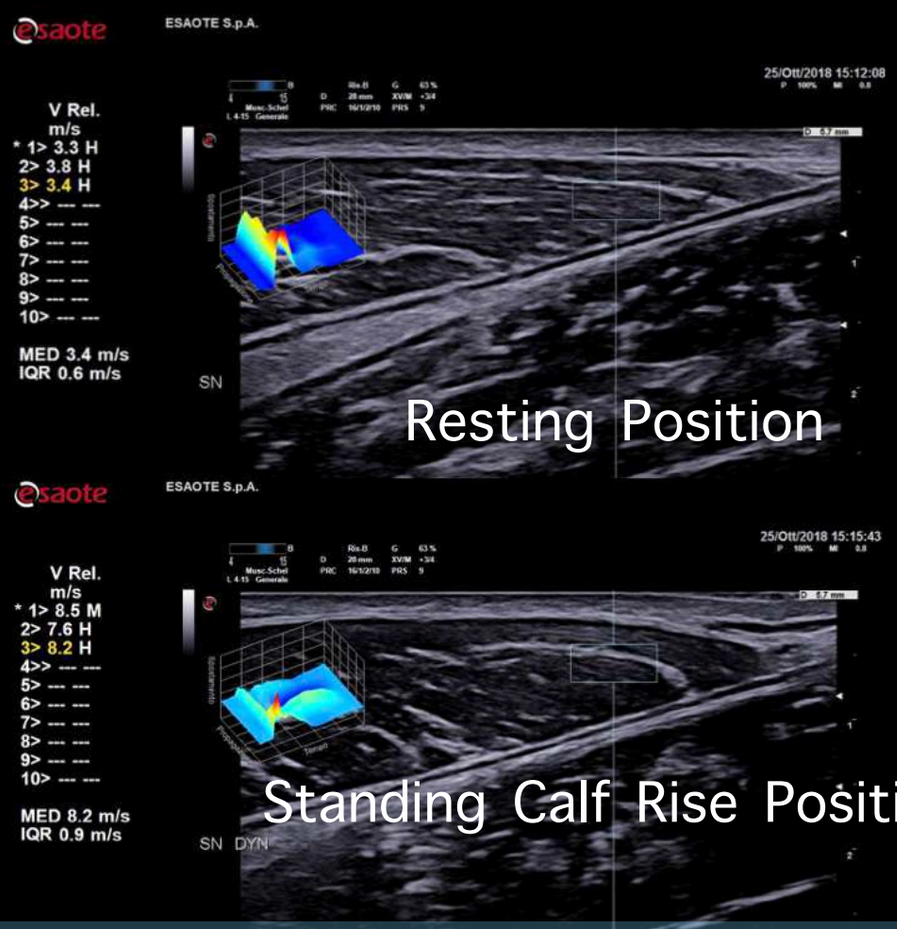
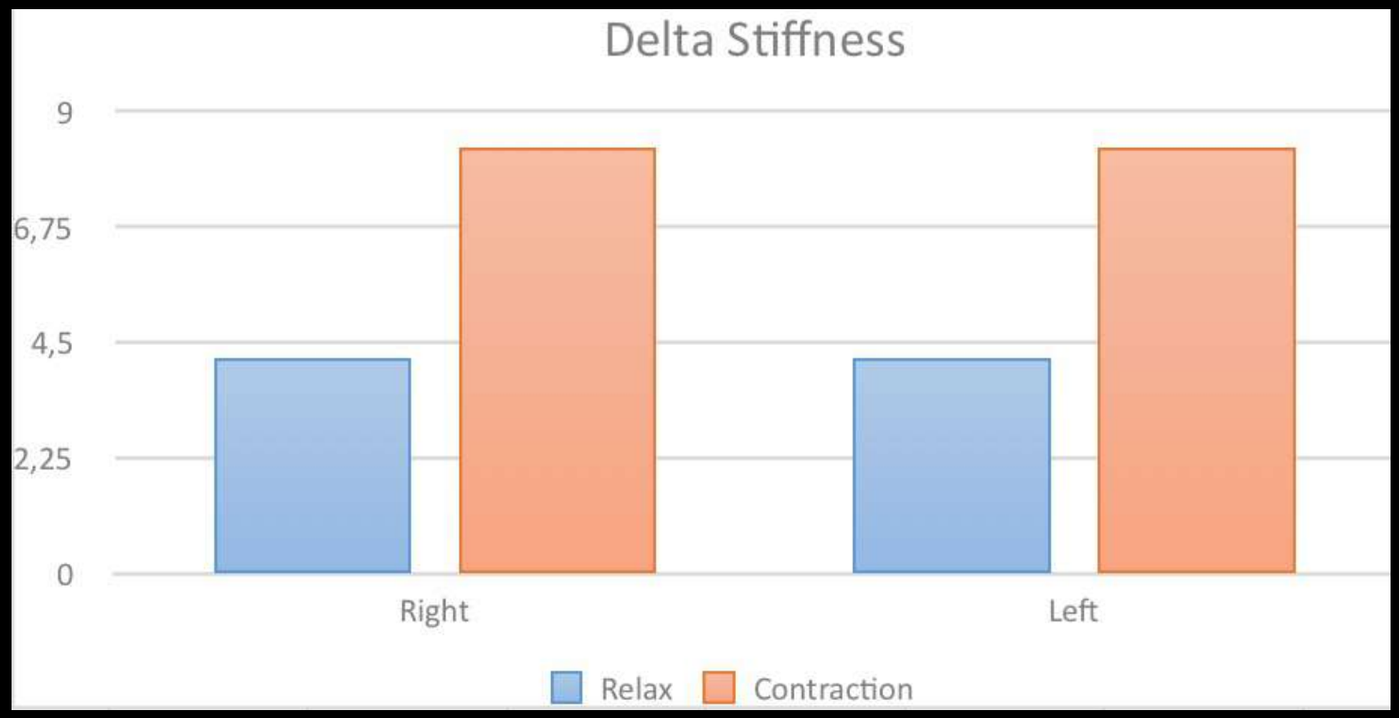
10> --- ---
MED 8.2 m/s
IQR 0.9 m/s
SN DYN
Standing Calf Rise Position

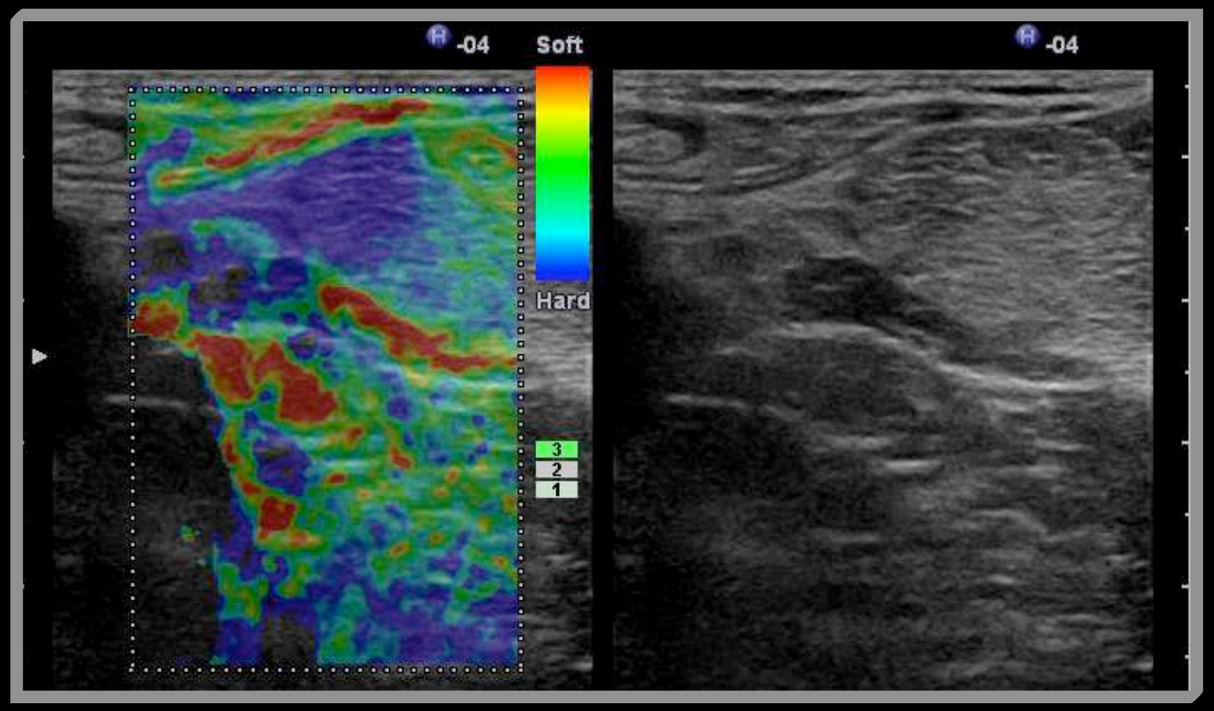


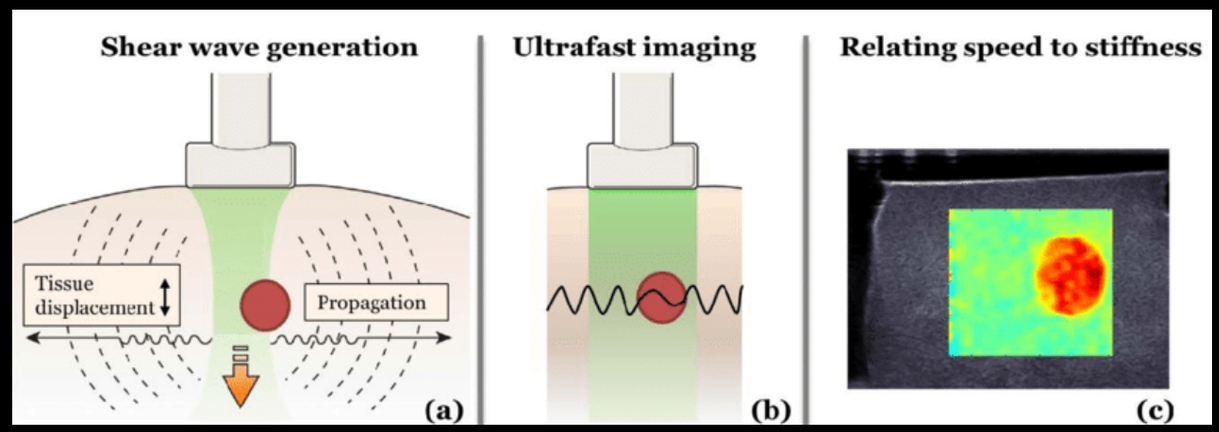




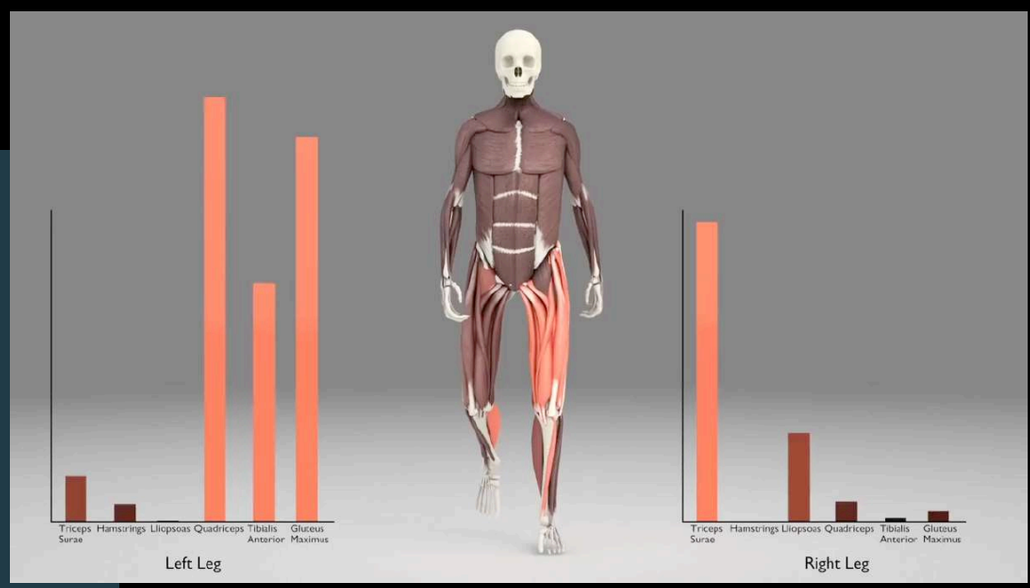
Results: The results of the elastosonography study showed a mean stiffness value for the right medial gastrocnemius of 4.19 m/s (IQR=0.7) with the muscle relaxed; the stiffness value was 8,30 m/s (IQR=0.9) during contraction (with a mean increase of 198%, almost doubling its value). For the left medial gastrocnemius, the stiffness value was 4.20 m/s (IQR=0.6) before contraction, and 8.30 m/s (IQR=0,8) during contraction (with a mean increase of 197%).

If the generation of muscle-tendon micro-tears exceeds the rate of repair, then the tensile strenght of these structures may be sufficiently decreased as to results in partial rupture or even tendon avulsion. (Gibbon et al. 1999)

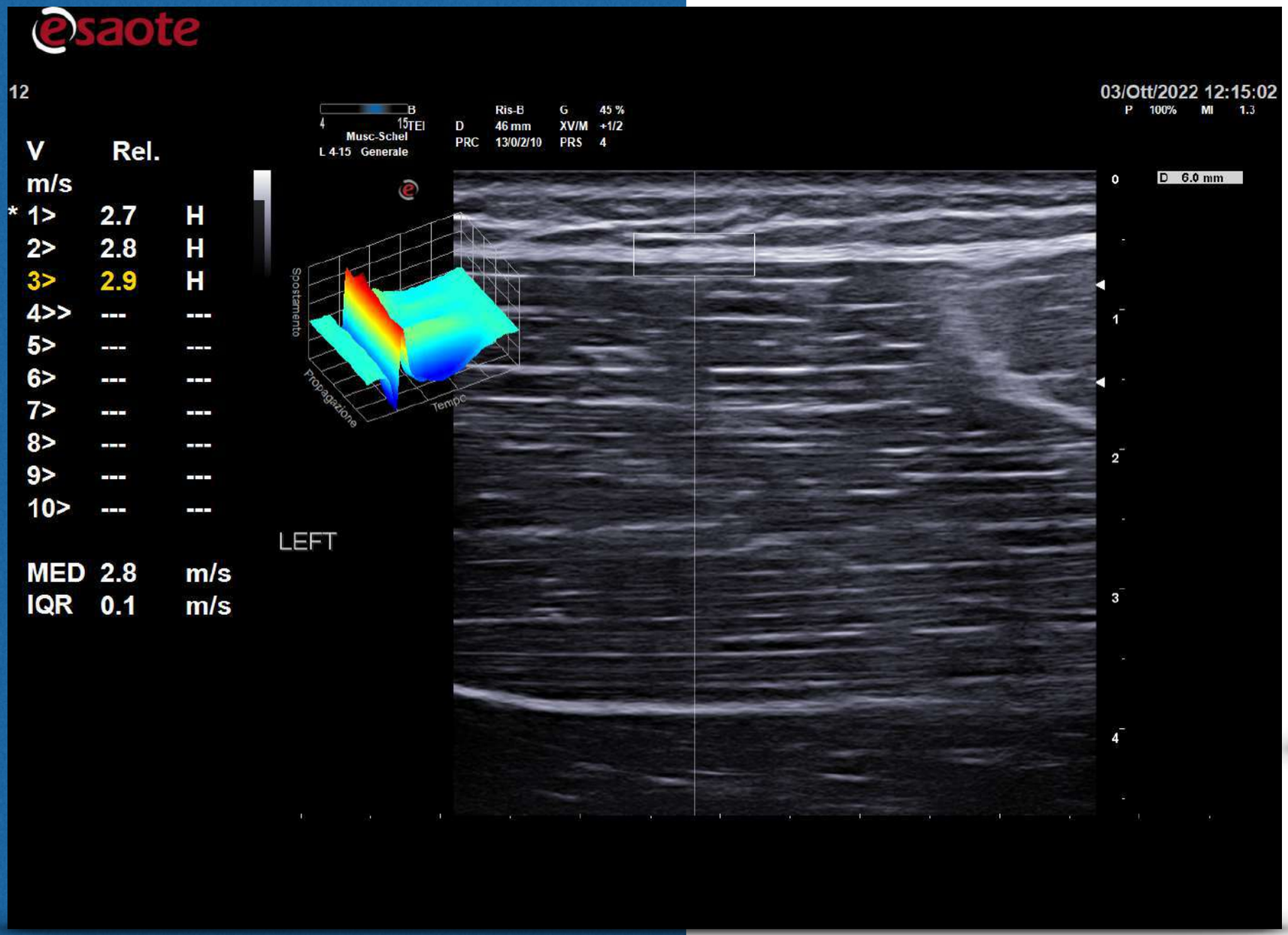


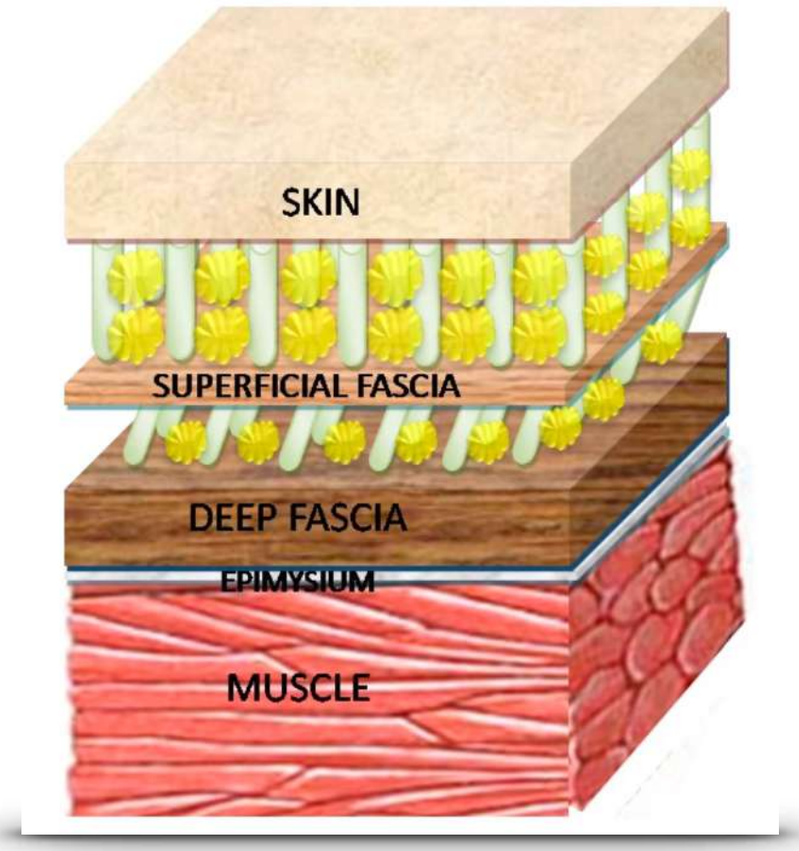


- Assess the relation between clinical functional outcomes and the mechanical properties of muscle-tendon structures.
- Promote an early diagnosis.
- Identify the risk of injury.
- Support the evaluation of rehabilitation interventions.

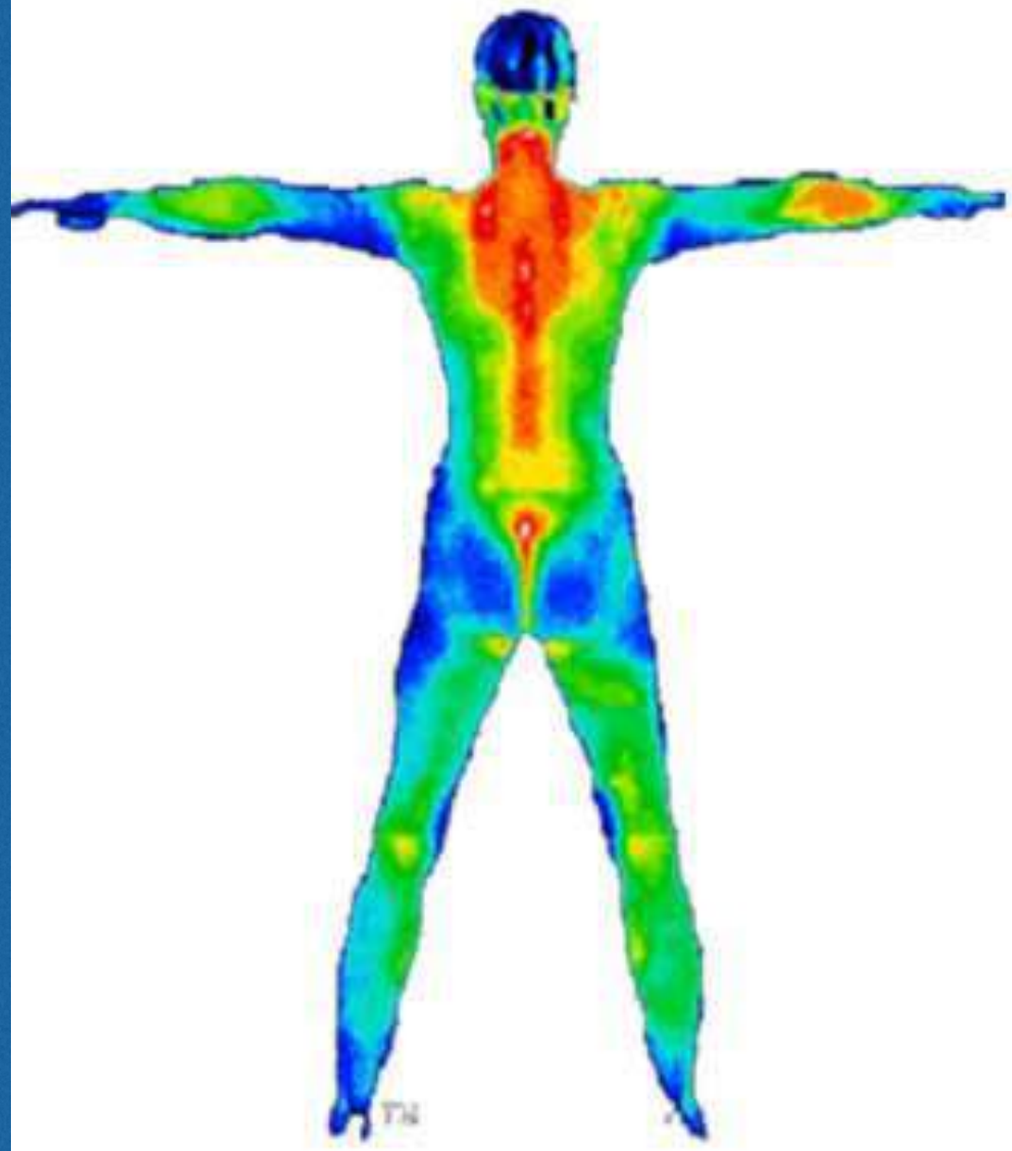


Share-Wave Elastography





WHAT IS THERMOGRAPHY?



Thermography, or DITI (Digital Infrared Thermal Imaging) is a non-invasive clinical imaging procedure for detecting and monitoring a number of diseases and physical injuries by showing thermal abnormalties present in the body. Thermograms can be taken of the whole body or just areas being investigated. Results come back quickly and will be printed and sent to you and your physician if requested. Results obtained are completely objective and show excellent correlation with other diagonistic tests. All results and images are interpreted and reported by Board Certified MD Thermologists.

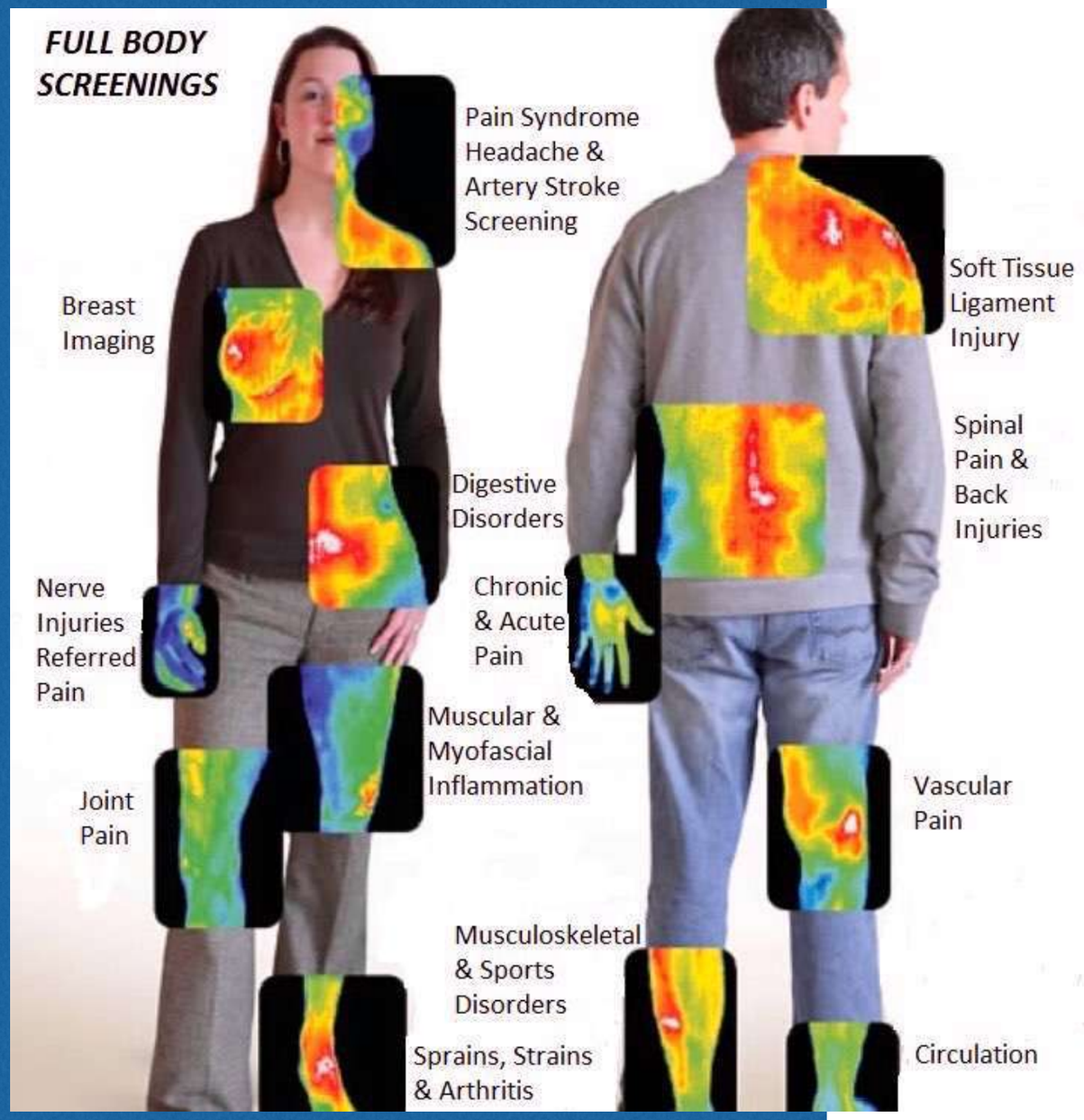
Infrared Thermal Imaging in the Diagnosis of Musculoskeletal Injuries: A Systematic Review and Meta-Analysis

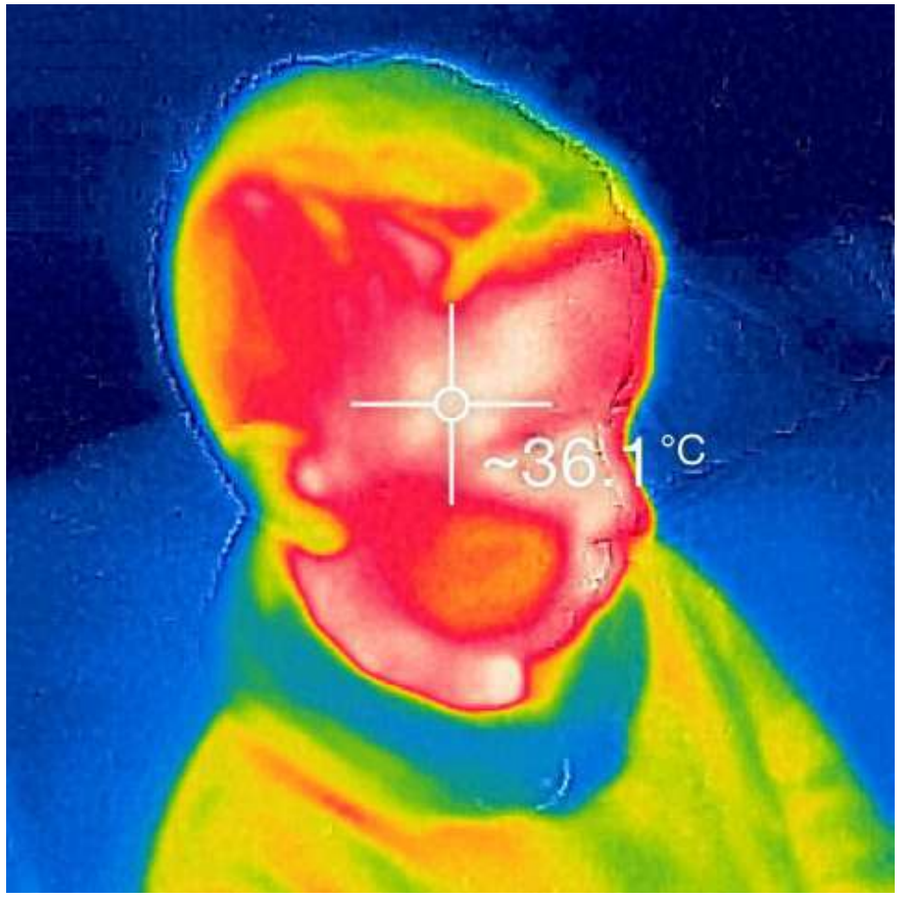
Enrique Sanchis-Sánchez[1]
Carlos Vergara-Hernández[2]
Rosa M. Cibrián[3]
Rosario Salvador[3]
Enrique Sanchis[2]
Pilar Codoñer-Franch[4]

OBJECTIVE. Musculoskeletal injuries occur frequently. Diagnostic tests using ionizing radiation can lead to problems for patients, and infrared thermal imaging could be useful when diagnosing these injuries.

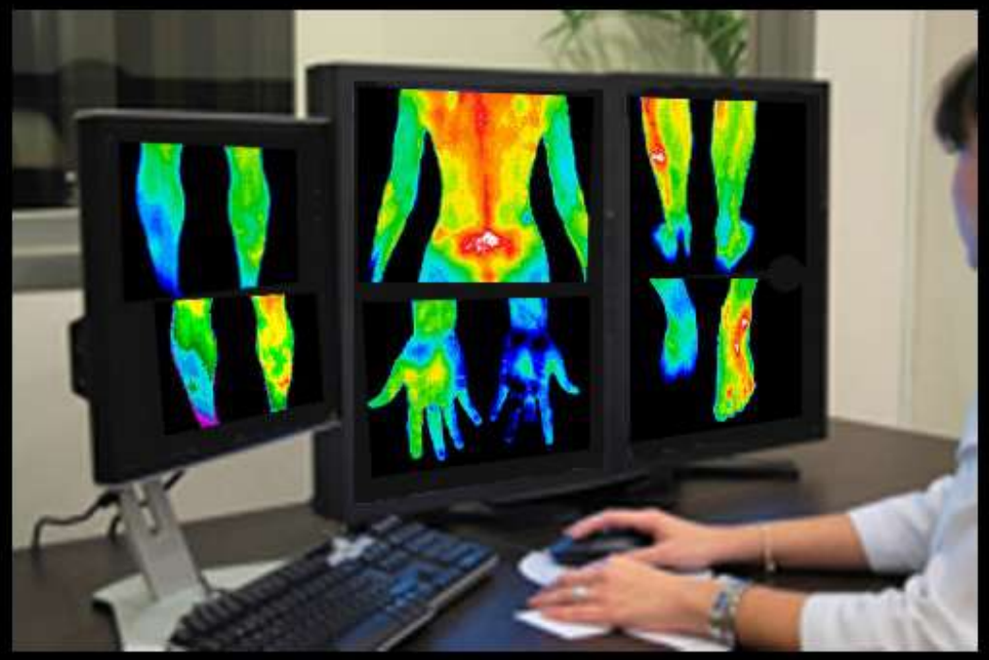
CONCLUSION. A systematic review was performed to determine the diagnostic accuracy of infrared thermal imaging in patients with musculoskeletal injuries. A meta-analysis of three studies evaluating stress fractures was performed and found a lack of support for the usefulness of infrared thermal imaging in musculoskeletal injuries diagnosis.

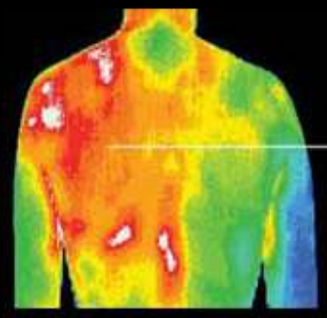
According to data collected during the year 2010, in the United States, 14,386,192 people had to attend hospital emergency departments as a result of musculoskeletal injuries, including fractures, sprains, dislocations, contusions, and compartment syndrome (International Classification of Diseases, ninth revision, Clinical Modification diagnosis codes 810–848, 920–929 and 958.9). Of those patients 610,946 ences allows an image to be taken of the infrared radiation produced naturally by the skin, which acts like an almost perfect black body [7]. In this way, the technique can detect local variations in temperature, such as those that occur in inflammatory conditions associated with different pathologic abnormalities, including musculoskeletal injuries. Hence, it could act as a diagnostic complement by adding a physiologic profile study



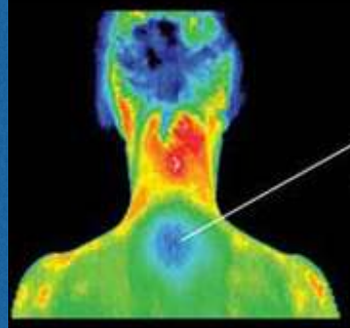


RSD / CRPS
and all sympathetic pain syndromes are easily detected



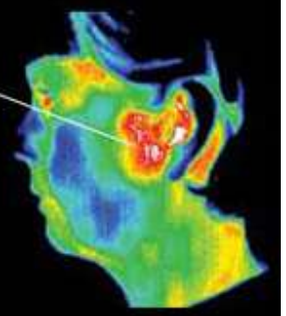


The muscular and myofascial inflammation of Fibromyalgia can be objectively and accurately documented & monitored

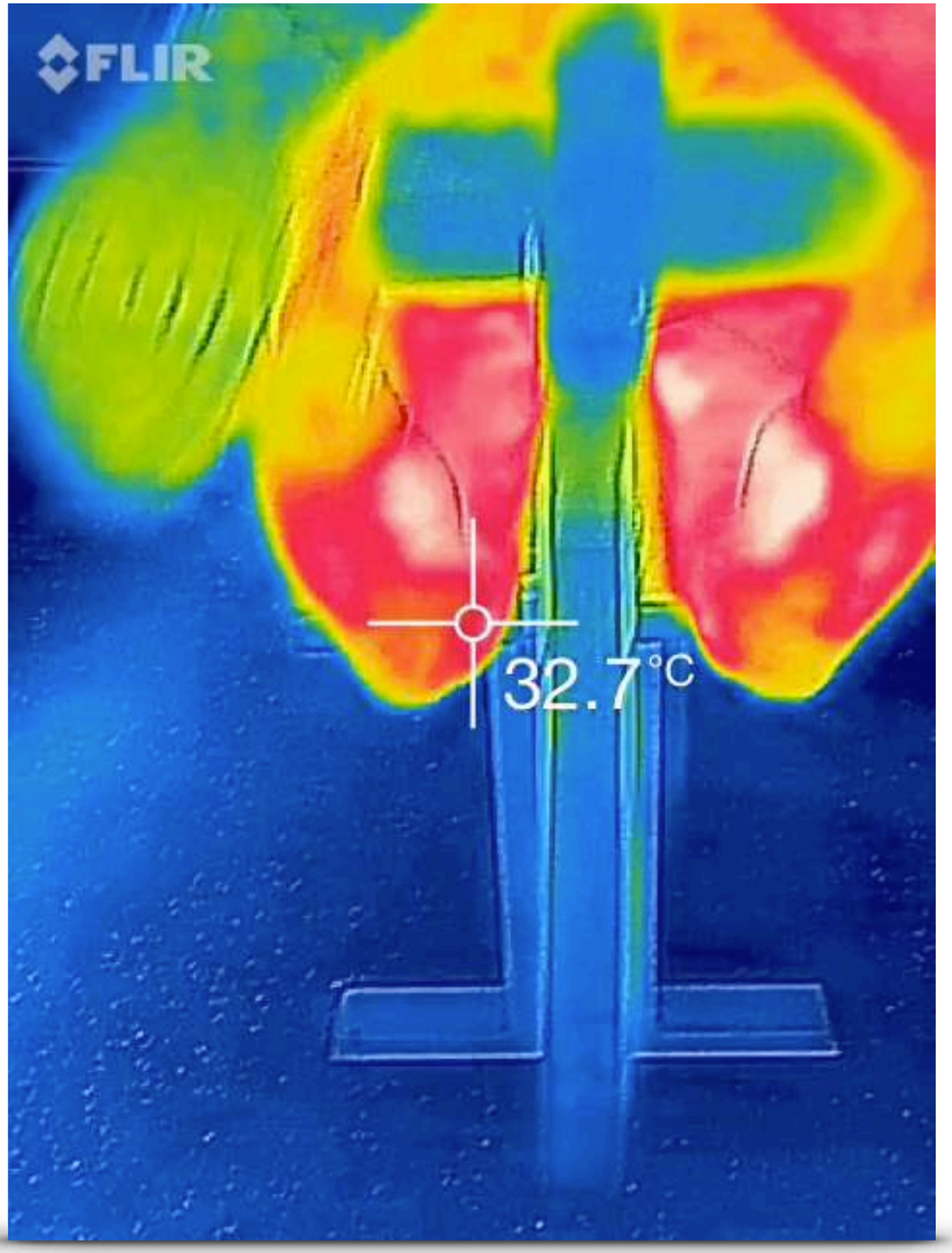


Autonomic patterns of hypothermia over T2 can be used to monitor immune system dysfunction

Difficult to diagnose TMJ syndromes can be assessed to show the combined effects of inflammation as well as neurological dysfunction



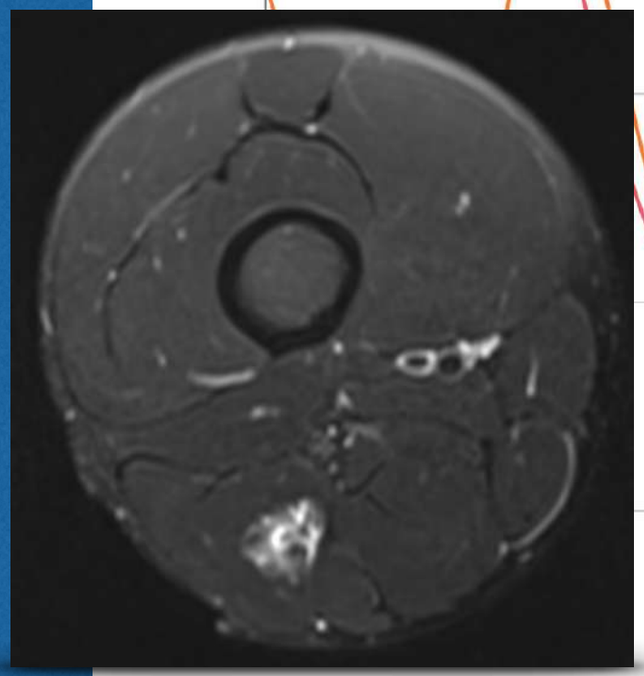

FLIR


FLIR
32.7°C


PLASTICA


FLIR
PLASTICA


FLIR



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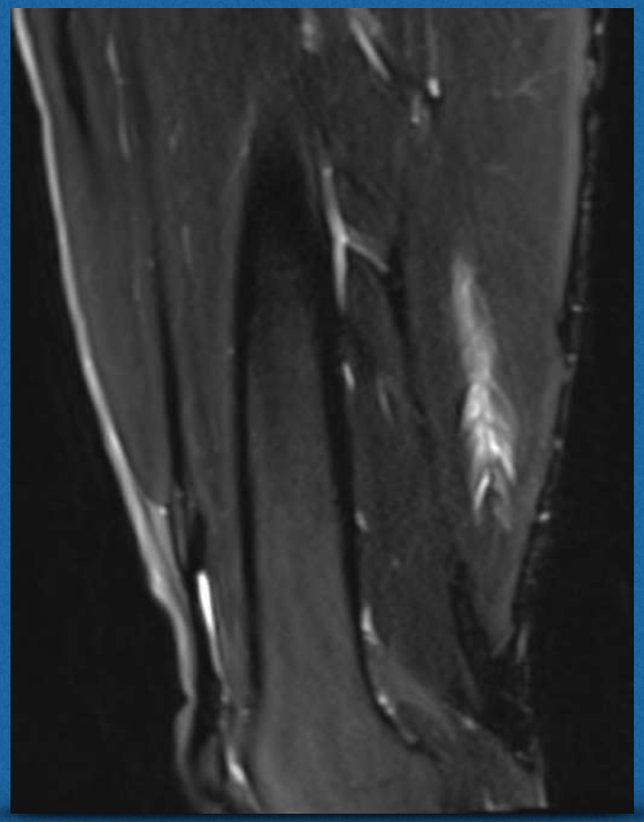
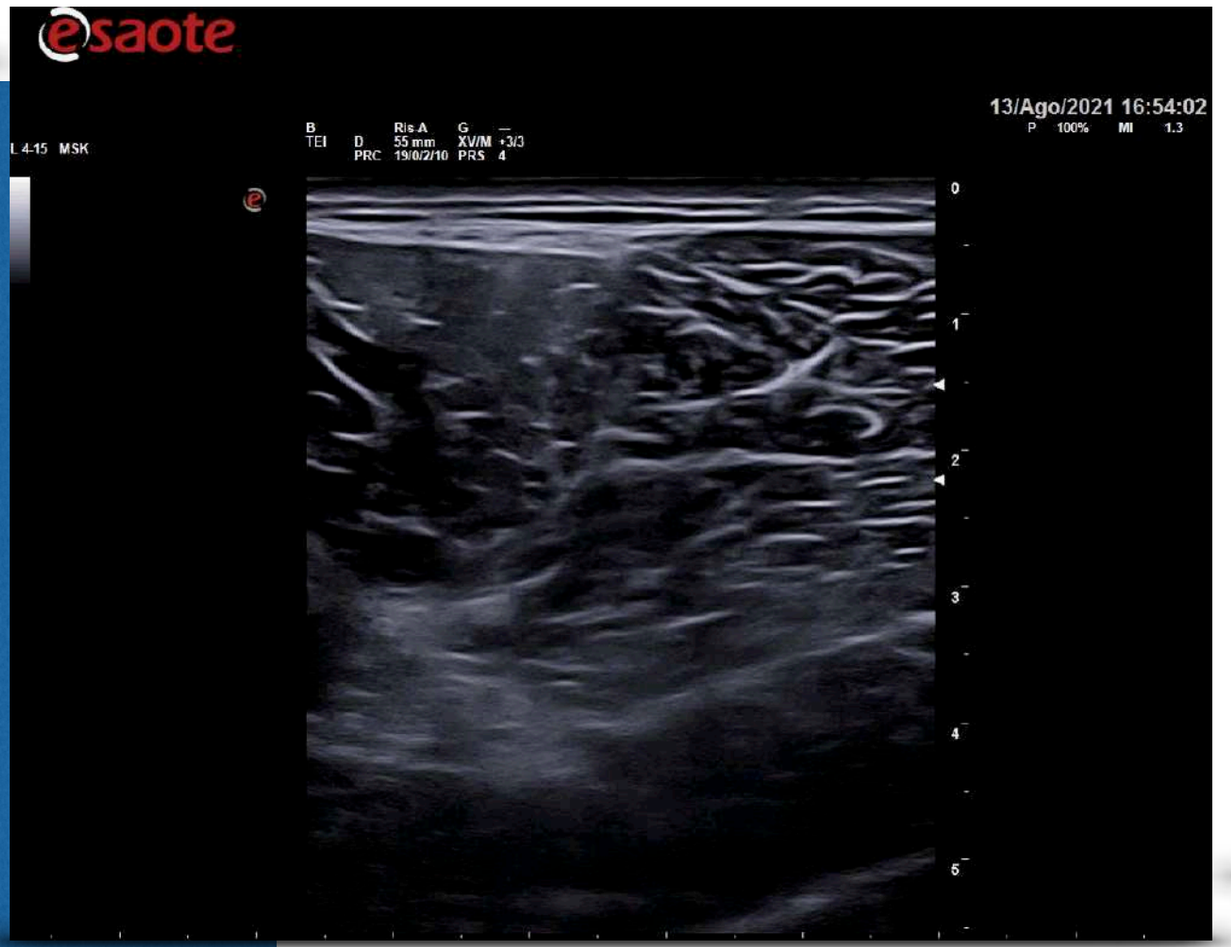
8/9/2020
15/9/2020
11/12/2020
7/1/2021
6/8/2021
7/8/2021
16/8/2021

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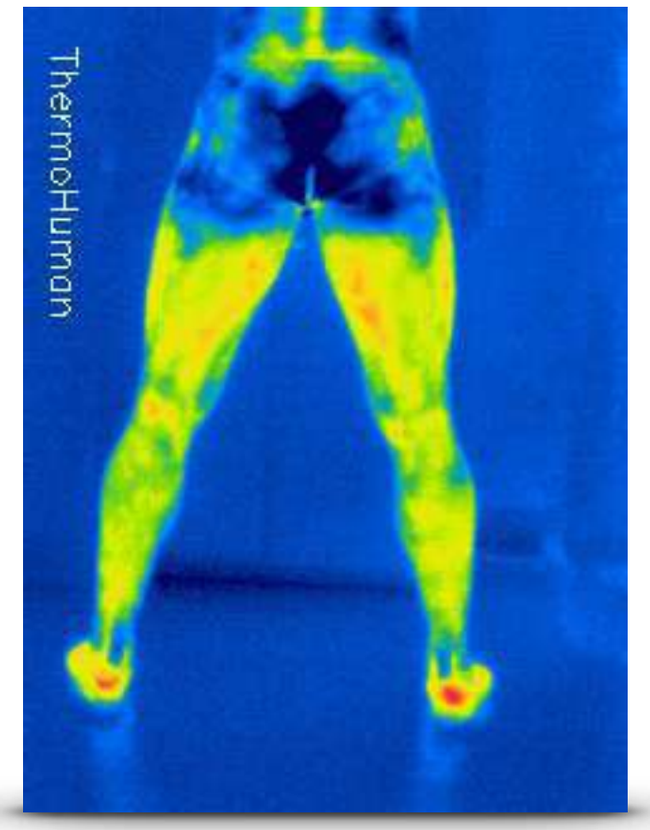
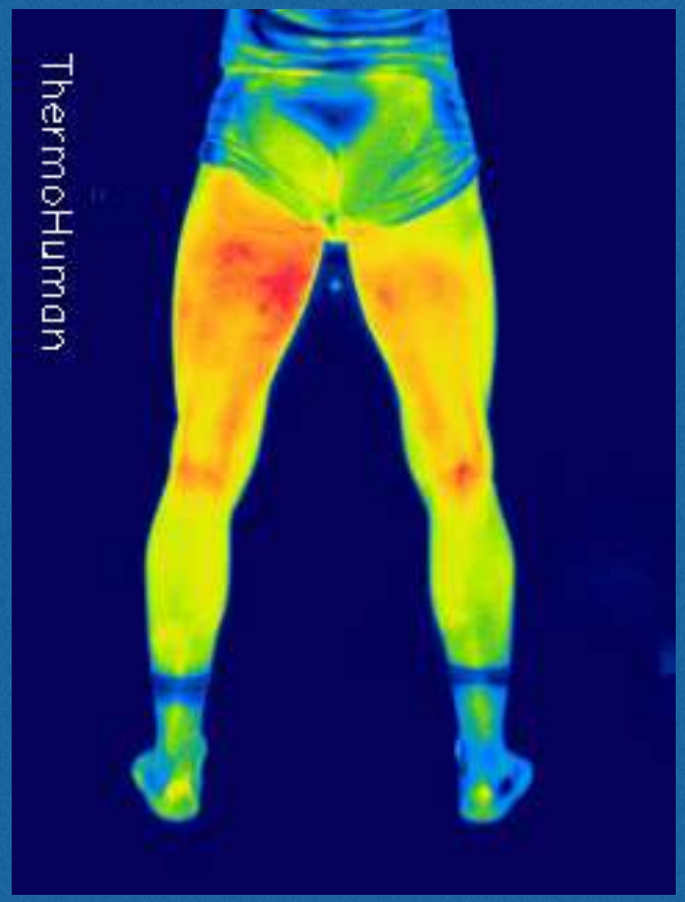
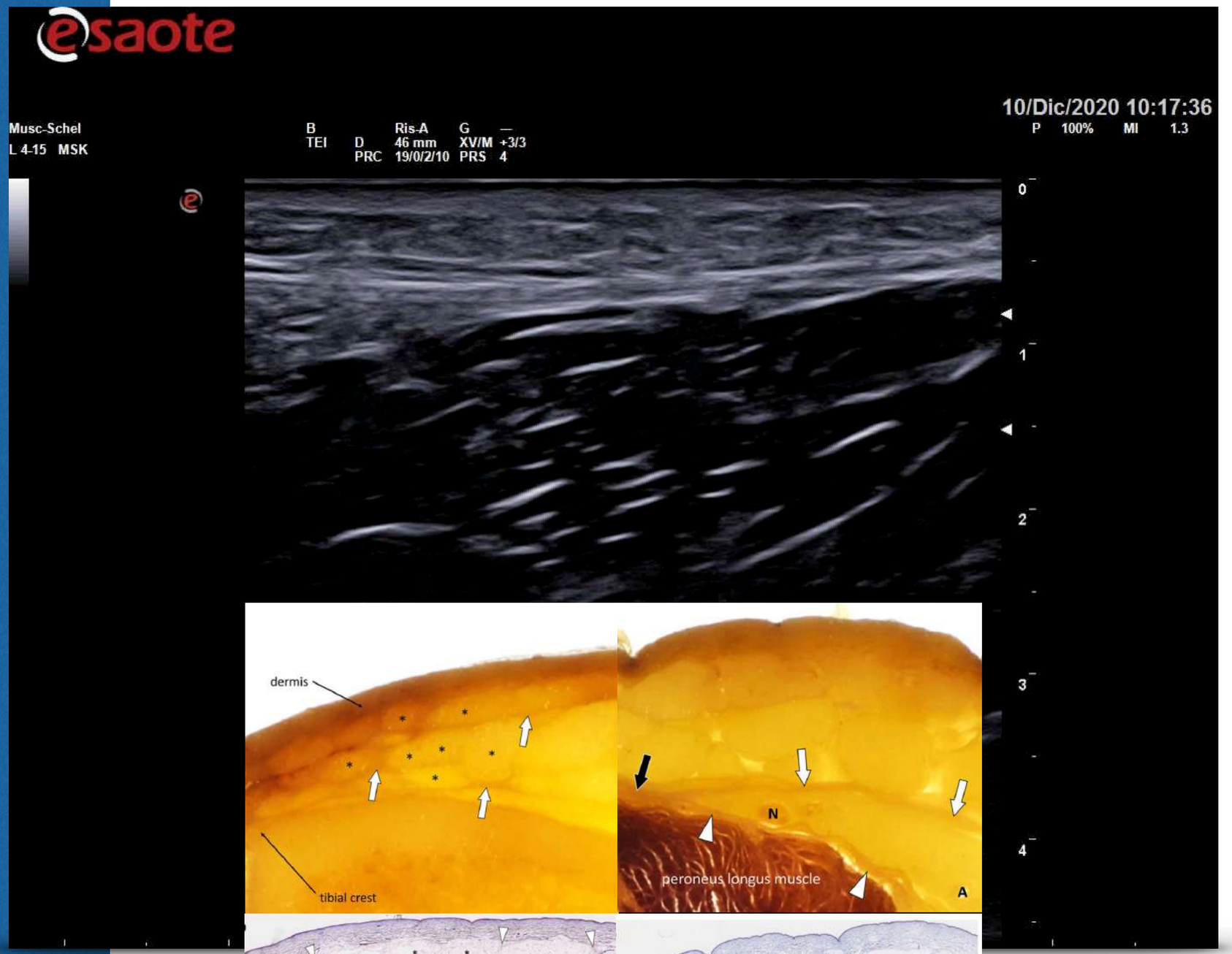

ThermoHuman

Myoaponeurotic Injury





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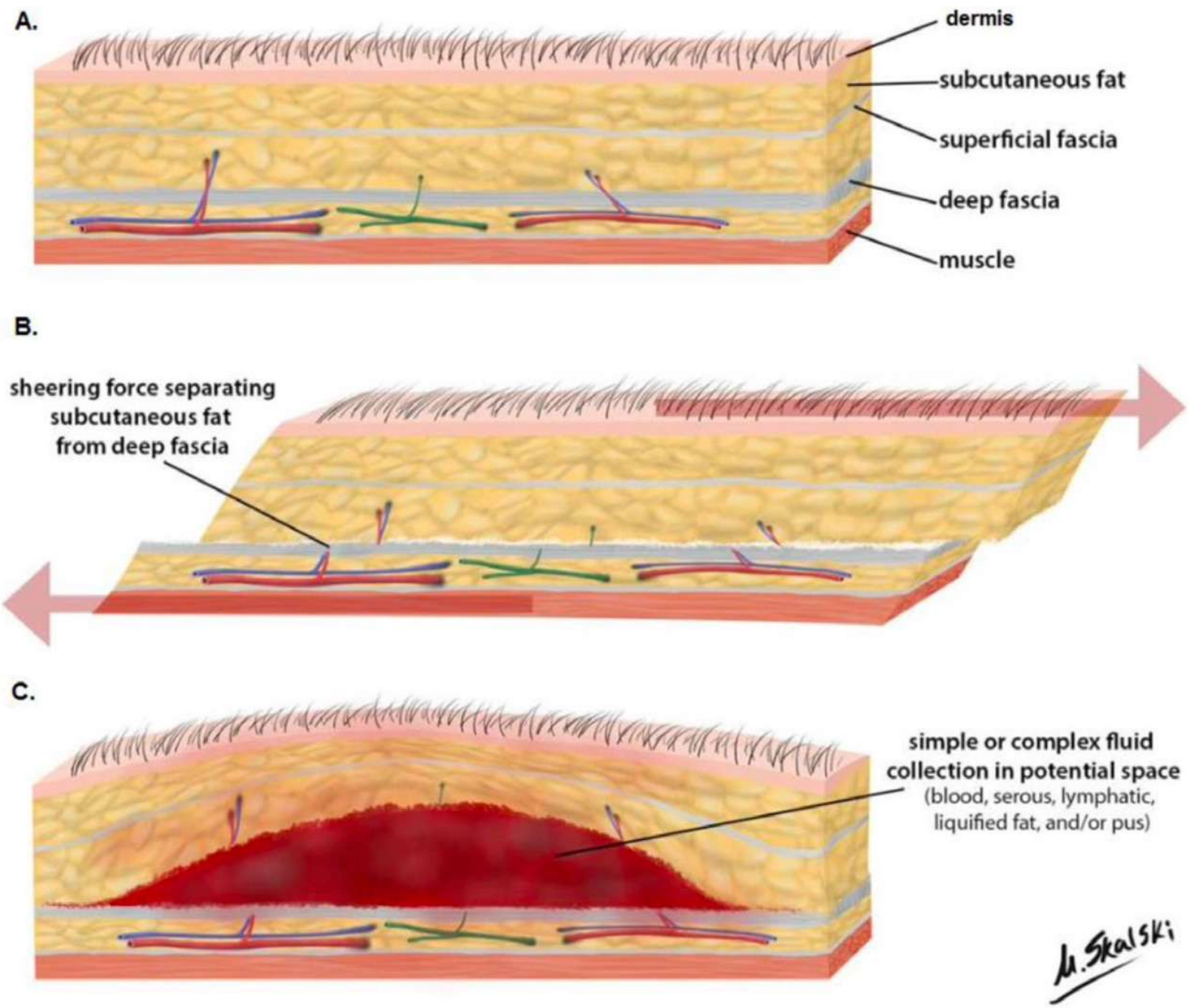

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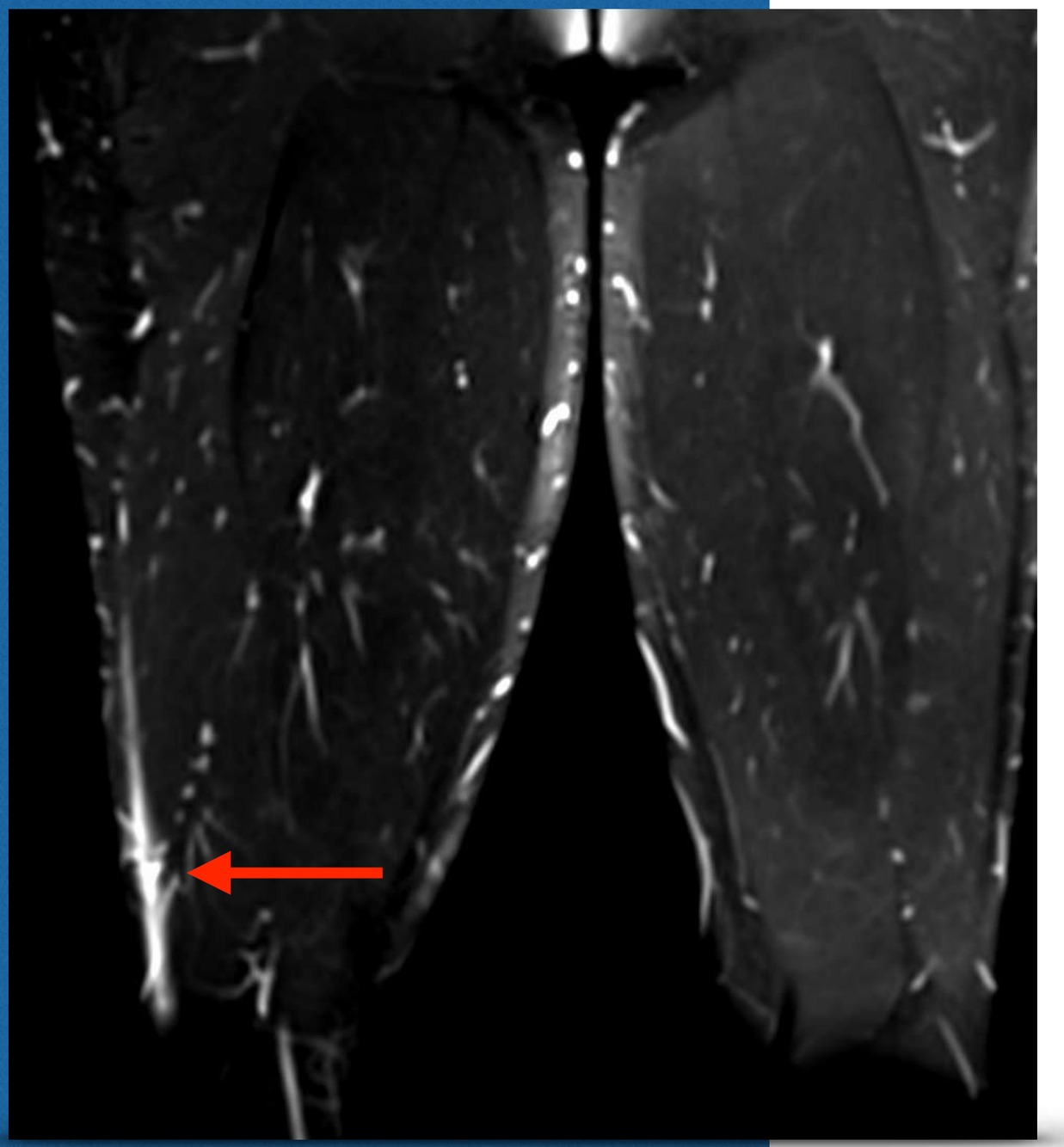

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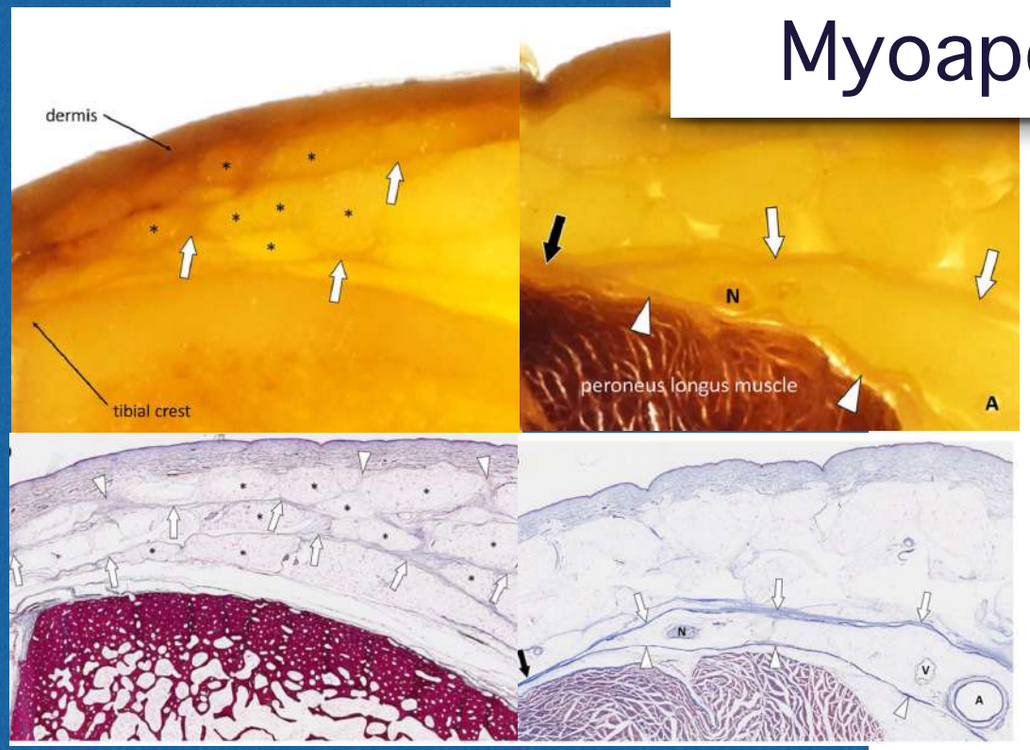
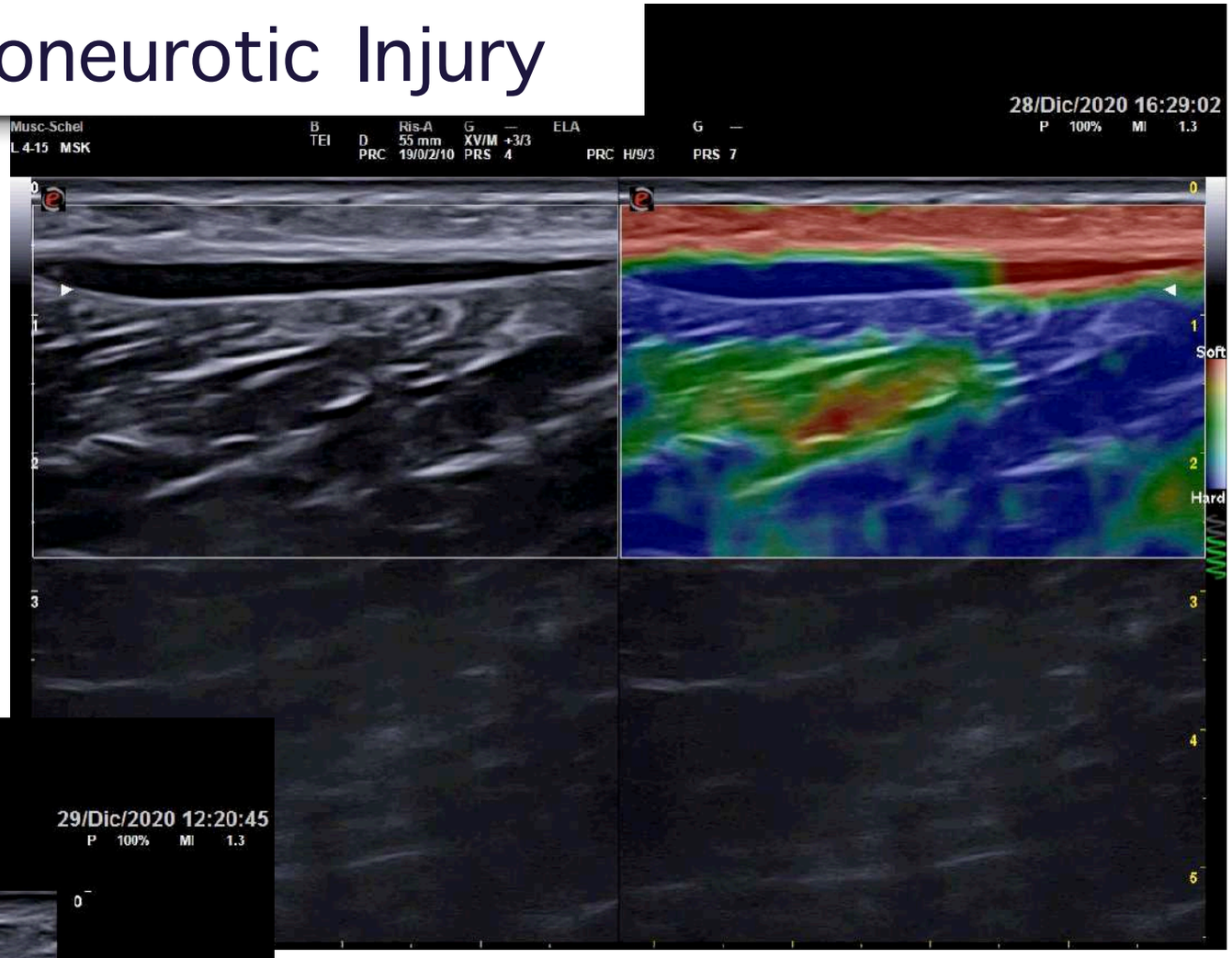
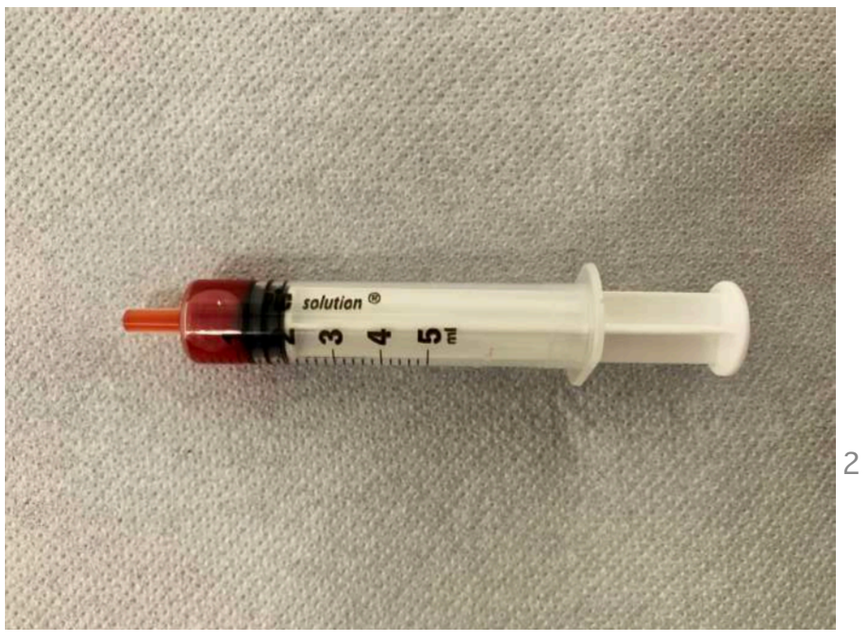
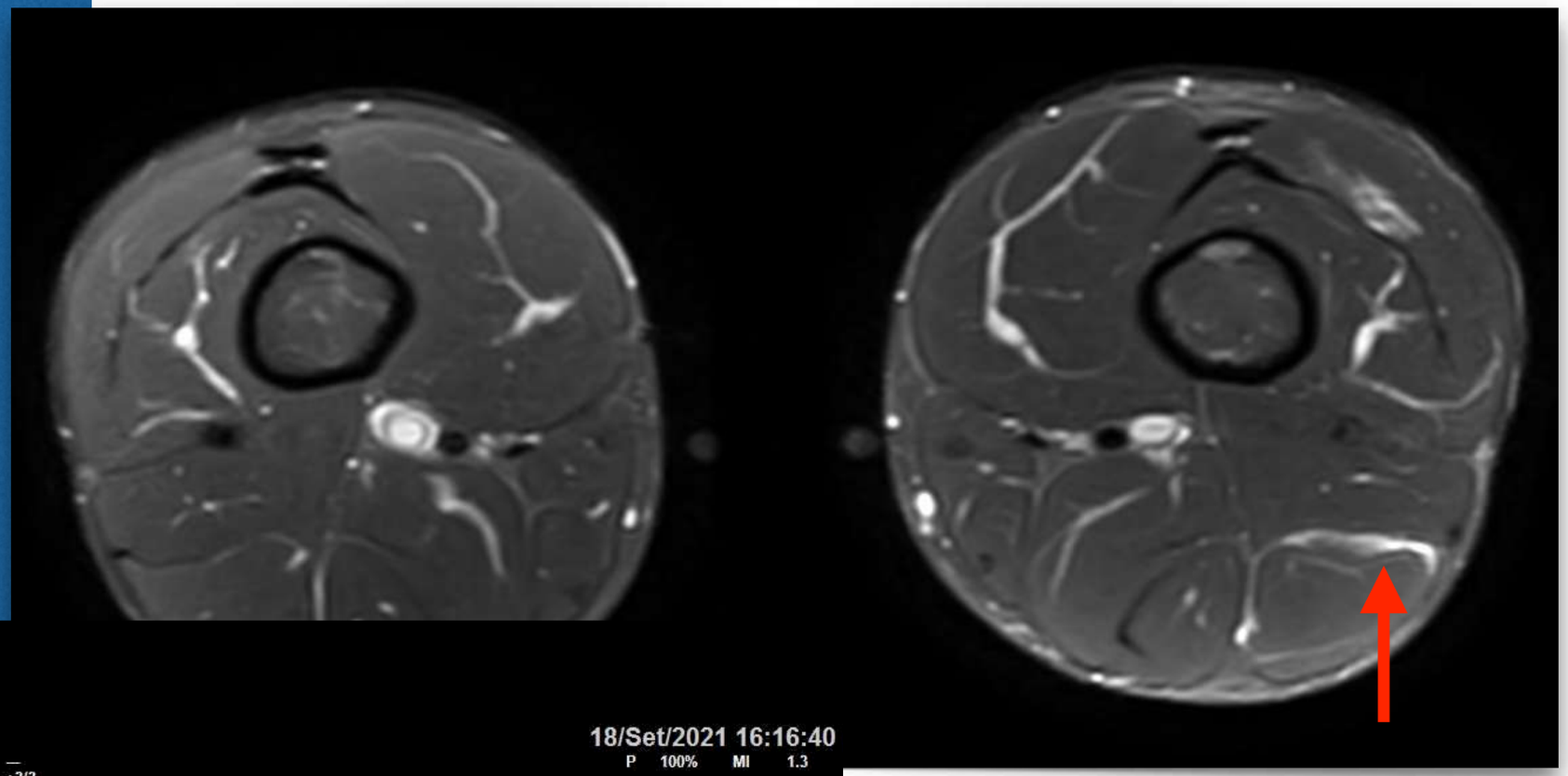
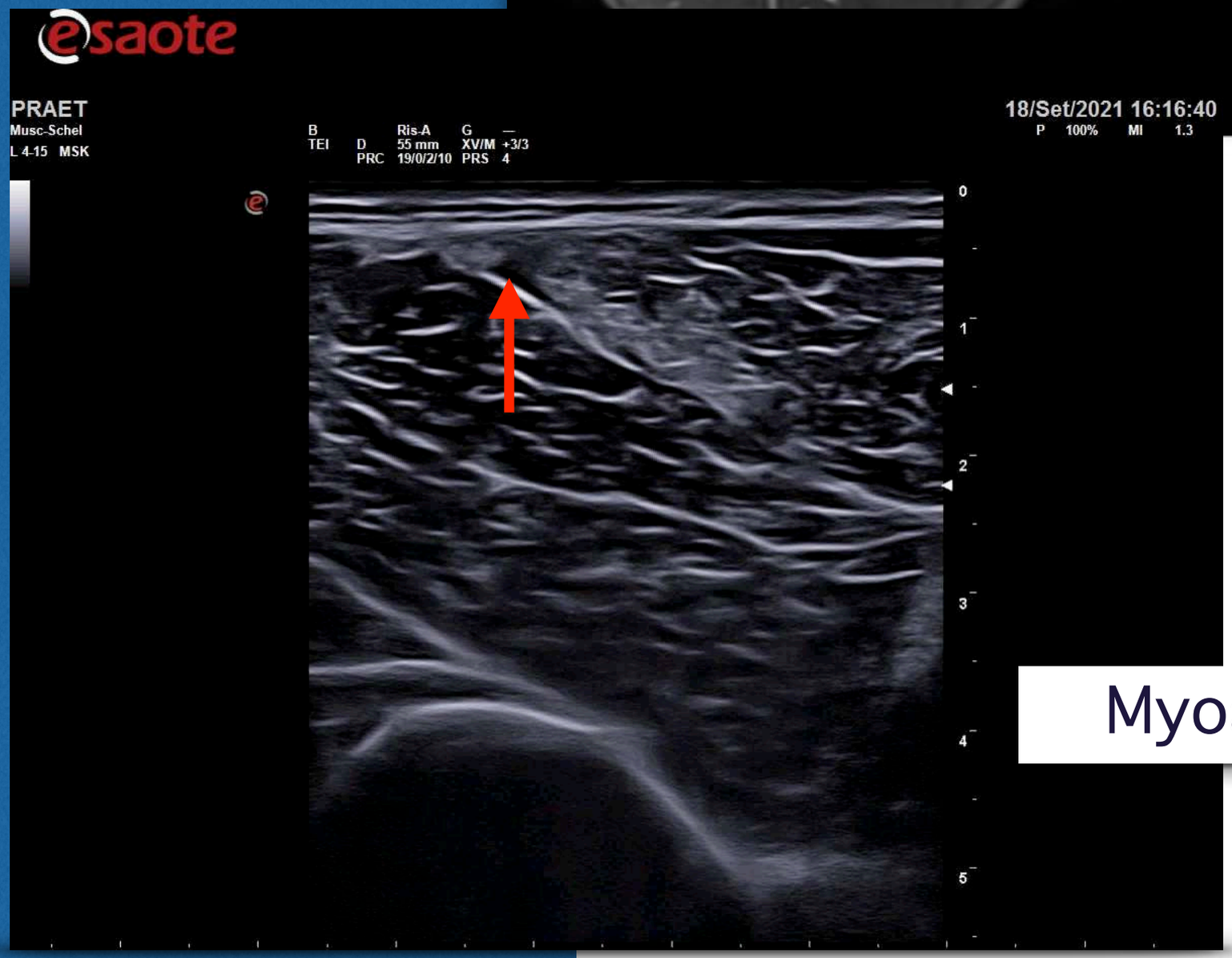


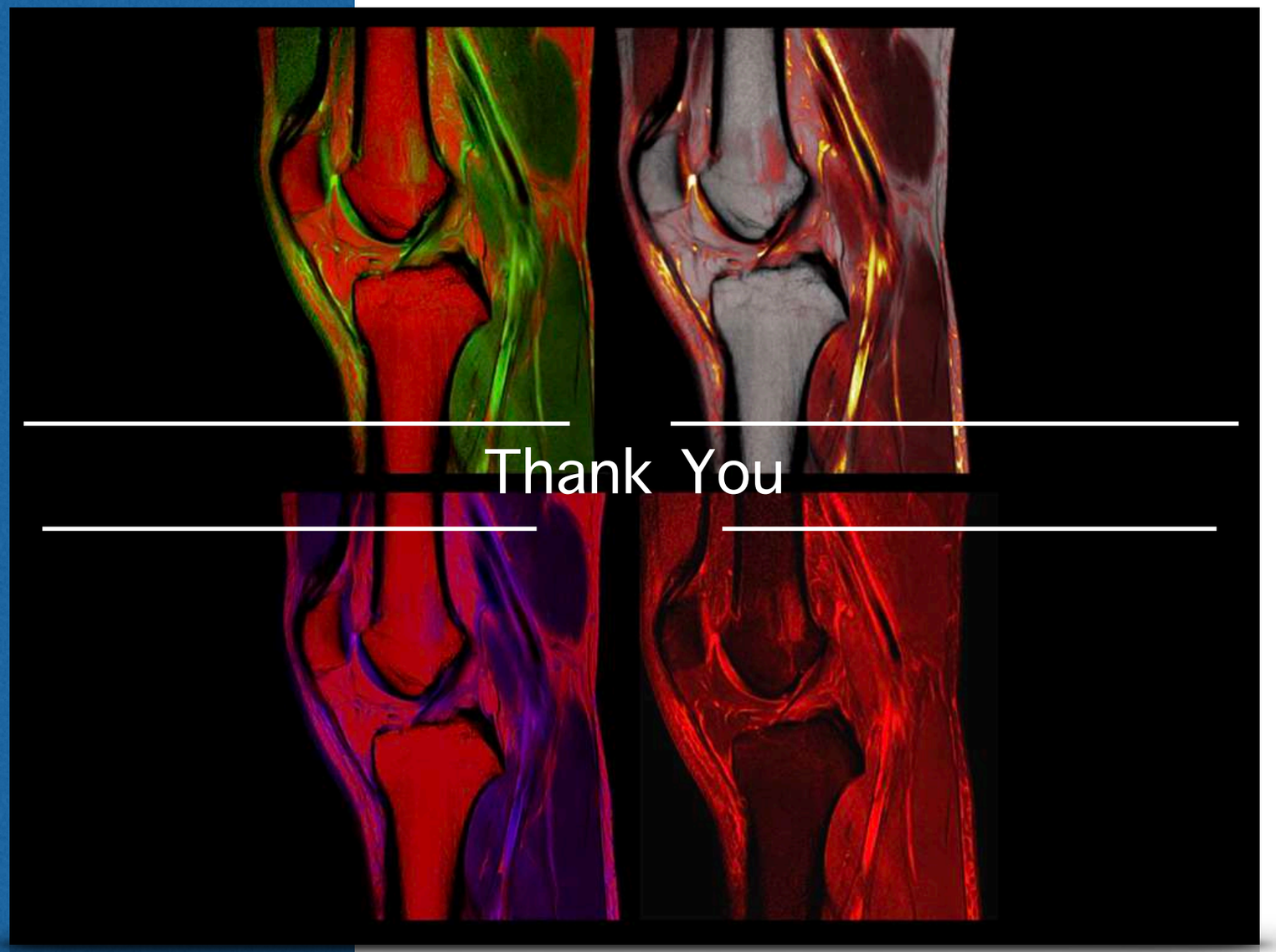








Myoaponeurotic Injury



Thank You

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