

B O R D E A U X

# PERSPECTIVES

Friday, June 17, 2022

My most didactic/ nightmarish cas and my most promising and innovative technique

## ORGANIZATION

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## CONTACT & INFORMATION

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BORDEAUX

# PERSPECTIVES

Friday, June 17, 2022

Toujours se méfier des BG

... surtout en chirurgie vasculaire!

Laurence Destrieux  
Bertrand Chavent – Denis Garnier – Jessica Morel



Clinique Générale Annecy  
— VIVALTO SANTÉ —





No disclosure



## **Male, 40 years old**

- maternal antecedent: pulmonary embolism
- Rugby player until 2015  
with some occasionally fractional tensions
- Bilateral meniscectomy

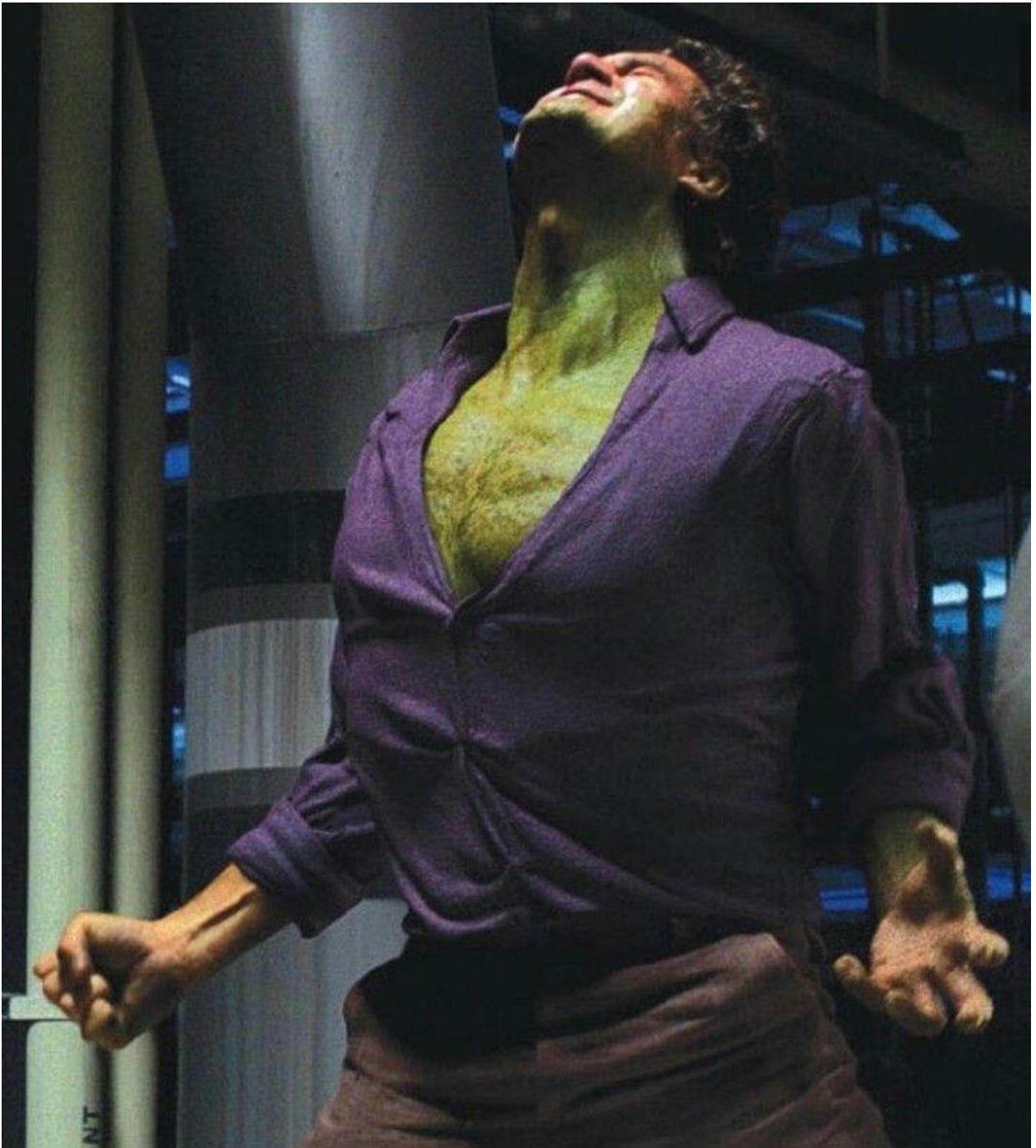
## 2020, May

- post-confinement stress claudication
- Normal Doppler ultrasound: venous? Arterial?

## 2020, July

- limitation 300-400 m left> right
- **Venous doppler ultrasound**
  - **Right leg:** Venous thrombosis: PVS , GVS & gastrocnemius
  - **Left leg:** no thrombosis, large varicosis of GVS

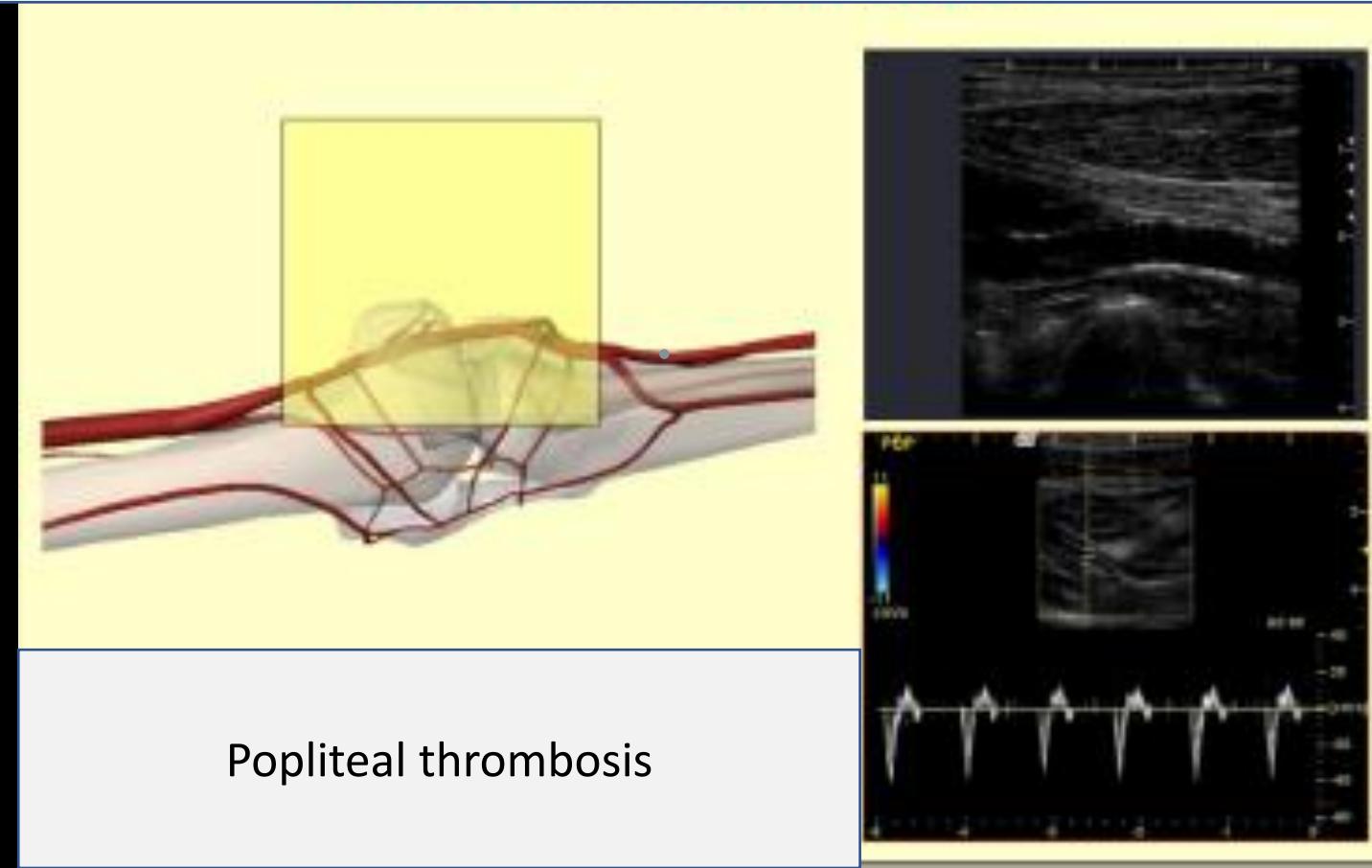
Arixtra 6 weeks  
+  
Contention level 2

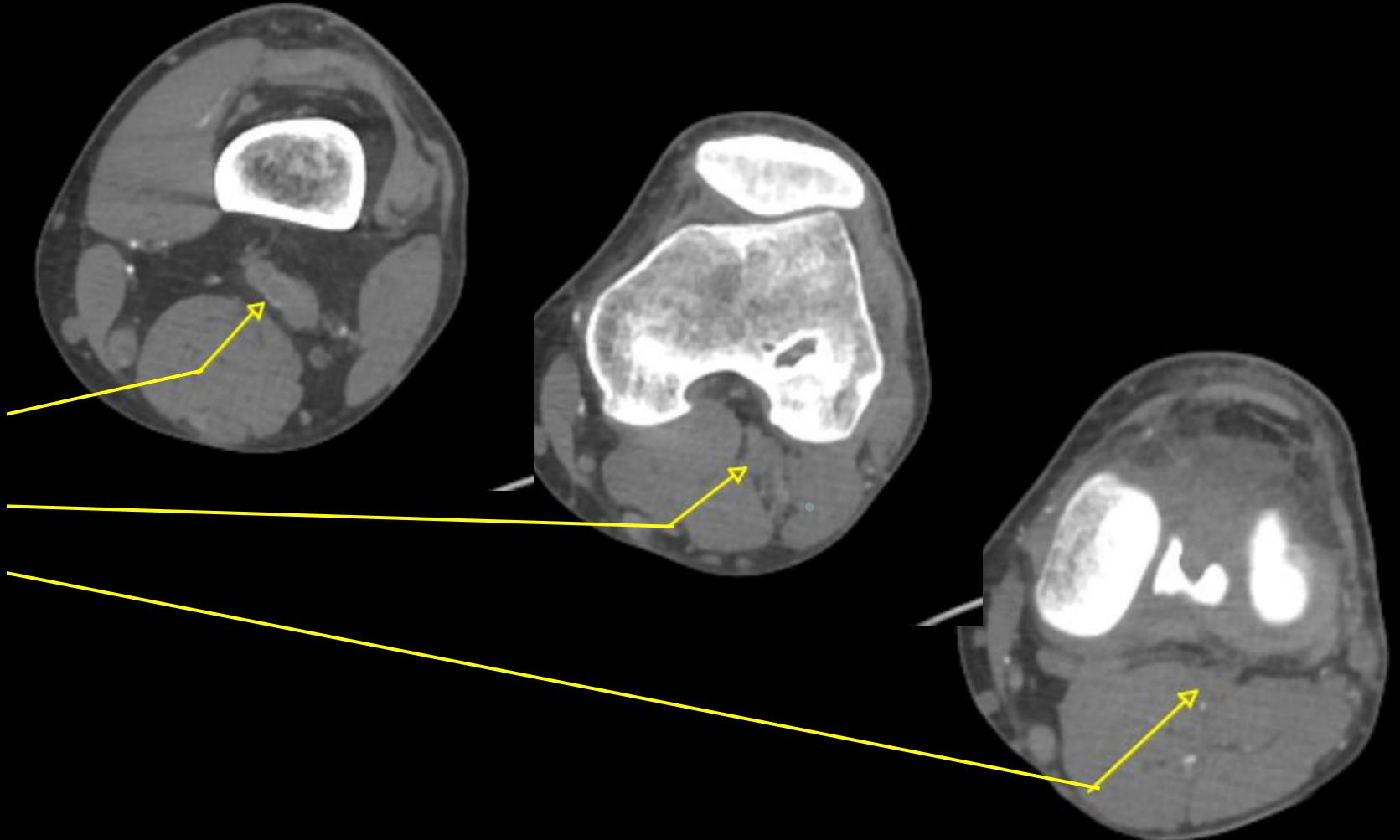


## M3: September, 2020 : Aggravation of pain in the left lower limb

Erythrocyanosis, lack of pulse in popliteal and pedal area

Absence of sensory-motor deficit, absence of contralateral anomaly





# Etiological evaluation

NFS 15,6 g/L, Plaquettes 227 giga/L  
Inflammatory syndrom : Ø

TP 100%, TCA 1,03  
Protéine C, protéine S, Homocystéine  
Facteur V Leiden negative  
Ac SAPL negative  
Ac circulant  
Mutation Facteur 2  
Ac anti-cardiolipines  
Ac  $\beta$ 2 GP1  
Protein electrophoresis, Calcemia  
LDL cholesterol 1,2 g/L

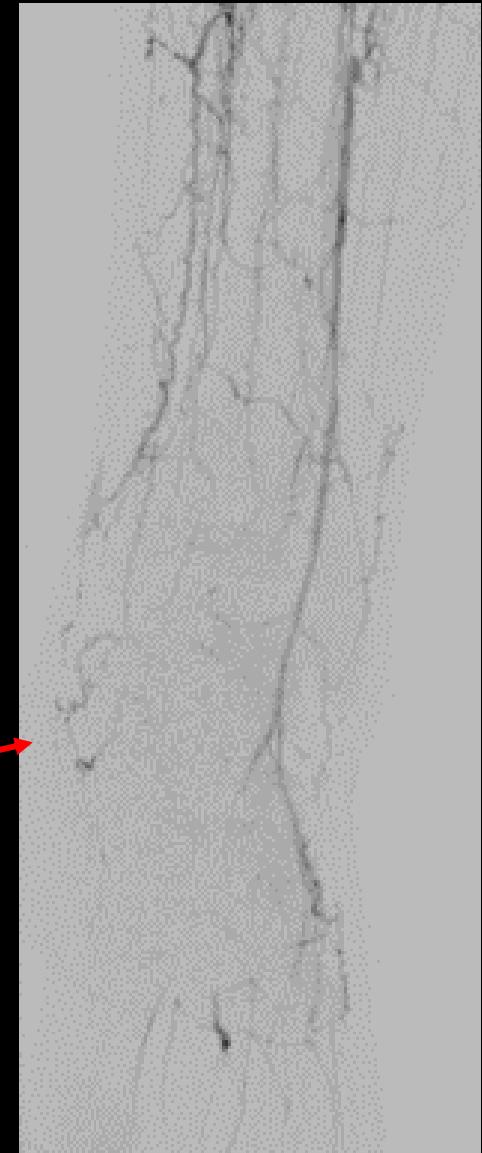
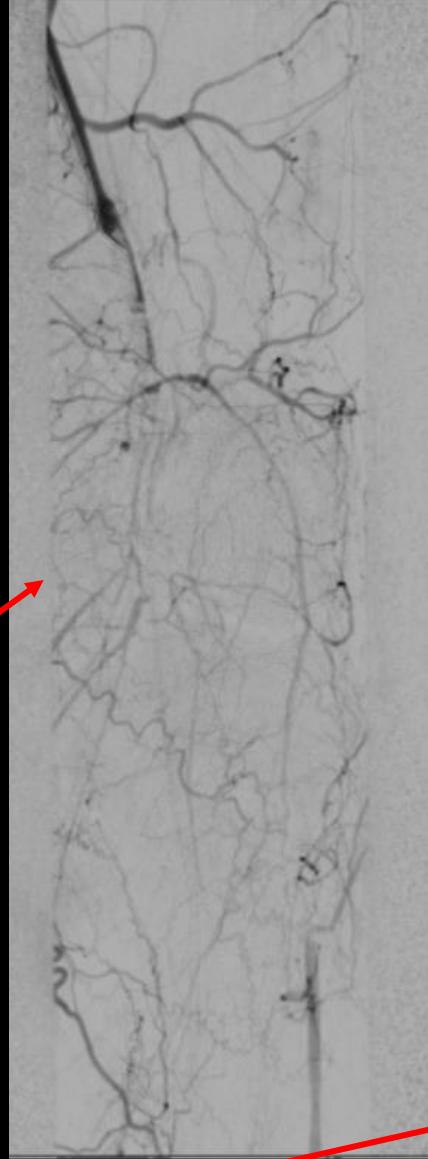
OK

Cardiac ultrasound

covid test

September 10, 2020:

## Selective arteriography (cross over)



## Popliteal recanalization

In situ  
fibrinolysis  
1500 UI/kg/h  
+  
HNF (objectif  
TCA 55-95)

Stop Fibrinolysis

Use the unfractionated  
heparin  
(HNF)  
&  
Aspirin

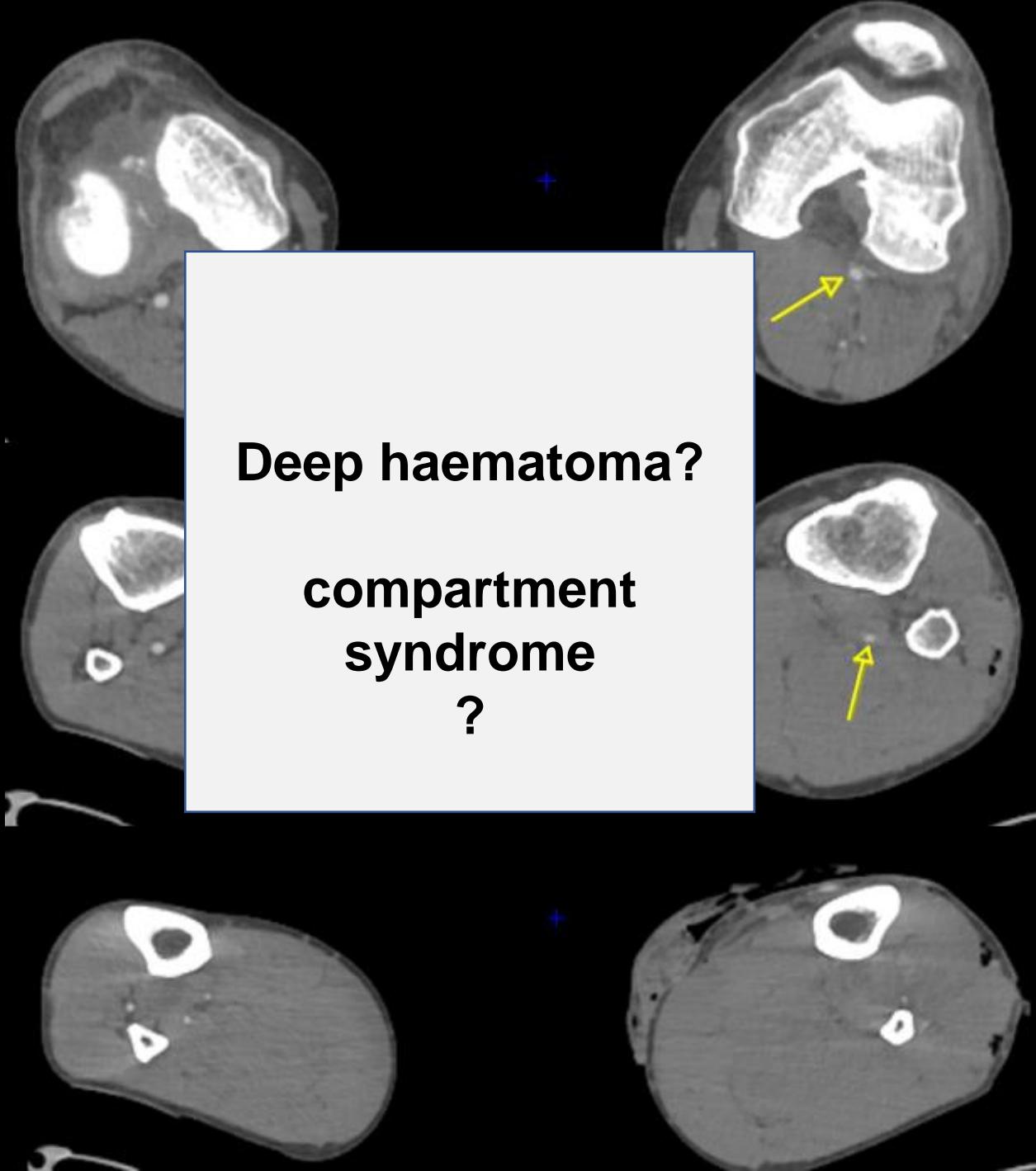
H 24

H48

Tension and pain in  
the left calf and  
paleness of the foot

Deep haematoma?

compartment  
syndrome  
?



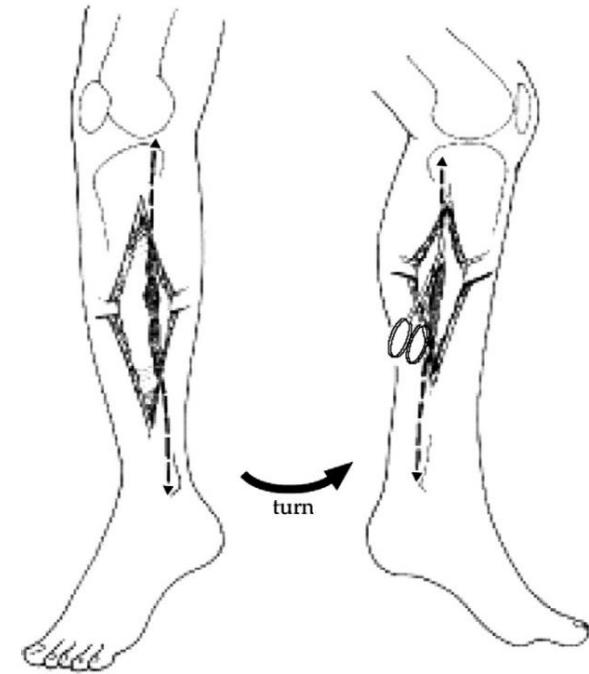
# Management of Compartment syndrom

H48

Continuous self-inflating device  
HNF/ decoagulation  
And infusion/ renal failure

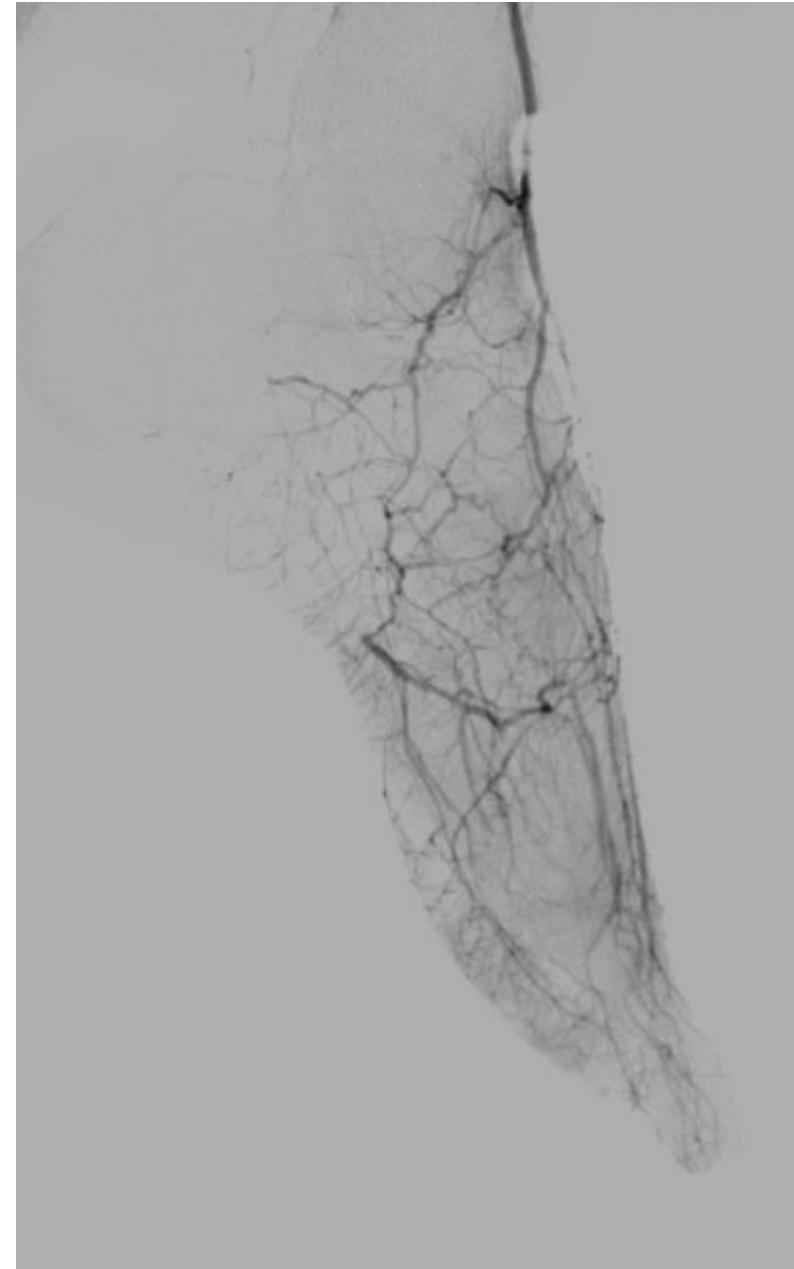
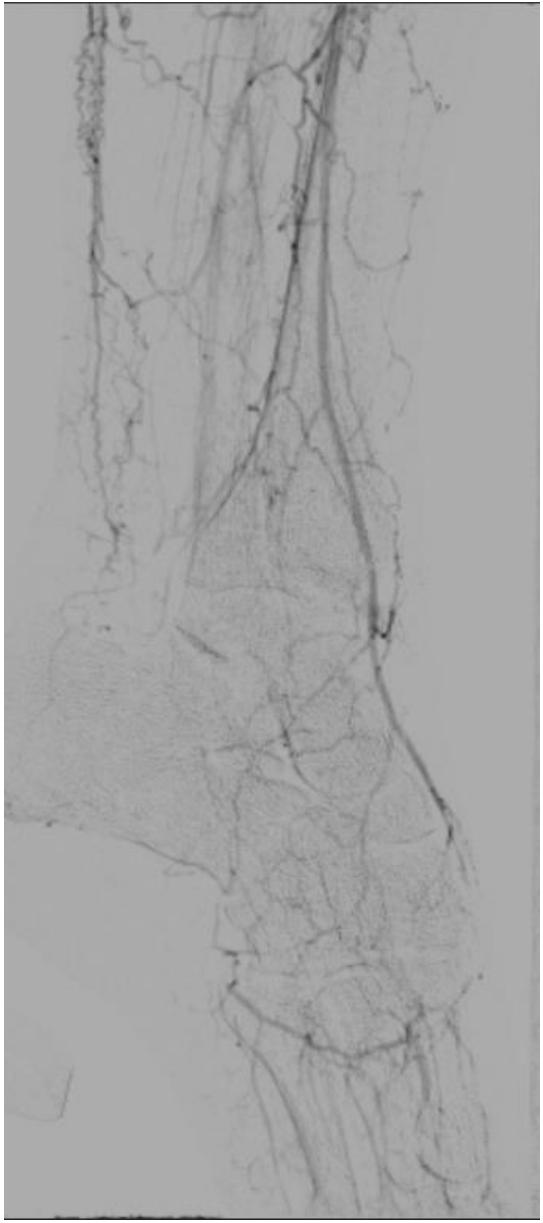


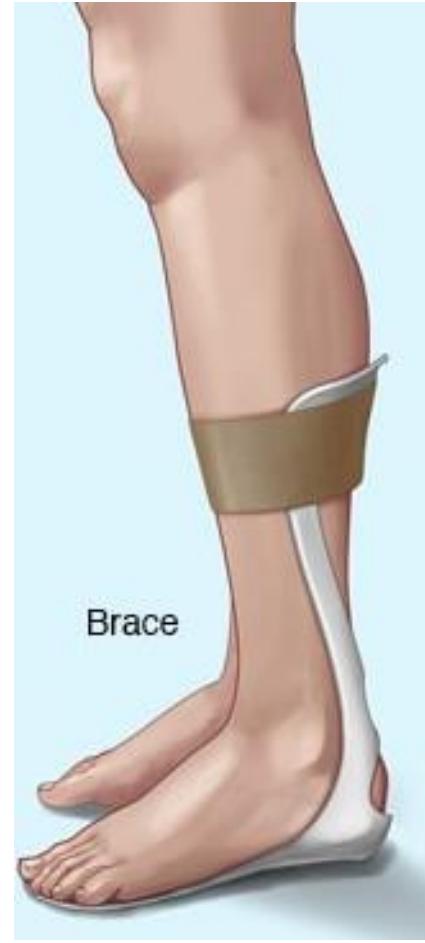
H51

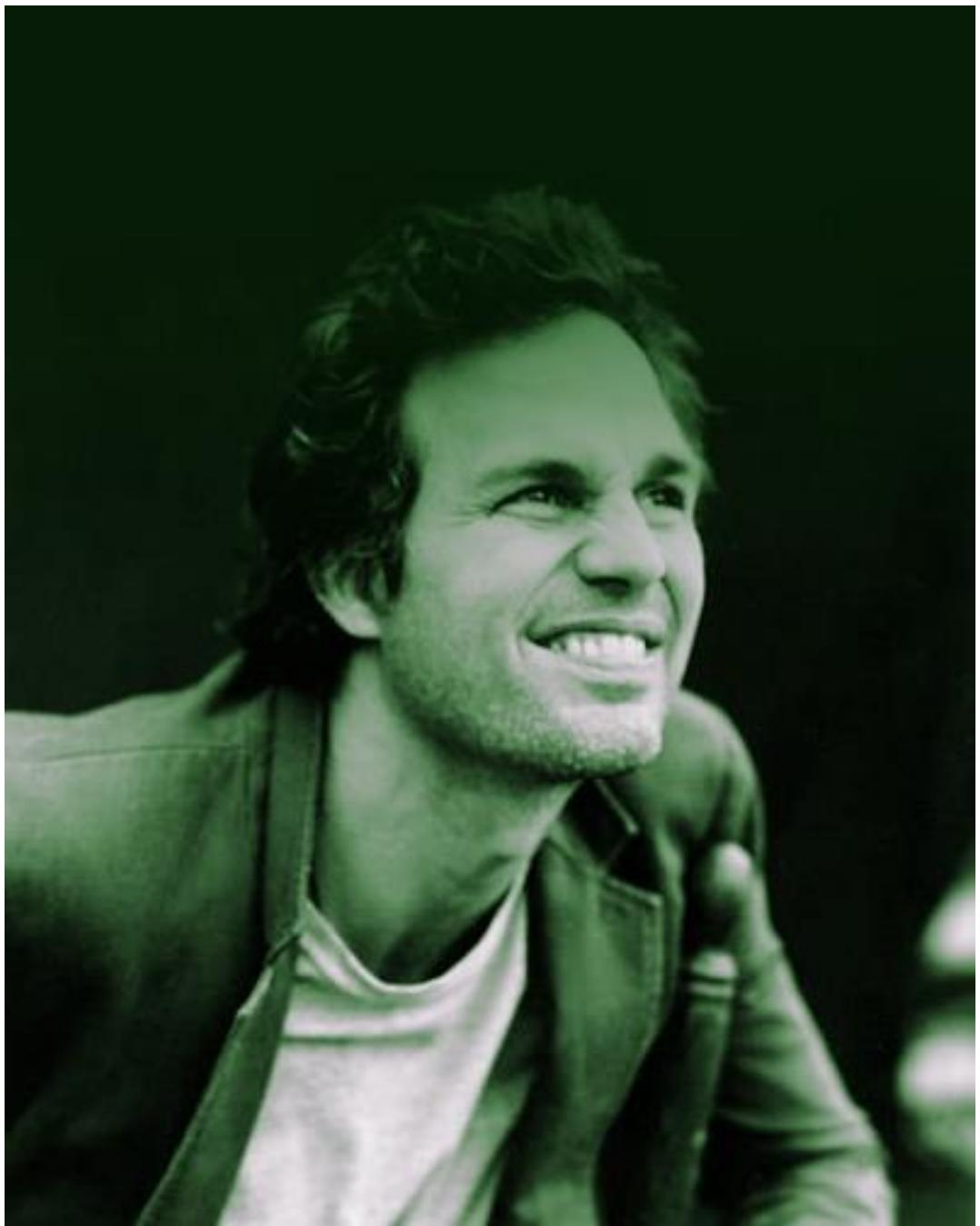


**FIGURE 4.** Fasciotomy incisions of the calf.





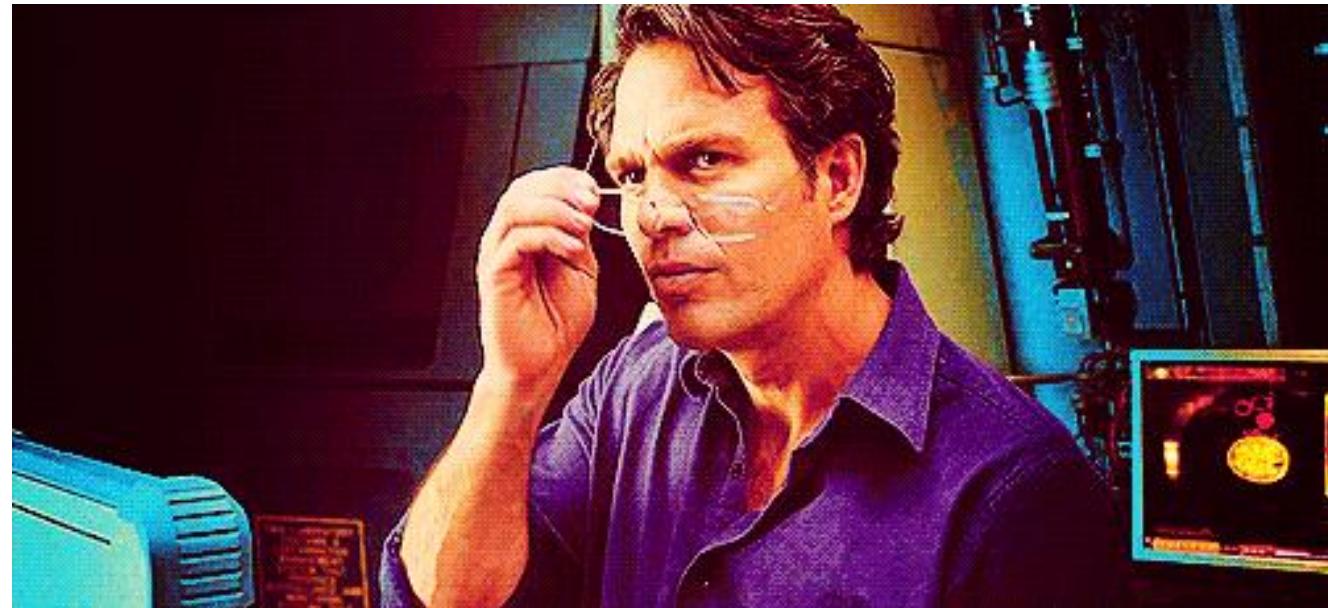




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# Compartment syndrome

- 2 % post acute revascularization
- 0,45 % post elective revascularization



Why him?

Why us?

# Compartment sd/ Risks factors

- Long sensitivomotor ischemia
- aneurysm with distal embolization
- Embolic or thrombotic etiology

- Popliteal and BTK location
- The anterior tibial compartment (significantly less flexible than the others) => more sensitive to reperfusion syndrome

(1) S Orrapin & al. Facteurs prédictifs du syndrome de loges dans l'ischémie aiguë non traumatique d'un membre inférieur *Ann Vasc Dis.* 2017 Dec 25; 10(4): 378–385

(2) Ross Kessler & al. Compartment Syndrome Following External Iliac Artery Stenting and Lower Extremity Thrombolysis. *Semin Intervent Radiol.* 2009 Jun; 26(2): 159–163

(3) Mattew Reuss & al. Compartment Syndrome Complicating Lower Extremity Thrombolysis. *J Vasc and Int Radiol* 1999, 10(8), 1075–1082. doi:10.1016/S1051-0443(99)70195-8

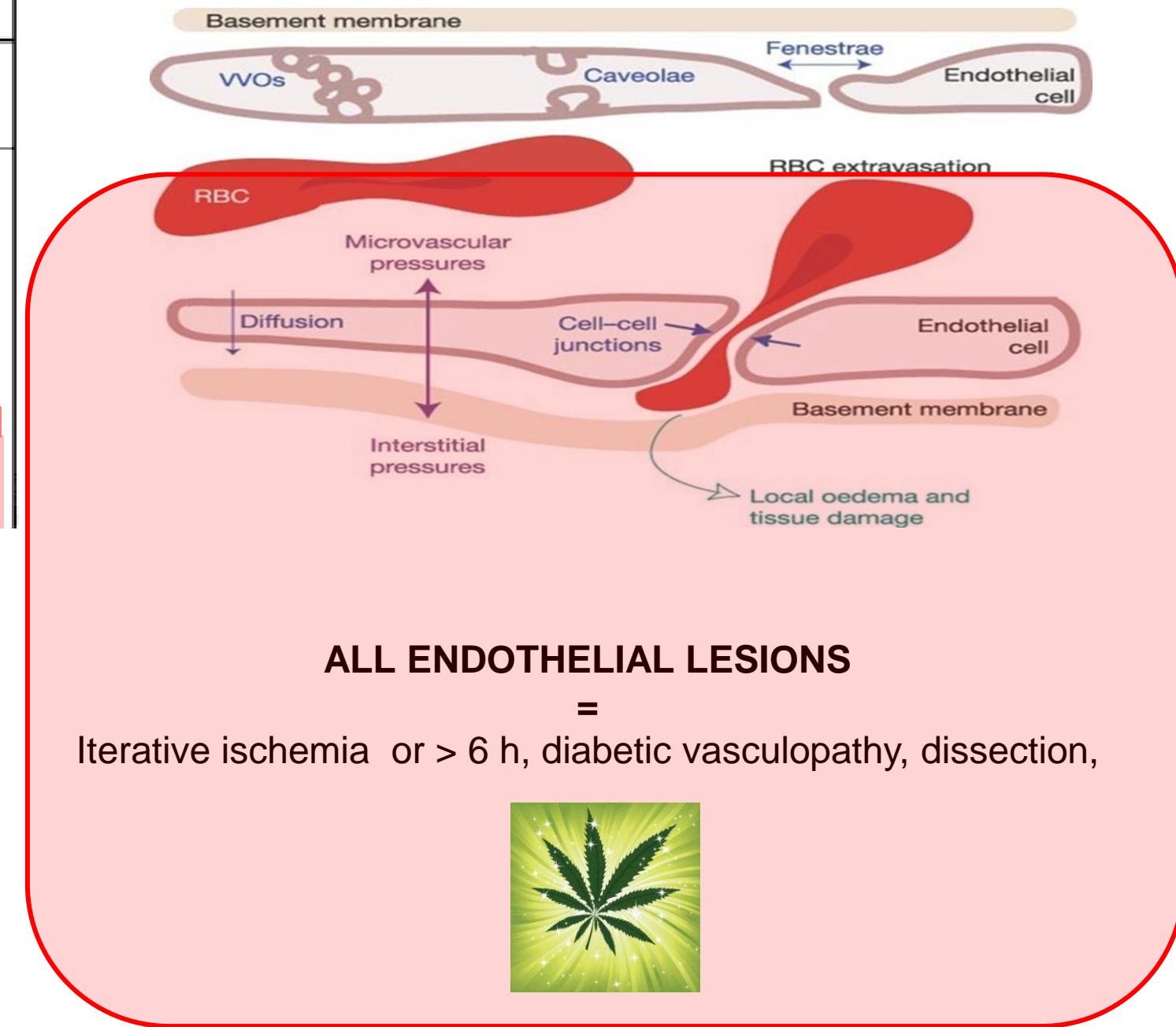
# Post-operative signs

- Signs of ischemia during the early stages of thrombolysis “the storm before the calm”
- **2 hours to 3 days post thrombolysis**
- **Inexplained pain**
- **Pain on passive motion of above muscles**  
**“Foot drop”**



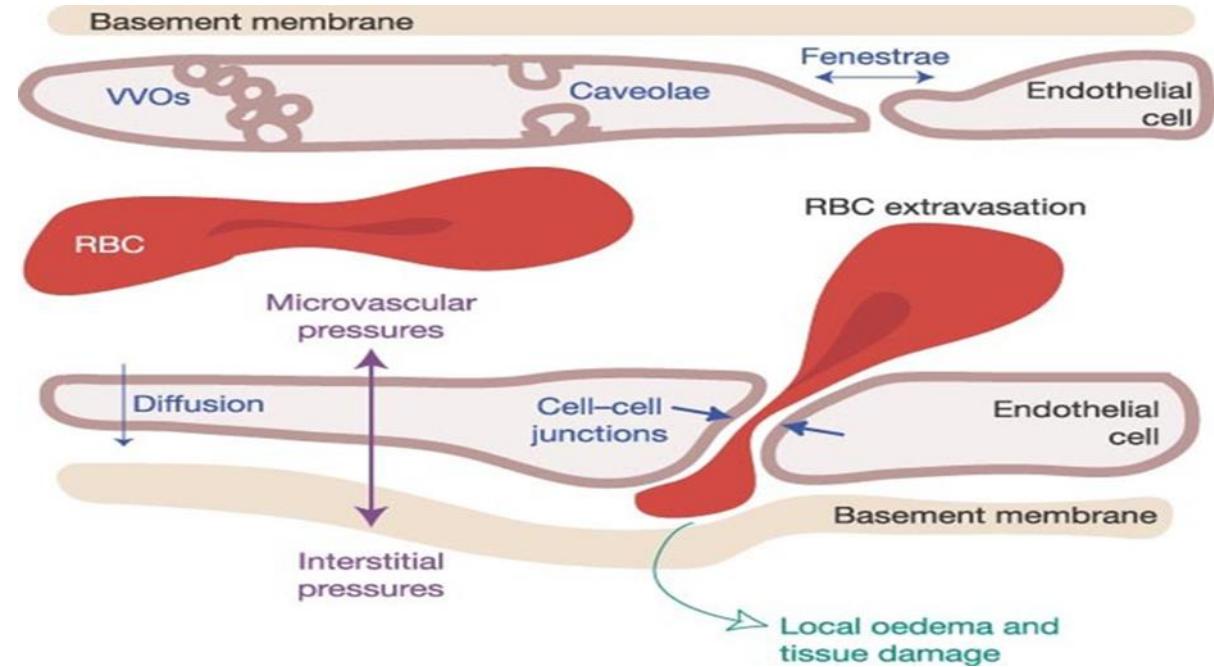
## Causes of Compartment Syndrome in the Leg\*

Type of Compartment Syndrome	Causes
Decreased compartmental volume	Closure of fascial defects Application of excessive traction to fractured limbs
Increased compartmental content	Bleeding Major vascular injury Coagulation defect Increased capillary filtration <b>Increased capillary permeability</b> Reperfusion after ischemia Arterial bypass grafting Embolectomy



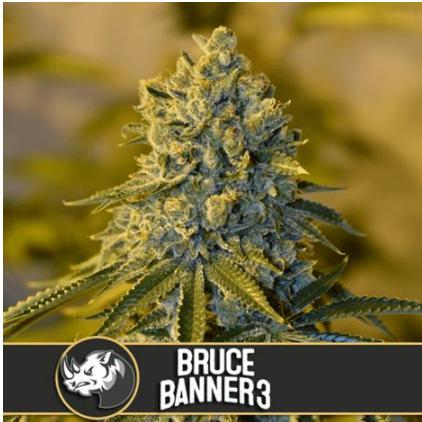
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Increased compartmental content	Bleeding Major vascular injury Coagulation defect Increased capillary filtration Increased capillary permeability Reperfusion after ischemia Arterial bypass grafting Embolectomy Trauma Intensive use of muscles Burns Intra-arterial drug injection Cold Orthopedic surgery Snakebite Increased capillary pressure Intensive use of muscles Venous obstruction Diminished serum osmolarity Other Infiltrated infusion Pressure transfusion Popliteal cyst
Externally applied pressure	Tight casts, dressings Lying on limb

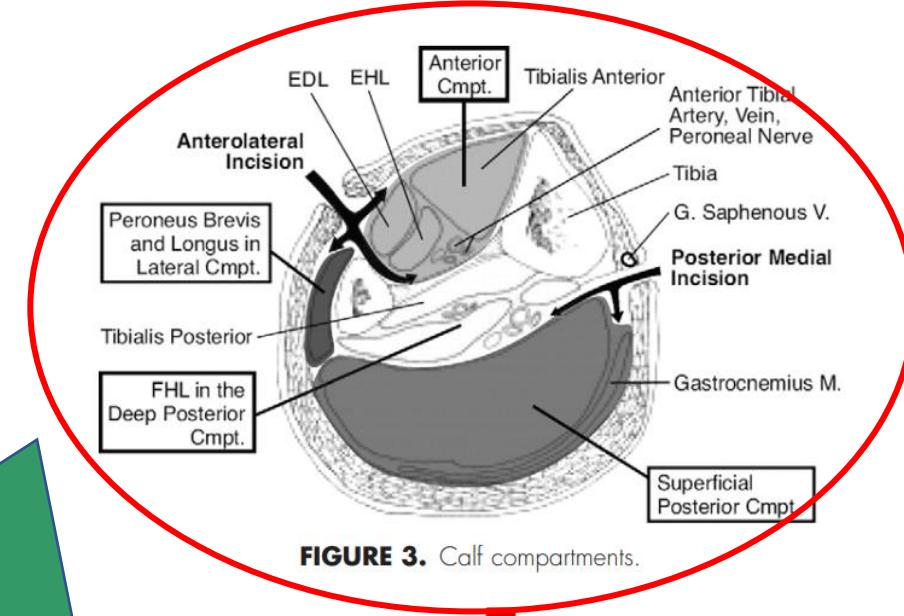


\* Data from Matsen & Reuss

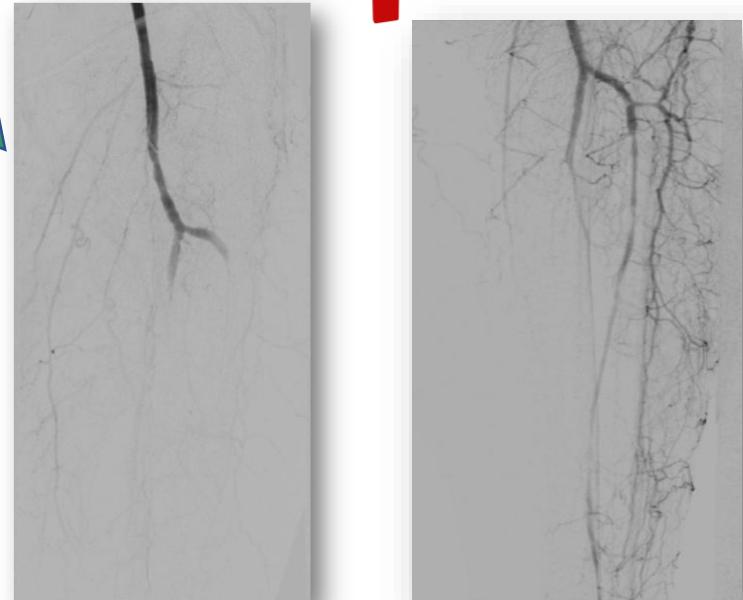
# Conclusions



Thrombolysis + Anticoagulation?



**FIGURE 3.** Calf compartments.





SURTOUT LE WEEK END A L HEURE DE LA SIESTE.....