

# ILIOTIBIAL BAND ELASTICITY EVALUATED WITH SHEAR WAVE ELASTOGRAPHY AFTER OSTEOPATHIC RECOIL TECHNIQUE ON THE FIBULA

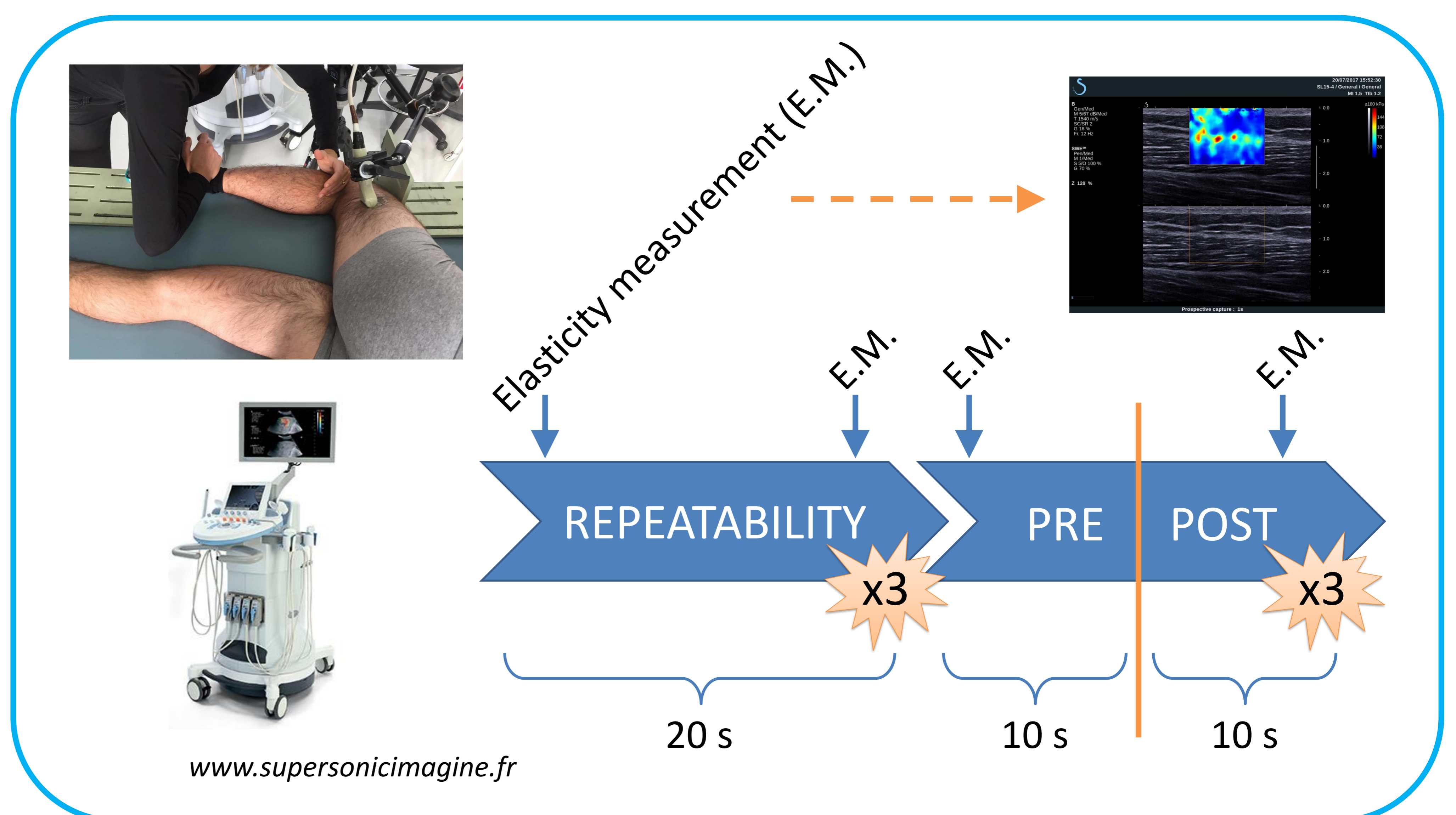
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## Context and objective

- Development of experimental protocols to improve the understanding of osteopathic techniques: **elastography**
  - Visualization of changes in deep fascia elasticity after manual technique [1] → qualitative results
  - Effect of hip position on iliotibial band (ITB) elasticity [2,3]
- Preliminary study to verify the hypothesis about **recoil technique** transmitting an oscillation to fascia [4]
- Obtain **quantitative** results of local elasticity of ITB after **osteopathic recoil technique** using **elastography**

## Materials and methods

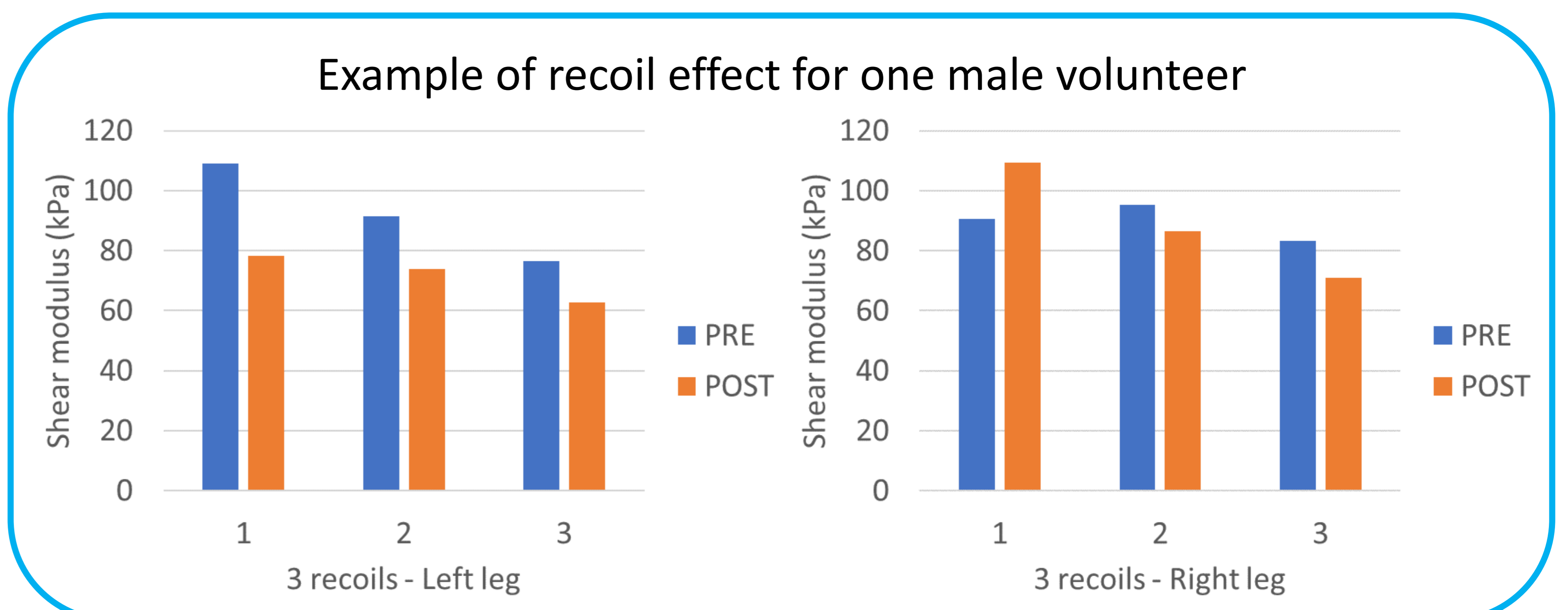
- 5 persons (26 years-old):
  - 3 males; 2 females
- At rest
- Lateral decubitus
- Hip, knee, ankle flexed at 90°
- Repeatability study**
- Pre-post recoil**



## Results and discussion

- Significance level for analyzing elasticity measurements: variation of 11.5%
- Repeatability: mean variation of 5% ±4.3%
- Effect of recoil:

- Shear modulus:**  
Variation between 11.5% and 52.4% pre-post each recoil
- 2<sup>nd</sup> and 3<sup>rd</sup> recoil smaller effect
- Cumulative effect of recoils** over time may impact significantly ITB elasticity



- 26% decrease in shear modulus for 6 ITBs out of 10, before the first and after the last recoil
- 54% increase in shear modulus for 3 ITBs
- Non significant variation for one ITB

**Further investigations required to confirm these observations and explore the clinical benefits of these elasticity changes after osteopathic manipulation**

## References

- [1] Luomala T, et al. *Journal of Bodywork & Movement Therapies*, 18:462-468, 2014  
 [2] Umehara J, et al. *Clinical Biomechanics*, 30:1056–1059, 2015.  
 [3] Tateuchi H, et al. *Gait and Posture*, 41(2):522-528, 2015.  
 [4] Delval S and Cimala, F. *4th international fascia congress*, Washington, DC, 2015.