



Electrophysiological investigations of an osteopathic technique on the autonomous nervous system: a randomized control trial

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Autonomous Nervous System (ANS)

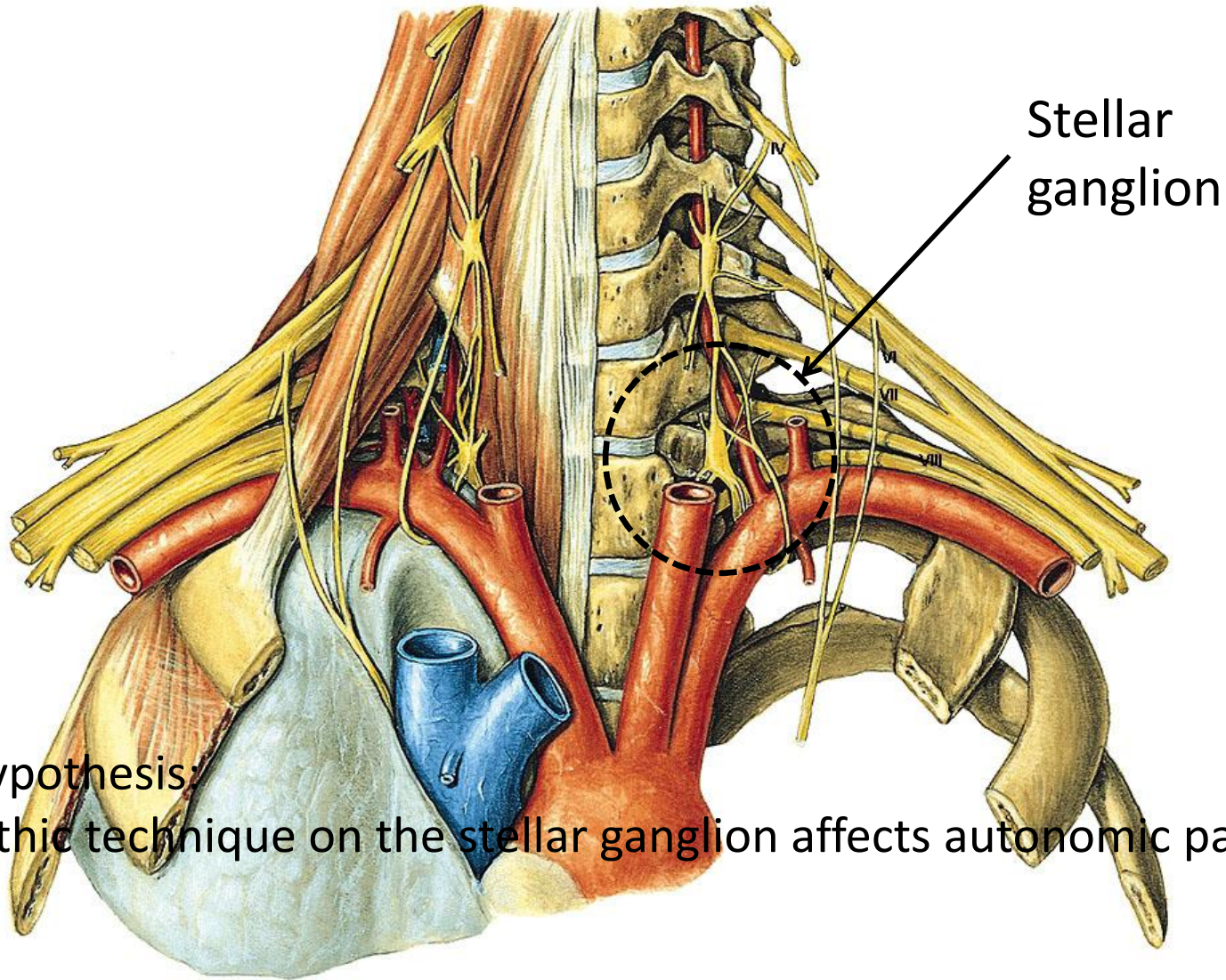


Visceral component:

Heart Rate Variability (HRV)

Somatic component:

Sympathetic Skin Response (SSR)



Stellar
ganglion

Research hypothesis:
An osteopathic technique on the stellar ganglion affects autonomic parameters

Myofascial release technique



Protocol

84 subjects
Mean age: 22±2, 31 Males/53 Females

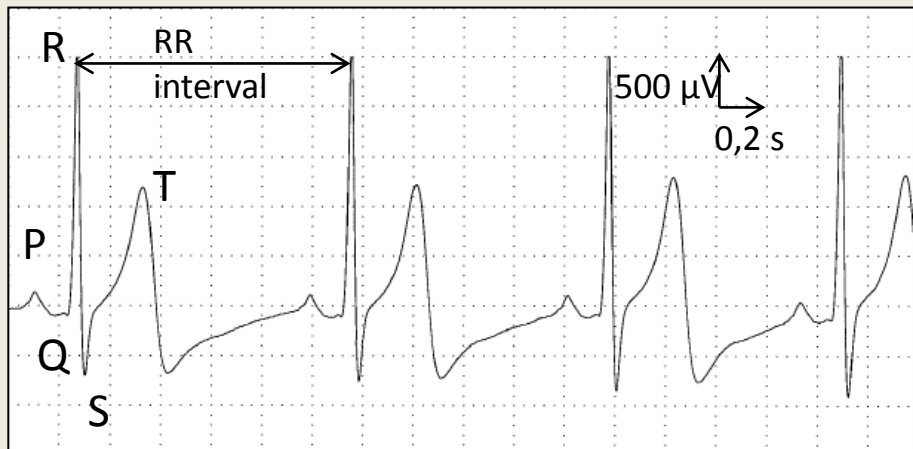
First recording
(HRV and SSR)

Control

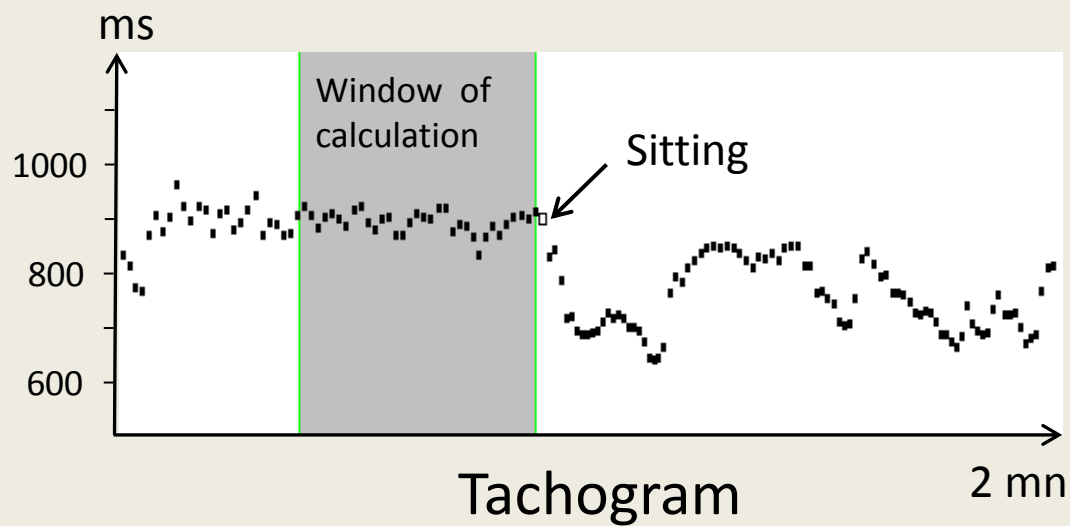
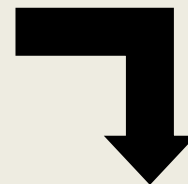
Sham

MRT

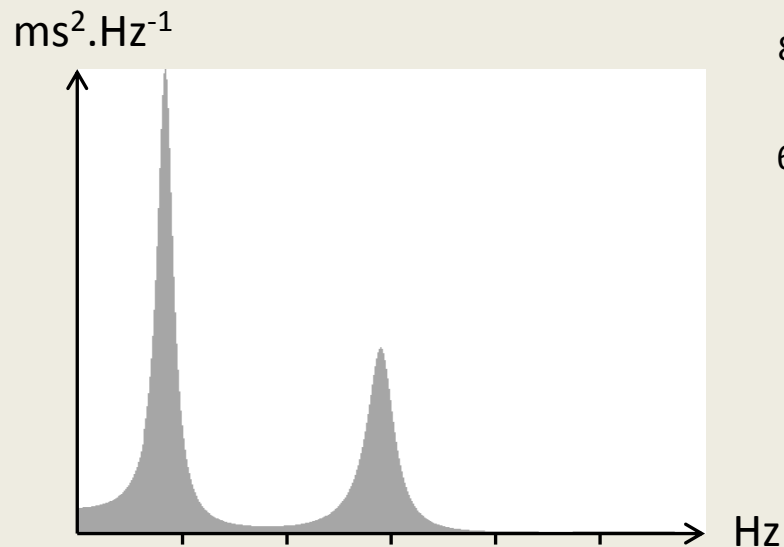
Second recording



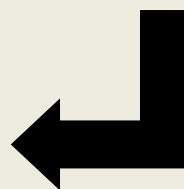
Electrocardiogram



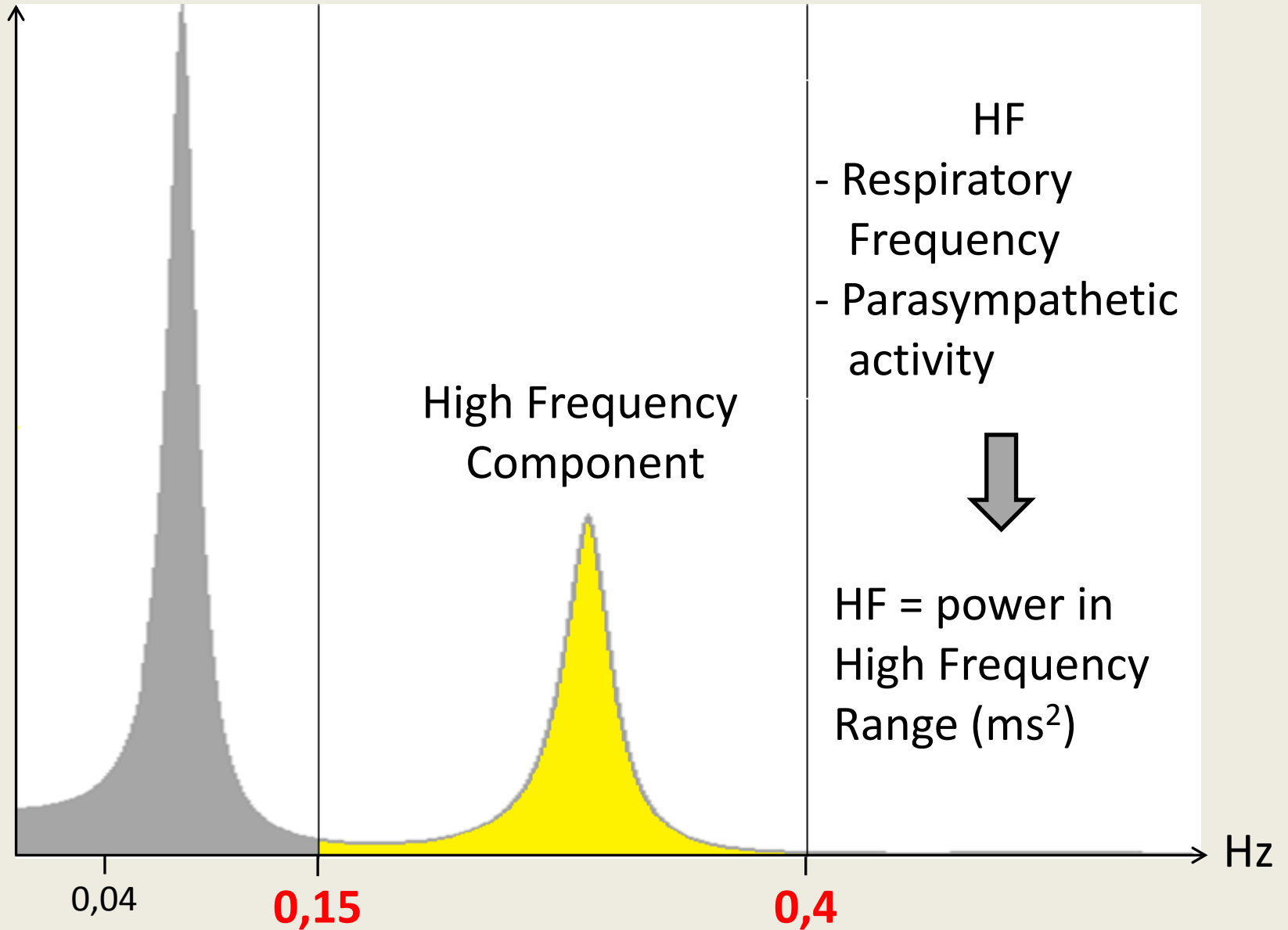
Tachogram



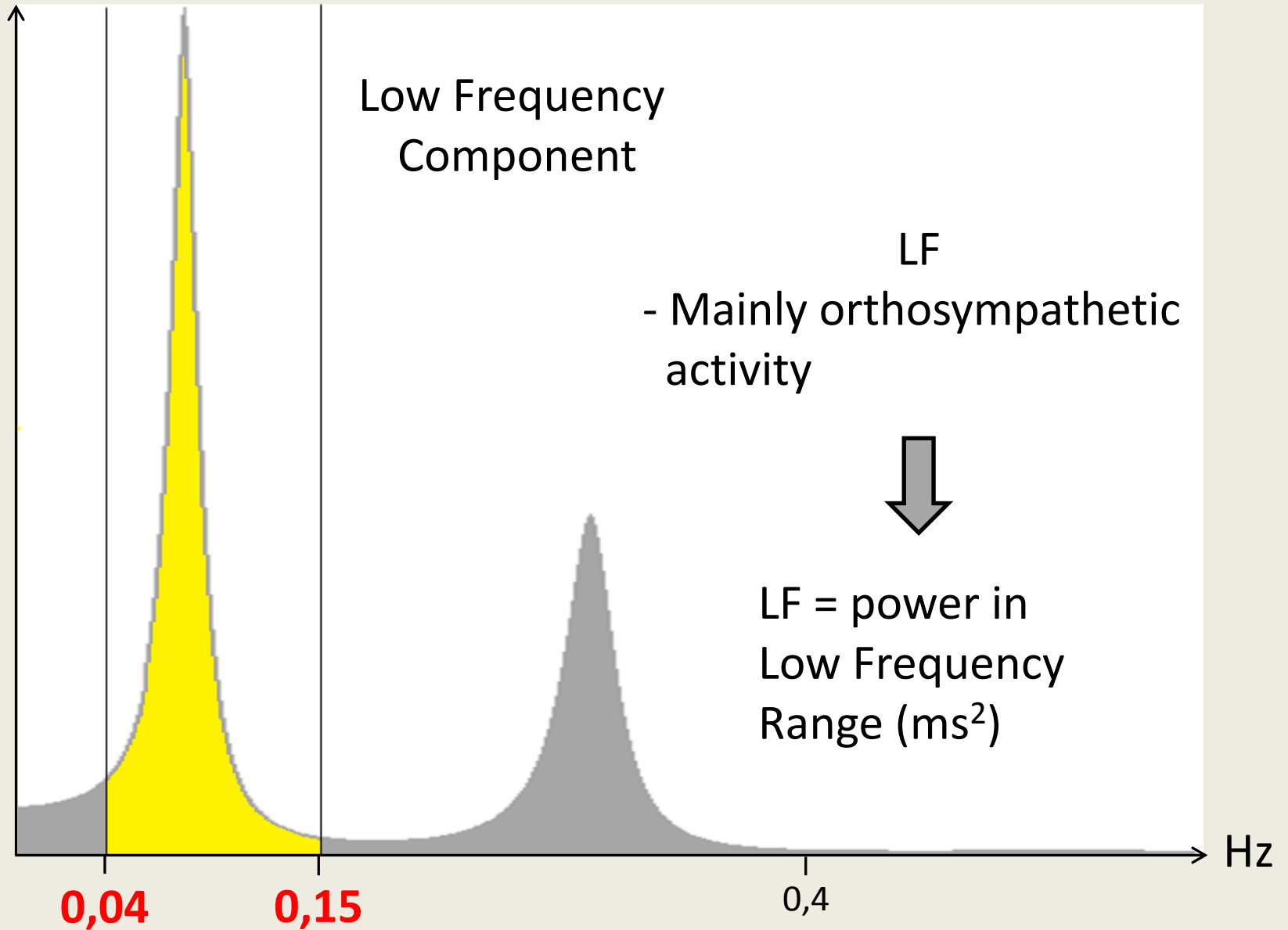
Power spectrum



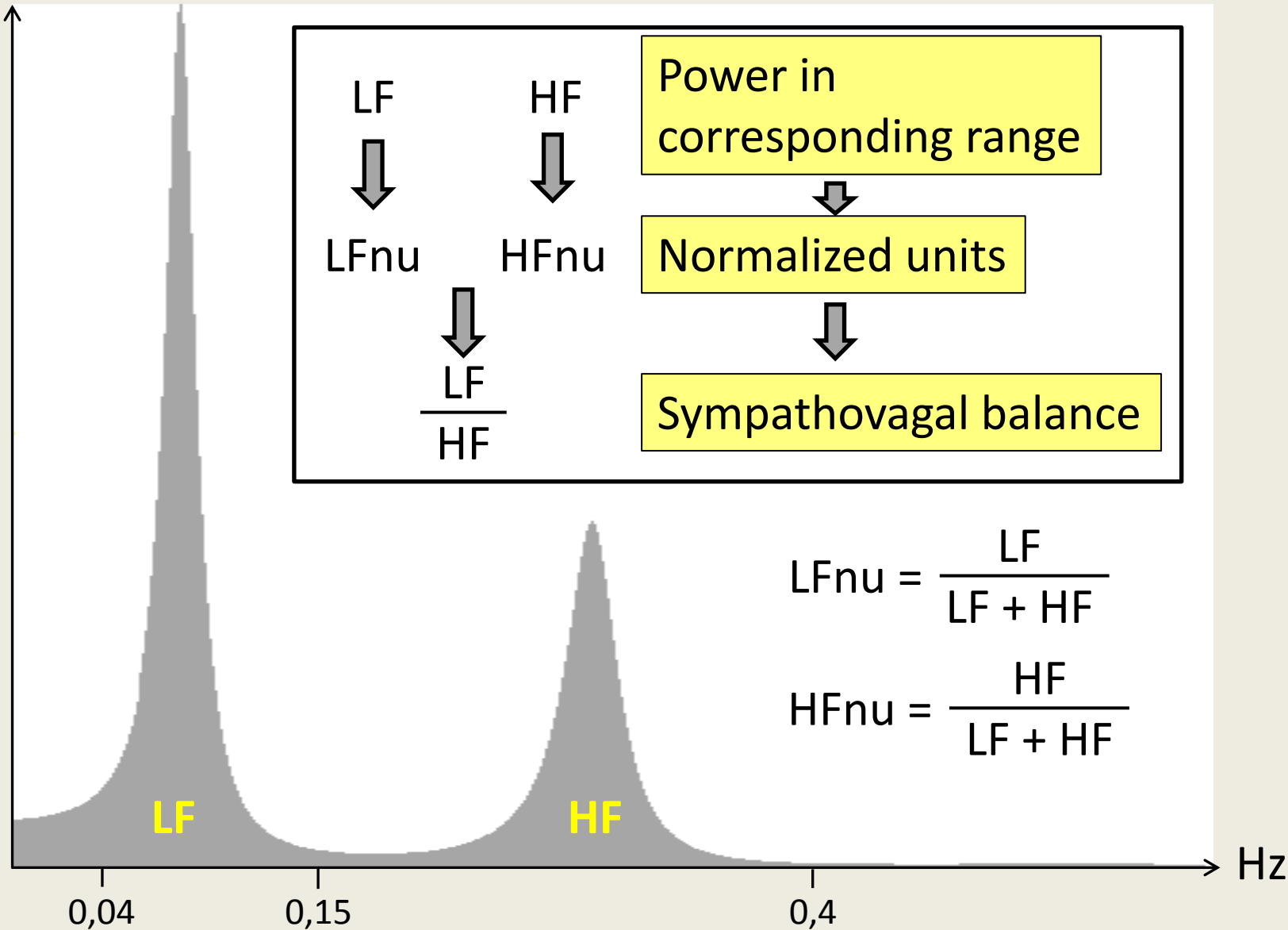
$\text{ms}^2 \cdot \text{Hz}^{-1}$



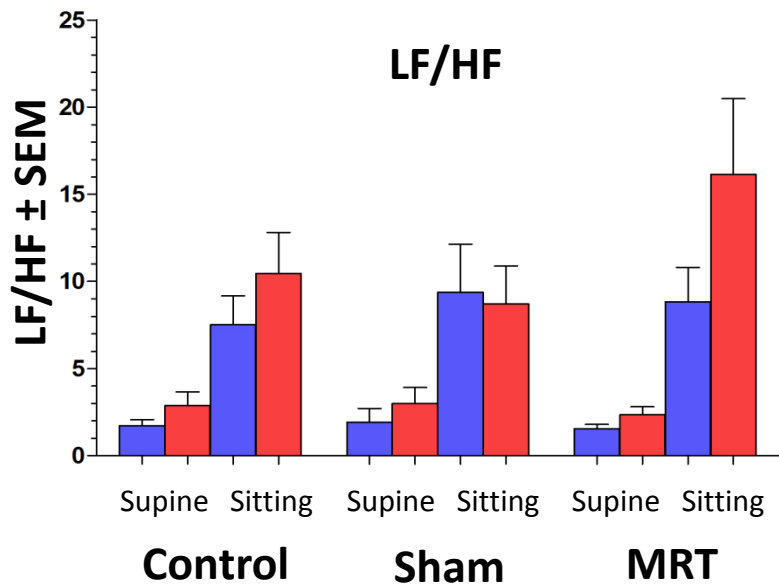
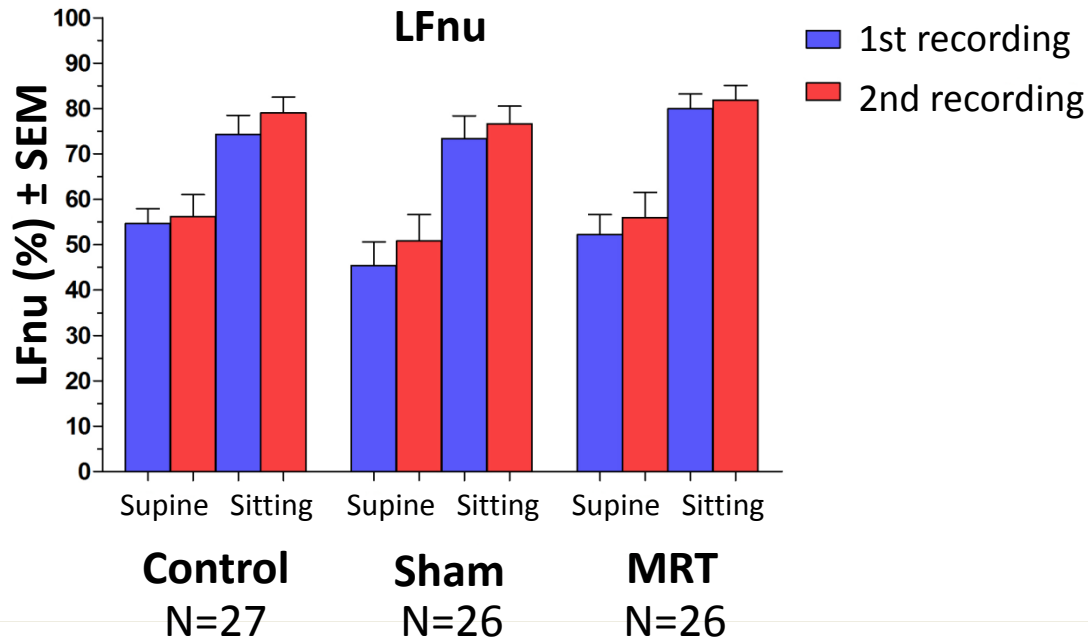
$\text{ms}^2 \cdot \text{Hz}^{-1}$



ms².Hz⁻¹



HRV Results



No significant difference after the MRT in supine or sitting conditions, compared to Control and Sham groups

2

Message integration
in the reticular
formation

3

Trigger of sympathetic response

4

Synapse in the stellar ganglion

1

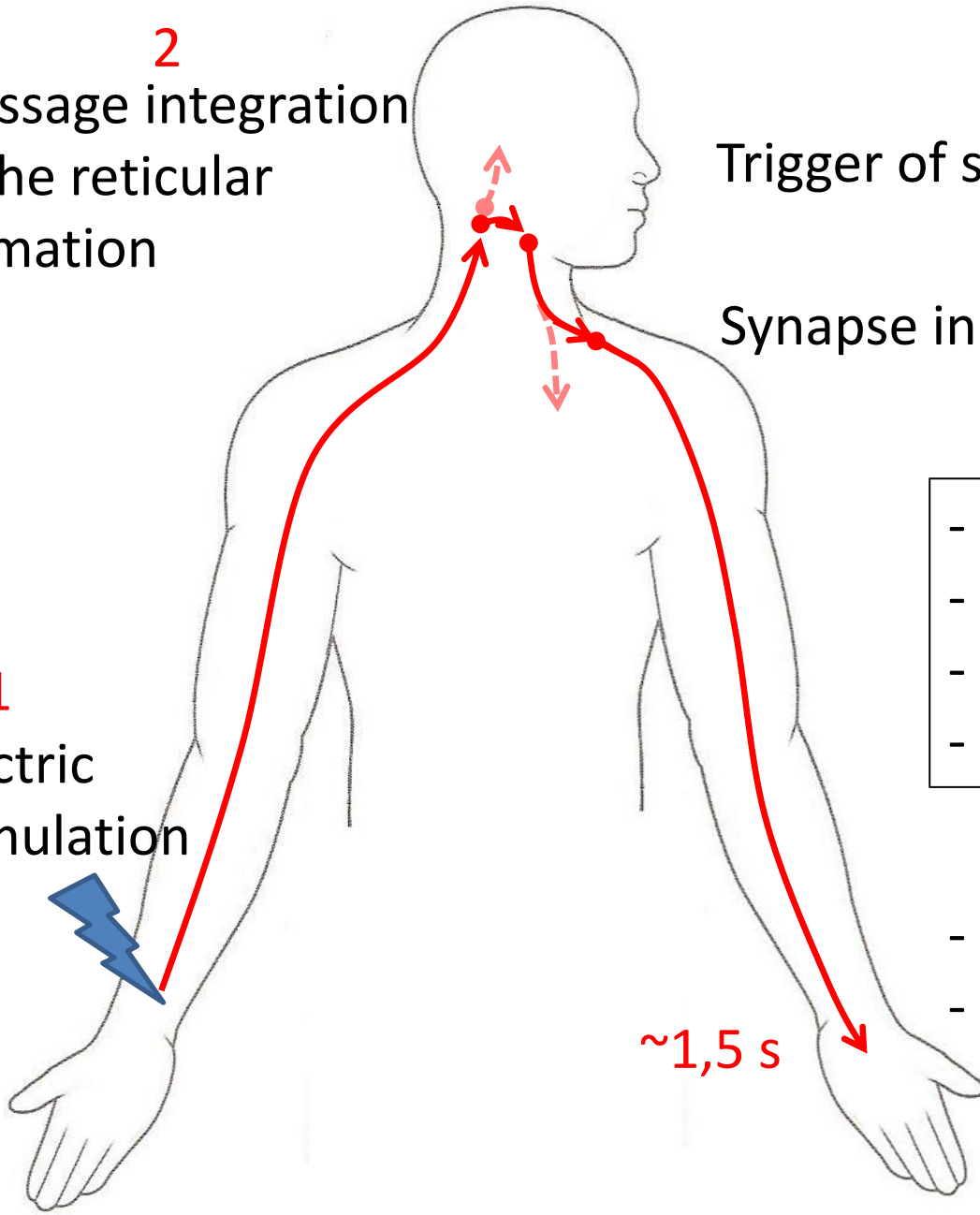
Electric
stimulation

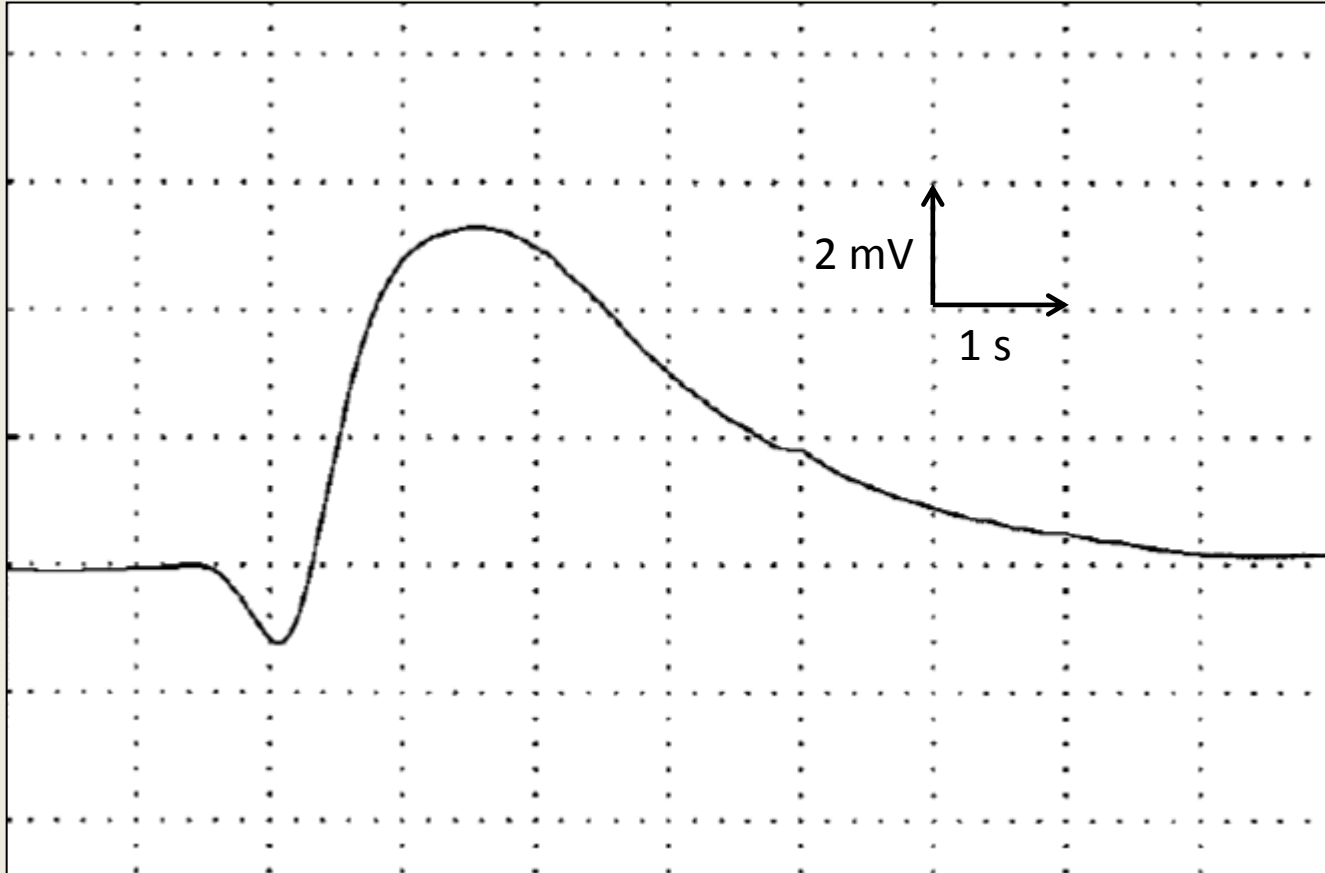
- Room temperature : 25°C
- Subject calm but vigilant
- Eyes closed
- Mute environment

5

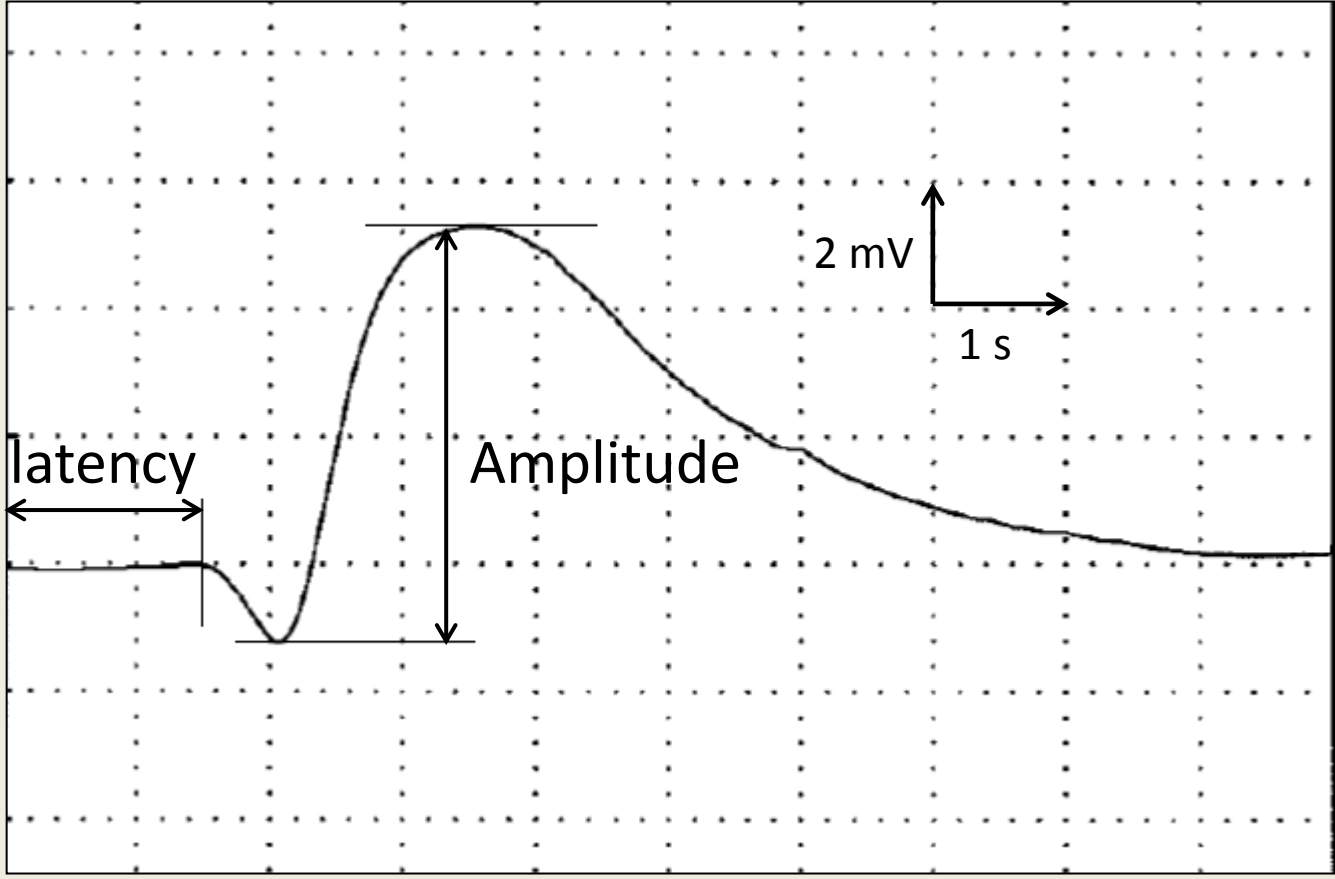
- Increase in sudoral activity
- Increase in skin conductance

~1,5 s



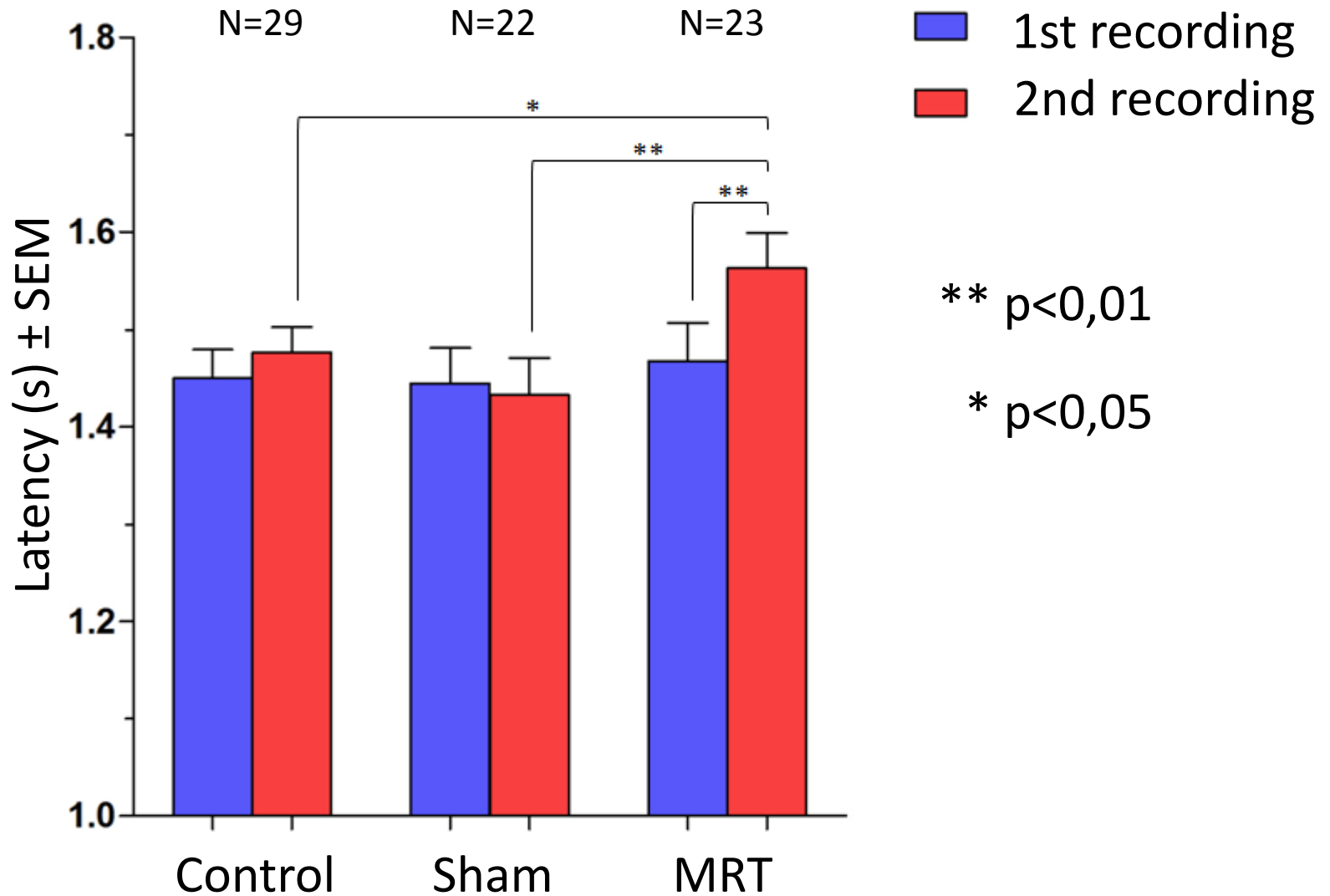


Sympathetic skin response



Sympathetic skin response

SSR Results





Conclusion

The myofascial release technique on the stellar ganglion induces a decrease in SSR latency.

This is coherent with an inhibiting effect of the MRT.

Research hypothesis was confirmed.

Mechanisms of this effect remain to be explored.



Thank you for your attention