Entropy as a new measure of mechanical pain sensitivity in the masseter muscle

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BACKGROUND

Pain Assessment

Manual palpation psychophysical technique evaluate mechanical pain sensitivity (DC/TMD)

ENTROPY

Rudolf Clausius 1862
“order” - “disorder” Ludwig Eduard Boltzmann 1864

Example Mechanical sensitization healthy volunteer (0-100 NRS)

MATERIALS AND METHODS

10 WOMEN 10 MEN

3 sessions randomized

15 sites demonstrated significant effects of session, time and force (P<0.02).

CONCLUSION

We propose that entropy could be a new important measure of mechanical pain sensitivity that captures new aspects of spatial characteristics and could therefore complement more classical assessments of TMD pain patients.

RESULTS

VAS peak pain intensity was 8.2±1.5 for the glutamate and 2.5±3.1 for isotonic saline

ANOVA from the entropy of the averaged NRS scores of the

Post-hoc tests also revealed that the entropy values after injection of glutamate was significantly higher when assessed with 0.5 and 1 kg compared against lidocaine and placebo injections (P<0.01).

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Test whether experimental manipulation of mechanical pain sensitivity in the masseter muscle pain would influence measures of spatial characteristics (i.e., entropy).