

## **Effect of Masseter Muscle Pain on Human Biting Behavior**

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### **Introduction**

Chronic pain in the orofacial region has a prevalence of 7-11%. Pain seems to affect jaw motor control hence the temporomandibular disorders are often accompanied by pain upon chewing and restricted mouth opening. However, the precise relationship between pain and jaw function is unknown.

### **Aim**

To investigate the effect of chronic and acute muscle pain on oral motor control during biting in humans.

### **Materials and Methods**

18 patients with chronic masseter muscle pain and 18 healthy participants completed the experiment. All participants answered questionnaires and were examined according to the Diagnostic Criteria for Temporomandibular Disorders. The acute pain was induced by hypertonic saline infused into the healthy masseter muscles. The standardized hold and split biting task was used to assess fine biting forces.

### **Results**

No significant differences regarding hold forces, split forces and durations were observed within or between the pain and the healthy conditions.

### **Conclusion**

Jaw muscle pain did not alter the sensory regulation and fine motor control of the jaw muscle spindles. Since the healthy periodontal mechanoreceptors are innervated by fibers terminating in subnucleus interpolaris, they are faster and probably not affected by noxious stimuli from trigeminal facial areas that terminate more caudally located in subnucleus caudalis.