

PALPATION OF THE MASTICATORY MUSCLES

PALPATION IS THE EXAMINATION OF THE SOFT TISSUES USING THE SENSE OF TOUCH.

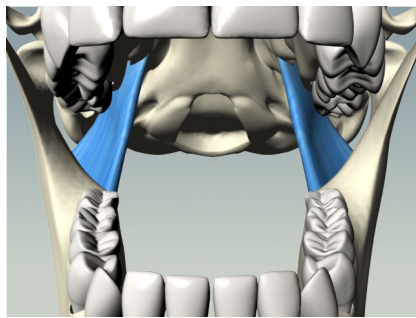
Palpation of the masticatory muscles will reveal tension or tenderness which can be related to hyperactivity of the muscle as a result of overworking it in an uncoordinated manner.

When you begin palpation, explain to the patient that you will be applying a light pressure to the muscle just as you would apply light pressure to their forearm. Demonstrate the amount of pressure you will be using on the patient's forearm and establish a "no pain" point of reference. Tell the patient that he or she will need to let you know if there is any tenderness or pain greater than the "no pain" point of reference, and if it is mild, moderate, or severe. Be alert to wincing and body language as some patients have a higher tolerance for discomfort than others.

To palpate means to press lightly on the muscle. In a continuous movement, slide your finger(s) along the length and width of the muscle while asking the patient if he or she feels any tension or tenderness as you apply pressure. You are also trying to feel for any abnormality, contraction, or enlargement of the muscle.

MEDIAL (INTERNAL) PTERYGOID MUSCLE

The medial pterygoid muscle is a thick quadrilateral muscle which can be accessed from inside the mouth behind the third molars. Ask the patient to open about 10-15mm from intercuspal contact. Slide your forefinger posteriorly along the buccal surface. Palpate the muscle by pressing medially as well as posteriorly-superiorly. Ask if the patient feels any tension or tenderness.



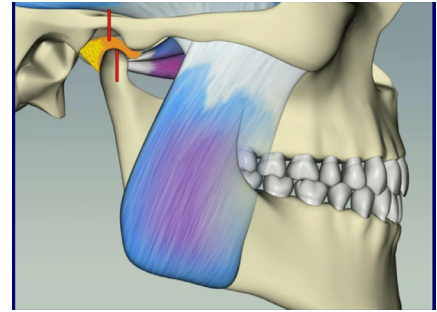
Palpation of the medial pterygoid muscle has the greatest clinical significance for occluso-muscle imbalance. It is easy to palpate, and it has a direct correlation with the direction of displacement of the same side condyle. The medial pterygoid is a dependable diagnostic landmark in that it is almost always tender to palpation if the same side condyle must displace to achieve maximum intercuspation of the teeth.

A muscle is overworked when it is required to constantly hold the jaw in an avoidance pattern during closure to maximum intercuspation.

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SUPERFICIAL MASSETER MUSCLE

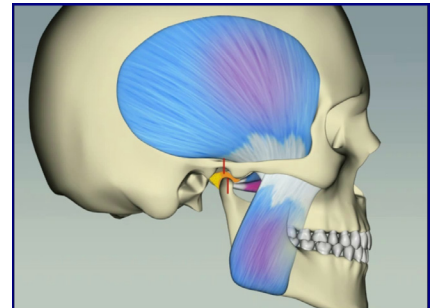
The superficial masseter muscle extends from below the cheekbone down to the jaw directly over the molar region. If you ask the patient to clench and hold, you will be able to locate this muscle easily. The muscle can be palpated with the patient clenching or relaxed. Palpate along the entire muscle length and width while asking the patient if there is any tension or tenderness. The muscle will feel swollen or enlarged in a heavy clencher/grinder.



Tenderness to palpation almost always indicates some degree of occlusal interference that requires displacement of the same side condyle to achieve maximum intercuspation. Tenderness and restricted opening in the morning are almost certain indications of nighttime bruxing. Occlusal correction may or may not reduce the bruxing, but it almost always relieves the soreness in the muscle, and it most certainly reduces the damage strong bruxers inflict on the dentition.

TEMPORALIS MUSCLE

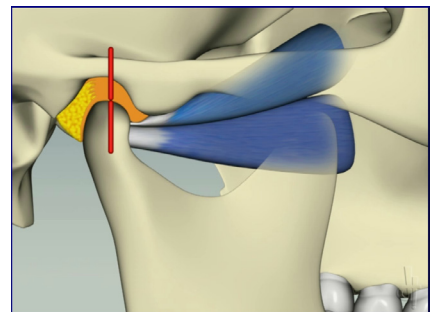
The temporalis is a broad, fan-shaped muscle situated at the side of the head. By asking the patient to clench/hold and repeat, you will be able to locate the temporalis and follow its shape or form up the side to the top of the head. Palpate along the entire length and width of the muscle while asking the patient if there is any tension or tenderness.



The temporalis muscle is the focus of many headaches that respond favorably to occlusal correction. This muscle is also in direct opposition to the lateral pterygoid. It also has some origination behind the lateral wall of the orbit of the eye, and can be a source of sharp pain behind the eye. Its aponeurosis extends as an innervated sheath to the top of the head, and when inflamed can make the scalp sore to touch. Temporal headaches and pain are some of the most common symptoms related to occluso-muscle imbalance.

LATERAL (EXTERNAL) PTERYGOID MUSCLE

The lateral pterygoid muscle originates from the lateral pterygoid plate. It is divided into two sections: the inferior lateral pterygoid and superior lateral pterygoid. The lateral pterygoid is a short thick muscle which functions to translate the mandible and is active on mouth opening and near final mouth closure.



While palpation of the lateral pterygoid muscle is not practical, it can be tested effectively to determine if it is a source of pain. Ask the patient to protrude the mandible slightly and at the same time, apply pressure on the jaw distally to provoke a muscle response. A sore muscle will respond to this test.



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References:
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Daskalogiannakis, J. *Glossary of Orthodontic Terms*, Quintessence Publishing Inc. 2000
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