

The Headache Series

by Dr. Martha Rich

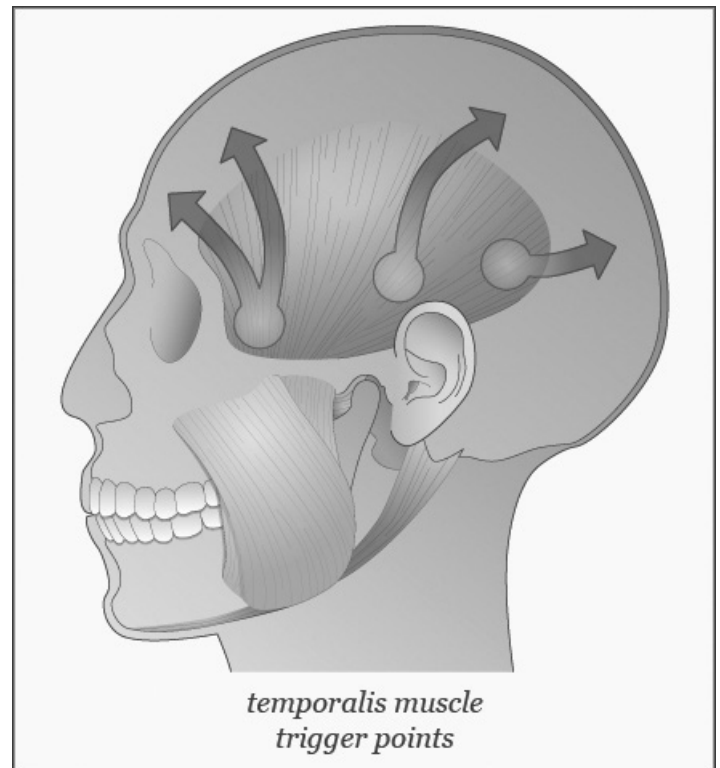
OVEREXERTION

Many people don't realize it, but the muscles that surround and support the jaw are some of the strongest muscles in the human body. It takes a great deal of biting force to chew food thoroughly. If you've ever tried to crush a nut between your thumb and forefinger, you can probably begin to understand just how incredibly strong those chewing muscles are. In fact, an adult male can exert well over 250 lbs of force when chewing, and many women can reach up to 200 lbs. That's more pressure for many of us than if we simply put the nut on the ground and stepped on it.

The two muscle groups primarily responsible for generating this extraordinary amount of strength are the masseters (the large cheek muscles) and the temporalis (the thin, flat muscles that stretch over the temples).

When it comes to force and strength, there are few other muscles in the human body capable of doing what these two muscles can do. And while it's easy to imagine leg, arm, and back muscles going into spasm and causing pain when we overdo it in the yard, on the playground, at the gym, or even on the job – it isn't always as easy to recognize when the masseter, temporalis, and other facial muscles are overexerted.

One of the reasons is likely because the cheeks and temples don't always hurt when these muscles are in spasm. Instead, the spasm acts as a trigger point, referring pain to other areas and creating some of the most common sources of muscular head pain next to posture-related headaches. Trigger points are very tight bands in the muscle tissue and can sometimes feel like a hard marble to the touch. Light pressure on these areas for 7-10 seconds during self-massage can often help break the spasm up and alleviate referred pain.



But if you aren't eating or talking constantly, how is it possible to overexert these muscles? Actually, it's much easier than you think – and once you start looking for some of these habits throughout your daytime routine, you may begin to realize that you are doing some or all of them almost without interruption.

Clenching and Grinding Your Teeth

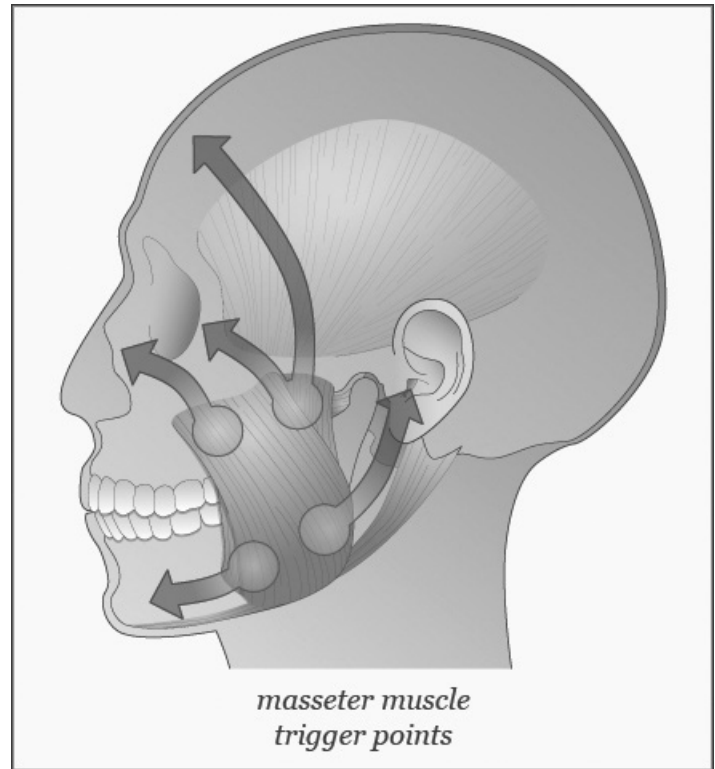
Teeth are meant to come together for the purposes of chewing food, and to act as a brace while swallowing by tapping together lightly. This amounts to what should be about 4 to 6 minutes of total tooth contact per day. But many people clench and grind their teeth for hours at a time when they are under stress, extremely focused, or even unconsciously during sleep.

Clenching and grinding can do a great deal of damage to your teeth, but it is the overworking of the masseter

and temporalis muscles to the point of spasm that creates head pain. These spasms are often the central trigger points associated with tension headaches in the forehead, eyebrows, and sides of the head. Many people even experience referral pain within the ear itself from spasms in the cheek muscles.

Most people are unaware of a clenching or grinding habit until they look for it. If your eye teeth, or cuspids, are flat instead of pointed or you notice small chips or cracks in your front teeth that you can't associate with a recent trauma, then you likely have a habit of clenching or grinding your teeth periodically. But if all your front teeth are ground flat and fit together perfectly when you bring your lower jaw forward, then you probably have a significant habit of clenching and grinding that could be contributing to head pain on multiple levels.

Waking up in the morning with tight, sore jaw muscles or a tension headache is generally a good indication that you are clenching or grinding your teeth at night. There are currently no real cures for nighttime clenching and grinding, but wearing a nightguard appliance that is custom fit to accommodate your specific bite, muscle, and joint structure can not only protect your teeth from further damage, it can also reduce or even eliminate the pain associated with facial muscle spasm related to nighttime clenching and grinding.



Daytime clenching and grinding habits are also far more common than people realize and tend to coincide with periods of stress or intense focus.

Here are some of the most-reported activities that seem to trigger daytime habits:

- Driving, especially in traffic
- Working at a computer
- Studying
- Sewing, knitting, and other intricate handwork
- Playing with pets
- Exercising, especially weight-lifting
- Watching your children or loved ones compete or perform
- Long business meetings

Other Overuses of the Jaw Muscles

Clenching and grinding certainly account for the majority of headaches related to facial muscle spasm, but there are other habits, or parafunctions, that can also contribute to head pain. A parafunction is any habitual exercise of a body part that is not typically associated with its common function. Clenching and grinding are parafunctions of the jaw and teeth because their common functions are chewing, speaking, and swallowing. But people can develop all kinds of oral habits that unknowingly set the muscles into spasm and create head pain.

Here are some of the most common activities we see that can strain the facial muscles over time:

- Habitually chewing gum, pencils, pens, fingernails, or other objects
- Habitually holding nails, sewing needles, pins, or other objects between the teeth to keep the hands free for work
- Habitually using the teeth to open bottles, cut thread, or to perform other scissor-like actions
- “Setting” the jaw, or holding the facial muscles under tension even when the teeth are not touching
- Prolonged sucking actions mostly associated with smoking, habitually using a straw, and some oral sex activities

No matter how convenient some of these habits may seem in the moment, the primary functions of the muscles that surround and support the teeth and jaw are to help you chew food, swallow, and speak. The system works best in a balanced relationship of work (muscle contraction) and relaxation (letting the tension go). Pain in the muscles themselves, or referred pain in the form of a tension headache, are indications that you are overtaxing the contraction side of the equation. Resting and stretching your mouth and jaw at regular intervals throughout the day, as well as working hard to eliminate parafunctional habits will go a long way not only in relieving head pain, but also in protecting the primary functions of your teeth, jaw, and facial muscles.

When to Seek Treatment

If these home-care remedies do not make a significant difference in your headache pain, there may be more going on. For some individuals with improperly aligned bites, just the act of chewing and swallowing can trigger all kinds of facial pain and headaches. The misaligned bite may be preventing the primary chewing muscles from functioning, and as a result other muscles are being unduly taxed trying to pick up the slack. If you suspect that a bite misalignment may be contributing to your overexertion headaches, schedule an appointment with a qualified dental provider who has experience treating bite and TMJ disorders.