

# Suffering Migraines?

## Maybe it's your bite

DR. LEE SHELDON • March 14, 2010

If you've suffered from migraines, you know how debilitating the problem can be. Let's talk about the possible source of the problem as well as a possible solution.

Migraines come from an enlargement of the blood vessels in the head. Those blood vessels commonly are behind the eyes and in the areas in and around the temples. When the blood vessels engorge, they place pressure on a large cranial nerve, called the trigeminal nerve, which supplies pain fibers in the areas behind the eyes as well as to the side of the head. The pressure on the nerve then results in pain. One common treatment for migraines is the drug, sumatriptan, which reduces the size of the blood vessel, thus dissipating the pain.

The trigeminal nerve actually has two functions. As a sensory nerve, it produces pain. However, it also is a motor nerve, controlling functions of the temporalis muscle as well as other major muscles that move the lower jaw. Want to feel your temporalis muscle? Put the palm of your hand on the side of your head between your eye and your ear. Now clench your teeth. You'll feel the muscle bulging as you clench. When that occurs, your trigeminal nerve is firing.

Let's look at how your lower jaw can produce a migraine. Many of us grind or clench our teeth in very short intervals at night, five seconds or less. You or your spouse may never notice it. That grinding puts the temporalis muscle into overdrive. The motor branch of the trigeminal nerve starts firing rapidly.

What do you think the activity of the motor branch of the trigeminal nerve does to the sensory branch of the trigeminal nerve? Yes. It causes the sensory branch to become active. Activity of the sensory branch increases the activity of the blood vessels. The blood vessels engorge, placing more pressure on the trigeminal sensory nerve. The result: a migraine.

You don't think you're grinding your teeth? Look in the mirror. Are some or all of your teeth flat? Even worse, are the edges of your teeth jagged? When you move your front teeth so that they are edge to edge, have you ground them so hard they fit together perfectly?

About 48 percent of migraines occur between 4 and 9 a.m. So, by the time you wake up, the migraine already is full-blown. It is difficult for medication to completely reverse such severe blood vessel inflammation. And the trigeminal nerve already is in a high state of electrical activity. It's difficult to control a fire when it is fully raging. It is more effective to prevent it. A simple dental appliance worn at night can reduce clenching and grinding, thus reducing muscle and trigeminal nerve activity. For many patients, such an appliance may make a significant improvement in the frequency and the severity of migraine headaches.

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