

# TRIGEMINAL NEURALGIA

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Trigeminal neuralgia (TN) is a condition that affects the trigeminal nerve, the fifth cranial nerve. The trigeminal nerves, like all cranial nerves, originate at the base of the brain. The right and left trigeminal nerves supply nerve fibers to the right and left sides of the face and mouth, respectively. The trigeminal nerves transmit sensations, including touch, pain, temperature, and pressure, from the face and mouth to the brain.

The trigeminal nerve is the largest of the 12 cranial nerves. Each trigeminal nerve has 3 divisions. The ophthalmic division supplies the forehead and eye, the maxillary division supplies the cheek, and the mandibular division supplies the mouth and jaw.

Neuralgia means pain. Trigeminal neuralgia is characterized by sudden, severe, shock-like or stabbing pain on one side of the face. Some people with TN develop dull, aching, burning, or constant pain. The exact location of the pain depends on which division of the trigeminal nerve is affected. The pain may be located in the cheek, gums, lips, or jaw. The pain is rarely located in the eye or forehead, because TN rarely involves the ophthalmic division. TN rarely affects both trigeminal nerves, so the pain usually does not occur on both sides of the face.

The duration of the pain is brief, lasting only a few seconds to several minutes. The pain may come in waves, repeated one after another. The pain may recur several times a day. There is usually no pain between attacks, and pain rarely occurs during sleep. As a reaction to the pain, there can be a brief spasm or tic of the facial muscles. In fact, TN is also referred to as *tic douloureux*.

People with TN often can identify triggers that bring on an attack. These might include light touch or vibration, chewing, shaving, brushing teeth, or applying make-up. For some people, the pain can be triggered or eased by lying in a certain position. During an attack, people with TN typically will remain still and refrain from moving the face or talking for fear of triggering additional attacks of pain. For others, the attacks come on without an obvious trigger.

TN is characterized by exacerbations and remissions. The attacks of TN may occur daily for weeks to months at a time and then disappear, or go into remission, for months or years only to recur or exacerbate. Over time, the pain-free periods may become shorter and the attacks more frequent and severe.

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The cause of most cases of TN is unknown. In rare circumstances, it is caused by pressure on the trigeminal nerve by a tumor or a blood vessel. There are rare occasions when TN runs in a family. TN in a young person may be caused by multiple sclerosis, which causes the nerve to lose its protective covering.

TN is relatively rare. There are about 155 cases per one million people worldwide. It is more common in women and usually begins after the age of 50 years.

There are no laboratory tests or x-rays to diagnose TN. Therefore, it is not unusual for people with TN to endure months and even years of painful attacks before the diagnosis is made. TN has been mistaken for dental problems, sinus infections, migraine headaches, and psychological disorders.

The diagnosis of TN is based on the person's history and description of the pain. A neurologic examination is usually normal and is done to rule out other causes of the pain. Your physician may recommend magnetic resonance imaging to determine if a tumor or blood vessel is pressing on the nerve.

TN is not fatal, but it can be very debilitating. Some people develop depression secondary to the chronic pain. In rare cases, the pain may be so frequent and triggered by mouth care that dental hygiene is ignored.

## TREATMENT

### Medications

Medications are the first line of treatment for TN. The goal of treatment is to decrease the frequency and severity of the pain with the fewest side effects. Before starting any new medication, even over-the-counter medications, it is important to discuss potential drug interactions with your doctor. Some medications may enhance the action of others and require a decrease in dose to avoid potential side effects. Other medications may decrease the action of others and require an increased dose to be effective. You should always bring a list of your medications with you to your doctor visits so your doctor can review them. It is also important to report any side effects to your doctor as soon as possible.

Some medications interfere with mental alertness. When starting a new medication, it is important to determine how the medication will affect you before you engage in activities that require alertness, including driving. If you are pregnant or are considering becoming pregnant, it is important to discuss any effects that a medication may have on the unborn fetus.

Once you respond to the medication, your physician may attempt to reduce the dose to the least amount needed to control the pain. Your physician may also attempt to discontinue the medication at 3-month intervals to see if you are in remission.

