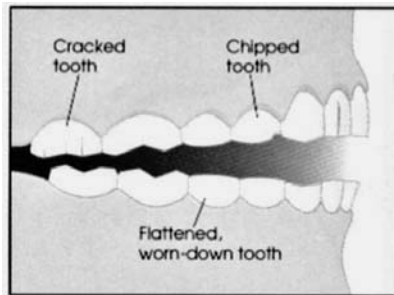


# Patient Information on Bruxism and the BiteStrip™

## Overview

Bruxism is the medical term for grinding, gnashing, or clenching the teeth. This condition affects both children and adults. Some people with bruxism unconsciously clench their teeth during the day, often when they feel anxious or tense. **Sleep bruxism is the grinding or clenching of teeth during sleep.**

In most cases, bruxism is mild and may not even require treatment. However, it can be frequent and violent and can lead to joint and muscle disorders (Temporomandibular Disorders - TMD), headaches, damaged teeth and periodontium, and other problems. Unfortunately, people with sleep bruxism usually aren't aware of the fact that they brux, so they aren't diagnosed with the condition until complications occur. That's why it's important to diagnose sleep bruxism as early as possible, and to seek appropriate treatment.



## Signs and symptoms

The signs and symptoms of bruxism may include:

- Teeth grinding or clenching, which may be loud enough to wake the sleep partner
- Teeth that are worn down, flattened, or chipped
- Worn tooth enamel, exposing the inside of the tooth
- Increased tooth sensitivity
- Jaw pain or tightness in the jaw muscles
- Earache because of violent jaw muscle contractions
- Dull morning headache
- Chronic facial pain
- Chewed tissue on the inside of the cheeks



## Causes

The mechanism behind bruxism is not completely understood. In some adults, abnormal alignment of upper and lower teeth (malocclusion) may contribute to the problem. Often, psychological factors may cause bruxism, including:

- Anxiety, stress, or tension
- Suppressed anger or frustration
- Aggressive, competitive, or hyperactive personality type

In children, bruxism may be related to growth and development. Some researchers believe that children brux because their top and bottom teeth don't fit together comfortably. Others think that children grind their teeth because of tension, anger, allergy problems, or as a response to pain from an earache or teething. Bruxism occurs in up to 30 percent of children, often around the ages of 5 and 6. It's particularly common in children with cerebral palsy or severe mental retardation. Most children outgrow bruxism before they get their adult teeth.

In some cases, bruxism isn't caused by stress or dental problems. It can be a complication of another disorder, such as Huntington's disease or Parkinson's disease. Bruxism is also associated with sleep apnea. It can also be an uncommon side effect of some psychiatric medications including antidepressants.

## Risk factors<sup>(1)</sup>

The factors listed below have been shown to increase the risk of sleep bruxism:

- Psychological stress/anxiety
- Obstructive Sleep Apnea syndrome
- Chemical - Smoking, Caffeine, Alcohol, Drugs (e.g., cocaine, amphetamine, Ecstasy)
- Age - Bruxism is common in young children, usually related to growth and development. In adults, the condition is common between the late teen years and the 40s.
- Familial factors – If bruxism occurs in more than one family member, its occurrence can usually be explained as a result of environmental influences.
- Occlusal factors – Bruxism may be present as a result of pre-mature contact or occlusal high spots.

(1) Current Knowledge on Awake and Sleep Bruxism: Overview, Alpha Omegan, Volume 96, Number 2, July 2003

## When to seek medical advice

Because bruxism often goes untreated, and because damage is cumulative over time, it is important to evaluate and test for bruxism on a regular basis.

Any supporting clinical evidence such as worn or chipped teeth, face or ear pain, morning headache, or limited or difficult jaw movement may warrant a bruxism study. A study is indicated if the bed partner complains of grinding noises while the patient sleeps.

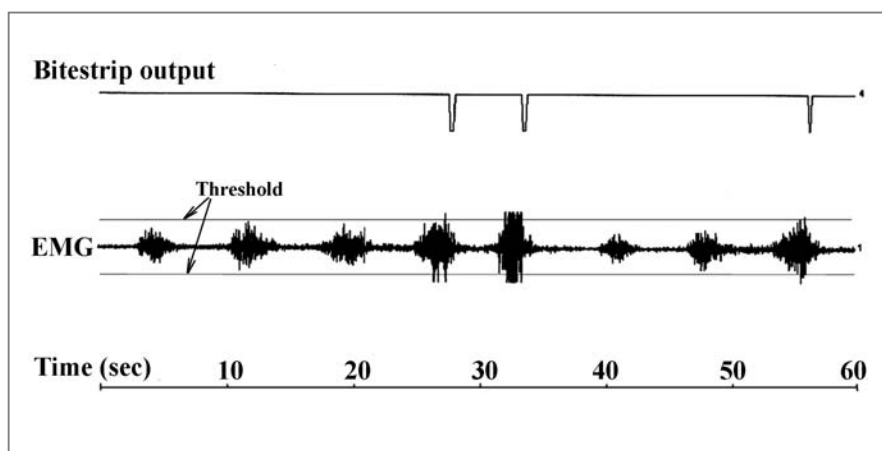
If a child is grinding his or her teeth, or has other signs or symptoms of this condition, it is also important to have him or her evaluated in the next appointment.

## Diagnostic Criteria – The BiteStrip™

Clinical indication of sleep bruxism is usually based on examination of the teeth, complaints of jaw and masticatory pain, and subjective reports of the grinding and/or clenching noise (usually provided by the bed partner or family member).

Currently the only “gold standard” for a definitive, objective diagnosis of sleep bruxism is the measurement of jaw muscle activity using a muscle activity recorder (EMG). Clinical diagnosis in the sleep laboratory with polysomnographic (PSG) recordings is rare due to the high costs of this kind of study.

The introduction of the BiteStrip™, an innovative home sleep bruxism test, makes true EMG-based diagnosis possible at a reasonable cost. The device, which monitors jaw muscle EMG signals throughout the night, performs automatic analysis based on the criteria described above, to produce a clinically validated indication of the presence of bruxism in the morning.



## Treatment

- **Stress Management** - Professional counseling or strategies that promote relaxation, such as exercise and meditation may be helpful.
- **Dental Approaches** - A mouthguard or protective dental appliance (splint) can prevent damage to the teeth and gums. A dentist can create a custom mouthguard providing the best fit for the patient. Over-the-counter mouthguards are available and less expensive than custom mouthguards, but they generally don't fit as well and can dislodge during bruxing. If bruxism seems to stem from dental problems, the dentist may also correct misaligned teeth. In severe cases, when tooth wear has led to sensitivity or the inability to chew properly, the dentist may need to use overlays or crowns to entirely reshape the chewing surfaces of the teeth.
- **Behavior therapy** - Behavioral change by practicing proper mouth and jaw position may be appropriate. The recommendations call for resting the tongue upward with the teeth apart and lips closed. This should keep the teeth from grinding and the jaw from clenching. It may be beneficial to use biofeedback, a form of complementary and alternative medicine that uses a variety of monitoring procedures and equipment to teach the patient to control involuntary body responses.
- **Medications** - In general, medications aren't very effective for treatment of bruxism. In some cases, a doctor may suggest taking a muscle relaxant before bedtime. If bruxism developed as a side effect of an antidepressant medication, the doctor may change the medication or prescribe another medication to counteract bruxism. Botulinum toxin (Botox) injections may help some people with severe bruxism who have not responded to other treatments.

## Self-care

These self-care steps may prevent or help treat bruxism:

- **Limit alcohol, tobacco and caffeine** - Cutting down on daily intake of alcohol, tobacco, and caffeine, or giving up these substances entirely may help.
- **Reduce stress** - Keeping life stresses to a minimum may reduce the risk of developing bruxism or limit the damaging effects of bruxism.
- **Consult the sleep partner** - Consult the bed partner to be aware of any grinding or clicking sounds while sleeping. The sleep partner can then provide continuous feedback on any teeth grinding sounds in the night.
- **Have regular dental exams** - Dental exams, preferably with the BiteStrip prescribed by a dentist, are the best way to screen for bruxism.