SLEEP & STRESS

What Night-Time Teeth Grinding Really Means

The sound can be alarming, but the evidence points to careful assessment-not a drawer full of supposed cures.

The noise is only the beginning

Someone beside you hears it first: a scrape, a clench, the unmistakable sound of teeth meeting while you sleep. Or perhaps nobody hears anything, but you wake with sore jaw muscles and begin wondering what happened overnight. The unnerving part is the absence of control. You were asleep. Your teeth were not.

Sleep bruxism is involuntary grinding or clenching during sleep. Yet identifying it is not always as simple as hearing a noise or noticing worn teeth. Research uses questionnaires, clinical examinations and instrumental measurements, and those methods do not necessarily identify the same people. In children, a 2023 systematic review found that inconsistent assessment made studies difficult to compare. Tooth wear alone was not a major sign of childhood sleep bruxism.

That uncertainty matters because a suspected case and a measured episode are different things. Adult treatment research often relies on polysomnography (PSG), an overnight sleep study, or electromyography (EMG), which records muscle activity. A sleep study can also record brain waves, eye movements, breathing, heart activity and other signals. Most people who suspect grinding will not begin there, but the distinction explains why confident cure claims outrun the science.

Grinding also sits inside a larger night's sleep. Sleep quality matters alongside sleep duration because repeated interruptions may reduce time spent in particular sleep stages. Poor-quality sleep can affect thinking, daily functioning, and physical and mental health. That does not prove grinding caused every bad morning. It does mean the rest of your sleep deserves attention too.

A splint is not an off switch

The familiar response to grinding is an occlusal splint: an oral appliance placed over the teeth. It is a plausible management option, but "wear a splint" is not the same as "the grinding is solved." A 2023 systematic review of adult management found that oral appliances tended to

reduce the number of sleep-bruxism events, without a significant advantage over other kinds of splints.

A 2024 review of 15 studies was more encouraging. It concluded that occlusal-splint therapy was a viable approach and reported that adjustable designs, including full-occlusion biofeedback splints, performed better on grinding episodes and patient-reported outcomes. But effects on measured muscle activity varied, and the authors said possible adverse effects should be considered for each person.

Those reviews are not exact opposites. They asked somewhat different questions and included different evidence. Together, they suggest that a splint may have a role without establishing one universally superior appliance for everyone who grinds. The 2023 review also called for larger, longer and more rigorous randomized trials to clarify both effectiveness and safety.

That is the useful correction to the sales pitch: a splint may be a management tool, not an off switch. The difference is important when you are deciding what to expect from one-and why the choice belongs in a dental conversation rather than an improvised purchase based on the loudest promise.

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The treatment menu outruns the evidence

Once you notice grinding, an entire catalogue of possible remedies appears: relaxation, exercises, massage, behavioral methods, biofeedback and medicines. The length of that list can create an illusion of certainty. In reality, researchers have studied many approaches without producing equally strong evidence for them.

A 2019 systematic review examined 24 studies of physical approaches, including electrical therapies, cognitive behavioral therapy, exercises, acupuncture, postural awareness, muscular relaxation and massage. The studies suggested possible improvements in outcomes such as muscle pain, muscle activity, mouth opening, anxiety, stress and temporomandibular problems. But the reviewers rated the evidence as very low quality, mainly because most studies were methodologically poor.

The adult-management review was similarly cautious about cognitive behavioral therapy (CBT): potential benefits were not well supported. Biofeedback reduced certain measured bruxism parameters in the included research. Some medicines and botulinum toxin type A injections also reduced specific parameters, but side effects were reported, and the review did not establish a clear long-term treatment protocol.

So a result on one laboratory measurement should not be translated into "this cures grinding." Different studies measured different things, from muscle activity and episode counts to pain and self-reported well-being. The trials also leave questions about durability and safety. The evidence supports a conversation about goals more readily than it supports a universal remedy.

Children need a different conversation

Hearing a child grind can make the problem sound especially urgent. Childhood sleep bruxism has been associated with abnormal tooth wear, tension headaches, chewing-muscle pain and fatigue. Yet the treatment evidence is even less settled than it is for adults, and adult findings should not simply be carried across to children.

A 2024 systematic review found only seven randomized trials comparing childhood treatments with controls. Some evidence favored certain medicines and a medicinal extract, while improvements with occlusal splints and physiotherapy were not statistically significant against control groups. The reviewers concluded that the evidence was insufficient to establish a treatment protocol and emphasized individualized management of risk factors.

Another 2023 review found reported associations with genetics, quality-of-life factors, maternal anxiety, family circumstances, diet, altered sleep behavior and sleep-related breathing disorders. These are associations, not proof that any single factor caused a particular child's grinding. The studies also differed in whether they relied on parental reports, examinations or instrumental assessment.

Breathing deserves particular attention at any age. Loud snoring, snorting, gasping, choking sounds or pauses in breathing reported by a bed partner are signs that can accompany a sleep disorder. Regular difficulty falling or staying asleep and frequent daytime sleepiness also move this beyond a simple question about teeth. Bring those details to a healthcare professional rather than treating the grinding in isolation.

Take one night's story to an appointment

Your next useful step is not to attempt every remedy on the treatment menu. It is to make the hidden part of your night more describable. A healthcare professional assessing sleep problems reviews both medical and sleep history, while a dentist can discuss whether an occlusal splint is appropriate and what its individual trade-offs may be.

On a sheet of paper, write down what prompted the concern: grinding reported by someone

else, jaw or muscle discomfort, interrupted sleep, or daytime sleepiness. Add any reports of loud snoring, gasping, choking sounds or pauses in breathing. Do not use the list to diagnose yourself. Use it to keep the details from disappearing when the appointment begins.

If the concern is about a child, record who noticed the grinding and whether sleep or breathing also seems disturbed. Ask how the clinician plans to assess it, what outcome any proposed treatment is meant to change, and what uncertainties remain. The childhood evidence does not support treating every case by the same protocol.

One honest page is more useful than a cupboard of speculative fixes. This week, take that sheet of paper to a dental or healthcare appointment and ask whether you need dental assessment, broader sleep assessment, or both. The step takes a sheet of paper-and a conversation that treats the grinding as part of your night, not merely a noise to silence.

Where this comes from

- Sleep Disorders

  MedlinePlus, U.S. National Library of Medicine · https://medlineplus.gov/sleepdisorders.html
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- Effect of Physical Therapy in Bruxism Treatment: A Systematic Review.

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  Sleep science (Sao Paulo, Brazil), 2024 · https://pubmed.ncbi.nlm.nih.gov/38196770/
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  Frontiers in oral health, 2023 · https://pubmed.ncbi.nlm.nih.gov/37252006/
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