

# SLEEP DISORDERS

## Require Team Effort

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**H**ad a poor night's sleep? You're not alone. An estimated 50 to 70 million Americans suffer from chronic sleep disorders. The consequences range from irritating to life threatening, and the causes and cures are far-ranging, too.

So common are sleep problems that sleep medicine is an official medical specialty. You or someone you know has likely visited one of a growing number of sleep clinics throughout the country. But the extent of the problem far exceeds the number of sleep doctors available.

Fortunately, dentists—with their knowledge of upper airway anatomy and physiology—are increasingly sharing responsibility with doctors in responding to untreated sleep disorders in the general population. Such a medical-dental protocol is advocated by both the American Association of Sleep Medicine and the American Academy of Dental Sleep Medicine (AADSM). The AADSM is the only professional association that represents both dental and medical practitioners treating sleep-disordered breathing.

### Seriously Tired!

**I**n the United States, excessive daytime sleepiness resulting from poor sleep costs \$150 billion annually in lost productivity due to workplace mishaps. Medical costs related to motor vehicle accidents involving drowsy drivers add another \$48 billion. Sleep-deprived drivers are involved in almost one of every five car crashes causing serious injury.

Evidence suggests a strong relationship between sleep quality and mental and physical health, too. Poor sleep seems to increase the likelihood of



depression, impair the memory, reduce sex drive, and increase irritability. It has been tied to osteoporosis (due to the impairment of a growth hormone produced during sleep), breast cancer risk (due to the suppression of melatonin), and to appetite-influencing hormone imbalances and a higher incidence of diabetes and high blood pressure.

Among college undergraduates, poor sleep quality and insomnia are significantly associated with suicidal symptoms. Into adulthood, certain types of sleep patients are more likely to suffer from heart attacks, congestive heart failure, hypertension, and strokes.

### Airway Collapse

**A**ll of us have trouble getting enough high-quality sleep now and then. Stress, nighttime eating and drinking, watching TV or reading in bed, and erratic schedules all contribute. Persistent poor sleep, however, is cause for concern, and may be due to sleep-related breathing disorders (SBDs) ranging from mild snoring to potentially life-threatening sleep apnea.

Snoring, the sound of partially obstructed breathing during sleep, results when the soft tissues of the upper airway collapse onto themselves and vibrate due to air flow. Large tonsils, a long soft palate (the roof of the mouth near the throat), a large tongue, an enlarged uvula (the flap of tissue that hangs at the back of the throat), and excess fat deposits in the throat all worsen the problem by narrowing the airway. Usually, the more narrow the airway space, the louder and more habitual (and more annoying!) the snoring.

Obstructive sleep apnea (OSA) takes snoring to

**H**ead of MADD? Now there's DADD. Dentists Against Drowsy Driving (DADD) was established in November 2008 by the American Academy of Dental Sleep Medicine to increase awareness about the alarming healthcare risks and economic impact of undiagnosed and untreated sleep problems.

a new level, occurring when the throat tissues narrow significantly or collapse. With air flow blocked, blood-oxygen levels plummet. The body sends out a flood of hormonal emergency signals, waking the sufferer—with a gasp—in full “flight or fight” mode. Waking can occur 30 or more times an hour, doing a number on the sympathetic nervous system and resulting in the ill effects discussed earlier.

Of Americans diagnosed with sleep apnea, more than half are overweight. Men are twice as likely to be afflicted as women. Risk is higher, too, for postmenopausal women, people of African-American, Hispanic, or Pacific Island descent, and people with a family history of the disorder.

### Treatment Options

Sleep-related breathing disorders, including OSA, are diagnosed by overnight polysomnography, a sleep study usually performed in an accredited sleep laboratory and interpreted by a sleep physician. Effective treatments generally include:

- Improvement of sleep habits (see sidebar, next page)
- Weight loss, as applicable (to remove excess fat from the throat)
- CPAP (continuous positive airway pressure)
- Oral appliance therapy (OAT)
- Surgery

In CPAP, the current gold standard of treatment for moderate to severe OSA, pressurized air generated from a bedside machine is delivered to the patient through a tube connected to a mask covering the nose. The pressurized air pushes the airway

open, preventing obstruction.

But CPAP isn't for everyone. For patients with mild to moderate sleep disorders who do not respond well to CPAP or find the method unacceptable, oral appliance therapy (OAT) is a great alternative. Custom-designed by dentists, oral appliances reposition the jaw and tongue to open and stabilize the airway. Appliances are relatively small and portable, and are often better tolerated than CPAP for nightly use.

Teaming with dentists, sleep physicians are becoming more aware of the variety of oral appliances available and how to identify good candidates for OAT. Oral appliances can be customized for almost anyone by a qualified dental professional specially trained in OAT and the treatment of TMJ disorders and bite problems. In some cases OAT can be used along with CPAP to allow lower air pressures to be delivered, making CPAP more tolerable.

When CPAP and oral appliances, used together or alone, are unsuccessful, oral and maxillofacial surgery to correct airway obstruction may be the best alternative.

In most cases, a combination of oral surgery and orthodontic treatment is warranted to treat the skeletal cause of the airway problem and provide a healthy, stable bite. In addition, nasal surgery by an ear, nose, and throat (ENT) specialist may be appropriate to open nasal

## How Sleepy Are You?

We're all tired now and then. But when does tiredness cross the line into sleep deprivation? Developed by researchers in Australia and widely used by sleep professionals around the world, the Epworth Sleepiness Scale tells you how your tiredness measures up. Give it a try!

### THE EPWORTH SLEEPINESS SCALE

By number, indicate how likely you are, or think you would be, to fall asleep during each given situation.

- 0 = No chance of dozing
- 1 = Slight chance of dozing
- 2 = Moderate chance of dozing
- 3 = High chance of dozing

Situation	Chance of Dozing
Sitting and reading	___
Watching TV	___
Sitting inactive in a public place (theater, lecture hall, etc.)	___
As a passenger for an hour-long drive	___
Lying down to rest in the afternoon	___
Sitting and talking to someone	___
Sitting quietly after a lunch without alcohol	___
While stopped for a few minutes in traffic	___
<b>TOTAL:</b>	___

### IF YOUR TOTAL SCORE IS:

- 1-6:** Congratulations, you're getting enough sleep!
- 7-8:** Your score is average.
- 9+:** Seek the advice of a sleep specialist without delay.

passages, correct a deviated septum, or improve the patient's ability to use CPAP.

### Warning Signs

Sleep medicine has undergone a radical change in recent decades. Just 10-20 years ago, few medical and dental professionals were aware of the extent and seriousness of sleep disorders.

Today, almost every medical center has some type of sleep program, entire professional associations are devoted to sleep

## Good Sleep Habits

For a better night's sleep with or without medical or dental treatment by professionals:

- Try to sleep on your side
- Lose a few pounds
- Don't drink alcohol or coffee or eat a heavy meal close to bedtime
- Stop smoking
- Avoid medication that has a sedative effect (under supervision from your doctor)
- Eliminate allergens from the bedroom such as dust bunnies under the bed and older pillows that harbor dust mites
- Exercise (preferably early in the day) to improve muscle tone and general fitness
- Establish regular sleep patterns and allow enough time for adequate sleep

science, and sleep is a regular topic in the media. Also, over-the-counter stop-snoring aids, e.g., oral and nasal sprays—nose bands, oral devices to increase airway diameter, anti-snoring devices, and pillows to improve head and neck alignment—are readily available, joining sleeping pills as an easy answer to poor sleep. But buyer beware!

Sleeping pills do little or nothing to treat the cause of sleep-disordered breathing, can cause long-term chemical dependency, and have been shown to increase overall mortality by 10-25 percent with occasional or nightly use. Some pills make sleep apnea worse, causing more and more lengthy pauses in breathing.

Perhaps worst of all, stop-snoring aids—assuming they work—reduce or eliminate snoring, which is a warning sign of partial or impending airway collapse. Once their snoring is “cured,” people may not seek

the advice of medical and dental professionals for appropriate diagnosis and treatment of their sleep problem. In fact, suppressing or eliminating snoring may worsen the complications of sleep apnea, with potentially fatal consequences.

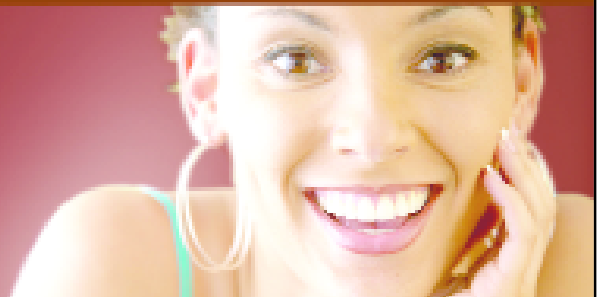
To get a good night's sleep before a lack of sleep gets you, develop good sleep habits and consult a sleep doctor or a qualified sleep dentist if your problem is chronic. In the best case, your doctor and dentist will collaborate to offer the full range of solutions modern sleep medicine and dental sleep medicine have to offer.

The critical steps are: 1) accurate diagnosis by a sleep disorder specialist; 2) consultation with an OAT-trained dentist or member of the AADSM before any oral appliance or anti-snoring device is prescribed or designed; and 3) medical-dental collaboration in ongoing care. For more information, visit the AADSM web site, [aadsm.org](http://aadsm.org). ■

*Drs. Todd and Amy Kinney have lived and provided integrative dental care in Bozeman since 1997. Their health-centered practice focuses on biological mercury-free dentistry and holistic-based preventive care. Drs. Kinney have a special interest and advanced technical training in comprehensive esthetic restorative dentistry, orthodontics, and the treatment of sleep-disordered breathing and TMJ.*

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does your dentist take time for you?

☼ We do.



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makes time to consider the whole you.

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