

## Sleep Disordered Breathing in Children

### What Is Sleep Disordered Breathing?

Sleep disordered breathing (SDB) is an abnormal breathing pattern during sleep. This can range from simple snoring to repetitive pauses in breathing (called sleep apnea).

### What Causes SDB?

Air flows through the nose and mouth into the throat before it enters the lungs. The throat is a soft, floppy tube that contains the adenoids, tonsils, soft palate, tongue, and voice box. When children sleep, the muscles that hold the throat open relax, and the structures in the tube can collapse against each other and make it difficult for air to pass. This is called upper airway obstruction. Snoring is the sound produced when those structures vibrate against one another as the passage narrows. Sometimes there is complete collapse or blockage, which produces a short pause in breathing. Repetitive pauses in breathing are called sleep apnea.

### Is SDB Bad for My Child?

For most children SDB is not an immediate risk to their health. Pauses in breathing cause the brain to wake up slightly to increase the breathing effort. This reduces the quality of sleep. As a result, children with SDB can struggle with poor sleep. They can have learning and behavioral problems and higher rates of attention deficit and hyperactivity disorder. We are also learning more about how SDB might affect children's cardiovascular health as they grow.

### What Are the Symptoms of SDB and How Is It Diagnosed?

Children with SDB often snore or mouth breathe at night, and sometimes pause or gasp. Children may have bed-wetting, restless sleep, and frequent awakenings. They may grind their teeth at night or have headaches in the morning. It may be hard to get them out of bed in the morning even after a full night of sleep. They may be either very sleepy during the daytime or the opposite—hyperactive, inattentive, and seem "tired but wired." Often your doctor can diagnose SDB based on symptoms, but he or she may order an overnight sleep study to test your child for SDB. A sleep study can diagnose whether your child has simple snoring vs sleep apnea.

### What Are the Treatments for SDB?

First-line treatment is surgical removal of the tonsils and adenoids. This helps make space for air to flow and is effective in about 80% of cases.

**Author:** Erin M. Kirkham, MD, MPH

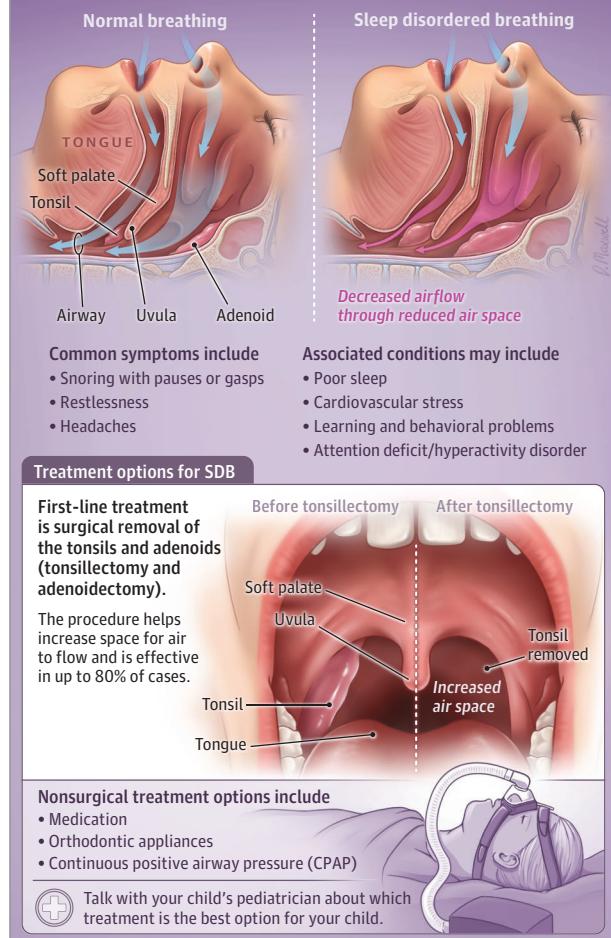
**Published Online:** May 26, 2022. doi:10.1001/jamaoto.2022.0885

**Author Affiliation:** Department of Otolaryngology–Head and Neck Surgery, the University of Michigan, Ann Arbor, Michigan.

**Conflict of Interest Disclosures:** Dr Kirkham reported that she is a paid author for the online medical reference UpToDate on Adenotonsillectomy in Children.

**Section Editor:** Samantha Anne, MD, MS.

Sleep disordered breathing (SDB) is an abnormal breathing pattern during sleep that can range from simple snoring to repetitive pauses in breathing called sleep apnea.



A small percentage of children require more than 1 surgery to fully treat SDB. Other nonsurgical treatments include medication, continuous positive airway pressure, and orthodontic appliances. If your child has any of the symptoms of SDB, discuss this with your pediatrician or seek out an otolaryngologist. Your doctors will help decide whether your child needs treatment and what treatment is best.

The JAMA Otolaryngology–Head & Neck Surgery Patient Page is a public service of *JAMA Otolaryngology–Head & Neck Surgery*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, *JAMA Otolaryngology–Head & Neck Surgery* suggests that you consult your physician. This page may be downloaded or photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, email [reprints@jamanetwork.com](mailto:reprints@jamanetwork.com).