



## Pediatric Obesity and Ear, Nose, and Throat Disorders

Today in the United States, studies estimate that 34 percent of U.S. adults are overweight and an additional 31 percent (approximately 60 million) are obese. Combined, approximately 127 million Americans are overweight or obese. Some 42 years ago, 13 percent of Americans were obese, and in 1980 15 percent were considered obese.

Alarming, the number of children who are overweight or obese has doubled in the last two decades as well. Currently, more than 15 percent of 6- to 11-year-olds and more than 15 percent of 12- to 19-year-olds are considered overweight or obese.

### *What is the difference between designated “obese” versus “overweight?”*

Unfortunately, the words overweight and obese are often interchanged. There is a difference:

- **Overweight:** Anyone with a body mass index (BMI) (a ratio between your height and weight) of 25 or above (e.g., someone who is 5-foot-4 and 145 pounds) is considered overweight.
- **Obesity:** Anyone with a BMI of 30 or above (e.g., someone who is 5-foot-4 and 175 pounds) is considered obese.
- **Morbid obesity:** Anyone with a BMI of 40 or above (e.g., someone who is 5-foot-4 and 233 pounds) is considered morbidly obese. "Morbid" is a medical term indicating that the risk of obesity related illness is increased dramatically at this degree of obesity.

Obesity can present significant health risks to the young child. Diseases are being seen in obese children that were once thought to be adult diseases. Many experts in the study of children's health suggest that a dysfunctional metabolism, or failure of the body to change food calories to energy, precedes the onset of disease. Consequently, these children are at risk for Type II Diabetes, fatty liver, elevated cholesterol, SCFE (a major hip disorder), menstrual irregularities, sleep apnea, and irregular metabolism. Additionally, there are psychological consequences; obese children are subject to depression, loss of self-esteem, and isolation from their peers.

### *Pediatric obesity and otolaryngic problems*

Otolaryngologists, or ear, nose, and throat specialists, diagnose and treat some of the most common children's disorders. They also treat ear, nose, and throat conditions that are common in obese children, such as:

### **Sleep apnea:**

Children with sleep apnea literally stop breathing repeatedly during their sleep, often for a minute or longer, usually ten to 60 times during a single night. Sleep apnea can be caused by either complete obstruction of the airway (obstructive apnea) or partial obstruction (obstructive hypopnea—hypopnea is slow, shallow breathing), both of which can wake one up. There are three types of sleep apnea—obstructive, central, and mixed. Of these, obstructive sleep apnea (OSA) is the most common. Otolaryngologists have pioneered the treatment for sleep apnea; research shows that one to three percent of children have this disorder, often between the age of two-to-five years old.

Enlarged tonsils, which block the airway, are usually the key factor leading to this condition. Extra weight in obese children and adults can also interfere with the ability of the chest and abdomen to fully expand during breathing, hindering the intake of air and increasing the risk of sleep apnea.

The American Academy of Pediatrics has identified obstructive sleep apnea syndrome (OSAS) as a “common condition in childhood that results in severe complications if left untreated.” Among the potential consequences of untreated pediatric sleep apnea are growth failure; learning, attention, and behavior problems; and cardio-vascular complications. Because sleep apnea is rarely diagnosed, pediatricians now recommend that all children be regularly screened for snoring.

### **Middle ear infections:**

Acute otitis media (AOM) and chronic ear infections account for 15 to 30 million visits to the doctor each year in the U.S. In fact, ear infections are the most common reason why an American child sees a doctor. Furthermore, the incidence of AOM has been rising over the past decades. Although there is no proven medical link between middle ear infections and pediatric obesity there may be a behavioral association between the two conditions. Some studies have found that when a child is rubbing or massaging the infected ear the parent often responds by offering the child food or snacks for comfort.

When a child does have an ear infection the first line of treatment is often a regimen of antibiotics. When antibiotics are not effective, the ear, nose and throat specialist might recommend a bilateral myringotomy with pressure equalizing tube placement (BMT), a minor surgical procedure. This surgery involves the placement of small tubes in the eardrum of both ears. The benefit is to drain the fluid buildup behind the eardrum and to keep the pressure in the ear the same as it is in the exterior of the ear. This will reduce the chances of any new infections and may correct any hearing loss caused by the fluid buildup.

Postoperative vomiting (POV) is a common problem after bilateral myringotomy surgery. The overall incidence is 35 percent, and usually occurs on the first postoperative day, but can occur up to seven days later. Several factors are known to affect the incidence of POV, including age, type of surgery, postoperative care, medications, co-existing diseases, past history of POV, and anesthetic management. Obesity, gastroparesis, female gender, motion sickness, pre-op anxiety, opioid analgesics, and the duration of anesthetic all increase the incidence of POV. POV



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interferes with oral medication and intake, delays return to normal activity, and increases length of hospital stay. It remains one of the most common causes of unplanned postoperative hospital admissions.

### **Tonsillectomies:**

A child's tonsils are removed because they are either chronically infected or, as in most cases, enlarged, leading to obstructive sleep apnea. There are several surgical procedures utilized by ear, nose, and throat specialists to remove the tonsils, ranging from use of a scalpel to a wand that emits energy that shrinks the tonsils.

Research conducted by otolaryngologists found that:

Morbid obesity was a contributing factor for requiring an overnight hospital admission for a child undergoing removal of enlarged tonsils. Most children who were diagnosed as obese with sleep apnea required a next-day physician follow-up.

A study from the University of Texas found that morbidly obese patients have a significant increase of additional medical disorders following tonsillectomy and adenoidectomy for obstructive sleep apnea or sleep-disordered breathing when compared to moderately obese or overweight patients undergoing this procedure for the same diagnosis. On average they have longer hospital stays, a greater need for intensive care, and a higher incidence of the need for apnea treatment of continuous positive airway pressure upon discharge from the hospital. The study found that although the morbidly obese group had a greater degree of sleep apnea, they did benefit from the procedure in regards to snoring, apneic spells, and daytime somnolence.

### ***What you can do***

If your child has a weight problem, contract your pediatrician or family physician to discuss the weight's effect on your child's health, especially prior to treatment decisions. Second, ask your physician about lifestyle and diet changes that will reduce your child's weight to a healthy standard.



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