

Pediatric Sleep Apnea

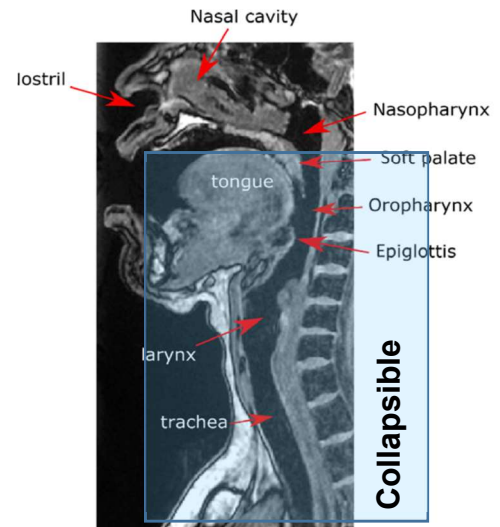
SLEEP CENTER

What is “sleep apnea”?

“Apnea” means lack of breathing in Latin. **Sleep apnea** is a condition where there are recurrent episodes of **little or no air flow** going into the **lungs**.

In children, this is usually due to decreased muscle tone when asleep. Relaxed muscles in the face and airway can lead to the tongue flopping backward, narrowed nasal passages and/or blockage in the airway in the back of the mouth or throat.

The body responds to the drop in air flow by **waking up** just enough increase muscle tone or move the tongue so the airway opens up again. This causes arousals that can be so short that the child or a watching parent may not be able to sense they are happening.



What does sleep apnea do to my child?

1. **Causes disrupted sleep:** every time your child has to wake themselves up to get air flow restored, this creates a break in healthy sleep. Fragmented sleep is poor sleep.
2. **Decreases oxygen levels:** the lungs need air flow to get oxygen from the air into the blood and CO₂ from the blood into the air. All cells need oxygen and must get rid of dangerous CO₂. Sleep apnea can cause the oxygen levels in the blood to go down and impair the ability to clear CO₂, increasing CO₂ levels. This can be damaging to the entire body, especially the heart, blood vessels and brain.

What are the symptoms of pediatric sleep apnea?

Sleep apnea causes **poor sleep**. Tired children are the opposite of tired adults, they have:

- **Hyperactivity**
- **Irritability**
- **Disruptive behaviors**
- **Moodiness**
- **Temper tantrums**
- **Refusal to go to bed**
- **Frequent nighttime awakenings**
- **Problems focusing**
- **Bed wetting**
- **Weight gain**
- **Worsened asthma**

How is sleep apnea diagnosed?

With a special test called a **sleep study** or **polysomnography** that measures air flow while your child sleeps. This involves several monitors to measure brain waves, heart rate, oxygen levels, air flow from the nose and mouth and movement of the chest, chin and abdomen. We have a **pediatric sleep lab** at **Oishei Children’s Hospital** where you and your child would come stay overnight for the sleep study.



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How is pediatric sleep apnea treated?

If it is **mild** (your child has trouble breathing between 1 and 5 times per hour):

- Watch and see if they grow out of it
- Try medications
- Refer to an Ear, Nose and Throat (ENT) surgeon to evaluate for surgery

If it is **more severe** (your child has trouble breathing MORE than 5 times per hour):

- ENT evaluation
- A machine called CPAP, or Continuous Positive Airway Pressure

What is CPAP?



CPAP is a machine that uses air flow through a mask to keep your child's airway open during sleep. This allows your child to sleep through the night uninterrupted with normal oxygen and CO₂ levels.

These machines can cure your child's sleep apnea when they wear it. They are light, quiet, easy to clean and can also provide important information to your sleep doctor about how your child is sleeping while they wear it!



There are many different types of children's masks available. Some that cover just the nose and some that cover both the nose and mouth. We will work to find the right mask for your child.

There are **durable medical equipment (DME)** companies who work with us and your family to make sure the CPAP machine is working, replace equipment, and to help ensure your child has the correct mask. They are an important part of the team working to optimize your child's sleep!

Will treating my child's sleep apnea make the symptoms go away?

Getting a good night sleep without interruption can improve your child's daytime symptoms such as hyperactivity, bedtime refusal, irritability, temper tantrums, or moodiness. It can also help them focus in school and engage in learning more readily.

Asthma, bed wetting and weight gain have also been shown to improve once OSA is treated.

Will my child always have sleep apnea?

No, not necessarily. The good news is that some children will grow out of their sleep apnea as the airway grows bigger and can stay open for most of the night. Repeating sleep studies, as often as every year, can help determine how your child's OSA is progressing.