

PARENT FACTSHEETS

CHILDHOOD OBSTRUCTIVE SLEEP APNOEA (OSA)

Obstructive sleep apnoea (OSA) is a medical condition in which children have difficulty breathing when they are asleep, and may have short pauses in breathing (apnoeas). When children (and adults) fall asleep, their muscles relax and the throat narrows. This can lead to a partially or totally blocked upper airway during sleep, especially if the adenoids and tonsils are enlarged. Once the airway is blocked, the child's oxygen level may start to decrease and this may lead the brain to trigger the child to wake up briefly to re-open the airway. These brief awakenings can significantly disturb sleep.

OSA is a common condition in childhood, affecting between 1 and 3 children in every 100 in the population. It is most common in the pre-school years (2-5 years of age), because the tonsils and adenoids are often very large at this age. It is a major health issue, with significant impacts on learning, behaviour and cardiovascular health including high blood pressure. In severe cases it can cause strain on the heart and poor growth.

What is the cause of obstructive sleep apnoea in children?

The most common cause of OSA in childhood is enlargement of the tonsil and adenoid glands. Tonsils and adenoids grow most quickly in the pre-school years, sometimes faster than the bones of the face, leading to blockage of the airway. This is usually only noticeable during sleep when the muscles of the throat and tongue relax, making the airway even smaller. Being overweight or obese can also contribute to OSA, as can nasal allergy or hay fever. Children with certain medical conditions associated with weak muscles or low muscle tone, such as Down syndrome, are also more likely to have OSA. Children with syndromes affecting craniofacial structure, for example a small jaw, are also at increased risk.

How do I know if my child has obstructive sleep apnoea (OSA)?

- Snoring: Children with OSA are noticed to snore or have noisy breathing during sleep. Snoring in children is quite common (up to a third of all children) and may not be serious in some cases, but can also be a sign of obstructive sleep apnoea.
- Pauses in breathing during sleep: Sometimes parents notice that their child stops breathing for short periods while they are asleep. If you look closely, sometimes it is clear that the child is still trying to breathe (the chest and tummy are still moving) but no air is going in during these periods.
- Parents may also notice their child choking, gasping or snorting during sleep. They often seem to be struggling or working very hard to breathe while they are asleep.
- Children's sleep may be restless and they may sweat while asleep.
- Some children will sleep in unusual positions, for example, propped up high on pillows or with their neck extended.
- Breathing through an open mouth during the day or night is very common due to blockage of the nose by enlarged adenoids.
- Children may be tired when they wake up in the morning despite what seems like an adequate amount of sleep.
- Enlarged tonsils can lead to problems with swallowing food.
- Sometimes, children may show the daytime effects of very disturbed sleep such as difficulty paying attention, behaviour problems and learning difficulties.

Although these symptoms may suggest a significant breathing problem sometimes it can be difficult or impossible to determine if the snoring or noisy breathing is affecting a child's health. This is why more tests are often recommended.

What tests can be done to determine if there is a serious breathing problem?

Oximetry: In some cases your doctor may suggest that you take home a machine to measure your child's oxygen levels at home for one night (this is called overnight oximetry). This test can also be performed in hospital. It involves attaching a small sensor to your child's finger or toe which will record your child's oxygen level and heart rate through the night. If the problem is very severe, it will be detected on this test. If the test is normal however, your child still might have OSA and your doctor may recommend a full sleep study.

Sleep Study (also called polysomnography): The diagnosis of OSA can be confirmed with a sleep study, which involves monitoring a child's sleeping and breathing patterns overnight, by small electrodes attached to the skin. This test is usually performed in hospital in a children's sleep laboratory. This test requires your child and a parent to stay in the sleep laboratory for one night. Expert staff attach the electrodes before sleep and then monitor the signals and your child overnight.

What treatment is available for childhood obstructive sleep apnoea?

Treatment is individual for each child and depends on what is causing the problem and how serious it is. Children with OSA who have enlarged adenoids and tonsils are usually referred to an Ear, Nose and Throat surgeon to have their tonsils and adenoids removed. This operation fixes the problem in at least 80–90% of children who do not have other medical problems contributing to the OSA. The ENT surgeon can explain the side effects and risks of the surgery to parents.

Other possible treatments include weight loss for obese children and nasal sprays for those with nasal allergy. Nasal sprays shrink the adenoids and the swelling of the lining of the nose, making it easier for a child to breathe through the nose while they are asleep. A small number of children in whom these treatments are not appropriate or effective will require a machine overnight to help the child's airway stay open. This machine is called a CPAP machine (continuous positive airways pressure) and involves wearing a special mask during sleep which delivers room air blowing through it to keep the airway open.

Does my child need to see a sleep specialist again after they have surgery?

As we said above, in most children the problem goes away after the tonsils and adenoids are removed. No further appointments or tests are usually necessary. If your child still snores or you are concerned about any other symptoms not improving after the surgery, then a follow-up appointment and even a repeat sleep test may be necessary.

Summary

Children with OSA have noisy breathing during sleep, and are often noticed to have pauses in breathing, laboured breathing and other symptoms during sleep. In some cases it affects their well-being, behaviour and learning during the day as well.

It is usually caused by enlargement of the tonsils and adenoids and goes away once these structures are removed surgically. Other treatments may be recommended in individual cases.

Various types of sleep tests, performed at home or in the sleep laboratory, can be performed to confirm if a child has serious obstructive sleep apnoea or not.

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