

QCH Department of Respiratory and Sleep

Obstructive Sleep Apnoea and children with Down syndrome



Obstructive Sleep Apnoea (OSA)

Obstructive Sleep Apnoea (OSA) is a sleep-related breathing disorder that involves a decrease or complete stop of breathing despite ongoing efforts. It occurs when children are asleep because this is when muscles relax causing soft tissue in the back of the throat to collapse and block the airway.

OSA is more common in children with Down syndrome

OSA is a condition that can affect all children, however children with Down syndrome are more commonly affected. Studies have found that up to 76% of children with Down syndrome will have OSA. Children with Down syndrome can develop mild, moderate or severe OSA.

Why does OSA affect children with Down syndrome?

Children with Down syndrome share certain features which make them susceptible to developing OSA. These include having a flattened mid face, specially the bridge of the nose; a large tongue or a normal size tongue with a small upper jaw; they may have a downward displacement of the tongue; an abnormally small upper airway or other lower respiratory tract abnormalities. Children with Down syndrome can have weak muscles known as hypotonia, and may develop hypothyroidism and obesity, all which can cause or worsen OSA. Enlarged adenoids and tonsils are a common cause of OSA in all children, however due to already predisposing factors, enlarged adenoids and tonsils can make OSA worse in children with Down syndrome.

It is important to remember that not all risk factors may be present in any one child, and risk factors alone will not determine whether your child has OSA. As a parent/carer you will need to know what to look for when assessing whether your child may have OSA.

What Signs and Symptoms can you expect?

Snoring - Snoring and or short pauses, gasps or snorts in breathing may be observed for the entire sleep period or only be present at certain times of the night.

Mouth breathing - Enlarged adenoids and tonsils in the back of the nose and tongue may make it difficult for your child to breathe normally through their nose.

Sleep disturbance- Children with Down syndrome may find it difficult to go to sleep or wake often during the night due to blocking of the airway. They may also be a restless sleeper or sleep in strange positions throughout the night. Excessive sweating can also be observed as a result of restless sleep and increased breathing efforts.

Daytime sleepiness - You may observe that your child is tired during the day and/or still feels tired when they wake in the morning.

Bed wetting - Bed wetting can be associated with OSA, although the reason for this is not fully understood.

Behavioural or cognitive problems - Children with sleep deprivation find it difficult to concentrate and may have trouble learning or have poor attention span and as a consequence poor performance at school. In children with Down syndrome this may also translate to being unable to deal with everyday tasks and may have an effect on language development.

Consequences of OSA

As your child sleeps at night and the airway blocks intermittently, increases in blood pressure, heart rate and decrease in oxygen places their body under stress instead of giving their body the rest it needs. Over time, the stress placed on their bodies each night may increase their chance of having cardiovascular problems and may also impact on their development and ability to learn. If your child already has a pre-existing health condition, OSA may worsen symptoms or outcomes, for example if your child has a heart condition or pulmonary hypertension OSA can worsen outcomes by adding more stress to your child's heart.

The effects of sleep deprivation and night-time stress which can occur as a consequence of poor sleep and frequent waking in children with OSA can have detrimental short- and long-term effects on cognition, behaviour and academic performance. For a child with Down syndrome, OSA may make any developmental struggles more difficult, it is therefore imperative that treatment can be started as soon as possible.

What can you do?

Early diagnosis is key to facilitate early treatment and prevent any complications.

If you think your child may have OSA, you will need to visit your GP who can refer your child to a sleep specialist. You can help by keeping a close eye on your child's symptoms and if possible, keep a record of any sleep issues in a sleep diary. You can also choose to video your child sleeping, as this can be helpful when you are discussing your child's sleep symptoms.

A formal sleep study remains the gold standard in diagnosing OSA in all children. Your sleep physician will determine if your child needs a sleep study.

Treatment for OSA may involve surgery to remove tonsils and adenoids, however many children with Down syndrome will continue to have symptoms of OSA and may need further therapy.

It is important to remember that symptoms of OSA may reoccur in children with Down syndrome, it is therefore recommended that you continue to monitor them for OSA symptoms redeveloping.

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