

SLEEP APNEA IN CHILDREN

Sleep apnea in children can be responsible for significant problems including behavioural problems. The parents usually note noisy breathing interrupted by the stopping of breathing. It is often associated with bedwetting, restless sleeping and sometimes with recurrent awakenings through the night. During the day children tend to have excessive daytime sleepiness. However, in childhood this often manifests itself with over stimulation and hyperactivity. Children can be restless and fidgety having difficulty maintaining attention. They can show unusual aggressiveness as well as social withdrawal and shyness. This can result in poor school performance and difficulty learning. There are many abnormalities of the airway which can be associated with obstructive sleep apnea in children. However, commonly the presence of large tonsils and adenoids are a correctable cause.

Heavy snoring in children may also be responsible for poor sleep quality in particular in the presence of large tonsils, adenoids and a chronically blocked nose.



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SLEEP APNEA



**SLEEP
MEDICINE**

SLEEP APNEA

Sleep Apnea refers to snoring and stopping breathing repeatedly after having fallen asleep. This is usually also associated with low oxygen levels in the body.

How common is Sleep Apnea?

Sleep apnea is common. In Newcastle it affects approximately 4 in 100 people. It can start at any age but is particularly common after the age of 40. Men are more affected than women, 4 men to 1 woman. The difference tends to diminish after menopause.

What causes Sleep Apnea?

During sleep the muscles in the body go “floppy”. This applies to all muscles including the ones in the throat. Sometimes the floppiness is so great that the lining of the throat tends to collapse, the air stops going through completely or almost completely and the person stops breathing. Stopping breathing can persist for a few seconds or up to 20-30 seconds or even longer. As soon as the oxygen starts falling, however, the body has a warning mechanism which tends to wake the person. The person can wake completely, occasionally with a choking feeling lasting 1-2 seconds. However, most of the time the person goes from a deep sleep to a light sleep to breathe and back again but does not wake up fully. Therefore he/she is not aware of it. For example: if the person stops breathing 40 times per hour, the sleep tends to be disrupted 40 times per hour. The consequences being that, even though a person may be asleep for 10 hours, they never stay in a “deep resting sleep”. This results in waking up unrefreshed, being tired and sleepy through the day. Their memory starts to fail and they are unable to do their job efficiently. Their mood can also change and they can become more irritable, snappy or cranky.

Sleep Apnea definition: five or more stopping breathing per hour, each lasting 10 seconds or more.

Sleep Apnea Syndrome: Sleep Apnea causing daytime sleepiness.

CHARACTERISTICS OF SLEEP APNEA

Importance of sleep apnea

People may be labelled lazy and occasionally even be considered as having a psychiatric disorder. More importantly the daytime sleepiness caused by sleep apnea can result in job loss, car accidents, job related accidents and sometimes family problems. Medical conditions associated with sleep apnea - *High blood pressure* can be made worse by sleep apnea. It is not uncommon that once sleep apnoea is treated the high blood pressure becomes more easily controlled by medication. Sometimes a person has to reduce the amount of medications he takes when sleep apnea is treated. Other common problems associated with sleep apnea are *impotence* and lack of sexual drive, as well as *irregular heart beat* and *possibly increased risk of heart attack and stroke*.

Atrial fibrillation is also more common in sleep apnea.

Factors which predispose to sleep apnea

The most important single factor which affects sleep apnea is weight. A person who is only a snorer (noise maker) and puts on 10-15kg in a short period of time is likely to progress and develop sleep apnea. By the same token reduction of even 5-10kg can reduce the amount of stopping breathing during sleep. Alcohol, particularly in the few hours before going to bed, is likely to make sleep apnea worse. Certain medical conditions such as lack of thyroid hormones and excess of growth hormones can also make sleep apnea worse and sometimes sleep apnea disappears following correction of these abnormalities. The presence of a chronically obstructed nose as well as large tonsils also makes sleep apnea more likely to occur.

Severity of sleep apnea

This depends on the number of apnoeas (the number of times the breathing stops) and the degree of the lack of oxygen which results from it. Stopping breathing up to 5 times/hour is still considered normal. Stopping breathing completely and partially up to 15 times/hour is usually

considered not particularly harmful. However, as the number of times the breathing stops increases so does the severity of the condition and the complications that come with it. Sleep apnea is considered **severe** when a person stops breathing 30 or more times/hour. **Moderate** sleep apnea is considered between 15-30 times/hour and **mild** sleep apnea is below 15 times/hour. These, however, are only guidelines used by doctors. From a patient's point of view the severity depends on how sleep apnea affects their daytime function. For example: sleep apnea (stopping breathing 30 times/hour) may not be terribly relevant in a person who can stay home and can rest during the day. However, it may become much more important to a train or taxi driver who is at risk of falling asleep in a high risk occupation.

TREATMENT

The treatment can be divided into two groups.

1. Action the patient can take
2. What medical science can offer

What the patient can do

The single most important step that the patient can take is weight control. Weight reduction is usually a very effective way in reducing the amount of stopping breathing. Avoidance of excessive alcohol and in particular alcohol in the evening hours is another important step. Similarly, avoidance of sleeping tablets and sedatives (tablets for anxiety, antidepressants) is also useful.

Medical treatment

Correction of the lack of thyroid hormones or other hormones can be an important step. The current treatment for sleep apnea is with a mask, applied to the nose of the patient. Air is pumped through the nose and keeps the back of the throat open like a pneumatic splint. This prevents the soft part of the throat from collapsing. This treatment is called CPAP (continuous positive airway pressure). It is successful in the majority of cases. The treatment is very safe and virtually free of side effects. It is, however, somewhat primitive and intrusive and only 60-70% of patients who need treatment are able to tolerate it. Research for other possible treatments are underway.