

# Mouth breathing: Adverse effects on facial growth, health, learning and behaviour

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## The effects of mouth breathing in the development of face and jaws

Few parents realize how malleable the facial bones of a six-year-old child are and how quickly habits such as leaving the mouth open or thumb-sucking can spoil a child's appearance for ever (see image).

It is difficult for a lay person to know if the face of a young child is growing correctly, because most young children look 'cute'. However, mouth breathing and poor tongue posture can result in a long face with a narrow upper jaw and crowded teeth.

**It is important to not just straighten teeth with braces but also to ensure correct tongue posture and nasal breathing before the orthodontic treatment is completed.**

One of the main causes of relapse of orthodontic treatment is when the primary cause of malocclusion (incorrect tongue posture or mouth breathing) is not treated, and only the teeth are straightened.

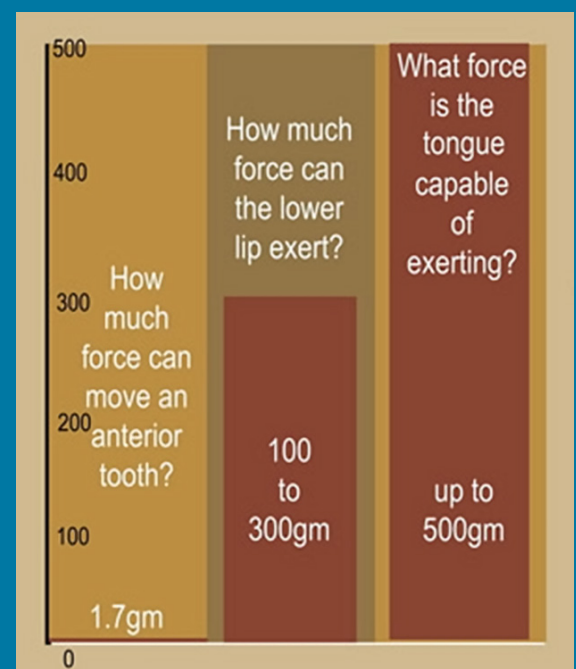


*Showing how the face improves if the oral posture is corrected*

The following are some of the symptoms that may be experienced by a child who is not breathing correctly or has sleep apnoea:

- Dark translucent areas under eyes
- Behavioural problems
- Inability to focus in class
- Bed wetting after the age of 6 yrs
- Feeling tired and easily falling asleep during the day
- Snoring, teeth grinding and night sweats

*One of the main causes of mouth breathing in children is allergies and blocked noses caused by enlarged adenoids and tonsils.*



*How children develop crooked teeth*

# Mouth Breathing and its negative impact on health

Nasal respiration is responsible for the production of nitric oxide. This nitric oxide, inhaled via the nasal respiration, is known to increase oxygen exchange efficiency and increase blood oxygen by 18% while improving the lung's ability to absorb oxygen. Nitric oxide is also a strong vasodilator and brain transmitter that increases oxygen transport throughout the body and is vital to all body organs including smooth muscles of the heart and blood vessels. Mouth breathing is associated with high blood pressure and cardiac failures.

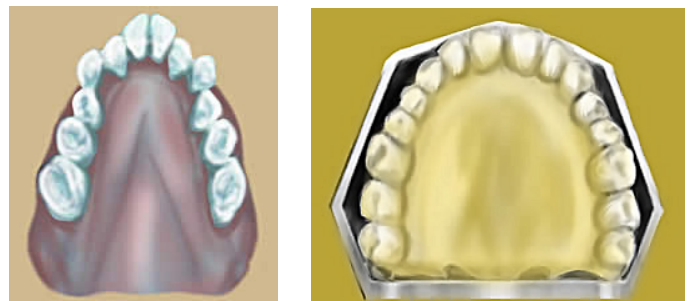
The negative impact of sleep disordered breathing in children's growth and development is well documented. These children are often well below their peers in terms of height and weight. Sleep apnoea is on the rise in both adults and children. A child with sleep apnoea may often get misdiagnosed with attention deficit hyperactivity disorder (ADHD). Mouth breathing often irritates the mucosa and often causes the tonsils and adenoids to enlarge. These may need to be removed surgically when they obstruct the airway and negatively affect sleep.

Below is an image of a young boy with normal breathing and a balanced facial profile to begin with, until he was introduced to an allergen (possibly the family cat). This led him to breathe through his mouth and end up with a long face, with crowded upper and lower jaws.



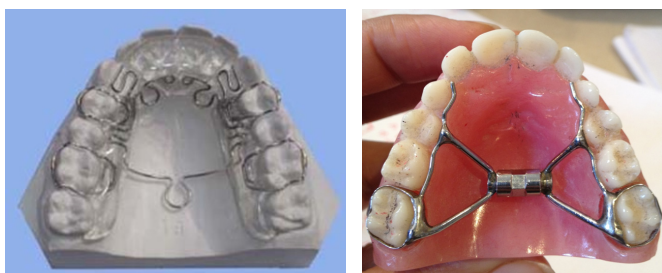
*The upper jaw stops growing in most boys and girls before the age of 10. Hence early treatment is the key.*

The images below show a narrow crowded jaw resulting from incorrect tongue posture and mouth breathing, compared with a uniform well-spaced arch with teeth well aligned and a wide upper jaw in the case of normal nose breathing.



## Treatment options

### For children with a crowded mouth and narrow jaws



Expansion of the upper jaw is achievable by removable or fixed expansion appliances. These provide room for the tongue to stay on the palate.

It is not uncommon for children with misaligned teeth to also have structural problems such as leg length discrepancy, or scoliosis, or holding one shoulder higher than the other. These can be treated by co-treatment with an experienced physiotherapist, osteopath or chiropractor.

This article is presented in the hope that both healthcare professionals and the general public will become more knowledgeable and more vigilant about mouth breathing, thereby alleviating the many emotional, physical and psychological problems associated with this condition.