

## Childhood Facial and Dental Arch Development

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As a child grows they develop physically in a number of ways. Facial and dental development are important to be aware of especially because you can effect this development through diagnosis, awareness, and intervention.

There are many factors that cause our faces to develop the way they do. These factors include an adequate airway, nasal vs. mouth breathing, cranial distortions (many occur at birth), habits, environment, and genetics.

It may not be commonly known that conditions such as bed-wetting, sleep apnea, and attention problems are common with airway problems. Without an adequate airway growth hormone is not released in normal amounts. Airway problems can be caused by allergies, pollution, large tonsils or adenoids, head posture, cranio-facial distortions, or anatomical abnormalities.

For example, if there is a nasal obstruction the child will have to breath through the mouth and the tongue will sit low in the mouth and not create a normal swallow. Development of the upper arch is dependant on the tongue pushing the arch forward and sideways over time. If the upper arch isn't widened and pushed forward crossbites will occur and lead to functionally weaker biting.

Further, tongue position and a normal swallow are extremely important in facial and dental development. The trauma of birth will often push skull bone plates together in a way that lock them together and don't allow them to float and move as the child grows. There are many dental malocclusions (jaw/tooth position) that are directly related to certain cranio-facial distortions. Habits such as thumb-sucking, lip sucking, tongue sucking, poor posture, or tongue thrust swallowing will also negatively affect development and health. Conditions such as "bucked teeth", open-bite, rashes around the mouth, and headaches can be related to bad habits.

Surprisingly, genetics have the least percentage of effect on facial development. Many researchers believe that genetics only account for 5-10 percent of all dental malocclusions.

Importantly, early detection and treatment of airway problems and habits are critical to ensure optimal facial development. Functional orthodontic appliances work with tongue and facial muscles to develop to correct position, width, angles, and tipping of jaws. Sometimes cranio-sacral osteopaths can be of great help in correcting badly distorted heads while functional orthodontic treatment is active.

Lastly, correction of dental malocclusions will only be stable for life if there is a complete balance of airway, muscle tone, TMJ, and tooth position. It is recommended that young children visit a dentist early (before the age of 2) for a full assessment and diagnosis so that parents can become aware of potential problems and when treatment should start.