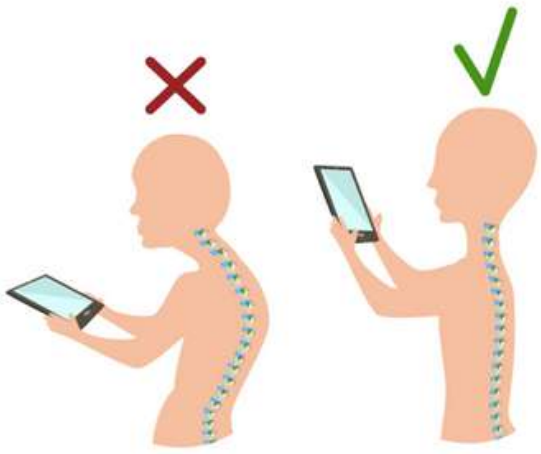
AMERICAN POSTURE INSTITUTE

The Impact of Poor Posture on Neurodevelopment in Children

Posture plays a crucial role in the overall development of children, including their neurodevelopment. Poor posture can negatively affect the musculoskeletal system and the nervous system.There is a correlation between poor posture and neurodevelopmental issues in children.

CAUSES OF POOR POSTURE

Several factors contribute to poor posture in children. Sedentary lifestyles, excessive screen time, improper ergonomic setups, carrying heavy backpacks, and lack of physical activity are some common causes. Prolonged sitting in positions that strain the spine, such as slouching or hunching over electronic devices, can gradually lead to postural imbalances and muscular weaknesses.



IMPACT OF TECH NECK POSTURE

Tech Neck posture refers to the forward head position adopted while using electronic devices, with the head jutting forward and the shoulders rounded. This posture has become increasingly prevalent in children due to the widespread use of smartphones, tablets, and computers.

Tech Neck can cause strain on the neck, shoulders, and upper back, leading to muscular imbalances, decreased flexibility, and potential spinal misalignments. Moreover, this posture can negatively impact neurodevelopment, as it can impede proper blood circulation and nerve function in the neck and head area, potentially affecting cognitive function and concentration.

MOUTH BREATHING, POSTURE, AND NEURODEVELOPMENT

Mouth breathing, often associated with postural imbalances, can lead to changes in craniofacial development and alter the normal function of the upper airway. Mouth breathing has been linked to decreased oxygen supply to the brain, which can affect cognitive function, attention, and memory. Mouth breathing can also disrupt the balance between the sympathetic and parasympathetic nervous systems, potentially impacting overall neurodevelopment.

Understanding the relationship between abnormal posture, mouth breathing, and abnormal neurodevelopment is crucial for implementing appropriate interventions to promote healthy postural habits and facilitate optimal neurodevelopment in children.

RESEARCH STUDIES LINKING POSTURAL DEFICITS WITH MOUTH BREATHING AND NEURODEVELOPMENTAL CHALLENGES

This study investigated the association between mouth breathing, postural abnormalities, and cognitive function in children. The researchers found that mouth breathers exhibited a higher prevalence of postural abnormalities compared to nasal breathers. Furthermore, children with mouth breathing and postural abnormalities showed lower scores in cognitive function tests, suggesting a potential link between mouth breathing, postural issues, and compromised neurologic outcomes.

- Maia RA, et al. (2020). Association between mouth breathing, postural abnormalities, and cognitive function in children. International Journal of Pediatric Otorhinolaryngology, 138, 110334.

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- Bakhshaee M, et al. (2022). Correlation between mouth breathing, malocclusion, and attention deficit hyperactivity disorder in children. The Laryngoscope, 132(1), 95-101.

In this study, the correlation between mouth breathing, malocclusion (improper alignment of the teeth), and attention deficit hyperactivity disorder (ADHD) in children was investigated. The researchers found a significant association between mouth breathing and both malocclusion and ADHD. The results suggested that mouth breathing might be a contributing factor to both malocclusion and ADHD symptoms, indicating a potential link between oral posture, dental issues, and neurologic effects.

- Teixeira RR, et al. (2023). Association between postural balance, mouth breathing, and neurodevelopmental disorders in children. Journal of Bodywork and Movement Therapies, 27, 58-64.

POSTURAL INSTABILITY AND ADHD

There is evidence suggesting a correlation between abnormal posture, attention deficit hyperactivity disorder (ADHD), and abnormal neurodevelopment in children. Abnormal posture, such as poor postural control or postural imbalances, can lead to sensory and motor dysfunctions that may contribute to attention difficulties and hyperactivity seen in ADHD.

Studies have shown that children with ADHD tend to exhibit deficits in postural stability and control, which can impact their ability to maintain focus, regulate movement, and engage in tasks requiring sustained attention. Furthermore, abnormal posture can disrupt the flow of information within the nervous system, potentially affecting the development and functioning of neural circuits involved in attention, impulse control, and executive functions.

Understanding the correlation between abnormal posture, ADHD, and abnormal neurodevelopment is crucial for identifying potential underlying factors and implementing comprehensive interventions that address both postural issues and ADHD symptoms, ultimately promoting healthier neurodevelopment in affected children.

RESEARCH STUDIES LINKING POSTURAL INSTABILITY AND ADHD

This study investigated the relationship between postural instability and ADHD in children. It found a significant correlation between poor postural stability and ADHD symptoms, suggesting that postural control deficits might be related to attention deficits in children with ADHD.

- Majidpour M, et al. (2020). Postural Stability and Attention-Deficit Hyperactivity Disorder in Children. Frontiers in Integrative Neuroscience, 14, 37.

This research explored the association between postural instability and cognitive functioning in children with Developmental Coordination Disorder (DCD). The study revealed a significant relationship between postural instability and executive functioning deficits, indicating that poor postural control might impact cognitive processes in children with DCD.

- Goulardins JB, et al. (2021). Postural Instability and Cognitive Functioning in Children with Developmental Coordination Disorder. Research in Developmental Disabilities, 113, 103971.

This study examined gait and postural control in children with ADHD. It found that children with ADHD exhibited gait abnormalities and poorer postural control compared to typically developing children. These findings suggest that postural instability may be linked to ADHD-related motor impairments.

- Roussel NA, et al. (2021). Gait and Postural Control in Children with Attention-Deficit/Hyperactivity Disorder. Journal of Attention Disorders, 25(11), 1603-1612.

This research investigated the relationship between balance control, attention, and executive functions in children with ADHD. The study revealed that children with ADHD exhibited poorer balance control, as well as deficits in attention and executive functions. These results suggest a potential link between postural instability and cognitive impairments in children with ADHD.

- Ghorbani M, et al. (2022). Balance Control, Attention, and Executive Functions in Children with ADHD. Journal of Clinical and Experimental Neuropsychology, 44(2), 279-288.

POSTURE CHECKS FOR CHILDREN

Regular Posture Checks for children are crucial for promoting proper neurodevelopment. Poor posture can have far reaching effects beyond musculoskeletal health, impacting cognitive function, attention, and motor skills. By conducting regular Posture Checks, healthcare professionals and parents can identify and address postural issues early on, preventing the potential negative consequences on neurodevelopment.

Interventions such as postural correction exercises, ergonomic adjustments, and promoting awareness of proper posture habits can help optimize neurodevelopmental outcomes in children.

By prioritizing Posture Checks and implementing appropriate interventions, we can support children in developing healthy postural habits that contribute to their overall well-being and neurodevelopment.