

One in ten six to eight year olds has sleep-disordered breathing

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Approximately ten per cent of 6 year olds have sleep-disordered breathing, according to a recent Finnish study. The risk is increased among children with enlarged tonsils, crossbite and convex facial profile. Unlike in adults, excess body fat is not associated with sleep-disordered breathing in this age group. The study was part of the Physical Activity and Nutrition in Children (PANIC) Study led by the Institute of Biomedicine at the University of Eastern Finland. The results were published in *European Journal of Pediatrics*.

The symptoms of sleep-disordered breathing vary from mild snoring to obstructive sleep apnoea syndrome. In addition to nocturnal pauses in breathing, the syndrome can be manifested as a variety of other symptoms in children, such as daytime [hyperactivity](#), behavioural and [learning difficulties](#) as well as compromised growth. "If a child has symptoms of sleep-disordered breathing, his or her craniofacial status and dental occlusion need to be examined. On the other hand, children with tonsillar [hypertrophy](#), crossbite and convex facial profile should be examined to assess the quality of their sleep," concludes Ms Tiina Ikävälko, Orthodontic Specialist and Clinical Lecturer at the University of Eastern Finland.

Recognising the risk for sleep-disordered breathing at an early age allows an [early intervention](#) to prevent the progression of the disease. The diagnosis and treatment of children's sleep-disordered breathing is best carried out in cooperation involving dentists, paediatricians and otorhinolaryngologists as well as the parents.

The study involved 512 Finnish children aged 6-8 years who constituted a [representative sample](#) of the population in their age group. Their lifestyles and health were examined thoroughly, including an evaluation of their craniofacial morphology and dental occlusion.

Sleep disturbances attract growing medical interest, as they have been shown to have many [negative health effects](#). Sleep-disordered breathing is one of the most common [sleep disturbances](#); however the prevalence of sleep-disordered breathing among children of different ages is still not known exactly.

The pathogenesis of sleep apnoea may be twofold

According to the study conducted in Kuopio, eastern Finland, the risk of 6 year old children for having sleep-disordered breathing is associated with certain craniofacial morphology traits, but not with excess body fat.

In adults, the most important risk factors for obstructive sleep apnoea syndrome are overweight and certain craniofacial morphology traits, such as a small and retruded lower jaw. Altogether 70 per cent of adults with sleep apnoea are overweight. Deviations in craniofacial morphology and dental occlusion are significantly more common among sleep apnoea patients who have normal weight than among those who are overweight. According to the researchers, these observations indicate that there could be two different types of pathogenesis.

The results of the present study indicate that some of those at risk for obstructive sleep apnoea syndrome as adults could be identified already in childhood. Adenotonsillectomy remains the main treatment of sleep-disordered [breathing](#) symptoms in children. Orthodontic treatment may also be useful, offering ways to control the development of the jaws and to prevent the development of craniofacial traits predisposing to sleep apnoea, in addition to shaping the dental arch and occlusion. The role of

obesity is likely to increase with age, and the prevention of excess weight gain is vital in the prevention of sleep apnoea and other diseases associated with obesity.

Provided by University of Eastern Finland

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