

# Discovery of unique muscle fibers of upper airway in humans

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Snoring man. Credit: Flickr

Researchers at Umeå University in Sweden have discovered unique muscle fibers in the soft palate of the mouth in both infants and adults. The fibers seem to be present in greater number in snorers and sleep apnea patients. The findings were recently published in the *Journal of Anatomy*.

"This discovery of special group of fibers gives us deeper insight into the complex anatomy and physiology of the upper airway and evolutionary specialization. These unique fibers have a special molecular build-up with an absence or modified design of some key proteins. Surprisingly, absence of these proteins have only been reported in genetic muscular diseases," says Farhan Shah, researcher at the Department of Integrative Medical Biology at Umeå University and lead author of the article.

The team at the Umeå University Laboratory of Muscle Biology, under the leadership of Associate Professor Per Stål, has taken a novel approach to see if snoring vibrations and tissue stretch can cause neuromuscular damage in upper airways and result in obstructive sleep apnea and swallowing dysfunction. These unique [fibers](#) were discovered while investigating muscles from both healthy subjects and obstructive [sleep apnea](#) patients.

The ongoing project seeks to better understand upper airway muscle function in health and in disorders as [obstructive sleep apnea](#), dysphagia and speech disorders. Sleep apnea is associated with serious potential implications such as cardiovascular disorders, dementia and early death.

"Our published findings are significant and will hopefully help guide more successful treatment strategies in the future. This is just a step along the way, but it is an important one," said Per Stål, associate professor at the Department of Integrative Medical Biology.

**More information:** Farhan Shah et al. Unique expression of cytoskeletal proteins in human soft palate muscles, *Journal of Anatomy* (2015). [DOI: 10.1111/joa.12417](https://doi.org/10.1111/joa.12417)

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