

## Neurocognitive Disorders, Degeneration and Obstructive Sleep Apnea: The Dementia Connection

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Snoring, also known as Obstructive Sleep Apnea (OSA), affects at least one quarter of USA adults (80 million) and over one billion individuals worldwide. Do you snore? Snoring impacts the human body's ability to regulate blood pressure and oxygen supply to the brain. Excessive snoring and subsequent sleep apnea is the condition where breathing repeatedly stops and starts during sleep. Snoring is the hoarse or harsh sound that occurs when air flows passes relaxed tissue in the throat, causing the tissues to vibrate as an individual breathes. This snoring can be caused by a number of factors, such as the anatomy of the mouth and sinuses, alcohol consumption, allergies, a cold and even individual weight. When an individual dozes off and light sleep moves to deep sleep, the muscles in the roof of the mouth (soft palate), tongue and throat relax. The tissues in the throat can relax enough to partially block airways and vibrate.

This sleep/wake disruption not only impacts breathing and subsequent oxygen supply to key areas of the brain but is linked to an increase in a protein, beta-amyloid, that builds upon on the walls of the arteries in the brain and increases the risk of dementia and white matter disease. How does OSA show itself? Caregivers or partners observe breathing pauses of the individual during sleep, possible excessive daytime sleepiness, difficulty concentrating, restless sleep, gasping or choking at night and snoring so loud it disrupts a partner's sleep. The disrupted sleep may cause an individual to experience disrupted sleep many times during the nights. Research from sleep apnea studies has shown that breathing slows or stops at least five times during every hour of sleep. Nightly experiences over many months or even years creates chronic neurocognitive degeneration. Dementia follows and is resolute. At a lesser level, these disruptions can cause unusual thoughts and subsequent odd... even unusual... word expressions or letter conversations with close friends or partners. Do you snore? Do you know?

Complications from habitual snoring may be more than just a nuisance. OSA also contributes to daytime sleep needs, frequent frustration or anger, difficulty concentrating, a great risk of high blood pressure, and heart conditions leading to an impending stroke. This is often unknowingly confirmed through occasional MRI scans of the brain due to competent health practitioner monitoring during dementia care. Brain scans often show blood vessel irregularities, or constriction due to plaque formation, which propose forthcoming vascular disease challenge and cardiovascular problems due to the resulting chronic brain neurodegeneration and brain cell destruction. It is a never-ending cycle unless adjustments to OSA are implemented. What are the options? Can the brain amyloid burden (White Matter Disease) be slowed or even stopped? The Nocturnal Hypoxemia associated with White Matter Disease causing cognitive function disorders and possible dementia in older adults is indeed possible to reverse! Evaluations of sleep patterns and resulting cognitive function in older adults confirm this. How can this occur? New research shows that damage in the brain started in the same place and spreads in the same way in sleep apnea, as in Alzheimer's Disease, a Dementia condition. This biological condition has been confirmed by research. For those individuals desiring a permanent to snoring resolution, the Pillar Procedure is available. Developed by the USA Cleveland Nasal Sinus and

Sleep Center, it involves placement of three tiny woven 18mm strip plants into the soft palate to help reduce vibration that causes snoring. They do not interfere with swallowing or speech. This author offers: Would oxygen supplementation during sleeping give the same effect? New research possible?

The link between OSA, White Matter Disease (WMD) and Dementia, including Alzheimer's Disease is real. Sleep apnea in later life more than doubles subsequent Alzheimer's disease risk. The connection is real: If you have sleep apnea in mid-life, you are more likely to develop Alzheimer's Disease when you are older. When you have Alzheimer's Disease, you are more likely to have OSA. The two are linked biologically.

How can OSA and the resulting neurodegenerative brain cell changes be stopped or even reversed? As offered earlier in this editorial, lifestyle changes with natural food eliminating toxic inflammatory ingredients and most important, complementary Dementia Caregiver support. The Seven Golden Rules for Caregivers Supporting Dementia Clients has already been published by E Chronicon in previous issues.

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