

Words about Wellness

UNC DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION

Why Sleep Matters

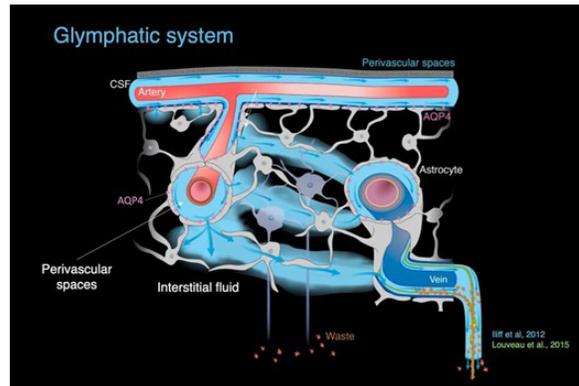
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"Words About
Wellness" is brought to
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**Today's "Words About
Wellness" is brought
to you by:**

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We all know that we feel pretty crummy when we aren't sleeping well. Sleep problems – whether it's a question of not enough sleep, or just poor-quality sleep – leave us with low energy, cause problems with thinking and memory, reduce productivity, and exacerbate other conditions like depression and chronic pain. We also know that an otherwise healthy person, if deprived of sleep entirely for even just a few days, may develop

symptoms of psychosis. What we've been learning more about recently, however, is how processes that normally occur during sleep are essential to our long-term brain health.

All species have a biological need for sleep. This may be, at least in part, because the brain enters a state of activity during sleep that enables elimination of potentially neurotoxic waste products from brain. The glymphatic system is a macroscopic waste clearance system that utilizes a unique system of perivascular tunnels, formed by astroglial cells, to promote efficient elimination of soluble proteins and metabolites from the central nervous system. It was first described in 2012. Basically, it circulates cerebral spinal fluid (CSF) through and around the brain to rinse away metabolic wastes and other toxins -- and it's mostly active only during sleep. Besides waste elimination, the glymphatic system also facilitates brain-wide distribution of several essential compounds, including glucose, lipids, amino acids, growth factors, and neuromodulators.

Research has shown that glymphatic function helps the brain dispose β -amyloid, a brain by-product that plays a central role in neurodegenerative disorders like Alzheimer's disease. Problems with glymphatic function may also contribute to pathology in traumatic brain injury and stroke. For more information, see

Jessen NA, Munk AS, Lundgaard I, Nedergaard M. The Glymphatic System: A Beginner's Guide. *Neurochem Res.* 2015 Dec;40(12):2583-99. doi: 10.1007/s11064-015-1581-6. Epub 2015 May 7. PMID: 25947369; PMCID: PMC4636982.

and www.simonsfoundation.org/2020/12/10/the-good-kind-of-brainwashing,

"Sleep hygiene" is a phrase that refers to behaviors that support good sleep. Components include keeping a stable sleep schedule, making your bedroom comfortable and free of disruptions, following a relaxing pre-bed routine, and building healthy habits during the day that can help you sleep better at night. For some tips on establishing and maintaining good sleep hygiene, visit www.sleepfoundation.org/sleep-hygiene