The Glymphatic System – How Insomnia Leads to a Filthy Mind

Throughout the day our blood circulates in our bodies carrying oxygen and nutrients to every cell. Waste from the cells' metabolic processes is released into interstitial fluid (the fluid between each cell). The lymphatic system sucks up excessive fluid and the waste, incorporating it into the lymphatic fluid that flows through the lymph nodes to filter the waste and pathogens before dumping the fluid back into the circulatory system.

For hundreds of years, scientists have been trying to figure out how the brain cleanses itself since the lymphatic system does not extend to the brain and the spinal column. Last year scientists announced the discovery of the glymphatic system. No, you are not looking at a typo. The glymphatic system is the cleansing system of the brain.

Like the lymphatic system, the glymphatic system removes waste from interstitial fluid, but this system requires your full cooperation to do its job. Cleansing of the brain happens when you are asleep.

Brain cells, like all cells of the body, require food and oxygen for metabolism. And like all cells of the body, brain cell metabolism results in waste. During the day, this waste collects in the brain's interstitial fluid. Some of this waste dissolves in the fluid, but most of it simply collects, waiting for sleep.

One of the most fascinating aspects of the brain cleansing process is the behavior of the brain cells. They actually shrink during sleep. The space between the cells increases by

60% aiding in the cleansing process. Cerebral spinal fluid quickly flows into the space, aided by the pulse of the arteries. It mixes with the interstitial fluid and washes the waste toward the veins and carries it to the liver. This process occurs during slow wave sleep, the deepest sleep.

During the night, we experience sleep cycles that average about 90 minutes. In the first half of the night we cycle through all of the stages, N1, N2, N3, and REM sleep. Slow wave sleep or delta sleep is N3. We start at N1 and go deeper into N2, then deeper into N3, the stage where brain cleansing occurs. In the second half of the night, REM sleep increases and alternates with N1 and N2 sleep, so it appears most of the cleanup is done in the first half of the night.

Scientists who discovered the glymphatic system hope that understanding this process will lead to successful treatment of Alzheimer's, Parkinsons, and other similar brain diseases.

Quality sleep is vital to the removal of waste and toxic substances from the brain. If you have difficulty falling asleep or staying asleep, learn about *Natural Remedies For Insomnia*, and be sure to see *Holistic Guide To Healing the Endocrine System And Balancing Our Hormones,* and *Candida Overgrowth Symptoms.*

Recommended Supplements:

- Shillington's Nerve Sedative Formula
- L-Tryptophan
- Stress B-Complex – Thorne Research
- Basic B-Complex – Thorne Research
- SleepThru – Gaia Herbs
- Sleep & Relax – Gaia Herbs
- Shillington's Cal-Calm Tea
- Skullcap Herb – Gaia Herbs
- Vitamin D
- More supplements for insomnia

Further Reading:

- *Why We Need Sleep*
- *Signs of Sleep Deprivation*
- *Pure Sleep – 11 Tips for Better Sleep*
- *Natural Remedies for Insomnia*
- *Thyroid Disease Epidemic – How is Yours Doing?*
- *Natural Remedies for Adrenal Fatigue*
- *Mental Health, Physical Health & B Vitamins – Nature's Valium*
- *Earthing – Touching Earth*
- *Earthing – Ground Your Body for Optimal Health*

Sources:

- *New ideas in chronobiology | Tomorrow Today – Interview* – YouTube
- *Why sleep is important: Brain uses sleep to cleanse itself of toxins* – YouTube
- *Glymphatic system* – iSnare
- *Natural Patterns of Sleep* – Healthy Sleep, Havard