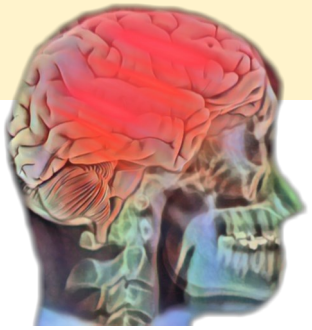
DID YOU KNOW?

Preventive Maintenance of the Brain and Body

The 'Did You Know' series provides facts about the brain and body that enhance performance and promote recovery. Each episode explains why this is important for you to know. The learner is encouraged to apply these tips and seek to increase their personal knowledge.

Nutrition, Sleep and TBI Recovery **Avoiding variables that influence inflammation in the brain is critical after any level of brain trauma. Stress and what we eat, drink or smell can increase brain inflammation. The tips provided in this episode can lessen the inflammation throughout the brain and body.**



NUTRITION AND BRAIN MAINTENANCE

When recovering from a brain injury, it is imperative to avoid foods that create inflammation or disrupt the central nervous system's ability to repair the damaged area. Some foods and supplements assist the body with maintenance and repair, while others increase inflammation, negatively impact sleep quality, create diseases, increase anger and stress, or advance the severity of injury.

Don't Eat

Avoiding inflammatory foods will decrease brain inflammation. Additionally, the addictive nature of inflammatory foods influence a stress response in the brain resulting in additional inflammation.

Aspartame, Sucrose A study published in the Journal of Nutritional Neuroscience found that artificial sweeteners can slow neurotransmission and synthesis of critical hormones needed to improve performance, repair the body and promote sleep.

Do Eat

Ant-inflammatory foods aid in recovery and will reduce inflammation throughout the entire body. These foods also promote the development of Brain-Derived Neurotropic Factor BDNF (brain fertilizer), aiding in the repair of damaged cells.

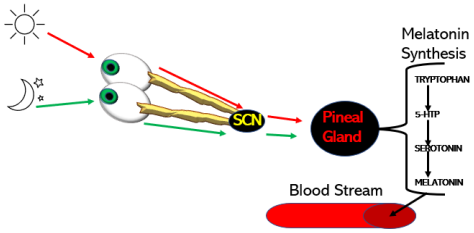
Supplements that aid in recovery, sleep and repair GABA, 5-HTP, L-Theanine are essential in promoting sleep, supporting melatonin production and relaxation, reducing an over-active brain. Melatonin also serves as an anti-inflammatory, targeting specific immune system cells.

SLEEP AND THE GLYMPHATIC SYSTEM

During the deep sleep stage, the **glymphatic system** delivers needed supplies to the brain and removes all brain waste. Fewer hours of sleep result in less time for the glymphatic system to remove all damaging brain toxins as it only functions in the deep sleep stage. The remaining brain waste promotes inflammation and may lead to cognitive diseases such as Alzheimer's and dementia. 7-8 hours of sleep promotes brain trauma recovery by ensuring no toxins are left in the brain to further damage. It is imperative to enable four deep sleep stages in the 7-8 hours period.

MELATONIN SYNTHESIS PROMOTING EFFICIENT SLEEP

Melatonin is developed in the body when darkness stimulates receptors in the eyes. Light results in ceasing melatonin production. Signals travel from the eyes to the Suprachiasmatic Nucleus (SCN), then to the Pineal Gland. The amino acid Tryptophan (not produced by the body, only found in food) converts to 5-HTP, which converts to the hormone serotonin, and further synthesized to the hormone melatonin. Melatonin is then released throughout the body to promote sleep and to conduct its other functions such reducing inflammation.



Sources

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