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The Role of Sleep in Stroke Recovery

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Despite advancements in understanding the pathophysiology of stroke and the state of the art in acute management of afflicted patients as well as in subsequent neurorehabilitation training, stroke remains the most common neurological cause of long-term disability in adulthood. To enhance stroke patients' independence and well-being it is necessary, therefore, to consider and develop new therapeutic strategies and approaches. We postulate that sleep might play a pivotal role in neurorehabilitation following stroke. Over the last two decades compelling evidence for a major function of sleep in neuroplasticity and neural network reorganization underlying learning and memory has evolved. Training and learning of new motor skills and knowledge can modulate the characteristics of subsequent sleep, which additionally can improve memory performance. While healthy sleep appears to support neuroplasticity resulting in improved learning and memory, disturbed sleep following stroke in animals and humans can impair stroke outcome. In addition, sleep disorders such as sleep disordered breathing, insomnia, and restless legs syndrome are frequent in stroke patients and associated with worse recovery outcomes. Studies investigating the evolution of post-stroke sleep changes suggest that these changes might also reflect neural network reorganization underlying functional recovery. Experimental and clinical studies provide evidence that pharmacological sleep promotion in rodents and treatment of sleep disorders in humans improves functional outcome following stroke. Taken together, there is accumulating evidence that sleep represents a "plasticity state" in the process of recovery following ischemic stroke. However, to test the key role of sleep and sleep disorders for stroke recovery and to better understand the underlying molecular mechanisms, experimental research and large-scale prospective studies in humans are necessary.

The effects of hospital conditions, such as adjusting light conditions according to the patients' sleep-wake rhythms, or sleep promoting

drugs and non-invasive brain stimulation to promote neuronal plasticity and recovery following stroke requires further investigation. Quality sleep has many benefits, especially for stroke survivors. Getting a good night's sleep supports neuroplasticity, the brain's ability to restructure and create new neural connections in healthy parts of the brain, allowing stroke survivors to re-learn movements and functions. People who got less than 7 hours of shuteye or 8–9 hours had no higher risk of stroke than those who

slept 7–8 hours. Importantly, people who both slept for longer than 9 hours and napped for more than 90 minutes per day had an 85% higher risk of stroke than those who slept and napped moderately.

Biography:

Youssef Edwar Mounir Melek is a Egyptian Physiotherapist & Clinical Nutritionist. BPT from European University in Cyprus, DPT From Harvard medical school USA. Fellowship European Society of Cardiology in France.- Fellowship Egyptian Society of Shoulder Surgery in Egypt. - Fellowship American Clinical Nutrition Association in America.- Fellowship International Society of Orthopedic Surgery and Traumatology, New York, USA. - Fellowship American society of oncology - Fellowship American Pediatric Society, Assist prof At the British Academy, Assist prof at together Academy

Recent Publications

1. Abboud F., Kumar R. [Obstructive sleep apnea and insight into mechanisms of sympathetic overactivity.](#)
2. *J. Clin. Investig.* 2014;124:1454–1457.
3. Ahmed S., Meng H., Liu T., Sutton B.C., Opp M.R., Borjigin J., Wang M.M. [Ischemic stroke selectively inhibits REM sleep of rats.](#) *Exp. Neurol.* 2011;232:168–175.
4. Arnardottir E.S., Mackiewicz M., Gislason T., Teff K.L., [Pack A.I. Molecular signatures of obstructive sleep apnea in adults: a review and perspective.](#) *Sleep.* 2009;32:447–470. []
5. Autret A., Laffont F., de Toffol B., Cathala H.P. A syndrome of REM and non-REM sleep reduction and lateral gaze paresis after medial tegmental pontine stroke. Computed tomographic scans and anatomical correlations in four patients. *Arch. Neurol.* 1988;45:1236–1242.
6. Baglioni C., Nissen C., Schweinoch A., Riemann D., Spiegelhalder K., Berger M., Weiller C., Sterr A. Polysomnographic characteristics of sleep in stroke: a systematic review and meta-analysis.

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