

## **Importance of Sleep**

*Sleep is critical for the overall maintenance of the brain and without good-quality sleep we age more quickly and suffer cognitive and mood regulation deficits.*

### **Functions of sleep**

Clearing out of toxins  
Nurturing protein synthesis  
Synthesis and transport of cholesterol  
Expression of molecules associated with synaptic plasticity  
Increased long-term potentiation (better memory storage)  
Expression of genes  
Memory consolidation.

### **Sleep deprivation symptoms**

Impaired neurogenesis  
Restricted ability to clear glucose from the blood (up to 40%)  
Heightened risk of type 2 diabetes  
Increased blood pressure  
Weight gain due to increased ghrelin (increased hunger) and decreased leptin  
(less inhibition of hunger)  
Depression  
Anxiety  
Shortened telomeres (an indication of accelerated aging)  
Deficits in attention and task completion  
Increase in negative memory formation  
Increase in negative rumination  
Impairments in new learning and memory  
Impairment of immune system > increased vulnerability to illness

*Studies suggest that an average of seven hours of good-quality sleep per evening is optimal. Six hours of sleep is reported as the minimum biological requirement and for this reason is referred to as the “core sleep.”*

*Mind-Brain-Genes: Toward Psychotherapy Integration (2019)*

By John B. Arden, at pages 132-133

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