Introduction and Overview

Critical Domains of a Brain Healthy Lifestyle: Physical Activity, Proper Nutrition, Stress Management, Socialization, Mental Stimulation, Spirituality

Review of the Anatomy & Physiology of the Brain

1. Lobes of the Brain
   a. Frontal
   b. Temporal
   c. Parietal
   d. Occipital
2. The Cerebellum
3. Limbic System
4. Neurons, Neurotransmitters, Neurotrophic Factors

Exercise for Brain Health!

1. Thirty Minutes of Moderate to Vigorous Aerobic Exercise
   a. Stimulates BDNF causing neurons to fire more efficiently
   b. Increases neurogenesis in the hippocampus
   c. Gets oxygen and glucose to the brain faster
   d. Repetitive gross motor movement strengthens dendritic branching
   e. Reduces obesity
   f. Balances brain chemicals, hormones and system functions

Research and Brain Boosters:

Optimizes Learning and Cognition Through the Lifespan

1. Exercise causes nerve cells to multiply, nerve connections to strengthen, protecting neurons from harm
2. Exercise increases neuronal connections
3. Exercise fuels the brain with oxygen and glucose
4. Exercise increases the number of capillaries surrounding the neurons
5. Exercise strengthens the cerebellum
6. Exercise strengthens the corpus callosum
7. Exercise increases levels of neurotransmitters dopamine, serotonin, norepinephrine, and neurotrophic factors like BDNF

Research and Brain Boosters:
Effectively Manage Stress, Anxiety, & Mood
1. Exercise and Stress
2. Exercise and Depression
3. Exercise and Anxiety

Research and Brain Boosters:

THREE TAKE HOME MESSAGES:
1. Exercise plays a vital role in brain health through the lifespan.
2. Exercise optimizes learning and cognition through the lifespan.
3. Exercise is a key component to managing stress, anxiety, and mood.

Friedland, R.P. et al. (2001). Patients with Alzheimer's disease have reduced activities in midlife compared with healthy control group members. Proceedings of the National Academy of Sciences. 98, 3440.


