



Exercise keeps the brain fit

Exercise affects virtually every system in the body. Most everyone is familiar with the benefits of regular exercise on cardiovascular and bone health. Exercise also decreases the risk of developing diabetes and assists in successful management of the condition. There is even evidence that regular physical activity can decrease the risk for cancer and strokes.

If that's not enough incentive to get you and keep you exercising, new research shows exercise may enhance and preserve brain function.

Most cells in the body are replaced periodically. Cells lining the intestine live only a few days before they are replaced by new ones. Red blood cells last about four months. Brain cells, on the other hand, are not replaced with new ones and must last a lifetime.

Brain cells are thought to slowly degenerate as we age. Since they are not replaced, this can lead to a decline in various aspects of brain function, even changes in personality.

There is a great deal of interest in using nutritional and herbal dietary supplements to benefit and protect brain function.

However, very little is known about the long-term effects of the chemicals in these supplements. Even the highly touted ginkgo biloba is not risk-free. It can increase problems with bleeding disorders, especially in people who are using anticoagulant blood-thinning medications.

A healthy brain produces proteins -- scientists call them neurotrophic factors -- that help protect and nourish brain cells. Although lost brain cells are not replaced, remaining cells can adapt to changing conditions. Healthy cells can make the new connections among each other that are required to learn and remember new things.

Question: How does exercise affect brain function?

Answer: Researchers at the Institute for Brain Aging and Dementia at the University of California, Irvine, are exploring this question by studying both mice and men. In their rodent studies, they provide mice and rats with running wheels in their cages. Like people, some mice naturally like to run and others don't, the researchers found.

The animals that voluntarily run the most have higher levels

of neurotrophic factors that enhance and preserve brain function. An increase in these brain factors is measurable after only eight days of exercising.

Exercise is known to effectively reduce depression in many people. The increase in brain neurotrophic factors may be the reason. In addition to the rather immediate benefits to the brain, these factors may help prevent or at least reduce some of the brain changes commonly seen with aging.

Q: Is exercise related to the development of Alzheimer's disease?

A: Recent studies on humans find that increased physical activity helps reduce the declining brain function commonly observed with aging. In particular, people who are inactive during middle adulthood have a greater risk of developing Alzheimer's disease.

The mouse research also indicates that providing animals with learning opportunities and social interaction further benefits brain health.

The challenge for many of us may be to find a "running wheel" that we enjoy using. Dancing anyone?

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