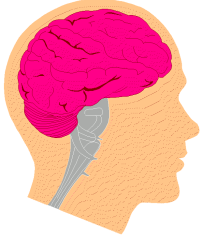




Age-Proofing Your Brain

by Warren Krug

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(A summary of the article, "Age-proofing Your Brain" as found in the August, 2000 Consumer Reports magazine.)

Science is changing how it looks at the human brain, and the news is good. According to the traditional view, the adult brain can't manufacture new cells to replace those that die nor can it sprout new dendrites—the neural "wiring" that transmits information among cells. Although these "structural losses" can be tolerated for a while because the brain has billions of cells, they will eventually mount up leading to mental lapses linked with advancing age. However, a growing body of research now suggests that the adult brain appears fully capable of growing, adapting, and in some ways even improving with age. The brain no longer needs to be seen as a cerebral clock that inevitably must wind down over time.

Certain cognitive skills such as reasoning, long-term memory, and reaction time do decline on average as people age. On the other hand, older people well into their 70s can often perform better than younger adults in certain areas such as vocabulary, numerical skills, spatial orientation, and interpersonal problem solving. Moreover, according to recent research, even the normal decline in cognitive skills can be minimized by stimulating, fueling and protecting the brain as it ages.

A four-pronged approach is suggested for "slowing down the graying of the gray matter."

1. Use your brain power or lose it. Scientists have known for some time that lab animals when mentally stimulated can develop a thicker cerebral cortex, more neural connections, and other biochemical changes associated with learning.

Autopsies on rats housed in an enriched environment show that they have at least twice as many new cells in a brain region involved with memory and learning than rats housed in plain cages.

Autopsies on humans show a similar trend. One study involving magnetic resonance imaging indicated London cab drivers had a larger brain region crucial for spatial "intelligence" (such as navigating city streets) than other adults.

Researchers at Case Western Reserve University found that people who had been less mentally and physically active during their 20s to 50s were three times as likely to develop Alzheimer's disease in their 60s and 70s.

Some other studies (not all) hint that more intellectually challenging occupations or more education can help a person stay mentally sharper as they age.

Some activities are suggested for preserving mental health in seniors:

Language skills: learn a new language; solve crossword puzzles.

Executive skills: plan a garden; organize a fund-raiser; design a web site

Memory: memorize poetry; learn to identify birds

Concentration: play chess or computer games; talk with someone while hiking or biking.

Spatial orientation (seeing how things fit together): Draw or paint; go square dancing; play board games; assemble mechanical devices.

Manual dexterity and reaction time: play a musical instrument, video games, Ping-Pong, or tennis; assemble jigsaw puzzles.

(We could add to this list such profitable activities as Bible study and memorizing hymns and Bible passages.)

2. Get regular physical exercise. Although it makes up only about 2% of the body's weight, the brain uses about 20% of the oxygen we breathe. Studies suggest that much of the decline in cognitive power comes from a decreased supply of oxygen to the brain.

This is yet another reason for protecting or improving one's cardiovascular system. Regular exercise boosts blood flow to the brain, helps control blood sugar, raises the level of the "good" HDL cholesterol, and strengthens the entire cardiovascular system.

And exercise helps keep blood pressure down. Elevated blood pressure can wear down the blood vessels feeding the brain and increase the risk of tiny, unnoticed strokes that can lead to cognitive decline.

3. Keep your body healthy. Besides regular exercise, there are other steps that can be taken for overall physical health that can help the brain stay healthy.

>Eat a low-fat diet high in fruits, vegetables, grains, and beans.

>Don't smoke.

>Avoid excessive alcohol consumption.

>Try to curb excessive stress in your life. Moderate, transitory stress can be beneficial by helping one think more clearly. But excess stress raises blood pressure and releases a chemical called cortisol, which can damage brain cells.

4. Consider using drugs or supplements proven to slow down mental decline.

B vitamins. A lack of B12, B6, and folic acid may raise the risk of mental decline, dementia, and other diseases. Seniors especially should eat plenty of whole grains, beans, and produce; eat foods fortified with B12; and/or take a daily supplement containing 3 to 6 micrograms of the vitamin.

Vitamin E. Antioxidants such as vitamin E may prevent damage to brain cells and improve memory. One study showed high doses of vitamin E could effectively delay the progression of Alzheimer's.

Estrogen. Estrogen therapy seems to help one remember verbal material and may help prevent or delay age-related declines in overall memory.

Caffeine and sleep. A moderate amount of caffeine appears to help people maintain mental focus during monotonous tasks. But too much caffeine can impede concentration and memory and prevent a good night's sleep, which is important for absorbing new information and understanding new material.

Maintaining a healthy lifestyle would not seem to be an option for a Christian. By striving to extend our mental and physical capabilities, we (1) show respect for the gift of a body which God has graciously provided us, (2) show respect for the 5th commandment, and (3) increase the time God has given us for serving Him in this world. *LSI*