

Thinking of Change.

A Report on Ways to Improve Brain Health.



The brain contains an estimated 100 million interconnected nerve cells. Threadlike strands of fiber send lightning-fast messages from the brain down the spinal cord to the muscles. Age can slow the speed and accuracy of those impulses. But wait a minute: Is the decline inevitable?

No, say the experts. Health span, not lifetime, is what matters. A 70-year-old brain has the same amount of neurons as a 20-year-old brain. It's what you do with those neurons that counts. Starting now, you can do a lot to stave off memory loss and physical decline. It's not just how many years you live, but how much you do to stay healthy. How can you keep your brain strong and your thinking clear?

Age, Alzheimer's and the American Way

In regions as distinct as the coral reefs of Japan and the valleys of the Himalayas, people regularly live in good health to age 100 and beyond. What explains their longevity? Why do so few people living in rural Japan have Alzheimer's disease? When they move to the United States, they're just as likely to develop cognitive difficulties as anyone else.¹

French researchers studying longevity and nutrition in cultures worldwide found that those with healthy brains—whether living on tropical islands or glacial mountains—ate a healthy diet.

Climbing up and down rugged slopes helps, too. Unfortunately, America has a bumper crop of couch potatoes. But you don't have to plant yourself in that group.

The good news: You don't need to exile yourself to a remote mountain valley to enjoy a vigorous life. You can start in your own neighborhood!

In *Save Your Brain*, clinical neuropsychologist Paul D. Nussbaum, Ph.D., cites "Five Things You Must Do to Keep Your Brain Young and Sharp." A specialist in dementia care and brain health, he recommends physical activity, socialization, mental stimulation, spirituality and nutrition as the keys.

Take your brain for a constitutional.

What can you do to maximize your cognitive clarity? Exercise is the best way to maintain vitality and avoid disability and dependence. More body fat and less muscle mass are not the predictable results of a long life.

Of course, you should consult your doctor before taking on a new fitness regimen. But think about these facts: Scientists say regular aerobic exercise is one of the best things you can do for long-term brain health.

"A 2006 study published in the *Journal of Gerontology* found that as little as three hours a week of brisk walking...increases blood flow to the brain and may trigger

neurochemical changes that increase production of new brain cells,” reports Dr. Nussbaum.²

Exercise also makes you feel better emotionally. Your brain releases endorphins, feel-good peptides that give your mind and mood a boost—the chemicals that produce “runner’s high” for marathoners.

Don’t just tone, add brain.

Weight training slows cognitive decline while it builds muscle and strengthens bone. Gradually increasing free-weight and resistance training, even once or twice a week, pays off. A head-to-head comparison of women age 65-75 who lifted weights for a year showed that they outperformed their peers who worked on balance and tone—not just physically, but mentally too: Cognitive ability jumped more than 10 percent in the weight-training group, while the toning and balance group lost ground.

In a landmark study, a rehabilitation specialist found that older men who trained at least three times a week enlarged and strengthened their muscles—but only when they steadily increased the difficulty of their weight-training routines. High-intensity workouts can work wonders in as little as eight weeks.

Even older people with limited mobility can benefit from resistance training. Lifting a steadily increasing amount of

weight while standing can, over time, lead to squats and lunges—improving flexibility and balance. Weight-bearing exercise not only prevents bone loss, but also limits the risk of falls and fractures.

Fueling your brain and your life

The heart beats an estimated 2.5 billion times over a lifetime. Every beat pumps about 20 to 25 percent of your blood to your head.³ Eating well—making nutritious choices and avoiding fad diets—spurs your body toward a long and happy life. A heart-healthy diet with lots of fresh veggies and fewer processed foods nourishes not only your body, but also your most vital organ—your brain.

Surprisingly, you do want to be a fathead: Your brain is almost 60 percent fat! It may be the fattest part of our body, says Dr. Nussbaum: “The fat in our brain... insulates our nerve tracts and helps the brain process information rapidly.”

When the fat breaks down, we tend not to think efficiently, we may experience attention problems, and we may suffer emotional changes, such as sadness.”⁴ Eating good fats—such as salmon, herring, mackerel, and unsalted almonds and walnuts—helps your brain function.

Mangia! Mangia!

The “Mediterranean” diet—lots of fruits and vegetables, fish, lean meats, olive oil and a small glass of red wine—has been shown to be beneficial for cardiovascular

health and may even help stave off Alzheimer's disease.

The typical Mediterranean diet is high in fiber and rich in cholesterol-free fats. Columbia University researchers found that people who closely followed a Mediterranean diet were 36 percent less likely to have areas of brain damage than those with poor eating habits.

Ask your doctor whether a jolt of java is right for you. A study in the journal *Neurology* reported that women over 80 who drank three or more cups of coffee a day were 70 percent less likely to have memory decline than those who consumed a cup or less.

Could it be diabetes?

Type 2 (adult-onset) diabetes is on the rise along with expanding American waistlines. More than a quarter of all Americans over 65 have diabetes—and many more don't know they have the disease.

Untreated diabetes can cause memory loss and cognitive problems. The good news is that you can improve your thinking by sticking to a low carbohydrate diet (fewer starches and sugars) and taking medication to control blood sugar. Today, people with diabetes are living well.

Your brain's secret weapon

Your years advance, but that doesn't necessarily mean your brain is declining.

Researchers now say that the brain has an amazing plasticity—it can reshape itself. Weighing at most four pounds, the brain contains several thousand miles of interconnected nerve cells that control thought, sensation and movement. Cognitive abilities have nothing to do with age. The amazing organ is constantly building new networks and can even reroute vessels around tiny blockages.

Play with your brain.

Can playing games strengthen the cerebral cortex, the site of many higher-order cognitive functions? Yes, but you really need to give your brain a challenge.

Really hard crossword puzzles may enhance your word-finding ability, but easy ones won't help at all. Neuroscientists suggest learning a new language or taking on new hobbies to boost your memory because what your brain wants is new knowledge.

Give it a rest.

Sleep heals and restores the brain. Stressed and sleepless, many older people spend their nights tossing and turning in the dark. While everyone has occasional insomnia, a chronic sleep disorder can disrupt the memory-boosting benefits of nightly dreaming.

Most people with sleep apnea don't know that their restless nights are filled with the noisy signals of a sleep

disorder—snoring, choking or gasping. Sleep disorders can cause problems with memory and attention—and they can often be effectively treated.

Balance your life spiritually.

There is scientific evidence that spiritual activities, including prayer, breathing exercises and meditation, help strengthen the immune system, preventing disease. Its role in reducing stress and the benefits to brain wellbeing are already well known.

Dr. Nussbaum reports that “spirituality while in the hospital relates to an earlier discharge.”⁵

“Is dementia inevitable for me?”

Do you fear that because one or both of your parents had dementia you’re at enormous risk? Did you know that even though drug companies have searched high and low for an “Alzheimer’s gene,” more than 95 percent of people with the disease have no known genetic risk factors?⁶

Age-related memory loss—losing the car keys or misplacing things—is a relatively benign condition that’s vastly different from progressive memory disorders (fronto-temporal dementia, vascular dementia and Alzheimer’s disease).⁷ While forgetfulness is annoying, it may not be serious.

What are the warning signs of Alzheimer’s?

Alzheimer’s disease, which afflicts 5.4 million Americans, is just one of several forms of dementia. The disease not only takes a devastating toll on families and caregivers; it costs the American economy more than \$1.75 trillion annually.⁸

Since only half the population 85 and older has Alzheimer’s, it’s clear that the disease is not an inevitable part of aging.⁹

In the past, doctors made the diagnosis of dementia by measuring cognition with a battery of neurological exams. The latest research from the Alzheimer’s Association International Conference 2012 says subtle walking and gait changes can occur even before the first signs of cognitive decline.¹⁰

Warning signs include memory loss that disrupts your life, difficulty doing familiar things, confusion about time or place, poor judgment, social withdrawal, and trouble with spatial relationships or visual images.

Only a neurologist or other specialist can diagnose exactly what’s going on in your brain.

Care and support can improve the quality of life for people with Alzheimer’s and their caregivers, but there’s still no cure. Worrying, however, is the last thing you should do.

Winning the brain game.

Researchers say Americans exaggerate their risk of cognitive decline. Do you secretly fear loss of your mental capacity? By worrying excessively about losing your abilities, you may paradoxically be keeping your mind from learning and growing.

Your brain is in constant motion. Nerve cells release electrical pulses that zip around the brain delivering messages to the spinal cord, muscles and nerves. Tiny jolts of electricity shoot signals from one nerve cell to the next.

Your brain is constantly being renewed and reorganized throughout your life—all it needs is stimulation. No matter what your age, your brain wants keep learning. Your hungry mind and muscles demand energy-fueling food, aerobic exercise, strength training, social interaction, spirituality and joy.

Community life can be the answer.

If isolation accelerates decline, community life—surrounded by friends, stimulating activities, fitness opportunities and conscientious nutrition—can be an antidote.

When you put away the stresses of household responsibilities, with more time for relaxation, fitness, fun and creativity, brain health becomes a natural part of every day.

If you have questions about how fitness and diet can affect your brain health, we can help. We'll put you together with our specialists. Challenge your brain and it will reward you. Plenty of exercise, a healthy diet, a playful spirit and a busy social network can keep your mind sharp. People who age successfully think less about losing their cognitive abilities and more about enjoying life now. They stay young and active by exercising, going to church or temple, playing cards, dancing, crafting and having fun.

Get into action! You can do something about preserving your cognitive skills—many things, in fact. We'll help you develop a sound and resilient brain.

Sources and Helpful Links:

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Live Science: www.livescience.com/12915-10-ways-mind-sharp.html

Alzheimer's Association:
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¹⁰ Courier-Journal.com, July 2012. In the Prime-Aging: Gait Changes Could Be Warning Sign of Cognitive Decline <http://www.courier-journal.com/article/20120717/PRIME03/307170037/Gait-changes-and-cognitive-decline-and-Alzheimer-s?> Accessed August 14, 2012.