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Keep Your Brain on Your Mind

You may be able to keep yourself in great physical shape as you age. But if you lose your memory, it doesn't matter how fit you are. Your quality of life will suffer dramatically. If you could look inside a failing brain, you would see why it's quite possible for your brain to give out before you do.

The problem is an accumulation of cellular debris. In a healthy brain, this debris is broken down and eliminated. But if, instead, the debris builds up, it slows down brain function and the brain starts to die a premature death.

Until recently, the medical community thought brain debris buildup was a natural part of aging. But the latest research confirms that it isn't true. There is plenty you can do to keep your brain free of debris and preserve your overall brain health.

It makes perfect sense when you understand how the brain works.

The brain is composed of billions of neurons. These specialized cells are part of your nervous system. They transmit signals that control the way you think, feel, and move. But if cellular debris isn't cleared out on a regular basis, communication between the brain and the body breaks down. And brain cells don't renew themselves the way they should.

Now we know that this doesn't have to happen.

Let us introduce you to the Brainpower Program for cleaning out cellular debris in your brain. It consists of three steps:

1. Making sure cellular debris in the brain is eliminated naturally.

2. Preventing as much cellular debris as possible from forming in the first place.

3. Compensating for the cellular debris that does form by crowding it out with an abundance of new, healthy neurons.

But first, there are a few things you need to know…

The Brain Up Close

Everyone wants to be smarter and think faster. They want to solve problems more easily, read faster and with better comprehension, and have a good memory. And it all depends on one small 3-pound organ – the brain.

The brain consists of about 100 billion neurons that transmit signals at up to 200 miles an hour. Each of those neurons has anywhere from 1,000 to 10,000 synapses, or connections, that the signals travel through.[1] Scientists used to think that the brain

started out with a fixed number of neurons. They figured that memory loss was the result of losing those neurons over time. But just in the past decade that thinking has changed. It has been found that your neurons can remain healthy throughout your life. Furthermore, you will continue to make new neurons every time you are challenged by some mental activity.[2]

To learn more about the mysteries of the brain, researchers have been using technology like MRIs and PET scans. Here's some of what they've found out:

- The brain is an energy hog. Though it is no bigger than a large grapefruit or a small cantaloupe, it uses 20% of the oxygen you take in.

- The brain shrinks. It loses 5%-10% of its weight when you're between the ages of 20 and 90.

- On the surface of the brain, the grooves (sulci) get wider as you age while the swellings (gyri) get smaller. (The swellings are related to intelligence.)

- Damaged neurons become debris and turn into hard, tangled clusters called "senile plaques."

The changes happen over decades. But they do not occur at the same rate in everyone – even in identical twins. So experts believe that the changes, including the accumulation of brain debris, are a response to factors other than aging.[3] Many of these factors are in your control.

To maintain mental functioning, it comes down to cleaning out the damaged neurons before they become senile plaques. It also involves protecting the healthy brain cells you already have – and fighting off any residual brain debris by building a "brain reserve" of new connections.

The Latest Research on Cellular Debris

One of the indicators of failing brain health is the buildup of a protein called beta-amyloid. It accumulates between the neurons in hard clusters of plaque that disrupt normal nerve transmissions. At the same time, a protein inside the neuron, called tau, gets tangled. This, too, interferes with the functioning of the cell. People with dementia have an excess of these plaques and tangles in their brains.

Scientists have known for years that amyloid buildup leads to dementia, but not much attention has been paid to how to get rid of it. Now, they are focusing on a process called "autophagy." This is the natural "debris-removal" procedure that healthy cells perform all the time. The cell actually turns on itself and consumes any damaged or broken parts. It then recycles what is left to build new cells.

When autophagy does not take place properly, there is a buildup of toxic waste in the brain. So researchers are looking for a drug that can induce autophagy. But you don't have to wait for them to come up with something – something that will no doubt have nasty side effects. Because there are ways to turn on autophagy right now to help preserve your brain health. With this three-step Brainpower Program, you'll learn exactly how to stimulate this natural process.

The Lifestyle Connection

Your doctor may tell you that you can expect to lose mental function as you age. And that there's nothing you can do about it. But that is not the case. There are things you can do – on your own, without expensive drugs or tests – to prevent mental decline. That holds true despite your family history or any other risk factors you may have.

Let's take a look at some numbers. Statistically speaking, memory loss occurs in:

- 1% of those 60-65 years old
- 33% of those 75-80 years old
- 50% of those 85 years old

And if you have a parent or sibling with significant mental decline, your (supposed) risk grows by 10%-30%.

The incidence of dementia in this country is increasing. And at first glance, it would appear that it's simply because people are living longer. But brain health, just like physical health, has a lot to do with lifestyle choices.

Dr. Vincent Fortanasce is a clinical professor of neurology at the University of Southern California. In 1980 he diagnosed about one patient per month with dementia. Today, he diagnoses six to 10 patients per *week*.[5] And he blames this increase on "our frenetic, sedentary, fast-food lifestyle."

In fact, Dr. Fortanasce believes that lifestyle can account for 70% of the development

About Dr. Vincent Fortanasce

- *Trained in psychiatry at the Institute of Living, a Yale affiliate hospital, in neurology at USC, and in neurological and orthopedic rehabilitation at the prestigious Ranchos Los Amigos Hospital..*
- *Twice named Outstanding Lecturer of the Year at the University of Southern California School of Medicine.*
- *Ranked as one of the best physicians in America, has treated high-profile individuals including Pope John Paul II and Major League Baseball Hall of Famer Tommy Lasorda.*
- *Has helped thousands of individuals over nearly four decades as a world-renowned neurologist, psychiatrist, and rehabilitation specialist.*
- *As a physician and bio-ethicist, has appeared on 60 Minutes, The Today Show, Dr. Phil, Dateline, CNN's Paula Zahn Now, Hardball With Chris Matthews, XM satellite radio, and scores of national and local television and radio shows.*
- *A regular spokesperson for the California Medical Association at the Senate and Legislature assemblies.*

Source: http://drfortanasce.com/?page_id=3

of Alzheimer's.[6] And he has a personal interest in learning as much about this disabling disease as possible. His father died from it and his mother is still battling it at age 95. He is determined to avoid getting it himself.

Through his own research, he has made some interesting observations that will help you maintain your own brain health.

What You Can and Cannot Control

Dr. Fortanasce breaks the risk factors for memory loss and dementia into three categories.

First, there are four risk factors that you cannot change. Cellular debris is a natural response to:

- Age
- Genetics
- Ethnicity
- Gender

Second, there are two risk factors that you can control. Cellular debris accumulates as a result of:

- Uncontrolled stress
- Too little sleep

Third, there are numerous lifestyle choices you make that can help or hinder your efforts to maintain brain health. And they, too, are entirely within your control.

The factors that you can – and must – take charge of to keep your brain neurons healthy are the foundation of our three-step Brainpower Program.

The goal is to:

1. Make sure the maximum amount of cellular debris in your brain is eliminated naturally.
2. Prevent the formation of as much cellular debris as possible by managing the risk factors you can control.
3. Compensate for the cellular debris that does form with the addition of new, healthy neurons.

INH's 3-Step Brainpower Program for a Lifetime of Mental Vitality

Step One: Maintain Neuron Damage Control With Natural Cellular Debris Removal

In a healthy brain, the cells themselves clean up cellular debris through the natural process of autophagy. When the process slows down, the waste builds up and starts turning into brain-killing plaque. But there are ways to counteract the potential for a slowdown – even before it happens:

Exercise – An excess of insulin in your system activates brain chemicals that shut down autophagy. Physical activity helps control insulin levels. So when you exercise regularly, you keep insulin levels down and increase autophagy activity.[11]

Intermittent Fasting – Calorie restriction reduces insulin production. It also activates enzymes in the brain that increase autophagy.[12] So reducing your caloric intake will help you in more ways than one. Some people fast once or twice per year for the cleansing effect it has on the entire body, not just the brain. Others do it monthly. It's not for everyone.

Superfoods – Blueberries, strawberries, and acai berries are not only high in antioxidants, they actually *cause* autophagy in the brain.[13] Dr. Fortanasce recommends eating berries every day. He also recommends one glass of red wine per day. In one study, researchers looked at older people who already had mild cognitive problems. Those who drank one glass of red wine per day developed dementia at an 85% slower rate than those who did not drink alcohol.[14]

Step Two: Protect Against the Formation of New Cellular Debris

At the top of the list of the risk factors you can control is *stress*. Studies show that chronic stress leads to physical changes in the brain that result in the accumulation of cellular debris.

The area most affected is the hippocampus, the part of the brain connected to learning and memory. Stress also damages the prefrontal cortex. That's the part of the brain that controls such things as judgment and personality.[7]

Chronic stress keeps the hormone cortisol elevated in the body, too. This sets off a pattern of inflammation that disrupts hormonal balance. One indication of long-term stress is increased waist size. As a result of high cortisol levels, fat distribution shifts and the body starts to store belly fat. That increases inflammation even more.

Research has shown that people with stressful lives are 2-3 times more likely to develop Alzheimer's.[9] And that was certainly true in Dr. Fortanasce's experience. He noticed

that many of his Alzheimer's patients had worked in professions where they were constantly on high alert – as doctors, lawyers, and police officers who spent years responding to beepers and alarms.[8]

Dr. Fortanasce also noticed that, as a result of their chronic stress, these patients had rarely gotten a good night's sleep. And he calls this combination of chronic stress and lack of normal sleep the "double damage connection." He also calls it the "greatest threat to brain health" because the resulting buildup of cellular debris in the brain is so obvious.[10]

Chronic stress and lack of sleep are the main risk factors that you can control – but they're not the only ones. Let's take a look at what you can do to inhibit the formation of cellular debris…

Managing Stress – The release of too many stress hormones interferes with the brain's ability to make new memories and access existing ones. Too much cortisol in your system actually makes it difficult to think. That's why people get confused in a crisis. Basically, the "lines are down." Stress hormones also trigger a "fight or flight" response in the body. That means more energy is directed to the muscles and less energy gets to the brain. (This could be why people often don't remember a traumatic event.)

Excess cortisol contributes to cellular debris. Eventually, that causes the hippocampus to shrink. And a smaller hippocampus is a predictor of future dementia.[15]

Some stress in your life is inevitable. What is important is your reaction to it. You must find ways to stay positive and accept the things you can't change. You need to learn to manage your time and say no to excessive demands.

Getting Enough Sleep – Adults need a good seven hours of sleep per night. Some claim to feel rested on less, but studies have shown that those who regularly sleep less than seven hours don't do as well on mental tasks.[16] Sleeping well can be a challenge as you grow older. You might find yourself waking more often and not getting enough deep sleep. (That's when your brain processes memories and emotional experiences.)

Have a regular time for going to bed and waking up. Keep your bedroom as dark as possible. Even the light from an alarm clock can disrupt sleep cycles. Avoid caffeine later in the day and don't drink too much alcohol. Use earplugs or turn on a fan if noise is a problem. If you have insomnia or sleep apnea, it is important to get treatment. Recent research has confirmed that sleep apnea is a risk factor for dementia. The lack of oxygen to the brain results in increased cellular debris.[17]

Controlling High Blood Pressure – Hypertension is not only hard on your heart, it's hard on your brain. And studies show that those under age 50 suffer as much damage to brain function from high blood pressure as those who are older.[18] Hypertension

causes cellular debris. And as we've already seen, that makes the hippocampus shrink. Learning and memory are affected.[19]

You may be able to control your blood pressure simply by maintaining normal weight and exercising regularly. If you can't control it that way, we share supplements to help in our free and monthly issues.

Getting Enough Exercise – Physical exercise is good for the brain in several ways. It helps control stress and results in better sleep. Exercise also generates more small blood vessels in the brain and increases blood flow.[20] Healthy blood flow in the brain is what delivers nutrients, oxygen, and glucose to the neurons. It also helps wash away cellular waste. In one study of women over age 60, those who took brisk walks three or four times per week improved blood flow to the brain by as much as 15%.[21]

Getting Social Support – Being connected – with family, friends, and workmates – stimulates the brain and helps reduce stress. That helps guard against dementia by preventing the formation of cellular debris.[22] So don't isolate yourself. Stay involved with family. Go out with friends. Volunteer somewhere or join a club that interests you. Seek out people who are positive and make you laugh. It's good for your brain.

Step Three: Stimulate Your Brain to Create More Neurons

This is one of the most exciting findings about maintaining brain health. Studies show that even if you have some degree of cellular debris buildup, you can counteract it by increasing the number of healthy neurons in your brain.

Until recently, experts didn't think this was possible. But now we know that the brain creates more neurons every single time it is challenged with something new. And there are many ways to do it…

Read – Books, magazines, and newspapers keep your brain engaged. The more thought-provoking the better.

Write – When was the last time you wrote a real note or letter? Putting pen to paper makes you use your brain.

Do Puzzles – Puzzles – any kind – give you a good mental workout. Do the crossword in the newspaper. Play Scrabble. Set up a jigsaw puzzle on a table so that you can work on it whenever you get a little free time. Sudoku will get you thinking.

Enjoy Hobbies – There's no end to things you can get interested in and learn more about. Don't limit yourself to just one hobby. Take up several.

Play Music – Taking music lessons forces the brain to organize and process information. Even listening to music is beneficial. One study showed that the brain reacts to hearing music by stimulating visual imagery and memories.[23]

Learn a New Language – This is an activity that *really* engages your brain. Languages are not just about words, they involve distinct thought patterns. Bilingual adults have denser gray matter, especially in the left hemisphere of the brain where language and communication is controlled.[24]

Play Games – Board games and card games are classic brain stimulators. Even video games can sharpen your brain. And a whole new "brain fitness" market is emerging that offers exercises online. This is an industry that didn't even exist five years ago. Chess is particularly stimulating. (If you don't have a partner, you can play online at chessmaniac.com.)

Laugh – Most emotional responses are confined to one area of the brain, but processing something funny is different. The "laughter" message has to travel through five areas of the brain. And damage to any of those areas can affect a person's sense of humor.[25]

Travel – Exposure to new surroundings provides all kinds of stimulation for the brain. It also sharpens your communication and navigation skills.

Take Dancing Lessons – Learning new moves activates the area of the brain that controls motor skills. You have to think and move and balance, all at the same time.

Exercise Your Sense of Smell – Most people tend to depend solely on vision and hearing. But the sense of smell is your only sense that has a direct connection to the hippocampus. That's why certain aromas like pumpkin pie trigger an emotional response. Your sense of smell is important to forming memories because associations with odors last in the brain for a long time.

Try "Neurobics" – The word was coined by neurobiologist Lawrence Katz. It refers to the idea that if you do things that you normally do, but do them in a different way, your brain will be forced to form new associations. And that means creating new neurons to build brainpower and keep your brain healthy.

Here are some ideas to get you started:

- ***Take a different route to work***. We get so used to our regular route that we often arrive at work without remembering how we got there.
- ***Brush your teeth with your other hand***. It will feel weird and uncoordinated, but using the opposite hand activates a different area of the brain.

- ***Move your trashcan at work***. You'll find yourself throwing paper on the floor until your brain creates a new mental map.

- ***Change where you sit at the dinner table***. You'll have to adjust to passing food in a different direction and carrying on conversations with people who aren't where they used to be.

- ***Shop at a different market.*** Your brain will have to get used to a new territory – and that means *more neurons*.

- ***Watch a foreign film without the subtitles***. This will challenge your communication skills and force you to watch closely to follow what's happening.

The Formula for Preserving Your Own Brain Health

When it comes to aging, nothing is more important than cognitive function. The joy of a long life depends on staying mentally sharp. Dementia does *not* have to be part of growing older. When you take these steps to maintain your brain health naturally, you could reduce your chances of developing dementia by 65%-75%.[26]

The key is to keep cellular debris to a minimum. You do it by (1) combining the latest research on inducing autophagy with (2) what we know about preventing cellular debris from forming in the first place and (3) crowding out the cellular debris that does form with healthy, new neurons.

And you can start to make it happen right now.

Are You as Smart as a London Taxi Driver?

It takes two to four years to qualify to drive one of London's legendary black cabs. Because the city's streets are such a maze, drivers learn to memorize them through a program called "the Knowledge." It is a program that goes back 150 years and ensures that passengers get to their destinations in the most efficient way possible.

Every driver has to be familiar with the 60,000 streets and alley-ways in central London. They also have to have a mental map of the city's many landmarks – hotels, museums, theaters, restaurants, and more. That made them ideal candidates for a study on memory.

After doing MRI scans on a group of London cab drivers, researchers found that the hippocampus of their brains had grown 7% larger than the hippocampus of those in the control group. (The hippocampus is very responsive to spatial and navigational skills.) That might not sound like much, but it is significant. And the longer the driver had been on the job, the more pronounced the difference was.

The study concluded that the brain, particularly the hippocampus, grows and changes according to the demands placed on it.

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