

Top 10 Brain Health Breakthroughs of 2018

**10 Best Ways To Protect Your Brain
Today**

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Chapter 1

The Cheap Nutrient That Could Save a Million Brains

A safe, widely available antioxidant nutrient is now being recognized as a brain-protector that can both defend your brain against the damage of a concussion and help improve your brain if you get Parkinson's disease.

Those are two remarkable characteristics for a single, natural nutrient.

But don't wait till you get a bang on the head or you're diagnosed with Parkinson's. Those in the know about this inexpensive supplement have long understood that it can help the brain produce more glutathione – the body and brain's most powerful, important antioxidant.

And now this substance, **n-acetylcysteine** – known more popularly as **NAC** – has been shown in research at Thomas Jefferson University in Philadelphia to be especially beneficial in managing Parkinson's disease – and dementia

NAC Boosts Glutathione

Perhaps the most serious consequence of Parkinson's is the way the condition interferes with the brain's release of dopamine – a crucial neurotransmitter. Because of this and other brain changes that occur in Parkinson's, you begin to lose your ability to move around on your own. Worse, you have a 50/50 risk of losing your memory and succumbing to dementia within ten years of your diagnosis.¹

More than a thousand Americans are diagnosed with Parkinson's every day.²

About the only way conventional medicine has been able to help these patients is to temporarily replace the missing dopamine in the brain. This is done using a combination of drugs, but the drugs are only effective for a limited amount of time. Eventually, they don't work anymore. The good news is that our understanding of this disease is getting better. Studies in the past few years have shown that

oxidative stress from free radicals plays a part in its development – and the oxidative stress contributes to glutathione depletion.

That’s where NAC comes in – research now demonstrates that NAC may reverse this glutathione reduction and help protect neurons.

In the Thomas Jefferson study, researchers analyzed how Parkinson’s patients’ physical condition and mental abilities improved while taking NAC, and also used brain imaging to trace how the brain’s levels of dopamine responded.³

The results were striking.

“This study reveals a potentially new avenue for managing Parkinson’s patients and shows that n-acetylcysteine may have a unique physiological effect that alters the disease process and enables dopamine neurons to recover some function,” says researcher Daniel Monti.

Better Recovery from Brain Injuries

The other recent impressive discovery about NAC: it helps the brain recover from a concussion.

Researchers at the Case Western Reserve University School of Medicine in Cleveland have demonstrated that NAC

has unique benefits for brain tissue when taken immediately after a concussive blow to the head.⁴

About 1.7 million Americans suffer concussions every year – in car accidents, falls, sports collisions and other mishaps. The Centers for Disease Control and Prevention calls these injuries – TBIs (traumatic brain injuries) – a “silent epidemic.” Right now, more than three million people live with memory problems and other long term mental difficulties because they’ve suffered blows to the head.

But NAC can help limit this damage – a fact that’s also been demonstrated in tests on military personnel in the Middle East who have suffered TBIs.⁵

This type of action is the reason that David W. Dodick, a professor of neurology at the Mayo Clinic, says that in case a child receives a head injury at a sporting event – “Every coach and parent could be carrying this on the sidelines.”

I don’t know if this finding has been accepted by the wider medical community. Probably not. It’s new and (horrors!) it’s nutritional.

But I don’t view NAC as some kind of emergency medicine. Nearly every adult over 40 can use more glutathione. Indeed, this super-antioxidant is one of the secrets

of long life. Our own bodies make it, but with age, the average person makes less and less, and by the time we're in our sixties most of us are severely deficient.

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Chapter 2

Common Mineral Drops Risk of Alzheimer's 600%?

A neglected supplemental mineral defends your brain cells as you age. It's a shame so few people know about it. It can also improve your mood, boost personal energy and – perhaps — even offer longer life expectancy.

According to James M. Greenblatt, MD, **lithium** gets just a fraction of the attention it should attract. He calls the mineral a “Cinderella” nutrient because it has been “neglected and ignored.”

Shocking as it seems, there's at least one study that shows that lithium, under certain circumstances, might drop your chances of Alzheimer's by a whopping 600%.

That's no typo. A study in Brazil (admittedly, a small study) found that in older people who take antidepressants, taking lithium for that purpose dropped the chances of developing dementia and memory problems by a factor of six.

If you have bipolar depression or similar mood problems, your chances of

Alzheimer's and other cognitive difficulties are significantly increased. But it seems that taking lithium – often prescribed for these illnesses — may be able to protect you against this risk.¹

Why hasn't lithium won wide acceptance as a daily supplement?

It could be because the public thinks of lithium as a drug for schizophrenia and bipolar disorder. It's true that a form of lithium is prescribed by doctors for these ailments. But lithium is not a drug as such, it's one of the basic elements of the periodic table. Healthy people can benefit from it just as we benefit from iron, copper, manganese, chromium and other metals.

In his book, *Nutritional Lithium: A Cinderella Story*, Dr. Greenblatt explains that the benefits of taking small amounts of lithium as a supplement are varied and without equal. He notes that it's an “essential nutrient for promoting brain health.” And it “protects and stimulates the brain in complicated, multi-faceted ways.”²

Use It to Fight Inflammation

One of the most important cellular functions enhanced by lithium is protection against inflammation.

As I've often pointed out, chronic inflammation in any organ leads to serious damage. And persistent inflammation is especially problematic in brain tissue.

Dr. Greenblatt explains that when inflammation is limited to a brief time, it can help heal injured brain tissue by bringing in white blood cells and other healing elements. But uncontrolled inflammation that the body is unable to turn off sets the stage for problems like depression and Alzheimer's disease.

That's why so much medical research is now aimed at figuring out what drives inflammatory processes in the brain's neurons. Restricting these processes can improve brain health and keep neurons from being destroyed by overactive immune cells.

Cytokines are chemical messengers that travel through the body and tell the immune system to increase or decrease inflammation. Lithium can help ease inflammation by slowing the production of the inflammatory cytokines called interleukin-1B and tumor necrosis factor or TNF.

While it curbs cytokines, Dr. Greenblatt explains, lithium can also cut back the destructive actions of microglia, the immune scavenger cells that are supposed to clean up debris from the brain — but which can become over-excited and injure neurons.

For example, research at Boston University shows that during the early development of Alzheimer's disease, microglia can pick up tiny fibers of tau protein – a harmful substance that disrupts the function of neurons in the brain – and release them in a way that causes them to be absorbed by neurons.³

But there is some evidence that lithium prevents this destructive process.

This Doctor Asks, “What Are We Waiting For?”

Research in Brazil on animals shows that lithium taken during the early development of Alzheimer's may “alter the pathological characteristics” of the disease. So, for Alzheimer's, which conventional medicine can't treat, the researchers believe lithium offers “new hope for the therapeutic treatment of this disease.”⁴

Which leads James Phelps, who directs the Mood Disorders Program at Samaritan Mental Health in Corvallis, Oregon to ask, when it comes to using lithium for

Alzheimer's prevention – “What are we waiting for?”⁵

May Add Years to Your Life

Lab research into lithium's effects on the body also suggest that it may help people live longer.

A study at the University of London demonstrates that low doses of lithium help fruit flies live 16% longer. And the researchers think that lithium can have a similar effect in humans.⁶

The longevity benefit, they say, is partly related to the fact that lithium blocks the activity of a harmful molecule called GSK-3 (glycogen synthase kinase-3) a substance also thought to be involved in the development of Alzheimer's disease.⁷

But the brain benefits don't stop there: Along with blocking GSK-3, lithium may also play a part in keeping your brain from shrinking.

Jonathan V. Wright, M.D., a pioneer in natural medicine, says in the introduction to Dr. Greenblatt's book that lithium has been shown to help keep your brain larger as you age.⁸

In the large “pharmaceutical” doses given to bipolar patients, lithium has serious side effects. But in the small doses advocated by Drs. Wright and Greenblatt, problems are

rare. I've taken it daily for years.

Lithium orotate, the preferred form, is easily available on the Web, or you can order it from our sister company, Green Valley Natural Solutions – just [click here](#).

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Chapter 3

This Way of Eating Cuts Brain Loss in Half

Inspired by the cuisine of people in Spain, Greece, Southern France and Italy, many health experts have strongly endorsed the Mediterranean diet in recent years.

That's because this way of eating seems to protect against cardiovascular disease, diabetes and cancer. Now there's growing evidence it guards against cognitive decline and dementia too.

In fact, a new study suggests the brains of older people who have lived on the Mediterranean diet are larger, on average, than those of people who eat the way most people in Europe and America eat.

Slow Down Brain Shrinkage

For their study, investigators examined data from 401 people who took part in the Lothian Birth Cohort. This is a long-term study of Scottish people all born on the same day in 1936.

At 70 years of age, they were asked to complete a questionnaire concerning their diets. The answers they submitted were rated according to how close they came to

eating the foods typical of a Mediterranean diet. (Keep in mind that these people were born and grew to adulthood decades before the diet became a focus of medical attention.)

A score between 5 and 9 was considered high, with 0 to 4 rated as low.

The info-gathering on their eating habits was followed up by brain scans three and six years later. None of the participants had dementia at the start of the study.

The results showed less brain volume loss in the three years between the two scans in those adhering most closely to the Mediterranean diet. The outcome remained valid even after age, sex, education, body mass index, diabetes and cognitive function were taken into account.

The people who scored 5 – 9 lost less than half the brain volume of those with scores in the 0 – 4 range.

Leading the study was Dr. Michelle Luciano from the University of Edinburgh. She said, "As we age the brain shrinks and we lose brain cells which can affect learning and memory. This study adds to the body of evidence that suggests the Mediterranean diet has a positive impact

She said, “As we age the brain shrinks and we lose brain cells which can affect learning and memory. This study adds to the body of evidence that suggests the Mediterranean diet has a positive impact on brain health...and may be able to provide long-term protection to the brain.”

These are the “Brain Foods”

The diet emphasizes vegetables, legumes, fruits, unrefined cereals, nuts, olive oil, low-to-moderate dairy foods, moderate-to-high amounts of fish, limited consumption of red meat and modest amounts of alcohol.

It’s an eating plan that provides a high level of antioxidants, dietary fiber and unsaturated fats, a higher ratio of monounsaturated to saturated fats, and lower biomarkers for inflammation and blood clotting factors.

Last year, researchers from King’s College London reviewed 32 studies and concluded that a Mediterranean diet is associated with better cognitive performance.

In the same year, a separate review from Australian researchers included 18 studies totaling 60,000 participants. Their analysis showed that “higher adherence to a MedDiet is associated with slower rates of cognitive decline, reduced conversion to Alzheimer’s disease, and improvements in cognitive function.”

Yet another review published in January, 2017 identified nine studies that involved a total of 34,000 adults.

2017 identified nine studies that involved a total of 34,000 adults. The researchers found that the more faithfully participants stuck to this diet, the less likely they were to suffer cognitive disorders.

Although it’s not possible to prove cause and effect from population studies, only an association, the evidence for the Mediterranean diet’s overall health benefits and brain protective properties is convincing.

One thing is for sure, this way of eating is a far better option than SAD – the standard American diet.

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Chapter 4

Promising New Indicator Predicts Risk of Alzheimer's

Many scientists today see Alzheimer's as a brain-specific form of diabetes.

Taking a blood test to see how your body deals with sugar should be a valuable indicator, not just of diabetes risk, but of future cognitive decline.

Trouble is, a blood sugar test doesn't always represent what's occurring in the brain. But now a new answer is on the horizon.

Researchers at Iowa State University believe they may have found a much better biological indicator than blood sugar for both diabetes and dementia. If their findings hold up, it's big news. The marker they've identified is an enzyme called **autotaxin**, found in the fluid surrounding the brain.

Raised Levels Massively Increase Alzheimer's Risk

Autotaxin is normally produced in response to some kind of inflammation.

If this is due to injury, levels fall when

tissues are repaired. But in uncontrolled inflammation, high autotaxin levels can lead to pathological conditions like arthritis and inflammatory bowel disease. Persistently high levels have also been linked to cancer.

For their study, the Iowa researchers enrolled 287 people aged 56 to 89. Of these, 66 were diagnosed with Alzheimer's, 135 had mild cognitive impairment (MCI) and 86 were cognitively healthy.

Autotaxin levels were measured in their spinal fluid; brain imaging scans were conducted to measure blood sugar (energy metabolism) and brain volume, and they also carried out reasoning, multitasking and memory tests.

The scientists found that autotaxin levels were significantly higher in both MCI and Alzheimer's.

Every one-point increase raised the risk of MCI by 3½ times and Alzheimer's by fivefold. It also quadrupled the risk for diabetes.

Levels of autotaxin also predicted poorer brain energy metabolism in key areas, less brain volume, and worse cognition and memory function in those with Alzheimer's.

I would call the findings stunning confirmation that dementia really is Type 3 diabetes.

Twice as Efficient as Any Other Biomarker

Lead researcher Auriel Willette, assistant professor of food science and human nutrition, said that the enzyme seemed to be twice as efficient as other biomarkers at predicting the kind of changes seen in Alzheimer's.

He believes it could turn out to be the best biological detector of the disease, even before people develop symptoms.

“Autotaxin is related to less real estate in the brain. And smaller brain regions in Alzheimer's mean they are less able to carry out their functions.

“It's the same with blood sugar. If the brain is using less blood sugar, neurons have less fuel and start making mistakes and in general do not process information quickly.

“We've been looking for metabolic biomarkers which are closer to the brain. We're also looking for markers that reliably scale up with the disease and have

consistently higher levels across the Alzheimer's spectrum. This is as directly inside of the brain as we can get without taking a tissue biopsy.”

How to Lower Your Autotaxin Levels

This study is yet another reminder of the link between persistent low grade inflammation and chronic disease.

People with higher autotaxin levels are more likely to have higher triglycerides (blood fats), be obese, have insulin resistance and go on to suffer with diabetes and dementia.

The simplest way to lower excessive autotaxin levels is to lose excess weight, eat a more nutritious diet, take nutritional and herbal supplements and engage in regular physical exercise.

It's advice you've heard many times before, but it really makes a difference.

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Chapter 5

These Popular Foods Can Fry Your Brain

To most folks, a fried or grilled piece of meat smells great when it's cooking and tastes wonderful when you eat it.

But your brain isn't as pleased as your taste buds when you chow down on those types of foods.

For once, the problem isn't carbs, or the evils of red meat or something like that. It's the toxins that form when you cook at the high temperatures required by grilling or frying. At large enough doses, over a long enough time, these toxic substances can scramble your brain and increase your risk of Alzheimer's disease.

Eat Brownd and Blackened Meat, Lose Memory

A chief problem with these foods begins with chemicals called advanced glycation end products (AGEs) – harmful substances that can increase drastically during cooking.

These chemicals are naturally present in the body, but they multiply in a big way when food (particularly meat) is cooked at a high temperature. Research shows that AGEs boost your chances of many illnesses – notably cancer — because they lead to oxidative stress on a cellular level

a high temperature. Research shows that AGEs boost your chances of many illnesses – notably cancer — because they lead to oxidative stress on a cellular level and accelerate harmful inflammation.

These compounds cling to receptors in the body called RAGE (receptors for AGEs). When engaged in this way, these receptors carry beta-amyloid proteins, the substances that form plaque, through the blood-brain barrier and play a role in advancing the progress of Alzheimer's disease.¹

A study at the Mount Sinai School of Medicine in New York tested the effect of cooking temperature on more than 540 foods. The researchers showed that every uptick in the temperature used to cook food causes an uptick in the food's quantity of AGEs.²

And when an international group of researchers looked at the diets of countries around the world, they found that those places where people cooked their foods at the highest temperatures – which usually

meant cooking without using water in the cooking process – had the highest rates of Alzheimer’s disease.³

This goes along with a four-year study at Mount Sinai that discovered that even among seniors in their 60s and 70s who didn’t have dementia or other memory problems when the study started, those who ate the most AGEs experienced “a faster rate of decline in memory” than other people whose diets included less of these chemicals.⁴

Contributes to Immune Cell Dysfunction

A clue to how AGEs can impact your memory was recently discovered by researchers at the University of Bath. They found that AGEs associated with high blood sugar can inactivate an enzyme called MIF (macrophage migration inhibitory factor).

When this enzyme is sidelined, it alters the behavior of immune cells called glia which are supposed to protect brain cells from waste products and debris. (Microglia are sometimes called “the brain’s janitors” because they clean up waste.) Without functional MIF enzyme, the glia make the brain’s inflammatory destruction worse instead of helping to control damage.

Steps to Take

To keep your consumption of AGEs down to a safe level, you should generally limit

the amount of meat you eat. Meat tends to be highest in AGEs. According to researchers at Mount Sinai, beef and cheeses contain the most AGEs. If you want to go the last mile to avoid these toxins, then please know that poultry, pork, fish and eggs rank next after beef and cheese. Lamb is relatively low in AGEs.

Cheeses can contain a large amount of AGEs because they are pasteurized at high temperatures. That’s just one more mark against pasteurization – there’s plenty of other evidence that it damages the nutritional benefits of milk products.

As for cooking methods – frying, broiling, grilling, and roasting produces more AGEs than boiling, poaching, stewing or steaming – the “water methods.” And braising meat – slow-cooking in liquid at low temperatures — is one of my favorite methods.

Spreads like butter, cream cheese, margarine and mayonnaise are also rich in AGEs.⁵

Marinating meat in an acidic solution like lemon juice and vinegar before cooking cuts the amount of AGEs in half.

You can certainly eat as many vegetables as you want, because these foods are relatively low in these destructive compounds. And as I’m sure you know, boosting natural substances.

vegetables contain a wealth of health-boosting natural substances.

Worth Worrying About?

Do AGEs contribute to cancer and dementia is a major way? Both these diseases are caused by multiple factors, and no one has produced any figures for the specific dangers of AGEs. I think grilling and frying should be kept to a minimum. They're a treat to enjoy every once in a while, not a routine way to prepare your food.

We can all get away with a couple of vices. The question is – how many? Where do AGEs fit into your overall “toxic load” consisting of ALL the things you do that you probably shouldn't be doing?

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Chapter 6

Autoimmune Diseases Linked to Increased Chance of Dementia Risk

A year ago, 31 senior scientists presented “incontrovertible evidence” that **inflammation-creating infections** were a key cause of Alzheimer’s disease and dementia.

Now, another whole category of inflammatory diseases is implicated.

New evidence suggests chronic inflammation from **autoimmune diseases** may also act as a trigger for dementia.

In 2016, Professor Robert Richards from the University of Adelaide, Australia, submitted strong backing for the idea that the decline seen in neurodegenerative diseases is sometimes caused by **persistent inflammation originating in an uncontrolled, overactive immune system.**

MS Doubles The Risk of Dementia

Researchers from the University of Oxford analyzed records of nearly two million hospital admissions in England over a period of 14 years. Their report appears in

the March 1, 2017 issue of *Epidemiology & Community Health*.

They took into account 25 different autoimmune disorders, with the numbers in each group ranging from 1,019 for Goodpasture’s syndrome (a rare lung and kidney disease) to more than 300,000 people with rheumatoid arthritis (RA). Seven million hospital patients admitted for other reasons acted as a control group.

The findings were that 18 of the 25 autoimmune disorders showed significant positive associations with dementia, and people admitted to hospital with these disorders were 20% more likely to be admitted with dementia at a later date.

The increased risk for selected autoimmune diseases for any form of dementia were:

- Myxedema 20%
- Psoriasis 29%
- Pernicious anemia 31%
- Thyrotoxicosis 31%
- Lupus 46%
- Polyarteritis nodosa 43%

- Addison’s disease 48%
- Multiple Sclerosis 97%

Among people who already have MS, the risk of dementia is almost double. Equally interesting is the finding that people with rheumatoid arthritis have a 10% *lower* risk of dementia.

NSAIDs Lower Inflammation and Reduce Risk

Professor Michael Goldacre, who led the study, believes the reason for this finding is that people with RA commonly take non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen. These have been shown to protect against Alzheimer’s in a number of studies.

Another important finding was the strong link between autoimmune diseases and heart and circulatory disorders. The increased risk of being admitted to hospital at a later date was even higher than for dementia — 53% for cardiovascular disease and 46% for stroke.

These health problems are known to increase the risk of vascular dementia. When the Oxford researchers looked at different types of dementia, they found that people with autoimmune diseases had a 29% increased risk of vascular dementia but only a 6% increased risk of Alzheimer’s.

Commenting on this finding, Dr. Colm Cunningham, a specialist in neurodegeneration and brain inflammation at Trinity College, Dublin said, “It’s striking that increased risk for vascular dementia exceeds that for Alzheimer’s. The impact of autoimmune diseases on cardiovascular disease may be the key common link.”

In the opinion of Dr. Rudolph Tanzi, Professor of Neurology at Harvard Medical School, “The results are very compelling and support the notion that neurovascular damage and inflammation are key drivers of risk for Alzheimer’s disease.”

James Hendrix, director of the global science initiative for the Alzheimer’s Association, observes that the link between autoimmune diseases and vascular dementia is “something new” and could implicate chronic inflammation as a possible cause of progressive dementia.

When asked about how best to control inflammation, Professor Goldacre emphasized the importance of a healthy diet and regular exercise.

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Chapter 7

What Being Right or Left-Handed Says About Alzheimer's Risk

Nearly all Americans (87%) are right-handed, while only 13% are left-handed.

Researchers have been studying this difference and conducting studies to see what it may mean for some time, but results have been conflicting.

It now seems that whether a person is right- or left-handed is not important when it comes to memory.

What is important is the *degree* to which a person is right or left handed. If you use your non-dominant hand at least some of the time, you may find your memory will benefit as a result.

The Edinburgh Handedness Inventory

Some people use their dominant hand almost exclusively for everyday tasks while others use their less dominant hand part of the time. 55% of Americans are considered to be strongly right-handed. They almost never use their left hand. From one to three percent are strongly left handed.

A score has been devised according to the Handedness Inventory.

degree to which a person uses one hand or the other. It's called the Edinburgh Handedness Inventory.

Pure left- or right-handedness scores 100. On average, people score 80. A score below 80 is called inconsistent handedness (ICH). It means that at least one in ten activities is performed with the non-dominant hand. A score above 80 is termed consistent handedness (CH).

CH has been found to be more prevalent among right-handers and women. Left-handers are largely ICH.

Now where all this becomes interesting is the effect handedness has on the brain.

Inconsistent Handers Have Bigger Brains

The corpus callosum connects both sides of the brain and facilitates communication between them. People who are ICH have a larger corpus callosum and increased activation of the right hemisphere. This in turn leads to a better episodic memory.

This is the kind of memory involved with learning, storing, and retrieving information — the ability to describe the details of a recent vacation, for instance.

A number of studies show people with ICH have better recall of words and paragraphs, events from their own life, early childhood memories, everyday memories, dream recall and memory for faces.

This has also been shown to extend beyond the lab into real life, where ICH people report fewer memory problems, particularly those involving conversations and conducting everyday tasks. This is true whether they are left- or right-handed. The relevant trait is whether they make extensive use of *both* hands.

Connectivity between both hemispheres of the brain is also concerned with the capacity to update beliefs. This is considered to be a broad example of our ability to be flexible in our thinking.

Studies have shown that ICH people are more likely to be open to persuasion and are better at taking other people's perspectives. People who are CH (consistent handed) are more resistant to updating beliefs and are less likely to alter their existing viewpoint.

Perhaps also relevant, people who switch back and forth between both hands are less likely to suffer from rumination or other eating disorders, and less likely to suffer from dysmorphia — a distorted view about the way they look.

eating disorders, and less likely to suffer from dysmorphia — a distorted view about the way they look.

Form New Neural Pathways with Neurobics

If you are strongly left- or right-handed, there's a very simple way to improve your episodic memory and increase cognitive flexibility.

And that is to practice neurobics. These are brain exercises that involve unexpected stimuli.

One of the simplest exercises to strengthen connectivity between both hemispheres of the brain is to use your non-dominant hand more often by incorporating it into everyday life.

This might include eating, stirring drinks, writing, texting, drawing, dialing phone numbers, brushing teeth, opening doors and Hoovering. Virtually anything that's safe to do will help. Do this consistently over time and you should notice a difference.

Dr. P. Murali Doraiswamy, head of biological psychiatry at Duke University Medical Center, says of these activities: "It's like having more cell towers in your brain to send messages along. The more cell towers you have, the fewer missed calls."

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Chapter 8

Do Certain Vegetables Contribute to Dementia?

Along with physical and mental exercise and sound sleep, eating fresh fruits and vegetables is the first line of defense if you want to keep your brain healthy as you age.

But there's a slight catch: nearly all fruits and vegetables have merit, but you might be among the few people who can't tolerate certain kinds...

I'm not talking allergies, at least not in the traditional sense...

But a small section of the population can actually feel worse and see their general health go downhill if they eat certain fruits and vegetables.

Read on to discover what it is about these foods that cause such problems...

The mystery ingredients in these foods are lectins. They're found in a lot of foods, primarily in legumes, plants in the nightshade family (e.g. eggplants, tomatoes, peppers and potatoes), wheat and dairy.

What is Lectin Sensitivity?

Lectins are carbohydrate-binding proteins that bind with sugar molecules. They play a role in cell-to-cell interactions, immune responses and other biological processes.¹

The body doesn't digest lectins; they're resistant to digestive enzymes.

For many people, the body can handle these lectins, no problem.

For those who are sensitive to lectins, however, they can cause a variety of health issues. Reactions can include allergy-type symptoms, leaky gut, inflammation, joint pain and autoimmune disease. If you aren't familiar with leaky gut syndrome, it involves perforations in the wall of the intestine that allow undigested or partially digest food fragments into the bloodstream. These can provoke terrible reactions.

You may have a lectin sensitivity if you've noticed adverse reactions like these when you eat foods like. . .

- Wheat
- Dairy
- Peppers, both spicy and sweet
- Eggplants
- Paprika
- Potatoes
- Tomatoes and/or ketchup
- Tomatillos
- Goji berries
- Red pepper flakes
- Spices like garam masala, curry powder or Chinese five-spice powder

Lectin Sensitivity, Autoimmune Diseases and Brain Health

Autoimmune diseases occur when your immune system attacks your own body's proteins because it sees them as foreign invaders (like bacteria) that need to be destroyed. This can cause widespread destruction of your own organs and cells.

When people with lectin sensitivity consume lectin-rich foods, it can trigger autoimmune diseases such as rheumatoid arthritis.²

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In sensitive individuals, lectin can strip the esophagus, stomach and intestines of the protective mucus these organs need to absorb nutrients and stay healthy.

When this happens, abnormal bacteria can grow out of control, leading to problems with the balance of microbes in the gut, ulcers and even problems with the upper respiratory system.³

Not only are all these conditions medical problems in their own right, but the lectin-related inflammation, immune system malfunctions and unbalanced gut flora can wreak havoc on your brain.

There's a confirmed [connection between a healthy gut microbiome and a reduced risk for developing Alzheimer's disease and dementia.](#)

The connection between [long-term inflammation and brain health](#) is also well documented.

I don't know if lectin-sensitivity is widespread. Lately it's become kind of a fad to raise alarms about it. I tend to think it affects a small number of people. But if you're one of them, there's nothing small about it. It could explain mystery medical problems you've been trying to solve for years.

The only way to find out is to totally abstain from lectin-rich foods for several months, and see if your symptoms go away.

How to Reduce Your Exposure to Lectins

You may be able to avoid that extreme route. Below are a few other options.

- Because of lectins' carbohydrate structure, you can neutralize them, at least in part, by eating simple sugars and oligosaccharides, a kind of carbohydrate found in Jerusalem artichokes, cabbage, onions, soybeans, peas and lentils. **Try eating lectin-rich foods with foods containing oligosaccharides to minimize absorption.**
- **Soaking beans overnight helps to reduce their lectin content.** Soak dried beans in cold water for at least 24 hours and change the water several times throughout. Rinse again with cold water before cooking.
- **The Paleo diet is also lectin-sensitive friendly.** Because this diet eliminates dairy, legumes and grains it automatically reduces the amount of lectin-rich foods in your diet.
- **Sprouting seeds, grains and beans helps to reduce the lectin content.** Try sprouted grain breads and tortillas in place of regular breads made from wheat

- **Sprouting seeds, grains and beans helps to reduce the lectin content.** Try sprouted grain breads and tortillas in place of regular breads made from wheat.

However, NEVER eat sprouted red kidney beans. Sprouting red kidney beans increases the concentration of a particular lectin known as **phytohemagglutinin**. This can cause toxicity and “kidney bean poisoning.”⁴

Symptoms usually occur within three hours and include nausea, vomiting and diarrhea. It isn't fatal; it usually passes within four or five very unpleasant hours.

Having said all this, if you suspect you're lectin-sensitive, I think the best course is to completely eliminate these foods for two or three months, rather than beat around the bush with half-measures.

I'm on record as saying people should experiment with a gluten-free diet if they have unexplained symptoms that nothing has been able to cure. Same general principle applies to lectins. If you've had no luck with anything else, try this.

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Chapter 9

Napping: The New Secret to a Sharper Mind

Winston Churchill was devoted to “that refreshment of blessed oblivion.” So were Eleanor Roosevelt, Albert Einstein, P.G. Wodehouse, and many others.

In fact, some of our greatest philosophers, statesmen, artists and writers swore by it.

They liked to take an afternoon nap.

The habit may have contributed to their great achievements.

Science is now confirming what these notable celebrities knew instinctively — **taking an afternoon nap is good for the brain.**

Researchers from Johns Hopkins and two other American universities examined data collected from 2,974 Chinese men and women aged 65 or older.

The participants were divided into different groups according to whether they napped at all, and how long their naps lasted. The categories were non-nappers, short nappers (less than 30 minutes),

moderate nappers (30-90 minutes) and extended nappers (more than 90 minutes).

They were given various tests involving math, copying figures of different shapes, and remembering words. They were also questioned about dates and seasons of the year.

Factors that could affect the accuracy of the findings such as body mass index, night-time sleep, daily living activities and depression were taken into account.

A One-Hour Nap is Optimum

Almost six out of ten participants took an afternoon nap which lasted on average 63 minutes.

The researchers discovered those taking a nap that lasted for an hour performed considerably better on the tests than those taking shorter or longer naps.

Lead researcher Junxin Li said that non-nappers “also experienced about the same decline in their mental abilities that a five-year increase in age would be expected to cause.”

It will be remarkable if those findings hold up for the rest of us: Merely by taking a nap you might obtain the cognitive ability of someone five years younger.

He continued:

“Cognitive function was significantly associated with napping. Between-group comparisons showed that moderate nappers had better overall cognition than non-nappers or extended nappers.

“Non-nappers also had significantly poorer cognition than short nappers. Moderate napping was significantly associated with better cognition than non- and extended napping.”

Commenting on the study, Dr. Paul McLaren, medical director of the Priory hospital in Kent, England said, “Siestas are well established in European culture and there is probably a very good reason why these things have become established rituals. As we get older, our sleep patterns get more fragmented. An afternoon nap can be invigorating and is good for preventing brain aging.”

Benefits the Heart as Well as the Brain

This is not the first study to reveal the benefits of an afternoon slumber. Let’s look at one that involved young people

instead of seniors.

In 2012, 85 young adults who slept between 45 minutes and a hour had a significant drop in their blood pressure after a mentally stressful event compared to non-nappers.

The researchers concluded that daytime sleep offers cardiovascular benefits.

Then in a 2015 study, participants had to learn a list of 90 words and 120 mismatched word pairs such as milk and camera. One group slept for 45 – 60 minutes while the other group watched a DVD.

Members of the nap group were found to accurately remember *five times* as many words and pairs of words compared to the DVD group. The conclusion of the study was that taking a short nap after a concentrated period of learning plays an important role in the ability to recall information.

It seems that taking an afternoon nap — a power nap as Churchill coined it — is really valuable so long as you are already sleeping well at night and waking up refreshed. The afternoon provides a natural ‘circadian dip’ — and a chance to recharge your batteries.

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Chapter 10

The Link Between Kidneys and Alzheimer's

Your kidneys are fist-sized organs that filter toxins out of your blood and release hormones, red blood cells and Vitamin D into it.

Obviously, kidney health is essential to overall health...

But what's interesting is that researchers have recently noticed a connection between the kidneys and the brain.

For example, people with chronic kidney disease (CKD) have higher incidence of diabetes, hypertension, elevated homocysteine levels and other factors that increase the risk of developing dementia and Alzheimer's disease.

As if that wasn't incentive enough to do what you have to do to maintain healthy kidneys, new research reveals alarming risks to people on long-term dialysis and people with end-stage renal disease (ESRD)...

The Harm That Dialysis Does

Dialysis is the process that uses a machine to do what failing kidneys can no longer do: filter waste and toxins from the body.

It's about a three-hour process that allows people with kidney failure to live productive lives, yet it comes at a cost to healthy brain function...

Doctors have only recently noticed the connection between cognitive impairment and long-term dialysis. In 2008 it was estimated that up to **70% of dialysis patients aged 55 and older experienced moderate to severe cognitive impairment**. Their loss of brain function went largely undiagnosed.¹

Researchers have further determined four different kinds of cognitive impairment associated with dialysis:

- **Uremic encephalopathy**, caused by uremia, or having too many toxins and waste products in the blood. This condition can actually be helped by short-term dialysis.

What's more, a 2014 study published in *Neurology* has convinced me this

- **Dialysis encephalopathy syndrome** is caused by aluminum intoxication and was more common before 1980, when aluminum was in the dialysate, the fluid used to remove impurities in the blood. Modern filtering techniques have greatly reduced the amount of aluminum, and therefore reduced the incidence of this particular type of dialysis-related dementia.
- **Dialysis-associated encephalopathy (DAE)** is caused by long-term exposure to the trace amounts of aluminum still present in dialysate nowadays. The accumulation of aluminum in the central nervous system contributes to cognitive decline. To reduce the risk of DAE, researchers recommend dietary and medication changes to reduce the amount of phosphate in the blood, which your kidneys have to filter out to stay healthy.
- **Vascular dementia** is not restricted to dialysis, but is caused when the brain is starved of oxygen and nutrients, as in a stroke.²

Dialysis increases the risk of developing vascular dementia because, in the process, your blood is slowly pumped from your body into a dialyzer that extracts the waste and then returns the blood to your body. This may interrupt blood flow to the brain.

The line was very clearly drawn at 1.3 ounces.

Unless you're a sommelier, that probably doesn't mean much to you.

Such an interruption can cause episodes of acute cerebral ischemia that starves neurons and brain tissue of blood. Over time this causes a decline in cognitive functioning that can lead to dementia and Alzheimer's disease.³

The process of dialysis can also be stressful for the patient, especially those who haven't received a good explanation of the procedure. The patients may also feel out of control regarding their own health and decisions about their care.

Because of this, depression and anxiety are also common among people with end-stage renal disease (ESRD).⁴ (See [Issue #117](#) and [Issue #298](#) for more information about depression and anxiety as risk factors for dementia.)

From everything I've heard, a dialysis patient's overall quality of life is not good, but there may be few or no alternatives available for people who suffer kidney failure.

Kidney Transplants

If possible, a kidney transplant is a good option. Not only does a successful transplant remove the need for dialysis, but it can improve overall health.

A study published in the January 2016 issue of *BMC Nephrology* found that

patients who received a kidney transplant, who had previously been on three-times-a-week hemodialysis, showed improvement in memory and fine motor skills.⁵

Of course, a kidney transplant is an extreme measure and has its own set of risks.

A study published in the October 2016 issue of *Journal of the American Society of Nephrology* found that older ESRD patients with diabetes who received a kidney transplant had an increased risk of developing dementia and Alzheimer's disease.

This was due either to the long-standing kidney disease or to neurotoxic immunosuppressant drugs given to organ recipients to prevent the body's rejection of the new organ.⁶

Take These Steps to Keep Your Kidneys Healthy

If you have risk factors for developing kidney disease, or if you have it now, make lifestyle changes to keep your kidneys as healthy as possible. Here's what the National Kidney Foundation recommends...

- Eat a well-balanced diet of whole, nutritious foods
- Exercise regularly
- Avoid NSAIDs like ibuprofen

- Avoid NSAIDs like ibuprofen
- Manage blood sugar/diabetes and blood pressure
- Maintain a healthy weight
- Don't smoke
- Limit alcohol intake⁷

Making healthy choices now can have a positive impact on your overall quality of life down the road. While a healthy lifestyle may not be very "sexy," it's a lot more enjoyable than kidney failure and Alzheimer's disease.

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