

MIND & BODY

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MIRACULOUS BODY THE MIRACULOUS IMMUNE SYSTEM SERIES Part IV

Beyond Detox

Unlocking the Secret Healing Power of the Lymphatic System

YUHONG DONG & MAKAI ALLBERT

The lymphatic system is our “immune network manager,” designed to keep internal and external toxins and invaders away from our body.

It’s truly a reflection of the miraculous design of the divine, flawless in both structure and function.

The lymphatic system circulates a clear fluid called lymph through an extensive and intricate network of vessels throughout the body, thereby eliminating waste, toxins, and foreign particles, including viruses.

Continued on Page 6

Our lymphatic system pumps cleansing lymph through our body with the help of our daily movement.

Tonsils

Thymus

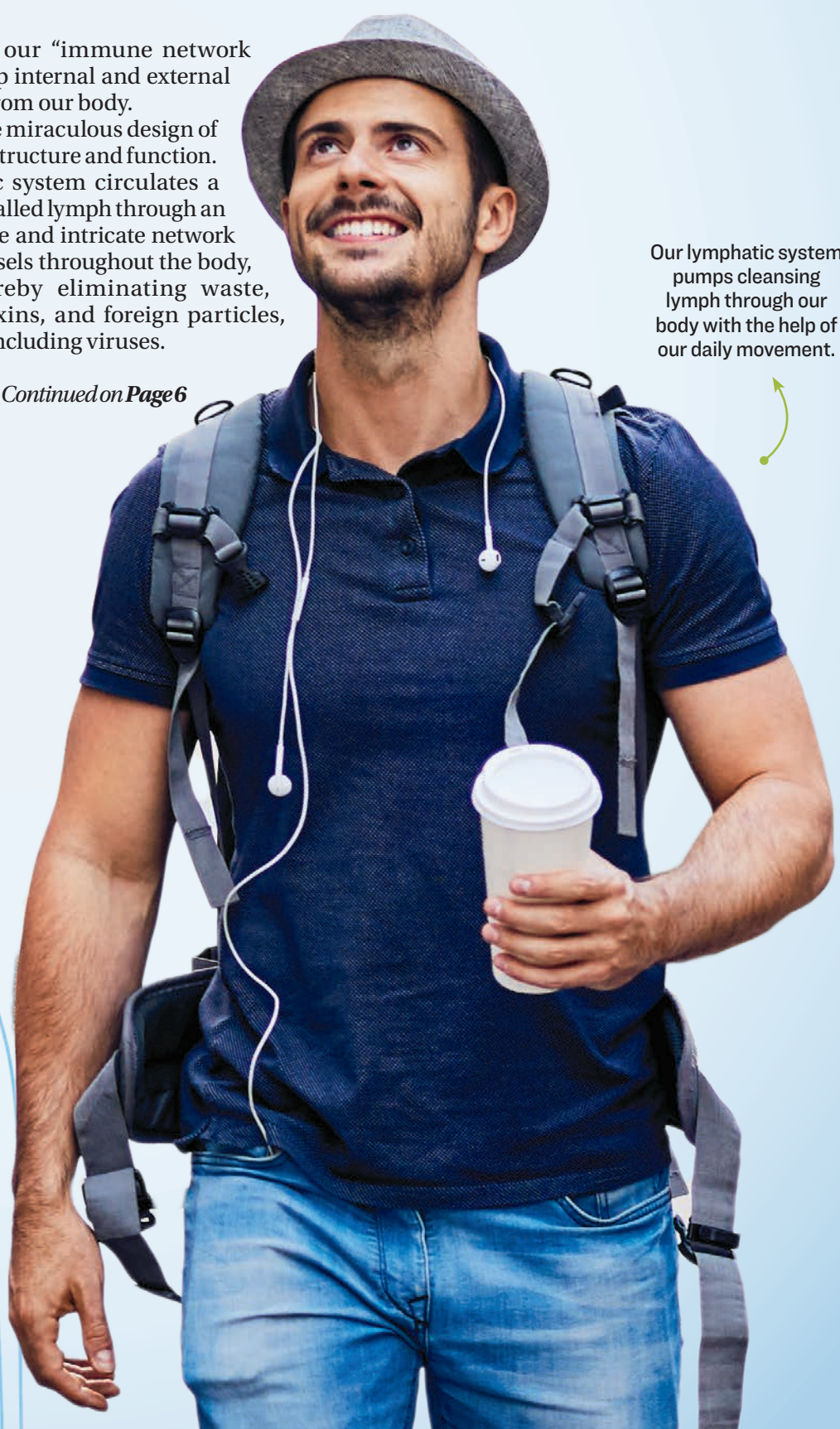
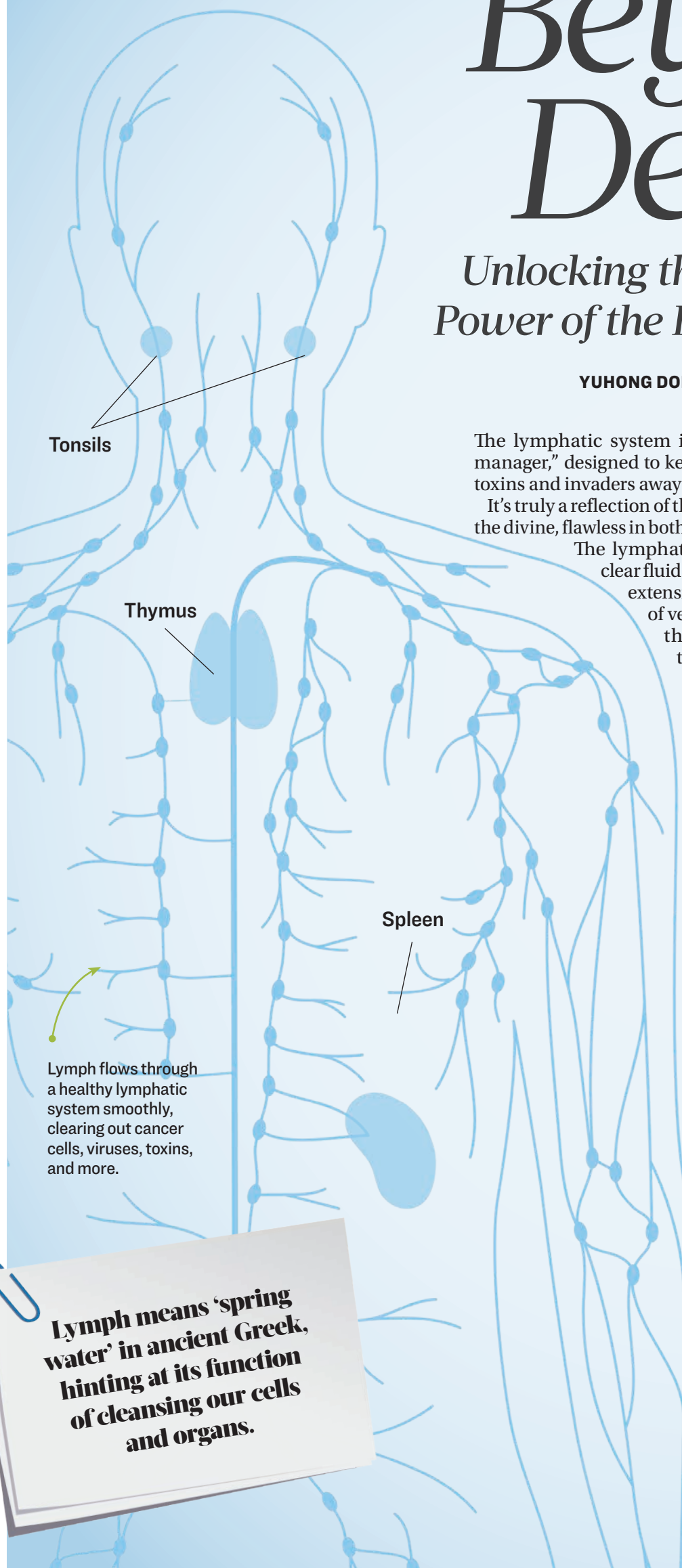
Spleen

Lymph flows through a healthy lymphatic system smoothly, clearing out cancer cells, viruses, toxins, and more.

Lymph means ‘spring water’ in ancient Greek, hinting at its function of cleansing our cells and organs.

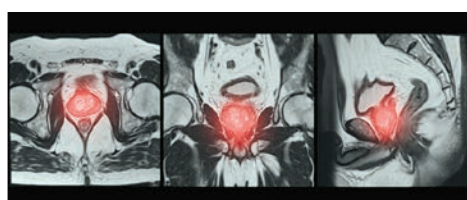
In this series, “The Miraculous Immune System,” we’ll explore the true power of our immunity, the organs that work tirelessly to protect us. We’ll also provide practical ways to protect these vital divine gifts.

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Research Questions Effects of Prostate Cancer Treatment

A large study finds that men with localized prostate cancer have similar mortality rates after 15 years whether they get treatment or not



RADIOLOGICAL IMAGING/SHUTTERSTOCK

Active monitoring is an option for low risk prostate cancer.

YUWEI ZHANG & CONNA CRAIG

Every cancer diagnosis comes with a range of reactions, including the natural inclination to act as quickly as possible to choose and begin treatment.

However, a new study has revealed that, in the case of prostate cancer, over 15 years, outcomes were surprisingly similar for three groups: a prostatectomy group, a radiotherapy group, and a nontreatment group under active monitoring. The study’s authors found that

prostate cancer-specific mortality was relatively low regardless of the approach taken.

The Clinical Trial

The new findings are based on 15-year outcomes of the Prostate Testing for Cancer and Treatment (ProteCT) clinical trial sponsored by the University of Oxford. This long-term trial was initiated in 2001 and will continue until 2027.

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MICROBIOME CULTIVATING OUR GUT MICROBIOME TO STIFLE DISEASE Part IV

Decoding Dysbiosis: Are Your Gut Microbes Out of Whack?

Sorting through the ever-changing, completely unique human microbiome to find them is quite puzzling



In this series, we'll share how the latest developments on this medical frontier are transforming our approaches to illness and offering new strategies to heal and prevent disease.

WHAT IS DYSBIOSIS?

Dysbiosis is an imbalance in the gut microbiome and a possible causative factor in many modern diseases.



FOOD FOR THOUGHT

Stress has been shown to change the gut microbiota. Specific changes are also associated with depression.



CRITICAL FOR HEALTH

We depend on a population of helpful bacteria to perform specific metabolic functions.

Previously: Scientists are examining thousands of people's stools in an effort to infer a "normal" gut microbiome. This would create a standard that should help clinicians and researchers figure out when someone has a microbial imbalance.

AMY DENNEY

Sometimes, microbiome terminology is like the science itself: unfamiliar, incomplete, and confusing. Dysbiosis is no exception. Dysbiosis is often used as a synonym for "imbalanced" when describing the state of someone's microbiome. The problem is knowing what constitutes balance when there are trillions of bacteria—not to mention viruses and fungi—in the human gut.

It's this diversity that makes it hard to determine whether we have all the right bugs in the right amounts.

Despite being poorly understood, studies continue to link gut microbiota to diseases of the gastrointestinal tract—and beyond.

Dysbiosis is a biomarker of several disorders and a priority for future therapies to prevent and treat diseases.

That's because the human microbiome, that total collection of microbes that live inside us and on our skin, functions like a secondary set of cells. The cells that make up our body are performing thousands of biochemical reactions, transforming substances, creating compounds, and generating the very spark of life that animates our flesh. Those microbes perform many of those same actions. When we don't have enough helpful bacteria—or too many pathogenic bacteria—problems result.

A Balance of Bugs and Disease

Research is just scratching the surface of what dysbiosis is all about. A research review published in *Microorganisms* in 2019 looked at 113 studies to examine the state of science around gut microbiota balances.

"Dysbiosis of gut microbiota is associated not only with intestinal disorders but also with numerous extra-intestinal diseases such as metabolic and neurological disorders," the review authors wrote.

Insight about how the composition of our microbiome affects disease should help open new therapeutic options for those diseases, the researchers wrote.

The review revealed studies that drew several specific associations between dysbiosis and disease:

- Irritable bowel syndrome is associated with a loss of microbial richness, which could affect the integrity of cellular junctions and weaken the epithelial barrier.
- Studies of celiac disease demonstrate patients have a reduction in *Lactobacillus* and *Bifidobacterium* and an increase in potentially pathogenic bacteria compared to healthy subjects.
 - Obesity is associated with lower species diversity, as well as lower levels of genes involved in metabolism.
 - Patients with dementia have lower microbial diversity and disturbed microbiota associated with inflammatory states.
 - Studies show a less diverse gut microbiome in children with autism spectrum disorders, as well as lower levels of *Bifidobacterium* and *Firmicutes*.
 - Stress has been shown to have a relationship with gut microbiota, with specific changes that are associated

with depression and others with stress.

- The gut microbiota of colorectal cancer patients had more of some bacteria and fewer butyrate-producing bacteria.
- Several studies found the gut microbiome is altered in patients suffering from Type 2 diabetes.

Our Microbiome Fingerprint

Correlation doesn't equal causation. Though researchers have linked certain microbiome types to certain diseases, we don't know if the bacterial imbalance caused the disease or was caused by the disease. Or maybe some other factor contributes to both a disease and a shift in the microbiome. Further complicating the study of dysbiosis is the fascinating fact that microbiomes are unique to cultures and even individuals.

No two people have the same microbiome, not even identical twins, although they're quite similar, according to studies. Some researchers have even measured the human "biologic cloud," the space around us that is picking up and emitting microbes through our skin and breath. This cloud is how pathogens—and beneficial microbes—spread.

“Your microbial space is distinct like a fingerprint basically, which interestingly brings up some forensic implications. You might even be able to solve a crime [with the microbiome] someday,” said Neil Stollman, chairman of gastroenterology at Alta Bates Summit Medical Center and associate clinical gastroenterology professor at the University of California–San Francisco.

But, right now, it seems impossible to solve the puzzle of our own health. Lab tests can confirm for doctors if you lack a certain vitamin and supplements can be prescribed. If you want to know if you have a broken microbiome, however, it's difficult to test for and even harder to fix—although some supplement makers promise otherwise.

“One thing we do know from recent research is that glyphosate does in fact impact gut bacteria.”

Dr. David Perlmutter, board-certified neurologist

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Divided Philosophy

Mainstream medicine tends to lean toward a more conservative approach regarding dysbiosis, only acknowledging

Mortality rates are highest in the Caribbean, Sub-Saharan Africa, and Micronesia/Polynesia.

Trends in Diagnosis

In an editorial published by the *New England Journal of Medicine*, Dr. Oliver Sartor, medical director of the Tulane Cancer Center, writes that current treatment approaches are very different today from when the ProtecT clinical trial started.

The ProtecT trial relied on PSA testing, which, though still a standard test, is “no longer the norm,” writes Sartor.

“In many clinics, PSA testing is not done at all, and the legal consequences of not testing are diminished, given that guidelines now embrace patient-centric informed decision-making.”

Active Monitoring

Sartor writes, “Active monitoring as performed in the ProtecT trial should not be used today. We can do better by adding serial multiparametric MRI assessments.”

Active monitoring, also known as active surveillance, is a management approach for prostate cancer. Patients with low- or intermediate-risk disease are closely monitored with regular PSA testing, prostate exams, and sometimes repeat biopsies but don't receive immediate active treatment such as surgery or radiation.

A MODERN PROBLEM

When antibiotics kill off both beneficial and pathogenic bacteria, they leave our microbiome susceptible to imbalance and invasion by problematic microbes.



its role in a handful of scenarios such as pathogenic infections like *Clostridioides difficile* (c. diff). On the other hand, researchers are continuing to link different bacterial profiles to different diseases and many functional medicine doctors will use stool tests to discern if levels of certain beneficial bacteria are low and try to increase those for disease prevention.

Dr. Akil Palanisamy, physician and author of *The T.I.G.E.R. Protocol: An Integrative 5-Step Program to Treat and Heal Your Autoimmunity*, told *The Epoch Times* that integrative practitioners tend to hone in on the subtleties and nuances of the microbiome. This is likely because these practitioners are actively engaging with patients and seeing how different protocols affect outcomes.

Though it can require a lot of detective work, Palanisamy said there are thousands of studies coming out every year and many affirm dysbiosis and its role in autoimmune diseases.

On the other hand, some clinicians such as Dr. Ari Grinspan, associate professor of medicine and director of the fecal microbiota transplant program at Mount Sinai Hospital, are a bit more cautious and say the research isn't robust enough.

Grinspan told *The Epoch Times* that dysbiosis is largely a “made-up term” for when the flora is changed. It's been proven in cases of antibiotics, which broadly kill off all sorts of bacteria including pathogens like *C. diff*. Anything beyond that is an association but not causation, he said.

Individualized Treatments

Most cases of dysbiosis tend not to be “lightning strikes,” meaning they aren't often a chance event, Dr. Scott Doughty, an integrative family practitioner with U.P. Holistic Medicine in Michigan, told *The Epoch Times*.

Rather, he said, gut issues tend to be the result of lifestyle—stress, toxins, nutrient deficiencies, and genetic complications with an occasional lightning strike. The good news is it makes dysbiosis reversible. He doesn't have hard rules, such as removing all gluten and dairy that he said give him the uncomfortable feel of “conveyor belt medicine,” although he does make dietary suggestions on a case-by-case basis before introducing supplements.

On the other hand, the library is filled with books from doctors who do offer blanket recommendations for healing the gut. Clearly, there's a market for that, and they have helped plenty of people lead a more healthy lifestyle.

Palanisamy uses the method he wrote about in his *T.I.G.E.R. Protocol*, with T.I.G.E.R. an acronym for toxins, infec-

tions, gut, eating, and rest.

It takes a minimum of three months to start experiencing results from the protocol, which is designed to take a committed, holistic approach to the gut, he told *The Epoch Times*.

Doughty said while the books and products can be useful, he often suggests patients push them to the side once they begin working with him.

“What I typically say to them is Dr. Axe is not your doctor. I'm here for you, and you're here for me,” he said.

The Glyphosate Conundrum

Besides antibiotics and stress, another factor affecting microbial balance could be toxins that make contact with the colon through food. Studies indicate that an array of toxins can alter microbial composition, including one chemical that everyone has broad exposure to: the herbicide glyphosate.

The most widely used herbicide worldwide, glyphosate—which was originally patented as an antibiotic—is the active ingredient in more than 750 herbicide products. While the Centers for Disease Control and Prevention (CDC) has reported that the specific levels of glyphosate found in urine are higher in women and children, it doesn't offer a threshold that's deemed safe.

The CDC offers no toxicity, health, or regulatory guidance and states the assessment of exposure “does not by itself mean that the chemical causes disease or an adverse health effect.”

Since a research review published in *Interdisciplinary Toxicology* in 2013, scientists have been calling on governments to re-examine policies on glyphosate to restrict its use. Glyphosate is the active ingredient in the world's most widely used herbicide, Roundup, a product so prolific that one of the most common genetic modifications made to major crops is to make them better able to withstand Roundup. Its maker, Bayer, is phasing out glyphosate from its residential brand.

As Dr. David Perlmutter pointed out in his book *Brain Maker*, glyphosate changes the composition of gut bacteria by:

- comprising our ability to detoxify toxins.
- impairing the function of vitamin D.
- chelating iron, cobalt, molybdenum, and copper out of the body.
- impairing our synthesis of tryptophan and tyrosine, amino acids vital to protein and neurotransmitter production.

The review focused on the link between glyphosate and celiac disease, arguing it's a causal factor for the rise in gluten sensitivity, which tracks with the increase in

THE T.I.G.E.R. PROTOCOL

Returning a microbiome to balance and healing autoimmune disease can require tending to any issues with toxins, infections, the gut, eating, and rest.



Over
750
HERBICIDES
currently contain
glyphosate.



Obesity has been linked to having a microbiome made up of a smaller variety of species.

glyphosate application added a few days before harvest to kill the wheat so it dries better for harvest and storage.

Perlmutter writes that the relationship between glyphosate and celiac disease is undeniable though other variables are probably at play.

“One thing we do know from recent research is that glyphosate does in fact impact gut bacteria,” he wrote.

Dysbiosis but Not Illness

It's a frustration in science that even when a bulk of evidence looks suggestive, causation is difficult to prove, which is why vocabulary is important. As Grinspan said, one danger of using the word dysbiosis in place of imbalance is that it's uncertain whether it's always indicative of illness. People in urban areas have a less diverse microbiome than those who live rurally, for example.

“This really gets a little complicated. People will jump on the term ‘dysbiosis,’” Grinspan said. “The microbiome is different in every single person. There's so many different things that can affect that.”

It's the sort of dilemma that functional physicians like to tease out—even if the science is still in its infancy.

As research evolves, Palanisamy said microbiota “signatures” of bacterial dysbiosis are emerging—patterns that reflect specific disease states. Some of them he mentions in his book are linked to multiple sclerosis, rheumatoid arthritis, lupus, and ankylosing spondylitis.

“There are a lot of different types of dysbiosis,” he said. “We haven't understood them all fully.”



Next:
We examine some precise roles that gut bacteria play and how to pick up on your body's early signs that your microbiome has been disrupted.

THE DIET FACTOR

Eating a diet that is high in processed foods with lots of fat, salt, and sugar—rather than a diet high in fruit, vegetables, and whole grains—can feed a problematic population of gut microbes.



Research Suggests Limited Benefits of Prostate Treatment

Continued from Page 1

Here's a summary of the trial thus far:

- The ProtecT trial included 82,429 men in the United Kingdom between 50 and 69 years of age who received a prostate-specific antigen (PSA) test from 1999 to 2009.
- Localized prostate cancer was diagnosed in 2,664 of the men.
- Researchers followed a subgroup of 1,643 men to assess the efficacy of three approaches: active monitoring, prostatectomy, and radiotherapy.

The three approaches resulted in similar overall survival rates and low rates of disease progression over 15 years.

There are several possible explanations for this finding. The median PSA was relatively low among randomized patients; most of the trial patients were at low risk or favorable intermediate risk and would today be considered appropriate candidates for active surveillance.

Another possibility is that, in most cases, prostate cancer is a slow-growing cancer

and may not necessarily lead to death if left untreated for some time.

Notably, patients who received radical prostatectomy or external-beam radiotherapy were more likely to experience adverse effects, such as urinary incontinence and erectile dysfunction, than those on active monitoring.

Based on these findings, the researchers concluded that active monitoring could be appropriate for some men with localized prostate cancer, particularly those with low-risk disease. This approach involves regular monitoring of the cancer with PSA tests and other diagnostic measures, with treatment initiated only if the cancer shows signs of progression.

Overall, the current study findings highlight the importance of balancing the potential benefits and harms of prostate cancer treatments.

The authors published an additional paper on their long-term investigation. In the paper, they explain that effects on sexual, urinary, and bowel function can continue over time for some patients, which is an essential factor for therapy decision-making.

Prostate Cancer Survival Rate Is High, But so Is the Number of Cases

In the United States, 1 in 8 men will be diagnosed with prostate cancer during their lifetimes. Older males and non-Hispanic black men have the highest risk of developing prostate cancer.

Prostate cancer is not usually fatal: It has a five-year 98 percent survival rate. The 10-year survival rate is also 98 percent. However, given the number of individuals diagnosed, it's the second leading cause of cancer death among U.S. males. The American Cancer Society estimates that about 34,700 men will die of the disease in 2023.

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Worldwide, incidence rates vary dramatically, from 6.3 to 83.4 per 100,000 people. The highest incidence rates are in Northern and Western Europe, the Caribbean, Australia/New Zealand, North America, and Southern Africa. Asia and North Africa have the lowest rates of prostate cancer. Men of African descent are most susceptible to the illness.



Low risk prostate cancer may not always require treatment. Treatment options should be weighed with benefits and risks in mind.

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Yuwei Zhang, M.D., Ph.D., MPH, MBA, has 20 years of experience in oncology and healthcare, including work for providers, payers, and pharma companies. Her paper on esophageal cancer is one of the top ten most cited papers in the field. She regularly gives talks at universities, has been invited to review manuscripts for top-tier medical journals, and has supported successful launches of top-performing drugs with expertise in lifecycle management, data strategy, and digital innovation.

Conna Craig is a researcher and writer focused on public policy, health, and children's issues. She has advised decision-makers in two White House administrations and holds a bachelor's degree from Harvard College.

There is a lot of conflicting science around the health implications of fluoride consumption.

Research suggests fluoride can accumulate in the hippocampus.

Contentious research links fluoride to risks to thyroid problems.

Health Effects of Fluoride: The Science

The Safe Drinking Water Act requires periodic reassessment of regulations for drinking water contaminants.

In this series, we explore the contentious findings surrounding fluoridation of the U.S. public water supply and answer the question of whether water fluoridation poses a risk and what we should do about it.

Previously: A cavity epidemic made water fluoridation seem like a public health miracle, but the research that followed provided a mixed picture of benefits and risks.

CHRISTY PRAIS

Research has revealed fluoride has both beneficial and harmful effects in people and animals but many of the more critical findings of potential harm are strongly debated.

One of the more contentious findings linked water fluoridation to cancer, a claim that has been largely discounted, though others haven't been so easily forgotten.

Fluoride has been shown to decrease the prevalence of dental caries, but fluoride critics argue that water fluoridation might not be the most effective way to protect the public from cavities.

It's now recognized by dental researchers that fluoride's primary benefit comes from topical application and that it doesn't need to be swallowed to prevent tooth decay. An October 1999 Centers for Disease Control and Prevention (CDC) report states that laboratory and epidemiologic research findings had dispelled the earlier belief that ingesting fluoride resulted in stronger teeth. It asserts that fluoride effects "primarily are topical for both adults and children."

And while applying fluoride to teeth typically has been shown to be beneficial, there is a large growing body of scientific research conducted over decades that links ingesting fluoride with dental and skeletal fluorosis and a range of health effects including damage to the brain, disruption of the endocrine system (thyroid gland, pineal gland, and glucose metabolism), and types of cancers.

The Science
"When consumed in tap water, fluorida-

tion chemicals find their way throughout the entire body. It is not only probable, it is inevitable that we will pay the price through unexplained diseases and increased medical costs," Clint Griess, author of "Something in the Water," wrote in an email to The Epoch Times.

The highly criticized research of Dr. Dean Burk (1904-1988), a former chief chemist at the National Cancer Institute, conducted in the 1970s and '80s linked fluoridation of the public water supply to cancer.

Burk wrote in his last scientific paper, "It is concluded that artificial fluoridation appears to cause or induce about 20-30 excess cancer deaths for every 100,000 persons exposed per year after about 15-20 years," cited the Berkeley Essig Museum of Entomology Collections.

In a Sept. 21, 1977, congressional hearing, Burk and his colleague John Yiamouyiannis discussed the findings of their studies on the link between water fluoridation and cancer.

One of the studies presented compared cancer death rates of 10 of the largest fluoridated cities to 10 of the largest un-fluoridated cities year by year. The tracking started in the cities before fluoridation began and found that the cancer death rate for both groups of cities prior to fluoridation was for the most part identical.

The study found that cancer death rates showed a drastic increase in fluoridated cities around the time the fluoridation program began, while the cancer death rate increase in the non-fluoridated cities didn't significantly increase.

In an interview with NCRV, a Netherlands-based broadcasting company, Burk urged the government to bring a prompt end to the artificial fluoridation of public water supplies.

Burk's work has been sharply criticized, and later studies challenged the link between fluoride and cancer. He was and still is targeted by fluoridation proponents who say he failed to correct for age, sex, race, and cancer site distribution in some of his studies. Despite this, Burk's work was largely responsible for the termination of fluoridation in the Netherlands, the Berkeley Entomology Collections noted.

Prior to Burk's work, a similar report in the 1955 New England Journal of Medicine showed a 400 percent increase in thyroid cancer in San Francisco during the period that the city had fluoridated drinking water, reported Gladys Caldwell and Dr. Philip Zanfagna in their 1974 book "Fluoridation and Truth Decay."

The cancer link remains contentious and the CDC and others hold that other studies have disproven the link. That includes a research review published in 1983 in the Bulletin of the World Health Organization that claimed the assertion was erroneous.

Also, the CDC cites a review by Howard F. Pollock that states, "Studies in which humans received doses significantly higher than the optimum fluoride intake for long periods of time showed no negative impact on thyroid function."

Unfortunately, there has been conflicting science around fluoride and contentious findings continue to emerge. That has been

particularly true when it comes to fluoride's potential neurological effects.

Fluoride and the Brain

In October 1996, Phyllis Mullenix spoke at a Fluoride Forum at Clark University in Worcester, Massachusetts, on her research and groundbreaking study on fluoride.

Mullenix has a doctorate in pharmacology with a specialty in neurotoxicology and completed a post-doctorate at Johns Hopkins School of Public Health in environmental medicine.

After a career at both the department of psychiatry at Children's Hospital in Boston and the department of neuropathology at Harvard Medical School, she took a position at the toxicology department at the Forsyth Dental Research Institute, the first toxicology department established in any dental research institution in the world.

In her lecture, Mullenix recounts that Dr. Jack Hein, the director of the institute, was suspicious that many of the dental products were possibly causing neurological issues.

Mullenix was tasked with applying a new computer-based screening technology she developed to look at the environmental impact and the neurotoxicity of products that are used by dentists and the dental community. Fluoride was the first substance she studied.

In 1995, she published her groundbreaking study linking fluoride with damage to the central nervous system in the peer-reviewed journal Neurotoxicology and Teratology.

Her study on the effects of fluoride on rats found three basic conclusions, Mullenix recounted in the 1996 forum.

First, "there was no question that behavior was vulnerable to fluoride," regardless of a very short exposure when young, prenatal, or early postnatal "all you needed was 2 or 3 days exposure to this [fluoride] and it caused a permanent change in behavior when the animals grew up," she said.

If you took all the other exposures away except for that one exposure, it was enough to "permanently change the behavior," Mullenix said.

The second major finding in the study was that the effects varied with age she said. If the rats were exposed prenatally, the behavior change observed was hyperactivity and when rats were exposed as weanlings or adults they displayed what the scientists called "couch potato syndrome," or hypoactive behavior, similar to chronic fatigue.

The third major finding was that "fluoride accumulated in the brain, and this is very different than what the literature had said before." The literature up to this point said that it didn't get into the brain and it doesn't bioaccumulate, "and we know that this is wrong," concluded Mullenix.

In her study, the fluoride-exposed females had double or triple the amount of fluoride in the hippocampus regions of the brain compared to the control.

The brain's hippocampus is part of the limbic system and plays important roles in short- and long-term memory, spatial memory that enables navigation, and emotional behavior.



Studies now widely agree that fluoride's primary benefit comes from applying it to the outside of the teeth, rather than ingesting it.

There has been significant debate around the findings of Mullenix's study in the scientific community although the 2006 NRC report concluded that "the committee agrees there are difficulties with interpreting the results of the study, but those difficulties do not warrant dismissal of the results."

The 2006 NRC Report

The Epoch Times reached out to the CDC with questions about safety and their support of the current water fluoridation program. The CDC pointed to the National Toxicology Program's (NTP) "NTP Monograph on the State of the Science Concerning Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects: A Systematic Review."

The NTP Monograph was performed by an external review board that is currently completing an analysis of the draft and will be presenting its conclusions and recommendations on May 4 in a public meeting. "We support this process and look forward to seeing their final report, which is likely to help answer a number of your questions," the CDC responded.

The Safe Drinking Water Act requires periodic reassessment of regulations for drinking water contaminants. Because of this, the NRC committee on Fluoride in Drinking Water was previously charged by the Environmental Protection Agency (EPA) with reviewing toxicologic, epidemiologic, and clinical data on fluoride, as well as exposure data on orally ingested fluoride from drinking water and other sources (ie. food and dental-hygiene products).

This review resulted in the 2006 scientific report of the EPA's standards of fluoride in drinking water by the National Research Council (NRC).

Their task was to independently evaluate the scientific basis of the EPA's set drinking water standards, which were set at a maximum contaminant level goal (MCLG) of 4 mg/L and a secondary maximum contaminant level (SMCL) of 2 mg/L. The MCLG and the SMCL were set in 1986.

The CDC currently supports a water fluoridation level of 0.7 mg/L, the concentration recommended by the Public Health Service.

The enforceable maximum (MCLG) is 4.0 mg/L. This maximum is meant

Fluoride has been shown to decrease the prevalence of dental caries but fluoride critics argue that water fluoridation might not be the most effective way to protect the public from cavities.

The CDC currently supports water fluoridation at the concentration recommended by Public Health Service of

0.7
MG/L.

Concerns about fluoride have contributed to a market demand for non-fluoride toothpastes.



to protect against skeletal fluorosis. The secondary maximum (SMCL) is 2.0 mg/L, which is meant to protect against moderate to severe dental fluorosis. The secondary standard isn't enforceable but requires systems to notify the public if the average levels exceed it.

The NRC fluoride committee was asked to identify data gaps and to make recommendations for future research meant to better inform the MCLG and SMCL to protect children and others from adverse health effects.

In their research, the NRC committee found gaps in the information on fluoride that prevented the committee from making some judgments about the safety or the risks of fluoride at concentrations of 2 to 4 mg/L.

The committee urged the scientific community to carefully conduct more research on exposure to fluoride especially endocrine effects and brain function and recommended that the EPA should "update the risk assessment of fluoride to include new data on health risks and better estimates of total exposure (relative source contribution) for individuals."

The committee also urged the EPA to consider susceptible subpopulations, uncertainties, and variability in their assessment.

The NRC review of neurotoxicity and neurobehavioral effects of fluoride stated that based on "information largely derived from histological, chemical, and molecular studies, it is apparent that fluorides have the ability to interfere with the functions of the brain and the body by direct and indirect means."

They noted that "fluorides also increase the production of free radicals in the brain through several different biological pathways. These changes have a bearing on the possibility that fluorides act to increase the risk of developing Alzheimer's disease."

The committee assessed studies that reported IQ deficits in children exposed to fluoride and said that despite the studies lacking sufficient detail, the committee felt that the consistency of the results appeared significant enough to warrant additional research on the effects of fluoride on intelligence.

Christy A. Prais received her business degree from Florida International University. She is the founder and host of Discovering True Health, a YouTube channel and podcast dedicated to health and wellness. Prais also serves on the advisory board at the Fostering Care Healing School. She is a contributing journalist for The Epoch Times.

Next week:

"As a rep of CDC, to my knowledge, we don't have any knowledge about that," Casey Hannan, CDC oral health director, said when asked by Connert in a deposition whether the CDC has any data from the published literature that would define the tolerable upper fluoride intake for neurotoxic effects on children.

Black Pepper, the 'King of Spices'

5 health benefits you should know about this long-treasured spice

DAVID CHU

Black pepper, often referred to as the "king of spices," is a popular culinary spice known for its distinct pungent flavor that comes from its alkaloid component, piperine. Black pepper is an important health food that may help prevent and control tumor growth and improve gastrointestinal health due to its antioxidant and antibacterial properties.

Pepper originated in India, where it has been cultivated for thousands of years, and was introduced to the West during the reign of Alexander the Great in the fourth century B.C. In ancient times, pepper was considered a precious commodity, often used as a form of currency for taxation and tribute, and even served as a universal medium of exchange similar to how gold did.

Pepper is a flowering vine belonging to the Piperaceae family, and its dried fruit is used as a spice and seasoning. The two most common varieties are black pepper, which is made from the unripe fruit of the pepper vine, and white pepper, which is made by



Cultivated in India for thousands of years, pepper's trading value was once comparable to that of gold.

processing the fully ripe fruit.

According to data from the U.S. Department of Agriculture FoodData Central, black pepper contains nutrients such as magnesium, vitamin K, iron, and fiber. Studies have shown that black pepper extract contains more polyphenols and has higher antioxidant and free-radical scavenging activities than white pepper.

Concomitant use of vitamins and minerals with the piperine in pepper can increase their bioavailability in the body. A study published in Nutrients in 2020 showed that piperine compounds can fa-

facilitate the absorption of substances such as iron and beta-carotene, especially when given in partnership with curcumin.

In addition, black pepper offers five major benefits.

Combats Obesity

South Korean researchers discovered through laboratory studies and computer models that piperine can interfere with the activity of genes responsible for controlling the formation of new fat cells, thereby preventing their formation. During this

process, piperine may also trigger a metabolic chain reaction to help regulate fat in other ways.

The researchers suggested that this finding could lead to the wider use of piperine or black pepper extract to combat obesity. The study was published in the Journal of Agricultural and Food Chemistry in 2012.

Prevents and Manages Cancer

An in vitro study conducted by the University of Michigan Cancer Center found that piperine may help prevent breast cancer.

The researchers prepared high-concentration solutions of curcumin from turmeric and piperine from black pepper and found that both compounds can inhibit the proliferation of breast stem cells. Furthermore, the inhibitory effect is even more significant when the two are combined, and they don't affect the function of normal breast cells.

Protects the Cardiovascular System

Clinical trials have confirmed that piperine can prevent and treat various chronic diseases, including hypertension, diabetes, neurological disorders, and cardiovascular diseases.

An in vitro study found that piperine can help eliminate excess cholesterol in the blood, preventing the accumulation of cholesterol in macrophages that can lead to atherosclerosis. It can also promote the transportation of cholesterol in blood ves-

sels to the liver to form bile, which is then released into the small intestine for excretion from the body.

Promotes Digestion

Piperine can also promote digestion by stimulating the secretion of digestive enzymes. A research review published in the journal Critical Reviews in Food Science and Nutrition in 2007 showed that dietary piperine can stimulate the pancreas to secrete digestive enzymes, thereby improving digestive function and speeding up the passage of food through the digestive tract. Black pepper, like other spices, can also enhance the activity of salivary amylase, pancreatic protease, and pancreatic lipase and promote the secretion of bile acids.

In addition to stimulating the secretion of digestive enzymes, piperine can also help to increase the absorption capacity of small intestinal cells.

Boosts Immunity

A study published in the Journal of Medicinal Food in 2010 indicated that black pepper exerts immunomodulatory and anti-tumor activities, making it a natural agent for maintaining and promoting a healthy immune system. Clinical trials have also confirmed that piperine can help prevent viral, bacterial, and fungal infections.

Dr. Pei-Chen Lin, the director of Li Xiang Chinese Medicine Clinic in Taipei, Taiwan, wrote on the clinic's official website

White pepper has higher medicinal value and is commonly used in traditional Chinese medicine to aid digestion, relieve greasiness, stimulate appetite, and alleviate abdominal bloating.



about the nutritional and health benefits of pepper. According to Lin, pepper can effectively dispel coldness (in the sense used in traditional Chinese medicine) and promote digestion.

White pepper has higher medicinal value and is commonly used in traditional Chinese medicine to aid digestion, relieve greasiness, stimulate appetite, and alleviate abdominal bloating.

Peppercorns Versus Pepper Powder

Pepper available in the market can be classified into pepper powder and peppercorn. According to Lin, although pepper powder is more convenient, its active ingredients tend to slowly break down and evaporate over time. Additionally, pepper powder often contains added salt. Therefore, she recommends purchasing peppercorns and grinding them into pepper flakes as needed for a fresher taste. Although pepper is suitable for refrigerated storage, it is best not to purchase too much at once to avoid moisture and spoilage.

Lin emphasized that black pepper is considered a "heavy" food, which means it may not be suitable for individuals with acne or constipation. Those who experience dry mouth and excessive thirst should also avoid consuming too much black pepper. Additionally, overconsumption of pepper can potentially harm the lungs, so people with poor lung function should limit their intake of black pepper.

2 Ways to Consume Pepper

Dr. Pei-Chen Lin shared two ways to eat more pepper and enjoy the medicinal benefits.

Raw Sugar and Pepper Water

To treat colds, crush some black pepper and mix it with unrefined cane sugar and hot water. For colds caused by exposure to cold, it is recommended to consume it in the early stage of symptoms for the best results.

This remedy is also effective for treating stomach problems caused by coldness and cold-induced diseases. For example, it can be consumed to relieve symptoms such as upset stomach and pain caused by eating watermelon or ice during the summer.

Potatoes With Black Pepper

Steam 1 medium-sized potato, mash into a puree, and mix thoroughly with 5 grams of butter. Add a small amount of crushed black pepper before serving.



MIRACULOUS BODY THE MIRACULOUS IMMUNE SYSTEM SERIES Part IV

Beyond Detox

Continued from Page 1

The lymphatic system is a recycler, scavenger, and immune system chaperone. It works closely with the cardiovascular system and looks similar, with a network of veins transporting fluid. These two systems are assigned different tasks and work in tandem. But while blood has the heart to pump it throughout the body, lymph relies on a very different mechanism in order to circulate.

Origin of the Lymph

Lymph originates in the blood. As blood circulates throughout our body, it transports nutrients and oxygen via numerous tiny blood vessels called capillaries.

Capillaries deposit nutrients and blood into the space between the cells, which makes up one-sixth of our total body volume.

The capillaries also reabsorb small components from these spaces. However, large particles such as proteins and lipid-protein complexes, which can't be reabsorbed into the capillaries, are absorbed into lymphatic vessels, forming "lymph."

Other components, such as toxins and viruses, are often too large to be reabsorbed into the blood and are thereby absorbed by the lymphatic system.

Nutrient and Fluid Recycler

The lymphatic system also absorbs the excess fluid between cells and recycles it back into the blood, where it's then recirculated. The average person has a blood volume of five liters, with a lymph flow of approximately two to three liters per day, recycling up to half of the blood volume.

Without lymphatic flow, a healthy person would die within 24 hours. And when a person suffers significant bleeding, their lymphatic vessel flow is increased, evidence of the lymphatic system's dynamic role in maintaining blood volume.

Although clear, the lymph contains abundant nutrients, including proteins and fats.

The lymph flowing through the intestines directly absorbs large fat molecules and serves as a major part of the supply chain of fatty nutrients for the body. The lymphatic system also helps clear fat from the body.

Scavenger and Cleanser

Lymph means "spring water" in ancient Greek, hinting at its function of cleansing our cells and organs.

Our lymphatic system removes substances too large to be absorbed by the capillaries, including damaged cancer cells or cellular debris and other disease-associated substances from the cellular space, such as bacteria, viruses, inflammatory factors, toxins, and vaccines.

Our bodies are exposed to countless contaminants regularly: more than 82,000 different toxins, chemically based products, processed foods, and the natural waste our cells produce daily.

Fluids, germs, and viruses can enter lymph vessels but can't leave at will.

All of the collected toxins and invaders are transported to the lymph nodes for clearance.

But the lymph nodes do more than clear out unwanted substances; they also play a critical role in immune function.

Strategically Placed Fortresses: Lymph Nodes

Because the lymph system is clearing out unwanted substances, it's perfectly placed to detect and respond to any pathogenic viruses and bacteria. The lymph system can respond by generating antibodies and mature immune cells to help us fight against invading germs or viruses.

At each critical position of the body, tiny bean-shaped masses serve as immune central hubs called lymph nodes. They filter all the lymph fluid. Then, the immune cells inside the nodes engulf and destroy the pathogenic materials that are filtered out, protecting the body from spreading infections.

Some lymph nodes are clustered under the skin, particularly around the neck, armpits, and groin. Others reside deep within the body, surrounding the vital organs.

There are approximately 800 lymph nodes monitoring the conditions of our cells and tissues at a microscopic level.

A healthy person has a healthy lymphatic system, with a constant smooth flow of lymphatic fluid, which can remove cancer cells, viruses, toxins, and more from our tissues and cells, preventing the vicious cycle of disease.

Even a minor illness can be effectively resolved with the powerful self-healing ability of the lymphatic system, avoiding outcomes that are more difficult to treat.

Gut-Specialized Lymphoid Tissue

Everything one swallows eventually makes its way to the small intestine.

Accordingly, a type of specially designed mucus membrane lymphatic tissue, called Peyer's patches, which resemble lymph nodes, lines the small intestine.

This lymphoid tissue frequently samples material within the small intestine, recognizing and destroying potential pathogens and keeping the intestinal flora at appropriate levels, preventing a large number of infections.

Signs of an Impaired Lymphatic System

When a lymph node becomes enlarged or red, it's often because of an accumulation of toxins, viruses, or other pathogens.

Because of the one-way passive design, the vessels can also become clogged.

A congested lymphatic system can lead to a buildup of various toxins or metabolic wastes in the space between cells, essentially surrounding the cells with garbage.

New research reveals that the lymphatic vascular system plays a significant role in numerous health conditions. Defects in the lymphatic system's structure or function have been identified in:

- obesity
- atherosclerosis
- heart attack
- Alzheimer's Disease
- Parkinson's Disease
- stroke
- trauma
- tumor
- glaucoma
- inflammatory bowel disease

Even subtle lymphatic function changes could have an effect on the body's ability to fight off illness.

Signs of a dysfunctional lymphatic system include:

- brain fog, cognitive decline
- chronic fatigue
- nausea, abdominal pain, diarrhea
- overweight
- joint swelling, pain and fatigue

Next week: *The lymphatic system not only is an indispensable protector but also could be a hidden path for toxins to spread throughout the body. It can be a spreading route of COVID-19 vaccines, which are linked with severe life-threatening events in the brain and heart.*

Simple Ways to Boost Lymphatic Flow

The one-way lymphatic system has no active pumping mechanism and needs passive and active movements to make lymph flow. These include breathing, intestinal activity, physical movement, and muscle contraction. All these squeeze the lymphatic vessels, creating lymph flow and pushing toxins out of the body.

If you find yourself experiencing signs of a clogged lymphatic system, detoxify your body by boosting the lymphatic flow through the following methods.

SLEEP

Getting enough sleep matters. A study published in the journal *Science* found that during sleep, the brain lymphatic system clears neurotoxins (e.g., beta-amyloid, which is associated with Alzheimer's disease) from the brain and spinal fluid.

The study highlights the importance of adequate sleep for this brain-drainage process to occur fully.

EXERCISE

The lymphatic flow becomes very active during exercise because of surrounding muscle contractions and body movement. This provides pressure to flow, often increasing lymph flow 10- to 30-fold.

DEEP BREATHING

Lymph is carried back into the blood system via a duct in the upper part of the chest. Deep breathing promotes this process because it generates suction.

A study found that gentle arm exercise combined with deep breathing can significantly improve lymphatic obstruction in the arms.

HEALTHY FOOD

Eating healthy, natural, whole foods and avoiding processed foods high in preservatives will reduce the detox burden on the lymphatic system.

One study shows that a high-fat diet undermines lymphatic function. Another study showed that drinking water can increase lymph flow to promote nutrient absorption in the gut.

Green vegetables containing anti-oxidative chlorophyllin and ginger, citrus fruits, flaxseed, and garlic can help reduce the risk of lymphatic congestion.

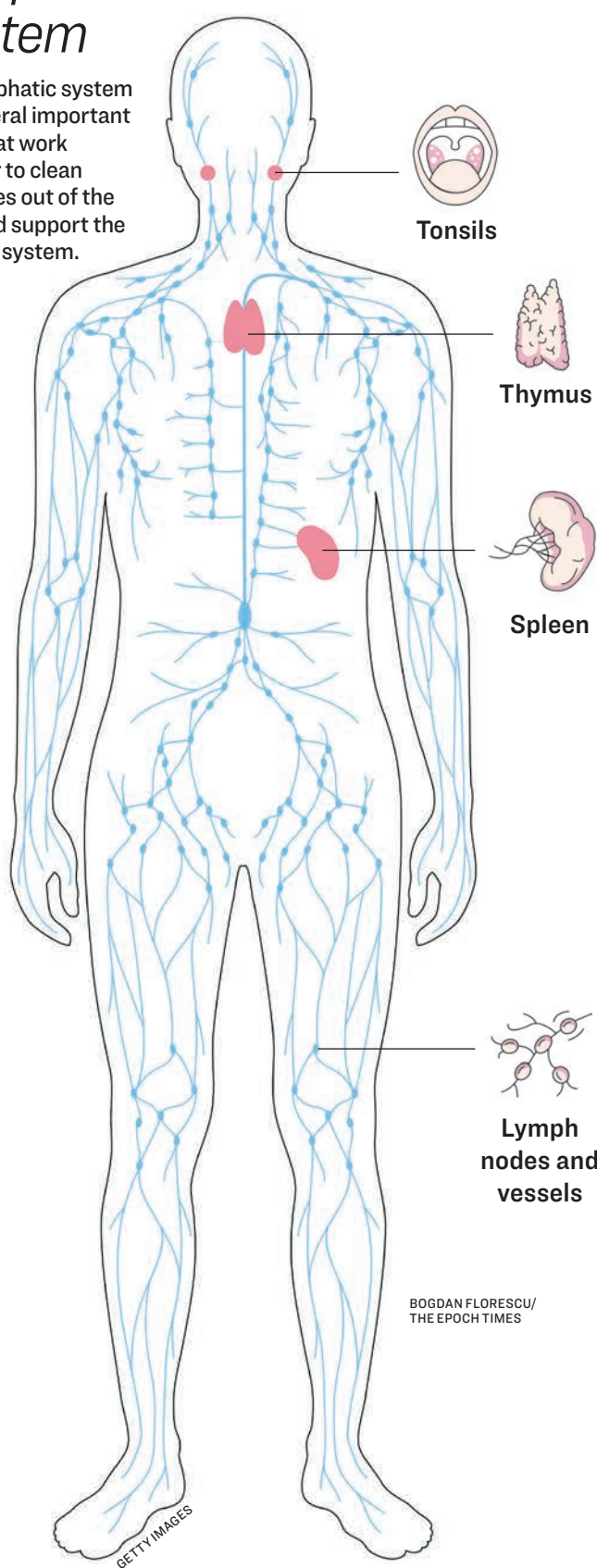
DRINKING ENOUGH WATER

Dehydration can cause the lymph to become less fluid, leading to congestion and slower toxin elimination.

Drinking enough water is crucial for maintaining healthy lymph flow. The more hydrated the body is, the better the lymphatic system can flush out toxins.

Lymphatic System

The lymphatic system has several important parts that work together to clean impurities out of the body and support the immune system.



5 Supplements to Improve Sleep

These evidence-based natural remedies can help you ward off insomnia and get to sleep

GEORGE CITRONER

Many people struggle with sleep-related issues, which can significantly affect their quality of life.

Many factors impact sleep quality, including stress, diet, and lifestyle. In some cases, supplements can help induce sleep and improve sleep quality. Let's look at five research-backed supplements that promote better sleep.

Melatonin:

A Popular Natural Sleep Aid

Melatonin is a hormone the brain produces in response to darkness. It regulates the sleep-wake cycles.

Often called the "sleep hormone," melatonin supplements help people fall asleep faster and stay asleep longer. Melatonin is frequently used to treat jet lag by resetting the body clock after traveling to different time zones.

A review of studies found strong evidence that it has a "meaningful effect" on sleep.

Evidence-based recommendations by the American Academy of Sleep Medicine (AASM) suggest that properly timed use of the supplement can be a treatment option for insomnia related to sleep timing, such as jet lag and shift work disorder. AASM representative Dr. Rajkumar Dasgupta told *The Epoch Times* that there are two factors to consider before using a supplement such as melatonin to help sleep.

The first is age. An AASM health advisory recommends that parents seek medical advice before giving melatonin to children or teens. Additionally, people should consider the condition and severity of insomnia being treated.

"For those with more serious sleep issues, like chronic insomnia, melatonin is not a recommended treatment," Dasgupta said. "There are better and more effective options, like cognitive behavioral therapy for insomnia (CBT-I) to address long-term sleep issues."

Magnesium:

Improves Insomnia Symptoms

Magnesium plays a vital role in many bodily functions, including regulating the nervous system. About 60 percent of U.S. adults don't meet the recommended daily intake, and 45 percent are deficient.

A systematic review published in *BMC Complementary Medicine and Therapies* looked at three randomized, controlled trials and found that magnesium improved sleep in older adults. Participants who were given a magnesium supplement fell asleep about 17 minutes faster than those who took a placebo.

The evidence "may support oral mag-



nesium

supplements (less than 1 gram quantities given up to three times a day) for insomnia symptoms," the study authors concluded.

Other research suggests that magnesium promotes better sleep by increasing mental and physical relaxation.

Remember that in large doses, this mineral can have adverse effects, such as nausea, abdominal cramping, and diarrhea. Magnesium supplements could also interact with certain antibiotics, such as quinolone, tetracycline, and nitrofurantoin, and other medicines.

Studies show that valerian root supplements improve sleep quality, reduce the time it takes to fall asleep, and increase total sleep time.

Valerian Root:

Promotes Relaxation

Valerian root has been used for centuries to promote relaxation and relieve anxiety. It's also a natural remedy for insomnia and other sleep-related problems.

Studies show that valerian root supplements improve sleep quality, reduce the time it takes to fall asleep, and increase total sleep time. A systematic review of studies found that the significant benefits of using valerian root were sleep promotion and anxiety reduction.

Valerian root, magnesium, and lavender can provide safe support for a better sleep.

However, it's important to note that, according to the National

Center for Complementary and Integrative Health, valerian can cause drowsiness and shouldn't be taken with alcohol or other sedative medications, though it has been used safely in studies lasting up to 28 days.

"It is considered safe in most instances with little known side effects," said Dr. Thomas Kilkenny, director of the Institute of Sleep Medicine at Northwell Staten Island University Hospital in New York.

However, he cautioned that people sensitive to ragweed or chrysanthemums shouldn't use it, as valerian is a member of the same family of plants, asterids, that can cause an allergic reaction.

The National Center for Complementary and Integrative Health warns that valerian can have side effects, including headache, upset stomach, mental dullness, and even excitability. In addition, some people may feel drowsy in the morning after taking valerian, especially at higher doses. Others may experience dry mouth or vivid dreams.

Kilkenny cautioned that one of the biggest concerns is that the U.S. Food and Drug Administration doesn't regulate these supplements.

"So there's really no way to know if a pill contains exactly what the manufacturer claims," he said. "Make sure the herbal aide does not interact with any medications you may be taking by speaking to the pharmacist or your physician."

Lavender:

Calm and Relaxes

Lavender is an herb commonly used for its calming and relaxing properties, and it's often used in aromatherapy, as the scent is

believed to promote relaxation and improve sleep quality.

Although relatively few studies support lavender oil as a sleep aid, the evidence they found is compelling.

A randomized, controlled trial involving 79 college students with self-reported sleep issues found that the group that used lavender while practicing good sleep hygiene experienced improved sleep quality. The group that practiced good sleep hygiene alone also saw improved sleep, but to a lesser degree.

Another randomized, controlled trial with 52 patients with Type 2 diabetes and insomnia found that inhaled lavender significantly improved sleep compared with a placebo.

Vitamin D:

Regulates Sleep/Wake Cycle

Vitamin D is an essential nutrient that plays a vital role in many bodily functions, including regulating sleep-wake cycles, according to a 2022 *Nutrients* systematic review.

Research suggests that vitamin D deficiency is linked to poor sleep quality and sleep-related disorders. Theories regarding how vitamin D affects sleep include the presence of vitamin D receptors on regions of the brainstem known to be "pacemaker cells" that play an essential role in sleep regulation, according to the *Nutrients* review.

Another study finds that vitamin D plays a role in melatonin regulation and suggests that increasing vitamin D intake improves mood and sleep.

One of the best ways to get vitamin D and improve sleep quality is to get sunshine first thing in the morning.

Try This Before Using Sleep Supplements

Dasgupta said there are several strategies people can use to improve their nightly sleep.

"First, establish a sleep routine by focusing on the things you can control, like your habits and environment," he said. Dasgupta also recommended:

- Avoiding caffeine in the evening
- Putting away electronics 30 minutes before bedtime
- Keeping the bedroom cool, quiet, and dark

"Going to bed and waking up at the same time each day is particularly important," Dasgupta said. He also recommended using online tools, such as the AASM Bedtime Calculator, to help determine how much sleep you need based on your age and when you need to wake up.

However, he advised that those experiencing more severe sleep issues, such as chronic insomnia or sleep apnea, speak with a doctor, who may refer them to a sleep specialist. It's also important to speak with a doctor before using supplements to improve sleep. A health care provider can help determine the appropriate dosage and ensure that the supplements are safe.

Researchers Use Plant Compound to Treat Dangerous Breast Cancer

Scientists have created new hydrogel from resveratrol, a polyphenol effective against triple-negative breast cancer

LISA BIAN & SUMMER LAWSON

South Korean researchers at Ajou University recently used resveratrol, an antioxidant found in plants such as grapes, to create a hydrogel, which can effectively suppress cancer cell growth—a possible cure for breast cancer.

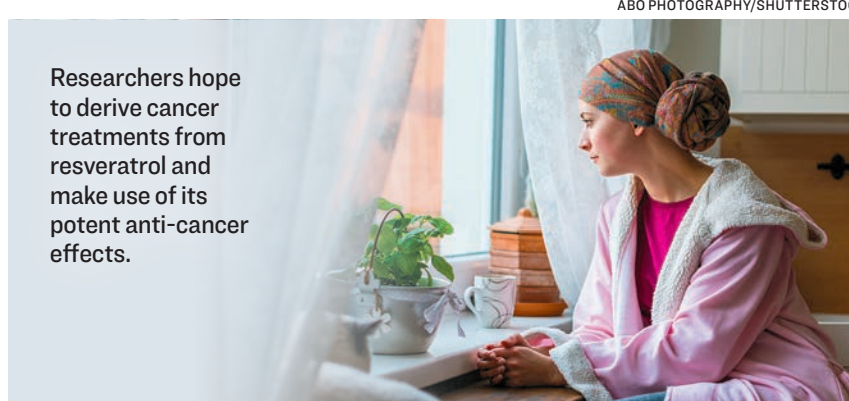
In 2022, Kim Moon-seok, a South Korean professor at the Department of Applied Chemistry and Biotechnology of the Graduate School of Molecular Science and Technology at Ajou University, published a study on this possible cure for breast cancer.

Kim and his researchers developed a hyaluronic acid-based hydrogel containing antioxidant resveratrol, which can effectively treat triple-negative breast cancer.

What Is Triple-Negative Breast Cancer?

Triple-negative breast cancer occurs when the body lacks estrogen, progesterone, and doesn't make enough or any of the hormone epidermal growth factor receptor 2 (HER2) protein.

About 15 to 20 percent of breast cancer



Resveratrol is a polyphenol found in more than 300 edible plants, such as grapes, blueberries, cranberries, peanuts, and cocoa.

patients have triple-negative breast cancer, a highly malignant disease. It's most commonly found in young women and has a rapid growth rate.

Currently, the primary treatment for triple-negative breast cancer is chemotherapy—the downside of which is that patients can develop drug resistance over time, which significantly lowers the survival rate for those facing this breast cancer.

Hence, a new effective treatment to cure this lethal breast cancer is urgently needed.

What Is Resveratrol?

Resveratrol is a polyphenol found in more than 300 edible plants, such as grapes, blueberries, cranberries, peanuts, and cocoa.

Resveratrol helps plants combat external injury, bacterial infections, and ultraviolet radiation.

Resveratrol also activates the self-destructive gene of the cancer cells, thereby suppressing their growth.

However, resveratrol comes with limitations. It degrades rapidly in the body, making its antioxidant efficacy limited to a short period of time.

The Solution

To tackle the issue, Ajou University's research group injected resveratrol-made drugs directly into cancer tissues to create an organic degradable hyaluronic acid hydrogel. Once injected directly into the malignant tissues of triple-negative breast cancer, the hydrogel improved biostability and extended the survival time of resveratrol in cancer cells.

The research group also confirmed that tumors shrink more when injected with hydrogel than when resveratrol was used alone.

Kim said the research shows the anticancer efficacy of hyaluronic acid-hydrogel preparations.

"Other than breast cancer, we look forward to treating various cancers," he said. He added that the newly discovered technology could also generate a convenient drug that could minimize cancer patients' side effects.

Kim's research was published in 2022 in *Materials Today Bio*, a research journal owned by major science publisher Elsevier.

3 COMMON SYMPTOMS OF SMALL FIBER AND PERIPHERAL NEUROPATHY

LOSS OF COORDINATION

Issues relating to sensation and motor control can lead to a loss of coordination.



TINGLING, NUMBNESS, AND PAIN

A common experience with both forms of neuropathy is burning, tingling, and a loss of sensation. Some people also experience shocks or jolts of pain.



HEAT INTOLERANCE

Heat intolerance and impaired or excessive sweating are common manifestations of both forms of neuropathy.



COVID-19 VACCINES UNEXPLORED ADVERSE EVENTS OF COVID-19 VACCINES Part IV

Atypical Small-Fiber Neuropathy Occurrence After COVID-19 Vaccination, Possibly Underdiagnosed

Previously: “I can’t be stuck with this forever. I’m gonna lose my mind,” Mary thought, distressed. Despite her thoughts, the dull ringing in her ears persisted like an alarm clock that couldn’t be silenced, mowing down her concentration.

MARINA ZHANG

Three days postvaccine, former Pussycat Dolls member Jessica Sutta woke up to “the most excruciating muscle spasms” that were unlike anything she had ever experienced, she said. “It felt like I’d broken my rib,” Sutta said. As an athlete and a professional dancer, she had broken her rib before on tour, “so I know pain very well,” she said in an exclusive interview on “American Thought Leaders.” Sutta tried her typical therapies—seeing the chiropractor, doing acupuncture, getting massaged, and resting—but the muscle spasms and pain persisted, worsening into burning and stabbing pain in her sides. She admitted herself to the hospital and was run through several laboratory tests, but her results showed that everything was normal.

At the same time, Sutta started to hear about reports from other people who had experienced neurological problems following the COVID-19 vaccination, but it was too hard for her to make the connection. She told her husband, who showed her a video related to vaccine adverse events, to turn it off, saying, “No way. This is just a muscle spasm. It’s going to go away.”

However, her continued attempts with different remedies resulted in new debilitating symptoms.

Sutta was finally referred to a neurologist by her general practitioner.

“My general practitioner finally let me see him, and the first thing he said was, ‘When did you get the vaccine?’” she said. “He goes, ‘I think you had an adverse reaction.’”

“That was the first time that I acknowledged it was actually happening to me.” The pain Sutta experienced was small fiber neuropathy. She described it as feeling like she was being subjected to fire.

“It would come in contractions, it would come in waves, and it was so debilitating, and I just didn’t know what to do,” she said. Unfortunately for Sutta, her neuropathy remains today.

According to the Vaccine Adverse Event Reporting System (VAERS), more than 1,600 cases of peripheral neuropathy have been reported after the administration of COVID-19 vaccines, and about 150 cases of small fiber neuropathy have been reported.

One woman, Caroline Bollinger, developed chest pain and tingling, numbness, and burning pain in her upper limbs 10 days after receiving a COVID-19 mRNA vaccine. While her symptoms have since dissipated, she told *The Epoch Times* that they still flare up once in a while.

Among them, small fiber neuropathy is the most common.

Small fiber neurons detect pain and temperature, hence why small fiber neuropathy is often associated with tingling, numbness, pins-and-needles, and burning sensations. Some small fiber neurons are autonomic neurons, so diseases in small fibers can lead to impairments in sweating, blood pressure, heart rate, digestion, excretion, vision, and many other functions.

Heat intolerance and impaired or excessive sweating are common manifestations of small fiber neuropathy and can occur in the absence of pain.

Since symptoms and severity are highly variable, Dr. Svetlana Blitshteyn, an associate professor of neurology at the University of Buffalo said the disease could be significantly underdiagnosed.

In the United States, small fiber neuropathy is usually associated with diabetes. Diabetic neuropathy is known as the classic small-fiber neuropathic presentation. This is where numbness, tingling, pins-and-needles, or pain initially sprout in the

limbs in a stocking and glove formation as the disease worsens. Due to its prevalence, the diabetic neuropathic pattern is the most recognized, neurologist Dr. Matthew Bain told *The Epoch Times*.

There are also less common presentations of small fiber neuropathy. These include all peripheral neuropathies that don’t follow a stocking and glove pattern; the arms may be affected before the hands, or the head, chest, and torso areas may be the first places affected. The neuropathy can also be migratory, meaning that the numbness, tingling, and pain can change places from time to time, making it even harder to diagnose the disease.

Counce, who has treated about 300 patients who developed symptoms postvaccine, told *The Epoch Times* that while acute and long-COVID patients tend to follow the classic diabetic-like patterning, the small fiber neuropathies linked to the COVID-19 vaccine can be atypical.

“I had one [vaccinated] patient whose entire shoulder was burning, but her hand felt okay,” she said. “She ended up being a small fiber neuropathy patient, and then I’d have some [vaccinated] people and their face feel like it’s burning or the middle of their back feels like it’s burning.”

Similar presentations have been reported by Sutta, who initially experienced painful muscle spasms in her core that then developed into burning small fiber neuropathies that radiated across her lower ribs and spine.

Counce also had a patient whose neuropathic regions would change every session.

Autoimmunity Implications

Gazda argues that these neuropathies are likely to be caused by autoimmunity, which occurs when the body attacks its own tissues. Coincidentally, less common presentations of small fiber neuropathies are also strongly linked with autoimmune diseases. Autoimmunity from COVID-19 vaccines may occur if local blood vessels produce spike protein and become attacked by immune cells and antibodies, as has been shown in autopsy presentations by German pathologist Arne Burkhardt.

The spike proteins share many features with human proteins. Research by immunologist Dr. Aristo Vojdani shows that antibodies made against the spike protein could also attack at least 28 different human tissues.

Board-certified internist and founder and medical director of the Center for Balanced Health Dr. Keith Berkowitz said he would observe abnormal patterns where peripheral neuropathies occur with fatigue, mental fog, and tinnitus.

Small Fiber Neuropathy and COVID-19 Vaccines: Research

Several studies have linked COVID-19 vaccines to small fiber neuropathy.

A 2022 National Institutes of Health-funded study that hasn’t yet been peer-reviewed detected signs of small fiber neuropathy in half of the COVID-vaccinated people.

The study evaluated 23 people who developed neurological symptoms within a month of receiving their primary COVID-19 vaccines. None of them had a prior history of neurological diseases, most had no history of autoimmune diseases, and all developed symptoms within three weeks of vaccinations.

Another case study, published in January in the European Neurology Journal, concluded that an mRNA COVID-19 vaccine was causal to the small fiber neuropathy manifestations in a 39-year-old male.

The patient developed tingling, numb-

Several studies have linked COVID-19 vaccines to small fiber neuropathy.

ness, and pain in his left shoulder within 10 days of vaccination. These symptoms then progressed to his two arms, hands, and feet.

Within three weeks, he developed muscle twitching and numbness in his feet and hands, the areas burning if touched. Punch biopsies taken from the patient’s left foot and leg showed abnormally thin, small fibers which returned to normal density after treatment with antibody infusions.

While fewer than 200 cases of small fiber neuropathies occurring after COVID-19 vaccination were reported to VAERS, symptoms that may be associated with small fiber neuropathies, such as itchiness, which has nearly 40,000 reports, and abnormal sensations, loss of sensation, and excessive sweating, have more than 20,000 reports.

Impaired sweating and heat regulation are major indicators of small fiber neuropathy. Studies have put the Quantitative Sudomotor Axon Reflex Test (QSART) forward as a more accurate diagnostic test for small fiber neuropathy than the common skin biopsy.

Since skin biopsies are usually taken in the feet and legs, this may not be a suitable test for atypical presentations, given that the pain may also occur in the face, stomach, ribs, and shoulders.

However, the QSART machine is very expensive and unavailable in most clinics. Blitshteyn noted that patients would need to go to large university hospitals or major clinics to do these tests, which is why small fiber neuropathies—especially atypical presentations—are easily misdiagnosed.

Limited Treatments

While there are several anti-epileptic and antidepressant drugs used as first-line treatments for addressing small-fiber neuropathic pain, the results haven’t been too promising, with low overall effectiveness.

Blitshteyn said that, compared to symptom relief, it’s more important to find drugs that can address the cause of neuropathic pain. She believes that autoimmunity and inflammation underlie long-COVID and postvaccine small fiber neuropathies, but there are few anti-inflammatory and immune-modulating therapies approved for such purposes.

According to Blitshteyn, some studies have mentioned steroids as a treatment option for small fiber neuropathy postvaccine. Intravenous infusion with antibodies, also known as IVIG, as well as plasmapheresis, have also been suggested to address inflammation and autoimmunity.

Steroids are approved for small fiber neuropathy, and while Blitshteyn has seen them lead to clinical improvements

in some patients, they aren’t viable in the long term.

Both Gazda and Counce have used IVIG to treat their patients experiencing neuropathies linked to an autoimmune response. However, this treatment is expensive, and since it isn’t FDA-approved for small fiber neuropathies, insurance-based patients may not get reimbursement.

IVIG’s effectiveness is also subject to debate, with some studies finding negligible differences between IVIG and a placebo (saline solutions).

Some studies have reported success in using low-dose naltrexone and alpha-lipoic acid to treat small fiber neuropathy. Critical care expert Dr. Pierre Kory found low-dose naltrexone to be quite effective in his patients, but studies have been limited.

Apart from therapies for neuropathic sensory discomfort, small-fiber neuropathy is also associated with autonomic dysfunction, which can be a lot harder to treat. Dysautonomia, a form of autonomic disorder, is incurable.

Novel Presentations Complicate Diagnosis and Treatment

Another problem Gazda and Berkowitz noted was that many of the neurological adverse events postvaccine don’t occur as a single symptom. That’s because many different biochemical and metabolic pathways are affected.

Patients may present with fatigue, brain fog, cognitive decline, tinnitus, movement disorders, autonomic dysfunction, or symptoms that may be unrelated to neurological complications.

Specialty doctors may be overwhelmed by the many symptoms that coexist and affect each other.

“If you’re a neurologist, you don’t necessarily know how to treat it if it is going to be an autoimmune problem or a vascular immune problem,” neurologist Dr. Robert Lowry told *The Epoch Times*.

Another problem with novel postvaccine presentations is that doctors may be hesitant to make a diagnosis, Berkowitz said. Patients may be tested multiple times before doctors prescribe any treatment.

Gazda said it’s important for doctors to be open to considering the role vaccines may have played and that they research how vaccine-induced spike protein pathways may affect the body. This approach will give some patients a better chance to recover.

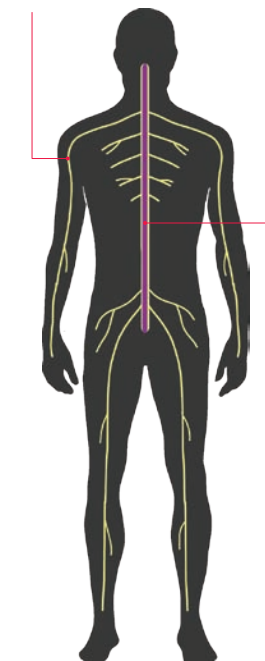
Blitshteyn, who was the first doctor to notice the connection between dysautonomia and the human papillomavirus (HPV) vaccine, said that while postvaccine small fiber neuropathy exists, she sees more patients who are suffering from the same condition because of long COVID. She said that, therefore, such findings don’t necessarily discourage people from getting vaccinated.

Other doctors such as critical care pulmonologist Dr. Joseph Varon, who co-authored prophylactic and early treatment protocols for COVID-19, said if patients were treated and/or cleared for COVID-19 early, there was a very low chance of developing sequelae, or aftereffects of disease.



Neuropathy can interfere with several bodily systems and lead to debilitating physical symptoms.

Peripheral nervous system Central nervous system



Neuropathy can strike the central and peripheral nervous systems, affecting motor, sensory, or autonomic nerves.



Jessica Sutta was a member of the multi-platinum pop group The Pussycat Dolls.

8 Major Functions of Vitamin B Complex

This group of B vitamins plays many important roles, and there are 4 groups of people who really need it

DAVID CHU

“Vitamin B complex” refers to a group of eight water-soluble B vitamins and the supplement made from a compound of them. These vitamins work synergistically together and are vital for the human body.

Vitamin B complex can be quickly absorbed by the intestine and excreted through renal metabolism. It then acts as a coenzyme in many catabolic and anabolic enzymatic reactions, which play an integral role in cell function.

A study published in *Neural Regeneration Research* in 2016 even showed that vitamin B groups help accelerate nerve regeneration in experimental rats.

What vitamins does vitamin B complex include? What are their specific functions? Who should take vitamin B complex?

Types and Functions of Vitamin B

Vitamin B complex includes eight vitamin B types, each with an individual purpose. Also known as thiamin, vitamin B1 aids in energy metabolism—it helps convert food into energy. Thiamine plays a vital role in cells’ growth, development, and operation in the body.

Also known as riboflavin, vitamin B2 is a key component of two coenzymes, flavin mononucleotide and flavin adenine dinucleotide, which aid cell growth and energy production and help metabolize fats, steroids, and drugs.

Vitamin B3, or niacin, converts into the coenzyme nicotinamide adenine dinucleotide. More than 400 enzymes rely on niacin for various responses. Niacin acts as an antioxidant and transforms nutrients into energy, produces cholesterol and fat, and produces and repairs DNA.

Pantothenic acid, known as vitamin B5, is essential for the synthesis and maintenance of

coenzyme A. Coenzyme A metabolizes fatty acid, making pantothenic acid indispensable to almost all life forms.

Vitamin B6, or pyridoxine, aids immune function and red blood cell formation.

Biotin, vitamin B7, helps enzymes break down fats, carbohydrates, and proteins in food, regulates gene activity, and plays a key role in cell signaling.

Vitamin B complex can be quickly absorbed by the intestine and excreted through renal metabolism.

B9, aka folic acid or folate, forms DNA and RNA and generates protein metabolism. Folic acid is also essential to produce healthy red blood cells during rapid growth, as during pregnancy and fetal development.

Vitamin B12, or cobalamin, is critical for

normal blood formation and nerve function. Vitamin B12 is also a key component for the operation and development of the brain and nerve cells.

4 Groups That Need More Vitamin B

Generally, people who have healthy lifestyles and a balanced diet aren’t vitamin B deficient. However, certain types of people may experience a lack of vitamin B and need to replenish that level with supplements. Here are four such types of people:

The Elderly

Research from 2016 noted that up to 43 percent of older people suffer from vitamin B12 deficiency.

Interestingly, a study published in the *Journal of Nutritional Science and Vitaminology* in 2012 found that more than 50 percent of surveyed older people who required ongoing care in nursing homes suffered from vitamin B1 deficiency.

Pregnant Women

Guidelines published by *The Journal of the American Medical Association* in 2017 point out that most women can’t get the recommended daily vitamin B9 intake solely from their diets. Vitamin B9 supplements

for women of reproductive age can prevent infant neural tube defects.

The United States Preventive Services Task Force recommends that all women who can become pregnant take supplements containing 0.4–0.8 milligrams of vitamin B9 daily.

Vegetarians

Because vitamin B12 isn’t naturally found in fruits, vegetables, or grains, vegetarians may not be able to consume enough vitamin B12 through their diets.

A study published in the *European Journal of Clinical Nutrition* in 2014 shows that vegetarians are at risk of vitamin B12 deficiency. Vitamin B12 is vital for the composition of nucleic acids and red blood cells and the maintenance of myelin. Insufficient vitamin B12 leads to a variety of physical symptoms, some irreversible.

People With Unhealthy Lifestyles

Excessive alcohol consumption will lead to vitamin B deficiency. Studies confirm that up to 80 percent of participants with alcoholism have vitamin B1 deficiency due to decreased vitamin B1 absorption in the gastrointestinal tract and insufficient nutritional intake.

Sources and Amounts of Vitamin B Complex

England’s National Health Service recommends the following daily vitamin B supplemental and food sources for adult men and women between 19 and 64 years old:

- Vitamin B1:** 1.1 milligram for men and 0.8 for women. Sources: peas, fresh fruits (such as bananas and oranges), nuts, whole wheat bread, and liver.
- Vitamin B2:** 1.3 milligrams for men and 1.1 for women. Sources: milk, eggs, fortified breakfast cereal, mushrooms, and cheese.
- Vitamin B3:** 16.5 milligrams for men and 13.2 for women. Sources: meat, fish, whole wheat flour, and eggs.
- Vitamin B5:** There is no clear indication of the appropriate intake. Sources: chicken, beef, liver and kidney, eggs, mushrooms, and avocado.
- Vitamin B6:** 1.4 milligrams for men and 1.2 for women. Sources: pork, poultry, fish, peanuts,

- soybeans, oats, bananas, and milk.
- Vitamin B7:** No more than 0.9 milligrams for both men and women. Sources: meat, eggs, and whole grains.
- Vitamin B9:** Both men and women require 0.2 milligrams. Sources: green leafy vegetables—such as broccoli, Brussels sprouts, kale, and spinach—peas, chickpeas, and kidney beans.
- Vitamin B12:** Both men and women require 0.0015 milligrams. Sources: meat, fish, milk, cheese, and eggs.

Choosing a Vitamin B Complex Supplement
There is a wide variety of vitamin B products available in the market. The U.S. Food and Drug Administration warns that some dietary supplements may contain ingredients that can have a strong effect on the body. Some supplements may be contraindicated for certain medicines, conditions, or surgeries. Before buying or taking supplements, consult a doctor or nutritionist.



There are several different B vitamins. B complex supplements include eight key vitamins: B1, B2, B3, B5, B6, B7, B9, and B12.

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Harmful Until Proven Otherwise

Why we should take a cautious approach to new technologies, like lab-grown meat

RAW EGG NATIONALIST

How different would things be—how much healthier and happier would we be, as individuals and as a society—if we took the approach that innovations to our way of life were likely to be harmful until proven otherwise?

What past harms might we have prevented by waiting for tests or studies, by having been less eager to take things at face value, and by thoroughly having assessed new and needed innovations for unforeseen consequences?

My question is prompted by the news that GOOD Meat, the lab-grown or “cultured” meat division of Eat Just Inc., has now received approval from the U.S. Food and Drug Administration (FDA) to start selling its first product—cultured chicken—to the American public.

Very soon, for the first time in history, Americans will be able to eat chicken meat that hasn’t required the slaughter of a chicken to produce. All the nutrition, all the taste, without the cruelty of factory farming or the resulting dreaded carbon

emissions. If you think this sounds too good to be true—you’d be right.

Producers of lab-grown meat such as GOOD Meat claim that their product is indistinguishable from meat as we know it. Cultured meat isn’t a copy or approximation of meat—it is meat—they say. The truth is that this new product differs in one fundamental respect from the meat you or I are accustomed to eating.



Lab-grown meats may soon appear in your local grocery store.

The animal cells of which lab-grown meat is made will replicate endlessly under the right conditions—just like cancer cells. It functions in exactly the same manner. As well as being unappetizing for most consumers—“Cancer steaks, anyone?” “No, I think I’ll pass...”—the method of lab-grown meat may present genuine safety concerns. Manufacturers like GOOD Meat don’t want to talk about it, as revealed in a recent Bloomberg story.

Most forms of lab-grown meat are made with what are known to scientists as “immortalized cell lines,” cells that, whether naturally or through intervention (such as exposure to radiation, genetic modification, or the use of an enzyme), replicate without end.

The first use of immortalized cell lines

The animal cells of which lab-grown meat is made will replicate endlessly under the right conditions—just like cancer cells.

in medicine is mired in controversy to this day. The HeLa cell line has been replicating in culture since 1951, when it was removed from the tumor of an African American woman—without her consent—at Baltimore’s Johns Hopkins Hospital.

Scientists like immortalized cell lines because they don’t need to harvest new samples—just feed them right and they keep on living. Recently, immortalized cell lines, harvested from aborted fetal tissue, were used in the creation of some of the COVID-19 vaccines.

Makers of lab-grown meat like immortalized cell lines for much the same reasons scientists do. Once you’ve got the cell lines, you need never take another sample from an animal again. This means, among other things, that you can market the product as “cruelty-free” and suitable even for vegetarians and vegans.

The problem, for us, is that humans have no history of consuming cells that behave like cancers as part of their diet. We are likely to have consumed cancerous tissue only by accident, never intentionally. Occasional scare stories about factory meat “riddled with tumors” being sold to the public are just that: scare stories.

Some smaller producers of lab-grown meat are now trying to use technologies other than immortalized cell lines because they know “cancer” can only be a disastrous association for a food product to have. It’s unclear whether they’ll be successful. Nevertheless, the so-called Big Three—GOOD Meat, Upside, and BeViever—continue to plow on with their use of this technology.

Both GOOD Meat and Upside have managed to convince the FDA that their products are safe to eat. GOOD Meat has also managed to convince the government of Singapore that its product is safe, and it’s already been served to paying customers there, in a number of different venues, from upmarket restaurants to street sellers.

But while the scientists Bloomberg interviewed for their piece on lab-grown meat said they don’t believe eating immortalized animal cell lines could actually give you cancer, the truth is we can’t be so sure. As I say, there is no history of consumption of such products in our dietary history stretching back hundreds of thousands of years. There is no long-term safety data for anybody—be they the CEO of Eat Just, a representative of the FDA, or a Twitter commentator—to point to.

The Italian government is taking the threat seriously enough that it’s in the process of banning lab-grown meat, as part of wider moves to prevent the adulteration of the Italian food supply with new alternative products including insect flour. Consider the following.

The cancer threat can’t be entirely dismissed. First, we know that the human genome contains hundreds of genes that it has acquired “horizontally” (i.e., from sources other than our parents and ancestors, such as bacteria). We don’t know exactly how or when this has happened, but we do know that it has—and that means it could again.

Second, complete genes have been shown to pass from the food we eat into our blood. Third, and finally, research has shown that horizontal gene transfer is a central part of the progression of cancers.

Cancers create bubbles, otherwise known as exosomes, by means of which they can transfer genetic material into



The popularity of meat, and the significant inputs needed to produce it, have prompted efforts to get Americans to eat differently.



Next generation plant-based meat replacements taste better but remain costly and questionable for the average consumer.

healthy cells and turn them cancerous. There’s absolutely no reason to doubt, then, that cancer-causing genes in lab-grown meat (otherwise known as “oncogenes”) could potentially be taken up into the genome of an eater, potentially anywhere in the body, with disastrous effects.

So why are we speeding toward a situation where people could be eating lab-grown meat as regularly as they eat real meat now?

Whether we’re talking about aspartame, high-fructose corn syrup, or genetically modified crops, the decision to proceed at pace with their massive incorporation into our diets has been the corporations’ gain and our loss.

We now know, for instance, that aspartame and other artificial sweeteners have serious and wide-ranging negative consequences, from the potential to cause cancer and sterility to massive disruption of gut function; that high-fructose corn syrup isn’t consumed as an alternative to “traditional” sugars, but in addition to them—meaning more useless calories; and that the consumption of GMO corn by Americans tracks almost 1:1 with the explosion in obesity in recent decades.

The transformation we are seeing in our food systems, including large investments in farmland, is quietly creeping toward giving corporations near-total control over the food supply.

It’s not just our food that is subject to the cavalier attitude of “safe until proven otherwise.” This isn’t a glitch in the system. Our environment is now bathed in harmful chemicals, especially, but not exclusively, chemicals related to plastics because we allowed ourselves to become totally addicted to them, long before we knew the mistake we’d made.

More than 2,400 chemicals of potential concern have been identified in plastics or their production, and certain chemicals such as Bisphenol A and phthalates are implicated

in a worldwide fertility crisis that could see humans unable to reproduce naturally within decades.

One unfortunate side effect of the current licensing rules for chemicals is that, even when a chemical is identified as dangerous, the replacement often turns out to be as bad as, if not worse than, the chemical it replaced.

Acetyl Tributyl Citrate (ATBC), a “safe” alternative to phthalates, has recently been shown to impair neural development, and maternal exposure may lead to brain damage for the baby. In 15 years’ time, perhaps we’ll probably find out the new alternative to ATBC is no safer either. I, at least, won’t be surprised.

I’m not making an argument that we should resist all innovation. Innovation, when it brings desirable change, is to be welcomed. I’m writing this article on a personal computer, a marvel of technology that has made my life immeasurably better—although it does sometimes provoke frustrations when compared to a simple typewriter or paper and pen.

What I’m saying is that we should make room, as a society, to be able to think a little longer and a little deeper about the potential consequences of new products and technologies—especially when their aim—like lab-grown meat and other alternative proteins—is to disrupt habits that have served humans perfectly well from the dawn of time.

Making such room wouldn’t be easy, though, as it would mean challenging some of the most powerful vested interests in the world today. For them, time is money. For the rest of us—it’s the difference between sickness and health.

Raw Egg Nationalist is the author of “The Eggs Benedict Option,” which is available from Amazon and other third-party retailers.

5 Morning Stretches to Improve Energy, Focus, and Agility

Just 5–10 minutes in the morning can help energize you the whole day

ZRINKA PETERS

We all know that getting regular exercise is one of the best things we can do, at any age, to benefit our health. Our bodies are designed to move. But what about stretching? Could starting the day with a few simple stretches be beneficial, even (or especially) on those days we can’t quite squeeze in a real workout?

The answer is an overwhelming “yes!” There’s a reason most people don’t wake up in the morning and jump right out of bed, ready to tackle a tough fitness routine. Lying still for hours at a time can result in feeling stiff and sore first thing in the morning.

Dr. Jasmine Toor, a board-certified physician specializing in primary care sports medicine in Baltimore, explains that there are a number of reasons for this.

“Stiffness occurs in the morning after waking up because you are starting to move after your longest period of inactivity, which is while you sleep. The muscles, joints, and fascia have very limited activity in your sleep

and often get tight,” Toor told The Epoch Times in an email.

She said that stiffness can also be caused by mattresses and pillows that don’t properly support the body.

Physical activity, including stretching, increases blood flow to all parts of the body, including the brain. This can boost mental alertness and even mood.

The natural effects of age-related wear and tear, which include reduced muscle mass and a loss of water content in the tendons, can also contribute to feelings of stiffness. The good news is that doing some simple stretches each morning can help increase

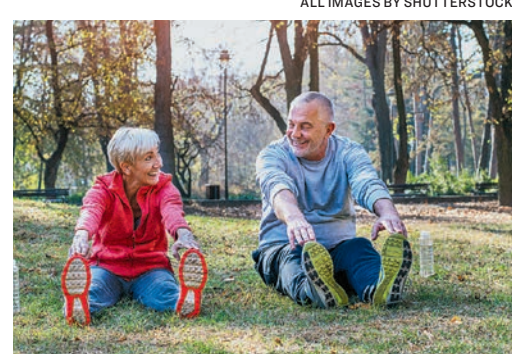
strength, flexibility, and blood flow. They can even reduce pain, helping you function at your best both physically and mentally throughout the day.

Physical activity, including stretching, increases blood flow to all parts of the body, including the brain. This can boost mental alertness and even mood.

“Physical activity definitely has a benefit of improving mental health; it releases endorphins and hormones such as serotonin that directly improve mood [and] decrease stress and anxiety,” Toor said.

And on those days you can’t get an actual workout in, stretching still offers some real benefits. One study published in November 2022 in the International Journal of Environmental Research and Public Health found that just 10 minutes of daily stretching can counteract the negative effects of reduced physical activity.

Stretches for Older People
Natasha Caleel, a California-based occupational therapist and corrective exercise



Stretching can relieve pain caused by stiff neck and shoulders or from age-related wear and tear.

specialist, is a big proponent of stretches, especially for older people.

“As we age, our bodies naturally experience a decline in flexibility and mobility. This can lead to stiffness, discomfort, and even pain. Stretching is an excellent way to combat these issues, helping to improve flexibility, balance, and range of motion,” Caleel told The Epoch Times.

She suggests the following stretches that are specifically geared toward older adults.

Zrinka Peters is a freelance writer focusing on health, wellness, and education topics. She has a BA in English Literature from Simon Fraser University in Canada and has been published in a wide variety of print and online publications including Health Digest, Parent.com, Today’s Catholic Teacher, and Education.com

Figure 4 Stretch

This targets the muscles of the hips and glutes, which can contribute to low back pain and tightness when they are weak. Lying on your back, cross one foot over the opposite knee, forming a figure 4. To deepen the stretch, bring your bottom leg toward your chest, using your hands on the back of the thigh to pull the leg closer. Hold for 30–45 seconds and repeat on the other side.

Just 5–10 minutes in the morning is enough to do a whole-body stretching routine—and just about anyone can carve that much time out of their morning. If the thought of taking 30–60 minutes to work out is overwhelming, or on those days when the motivation to exercise plummets, taking a little time to stretch can provide a gentle, effective way to care for both body and mind.



Seated Hamstring Stretch

The hamstrings can become tight with age. A seated hamstring stretch is a gentle way to improve flexibility in this area. Start by sitting on the edge of a chair with your legs extended in front of you. Reach forward, trying to touch your toes. Hold the stretch for 15–30 seconds before releasing. This can also be done one leg at a time.



Doorway Chest Stretch

As we age, the muscles of the chest can get tight because of poor posture. Standing in a doorway, place your palm and elbow on the door frame. Slowly lean forward until you feel a stretch through the chest and front of the shoulder. Hold for 30 seconds and repeat on the other side.



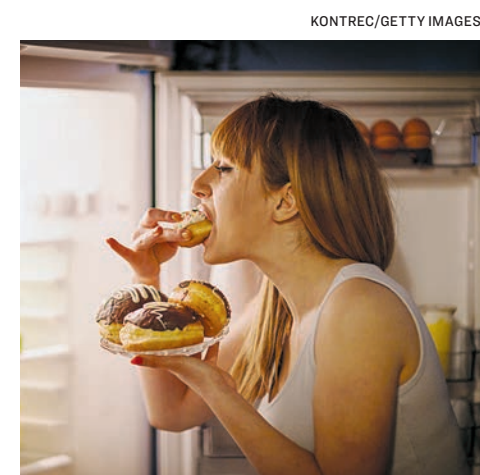
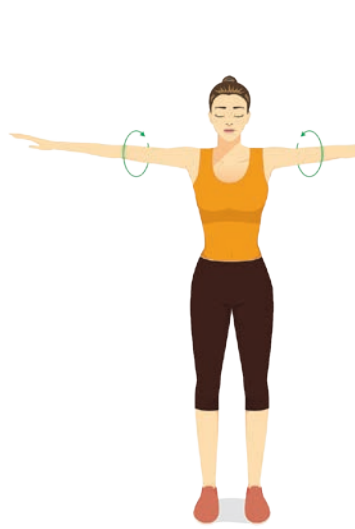
Standing Calf Stretch

The calf muscles can also become tight and stiff. To stretch your calves, stand facing a wall or sturdy object with your hands on the wall for support. Move one foot back, keeping your heel on the ground, and lean forward until you feel a stretch in your calf. Hold for 15–30 seconds and repeat on the other side.



Shoulder Rolls

These help relieve tension and stretch the muscles of the chest, neck, and upper back. Gently roll your shoulders backward while inhaling through your nose and exhaling through your mouth. Repeat in both directions.



Men and women differ in how they gain weight. The hormones testosterone and estrogen work differently and may or may not hinder weight loss due to differences in fat metabolism.

Study Reveals Obesity Differences Between Genders

Study finds women more prone to ‘emotional overeating’ due to differences in brain networks

NAVEEN ATHRAPULLY

Women with a high body mass index (BMI) tend to be more susceptible to “emotional overeating” compared to men, the latest research shows, revealing a distinction between the genders.

The study, from researchers at the University of California–Los Angeles (UCLA), was published in the Brain Communications journal on April 4. It builds upon an earlier study by UCLA researchers that found that emotion-related and compulsive eating played a critical role in female obesity. Meanwhile, men’s eating behaviors were found to be affected by a greater awareness of gut sensations and visceral responses.

The April 4 study supports and corroborates the earlier research. Females with high BMI were observed to have lower connectivity between the amygdala and sensorimotor network, which was associated with lower resilience and greater anxiety.

“Lower connectivity between the amygdala and this established sensorimotor network in women with high BMI compared to males suggests that females may have a reduced capacity to integrate emotions with action-directed goal planning, resulting in greater ‘emotional overeating’ compared to males,” according to the study.

“This is further supported as our results show altered anatomical and resting-state connectivity of the amygdala to regions all across the recently discovered extended amygdala-sensorimotor network including the operculum and temporal cortices, which was all associated with lower mental health scores in females with high BMI compared to males with high BMI.”

The amygdala is part of a neural network known to mediate aspects of memory and emotion. The sensorimotor network senses physical inputs, converts them into electrical signals that travel across the brain network, and then triggers a physical response.

Attraction to Processed Foods

The study notes that females with obesity have a greater salience network connectivity. The role of the salience network is to choose relevant context-dependent stimuli to which an organism can direct its resources or attention.

Neural signatures among obese women were found to support the “incentive salience model,” which suggests that they might be more biased toward the sight, smell, and taste of “ultra-processed foods.”

“In designing treatment plans for females with high BMI, it may be important to focus on emotional regulation techniques and vulnerability factors,” Arpana Gupta, a brain, obesity, and microbiome researcher at UCLA and senior author of the study, said in an April 6 statement.

The study looked at 183 participants aged 18 to 55. It included 42 males with

non-obese BMI, 23 males with high BMI, 63 females with non-obese BMI, and 55 females with high BMI.

Participants filled out a survey assessing factors such as childhood trauma, food addiction, and personality traits, among others. They also underwent three MRI scans to assess the brain’s structure, function, and connectivity.

According to the National Health and Nutrition Examination survey conducted in the United States between 2017 and March 2020, the rate of obesity prevalence in the country was 41.9 percent. This is up from 30.5 percent between 1999 and 2000. During this time, the prevalence of severe obesity almost doubled from 4.7 percent to 9.2 percent.

The U.S. Centers for Disease Control and Prevention (CDC) estimates obesity prevalence to be the highest among adults aged 40 to 59 years, with 44.3 percent of this demographic affected by it. This was followed by adults aged 60 and above at 41.5 percent, and adults aged 20 to 39 at 39.8 percent.

Furthermore, there is “compelling epidemiological evidence” revealing a “strong association” between being obese or overweight and the risk of developing autoimmune diseases such as Type 1 diabetes and multiple sclerosis.

Weight Gain Difference

Men and women vary in how they gain weight. First is the level of testosterone—the male hormone. Testosterone strengthens muscle mass as well as ensures optimal burning of excess fat tissue in the body.

As such, an adult male with a normal testosterone level only has to ensure that he consumes a balanced diet and works out regularly. This will minimize weight gain in the tummy.

In contrast, estrogen, the female hormone, doesn’t aid in maintaining a healthy BMI. Estrogen levels can fluctuate during pregnancy or menopause periods, leading to weight gain among females.

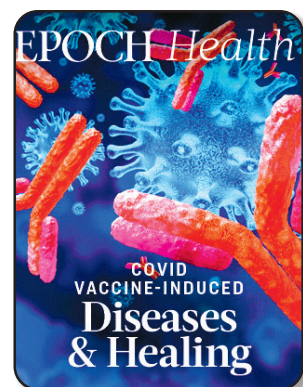
Fat metabolism in the two sexes also varies. Among men, more fat gets burned during exercise. Even while at rest, men burn fat. However, fat metabolism among women is moderately slow. As a result, women tend to gain weight at a faster pace compared to men.

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Is It Safe to Eat Vegetable Oil Often?

These oils have pros and cons, but if we don't use them properly, we can increase our risk of cancer and dementia

CAMILLE SU

Compared with cold-pressed virgin olive oil in glass bottles, the plastic jugs of vegetable oil offer a real bang for your buck, which may be why they can be found in almost every kitchen. But how often can you use vegetable oil to fry, sauté, or deep-fry your meal without causing health issues?

An Issue of Carcinogenic Toxins
The raw materials of commercially available vegetable oils, such as soybean oil, corn oil, sunflower oil, rapeseed (canola) oil, and grapeseed oil, aren't as high in oil content as olives, so it isn't possible to simply press out the oil—it has to be extracted through a much more complex process. The method involves soaking the raw materials in an "organic solvent" such as hexane to extract the oil. Then the materials are heated and the solvent is removed through evaporation. Often, this process also includes degumming, deacidification, decolorization, and deodorization. In other words, by the time you get your bottle of vegetable oil, those initial raw ingredients have been intensively processed.

Continued on Page 15

All oils contain omega-6 fatty acids, just in different proportions.

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THE EPOCH TIMES

Herbs to Help Normalize High Blood Pressure

Several plants can help relieve blood pressure, including these easily accessible options, research reveals

SHERRA VORLEY

High blood pressure, or hypertension, is often discussed at doctor's visits and frequently triggers a prescription. The National Heart, Lung, and Blood Institute warns that half of all Americans have high blood pressure, some without even knowing it.

Our blood pressure changes throughout the day. The problem is that if it stays high for too long, it can damage parts of the body.



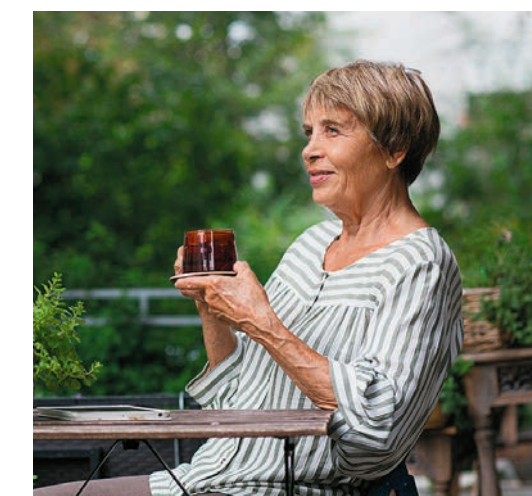
There are two components to a blood pressure measurement. The first number is the systolic pressure, the pressure when the heart is pushing blood through our vessels. We want to keep systolic blood pressure at around 120 millimeters of mercury (mm Hg). The second number is for the diastolic pressure, the pressure between heartbeats, when the heart is filling with blood. We want diastolic pressure at or below 80 mm Hg.

We can check our blood pres-

sure at the pharmacy with a digital blood pressure measurement machine or at the doctor's office with a blood pressure cuff. We can check our blood pressure ourselves with a home blood pressure monitor. Because blood pressure changes throughout the day, it's important to be consistent in how we measure it.

Take blood pressure at around the same time, in the same position, and in the same state. Drinking, eating, smoking, or exercising can change the blood pressure reading, so it's a good idea to wait about 30 minutes after these activities before taking a blood pressure reading.

Continued on Page 16



Keeping an active lifestyle, eating a healthy diet, managing stress, and avoiding alcohol and smoking can all help lower blood pressure.

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Cough Medicine May Treat Parkinson's Disease

A promising clinical trial in the UK becomes the first treatment applied to a genetic cause of the disease

GEORGE CITRONER

Disability and death due to Parkinson's disease are increasing faster than for any other neurological disorder in the world, according to data from the World Health Organization. However, Parkinson's could be treated with an inexpensive over-the-counter (OTC) cough medicine if a new phase 3 trial is successful.

Current Treatment Limited to Two Drugs

Parkinson's disease is a degenerative neurological disorder with four primary symptoms: tremors, muscle stiffness, slowness of movement, and impaired balance and coordination.

Parkinson's disease occurs most often in men older than 50 with certain hereditary factors.

"There is still no treatment or medication known to prevent Parkinson's disease," Dr. Jonathan J. Rasouli, director of complex and adult spinal deformity surgery for the department of neurological surgery at Staten Island University Hospital, told The Epoch Times.

It's thought that Parkinson's disease develops because of the breakdown or death of nerve cells in a part of the brain that controls movement, the substantia nigra. These cells produce the essential neurotransmitter dopamine and stop when impaired or destroyed.

The disease might also involve damage to nerve endings that produce norepinephrine, another neurotransmitter.

Treatment options for the disease are limited to a combination of two drugs: carbidopa and levodopa. Treatment is expensive and not easily accessed in many parts of the world.

"Most medications on the market basically act like dopamine and improve the main symptoms of Parkinson's disease," Rasouli said. "However, these medications have a bunch of side effects, which can be very unpleasant."

There are also surgical options. The "gold standard" surgical option is deep brain stimulation surgery, in which a neurosurgeon places special electrodes in the brain.

"Although these treatment options help reduce side effects, they do not stop progression of the disease," Rasouli said. "Therefore, we have been increasingly looking for treatment options that can stop or even reverse the symptoms of Parkinson's disease."

Ambroxol Shows Promise in Phase 2 Trial

Research published in 2009 looked at the cough medicine ambroxol to treat another neurological condition, Gaucher disease, which leaves people deficient in an enzyme called glucocerebrosidase (GCase).

The U.S. Food and Drug Administration still hasn't approved ambroxol for prescription or OTC use in the United States because it was associated with 10 infant deaths in Arizona more than 10 years ago.

The findings indicated that ambroxol significantly increased levels of GCase in patients living with Gaucher disease.

This caught the attention of Parkinson's disease researchers.

Reduced levels of GCase have been associated with Parkinson's disease, as up to 12 percent of people with the condition are born with a gene mutation linked to low levels of this crucial enzyme. Many patients without this mutation also show unusually low levels of GCase.

GCase is used by the brain to clear toxic proteins, such as alpha-synuclein, which is a biomarker for Parkinson's disease.

If ambroxol increases GCase activity, could it treat Parkinson's?

A phase 2 human trial found that ambroxol was safe at doses high enough to cross the blood-brain barrier and increase GCase levels by about 35 percent.

Research published in 2020 shows that the drug also lowered levels of alpha-synuclein in Parkinson's patients and potentially improved motor symptoms.

Rasouli finds the ambroxol study "interesting."

"The study demonstrated that ambroxol, a cough medicine that can potentially activate enzymes that protect against Parkinson's disease, was able to get from our stomachs to our brain safely and without major side effects," he said. "This is what

we call a 'proof of concept' trial.

"They are now starting to do larger clinical studies this year to see if ambroxol actually works to stop Parkinson's disease."

The phase 3 trial begins this year in the UK.

The trial will be conducted in a partnership involving the UK charity Cure Parkinson's, the Van Andel Institute, a Michigan-based research facility, and the John Black Charitable Foundation.

Researchers will recruit 330 Parkinson's disease patients and follow them at 10 to 12 locations in the UK.

They'll accept Parkinson's patients who have mutations in the GBA-1 gene, the most frequent genetic risk factor for the disease, and patients without this risk factor.

Each participant will be given either ambroxol or a placebo for the trial period.

"This will be the first time a drug specifically applied to a genetic cause of Parkinson's disease has reached this level of trial," lead researcher of the trial, professor Anthony Schapira at the University College London Queen Square Institute of Neurology, said in a statement.

Ways to Relieve Parkinson's Symptoms at Home

Although a cure remains to be found, studies have revealed that certain therapies can reduce symptoms of Parkinson's.

A 2012 study of different types of exercise found that the ancient Chinese art of tai chi produced a measurable improvement in balance and stability in those with moderate Parkinson's disease.

Research published in 2016 suggests that massage can also help relieve the muscle stiffness and rigidity often found in Parkinson's patients. Massage therapy treatment reduced resting and postural tremors in a single patient with long-standing Parkinson's.

Although the therapy was effective in temporarily reducing muscle rigidity during treatment, it didn't offer a lasting effect.

However, massage does help reduce stress, promote relaxation, and enable you to identify tension in your body, a key step if you're to find ways to minimize or reduce it. Tension can make symptoms worse, so it's important to keep it under control.

A systematic review of studies was published in *Frontiers in Neurology* in 2020 that found that acupuncture for the treatment of Parkinson's disease may be clinically effective and safe.

"Acupuncture may contribute to recovery from functional impairments following brain damage by encouraging neural stem cell proliferation, which is active at the initial stage of injury," the review authors wrote.

There's good evidence that taking certain vitamins might also reduce the risk of Parkinson's disease, according to a 2002 study published in the *Journal of Neurology*.

According to the study authors, one theorized cause of Parkinson's is brain cell damage from a chemical reaction called oxidation.

"Because vitamins C and E and carotenoids prevent damage from oxidation, they might reduce the risk of developing [Parkinson's disease]," the study reads.



The cough medicine ambroxol is a potential treatment option for Parkinson's disease.

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4 Primary Symptoms of Parkinson's Disease

- Tremors
- Muscle stiffness
- Slowness of movement
- Impaired balance and coordination



Look for olive oil that is labeled "virgin" or "extra virgin" to ensure that it is cold pressed.

Is It Safe to Eat Vegetable Oil Often?

Virgin olive oil is cold pressed but other vegetable oils go through a heat-based, industrial process.

Continued from Page 13

Degumming removes lecithin and other colloids in soybeans, for example. The lecithin is usually then processed into soy lecithin health products.

Deacidification involves adding alkali (such as sodium hydroxide) to convert free fatty acids, which aren't conducive to long-term storage of oil products, into soapstock through a "saponification" reaction, and then removing them. This can increase the stability of the oil.

Deacidification is usually followed by decolorization. There are a lot of impurities, pigments, and soapstock left over from deacidification, so activated clay will be added and heated to more than 212 degrees F under a vacuum. This allows the activated clay to adsorb the substances, thereby clearing the oil.

The final step is deodorization. All the substances remaining in the oil, such as objectionable odors and decomposed peroxides, will be sucked away after being exposed to a heat of more than 390 degrees F under high vacuum pressure. Once all the steps are complete, refined and pure vegetable oils remain.

Tung Chih-hong, deputy director and senior research scientist at the Food Industry Research and Development Institute in Taiwan, said that unless packaging emphasizes that the oil is cold-pressed, these oils will have gone through this high-temperature refining process, which is more common because it ensures the stability required for mass sale and long-term storage. Unfortunately, this method produces some unhealthy byproducts, including trans fats, monochloropropanediol (MCPD), glycidyl fatty acid esters, and 4-hydroxynonenal.

Trans Fats

Trans fats can't be metabolized and used by the body, so they accumulate inside of it. Trans fats have been shown to increase the risk of coronary heart disease. They also have adverse effects on the brain and nervous system and may play a role in the development of Alzheimer's disease and cognitive decline with age. Studies have also shown that trans fats are directly related to breast cancer, colon cancer, diabetes, obesity, and allergies.

MCPD, Glycidyl Fatty Acid Esters

MCPD and glycidyl fatty acid esters are converted into free MCPD and glycidol after entering the

Soybean, corn, canola, and rapeseed oil have all gone through a high-temperature refining process unless the bottle emphasizes that it's cold-pressed.

body. Glycidol is a group 2A carcinogen, which is a substance that is probably carcinogenic to humans and has genotoxicity and carcinogenicity. MCPD is a group 2B carcinogen and is possibly carcinogenic.

4-Hydroxynonenal

Vegetable oil is high in linoleic acid (omega-6), which has a low heat resistance and will produce 4-hydroxynonenal at high temperatures.

Four-hydroxynonenal is toxic and has been linked to a number of conditions, including inflammatory and degenerative diseases such as atherosclerosis, liver damage, Parkinson's, Alzheimer's, and cancer.

All oils contain omega-6 fatty acids, just in different proportions. Oils high in omega-6 include safflower oil, grapeseed oil, sunflower oil, corn oil, cottonseed oil, soybean oil, sesame oil, peanut oil, etc. Although omega-3 fatty acids are generally healthy, too many omega-6 fatty acids is problematic, especially without enough omega-3 fatty acids to balance them out.

The highly industrialized extraction process used for these oils also comes with unintended consequences.

"All foods processed at high temperatures undergo some reaction and may produce some trace substances. This is a normal phenomenon," Tung said. "It will not cause harm to the body if it is kept below a certain amount."

Is it true that these byproducts can only be controlled and reduced in amount but can't be completely avoided?

Chao Ming-wei, a toxicologist and associate professor in the biotechnology department at Chung Yuan Christian University in Taiwan, answered frankly, "It is really difficult."

Take 4-hydroxynonenal as an example: Vegetable oil will produce oleic acid and linoleic acid during the high-temperature extraction process, and linoleic acid contains 4-hydroxynonenal.

The key lies in the amount. There are now regulations around the world to ensure that the byproducts in these vegetable oils don't exceed a certain number of parts per million or billion if they're sold to the public. Legal manufacturers around the world try to reduce these byproducts in the process of refining oil products.

Cooking Makes Vegetable Oil Toxic

There are regulations governing the amount of toxins in vegetable oil, but those don't protect us from what we do with it. That's because the moment we use it in high-temperature cooking, we start another chemical change. High-temperature

In terms of health benefits, pressed oils such as olive oil and tea seed oil are better because they are unrefined and thus retain more of their original nutrients.



Reading food labels may help consumers make better choices when it comes to purchasing cooking oils.

deep-frying, pan-frying, or sautéing will all change these oils. In reality, vegetable oil with high omega-6 content is only suitable for stir-frying on medium heat because of its low heat resistance.

Dr. Yen Tsung-hai, a professor in the department of nephrology in the Clinical Poison Center at Chang Gung Memorial Hospital in Taiwan, pointed out that the frying temperature may reach up to 392 F. Omega-6-rich oils are prone to peroxidation during frying, resulting in the formation of 4-hydroxynonenal.

For cooking at higher temperatures, you need a different kind of oil. He mentioned that oils with high smoke points and high saturated fat, such as lard and palm oil, should be used when frying food, but make sure not to fry in them repeatedly.

East Asian cuisine often calls for sautéing at high heat when cooking, which involves stir-frying spices such as shallots and garlic in oil to force out the aroma. However, the oil temperature continues to rise during this process, exceeding the smoke point and emitting oil fumes. Chao said that during the process of high-temperature sautéing, the toxins in vegetable oil will start to oxidize and volatilize, exposing people to these chemicals. When the cook inhales, these fumes can even cause lung damage and increase the risk of lung cancer.

Besides avoiding high-temperature cooking, we also need to ensure that the vegetable oil is stored properly.

Vegetable oil should be kept in a cool place at room temperature to avoid oxidation due to exposure to light. Most bottles are made of transparent plastic, but it's best to choose a dark bottle, or better yet, a glass bottle. "This is because oil products are indeed unstable," Chao said.

The plastic bottles of vegetable oil sold in supermarkets and retailers are mainly made of type 2 (high-density polyethylene, HDPE) and type 5 (polypropylene, PP) plastics, which are resistant to corrosion, acid and alkali, high temperatures, and have no plasticizer. If you wish to repack oil at home, a glass bottle should be your first choice, followed by type 2 and type 5 plastic bottles. Don't use type 3 plastic (polyvinyl chloride) bottles, as they contain added plasticizers to improve plasticity.

Is Cold-Pressed Oil Safer and Healthier?

Pressed oils such as olive oil and tea seed oil are healthier because they are unrefined and thus retain more of their original nutrients.

Chao said that, generally, consuming a little vegetable oil every day will not cause too much harm. However, given the choice, he recommends opting for cold-pressed oils such as olive oil, which are healthier.

But is cold-pressed oil necessarily better? Tung pointed out that cold-pressed oil stored in a poor environment or with poor raw-material quality may also produce some aflatoxin or other problems.

Moreover, cold-pressed oil doesn't necessarily preserve better than extracted oil. Although cold-pressed oils retain more of the original plant nutrients, they also retain some harmful substances and odors.

Take olive oil, for example. Because it retains its original polyphenols, odor, and pigment, it isn't suitable for food processing because it isn't as stable and doesn't have as long of a shelf life as vegetable oils.

In addition, there are different grades of olive oil. The processes of making extra-virgin and virgin olive oils involve washing and crushing the olives and then centrifuging them to separate the oil.

Some of the oil remaining on the pomace can be pressed under stronger conditions or extracted with solvents—that is, through a high-temperature refining process. The refined oil is called pomace oil, and manufacturers will mix it with virgin olive oil to form what is marketed as "pure olive oil."

If the olive oil isn't labeled as cold-pressed virgin or extra-virgin on the package, it's a blend of refined oil and virgin oil. As consumers, we should pay attention to labels when purchasing products.

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Vegetable oils shouldn't be used in high-temperature frying or sautéing because they release toxic fumes that can cause lung cancer.

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Herbs to Help Normalize High Blood Pressure

Your garden could hold the key to healthier blood pressure—even the weeds.

Continued from Page 13

Even thinking stressful thoughts may affect blood pressure. In fact, so many people experience stress or discomfort when they go to the doctor's office that it has led to a phenomenon called "white coat hypertension." This refers to blood pressure readings that are higher at the doctor's office than in other settings.

Not surprisingly, staying active, eating a healthy diet, not drinking or smoking, and managing stress can all help lower blood pressure, just as the opposites can cause high blood pressure. Vessels that are under too much pressure for long periods lose their elasticity and don't work as well. Keeping the heart and vessels working well under normal pressures helps prevent problems such as cardiovascular disease, kidney disease, and stroke.

There are some helpful herbs that can be added to a diet meant to prevent hypertension, some of which have similar medicinal actions to high blood pressure medications.

Using safe, small amounts of these herbs may help lower blood pressure. Along with other measures we undertake to control our blood pressure, using herbs may even reduce the potential of a high blood pressure diagnosis.

Medications may not be compatible with some herbs, so if you are taking medicines, follow the directions and advice of health care providers.

Many foods and herbs act as natural diuretics, such as dandelion, parsley, lemon, celery, cucumber, watermelon, and pineapple, as well as garlic, ginger, and onions.

Blood Pressure Medications

There are several categories of medications that are prescribed to help manage high blood pressure. Some herbs mimic the actions of these medications. It could also be said that such medications were discovered because of actions found in ancient, folk, and traditional medicines. The medicinal actions were often found in natural substances such as plants.

Diuretics, for example, help the body eliminate excess water and sodium by increasing urination. These are often called water pills and are prescribed to help patients with problems including hypertension. Many foods and herbs act as natural diuretics, such as dandelion, parsley, lemon, celery, cucumber, watermelon, pineapple, garlic, ginger, and onion.

In a research study published in *Pharmacy and Therapeutics* in 2014, *Hypertension: Is It Time to Replace Drugs With Nutrition and Nutraceuticals?* researchers discussed the part nutrition plays in conventional medication therapy for high blood pressure.

"Many natural compounds in food, as well as certain nutraceutical supplements, vitamins, antioxidants, or minerals, can mimic drugs, functioning similarly to a specific class of antihypertensive medications," they stated.

"However, they may be less potent and take longer to work than the antihypertensive drug. When used in combination with other nutrients and nutraceutical supplements, though, the antihypertensive effect can be magnified."

Although there are many plants and herbs that can be used to treat high blood pressure, some are more accessible than others and can even be grown on your window sill or garden.

Sherra Vorley is a writer passionate about food sovereignty, self-reliance, and holistic health. Her wish is to help people by providing actionable tools for disease prevention and holistic healing.



Blood pressure readings can vary depending on stress levels, time taken, or the position of the body during a reading. To get an accurate estimate, it's a good idea to keep all external factors consistent.

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Thyme

(*Thymus vulgaris*)

A common herb that is fragrant and flavorful, culinary thyme is delicious in soups, baked goods, marinades, and stuffing. It is lovely added to grilled and roasted meats and fresh, cooked, and roasted vegetables. Thyme is found at the store as dried leaves, fresh herbs, and in a variety of herb blends.

Thyme originates from the Mediterranean and has more than 50 varieties, usually hardy, evergreen, woody perennials. It's drought-tolerant and slow-growing, and it loves well-draining average soils. It shouldn't have wet roots and grows better in warm sunny weather.

Thyme is loved by bees, and the low-growing herbs have flower spikes in mid-summer. To harvest thyme, prune new growth from stems, about 4 to 6 inches. The best time to harvest thyme is before flowering in late spring, usually in the late morning after the morning dew has dried. Use thyme fresh within a few days of harvest. Thyme also freezes and dries well for future use.

Thyme Constituents and Healing Activity
Thyme has many medicinal actions including anti-inflammatory, antimicrobial, antioxidant, and anticancer effects. It has many phytonutrients, minerals, and vitamins as well as flavonoids and essential oils, including thymol and carvacrol.

There are eight phenolic acids in thyme, including gallic acid, syringic acid, and rosmarinic acid. Rosmarinic acid is one of the main constituents of thyme and is known for many medicinal actions including treating high blood pressure. A study published in *Phyto-medicine* in 2018 showed that rosmarinic acid reduced blood pressure in animal studies by acting as an angiotensin-converting enzyme (ACE) inhibitor.

A chemical made by the body, ACE plays an important role in maintaining blood pressure. Sometimes it works too well and can raise blood pressure by narrowing blood vessels. Inhibiting ACE is a common treatment for high blood pressure. Sometimes, people with hypertension are prescribed ACE inhibitors to relax blood vessels to lower blood pressure.

Other studies have shown that extracts of thyme contain rosmarinic acid. The extracts significantly decrease systolic and diastolic blood pressure in animal studies.

HOW TO USE THYME

Thyme for tea? Thyme's antioxidant and antimicrobial activities not only are great for colds and respiratory health, but they also may help maintain normal blood pressure. Fresh sprigs or dried or frozen thyme leaves can be simply steeped in boiling water and strained for a pungent, fragrant cup of medicinal tea.

Add thyme more often to dishes and look for recipes that call for more thyme. Roasted potatoes and other roasted vegetables sprinkled with fresh, dried, or frozen thyme are extraordinary. Baked goods such as an onion thyme tart or lemon garlic thyme focaccia are delicious ways to use thyme.

Thyme supplements are also available. Follow supplement directions. If you are already taking medications including ones to lower blood pressure, be sure to check with health care providers and supplement instructions for potential negative interactions.



Corn Silk

(*Stigma maydis*)

The delightful shucking of fresh corn comes with the finicky task of removing the long silky threads that grow just underneath the husks. Interestingly, there is one thread-like strand for each kernel of corn, and each strand, known as a stigma, pollinates each kernel.

Corn silk is often tossed in the compost bin, but traditional Chinese medicine, Native American medicine, and others use corn silk as an herbal remedy. It was traditionally used to aid mental health, urinary tract infections, and heart disease.

The long threads are easy to collect when shucking corn cobs. It's best to use organic or homegrown corn. You can dry corn silk in a paper bag or on a tray, at room temperature, away from light. Collect strands, roll them into 1-to-2-inch nests like miniature pasta nests, and place them on a tray. Allow drying for 48 to 72 hours. Each corn silk nest is perfect for one cup of corn silk tea.

Corn silk is also available in dried form or as a supplement.

Corn silk is often tossed in the compost bin, but traditional Chinese medicine as well as Native American medicine and others use corn silk as an herbal remedy.

Corn Silk Constituents and Healing Activity

Corn silk has bioactive constituents such as flavonoids and terpenoids, which have diuretic, antioxidant, and anti-hypertensive activity. Corn silk tea has been shown to have ACE-inhibiting effects. A study published in *Molecules* in 2019 showed that a water extract of corn silk significantly reduced systolic blood pressure levels and inhibited ACE activity.



Out of season? Corn silk can also be found in capsule form.

HOW TO USE CORN SILK

Tea and supplements are the common ways to use corn silk. To make corn silk tea, use a teaspoon of dried corn silk to one cup of boiling water. Allow to steep for 5 to 10 minutes. Enjoy with a little lemon and honey or the flavoring of your choice.

Corn silk is nontoxic, and a Korean study published in *Preventive Nutrition and Food Science* in 2019 showed that very high doses didn't cause mortality or abnormal findings in animal subjects. Daily doses of corn silk are likely safe for most people. Start with a low dose to observe how your body reacts and check for any negative effects such as allergic reactions.



Parsley

(*Petroselinum crispum*)

Relegated to garnish status, the vibrant green, pretty, curled leaves of parsley do more than add contrast to a dinner plate. For those who do eat the garnish, you'll know parsley helps to cleanse the palate and freshen the breath. But parsley has so much more to offer. This biennial plant packs nutrition and flavor in its abundant curled or flat leaves.

Yet another Mediterranean herb, parsley does best in rich soil with lots of organic matter and a location that gets full sun. Parsley grows easily from seed, sprouting in 10 to 14 days. It's a biennial, meaning it puts on a lot of delicious green growth in its first year. In the second year, parsley leaves are tougher and less flavorful because the plant is putting its energy into making seeds. Tall central stalks are topped with yellow flower clusters that develop into striped seeds in mid to late summer.

Seeds can be dispersed throughout the garden where there is adequate soil and moisture. Do this a couple of years in a row, and fresh first-year parsley plants will emerge for harvest fairly reliably.

Parsley leaves can be curled or flat, depending on the variety. The robust leaves will last in the fridge for several days. They dry nicely for future use. They also freeze well. Harvest leaves from first-year plants early in the day from late spring through to late fall. Plunge leaves in cold salted water to remove any little visitors such as aphids. Use fresh or hang to dry in a dark location or a paper bag. Large, clean bunches of fresh parsley can be pulverized in a food processor and packed loosely in containers or jars in the freezer. The frozen pulverized leaves can be scooped into soups, sauces, salads, and marinades at any time throughout the year.

Parsley is available fresh and dried from grocery stores. When parsley is in season, you can acquire a large amount and store it as described above. Parsley is also available as a supplement to use as a natural diuretic, for heart health, to aid digestion, and for its high nutrient and antioxidant qualities.

Parsley Constituents and Healing Activity

A large study of available research, from 1966 to 2013, related to the ethnomedicinal uses, phytochemistry, and pharmacological activities of parsley, found that this medicinal plant has a wide range of proven medicinal activity, such as antioxidant, brain-protective, anti-diabetic, analgesic, gastroprotective, antibacterial, and antifungal activities. In addition, parsley showed diuretic and hypotensive actions.

A study published in the *Journal of Ethnopharmacology* in 2019 aimed to evaluate the antihypertensive activity of the aqueous extract of the parsley plant. Although the study was an animal study, it did show that the extract decreased systolic, diastolic, and mean arterial blood pressure.

HOW TO USE PARSLEY

Add parsley to almost any meal. Whether sprinkled on top, incorporated into soups and sauces, or used as a complementary garnish, parsley's refreshing flavor has many health benefits and may help to maintain normal blood pressure. Try chimichurri, a marinade loaded with fresh parsley, or tabbouleh salad, which is packed with the bright flavors of parsley and lemon.

BLOOD PRESSURE MAINTENANCE BEDTIME TEA

Although not meant to replace doctor-prescribed or recommended medications, this tea, in conjunction with lifestyle changes, may help maintain normal blood pressure.

A study published in 2019 noted that blood pressure medication taken at bedtime was more effective. For this reason, this is a tea for bedtime, although it can be taken at any time throughout the day.

INGREDIENTS

- 1/4 teaspoon dried thyme leaves or 1/2 teaspoon fresh thyme leaves
- 1/4 teaspoon dried parsley leaves or 1/2 teaspoon fresh parsley leaves
- 1/4 teaspoon dried corn silk or 1/2 teaspoon fresh corn silk
- 1 to 2 cups of high-quality boiling water

Place ingredients in a tea ball or loose in a large cup. Cover with boiling water. Allow to steep for 5 to 10 minutes. Remove the tea ball or strain the tea through a fine strainer. Flavor with lemon, honey, or flavoring of your choice, and enjoy.

For those who don't like getting up to use the bathroom at night, take this tea two hours before bedtime.

CAUTION

Traditional plant-based medicines have been used for centuries and may be generally regarded as safe. However, it's true that our world isn't what it was centuries ago. Where plants grow, and how they are cultivated, harvested, and processed may change their chemical compositions and medicinal properties. Just like prescription and over-the-counter medicines, plant-based medicines may interact with other medicines, have unknown side effects, or have negative effects related to allergies, sensitivities, or medical conditions.

With any new ingredient, you can do a small skin test. Place a small amount of herb on the skin and wait 24 hours. Any reaction such as discomfort, itchiness, or hives may be an indication of sensitivity. Be aware of potential contraindications with medications. Always check with your health care provider before starting new herbal remedies. If, when taking a remedy, symptoms persist or worsen, discontinue use.



An afternoon herbal tea is a soothing way to support heart health.

OPTIMAL BLOOD PRESSURE LEVELS

Systolic pressure is when the heart is pushing blood through our vessels. Diastolic pressure is resting blood pressure.

120 mmHg is the optimal standard systolic blood pressure.

80 mmHg is the optimal standard diastolic blood pressure.

Revised Mediterranean Diet Significantly Improves Cardiovascular Health

A new study found that the 'green Mediterranean diet' can help resolve aortic stiffness, a key marker of cardiovascular health

DAVID CHARBONNEAU

Researchers at Ben-Gurion University (BGU) in Israel have found that a modified Mediterranean diet that emphasizes polyphenols and reduces red meat can significantly decrease proximal aortic stiffness (PAS)—a distinct marker of vascular aging and cardiovascular risk.

The study was published this month in the *Journal of the American College of Cardiology*. "This is the first time that scientists have presented a powerful, potent effect of diet on age-related proximal aortic stiffness," a BGU statement reads.

The researchers found that the "green Medi-

terranean diet" decreased PAS by 15 percent, the standard Mediterranean diet decreased it by 7.3 percent, and the healthy dietary guideline diet decreased it by 4.8 percent.

The green Mediterranean diet follows the guidelines of the standard Mediterranean diet, which emphasizes plant-based foods, including whole grains, vegetables, legumes, fruits, nuts, seeds, and appropriate herbs and spices, as the diet's foundation. Olive oil is the main source of nutritional fat.

In addition to these elements, the green Mediterranean diet emphasizes more polyphenols by upping the intake of vegetables, fruits, and nuts (particularly walnuts) and decreasing the consumption of red meat. To further increase

polyphenols, participants in the 18-month, 300-participant study drank each day three to four cups of green tea and a shake made of *Wolffia globosa*, a high-protein aquatic plant also known as duckweed or Mankai.

Mankai—loaded with bioavailable iron, B12, and 200 types of polyphenols and protein—is considered a good substitute for meat. Assigned caloric counts on the diet topped out at 1400 per day for women and 1800 for men.

The same group of researchers established in previous studies that the green Mediterranean diet had a number of positive health effects, including improving the microbiome, arresting brain atrophy, regressing fatty liver

disease, and reducing fat around the middle, although overall weight loss results were similar between the two Mediterranean diets.

"A healthy lifestyle is a strong basis for improving cardiometabolic health. We learned from the results of our experiment that the quality of the diet is crucial for mobilizing atherogenic adipose tissues, lowering cardiometabolic risk, and improving one's adiposity profile. Dietary polyphenols, substituting red meat with equivalent plant-based protein, show promise for improving various aspects of human health," lead researcher Iris Shai said in the statement.

"Maintaining a healthy diet alone is associated with PAS regression. The green-Mediterranean diet provides a 15 percent dramatic reduction in PAS," said Dr. Gal Tsaban, a co-author of the study.

"The results of our study highlight, once again, that not all diets provide similar benefits and that the green-Mediterranean diet may promote vascular health."

David Charbonneau, Ph.D., is a freelance journalist who has also taught literature and writing at the college level for 25 years. In addition to The Epoch Times, his work has appeared in The Defender, Medium, and other online and print platforms. A staunch advocate for medical freedom, he lives and works in Pasadena, California.



The green Mediterranean diet may help reduce risk of cardiovascular diseases.

The Microplastics in Your Morning Cup of Coffee

The microplastics we eat and drink are contributing to disease and the growing fertility crisis, studies suggest.

VANCE VOETBERG

For many Americans, a morning coffee is as habitual as brushing their teeth. You know the routine: Leave the house at 8 a.m., pick up your favorite caffeinated beverage at the coffee shop at 8:15, and get to work by 8:30.

Coffee and tea help us get through the Monday-through-Friday grind.

But according to recent research, when we drink hot coffee or tea from disposable paper cups, we're ingesting thousands of health-damaging microplastics.

Though one might not think a paper cup would contain plastic, almost all paper dishware uses microplastics as a sealant.

Two separate studies showed that when hot liquid is poured into paper cups, microplastics leach from the coating into the hot liquid, thereby turning a cup of coffee or tea into a microplastic slurry.

In one study published in the *Journal of Hazardous Materials*, researchers discovered that consuming hot liquid from a standard 12-ounce paper cup resulted in the ingestion of roughly 88,000 microplastic particles, if not more.

When heated to between 185 and 194 degrees Fahrenheit, paper cups were shown to release thousands of microplastics into the liquid. For reference, most lattes are served at about 160 degrees, and brewed coffee is served at 190 to 200 degrees Fahrenheit.

After a year of drinking just one cup of coffee or tea from a paper cup daily, the total number of microplastic particles consumed would be more than 32 million.

Researchers in another study discovered that paper cups "do not appear to release fewer microplastic particles than plastic cups."

As they concluded in the study published in *Science of the Total Environment*, "microplastic debris released from the cups as a type of exposure source to humans should be cause for grave concern."

The effect of microplastics on the health of ocean ecosystems has rightfully seen widespread media coverage, but the immediate threat microplastics pose to human health, particularly hormone and reproductive health, remains dangerously underacknowledged.

Hormones and Microplastics

Balanced hormone levels are required for reproduction. This balance is becoming increasingly lost as countless chemicals interfere with natural hormone production—microplastics being a top offender.

"The chemicals found in plastics are ones that can mimic the shape of a hormone," Dr. Ivone Mirpuri, a clinician specializing in pathology and endocrinology, told *The Epoch Times*. They travel to the receptor on our cells instead of real hormones, which either "enhances the effect of a hormone or blocks it."

"Either way, it triggers abnormal processes and wreaks havoc on the way the endocrine system works, with worrying consequences," she said.

Numerous studies have shown that microplastics alter testosterone and estrogen in men and women.

In a study reviewing the research on microplastics and their threat to male reproduction published in the *International Journal of Environmental Research and Public Health* in 2021, the authors warn that the "possible reproductive health risks of microplastics should not be ignored."

In one study on mice, chronic exposure to polystyrene, a microplastic used in numerous household products, reduced testosterone levels and stimulated abnormal spermatogenesis in male mice.



Paper cups are lined with plastics that quickly contaminate hot liquids like coffee and tea.

390
MILLION
TONS
of plastic waste
produced in 2021.

32
MILLION
After a year of drinking just one cup of coffee or tea from a paper cup daily, the total number of microplastic particles consumed would be more than 32 million.



Instead of drinking your coffee from a paper cup, consider switching to a stainless steel thermos or ceramic mug to avoid the negative health implications of microplastics.

When we drink hot coffee or tea from disposable paper cups, we're ingesting thousands of health-damaging microplastics.

Mirpuri said she believes that the ubiquity of microplastics is contributing to the startling rise of infertility. "Because many endocrine-disrupting chemicals like microplastics act similarly to estrogen, we see lots of problems in the reproductive system," she said.

Disappointed but Not Surprised

Although the results of paper coffee cups leaching microplastics are shocking to many, Dr. Susanne Brander, a researcher who specializes in microplastics, wasn't surprised by the studies' outcomes.

"Many people—including very well-educated scientists—do not realize that most paper products contain different kinds of plastics that end up in the food we eat and liquids we drink," she told *The Epoch Times*. Brander said there is still much to learn regarding microplastics and their potential role in the progression of various diseases. "We, unfortunately, do not know how much microplastics might be harming our health," she said.

There are nearly 1,000 studies that show that microplastics are disrupting aquatic life, and a *PubMed* search reveals more than 1,400 papers discussing microplastics' influence on human health, but data are still limited.

There are reports that microplastics alter the gut microbiome, can promote cardiovascular disease, and may play a role in neurodegenerative diseases. But, as Brander explained, there isn't sufficient evidence to show a causal relationship between these diseases and microplastics.

This, she said, gives the plastic industry leeway to keep producing millions of tons of plastic each year with little opposition. "It's an innocent-until-proven-guilty kind of situation," she said.

Anecdotal Evidence Is Mounting

Though the academic research isn't yet extensive, some doctors have seen the effects of microplastic toxicity in their practice.

Dr. Matt Angove, a naturopathic health care provider, had a male patient who was "extraordinarily fit and ate healthier than 99 percent of the population," Angove told *The Epoch Times*. The patient was an exemplar of healthy living but had a lethargic libido and wanted to start testosterone replacement therapy.

The patient's lab results indicated his testosterone markers weren't significantly low, though they weren't optimal. What was striking was the male patient's estrogen levels. Estradiol, the primary form of estrogen, should be around 25 to 35 pg/ml in healthy men. This patient's estradiol was at 99 pg/ml.

Knowing that numerous chemicals mimic biological estrogen, Angove assessed whether this patient had chronic exposure to such chemicals and realized that the patient's life

was flooded with microplastic exposure.

"Every day, this patient drank six plastic bottles of water, ate his lunch out of plastic Tupperware, and consumed multiple cups of coffee from plastic-coated paper cups," Angove said.

Angove speculated that the patient's microplastic exposure was elevating his estrogen. He advised the patient to minimize his microplastic exposure through a few simple changes. "The patient switched to a stainless steel water bottle and coffee thermos and replaced his plastic Tupperware with glassware," Angove said.

With no other lifestyle or pharmaceutical interventions, within three months, the patient's estradiol fell to 29 pg/ml and his total testosterone rose from 471 to 668 ng/dl. Angove said that the patient's symptoms were relieved and he "felt better than ever."

And such cases are becoming more frequent, Angove said.

"Across my practice, I'm witnessing an increase in reproductive issues in both men and women.

"It's quite evident that microplastics and other endocrine-disrupting chemicals are facilitating these issues."

Angove's experience aligns with recent evidence showing that male sperm counts have declined 50 percent in the past 50 years.

This shocking drop parallels the timeline of plastic's sudden prevalence in our lives, though some researchers say the prolific use of another endocrine disruptor, the herbicide glyphosate, is also a factor.

In 1950, worldwide plastic production reached at least 2 million tons. In 2021, plastic production soared to more than 390 million tons.

Angove said there are other factors that contribute to the fertility crisis.

"It's a multifaceted issue that includes toxins like microplastics, but also our lifestyle choices like eating processed foods and spending more time on screens instead of ... outdoors," he said.

Reduce Microplastic Exposure

From the air we breathe to the water we drink, it has become an impossible feat to avoid microplastics altogether. Even so, we can reduce our microplastic exposure by thousands—if not millions—of particles if we choose to forgo paper cups.

Instead of drinking your favorite tea or coffee from a disposable cup, consider using a stainless steel thermos or a ceramic mug. This simple switch might improve your health and fertility.

Vance Voetberg is a freelance journalist for *The Epoch Times* based in the Pacific Northwest. He holds a B.S. in journalism and aims to present truthful, inspiring health-related news. He is the founder of the nutrition blog "Running On Butter."

Dealing With the Brain-Breaking Effects of Late Nights

Routinely staying up late is linked to health issues you can improve with herbs and habits

TENG CHENG LIANG

With today's always-on culture and the demands of work and school extended by remote access, not to mention the ever-colorful allure of digital nightlife, many end up burning the midnight oil on a regular basis. Studies have found that routinely staying up late can damage the brain and cause symptoms such as memory loss.

How can we reduce the side effects of staying up late? Practicing proper diet and massage can help relieve the discomforts caused by not getting enough rest.

Neural Effects of Staying Up

Sleep is the time for the body to repair and recuperate and is extremely important for the brain. If you often stay up late, your sleep schedule may be affected, leading to sleep deprivation. Chronic sleep deprivation can impair memory, learning, and concentration.

Staying up late can cause mood swings and affect the balance of yin and yang in the body.

Neuron Reduction

Various research suggests that chronic sleep deprivation and staying up late may lead to a reduction of neurons in the brain, which are the cellular building blocks of the brain that process and transmit electronic signals. A drop in neurons can undermine memory and cognitive function.

The research team of the University of Melbourne in Australia conducted a seven-year follow-up survey on more than 200 young people. In addition to answering the questionnaires several times during those seven years, the participants also underwent two brain scans to check their brain development.

From brain scan records, the researchers found a solid link between staying up late and the brain's white matter. Young people who were "night owls" had less white matter in their brains than early morning risers. The researchers also wrote that teens who start staying up late at about age 12 or 13 are more likely to develop behavioral problems years later, including increased aggression, a tendency to break rules, and antisocial behavior.

A new U.S. study found that if you stay up all night just once, your brain will age one or two years overnight, although the study also found that the effect is reversible with recovery sleep.

Effect on Emotions

Sleep deprivation and staying up late can negatively affect mood, increase the risk of depression and anxiety, and reduce mental health and overall well-being.

Increased Stress

Lack of sleep and staying up late can cause undue stress on the body, which in turn affects brain function. This can lead to chronic fatigue, anxiety, insomnia, and other physical and mental health problems.

In conclusion, chronically staying up late may negatively affect brain health. If you need to stay up late, it's recommended to avoid doing so continuously and ensure that you catch up on sleep as soon as possible afterward.

A Theory of Balance

Our time awake and asleep reflects the concept of yin and yang in pre-communist Chinese culture.

Yin and yang is a core concept in traditional Chinese culture that refers to the interdependent duality inherent in all creation, from male and female to hot and cold. The concept of yin and yang predates Western scientific insights about phenomena such as the essential interplay of positive and negative charges in an atom or the pairing of releasing and inhibiting hormones that stimulate and suppress certain activities in the body.

In this framework, daytime is yang and nighttime is yin. Balancing the yin and yang energy in the human body is understood as the key to good health. Western medical science refers to the body's effort to maintain homeostasis. This is the ongoing physiological process the body uses to maintain optimal function by seeking a state of stability.

Staying up late will disrupt such stability and create an imbalance in the body. This causes an extra burden to other organs beyond the brain, including the spleen, stomach, heart, liver, and more.

Conditioning Options Advocated by Traditional Chinese Medicine

For the physical discomfort caused by staying up late, the following can be helpful.

Diet Conditioning

When you need to stay up late, you can increase your nutrition in certain ways as appropriate. Choosing foods that are easy to digest and high in protein and vitamins, such as tofu, fish, lean meat, and vegetables, is always helpful.

Avoid eating spicy, greasy, and irritating foods, such as chili, ginger, coffee, and the like, so as not to cause an extra burden on the gastrointestinal tract. It's also wise to avoid overeating and excessive alcohol consumption.

Medicinal Diet Conditioning

You can drink soup made with Chinese medicinal herbs, such as *Polygonatum sibiricum*, wolfberry, *Schisandra chinensis*, and *Dimocarpus longan*, which can regulate the balance of yin and yang in the body, enhance immunity, and improve sleep quality. Chinese herbal tonics, such as ginseng, astragalus, and angelica, can also be used.

Massage

Traditional Chinese medicine massage can stimulate the acupoints connected with the brain, promote blood circulation, and improve nutrient supply to the brain. Some commonly used acupoints are Fengchi (GB 20), Baihui (DU 20), and Yintang (EX-HN3).

Foot Bath Conditioning

After staying up late, you can soak your feet in hot water to promote blood circulation, relieve fatigue, and help you sleep.

Moderate Exercise Before Going to Bed After staying up late, perform some light exercise, such as walking or yoga, which can help you relax and enter sleep easier.

Mental Regulation

Reading or listening to music can help maintain a stable mood. Staying up late can cause mood swings and affect the balance of yin and yang in the body. It's recommended to maintain a positive attitude, relax your mind, and take appropriate rest so you can reduce excessive fatigue and mental stress.



Frequent sleep deprivation hurts the brain, spleen, stomach, heart, liver, and other organs, increasing the risk of several diseases.

Chinese Medicinal Herbs to Help Recuperation

If staying up late leads to memory loss, you can try the following:

GINSENG

Ginseng is a popular tonic found in many Chinese medicinal recipes. It has the benefits of nourishing qi, replenishing essence, nourishing blood, and invigorating the spleen. It can enhance the body's immunity and anti-fatigue ability and is known to exhibit some positive effects on the symptoms of dementia.

A double-blind controlled study published in *Psychopharmacology* found that middle-aged people had their memory (both working and long-term memory) significantly improved after taking capsules containing ginseng extract.



ROSEMARY

Rosemary is used both as a common seasoning and a traditional Chinese medicinal herb. It can relax tendons and activate collaterals, clear heat, detoxify, promote blood circulation, and improve the symptoms of brain diseases.

A randomized double-blind controlled study published in the *Journal of Medicinal Food* found that taking an appropriate amount of rosemary powder can help improve cognitive ability in the elderly. However, more than 6 grams (0.04 ounces) per day will have a negative effect on cognitive ability.



UNCARIA

Uncaria tomentosa (commonly called cat's claw) is a Chinese medicinal herb that can clear heat and detoxify, promote blood circulation and remove blood stasis, relax tendons, and activate collaterals. It can improve the blood circulation and metabolic function of the brain and has a certain therapeutic effect on brain diseases.



GANODERMA LUCIDUM

Ganoderma lucidum is a traditional Chinese medicinal herb that can invigorate qi, nourish the blood, calm the nerves, and strengthen the heart. It can enhance the body's immunity and anti-fatigue ability and can help improve the symptoms of dementia.

In short, traditional Chinese medicine holds that for people who often stay up late, the key to regulating the body is to maintain emotional stability, properly adjust their diets, supplement nutrition, and maintain physical activity. It should also be noted that if you feel unwell or have other symptoms, you should seek medical treatment.



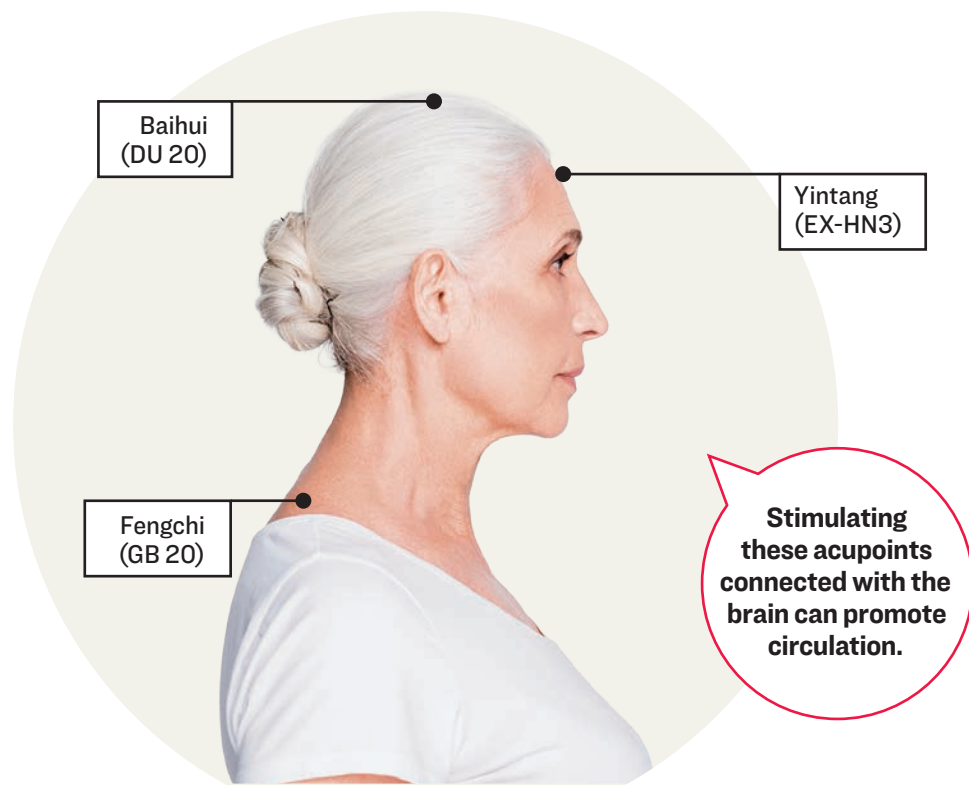
CORYDALIS

Corydalis, a traditional Chinese medicinal herb, can promote blood circulation and remove blood stasis, relieve pain and itching, relax tendons, and activate collaterals. It can improve blood circulation in the brain and reduce cerebral ischemia and hypoxia, and it has a certain therapeutic effect on brain diseases.



*Some herbs mentioned in this article may be unfamiliar, but they're generally available in Asian supermarkets.

NOTE: Because different people have different physiques, it's recommended to consult your doctor or traditional Chinese medicine experts before starting any health regimen.



Social Isolation Increases Risk of Dementia

Being lonely is linked to cognitive decline, but there are fun and effective ways to resolve both problems

ELLEN WAN

It's common for older adults to feel lonely or isolated as they age. About 1 in 4 Americans over the age of 65 is socially isolated. Studies have also found that chronic loneliness and social isolation can increase the risk of developing dementia. To counter this, Japanese psychiatric experts recommend that older adults prevent dementia by learning and staying curious to stimulate their brains.

The global population is experiencing an increase in life expectancy. In 2021, there were 761 million people over the age of 65 worldwide, and this figure is predicted to reach 1.6 billion by 2050.

However, a report published by the World Health Organization in 2021 indicates that dementia is becoming a primary concern for older adults. The report states that 55 million people, 8.1 percent of women and 5.4 percent of men over 65, currently have dementia. This number is expected to increase to 78 million by 2030 and 139 million by 2050.

Learning is fun and every day can be filled with happiness—which is the best way for seniors to spend their time.

Socially Isolated Older Adults at Increased Risk of Dementia

A recent study by Johns Hopkins University, published in the *Journal of the American Geriatrics Society*, tracked 5,022 adults aged 65 and older for nine years. The study found that out of 5,022 older adults, 1,172 (23.3 percent) reported being socially iso-



Engaging in active learning can help the elderly feel less isolated and reduce their risk of developing dementia.

lated, and 3,850 (76.7 percent) didn't.

After adjusting for demographic and health factors, individuals who were socially isolated had a 28 percent (95 percent CI: 1.10–1.49) higher risk of developing dementia over a period of nine years than those who weren't.

"Having fewer opportunities to socialize with others decreases cognitive engagement as well, potentially contributing to increased risk of dementia," Alison Huang told *Science Daily*. Huang holds a doctorate in mental health and is a senior research associate at the Johns Hopkins Bloomberg School of Public Health.

Alzheimer's disease is the most common form of dementia. A study published in the journal *Alzheimer's & Dementia* in 2021 analyzed the health data of middle-aged adults aged 45 to 64 over an 18-year period and found that persistent feelings of loneliness significantly increased the risk of developing Alzheimer's disease.

Simple Communication Technology Can Prevent Social Isolation

According to another study by Johns Hopkins University, older adults who weren't

socially isolated were found to be using communication technologies such as email or text messaging through a mobile phone or computer to interact with others. The study concluded that the risk of social isolation among these seniors was approximately 30 percent lower than among those who didn't have access to such communication technology.

Mfon Umoh, a postdoctoral researcher in geriatrics at the Johns Hopkins University School of Medicine, said she believes that the use of simple communication technologies can play a vital role in protecting older adults against social isolation, which is associated with significant health risks. Digital interactions, however, aren't a perfect replacement for face-to-face interactions.

Japanese Experts Recommend Methods to Prevent Dementia

Hideki Wada, an authority on psychiatry in Japan and professor of psychology at the International University of Health and Welfare, writes that to prevent dementia, one must find ways to activate the brain. But socializing isn't the only way to stimulate

the brain. There are many ways to prevent dementia, and the one he recommends most is learning.

As one ages, life can become boring. "For those who want to do something but have no way to start, I recommend studying from the age of 70," Hideki Wada said.

He said that starting to learn at the age of 70 isn't about getting into the school of your choice, nor is it about getting promoted, but rather about starting to learn without pressure and in a relaxed manner and being able to continue happily. He said he believes that learning is fun and that every day can be filled with happiness—which is the best way for seniors to spend their time.

Wada also said that it's very important to stay curious and keep oneself interested in new things.

For example, a new hobby such as knitting or gardening can stimulate the brain and body. Or one could learn to operate drones to experience new feelings or research history and culture that didn't use to be interesting.

Hidetoki Wada said: "I believe that curiosity is the best brain training. Feeling new stimuli every day is also a good way to relieve loneliness."

Dr. Ryoichi Nakahara, who holds a doctorate in surgery from the University of Tokyo, told *The Epoch Times* that as people age, physiological functions in all areas of the body gradually decline, including in the form of hearing loss, mobility problems, and loss of family and friends, which can make some people depressed and dispirited.

Some people adopt poor lifestyle habits when they feel lonely, such as smoking, eating junk foods, drinking alcohol, and prolonged sitting, which accelerate the aging process. These are also factors that lead to dementia.

Nakahara said that older people should have their own interests and hobbies and a disciplined lifestyle with persistent physical exercise. They can also go on trips to relax and participate in community activities to enrich their lives. All of these can effectively alleviate the feeling of loneliness and make them resilient against cognitive impairment.

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