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OVERTREATMENT

More Breast Cancer Screening May Not Save More Women

New guidelines that call for women as young as 40 to get regular mammograms may raise the risk of overdiagnosis and overtreatment, research suggests

By Emma Suttie

n May 9, a draft recommendation from the U.S. Preventive Services Task Force announced that women should begin screening for breast cancer at age 40 and every other year after that, which differs from their 2009 recommendation that women start screening for breast cancer a decade later, at age 50.

Dr. Carol Mangione, previous task force chair, said, "This new recommendation will help save lives and prevent more women from dying due to breast cancer."

The new guidelines raise the question of whether another decade's worth of mammograms—which involve placing the breast in a machine and pressing it with up to 45 pounds of pressure while subjecting it to ionizing radiation—is the best way to prevent more deaths from a disease that can be caused by exposure to radiation.

Does Mammography Lead to Better Outcomes?

A previous Epoch Times article titled "The Business of Breast Cancer: Mammogram Risks" reported on the risks of mammography, the studies that examine those risks, and the perspectives of some experts on the subject.

One of those experts was Dr. Michael Baum, a British surgical oncologist specializing in breast cancer treatment and one of the architects of the UK's national breast screening program, which opened its first center in England in 1987. Baum went from being one of the program's most adamant supporters to one of its most vocal critics.

He summarizes it this way in an interview from April:

"For every thousand women screened by mammography over 10 years, we will avoid one breast cancer death—note, I am not saying it will help them live longer—they will avoid one breast cancer death."

He calls the breast screening program [using mammography] a "courageous experiment" but says that "when the data changes, you must change your mind," adding that "the data no longer supports mammographic screening."

Accuracy

Mammography is touted by cancer groups, organizations, and associations *Continued on Page 3* ▲ Mammograms are indiscriminate. They detect cancers that present a risk, cancers that do not, and abnormalities that are not cancer at all.

OLIVER ROSSI/GETTY IMAGES

ZVONIMIR ATLETIC/SHUTTERSTOCK

Germany's Distinctly Different Approach to Health Care

Germany maintains its traditional medicinal practices, to the financial and physiological benefit of its people

By Alexandra Roach

"The doctor of the future will give no medication, but will interest his patients in the care of the human frame, diet and in the cause and prevention of disease."

This famous quote of inventor and businessman Thomas Edison may strike us as prescient given the explosion of information about the lifestyle factors of disease. In truth, preventive medicine was practiced in antiquity. The ancient Chinese, Egyptians, Greeks, and Romans all had what we would call preventive medicine.

Virtually every ancient civilization possessed early herbal medical knowledge and applied techniques to enhance and sustain health. Much of this knowledge has been lost, although there are some researchers who seek recover what has been forgotten.

In the meantime, we can learn from our nearer ancestors, from cultures that still practice traditional medicine, or by rediscovering the power of nature.

Germany's Unique Blend of Modern and Traditional

Germany is one of those nations that has managed to keep some traditional health knowledge and connected practices alive, including the work of polymath Hildegard von Bingen, a Catholic saint and doctor of the church who is also considered the founder of natural history in Germany.



Saint Hildegard von Bingen founded natural history in Germany. She wrote her work "Physica" under Greco-Roman influence in 1150–1158. Her writings include more than an encyclopedia of the natural world; the separately scripted "Causes and Cures" provides an extended meditation on the human body's connections to the natural world, causes and cures for disease, and insights humans can draw from God's creation.

The face and name of this doctor are now well-marketed on countless health products available for self-care. Germans still profit from the legacies of their forebears and attend to their own physical and mental health on a frequent basis

Continued on Page 8



MADE TO MOVE

Embrace the Benefits of Slow Jogging

This unique method of jogging can help you lose weight, and reduce blood pressure and blood sugar

By Amber Yang & JoJo Novaes

4 Kev

Elements of

Xu provided four

key elements of

slow jogging:

1.Land on the

the heel.

forefoot, then

2. Keep the knees

slightly bent

3. Strive for a light

landing with

minimal sound.

4. Maintain a short

stride and aim

for a frequency

of 180 steps

VECTORARTFACTORY/ SHUTTERSTOCK

per minute.

to maintain

elasticity.

Slow Jogging

Slow jogging, a low-intensity aerobic exercise that is easy on the knees, is suitable for people of all ages.

mother in her 70s—have experienced becomes shorter after increasing step significant improvement in mobility frequency, resulting in reduced im- ging. One student, weighing more by incorporating slow jogging into pact on the knees and minimal dam- than 176 pounds, suffered from obtheir routines. An 80-year-old man age to them. could even hold a plank after practicing slow jogging, and many others rate, and fat burning is maximized loss pills, teas, and going to the gym, terol, blood pressure, and blood sugar. On the program "Health 1+1," Taiwanese fitness coach Xu Dongying inincluding its ability to lower blood burning fat. pressure and blood sugar levels, aid in weight loss, and alleviate chronic Stabilizes 3 Highs. diseases. He also explained how to Reduces Chronic Diseases,

slow jog properly. Slow jogging originated in Japan as fessor Hiroaki Tanaka. By combining said Xu. Additionally, slow jogging the concepts of the "Daniels' Running releases dopamine, serotonin, and Formula" developed by Dr. Jack Dan- epinephrine, relieving constipation, her body and no longer fell. iels, Xu developed "rhythm slow jog-gout, and other issues. ging"—moving your body in sync like you are following a metronome.

Xu explained that at the beginin place and experience the body's 26 pounds, reduced her blood pres- heel pain? rhythm and then advance when footwork is stable.

Characteristics of Slow Jogging

easy to maintain.

He explained that one of the benefits help other kidney disease patients. Many individuals—even a grand- of slow jogging is that stride length

have lowered their three highs: choles- when the heart rate reaches 60 to 70 nothing worked until she started slow percent of the maximum heart rate jogging. She lost more than 66 pounds (calculated as 220 minus age). Slow in just four months, and her sleep apjogging aligns with this heart rate nea improved. In her testimonial, she troduced the benefits of slow jogging, range, making it highly effective for expressed that it was the first time she

Promotes Weight Loss Slow jogging helps with weight loss,

He shared the case of a 70-year- **Suitable for People** old woman who participated in his With Plantar Fasciitis training program. After half a year Is slow jogging suitable for individuning of the practice, you need to step of slow jogging, she lost more than sure from 160 to 110, and decreased her glycated hemoglobin level from 7.4 to 5.7.

Xu also mentioned a patient with Xu said that most people struggle to stage 3 kidney disease who initially stick with running habits because chose walking as an exercise regithey have difficulty establishing the men. Although her condition didn't right running frequency. Slow jogging worsen after four years, there was no is based on walking speed: 100 to 120 improvement. However, after starting steps per minute, but slightly faster, slow jogging in 2022, her kidney func-

reaching a frequency of 180 steps per tion gradually improved, and in Febminute. This pace isn't tiring, doesn't ruary, her kidney disease progressed Slow jogging cause excessive breathlessness, and is from stage 3 to stage 2. Her doctor was surprised and believed her case could

According to Xu, many individuals have lost weight through slow jogstructive sleep apnea due to being Fast running increases the heart overweight. Despite trying weightcould run for a full hour without feeling tired.

Xu also said that a 65-year-old woman with Parkinson's disease frequently experienced falls while walking. After muscle training and over two a form of exercise developed by pro- the three highs, and chronic disease, years of slow jogging, although her brain scans still showed signs of the disease, she gained better control over

als with plantar fasciitis or plantar

Xu shared that Chen Feng-hsin, a well-known Taiwanese financial program host, invited him to talk about slow jogging on her show. One of the staff members responsible for the recording had plantar fasciitis. After that episode, the staff member started practicing slow jogging. One year and 10 months later, when Xu was invited to the show again, he found that the staff member had lost more than 56 pounds and had fully recovered from plantar fasciitis.

Plantar fasciitis involves fibrosis in the back of the foot arch. Slow jogging, with the technique of landing on two points on the sides of the forefoot first and then on the heel, helps improve the flexibility of the plantar fascia, leading to the resolution of the condition.

Slow jogging isn't only suitable for older people but also for sedentary office workers. Xu suggested that office workers can jog slowly in place while watching TV after work. You can engage in this activity at home when it's too hot or rainy outside or when the air quality is poor.





Slow jogging is based on walking speed: 100 to 120 steps pe minute, but slightly faster, reaching a frequency of 180 steps per minute.



Slow jogging can boost weight loss and improve stamina. ELALA/SHUTTERSTOCK



FERTNIG/GETTY IMAGES

Slow jogging is

to keep your

blood sugar in a healthy range.

an effective way

Mammograms can't clearly see changes in breast tissue in women with dense breasts, and some say breast density makes mammography 50 percent less accurate.

OVERTREATMENT

More Breast Cancer Screening May Not Save More Women

Continued from Page 1

as "the gold standard" because it can or DBT) and use ionizing radiation to find breast cancer, which is thought capture images of the breast. The newer to save lives ultimately. But plenty of 3D version is what many women receive evidence suggests that mammograms today. However, despite all our technoare inaccurate; they can miss the logical advances, it delivers more radiafast-growing, aggressive cancers they tion to a woman's breast than the older should discover and find some cancers 2D variety. they shouldn't, such as DCIS, or ductal carcinoma in situ.

cells localized in a single duct or ducts raphy. This higher dose is within FDA in the breast. It's slow-growing and develops into cancer in only about 20 percent of women. Many women are unaware of this type of cancer and aren't told all the details if diagnosed. A DCIS diagnosis often results in treatments that may be unnecessary. DCIS was rarely diagnosed before the advent of breast screening, and 60,000 women are now diagnosed annually in the United States.

In an interview from December 2016, Dr. Otis W. Brawley, chief medical and scientific officer of the American radiation than fatty breast tissue, putting Cancer Society, stated: "In the best of women with dense breasts at higher risk circumstances, the studies show that of breast cancer. mammography decreases the risk of death by 20 to 30 percent. That means it does not benefit 70 to 80 percent of the women that need a test that saves their lives."

A page on the American Cancer Society's website called "Limitations of Mammograms" states, "Overall, screening mammograms miss about 1 in 8 breast cancers." The page also says, "About half of the women getting annual mammograms over a 10-year period will have a false-positive finding 43.3 percent of U.S. women aged 40 to at some point."

Radiation

Breasts are the most sensitive tissues in a woman's body and are highly vulnerable to radiation. In fact, Cornell University's Program on Breast Cancer and Environmental Risk Factors states that thor of a study published in Radiology, your picture taken. "the female breast is known to be highly "Mammographic sensitivity for breast susceptible to the cancer-causing ef- cancer declines significantly with in- invasive complementary and alternafects of radiation when exposure occurs creasing breast density (48 percent for tive medical imaging practice, is one of before menopause.

Mammograms direct radiation di- Kolb said that the "addition of screenrectly at the breast and sometimes the ing [ultrasound] significantly increases vital organs beneath it, such as the heart and lungs.

ish Journal of Cancer in 2012 followed menopausal women have breasts dense more than 500,000 women from 1973 to enough that a mammogram will miss 2009. The study found that women who their breast cancer," Kolb said. had received radiation treatment for breast cancer (high-energy X-rays) had a significant increase in heart disease predictors of the failure of mammograand lung cancer decades after their physcreening to detect breast cancer." treatment.

The study demonstrates a progres- Overdiagnosis, Overtreatment, sive increase in risk and mortality from **and Incorrect Diagnosis** radiation-related heart disease and One of the biggest concerns with the lung cancer with time—into the third prevalence of mammography is over- eight to 10 years before we see a decade—after radiation exposure.

The Susan G. Komen website states, "DBT may give a slightly higher radia-DCIS is the presence of precancerous tion dose than standard 2D mammogguidelines, though.'

Breast Density

Another factor affecting a mammogram's accuracy is the density of a woman's breast. Some women have more fatty tissue in their breasts, and some women's breasts are more dense. Mammograms can't clearly see changes in breast tissue in women with dense breasts, and some say breast density makes mammography 50 percent less accurate. Also, dense breast tissue absorbs significantly more

Mammograms can detect abnormalities that may not be cancer or cancers that may have regressed on their own.

A study published in the Journal of the National Cancer Institute found that 74 have dense breasts. There are four C (heterogeneous), and D (extreme).

ing breast cancer and was the lead authe densest breasts)." In the same study, detection of small cancers."

"Two-thirds (66 percent) of premeno-A cohort study published in the Brit- pausal women and 25 percent of post-

"Breast density is one of the strongest

diagnosis. Mammograms can detect mass," Migalko said.

Mammograms can be in 2D or 3D abnormalities that may not be cancer (called digital breast tomosynthesis, or cancers that may have regressed on their own. These abnormalities are often treated with chemotherapy, radiation, and surgery without knowing whether they would have ever become clinically significant.

As the evidence has accumulated, overdiagnosis is now considered the most severe consequence of populationwide screening with mammography.

An abnormality detected by mammography is usually treated with a biopsy, which removes cells from the area in question and looks at them under a microscope. A study published in the American Journal of Roentgenology states, "More than 1 million breast biopsies are performed every year in the United States, and approximately 75 to 80 percent yield a benign outcome."

Incorrect diagnosis is also an extremely unpleasant side effect of mammography, as are the resulting biopsies if abnormalities are found. In fact, according to a Susan J. Komen white paper from June 2006, "More than 90,000 people currently living with breast cancer may, in fact, be living ... with an incorrect diagnosis."

A Better Alternative

Many other noninvasive screening options for preventing and detecting breast cancer are discussed in our previous article "Finding Breast Cancer-Low-Risk Early Detection Tools You May Not Know About." They include thermography and multiple blood tests to detect cancer cells before they coalesce into a tumor.

Thermography uses an infrared camera to detect heat on the skin's surface. levels of breast density, according to Ar- It can see variations in temperature and eYouDense.org: A (fatty), B (scattered), increased heat that can point to various stages of breast disease. Unlike mam-According to Dr. Thomas Kolb, who mography, there is no compression, specializes in detecting and diagnos- no radiation, and the machine doesn't touch the body. It's as simple as having

Dr. Galina Migalko, who runs a nonthe few doctors in the nation who does thermography and ultrasound side-byside. Based on her clinical experience, she said that ultrasound can give up to 90 percent accuracy, but the combination of thermography and ultrasound is between 95 and 99 percent accurate.

Part of the reason this combination of screening is so effective is that it uses According to AreYouDense.org, two types of tests. An ultrasound is an anatomical test, a test of structure, while thermography is a test of physiology, of function. Together, they make a powerful team and can detect breast changes many years before a tumor develops.

"Thermography can see problems



Mammograms have been touted as the gold standard but other screening options are available.



Two-thirds (66 percent) of premenopausal women and 25 percent of postmenopausal women have breasts dense enough that a mammogram will miss their breast cancer. SOURCE: DR. THOMAS KOLB, BREAST CANCEF SPECIALIST



Breast cancer cells can be found using thermography and ultrasound with significant accuracy.





AMERICA The FLUORIDATED

PART X HOW TO REDUCE FLUORIDE EXPOSURE AND TOXICITY

Take steps to get fluoride out of your life and body while maintaining healthy teeth

By Christy Prais

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

Previously: The National Toxicology Program's six-year systematic review on the neurotoxic effects of fluoride has been heavily delayed and mired in government interference and controversy.

nding effective ways to reduce fluoride toxicity has become important to many people because of mounting scientific evidence of possible health effects from

Industrial fluoride is added to 75 percent of the U.S. water supply and also contaminates our air, soil, and food. It's also added to pharmaceuticals and dental products. The accumulation of fluoride in our bodies can cause damaging health effects.

The Epoch Times spoke to Richard Sauerheber, a research scientist and former National Institutes of Health principal investigator, to find out what we can do to minimize exposure and reduce toxicity. He has published 65 papers and books, including six on fluoride toxicology, and has done extensive research on the chemistry of fluoride and best practices for reducing toxicity, minimizing exposure, and removing it from tap water.

Sauerheber also petitioned the Food and Drug Administration to ban fluoridation, but the agency ruled that it's the responsibility of the Environmental Protection Agency under the Toxic Substances Control Act.

The Chemistry of Fluoride Toxicity

Sauerheber says that understanding the chemistry behind industrial fluoride is crucial to comprehend its increased toxicity and minimize its harmful effects.

His 2013 study in the Journal of Environmental and Public Health, "Physiologic Conditions Affect Toxicity of Ingested Industrial Fluoride," highlights that the toxic effects of fluorides vary based on factors such as water mineral content, diet, and the solubility of fluoride.

Natural calcium fluoride (CaF2) he says, is less soluble than industrial fluoride. This means that only a small amount of fluoride

Ingesting soft fluoridated water results in a higher blood fluoride level compared to ingesting hard fluoridated water with the same fluoride concentration of 1 ppm.

Richard Sauerheber research scientist

U.S. WATER

SUPPLY

75 percent of the U.S.

water supply con-

tains industrial fluo-

ride which also con-

taminates the air, soil,

and food produced in

America.

is naturally released in groundwater, leading to lower absorption and a relatively lower dose.

In contrast, synthetic fluorides such as fluorosilicic acid (H2SiF6), which is added to the U.S. water supply, are fully soluble. The greater solubility of synthetic fluorides allows for more fluoride to be absorbed, potentially leading to increased toxicity due to the higher dose available. Sauerheber's study explains.

Neutralizing Effect of Calcium

In addition to solubility, Sauerheber stresses, fully soluble synthetic fluorides are more toxic due to the absence he explains. of natural mineral cations (a positively charged ion), particularly calcium.

Unlike natural calcium fluoride, synthetic fluorides lack calcium and act as calcium chelators, which means they bind strongly to calcium in certain tissues. "This binding disrupts various biological processes and contributes to toxicity," Sauerheber said.

Sauerheber emphasizes that calcium plays a crucial role in minimizing fluoride assimilation and acts as an antidote to accidental acute fluoride poisoning by counterbalancing or neutralizing its toxic effects after ingestion.

While a calcium-rich diet or calcium supplements can help reduce fluoride toxicity, excessively high levels of dietary calcium can lead to arterial calcium deposits.

Long-term use of additional dietary calcium should only be considered if one's blood level of calcium was measured at below normal and only after dietary adjustments weren't successful. Normally, a good diet supplies daily calcium needs, Sauerheber explained.

Hard Water Versus Soft Water

According to Sauerheber, the toxicity of fluoride is also influenced by whether for home use.

fluoridated water is found in a soft-water or hard-water region.

Soft water, which is low in minerals such as calcium, offers less protection against fluoride toxicity.

In contrast, hard water, rich in calcium, magnesium, and other minerals, provides some defense by decreasing the mobility and chemical potential of fluoride and reducing the absorption or assimilation of fluoride, he noted.

"Ingesting soft fluoridated water results in a higher blood fluoride level compared to ingesting hard fluoridated water with the same fluoride concentration of 1 ppm," Sauerheber's study notes.

Water Fluoride Removal

One of the principal ways to reduce fluoride exposure in fluoridated areas is by removing fluoride from both drinking and cooking water. While standard filtration methods, such as activated carbon, are ineffective, there are several alternatives available.

Reverse Osmosis (RO): In his research, Sauerheber found that older RO systems fail to eliminate fluoride, despite manufacturers' claims. He says this is because of the filtration pore size and flow rate of water.

Because the fluoride ion is about the same size as a water molecule, the pore size must be small enough to block the ion while sufficient water pressure is applied to squeeze the oblong water molecule through it, achieving separation,

Sauerheber said that newer high-pressure systems have a pore size of approximately 0.27 nm, effectively eliminating fluoride even after long-term use.

He says the GE Profile and Costco systems both effectively removed fluoride even at the five-year mark before filter replacement. The only drawback, he notes, is there is wastewater with the RO system process, but for drinking and cooking water, this loss is acceptable.

Deionization

Deionization filters can remove fluoride but must have an "ion exchange resin." In order to do so, it needs to be monitored continuously to determine when to replace it, and it's an expensive alternative.

Distillation

Water distillation removes fluoride, but it also eliminates essential minerals. Remineralization can be done using mineral drops designed for distilled water.

Bone Char Filters

Under-sink de-fluoridation char filters made containing char made in Scotland are effective, he says, but unfortunately, there is currently a shortage of these filters

Filters to avoid

minum-based whole-house fluoride chair of the board of directors of the Infilters remove fluoride well for a while, ternational Academy of Oral Medicine they contain aluminum hydroxide and and Toxicology, who has been a practicdegrade quickly in areas with highly al- ing biological dentist for 46 years, says kaline water. Sauerheber warned that the answer is yes. this can cause a leakage of aluminum

approached with caution, as their effec- cal terrain. tiveness isn't guaranteed, he pointed out. Kall explains that one of the major and other beverages, but their use requires calibration and salts that prevent ionic strength effects on readings and must be used on water that isn't acidic.

Can We Detox From Fluoride Exposure?

Sauerheber says the most effective step is to stop consuming fluoridated water. This will help eliminate the fluoride stored in soft tissues, which are able to detoxify much quicker than bone, he notes.

His study reveals that it can take people approximately 20 years to reduce fluotransitioning from a fluoridated to a non-fluoridated water region.

Iodine and Fluoride Toxicity

In addition to calcium, the toxicity of fluoride also depends on our iodine levels. Those with iodine deficiencies will experience more toxic effects from fluoride. While iodine is critical to normal thyroid function, fluoride has been used in the past to suppress thyroid function.

According to a 2022 study published *cated to health and wellness. Prais* in Nutrients, "Iodine is one of the most also serves on the advisory board at common nutrient deficiencies and is the Fostering Care Healing School. estimated to affect 35-45 percent of the She is a contributing journalist for world's population."

Dr. David Brownstein notes in a recent interview with Dr. Ron Ehrlich that not all iodine supplements are created equal. After extensive research, he found that Lugol's iodine, which is a combination of iodine and iodide, was most effective. Sauerheber warns that although some doctors claim that iodine administration can remove some fluoride from the body, too much can have negative effects.

Because of this, testing and medical supervision are advised, as trying to clear out too much fluoride at once could elevate

toxins in the blood to dangerous levels.

Look Mom, No Fluoride!

So can we prevent tooth decay and cavities without fluoride?

In a recent interview on "Discovering Sauerheber cautions that although alu- True Health," Dr. Jack Kall, executive

A biological dentist approaches denin combination with fluoride, which has tistry in a holistic way and looks for significant adverse effects on the brain. the least toxic form of treatment with Also, filters made in China should be the least impact on a patient's biologi-

A fluoride meter can help with both test-root causes of tooth decay and cavities is ing the effectiveness of a water purifica- oxidative stress. Oxidative stress stimution system and knowing when a filter lates the immune response and causes needs changing. It can also determine allergic diseases, such as asthma, althe fluoride level in retail bottled waters lergies, and dermatitis, and affects the health of our teeth

> "There are many variables within the root cause of dental issues," Kall said Our diet and lifestyle can cause or reduce oxidative stress, he notes, and one of the first things he addresses with a patient with dental issues is their diet. Things to avoid to reduce oxidative

> stress are sugars, chemicals from different sources, pesticides, heavy metals, and food additives. Kall also stresses that lifestyle choices

that shift our nervous system from the sympathetic to the parasympathetic can also greatly reduce oxidative stress, which in turn improves our dental ride levels in their bones by half after health. Some of these include physical exercise, meditation, grounding, and acupuncture, he notes.

This concludes our series: America the Fluoridated

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 dedi-The Epoch Times.

Correction

In the May 31 article in this series, The Epoch Times incorrectly described the disclosure status of members and agencies involved in a final review of the National Toxicology Program's fluoride toxicity report. During court proceedings, the names of the working group adjudicating comments were disclosed but the names of specific agency staff making comments on the report were not disclosed. The Epoch Times regrets the error.

AVOIDABLE SOURCES OF FLUORIDE

While fluoride in the air and soil can be difficult to avoid. there are other sources that we can exercise some control over.

FOOD Even if you filter your drinking water, "it is nearly impossible to prevent significant fluoride ingestion in a treated city because fluoridated water is used in food preparation," cautions research scientist Richard Sauerheber.

For example, his study notes that total daily ingestion from prepared foods can bring the exposure level in a 120-pound (54 kilogram) individual to 2.7 mg, which is above levels assumed safe.

While we can't avoid all exposure from food and other sources, there are some foods that contain higher amounts that we can avoid or minimize.

Some of the highest food sources of fluoride include teas processed deboned chicken, infant formula, grapes, and grape products, commercial beverages such as juice and soft drinks, some bottled water brands, beer, soups, canned fish. cooked wheat cereal, and some kinds of seafood.

Teas and juices can be two of the highest sources, although some types rank higher than others.



concentration of fluoride. All samples tested contained fluoride amounts ranging from 0.521 to 6.082 mg/L.

air and soil and most of this fluoride accumulates in the leaves. In tea, soil quality and region play a key role in fluoride

A 2021 study done to compare fluoride levels in commercially available black tea, green tea, and matcha tea in the United States found matcha green tea powder had the highest

levels.

The study looked at three black teas (Bigelow Earl Grey, Twinings of London Lady Grey, and Lipton), two green teas (Bigelow and Lipton), and three matcha teas (Mighty Leaf, Celestial Seasonings, and Matcha Love).

JUICE

It's been found that juices in the United States can have fluoride concentrations from 0.15 to 6.80 mg/L.

A 1991 study examined 43 ready-to-drink fruit juices and found 42 percent of the samples had more than 1 ppm of fluoride.

It also found that "pure" fruit juices, mostly grape juices, contained high levels of fluoride, and juice made from grapes separated from the skin didn't contain any fluoride. This is thought to be from the use of fluoridecontaining insecticides.



MEDICATIONS Many pharmaceuticals also contain fluoride. More than 300

fluorinated pharmaceuticals have been approved for use as drugs to date. Sauerheber notes that

because all fluorinecontaining pharmaceuticals have carbon-fluorine (C-F) bonds, drug fragments accumulate in tissues because the liver can't metabolize C-F bonds well. He said that drugs intended for lifelong ingestion such as some statins are of particular concern.

Also, general anesthesia can contain very high amounts of fluoride but there are fluoridefree options on the market that can be requested before a procedure.

Fluoride Toxicity Research Collaborative is a great resource that maintains a database of all fluorinated pharmaceuticals.



recommends using a hydroxyapatite-based toothpaste as an alternative to a fluoridated option.

He notes in his study that "fluoride from foods, water, and toothpaste causes fluoride to accumulate into bone to 2,000 milligrams/kilogram in about 20 years in most consumers. a level associated with weakening of bone, making bone more subject to fracture."

Hydroxyapatite (HA) is the main component of enamel and a 2022 study shows that hydroxyapatite particles have been shown to deposit and restore demineralized enamel surfaces and are superior or equivalent to fluoride toothpaste as anti-caries agents.



filter out fluoride

The Miraculous IMMUNE SYSTEM

PART X BONE MARROW, THE ORIGIN OF OUR IMMUNITY

Bone marrow creates most of our blood, including our critical immune cells

In this series, "The Miraculous Immune *System,"* we explore the true power of immunity and the organs that work tirelessly to protect the body.

Previously: Strategies to slow down the atrophy of the thymus can protect and preserve its function for long-term benefits.

By Makai Allbert & Yuhong Dong

ou may be amazed by how many types of immune cells your body has and how well they work together. You may L also wonder where those immune cells are created and may be surprised to learn that they originate in the

bone marrow. Picture a bustling city inside your bones, where billions of cells work tire-

lessly to create the building blocks of life, including blood. Wel-

come to the municipality of bone marrow!

Bone marrow is a soft and vital tissue respon-

sible for the continuous production of the blood cells that nourish and protect the body. Bone marrow has essential functions and a remarkable structure, but surprising new research reveals there are alternative sources of blood production.

Our Largest Blood Manufacturing Factory

Constituting about 4 percent of our body weight, bone marrow is a soft, jelly-like tissue built upon long trabeculae, which are beam-like structures. Although highly vascular like the spleen, another blood production organ, bone marrow enjoys the protection of a hard outer shell of bone.

Bone marrow can regrow and regenerate, hinting at its critical role in blood generation and immunity.

There are two types of bone marrow: red and yellow. Red bone marrow is the "active" factory. Yellow blood marrow is mainly composed of fatty tissue and is normally dormant.

At birth, all bone marrow is red. During early adulthood, red marrow decreases and is replaced by

yellow marrow until age 25, when yellow marrow becomes more prevalent.

The Roles of Red and Yellow Bone Marrow

Red bone marrow ceaselessly produces almost all the various types of blood cells required by our body. A rich blood supply guarantees the smooth influx of nutrients and the outflow of mature blood and stromal cells capable of

> Our bones are not a static skeleton, they are a dynamic organ playing complex and crucial roles producing several critical cells types.

Bone marrow can regrow and regenerate, hinting at its critical role in blood generation and immunity.

The strength of our immune system begins in our bones.

developing into multiple types of cells. Bone marrow stromal cells have the ability to differentiate into various connective tissues such as cartilage, bone, fat, muscle, endothelial cells, and fibroblasts. This has potential applications in regenerative medicine.

Red bone marrow is busy. Our blood cells die constantly. White blood cells, or lymphocytes, usually live a few hours to a few days; platelets survive for about 10 days; and red blood cells hold out for approximately 120 days.

these cells to maintain adequate levels. In adults, virtually all red blood cells and platelets are produced in the red bone marrow, along with 60 to 70 percent of all lymphocytes, the rest of which reach maturity in the thymus, spleen, and lymph nodes.

Incredibly, more than 2.5 billion new red blood cells, 1 billion new granulocytes, and 2.5 billion new platelets per kilogram of body weight are released into the blood by the bone marrow on a daily basis.

In adults, red marrow is predominantly located in bones such as the vertebrae, hips, sternum, ribs, and skull and

> the ends of long bones such as the humerus, femur, and tibia; vellow marrow fills the remaining spongy bone and central cavities of long bones.

Yellow bone marrow serves as a storehouse for fats, supplying nutrients to the red marrow while maintaining an optimal environment for bone marrow function.

Bone Marrow's Superstars

The bone marrow houses stem cells, which possess the ability to turn into two main cell lineages: myeloid and lymphoid.

most of the white blood cells (e.g., monocytes, neutrophils, basophils, eosinophils, and dendritic cells), red blood cells, and megakaryocytes, cell. Cytotoxic T cells can also kill forwhich are the source of platelets.

The smaller lymphoid lineage gives rise to lymphocytes, including T cells, B cells, and natural killer cells-key warriors of the immune system.

Operatives of the Immune System

There are a variety of powerful immune cells released from the bone marrow, including neutrophils, eosinophils, master cells, basophils, monocytes, natural killer cells, and B and T lymphocytes. Each cell is like a soldier possessing

specialized skills to fight against vi-

ruses, germs, and cancer cells.

Cells Derived From the Myeloid Lineage

Neutrophils are the most abundant type of white blood cell and are produced very quickly. They make up about 60 to 70 percent of white blood cells circulating through the body. They are the first responders to infections and play a police-like role in innate immunity.

Eosinophils are very effective in fighting against parasites. Parasites are Bone marrow continuously replaces multicellular organisms that immune cells have difficulty swallowing. However, rather than swallowing parasites, eosinophils attack them by releasing chemicals that penetrate their cell membranes. In addition, eosinophils trigger inflammatory reactions in the body by releasing chemicals and are common factors in allergic reactions.

> Mast cells play an important role in inducing the inflammatory cascade and releasing inflammatory mediators. After arising in the bone marrow, they circulate and reside in connective tissue in virtually every organ in the body. They cause the first wave of allergic reactions. Basophils create the second wave, releasing inflammatory substances such as histamine. Along with mast cells, basophils are responsible for immediate hypersensitivity, causing discomfort of

various kinds. Monocytes account for 5 percent of circulating nucleated cells in normal adult blood. They can differentiate into macrophages and dendritic cells. Monocytes have two distinct roles, one of which is to regularly patrol the body for pathogens; the other is to orches-

trate an immune response to infection and inflammation.

Macrophages can engulf pathogens in large numbers and are better than neutrophils at attacking pathogens and can do so for longer.

After macrophages and dendritic cells swallow a pathogen, they will analyze it and pass the relevant information to the acquired immune system for further action. They are the "messenger" between the innate and acquired immune systems.

Although their functions are similar, they have their own strengths. Macrophages are stronger in phagocytosis (engulfing and digesting particles), and dendritic cells are better at analyzing and transmitting information, like "signalers."

Natural killer cells are also part of the advanced troops, the vanguard and front line of the natural immune system, mainly responsible for killing virus-infected cells and mutated cancer cells in the body.

Cells Derived From the Lymphoid Lineage

T cells are an important and diverse group of lymphocytes that play a key role in the adaptive immune response. Generally, there are two major types of T cells: helper and cytotoxic. The former aid other immune cells, and the latter kill virally infected cells and tumors.

T cells have many receptors on their surfaces and can bind only to one shape of antigen. An antigen is a substance capable of inducing an immune response found on normal cells in the body and The larger myeloid lineage forms on viruses, bacteria, and tumors.

When a T cell receptor fits with its viral antigen on an infected cell, the cytotoxic T cell will releases cytotoxins to kill that DESIGNUA/SHUTTERSTOCK



Bones have blood vessels that feed into and out of their interior where red bone marrow creates the many kinds of cells we need in our blood, including immune cells.

eign and cancer cells.

B cells are also lymphocytes. What makes B Cells unique is that they produce the potent and specialized weapons that the immune system has at its disposal: antibodies. They are like weapon factories. Antibodies are crablike snipers.

All these special soldiers originate from bone marrow, demonstrating its critical role in the body.

An Unexpected Blood

Cell Factory

One might naturally assume that the bone marrow is the sole site that generates blood cells, including the precursors of T and B cells, before they mature in the thymus or spleen.

However, this is only part of the picture, as emerging research has revealed a mind-boggling array of sometimes unexpected blood makers.

We already know that before birth, the liver is the primary site for blood cell production until the third trimester of gestation, when the marrow takes over. We also know that the spleen creates blood cells during gestation.

But in 2019, scientists from the Columbia Center for Translational Immunology at Columbia University, found a surprising new source of blood cells in the human body, according to a paper published in Cell Stem Cell.

During intestinal transplants, the researchers made an unexpected observation: The transplant recipients began to display the donor's blood cells in circulation. This phenomenon, blood with two different sets of DNA, is known as blood "chimerism."

The presence of donor lymphocyte phenotypes indicated the involvement of hematopoietic stem and progenitor cells (HSPCs). Surprisingly, the researchers observed the presence of donor-derived HSPCs within the intestinal mucosa.

It appears that the intestines have a unique ability to produce blood cells. This was demonstrated when the donor's blood-generating stem cells were discovered not just in the mucosa of the transplanted intestine, but also in various other parts of the recipient's body, including the small intestine, liver, and lymph nodes.

The blood cells generated from the transplanted intestines were then distributed to the recipient's body.

Furthermore, the blood cells derived from the donor tissue appeared to have been educated by the transplant recipient to not attack the recipient's body; likewise, the recipient's immune cells were also educated to be tolerant of the donor's tissues.

This indicates communication between the two sets of blood cells to be friendly with each other. The patients with more donor blood cells had lower organ rejection rates.

Both interesting innovative studies may shed light on a new strategy for managing rejection after organ transplantation.

Gut Bacteria Help Generate Blood Cells Neutrophils, critical soldiers in the battle against harmful germs in our bodies, have traditionally been understood to be produced in the bone marrow.

However, a recent study conducted by Japanese researchers at Hokkaido University uncovered a fascinating connection between our gut and the production of neutrophils; when levels of these essential blood cells are low, the complex ecosystem of gut bacteria steps in to help generate more.

These findings uncover an interaction between the gut microbiota and the production of granulocytes (the most common type of white blood cell), suggesting novel ways to recover from neutropenia, an abnormally low level of neutrophils. Scientists have also summarized how our neutrophils and gut germs talk to each other at a molecular level.

The gut, once again, proves to be a remarkable source of potential health benefits, including blood generation for the body. This supports the traditional Chinese medicine theory that the blood is not only produced by the bone marrow, but also originates in the gut.

In summary, as one of the most protective organs in the immune system, bone marrow takes the lead in the production of all types of blood cells. However, the marrow is not alone, as it has secret support from the gut and its coexisting bacteria.

Next Week: How to safeguard and optimize marrow's health in the face of diseases that can afflict bone marrow.



LONG-COVID

Study: Replacing Lost Bacteria Alleviates Long COVID

Bifidobacteria pill led to improvement in gut symptoms, fatigue, concentration, and memory

By Amy Denney

A novel mixture of Bifidobacteria species taken as a pill was effective at alleviating several symptoms associated with postacute COVID-19 syndrome (PACS), or long COVID, according to a Hong Kong study shared at the recent Digestive Disease Week conference in Chicago.

Shared as a poster presentation, the study abstract validates previous research demonstrating that COVID-19 infections—and potentially the mRNA vaccines—may be depleting our Bifidobacteria levels. Another possible explanation is that preexisting low levels of Bifidobacteria may cause worse or lingering cases of infection.

The study included 463 subjects who had at least one of 14 common long-COV-ID symptoms four months after infection. Subjects were randomized and assigned either to receive an oral placebo or the oral microbiome formula called SIM01 for six months.

Authors said it's the first randomized controlled trial that shows modulation of the gut microbiome—our symbiotic col- ing the formula had a greater abundance Epoch TV's "American Thought Leaders." lection of trillions of bacteria, viruses, and fungi-can alleviate gastrointestinal and neuropsychiatric symptoms associated with long COVID.

SIM01 contains probiotics from the Bi-

SLEEP WELL

resistant dextrin, a soluble fiber. Fiber is a prebiotic, the food necessary for probiotics such as Bifidobacteria strains to metabolize and proliferate, and is often used in conjunction with probiotics.

After six months of treatment, the patients taking SIM01 had better improvement in symptoms of fatigue, memory loss, difficulty concentrating, digestive problems, and general unwellness than the control group. SIM01 isn't commercially available. An-

other Hong Kong study published in early 2022 used SIM01 for 28 days on 25 hospitalized patients, and it sped up antibody formation against the SARS-CoV-2 virus. The study also reported a reduced nasopharyngeal viral load, reduced proinflammatory immune markers, and resolved gut dysbiosis, which is an imbalance of the microbiome.

Published in the Journal of Gastroenterology and Hepatology, the study used 30 patients as the control. Stool samples ana-fidobacteria levels by half, something Dr. lyzed from the patients who took SIM01 Sabine Hazan, gastroenterologist and CEO and 10 control patients showed those takof the strains of Bifidobacteria in their stool at weeks four and five, as well as an enrichment of commensal bacteria and lower levels of pathogens.

fidobacteria strains galactooligosaccha- year in Nutrients demonstrated that it can infection and reduce the COVID-19 rides and xylooligosaccharide, along with reduce adverse health outcomes in the death rate.

elderly and patients with Type 2 diabetes by reversing dysbiosis, which is a common biomarker for long COVID.

Bifidobacteria are foundational to immunity and are believed to have many health-promoting properties such as strengthening the intestinal barrier, stimulating hormones, and keeping inflammation at bay. They are among the first bacteria to form the immune system in newborns.

A 2021 study on the lost microbes of COVID showed low bacterial diversity and depletion of Bifidobacterium genera either before or after infection was associated with reduced immunity and increased likelihood of symptomatic infections. Bifidobacteria was known to help reduce colds and influenza, even prior to the pandemic.

In November 2021, a study published in the International Journal of Immunopathology and Pharmacology reported that 44 patients with moderate to severe CO-VID-19 infections who were given supplements with Bifidobacteria had reduced mortality and a shorter hospital stay.

A healthy gut microbiome plays an important role in battling viral attacks on the body, and it's increasingly clear COVID-19 causes dysbiosis and prolonged symptoms associated with the microbiome. However, the vaccinations may be no better in protecting against microbiome damage. One preliminary study suggests messenger RNA vaccines may also reduce Biof Progenabiome, discussed at length on

Hazan and other researchers suggested in an April 2022 BMJ Open Gastroenterology study that individual stool microbiome analyses could be used as Another study of SIM01 published this a tool to predict vulnerability to severe

Deep Sleep May Lower Alzheimer Memory Loss

New study finds that older people that sleep well are less affected by key Alzheimer's pathology

People who show

the pathology of

Alzheimer's disease

sleep well.

By Sarah Cownley

Older adults who struggle with memory loss, cognitive decline, and Alzheimer's disease can find hope in the power of sleep. Recent research suggests that deep, non-REM sleep may provide protection against Alzheimer's disease, an all too common form of dementia.

Those results could prove to be a beacon of hope for sufferers and their families as they look for ways to stave off symptoms and live fuller lives.

Deep sleep, known as non-REM slow wave sleep, has been found to increase resilience against a protein in the brain called beta-amyloid that has been linked to dementia and other brain disease. While disrupted sleep has previously been associated with the accumulation of beta-amyloid protein in the brain, a new study from the

that significant amounts of deep, slowwave sleep can help protect against memory decline in those with high amounts of tron emission tomography (PET) scans this Alzheimer's disease pathology.



Unfortunately, the number of disease is expected to grow amyloid plaque deposits. as the baby boomer generation ages. Statistics show that progressive disease. In light of these sobering statistics, there is an urgent need for more research and support to help those affected by Alzheimer's disease and their families.

are less likely to show For this new study, researchsymptoms if they ers examined data from 62 older adults who were not diag-CSA IMAGES/GETTY IMAGES nosed with dementia. All par-University of California-Berkeley suggests ticipants slept in a lab while researchers troencephalography (EEG) machine. Posi-

beta-amyloid deposits in the participants' brains. Half of the participants had high amounts of amyloid deposits, while the other half didn't.

After waking in the morning, all participants were required to complete a memory task involving matching names

Researchers found that those with high amounts of beta-amyloid deposits in their brains who also had higher levels of deep sleep performed better on the memory test than those with the same amount of deposits but who didn't get proper sleep. people affected by Alzheimer's This boost was only found in those with

In the group with no pathology, deep sleep wasn't found to add any additional roughly 1 in 9 people over the supportive effect on memory. This meant age of 65 currently have this that deep sleep could help blunt some of the detrimental impacts of beta-amyloid pathology on memory.

"Think of deep sleep almost like a life raft that keeps memory afloat, rather than memory getting dragged down by the weight of Alzheimer's disease pathology," said Matthew Walker, senior author of the study. "It now seems that deep non-REM sleep may be a new, missing piece in the explanatory puzzle of cognitive reserve. This is especially exciting because we can monitored their sleep waves with an elec- do something about it. There are ways we can improve sleep, even in older adults."

were also used to measure the amount of Republished from BelmarraHealth.com



TRADITIONAL MEDICINE

Germany's Distinctly Different Approach to Health Care

Germany maintains its traditional medicinal practices, to the financial and physiological benefit of its people

Continued from Page 1

A look overseas could prove valuable to Americans' health and wallets.

Homeopathy and Phytotherapy

Homeopathy, phytotherapy, and anthroposophy are acknowledged and approved ways of healing in Germany. The German Parliament revised its alternative health care laws with the Pharmaceutical Rights Bill in 1976. A pharma-

cist may dispense and sell alternative medicine, which is widely used. The Federal Institute for Drugs and Medical Devices, Germany's equivalent to the U.S. Food and Drug Administration (FDA), regulates these drugs. As of 2023, this agency has approved 1127 homeopathic drugs, 916 phytopharmaceuticals (plant-derived medicines), and 989 anthroposophics as special therapies and traditional remedies. A study published in BMC Health Ser-

lovers can find hydrotherapeutic

arm baths and wading pools all over Germany.

Today, nature

vices Research found that "herbal medicine usage plays an essential role in the German health-care system." Based on the premise of pluralism in pharmacotherapy, the German Medicines Act explicitly postulates that the characteristics of the "particular therapeutic systems" are to be respected.

As a comparison, the FDA hasn't approved any homeopathic drugs. On the contrary, the U.S. agency warns patients about this alternative approach to medicine and of the potential for significant patient harm. This is despite international studies supporting the cost savings of homeopathy treatments compared with pharmacological therapy.

For instance, a comparative study published in the journal Homeopathy in 2009 found that "costs for patients affected by chronic asthma showed a reduction in expenses of 71.1 percent for specific medicines" and that "for other respiratory illnesses the cost cutback was up to 49.8 percent" during research conducted in Italy.

In France, a larger-scale study published in Health Economics Review in 2015 found savings of 20 percent when using homeopathic general medicine, which included the cost of consultations and prescriptions.

Balneotherapy

The U.S. Army's Research Institute for Environmental Medicine funds a Thermal and Mountain Medicine Division. In part, its purpose is to research the enhancement and sustainability of warfighter performance. This approach isn't new. Romans sent their wounded soldiers and fatigued legionaries to their Roman Thermae to treat their wounds and tired muscles through natural spring water. In A.D. 400, Romans operated 11 public bathhouses and 850 additional private baths just within city limits.

Germans keep this healthy tradition of balneotherapy alive. The country has more than 240 of these therapeutic mineral pools.

The Federal Office for Radiation Protection lists several therapeutic values of radon therapy. There are multiple applications of this therapy, such as big therapeutic radon caves and salt mines. The most popular and widely accessible form, though, is public bathhouses; there are thermal baths with natural brine and radon.

Radon is by far the largest natural source of background radiation that people are exposed to, notes a research review published in the International Journal of Molecular Science. The study notes risk associated with too much radon exposure and studies revealing its therapeutic potential.

A study published in The Polish Otolaryngology found that the therapy had notable benefits.

"Radon-enriched inhalation therapy improves objective indicators of nasal function in allergic rhinitis and chronic rhinosinusitis, and causes relief of pulmonary obstruction in asthma," it stated.

Radon baths treat rheumatic conditions and respiratory diseases. Thermal water includes high levels of mineral nutrients, such as magnesium, calcium, sulfate, iodine, and carbon dioxide. Visitors are often allowed to drink the spring waters and enjoy their many health benefits. including stress relief, strengthening of the immune system, and support of the musculoskeletal system.

These benefits are noted in a study at the National Library of Medicine's Na-

MADE TO MOVE

Exercise as a Beacon of Hope for Post-Stroke Recovery

New research finds that light to moderate-intensity physical activity significantly improves stroke recovery

By Sheramy Tsai

Each year, the lives of hundreds of thousands of Americans change dramatically because of unexpected strokes. Survivors often face the daunting task of overcoming physical and cognitive deficits. The road to The research, conducted on 1,367 stroke recovery can be long and challenging, but new research illuminates a crucial aid in this journey: exercise.

A groundbreaking study published in JAMA Network Open demonstrates that at least four hours of light to moderate-

intensity physical activity per week can significantly bolster functional recovery within the first six months after a stroke.

Unraveling the Effect of Physical Activity on Stroke Recovery

survivors, unveiled two specific patterns of physical activity following a stroke: a group referred to as the "increasers," who experienced a marked rise in activity levels, and a "decreaser" group who reported a significant drop in their activity.



suffer a stroke annually.

The increaser group had better functional outcomes six months post-stroke. This group comprised mostly younger males with normal cognition who could walk unaided. Interestingly, stroke severity was not significantly different between the two groups.

On the other hand, the decreaser group was less active, with a substantial drop in activity within six months post-stroke. This group was older, was made up of more females, and had more impaired cognition. The authors noted, "Male participants and those with normal cognition had a higher likelihood of increasing physical activity, regardless of stroke severity."

The researchers performed a sensitivity analysis to deal with confounding variables, such as the gender differences between the two groups, to make sure the observations weren't due to factors besides activity levels.

The results of this study highlight the vital role of physical activity following a stroke, supporting prior research that demonstrated that maintaining an active lifestyle post-stroke can contribute to improved health outcomes. The authors concluded,

tional Center for Biotechnology Infora warning about this ancient therapeutic tradition: "Despite the demonstrated these therapies, their role in modern medicine is still controversial, mainly because the biological mechanisms A Cultural Tradition underlying these benefits have not yet been completely elucidated."

Iodine brine can have an anti-inflamthe airways and reduces cortisol levels. Health care professionals consider it a useful intervention for stress management, according to a study published

in International Society of Biometeorology.

Hydrotherapy

Germans can claim another luminary of the nature cure movement as their own: a priest named Sebastian Kneipp (1821–1897). Many see him as a vital link to American naturopathy. He promoted a holistic approach to health and preached about balanced nutrition, physical exercise, and regulative therapy. The treatment he is most famous for is hydrotherapy, which uses various temperatures

and pressures of water to stimulate blood circulation and treat disease.

A systematic review published in 2020 in Complementary Medicine Research analyzed 14 separately controlled studies and concluded that the healing through water as prescribed by Kneipp was successful in 64 percent of cases in chronic venous insufficiency, hypertonia, insomnia, menopausal discomfort, and minor cases of heart failure.

Furthermore, an additional 11 uncontrolled studies linked hydrotherapy to healthiest countries in the world. improvements in allergic symptoms, dyspepsia, quality of life, heart rate variability, infections, hypertension, pain, rheumatoid arthritis, and polyneuropathic symptoms.

Today, nature lovers can find hydrotherapeutic arm baths and wading pools all finest doctors and creating preeminent over Germany. Towns build these spa-like scientific research, one must think that

islands within their parks and along hiking trails. They are free for anyone who is willing to roll up their sleeves or pant legs to experience the refreshing ice-cold water.

Forest Therapy

Germans are encouraged to walk, es- for men and women looks even more dire. pecially in the forests, which are mostly privately owned but accessible to the public by law.

Frequently, there will be exercise stations and signs posted to encourage people to keep moving and breathing while enjoying the outdoors. Nature bathing, or what the Japanese call forest bathing, lowers cortisol levels, benefits the musculoskeletal system, improves immunity, and alleviates asthma and other respiratory illnesses.

Many studies describe the positive effects of forest therapy on the human psyche, nervous system, immune system, and respiratory tract. The entire human organism strengthens, which helps prevent disease.

Any problem solved by a conscious *and writes with a broad perspective* walk in the forest doesn't have to be on health.

"Increased physical activity of at least light intensity during the subacute phase after stroke was associated with a good functional outcome at 6 months."

Understanding Stroke

and the Path to Recovery A stroke occurs when the blood supply to part of the brain is interrupted or reduced, depriving brain tissue of vital oxygen and nutrients. Ischemic strokes result from a blockage in the blood vessels, and hemorrhagic strokes occur because of a burst blood vessel. Both types are urgent medical events that require immediate attention.

Strokes are a major global health issue according to the World Health Organization, ranking as the second-leading

solved by paying into the health care mation. Nevertheless, the NIH features system. This line of research is increasingly attracting attention, and there are studies of several different aspects of naclinical and symptomatic benefits of ture exposure and its links to preventing disease and accelerating healing.

Thermal baths with

natural brine or

radon are widely

used in Germany

where health care

professionals

encourage them

for diverse

therapeutic effects.

The antidotes

to many ailments are

very inexpensive and

readily available.

I grew up in Germany. When I had a sore throat, aching ears, a cough, or tight muscles, my mother would cook matory effect on the skin and may clear potatoes, smash them, envelop them in a kitchen towel, and wrap them around the affected area. I sat for hours on end to let the warmth soothe

> the pain. When I ate too much, my mom gave me Swedish bitters to combat indigestion, and when I felt bloated, I received fennel tea, even as a baby for colic. The weirdest practice, ac-

cording to my husband, is my mother's cautioning me and our daughters never to sit on a cold surface, to prevent infection of the bladder or kidneys. After more than 22 years of marriage, he not only accepts my strange, traditionally German approaches to health, but appreciates the advantages of this foreign outlook on health. The antidotes to many ailments are very

inexpensive and readily available. Most are preventive and keep our bodies and immune systems strong to avert malaise and disease. So why should Americans open up to unfamiliar preventive approaches to their health? For both physical and financial reasons.

U.S. health care is good. In fact, U.S. health care is the best when it comes to response and research, which puts the country at the top of a ranking of the

However, the United States is also the top health care spender. With a whopping \$10,921 of annual health care expenditure per person, it again is in first place in a global comparison. Based on these lead rankings, having the

we have the healthi-

est populace on the planet. Far from it. The Bloomberg Global Health Index ranks the United States at 34th place behind countries such as Cuba, Slovenia, and

Cameroon. The average life expectancy We trail far behind other nations and place 46th in a worldwide comparison.

Traditional approaches to health often start with a preventive aspect and focus on the kinds of lifestyles that encourage health, including practices such as walking, eating healthful foods, and simply relaxing. Science and technology may have insights to offer, but so do millennia of lived human experience.

Alexandra Roach is a board-certified holistic health practitioner, herbalist, and movement teacher who has also worked as a journalist, TV news anchor, and author. She has earned citations from US Army commanders for her work with military personnel

> ability across the globe. According to the Centers for Disease Control and Prevention, close to 800,000 Americans suffer a stroke annually, making it the predominant cause of severe long-term disability. Stroke recovery is contingent upon its nature, intensity, and the underlying health of the patient. Rehabilitation plays a pivotal role in helping survivors reacquire skills and abilities affected by stroke.

The Ideal Exercise **Regimen for Post-Stroke Rehabilitation**

The journey to recovery after a stroke often involves specific exercises to regain strength and coordination. Some of the best exercises for

aid in physical recovery and contribute nuts, and berries. to a healthier heart and improved mental well-being. A 2023 randomized control study published in JAMA shows that a high-intensity

followed by rest, repeated throughout a tion can benefit post-stroke healing. 45-minute session three times a week. in walking capacity than those who undertook a moderate-intensity program. be vital in maximizing recovery in chronic stroke patients.

Additional Natural Approaches

to Post-Stroke Recovery

Beyond exercise, nutrition is integral to post-stroke recovery, particularly concerning cognitive health. A 2019 study found *content. Living in Vermont, she balances* stroke survivors focus that the MIND diet, a hybrid of the Mediter- her professional life with sustainable livon mobility and stability, ranean and DASH diets, can slow cognitive ing and raising three children.



Researchers have found regular strength training bestows a nearly 50 percent reduction in all-cause mortality in older adults.

Small studies have

observed that greater

muscle strength is

associated with a

lower risk of death.

MADE TO MOVE Leg Strength Affects Odds of Surviving Heart Attack

New research finds that strong legs are linked to significantly lower risk of heart failure after heart attack

By Jessie Zhang

A new Japanese study suggests that people with strong leg muscles are less likely to experience heart failure following a myocardial infarction, or heart attack. The finding sheds light on the significance of quadriceps muscles and the potential for resistance training as a preventative measure.

The long-term study of 932 heart attack patients was presented at Heart Failure 2023, a scientific meeting of the European Society of Cardiology.

The findings haven't yet been replicated, but they do suggest that strength wrote. training involving the quadriceps muscles should be recommended for patients ment in quadriceps strength was associwho have experi-

enced a heart attack to prevent heart failure, study author Kensuke Ueno, a physical therapist at Kitasato University Graduate School of Medical Sciences, said in a May 20 statement.

cal practice," Ueno said.

"Our study indicates that quadriceps strength could help to identify patients at a higher risk of developing heart failure after myocardial infarction who could then receive more intense surveillance."

Study Method

To investigate the association between leg strength and the risk of developing heart failure after a heart attack, the study analyzed patients who were hospitalized for heart attacks between 2007 and 2020 and had an average age of 66 years.

These patients didn't have heart failure before admission and didn't experience heart failure complications during their hospital stays.

The patients sat on a chair and contracted the quadricep muscles as hard as possible for five seconds so that the researchers could measure the maximum strength of the quadriceps.

During a follow-up period of 4 1/2 years, 67 patients (7.2 percent) developed heart failure.

After adjusting for age, sex, body mass index, prior myocardial infarction or angina pectoris, diabetes, chronic obstructive pulmonary disease, peripheral arterial disease, and kidney function, the researchers found that the risk of heart failure was nearly doubled in those with below-average quad strength.

"Compared with low quadriceps strength, a high strength level was associated with a 41 percent lower risk of developing heart failure," the authors

"Each five percent body weight incre-

ated with an 11 percent lower likelihood of heart failure."

Older Adults Who Lift Weights Live Longer Over the past decade,

researchers have begun to demonstrate the benefits of "Quadriceps strength is easy and strength training for improvements in simple to measure accurately in clini- chronic conditions such as diabetes, osteoporosis, low back pain, and obesity

Small studies have observed that greater muscle strength is associated with a lower risk of death. In a Penn State College of Medi-

cine study, older adults who strength trained at least twice per week were found to have 46 percent lower odds of death over the follow-up period for any reason than those who didn't.

They also had 41 percent lower odds of cardiac death and 19 percent lower odds of dying from cancer.

"The study is strong evidence that strength training in older adults is beneficial beyond improving muscle strength and physical function," said Jennifer L. Kraschnewski, assistant professor of medicine and public health sciences.

cause of death and the third such as walking, leg lifts, shoulder rolls, decline after stroke. The MIND diet is rich agement techniques such most common source of dis- and gentle stretching. These activities in vegetables, whole grains, fish, poultry,

> "High adherence to the MIND diet was associated with a slower rate of cognitive decline after stroke," the authors reported.

Multiple studies have found that psychowalking program could particularly benefit logical stress negatively affects the stroke stroke survivors. This program involves recovery process. Stress management techbrief periods of intense walking exercise, niques such as mindfulness and medita-

Additionally, research shows that high-The study results revealed that participants quality sleep is critical in aiding recovwho followed this routine for 12 weeks ex- ery, as the body uses this time to repair perienced more significant improvement and regenerate cells. Together, these approaches can support the body's natural healing processes and contribute to a Therefore, vigorous, regular exercise may more comprehensive, holistic recovery from stroke.

> Sheramy Tsai, BSN, RN, is a seasoned nurse with a decade-long writing career. An alumnus of Middlebury College and Johns Hopkins, Tsai combines her writing and nursing expertise to deliver impactful

recovery after a stroke.

GUMBARIYA/SHUTTERSTOCK

Practicing stress manas mindfulness and meditation can help speed up





MINDSET MATTERS

Confronting Your Addiction to Negative Thoughts

This misguided attempt to make ourselves feel better can give way to something truly constructive, psychotherapist Nancy Colier says

By Conan Milner

he human mind can tap into some amazing tools, such as reason and logic. But it can also become infested with unfounded worries and worst-case scenarios that insist on

clouding our minds. We may justify these negative inner dialogues by telling ourselves that we're preparing for the future or processing the past. And yet, even in their vast quantity, these thoughts never seem to deliver the solutions we seek. Once we've had enough of this negative chatter, we may still struggle to stop it. Its habitual occurrence has worn deep grooves in our mind. It's

Stress, bad news, or traumatic memories can push anyone toward worry and rumination, though some people suffer from this mindset more than others.

as if our mind now has a mind of its own, as it constantly rehashes our insecurities, concerns, and complaints over and over again—ad nauseam whether we want it to or not.

Researchers define this type of talk- did on this topic online. ing to ourselves as repetitive negative thinking (RNT) because it tends to Thinking: How to Let Go of Anxiety dwell on negative feelings and events. RNT is characterized by a combination of rumination (the habit of examining the cause and meaning of a particular concern) and worry (a nagging notion about a negative outcome).

Stress, bad news, or traumatic memories can push anyone toward worry and rumination, though some people suffer from this mindset more than others. RNT isn't a mental health condition by itself, but it has been found to often play a role in serious mental health concerns, such as depression, anxiety, obsessive-compulsive disorder, and post-traumatic stress Addicted to Thoughts disorder.

So what drives this dark mental loop?

any power to stop it? Nancy Colier, psychotherapist, interfaith minister, and Epoch Times contributor has some insights into these questions. You can also listen to the podcast interview we

Colier, author of the book "Can't Stop and Free Yourself from Obsessive Rumination," said this mindset can take many forms. We may use it to scare ourselves, criticize ourselves, or tell ourselves about everything that's wrong with every person who's ever walked into our lives (even in imaginary scenarios). This is a form of thinking that generally causes suffering.

"It's really like carrying around somebody who just tells us really terrible things," Colier said. "Truth be told, it thinks it's helping us in some sort of bizarre way."

The human ability for complex thought is one of our most valuable traits, and Does it provide any benefit? Have we yet the practice doesn't always pro-

MINDSET MATTERS

Health Lessons We Can Learn From POW Survivors

The 'superpower' of resilience: prevents disease, accelerates healing, and enhances survival

By Vance Voetberg

On May 28, 1943, Lt. Louis Zamperini's plane crashed into the Pacific Ocean while he and his crew were on a search and rescue mission to find other U.S. servicemen fighting in World War II.

For 47 days, Zamperini drifted in the Pacific on a life raft with no supplies, surviving on fish that he caught and rainwater. On day 47, Zamperini was captured by

Japanese forces and taken as a prisoner of war. He spent more than two years being interrogated, tortured, and fed a near-starvation diet that caused him to lose half his body weight. As the war ended in late 1945,

Zamperini was released, having survived an insufferable 28 months against all odds.

Zamperini's remarkable perseverance exemplifies a unique, often overlooked facet of our health: the power of a strong mindset.

Strong Mind, Strong Body

Research demonstrates that what we think when we're facing dire circumstances is

Research finds that our thoughts during dire circumstances are crucial in determining the likelihood of survival. BRANDON BOURDAGES/SHUTTERSTOCK crucial in determining the likelihood of our survival.

In one 37-year longitudinal study that included prisoners of the Vietnam War, researchers found that optimism predicts greater resilience.

> "Resilience, exhibiting intact psychological functioning despite exposure to trauma, is one perspective as to why some people who are exposed to trauma do not develop symptoms," the authors

of the study noted. According to Dr. Gayle Myers, an internist who practices integrative medicine: "Resilience is the

ability to bounce back from challenging or traumatic situations, to be able to adapt and overcome adversities and setbacks to emerge stronger.

"It's a superpower that allows you to access your wellspring of tenacity."

While resilience is seen as an attribute of people who are psychologically flexible, recent research shows that greater duce positive results. Our brains can ruminate on some ideas for days, weeks, or even years with little more than insomnia to show for it.

So why does our brain, which has so much potential for greatness, become so fixated on torturing us with distressing worries, arguments, and concerns? Colier said it's a type of addiction. Her observation comes from her work as a therapist for nearly 30 years talking to hundreds of people—some of whom actually describe being hopelessly hooked on their negative thoughts, much like a drinker gets hooked on alcohol.

In the past few years, we've seen the addiction label expand beyond the traditional boundaries of drug abuse to things such as food, sex, and video games. Pushing the boundary even further into something as intangible and personal as thoughts may at first seem like a stretch. But how else would you describe the experience of being trapped in an indulgent and destructive habitual loop that completely evades control?

Colier said that one reason people have a hard time seeing thoughts as addictive is that our culture has so much reverence for thinking. We hold our ability to reason, analyze, and think things through in high regard.

But consider the possibility that some thoughts can be not a path to enlightenment, but a means of escape. Our minds become so obsessed with preparing for the future or working out the past that we fritter away our precious present.

"We get wrapped up with what we will or won't do. Or we go over the same things over and over. It's because we don't actually want to feel it," Colier said. "It might look like we're trying to get out of it in a healthy and productive way, but what we're really doing is avoiding the moment just like when we use alcohol, shopping, or drugs."

If thoughts can actually be addictive, they differ from other subjects of addiction in a substantial way: We may decide to abstain from drugs and alcohol in order to quit them. However, it would be a mistake to quit thinking completely.

In order to think in moderation, you have to first recognize the limits of the mind. While many situations require logic, reason, and thorough analysis, these are not always the right tools for the job.

"In matters that are really more heart matters, or body matters, where we try and do our pro and con list, and we try and think it through again and again and there's no stone we haven't left unturned, then it's the wrong tool," Colier said.

The goal is to think with purpose not just out of habit—but breaking this habit typically isn't easy. In modern society in particular, it has become our predominant strategy for life. Colier observes that people have stopped trusting our other ways of knowing, such as intuition or gut feelings. As a result, we have come to expect everything to be scientifically verified in order to deem its worth.

"What I get asked all the time is: 'What is the evidence base? Where are the MRIs that you've seen? What's the science in this? How did you figure this out?" Colier said. "We have put all our eggs in the figuring-out basket, and it is

Meditative practices can help us acquire the ability to more clearly see our thoughts and gain some distance from them.

SLATAN/SHUTTERSTOCK

The human ability for complex thought is one of our most valuable traits, but the practice doesn't always produce positive or results.



When our minds are obsessed with solving future problems or rehashing the past, we lose our precious present moment. LIGHTFIELDSTUDIOS/ GETTY IMAGES

at the exclusion of so many other ways of being a human being."

Physical Exercise

their incessantly chattering brain a can make it easier to let them go. rest and claim that it allows them to switch gears and tune into their body. Research shows that physical exercise complex and emotionally charged is an effective means of combating con- the thought, the harder the exercise ditions associated with RNT, such as becomes. If, for example, a thought depression and anxiety.

One meta-analysis recently published in the British Journal of Sports ignore. Medicine found that exercise was 1.5 times more effective at reducing mild to moderate anxiety, stress, and depression than pharmaceuticals or and acknowledge the hurt in those cognitive behavioral therapy. There's thoughts," Colier said. even a popular meme in the weightlifting community that describes the effect: "Lift heavy stone-make sad head voice quiet."

Colier agrees that physical exercise is great for helping pull us out of our head for a while, but she warns that we may inadvertently be letting our mind infiltrate the experience. Apps or devices designed to report improvements in data such as heart rate and calories burned during a workout are certainly informative but also shift focus back to the mind.

"So we are now again one step away from the direct experience of it. We are in the narrative about it," Colier said about using tech while exercising. "'What is this doing for me? How will this help my health?' We're talking about the present moment rather than inhabiting it."

Approaching

With Awareness Worry and rumination have always been deeply ingrained in the human struggle. But it's particularly hard to escape the negative mental hamster wheel with all the unprecedented problems that plague our modern world. To cope, many of us just double down on our thinking in an effort to orient ourselves and still just feel more disoriented as a result.

"What we're really trying to do is control what feels uncontrollable," Colier said. "But we may never be able to understand it, or we may understand it and not feel any peace from understanding it."

Another reason it's difficult to rein in our runaway ruminations is because we see them as something precious and identify so closely with them. This incredibly intimate connection we have with our own insights is why we take it so hard when our opinions are questioned, belittled, or attacked. We take it very personally—because we see our thoughts as an extension of ourselves.

"We've been taught again and again that 'if you don't agree with my thoughts, then I'm somehow not okay, or I'm being denigrated," Colier said. "But we don't need everyone to agree. Our thoughts are not universally true. They're just thoughts. And we wear them more like a loose garment."

Colier's advice involves developing some distance from your thoughts by realizing that they aren't actually you. The process is similar to some forms of meditation. It begins by becoming mindful of your thought process and recognizing thoughts for what they are-just ideas and suggestions that

you can choose to accept or reject as they float through your brain. Instead of automatically following every troubling notion that creeps in, cultivating Some people turn to exercise to give a sense of distance from your thoughts

> Of course, some thoughts are easier to release than others. The more recalls how someone may have hurt or mistreated you, it isn't so easy to

> "The more family is involved, the stickier [thoughts] get. So we need tools in those cases, to talk to the thoughts,

PRACTICING SELF-COMPASSION

One very important tool for approaching sticky thoughts is developing compassion for yourself.

This involves acknowledging the hurt you felt or the disrespect and abuse you endured, but it also requires the courage to tell yourself that repeatedly flogging yourself with the memories of those events isn't going to take the pain away

"It's a process of first recognizing that we are trapped in this cycle of suffering. And then asking, 'What is it that the mind is really trying to heal?' Because so often it's just this mistaken way of trying to feel better. And then recognizing, from the wiser, more evolved self, that, 'Sweetheart, this is not going to be the path," Nancy Colier said.

Of course, developing this sense of detachment and selfcompassion takes practice and dedication. Especially if berating yourself has been your default setting for years, treating yourself with kindness can feel unnatural, and even dangerous. We fear we may no longer be productive if we aren't constantly flogging ourselves

"But what we find, though, is compassion unleashes this incredible productivity that comes from a different place," Colier said. "We have to start taking baby steps to say: 'What if I treated myself in this moment like I was someone I liked? What would it take?' You probably wouldn't say never do anything good. I don't think I'd motivate anyone that way. I would probably remind them of all the things they've done that have been positive."

Many see their self-punishing inner dialogue as a way to motivate themselves, but Colier said she believes it's a misguided strategy. She says shifting our intent to becoming friendlier and more encouraging with ourselves may actually prove to be much more productive because it leads us to a more peaceful and balanced place.

"It does take a leap of faith because we've been so heavily conditioned to say the only solution is more mind, more thoughts, and telling ourselves what we need to do. But our peace is in the surrender," Colier said.

resilience also produces greater physiological health.

Resilience "prevents the onset of disease, provides good health, facilitates and accelerates healing, and provides productive life and a sense of well-being despite chronic illness," researchers wrote.

Though the exact mechanism isn't fully known, it appears that increased resilience decreases stress, which is known to exacerbate disease, prolong disease symptoms, and accelerate aging.

Glass Half Full

Scientists are beginning to comprehend the magnitude of mindset's role in our health. In a study published in Psychological Trauma, researchers found that optimism predicts better health outcomes in prisoners of war, finding that it is a "significant predictor of positive physical and psychological health and that it also provides long-term protective benefits."

These results parallel a larger body of evidence demonstrating positivity's beneficial influence on our health. In one study, consisting of 999 men and women, aged 65 to 85 years, researchers noted that dispositional optimism predicted less probability of mortality in general, and of cardiovascular mortality in particular. In another study, researchers found that patients with head and neck cancers who displayed dispositional optimism had a higher one-year survival rate than those who did not. Though these findings might be confounding to many inside and outside of the health care sphere, integrative doctors like Myers see a close connection between the mind and body and emphasize its importance. "Optimism can generate more positive

lifestyle choices to rebuild a better life with a greater purpose for why you survived," Myers said.

She explained that positive thinking increases dopamine, serotonin, oxytocin, and endorphins-the "feel-good hormones" that lead to cell healing, reduced pain, and a greater sense of well-being.

66

Resilience is the ability to bounce back from challenging or traumatic situations, to be able to adapt and overcome adversities and setbacks to emerge stronger. Dr. Gayle Myers, integrative medical

doctor

She also pointed out that positive thinking rewires the brain's neural pathways in ways that enhance focus, awareness of thought patterns, and emotional wellbeing to support recovery and health.

Resilience and Positive Thinking

Are a Choice After being freed, Zamperini wrote extensively on what factors influenced his own survival.

"Your mind is everything," he said. "It's like a muscle. You must exercise it or it will atrophy."

For Zamperini, his survival hinged on his determination and motivation to stay alive. "The great lesson of my life is perseverance. Never give up," he said.

Building resilience is not just self-rewarding, Myers added. "Seeing the greater purpose for the challenging experiences, the wisdom gained, and how you emerged stronger and more resilient helps to share that wisdom to teach and help others to heal," she said.

TRUTH and **TRADITION**

In Our Own Words





I realized I had been brainwashed by the media in Iran, and it became clear to me just how much the media could shape people's opinions.

Siyamak Khorrami General Manager, Southern California Edition



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Growing Up Under a Biased Media

Dear Epoch VIP,

Pleased to meet you, and I hope you enjoy this week's paper. My name is Siyamak Khorrami, and I serve as the Southern California region's general manager. I am also an Iranian immigrant, who has only experienced too well the effects of a media that's willing to twist the truth. I was born and raised in Iran; I grew up during the

war between Iran and Iraq. At that time, the Iranian media would always portray Iraqis as evil, and the U.S. and Israel as corrupt countries. Since I had family in the U.S., I didn't believe them

completely and I could tell it was propaganda. But because there was an ongoing war between Iran and Iraq, and I had seen and heard the bombings, these negative thoughts about Iraqis still stuck with me.

In the midst of this unrest, my parents decided to leave so that we could live in the free world and have a better future. We ended up moving to Mexico when I was 16 and immigrated legally to the U.S. when I turned 18. I attended university in Southern California.

While I was at university, I got the chance to meet Iraqi people here in America. Strangely enough, I found out that they were very similar to Iranians. I realized that Iragi people not only looked like me, but they even ate similar food and have similar family values. In fact, I began to wonder why I disliked them at all.

At this point, I realized I had been brainwashed by the media in Iran, and it became clear to me just how much the media could shape people's opinions. I later began working with a technology company, and eventually started my own business. In 2014, I started hearing more and more about how China will lead the world and replace America as the global leader. Since I'd had many business dealings in China and personally seen the extent of the corruption there, I thought there was no way this could happen. I was very surprised by this reporting from the American

media, but I trusted the mainstream media here. After all, this is a free society, so I thought that the reporters and experts just didn't know the truth.

But around the same time, I learned about forced organ harvesting by the Chinese Communist Party a crime against humanity that was not reported in the media. I was again surprised about why the mainstream media was not covering these abuses.

After seeing this, it became clear to me that there is something wrong with the overall media landscape, and the media has lost its objectivity and independence, even in the U.S. After all, these issues are newsworthy and the public needs to know them, so why aren't we hearing about them?

When I came across The Epoch Times, and when I heard the story of the company, it was a breath of fresh air. This is what a media company in a free society should look like, I thought. The founders started with not much funding, and simply as a nonprofit with a passion to bring truthful reporting to society. They sacrificed their careers and financial rewards and fully dedicated themselves to their cause, and now The Epoch Times has a major impact—not just in the U.S., but globally as well.

I left everything behind to join The Epoch Times in 2017. I am honored to be part of this team and working with some of the founders. Every day we are thinking about how we can serve you as our readers better and how we can reach more people with our reporting, and we hope

that this sentiment reaches you.

In Truth and Tradition,



Siyamak Khorrami The Epoch Times



A Life-Changing Bestseller



huan Falun expounds on the profound principles of Truthfulness, Compassion, and Tolerance. It focuses on a long-forgotten term called "cultivation" and the importance of moral character on one's path to spiritual perfection. The book is the main text of the spiritual practice Falun Dafa. It was a national bestseller in China in the 1990s, and has since been translated into more than 40 languages. Find out why it has captured the hearts and minds of tens of millions of people in more than 100 countries worldwide.

What made Falun Gong stand out from other gigong exercises and meditation practices was a moral system—compassion, truthfulness, and forbearance—unmistakably Buddhist in origin. Arthur Waldron

LAUDER PROFESSOR, UNIVERSITY OF PENNSYLVANIA

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Causes and Treatments of SIBO

Small intestinal bacterial overgrowth can cause a range of symptoms but there are safe and natural treatments

CHRISTY PRAIS

JOSE LUIS PELAEZ INC/GETTY IMAGES

Small intestinal bacterial overgrowth (SIBO) has a reputation for being significantly underdiagnosed as many of its symptoms are similar to other health issues.

Research suggests that up to 60 percent of irritable bowel syndrome (IBS) is caused by SIBO and that it affects at least 6 to 15 percent of healthy, asymptomatic people. The actual number of people who suffer from it is unknown. "SIBO is not as well known as other

gut issues," Dr. Onyx Adegbola said in a recent interview with me on "Discovering True Health." Adegbola noted that many people with SIBO have symptoms that significantly undermine their quality of life.

Adgebola is a physician-scientist who now specializes in gut issues such as SIBO. She started her private practice after a recent family member suffered from debilitating gut problems. This made her realize there aren't a lot of products and resources out there for those suffering from these types of conditions.

The good news is that research is now showing that there are several natural treatments that may work even better than the standard antibiotic treatment that's usually prescribed for those suffering from SIBO.

What Is SIBO?

There are several types of SIBO, but this article will focus on hydrogen-dominant SIBO, which is characterized by an excess production of hydrogen in the small intestine and is frequently associated with diarrhea.

Another common form of SIBO is methane-dominant, and it's frequently associated with constipation.

All forms of the condition occur when bacteria migrate upward from their proper place in the colon and invade the small intestine. The bacteria accumulate and start leading to a variety of symptoms.

Continued on Page 15

Detoxing to Treat Spike Protein-Induced Brain Injuries

Enhancing the human body's self-repair mechanism is the best way to clear spike protein and resolve injury: Dr. Paul Marik

JAN JEKIELEK & BILL PAN

pike proteins generated by the to remove SARS-CoV-2 virus and the mRNA spike proteins COVID-19 vaccine are causing from vaccines brain fog and other "profoundly and COVIDdisabling" neurological symp- 19 is to toms in some patients, according to Dr. support the Paul Marik, a critical care doctor.

"The truth of the matter is that spike protein is probably one of the most toxic compounds that human beings can be exposed to, and its toxicity is through multiple different pathways that we're just beginning to understand," Marik said in a recent interview with EpochTV's "American Thought Leaders."

Marik is a co-founder of Front Line CO-VID-19 Critical Care Alliance (FLCCC), a nonprofit medical group known for championing the use of ivermectin in treating COVID-19 infection. The group also focuses on developing treatment options for people suffering from "post-vaccine syndromes," including ridding the spike Continued on Page 16

The best way body's natural detoxification capabilities.



Antibiotics are commonly used to treat SIBO but can cause gut dysbiosis because they also kill off beneficial microbes.

SIBO Symptoms

- · Abdominal pain after a meal
- Diarrhea
- Weight Loss • Gas
- Indigestion
- Constipation
- Cramps
- Bloating

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ROADS

MADE TO MOVE

Afternoon Workouts Control Blood Sugar Better: Study

New research finds people with Type 2 diabetes can gain more benefit from exercise based on timing

In this study,

we have

shown

that adults

with Type 2

diabetes had

the greatest

improvement

in glucose

More than

U

MILLION

people in the United

States have diabetes.

SHERAMY TSAI

For individuals grappling with Type 2 diabetes, the timing of physical activity could be as impactful as the workout itself. Emerging research suggests that optimizing blood sugar control could hinge on a simple adjustment.

"In this study, we [have] shown that adults with Type 2 diabetes had the greatest improvement in glucose control when they were most active in the afternoon," co-corresponding author Jingvi Qian said in a statement.

The Time-of-Day Factor in Exercise, Blood Sugar Control

Researchers from Brigham and Women's Hospital and the Joslin Diabetes Center evaluated data from more than 2,400 patients from the Look AHEAD (Action for Health in Diabetes) study, a wide-ranging trial that focused on overweight or obese adults with Type 2 diabetes, observing their development of cardiovascular disease over time.

Study participants were armed with a waist acceloperated device worn on the waistline to measure motion.

ed when bouts of moderateity took place. The timing of

the movement was categorized into the lin resistance." morning, midday, afternoon, and evening, or deemed "mixed."

fourth year, this group not bility of being able to cease In 2020, the World Health

exercise or 75 to 150 minutes of high-intensity physical activity weekly. But what intensity workouts?

Current State of Diabetes The state of diabetes today is a signifi-



Complications from unmanaged diabetes can lead to severe health consequences, including heart disease, kidney disease, and vision impairment. Equally concerning, the cost of diabetes complications are significant.

According to the CDC, "In 2017, the total cost of all diabetes complications was over \$37 billion in this population."

Support from a

Complementary Study Research conducted in the Netherlands just last year produced similar results. The Netherlands Epidemiology of Obesity study analyzed activity patterns and metabolic health of more than 955 adults. Participants wore accelerometers and heart rate monitors over four days and nights to provide a measure of their activity levels and patterns. The study authors concluded, "Moderate-to-

vigorous activity in the afternoon or evening was associated with a reduction of up to 25 percent in insu-

Embracing Individuality in Diabetes Management

Everyone's body responds differently to diabetes, and treatment plans should reflect this diversity. While this new research suggests that afternoon exercise

> could offer additional advantages, the most effective strategy is one that fits into your personal routine and keeps you active.

> The American Diabetes Association highlights that the influence of physical activity on blood glucose can be quite pronounced, potentially triggering significant decreases that can

persist for up to 24 hours after the workout. It underscores the value of grasping how one's body reacts to exercise and recommends regular blood glucose monitoring before and after physical exertion to manage potential variations.

The Association offers a word of caution, noting, "Understanding these patterns can help prevent blood glucose levels from soaring too high or plummeting too low."

Sheramy Tsai, BSN, RN, is a seasoned nurse with a decade-long writing career. An alumna of Middlebury College and Johns Hopkins, Tsai combines her writing and nursing expertise to deliver impactful content. Living in Vermont, she balances her professional life with sustainable living and raising three children.

KAZANTSEVA OLGA/SHUTTERSTOCK





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You have been my source of hope. The truth is so scarce in media. The quality of my life is subject to the quality of truth in my life. Friends, work encounters, community interactions, all hinge on truth. The meticulous delivery of all sides of issues you cover permit me to sustain my hope in humanity. You have my deep respect and gratitude. I have told many, many patients (I am a physician) about you and will continue to do so. Truth + trust = hope + health."

- DR. MARY ELLEN BLUNTZER

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- STEPHEN SZYMANSKI

Love the Epoch Times. Wonderful to see news honestly presented...You have a good mix of uplifting, traditional, family, health & art/science. I know the truth when I finish reading the Epoch Times...I would recommend it to almost anyone."

- ANNE KELLY



control when erometer, a small batterythey were most active in acceleration or vibration of the afternoon. Researchers then evaluat-Jingyi Qian, researcher to-vigorous physical activ-

Findings revealed that those who engaged in activity predominantly in the afternoon had the most significant reduction in their blood glucose levels at the end of year one. By the close of the

only sustained their reduced blood glucose levels but also exhibited the greatest probtheir diabetes medications. Organization issued updated guidelines on physical activity and sedentary behavior. The new recommendations

encourage adults to target 150 to 300 minutes of moderate-intensity exactly constitutes moderate- and high-

According to the Centers for Disease Control and Prevention (CDC), brisk walking, water aerobics, gardening, doubles tennis, and slow bike rides constitute moderate-intensity workouts. On the other hand, jogging, swimming laps, singles tennis, jumping rope, and hiking uphill are vigorous exercises. The CDC stated that you should be able to talk during moderate activity, while you would have difficulty saying more than a few words during vigorous exercise.

Taking a brisk walk in the afternoon may be all it takes to help with blood sugar regulation.



Continued from Page 13

Nutrient Deficiencies

While many SIBO symptoms are impossible to miss, others are more subtle, especially nutrient deficiencies. The small intestine's key role is absorbing nutrients from our food, and a bacterial invasion can disrupt this key function, Adgebola says. The consequences can be significant:

- Vitamin B12 deficiency: This causes muscle weakness and tingling and numbness in hands and feet. In advanced cases, there can be central nervous system damage and mental confusion. It can also lead to anemia.
- Calcium deficiency: SIBO leads to fat malabsorption. Excess fat binds calcium, reducing its absorption. This can lead to osteoporosis.
- Lactose intolerance: SIBO can damage the gut lining and people with the condition can become intolerant to dairy products.
- Other nutritional deficiencies: Deficiencies in zinc, iron, and vitamins A, D, E, and K are all possible outcomes.

Testing for SIBO

If your doctor suspects you have SIBO, they will order a hydrogen and methane breath test.

When taking the test, you're first given a sugar drink and then required to blow into a tube. If anaerobic bacteria in your small intestine break down those sugars, they will produce hydrogen. The test measures the amount of hydrogen (or If breath tests find excess

methane) in your breath. If hydrogen and methane increase by more than a certain

amount after consumption of the drink, this means there are excess gas-producing bacteria in the small intestine.

Treatment Overview

"Treatment of hydrogen SIBO is generally divided into phases," Adgebola said. You want to eradicate the bacteria overgrowth and then treat the root cause.

In the first phase of eradication, the goal is to kill off the excessive bacteria in your small intestine.

Doctors usually use the antibiotic rifaximin to kill the excess bacteria, but many people don't tolerate the drug well.

Some practitioners prefer to use herbal antimicrobials such as enteric-coated peppermint oil to kill the bacteria. These treatments are less aggressive than antibiotics and have been shown to be effective.

"While there are other herbal antimicrobials like oregano oil capsules, garlic, and olive leaf extract, peppermint oil is more commonly used," Adgebola said.

"Also, while you wait for peppermint oil to eradicate your SIBO, you can use a low-FOD-MAP diet to control your symptoms and help starve the bacteria.'

Scientific literature also shows that the use of probiotic supplements and an elemental diet are also effective in reducing SIBO symptoms and eradicating excessive bacteria.

"The elemental diet is a liquid meal replacement diet that offers a complete nutritional profile broken down into its most 'elemental' form," explains Cleveland Clinic.

Low-FODMAP Diet

FODMAP is an acronym for fermentable

oligosaccharides, disaccharides, monosaccharides, and polyols, which are the scientific names for four types of carbohydrate molecules found naturally in a variety of fruits, vegetables, grains, legumes, and milk products. FODMAPs are sugar molecules that can be used by bacteria and produce symptoms of SIBO such as excess water and gas in the gut.

"The purpose of a low-FODMAP diet is to restrict these carbohydrates so you are basically starving the harmful bacteria by giving them nothing to ferment, which in turn will reduce the symptoms of SIBO," Adgebola said. Research has found that it reduces symptoms in up to 86 percent of people suffering from SIBO or IBS.

Some of the high-FODMAP foods she notes are the following:

• Garlic

- Onions
- Wheat or grains that contain fructans • Dairy (lactose)

"These apps have the serv-

Natural Treatments Versus

According to the 2017 Integra-

- Beans
- Some fruits Sweeteners

There are two apps that Adgebola rec-

she said.

Antibiotics



methane or hydrogen, it means bacteria have colonized the small intestine.

> tive SIBO Conference hosted by Natural Medicine Journal, the main natural treatment options for SIBO include dietary modification and herbal antimicrobials. Research shows that herbal supplements may work equally well, if not better, than

antibiotics in the eradication of bacteria. For example, in a 2014 study published in Global Advances in Health and Medicine, 165 SIBO patients were divided into two groups. One group received rifaximin and the other received herbal therapy.

The results showed that 46 percent of the patients who received herbal therapy had a negative breath test (meaning their bacterial overgrowth was gone) compared to only 34 percent of the patients who received rifaximin.

The study also reported many side effects in patients who took rifaximin, which included the following:

One case of a severe allergic reaction.

• Two cases of a mild allergic reaction. Two cases of diarrhea.

• One case of a C.difficile infection.

This was in contrast to only one case of diarrhea that was reported in the herbal therapy group.

Another review evaluated 18 studies on probiotic treatment for SIBO. Probiotics were found to be effective at eradicating excess bacteria, treating abdominal pain, and getting rid of excessive gas production that's seen in SIBO.

Finally, a study looked at the role of an elemental diet in treating SIBO. In this study,

of irritable bowel syndrome (IBS) is caused by small intestinal bacterial overgrowth (SIBO).

WHAT IS SIBO?

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dominant SIBO, which

this article will

124 patients were treated with methane or hydrogen-predominant SIBO with an elemental diet for two weeks. By day 15, 80 percent of the patients had normal breath test results, which meant that the excessive bacteria in their small intestines were gone.

Most pharmaceutical antibiotics indiscriminately eradicate all bacteria in our gut, even the good ones that help digestion and other functions such mood regulation.

This can throw our gut flora into disarray, a condition known as gut dysbiosis that can lead to various health disorders such as depression, anxiety, diabetes, and gut problems such as SIBO.

Root Causes

Adgebola says it isn't enough to just address the symptoms of SIBO.

"Because SIBO is a symptom of an underlying cause, once you've eradicated bacterial overgrowth, it's important to treat the underlying cause of SIBO, because if you just get rid of the bacteria, it could seem to go away and then come back later," she said.

There are several conditions that can increase your risk of SIBO or be a root cause.

- Complications of abdominal surgerv: Inisincludes an antrectomy to treat peptic ulcers and stomach cancer or a gastric bypass for obesity.
- Structural problems in and around your small intestine: This can include low motility (weak contractions), scartissue, and bulging pouches of tissue that protrude through the wall of the small intestine (intestinal diverticulosis).
- Low levels of stomach acid: If you have low levels of stomach acid, you aren't killing the bad bacteria and they can multiply more than they should, causing an imbalance.
- Alcohol abuse: This can result in damage to the intestinal wall and disrupt the natural gut flora.
- Certain medical conditions: Crohn's disease, radiation enteritis, scleroderma, celiac disease, diabetes, or other conditions that can slow the movement (motility) of food and waste products through the small intestine.

"One thing that all these root causes have in common is that you have a proliferation of the gut microbiome, which results in an imbalance," Adgebola said.

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.

CONTROLLING SIBO

An herbal antimicrobial. such as enteric-coated peppermint oil, combined with a low-FODMAP diet can help curb bacterial overgrowth in the small intestine.



COVID-19

Tree Bark Compound Suppresses COVID-19 Virus: Study

New study finds magnolia tree bark could provide immune system support unmatched by vaccines

SHERAMY TSAI

Researchers in the Netherlands have uncovered that honokiol, a compound found in the bark of magnolia trees, has the capacity to stop the spread of the SARS-CoV-2 virus within the body.

The study, published on May 22 in Microbiology Spectrum, an esteemed publication of the American Society for Microbiology, offers an innovative approach to the fight against COVID-19 by tapping into the power of traditional medicine.

Research indicates that honokiol not only curbs the replication of SARS-CoV-2 but also demonstrates broad-spectrum activity against various viral strains, including the Delta and Omicron coronavirus variants. The broad-spectrum activity is significant because it suggests that honokiol may remain effective even as the virus mutates, according to a statement from study author Martijn J. van Hemert, associate professor in the Department of Medical Microbiology at Leiden University Medical Center.

What's even more impressive is that this compound appears to accomplish its antiviral activity without causing substantial damage to the host's cells, as some antiviral treatments do.

The Potential Powerhouse of Honokiol in **COVID-19 Treatment**

According to the World Health Organization, the global pandemic caused by SARS-CoV-2, the virus that causes COVID-19, has led to more than 766 million infections and close to 7 million deaths since it emerged in 2019, and the virus spreads quickly and has mutated into several variants.

Despite initial optimism surrounding vaccine development, the efficacy of these measures has proven less reliable than anticipated, underscoring the pressing need for effective antiviral treatments.

"Compared to vaccines, antivirals have advantages in terms of storage, distribution, administration, and acceptance by part of society," the study reads.

According to the National Institutes of Health, remdesivir is currently the only antiviral drug that's approved by the U.S. Food and Drug Administration for the treatment of COVID-19.

Honokiol's Anti-Inflammatory Edge and Versatility

Beyond its capacity to curb viral replication, honokiol is anti-inflammatory, an attribute that could prove critical at later stages of the disease.

"At that point, inhibition of virus replication might no longer be helpful, but honokiol's anti-inflammatory response might mitigate the illness," van Hemert said.

Magnolia bark, also known as "Hou Pu" in Chinese medicine, has been a staple in traditional herbal treatments across Korea, China, and Japan for centuries. In recent years, Western medicine has also taken an interest in the compound because of its demonstrated use for a wide range of conditions, including anxiety, depression, gastrointestinal disorders, asthma, and headaches. Honokiol is also commonly used to treat cancer.

Carving the Path Forward

With honokiol's promising results in cell cultures, the path has been paved for further investigation into its antiviral properties, including in vivo studies.

"Our study merely provides the basis for further research into potential therapeutic applications," van Hemert said. "It is important to mention that it is too early to claim that honokiol might be used in SARS-CoV-2 patients. This requires much more research and—if successful—properly conducted clinical trials."

Still, the future may well see honokiol stepping up from the realm of laboratory cultures to become a key player in our realworld arsenal against the formidable virus.

"If honokiol can be developed into a drug, possibly in combination with other compounds, stockpiling it would help us to increase our preparedness for the emergence of the next coronavirus," van Hemert said.

Sheramy Tsai, BSN, RN, is a seasoned nurse with a decade-long writing career. An alumna of Middlebury College and Johns Hopkins, Tsai combines her writing and nursing expertise to deliver impactful content. Living in Vermont, she balances her professional life with sustainable living and raising three children.



Detoxing to Treat Spike Protein-Induced Brain Injuries

Continued from Page 13

proteins accumulated in their bodies following vaccination.

The mRNA vaccines work by using coded messenger RNA to instruct muscle cells to produce spike proteins to trigger an immune response. The problem is that labassembled mRNA lingers in the human body much longer than the mRNA a patient gets from natural infection, according to

Marik. "The virus that's [an] actively replicating virus lasts for about five days. Af-

Spike proteins released by mRNA vaccines accumulate in the body, traveling to many organs and causing postvaccine side effects.

DESIGN CELLS/SHUTTERSTOCK

ter five days, the messenger RNA, which the virus uses to make all this protein, is destroyed by the body," he told host Jan Jekielek. "If you're immune-competent, within five days, the messenger RNA is gone, and you're body does not continue to make new spike protein.

"When you inject the synthetic, artificially manufactured mRNA, it doesn't stay in the arm. It actually circulates and goes to lymph nodes and organs."

Marik also noted that one study found injected mRNA in the body for as long as 👞 60 days.

The Essential Jobs of Cortisol, the Stress Hormone

Low levels of cortisol can leave the immune system malfunctioning but healthy foods and sleep can help

VANCE VOETBERG

Cortisol has faced relentless scrutiny over the past decade for being the hormone behind stress and worry. According to numerous online articles and books, lower cortisol is the goal of those who want to

experience genuine serenity. In this picture, cortisol is seen as a sinister hormone that suppresses health.

This view of cortisol, however, is incorrect and potentially deadly.

The Need for Cortisol

Cortisol is a hormone controlled by the brain's hypothalamus and secreted from the adrenal gland. It's most well-known for regulating the stress response. In addition, cortisol plays a crucial role

in moderating a robust immune system by



Besides supporting the immune system, cortisol facilitates protein and glucose homeostasis. which are biochemical processes essential for health and wellness.

Cortisol is produced by the adrenal glands, which sit above the kidneys.

aiding the anti-inflammatory response. "When the stressor is pain due to injury or a poor diet, cortisol is secreted to lower the inflammation created," explained Dr. Angela Sadlon, a functional medicine doctor specializing in hormone health.

"We are taught that cortisol's action on the immune system is one of suppression," Sadlon explained, "but it appears to have a much more complex relationship. Cortisol may help program and develop the immune system as well."

Besides supporting the immune system, cortisol facilitates protein and glucose homeostasis, which are biochemical processes essential for health and wellness.

What Happens When Cortisol

Is Too Low Because cortisol plays a central role in our overall health, its absence-commonly due to adrenal gland dysfunction-can result in many harmful health consequences.

For example, low cortisol unarms the immune system from being able to initiate proper healing through the anti-inflammatory response. This can prolong symptoms from sicknesses like the flu or COVID-19 and stall the recovery process from injuries.

"It is really common to have lower cor-

DIANA SKLAROVA/GETTY IMAGES



"What that means is that if this [artificial] messenger RNA is making spike protein, the bottom line is, that it's a load of spike protein," he said, comparing spike proteins to cyanide, which isn't necessarily harmful in small amounts but can be lethal when it accumulates to significant levels.

Neurological Harm

The spike protein associated with CO-VID-19 affects so many organ systems that physicians struggle to diagnose patients who suffer from vaccine injuries, according to Marik.

"These patients have such diverse symptoms that really don't fit in with a pattern that [physicians have] been taught," he said.

"Almost always, they say: 'Well, this is stress. This is anxiety. This is a functional disorder. This is in your head. This isn't real.' "But it is real. It's just because of spike going to every organ system, and every organ system is involved."

The brain appears to be particularly vulnerable, according to Marik. This could machine and trashes the garbage. It's an explain why so many vaccinated people have reported neurologic symptoms. the cell deals with these toxic proteins.

ticle. The lipid nanoparticle is actually designed to deliver chemotherapy to the brain," he said. "So it crosses the bloodbrain barrier. "More than 80 percent of post-vaccine

patients have neurological symptoms. It's a very characteristic finding. The neurological symptoms are brain fog, cognitive dysfunction, and memory dysfunction, which is very disabling to most people-If you can't think, you lose your ability to remember things.'

There are also many vaccinated people experiencing tinnitus, or constant ringing in their ears.

"Many actually considered suicide because it's such a troubling symptom," Marik said.

An even more "profoundly disabling" symptom, according to Marik, is smallnerve neuropathy, a nerve disorder characterized by severe pain attacks that typically begin in a patient's feet or hands.

"It seems to be a classic feature of spike protein-induced disease, particularly with a vaccine," he said. "[The patients] get small-fiber neuropathy, which is profoundly disabling because the small fibers are involved in pain sensation.

"They complain that their limbs are on fire. They have severe burning itching. If you ask a vaccine-injured patient if there's one symptom that they would want to get rid of, what's the most troubling? Without question, it's the smallfiber neuropathy."

Post-Vaccination Treatment: The Power of Self-Repair

When asked about recovering from CO-VID-19 or vaccine injuries, Marik said the foremost step is to get early treatment or not get another vaccine dose.

"The first thing is avoid being spiked. If you've been vaccinated, don't get boosters," the doctor said. "Secondly, if you get COVID, you want to be treated early, because the longer you are allowed to linger, the more spike protein."

Marik further warned that those who wish to get rid of spike proteins should be careful of products that claim to be able to detoxify the body. Instead, he recommends relying on the body's own cellular degradation mechanism.

"There is no such thing as detoxification potions or devices. What you need to do is help the body get rid of the spikes," he said, pointing to autophagy, a process that occurs within cells, whereby components that are deemed damaged, toxic, or obsolete get degraded and recycled to release energy and maintain balance.

"It's the garbage disposal system: It collects the garbage and then puts the garbage through this garbage slicing ingenious system," Marik said. "It's how "The mRNA is placed in a lipid nanopar- What you want to really do is embrace

ALL IMAGES BY SHUTTERSTOC



Intermittent fasting encourages autophagy in the body.



co-founder of Front Line COVID-19 Critical Care Alliance. THE EPOCH TIMES

Dr. Paul Marik,

The mRNA vaccines work by using coded messenger **RNA to** instruct **muscle cells** to produce spike proteins to trigger an immune response.

it and enhance the ability of the cell to break down these proteins.'

To better take advantage of this natural self-repairing capability, Marik suggested that patients practice a method called "intermittent fasting," also known as "time-related feeding."

"The most potent method of activating autophagy is called intermittent fasting, because we have this biological switch called the mTOR switch," he said. "Whenever you eat, you switch off autophagy through the mTOR pathway. Glucose and insulin proteins switch off this process. However, when you deprive the cell of glucose and protein, it switches on au-

tophagy, and it breaks down protein." Marik also highlighted the importance of sleep as well as not eating before going to sleep.

"Sleep is really important for brain regeneration, clearing out all the metabolic products and allowing all these synapses to regenerate," he said, noting that eating before going to sleep not only switches off autophagy but also disrupts the brain's glymphatic system that washes out metabolic byproducts.

"If you eat before you go to sleep, you limit autophagy and this glymphatic flow," Marik said.

"It's essential that people change the diet. You can eat within a six-to-eighthour window. And then the rest of the time, you don't eat.

"We have enormous, enormous potential of self-repair. What we really want to do is to embrace the ability of the body to heal itself. We want to enhance that ability."



tisol levels. I've seen many, many patients like this," Sadlon said.

Addison's disease, an autoimmune disorder that impairs the adrenal glands, inhibits cortisol so significantly that it can cause significant harm and even death. "It progresses to become lifethreatening if intervention is not started," Sadlon explained.

This autoimmune condition, while serious, is extremely rare, affecting just 1 in 100,000 Americans.

Usually, most people are mildly or moderately outside the normal reference range of what is considered optimal.

When this happens, patients' symptoms-from various conditions-are intensified, Sadlon explained.

Low Cortisol, Chronic Fatigue

Syndrome, and Memory Decline Research also shows an association between chronic fatigue syndrome (CFS) and low cortisol levels. According to the U.S. Centers for Disease Control and Prevention (CDC), low cortisol levels may lead to chronic immune system activation. The agency also states that some patients with CFS have lower cortisol levels, though still in a normal range.

Another way low cortisol affects our health is its role in memory. According to recent research, older adults who do not produce sufficient cortisol struggle to maintain a sharp memory.

A study published in Frontiers in Aging Neuroscience examining the relationship between low cortisol secretion and its influence over memory found that "a low cortisol response to stress could reflect a defective HPA-axis response to stressors that is accompanied by poorer memory performance."

Though the exact mechanism remains ambiguous, researchers said the brain areas pivotal for memory performance also control cortisol response.

What's a Moderate Level of Cortisol?

Like all hormones, managing cortisol is

Foods That Support Optimal Adrenal Gland Health

Zinc-rich foods: oysters, fish,

Vitamin A-rich foods: liver, cod liver oil, cheese

wheat bran, cooked spinach, black beans

fruits, bell peppers, berries Sodium-rich foods: salt

a balancing act—neither low nor high is healthy

But what's different about cortisol is that it works in unison with our sleep schedule. "Cortisol is supposed to be highest in the morning and naturally declines as the day goes on, being at its lowest level at night," explained Dr. Aarti Patel, a naturopathic doctor and hormone specialist at Red Fern Health.

"Morning and noon cortisol readings are especially helpful in seeing if a patient is experiencing adrenal fatigue [low or high cortisol], and if so, whether it's mild, moderate, or severe and how best to treat it," she told The Epoch Times.

Patel said the common standard for measuring cortisol levels is based on salivary testing, a method that her clinic also employs. The information below provides a reference for cortisol levels.

How to Maintain Healthy **Cortisol Levels**

Since cortisol works in tandem with our

sleep schedule, practicing good sleeping habits is fundamental in managing cortisol. Ideally, this means being asleep well before midnight, given that the cortisol cycle is lowest around 4 a.m.

and seeds.

You should also prioritize specific nutrient-dense foods because these effectively support healthy cortisol production, said Sadlon.

"We should remember the actions of cortisol and what nutrients support the adrenal gland. We know from research that the adrenal gland has a need for zinc, vitamin A, magnesium, vitamin C, and sodium," she said.

"Naturally strengthening the adrenal gland (thereby improving the output of cortisol) is a long process," said Sadlon. "It can take three months at the shortest but usually multiple years."

Sadlon recommends consulting a functional medicine or naturopathic doctor to ensure safe and effective treatments are being made for optimizing cortisol production.

Incorporating more foods rich in zinc into your diet may help support a healthy adrenal gland. Some good options include seafood, meat,

In addition to eating certain nutrient-dense foods, Dr. Angela Sadlon also emphasized the importance of avoiding inflammatory foods such as sugar, refined grains, high-fructose corn syrup, and seed oils.

Consuming these

foods, she says,

harms healthy

cortisol levels.



red meat, certain seeds

Magnesium-rich foods:

Vitamin C-rich foods: citrus

RELATIONSHIPS Family Dinners Improve Family Health



Ultimately,

the combina-

tion of school

and family life

is about the

passing on of

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elderly people

suffer from

social isolation.

Eating together provides mental, physical, and social benefits

JESSIE ZHANG

eals together are more meaningful than ever in the age of devices and diverse family types, according to psychiatrist Tanveer Ahmed.

Ahmed, who is based in Australia, said it's worth maintaining some semblance of sharing meals together in a household, even if it's just two to three times a week. Meal times provide a consistent opportunity for families to nurture strong bonds, as members share and discuss the challenges of the day or bond over new experiences.

Quality time shared between parents and children has become increasingly precious. Statistics show that by the time children are 18, 90 percent of their time with their parents has passed.

This is why family dinners correlate with all sorts of health markers, varying from healthier body weight to better mental health, according to Ahmed.

"Regular family dinners are still a great marker of a stable, cohesive household, and that is very beneficial for kids," he told The Epoch Times.

Mealtimes give children a chance to connect with parents and grandparents and learn their values, while also opening their minds to a wider range of concepts, words, and stories.

"It challenges them and pushes them because, while they have teachers at school, most of their interaction is with their peer group. So it's very important that they get a broader range of intergenerational contact," he said.

"They hear abstract concepts and a wider range of vocabulary when talking to their parents, which can challenge them. There's evidence suggesting that this does improve the kid's language around abstract concepts and problem-solving."

For grandparents, regular dinners with the family are a great antidote for social isolation, which research has shown affects 1 in 3 elderly people today.

The elderly are more often challenged with health and mobility issues, physical changes, and cognitive decline, which are major hurdles to being social, especially if those issues render them unable to drive. For some older adults, that family dinner may be their only interaction for days or weeks.

Old-Fashioned or Scientifically Proven At a time of increasingly diverse family compositions and family practices, academics from Australia's Monash University have suggested that the promotion of the "family meal imperative" sets unrealistic expectations.

Sociology professor Jo Lindsay said that sitting down together every night is "rooted in an anachronistic and conspicuously oldfashioned notion of the family" and that it "only serves to increase parenting guilt," in her research published in the journal Critical Public Health.

Lindsay's particularly modern take on family meals overlooks some important science on the benefits, however.

A 2011 meta-analysis published in Pediatrics looked at several studies, with a sample size of 182,836 children and adolescents, and found significant benefits to family meals, including lower odds of being obese and higher odds of eating healthier food. The research review also found a 35 percent reduction in disordered eating.

"Across the lifespan, eating with others, particularly family, is associated with healthier dietary outcomes," reported re-

searchers in another review, published in the Journal of Nutrition Education and Behavior.

LIGHTFIELD STUDIOS/SHUTTERSTOCK

A review published in International Journal of Environmental Research and Public Health in 2021 looked at 54 original studies and 11 review studies and found similar results in terms of eating, along with mental health benefits.

"Correlational evidence links shared meals with health and psychosocial outcomes in youth, including less obesity, decreased risk for eating disorders, and academic achievement," it reads.

Family meals may be particularly important for teens, an age group in which there has been an uptick in depression and anxiety in recent years.

"Frequent family meals may have a protective effect on the mental health of adolescents, particularly for depressive symptoms in girls," researchers state in a study published in Journal of Nutrition Education and Behavior in 2017.

In a 2020 study in the American Psychological Association's journal, Developmental Psychology, researchers wrote: "On days that adolescents shared a family meal, they felt greater happiness and role fulfillment, and less burnout and distress. Moreover, family conflict was associated with more negative emotionality only on days that adolescents did not also eat with the family. Findings suggest that family meals buffer daily risks associated with familial conflicts.'

The act of sharing food may even have a long-term effect on the most important elements of personality, suggests a study published in Appetite in 2015.

"Results confirm that higher levels of shared meal consumption correspond to higher scores on the self-report altruism scale among students," researchers reported.

It isn't only students who benefit from family meals. A study published in Preventive Medicine found that a higher frequency of family meals was "associated with higher levels of family functioning, greater self-esteem, and lower levels of depressive symptoms and stress."

"Findings from the current study suggest that frequent family meals may contribute to the social and emotional wellbeing of parents."

Even nontraditional nuclear families would benefit greatly from incorporating sit-down meals together as often as possible, Ahmed said.

He acknowledged that modern life may not allow for it in the same way that it did in the past because of a greater variety of family structures, busy teenagers and children, and a range of working arrangenents including shift work and meetings from home.

"So there's a lot of complexity here now, and it's certainly not as simple as a 1950stype family arrangement," he said. "But that shouldn't be a reason to feel guilty or give up trying."

Family Dinners in an Age of Devices and Distractions

"I think it's important that we try to enforce rituals," Ahmed said. "A good example is the Jewish Shabbat tradition of having a Friday night dinner."

"But it can happen in other areas as well. It could be a walk on the weekend, playing board games, or watching a show together." Ahmed acknowledged the power that devices have and recommends limiting

them to shared interactions. "The default is often we all retreat to our own rooms and our own screens, and I think you have to work hard to mitigate

against that," he said. "As long as it is something that's connecting you together, rather than casually looking at TikTok on your own, it can still bring people together.

"If you have something that is shared, or it might be something you've shared during the day, and then you're bringing it up and talking about it together, then I think that's fine."

Similarly, pediatrician Meg Meeker said that she asks everyone put away their phone for an hour during dinnertime.

While this might be a challenge, even for the parents, taking charge of screens at home will teach children that they will be OK without having to be alerted by their phone every minute, and it trains them to decrease their screen time over time.

Ultimately, the combination of school and family life is about the passing on of knowledge and experiences, and family dinners can be a particularly useful way for connecting, communicating, and having intergenerational interactions.

"Given family dinners are one of the rare places where everyone comes together, it's a critical part of transmitting ideas and values to the next generation," Ahmed said.

Tired After Lunch? Try This

Feeling drowsy after lunch is common, but a few simple tips can help

ZRINKA PETERS

At some point, everyone has felt like they could really, really use a nap after lunch. The phenomenon of the "afternoon slump," or post-lunch drowsiness, is so common that the medical community has given it an official name-postprandial somnolence.

The post-meal feeling of tiredness and lethargy can make it hard to concentrate on afternoon work and often puts a heavy damper on post-lunch productiveness.

The reasons behind the "afternoon slump" are varied, but a few easy tips can help banish this fatigue and keep energy levels stable throughout the day.

The Circadian Element

It's normal to feel a dip in afternoon energy levels and alertness because of our bodies natural circadian rhythms. This internal biological body clock helps regulate sleepwake patterns, which involve a host of different hormones and biological processes.

Circadian rhythms are largely responsible for the experience of feeling wide awake and alert at times and drowsy at other times.

According to the Sleep Foundation, our bodies' strongest sleep-related cues are felt shortly after midnight, and then again, to a lesser degree, in the afternoon between approximately 1 and 4 p.m. This aligns with the practice of enjoying an afternoon siesta in many countries around the world.

The Fat and Carbs Effect

There's more to it than uncontrollable biological cues, though. What you eat for lunch can also play a significant role. An Australian study published in the October 2019 edition of the journal Nutrients found that as the amounts of dietary saturated fat and carbohydrates increased in a meal, so did the degree of daytime sleepiness. Combining large amounts of saturated fat and carbohydrates in one meal (think burger and fries) may intensify the effect.

Functional dietitian nutritionist Adair M. Anderson explains the physiological process.

"Meals high in carbohydrates (without adequate protein and fiber to slow digestion) result in blood sugar spikes, which the body fixes by releasing insulin (the key that lets blood sugar into your cells)," Anderson says. "However, sometimes (most times), the body releases too much insulin (the body really doesn't like high blood sugar) which results in a blood sugar crash. Low blood sugar is associated with fatigue.

"Meals high in saturated fat are more likely to trigger leaky gut (intestinal hyperpermeability). When the gut is leaky, things from inside the gut lumen (e.g., bacterial lipopolysaccharide and undigested food) can get into the bloodstream, usually resulting in inflammation. Inflammation is [also] associated with fatigue."

The Portion Size Effect It's not just the type of food eaten, but the

amount, too, which can impact how you feel an hour or so after eating. Eating large, "heavy" meals seems to result in a stronger desire for a nap shortly afterward than does eating small meals. One study, published in the Feb. 28, 2012,

edition of Physiology & Behavior, took 12 young men whose sleep had been restricted the night before and gave them either a "light" 305-calorie lunch or a "heavy" 922-calorie lunch, which contained three times the fat and twice the carbohydrates of the "light" lunch.

The men then took a leisurely two-hour, simulated "drive." Perhaps not surprisingly, for those who ate the "heavy" lunch, their driving suffered more than that of the "light" lunch eaters. The "heavy" lunch group drifted from their

lanes while driving more often, and also reported feeling more tired.

Other Factors

Also, certain nutrients are actually sleep-promoting. Tryptophan, an amino acid that's often blamed for the sluggishness that many feel following their Thanksgiving meal, is certainly associated with promoting sleep. A Turkey dinner at 6 p.m. may be a better idea than having it at noon. But tryptophan isn't the only sleep-inducing food around. Foods that contain high concentrations of melatonin, such as tart cherries, mushrooms, tomatoes, and pistachios, can also help regulate your circadian rhythm and promote sleep.

Other, non-dietary factors can also influence how you feel at 2 p.m. Not getting enough sound, uninterrupted sleep at night can lead to excessive daytime sleepiness, and certain medical conditions such as diabetes, anemia, and even food intolerances can also exacerbate the problem.

Steps to Stay Awake

have various causes, some simple steps and fully awake, even at 4 p.m. can help stabilize energy levels in the afternoon, and all day long.

Replacing refined and simple carbohydrates, such as white bread, donuts, and sodas, with complex carbohydrates, such as whole-grain bread or brown rice, beans, and vegetables, is a major step in the right direction. Complex carbohydrates, which usually contain fiber, vitamins, minerals, and other nutrients, take longer to digest than simple carbohydrates and are less

likely to cause spikes in blood sugar, which eventually "crash," leaving you tired again.

Eating a smaller portion at lunchtime, and then having an afternoon snack, instead of consuming a single, large meal, may also help ease the energy-consuming work your digestive system has to do.

Anderson points to research showing that the order in which the parts of a meal

are consumed can also make a difference. "Start with a vegetable appetizer. For example, a handful of sugar snap peas, cherry tomatoes, celery, and carrot sticks. The fiber in these low-calorie vegetables acts like a goalie net, preventing your digestive enzymes from quickly attacking (and breaking down) carbohydrates into simple sugars. The slower carbs digest, the slower they enter the bloodstream, and the more gentle the

blood sugar spike (in fact, ideally it's a low, rolling hill and NOT a spike). Then, eat protein before carbohydrates (e.g., eat the chicken and broccoli

first, eat the dinner roll second)," Anderson says.

Stayinghydrated throughout the day can also help ward off fatigue. Water is essential for nutrients to be effectively transported to cells throughout the body, and dehydration can leave you feeling tired.

An August 2010 review titled "Water, Hydration, and Health," published in the journal Nutrition Reviews, explains how even mild dehydration actually causes cells to shrink and can lead to cognitive declines, including shortterm memory loss and reduced concentration and alertness.

Drinking plenty of liquids (ideally water) throughout the day can help both your mind and body function at their best.

Eat a nutrient-dense

lunch that is light on

carbohydrates and

fat to better maintain

your energy level in the

afternoon.

Getting out for an after-lunch walk is also a great way to keep energy levels stable throughout the afternoon. Exercise boosts the delivery of nutrients and oxygen throughout the body, including the brain, and can help you stay alert. Combined with being mindful of what and how much is on your lunch plate While the dreaded afternoon slump can and staying hydrated, you can stay focused

> Zrinka Peters is a freelance writer focusing on health, wellness, and education. She has a bachelor's degree in English literature from Simon Fraser University in British Columbia, 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.



essential for nutrients to be effectively transported to cells throughout the body, and dehydration can leave you feeling tired.

Water is





Avoid the afternoon "crash" by keeping neals light and getting a healthy dose of fresh air and movement.

Meditation Could Help You Make Better Decisions

Research finds that meditators are more willing to face the more difficult facts of life

CHRISTOPH ELHARDT

People who meditate daily are less likely to avoid negative information, researchers report.

Smart decision-makers gather all the pertinent information and weigh the pros and cons dispassionately. This includes gathering information that is unsettling or unpleasant. Or at least that's what people should do.

The reality is quite different, however. Because of what experts call cognitive bias, people tend to ignore potentially negative information—even when such information is available to them. For example, they don't want to find out whether an investment is no longer worthwhile, a medical test has confirmed an illness, or a friend has betrayed their trust. The reason is that even just thinking about negative information triggers fear and worry.

The new study shows that people can reduce this tendency toward information avoidance through regular mindfulness meditation.

The researchers define the practice of mindfulness meditation as sitting still with eyes closed, observing—but not responding to—breathing, physical sensations, thoughts, and emotions.

Several studies have shown that practicing meditation on a regular basis has a positive effect on both body and mind. Meditating for just 15 minutes a day helps relieve stress, increase concentration, reduce the risk of depression, and enhance productivity.

In new research, Elliott Ash, professor of law, economics, and data science at ETH Zurich, and colleagues showed that daily meditation boosts people's ability to contend with negative emotions.

For the study, published in Economics Letters, the researchers recruited 261 participants through an online platform and randomly divided them into two groups. One group meditated every day for 15 minutes, and the other spent that time listening to relaxing music. Mindfulness meditation makes people more resilient to uncomfortable emotions, which in turn allows them to process negative information more objectively. Before and after the experiment, the study participants had to answer a set of standardized questions to ascertain how well they dealt with negative information and how strongly they responded to emotions. Participants were asked, for example, whether they wanted to receive potentially negative information about their health, financial investments, or personal relationships.

"The study participants who meditated every day for two weeks were better equipped to simply observe their negative emotions and accept them calmly," Ash said. This positive development was not observed in members of the control group.

The study's authors conclude that mindfulness meditation makes people more resilient to uncomfortable emotions, which in turn allows them to process negative information more objectively. "Someone who copes well with negative emotions will also want to know what could go wrong as a result of a particular decision," Ash said.

In other words, meditation training could help people make better decisions. Because they are more likely to also consult information to which they might react negatively, they are more comprehensively informed.

This article was originally published by Christoph Elhardt for ETH Zurich. Republished via Futurity.org

> The act of meditating may help people better deal with negative emotions and process them in a healthy, objective manner.

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