

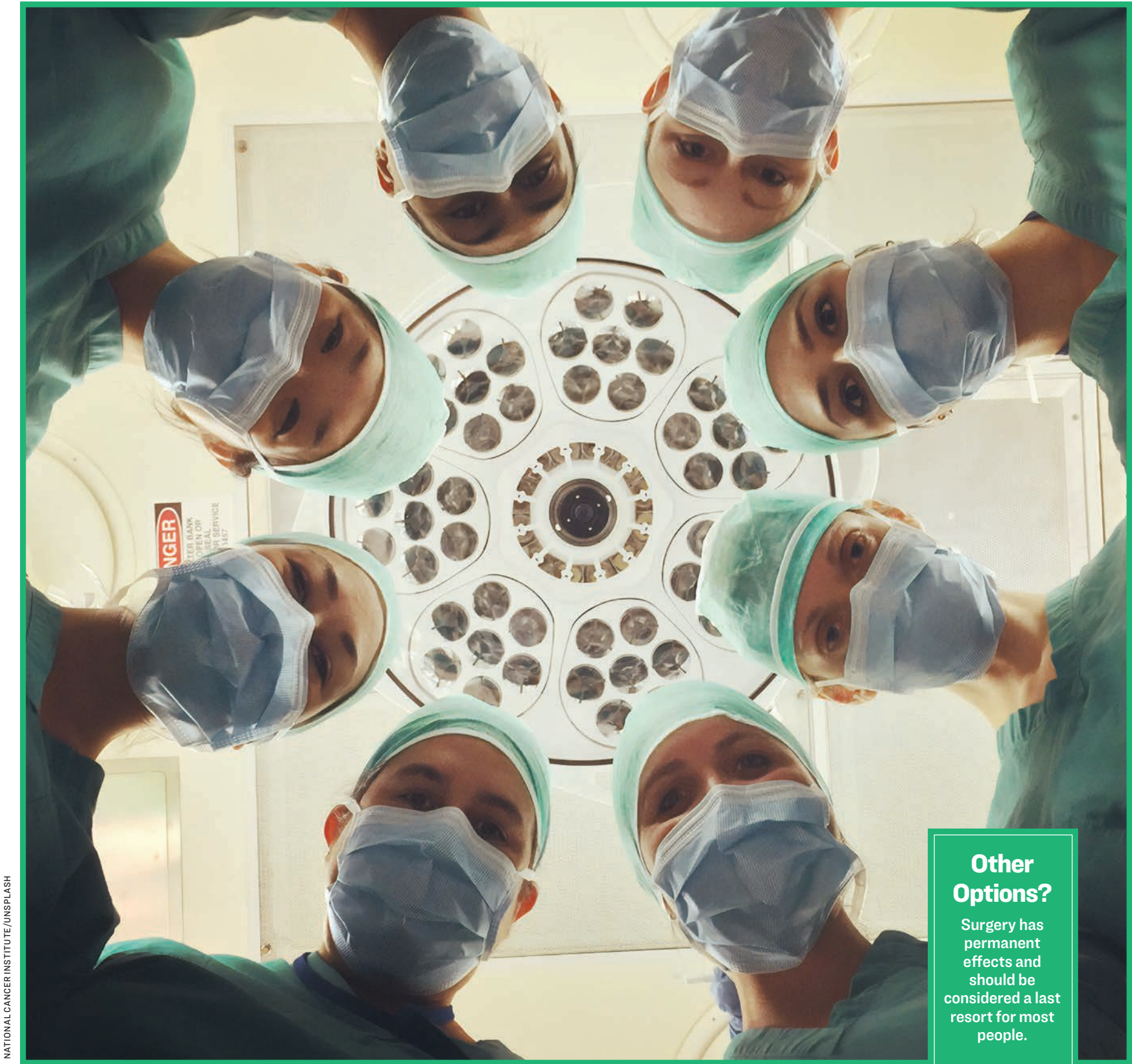
THE EPOCH TIMES

MIND & BODY

What You Need to Know ABOUT SURGERY

PART 2 YOU CAN TALK TO YOUR DOCTOR ABOUT SURGERY

Patients should consider initiating questions, conversations to protect themselves



NATIONAL CANCER INSTITUTE/UNSPASH

Other Options?

Surgery has permanent effects and should be considered a last resort for most people.

In this series, we'll share how to determine if your surgery is right for you, how to ask the right questions, and what you can do to prepare and recover optimally.

By Amy Denney

Bobbie Colgan visited her doctor 13 years ago because she was constantly fatigued and left the appointment disappointed at the perplexing recommendation: gastric sleeve weight loss surgery. At 310 pounds, she was able to easily lose 20 pounds and change her lifestyle habits. Ms. Colgan initially rejected the suggestion of surgically shrinking her

stomach. Over subsequent visits, her doctor persisted and used her young son and the fact that her insurance would cover the procedure to convince her it was right for her. “My blood pressure was starting to get higher. Anything I told her about stomach issues, acid reflux, and stuff, she would just say, ‘It’s because you’re fat,’” Ms. Colgan said. “She said it could be considered abuse if I wasn’t taking care of myself, and if I’m a single mom, why don’t I care about my son enough to take care of me?”

Conflicted and worn down, she caved to the advice for her son’s sake and had an event-free surgery—one that’s now considered safe enough to be performed on children. From the outside, she appears to be a picture of better health, but she traded pounds for problems that were never fully explained. Since then, her stomach symptoms have worsened and multiplied. A review of studies across various surgical procedures published in a 2017

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Ultimate Detox: Expert Strategies to Prevent Disease

Detox efforts should focus on enhancing the body’s natural detoxification phases

By Christy Prais

Every day, our bodies are under siege from the air that we breathe to the prod-

ucts that we use. We’re exposed to more than 86,000 chemicals, according to the Environmental Protection Agency. Chronic exposure to these toxins, including heavy metals, has been linked to cancer, respiratory disease, diabetes, cardiovascular problems, allergies, autoimmune conditions, and more. The body’s natural detoxification sys-

tems work hard to counter this chemical assault. But when the amount of toxins that we take in outpaces the body’s ability to remove them, they accumulate in tissues and cells, depleting our protective mechanisms and potentially contributing to various diseases. So, it’s important to support the body’s

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Promise or Peril

COVID-19 mRNA Vaccine Issues Series

PART I THE SURPRISING LACK OF RESEARCH BEHIND THE FDA'S MRNA VACCINE APPROVAL

Stunning gaps in safety studies reveal the need for a regulatory overhaul at the FDA

The FDA modified its approval process in problematic ways for new mRNA vaccines.



➔ *The pandemic has ended, but the introduction of the COVID-19 vaccines, which use mRNA technology, signifies the start of a new era in modern medicine. The lagging regulatory framework that the FDA cobbled together specifically for mRNA vaccine approval has set the stage for adverse events related to genetic therapies using this new technology. In this series, we reveal emerging concerns about mRNA injections related to the lipid nanoparticles, spike protein, and vaccine contamination as public documents are released.*

By Allison Krug, Dr. Ram Duriseti, Xiaoxu Sean Lin & Yuhong Dong

When a new vaccine is developed for humans, it's subject to rigorous safety testing—first in animals, then in humans. That's what normally happens. To illustrate what actually happened with the mRNA vaccines, it'll help to use an analogy. Let's say the COVID-19 vaccine was the first bioengineered egg to be tested by the FDA for safe human consumption. The egg "shell" is the LNP capsule that carries the genetically modified "contents," the mRNA and spike protein.

The FDA decided to relax its regulations and only test the LNP shell in animals and bypassed testing of the contents (mRNA and spike protein) in animals or humans. This testing would have determined how the body responds to the new technology (biodistribution study).

In other words, the FDA approved the first-ever mRNA "vaccine" to be injected into the human body without checking the biodistribution of the "contents" (the mRNA and spike protein) for human safety. It only checked the LNP "shell" on animals before giving its stamp of approval. Even the limited LNP testing data is alarming.

Despite this lack of adequate safety testing for the first mRNA "vaccine"

used in humans, the FDA granted authorization and assured the public with authoritative certainty that the entire product was safe. As serious adverse events unfolded at an unprecedented rate, the FDA doubled down on its safety claims, requiring no additional studies.

The limited data we do have is concerning because it shows that the LNP spreads throughout the body instead of just staying in one place. This limited level of testing isn't permitted for the approval of other drugs.

The European version of the U.S. FDA—the European Medicines Agency (EMA), was more open than the FDA regarding the limited data available. The EMA shared many details about how the LNP (the "shell") spreads throughout the body. It also expressed concerns about impurities in the vaccines during manufacturing. This series will discuss these issues thoroughly, including excerpts from EMA reports. The Pfizer report submitted to the FDA, which we'll also cover, was only available after a Freedom of Information Act request, a legal mechanism to compel disclosure. Why is there such reluctance to share testing data?

Relaxed Regulations for COVID mRNA Vaccines

Before a new drug or vaccine is approved by a health authority, it must understand how the body will process the drug.

Typically, a nonclinical pharmacokinetics study report is submitted to the FDA to explain how the drug is released, absorbed, distributed, metabolized, and excreted from the body. This is called a biodistribution study.

However, during the COVID-19 pandemic, the FDA modified its typical approval process for new vaccines in response to the public health emergency. The new "nonbinding recommendations" for the pharmaceutical industry issued in June 2020 relaxed

During the COVID-19 pandemic, the FDA modified its typical approval process for new vaccines in response to the public health emergency.

the rules for mRNA vaccine approval compared to what's typically required for "gene therapy."

The new FDA guidance, titled "Development and Licensure of Vaccines to Prevent COVID-19," allowed companies to present data collected from other development platforms. In other words, studies that were conducted on other products were permitted to support the application for emergency use of the mRNA vaccines:

"COVID-19 vaccine development may be accelerated based on knowledge gained from similar products manufactured with the same well-characterized platform technology, to the extent legally and scientifically permissible.

"In some cases, it may not be necessary to perform nonclinical safety studies prior to FIH [first in human] clinical trials because adequate information to characterize product safety may be available from other sources. For example, if the COVID-19 vaccine candidate is made using a platform technology utilized to manufacture a licensed vaccine or other previously studied investigational vaccines and is sufficiently characterized, it may be possible to use toxicology data (e.g., data from repeat dose toxicity studies, biodistribution studies) and clinical data accrued with other products using the same platform to support FIH clinical trials for that COVID-19 vaccine candidate."

The request for biodistribution studies is written in very general terms, without sufficient specificity for a novel therapeutic such as the COVID-19 mRNA vaccines:

"Biodistribution studies in an animal species should be considered if the vaccine construct is novel in nature and there are no existing biodistribution data from the platform technology. These studies should be

at up to only 20 feet that someone with average eyesight could see at up to 50 feet, according to the study. In addition, her eye tissue was torn, optic nerves were swollen, and multiple pale-colored lesions were scattered throughout the back of her eye.

After three months and without treatment, vision in the woman's right eye returned to normal, and all other symptoms subsided.

One year later, the woman showed similar symptoms and was once again diagnosed with MEWDS, but this time, it was in her left eye. Symptoms emerged seven days after she had tested positive for COVID-19, leading researchers to suspect a link between the two events.

Similar to the first instance, no treatment was required, and symptoms resolved after nine months.

conducted if there is a likelihood of altered infectivity and tissue tropism or if a novel route of administration and formulation is to be used."

While the FDA authorized these products under these relaxed rules, other scientists have suggested that more specificity was needed. For example, a review by mRNA researcher Pieter Vervaeke and colleagues states: "The rapid rise of mRNA therapeutics has resulted in a regulatory framework that is somewhat lagging." They explain further in the abstract that a "multi-layered approach" should be used to understand what the new products do in vivo (in the human body).

"Biodistribution studies for RNA therapeutics should encompass both the RNA molecule(s), the individual components of the carrier, the combined RNA-carrier drug, and the produced protein," they said.

In other words, test the shell of the egg and the contents.

As we'll demonstrate, adhering to such guidelines would have been very helpful prior to authorization for human use. However, to our knowledge, none of the current COVID-19 mRNA vaccines have ever been through such biodistribution studies to evaluate the RNA molecule and its encoded spike protein. Only the LNP carrier capsule has been studied in this manner, and only in animals, not humans.

FDA Review of Pfizer Biodistribution Study

Based on the FDA's modified rules for mRNA vaccines, the agency reviewed Pfizer's BNT162b2 LNP carrier biodistribution study report in November 2020 to understand how the mRNA vaccine would work. The report was marked as "approved" on Nov. 9, 2020.

As will be presented here and in Part 2, this report was widely adopted by the European Medicines Agency, the Australian Therapeutic Goods Administration, and the Japanese government.

What Is MEWDS?

MEWDS, which dates to 1984, is considered an idiopathic inflammatory disease of the outer retina that occurs spontaneously and without concrete explanation, according to the study. It's thought to be an autoimmune response.

It often occurs in young, myopic women, with a mean age of 28. However, it's also seen among people older than 65.

MEWDS patients may have flu-like early symptoms that include:

- Visual disturbances such as flashes of light.
- Sudden, painless decline in central acuity in one eye.
- Partial color blindness.

It can be bilateral in some cases.

The multiple white dots in the retina usually disappear after the acute phase of the disease, hence the name "evanescent." Recurrences of MEWDS are rare.

Treatment for the disease is often unnecessary, and most patients recover in weeks to months.

About one-third of cases occur after a viral illness. MEWDS has been linked to both viral infections and several vaccinations, including hepatitis A and B, human papillomavirus (HPV), influenza, measles-mumps-rubella (MMR), chickenpox, rabies, yellow fever, and now, COVID-19.

Other Case Studies

This isn't the first time that a patient was diagnosed with MEWDS after receiv-

ing the injection site, the next highest levels were in the spleen, liver, adrenal glands, ovaries, bone marrow, lymph nodes, kidneys, muscles, and heart, in order of the concentration. The liver reading was 24,288 at 48 hours. This number can be found in both the Australian and Japanese reports, which will be discussed in Part 2 of this series.

CDC's Silent Removal of Reassuring Message

After issuing authorization, the U.S. Centers for Disease Control and Prevention (CDC) sought to calm fears about toxicity and claimed that the mRNA is broken down and removed from the body quickly, while the spike protein may take longer to clear.

Yet these claims (see below in the red box), which were stated on the CDC website on July 15, 2022, have been quietly removed. Does the CDC, therefore, acknowledge that evidence is lacking to support these claims?

Sometime after July 2022, the CDC updated this web page to reassure the public that the mRNA vaccine doesn't integrate into the human genome, with no mention of how long the spike protein and mRNA will last in the body.

Why did the CDC change the messaging on its website to focus on DNA integration instead of how long mRNA and spike protein last in the body?

Allison Krug is an epidemiologist and program manager with experience leading population health programs. She's the lead author of the first stratified risk-benefit analysis of mRNA vaccination among

adolescents and editor for 400+ research manuscripts published in high impact factor, peer-reviewed journals. She's also the founder and CEO of Artemis Biomedical Communications, LLC.

Dr. Ram Duriseti is a clinical associate professor and physician-scientist at Stanford University. He received his M.D. from the University of Michigan and his medical training and Ph.D. in Computational Decision Modeling from Stanford University. He has practiced in clinical emergency medicine in both community and academic settings for over 22 years.

Xiaoxu Sean Lin is an assistant professor in the Biomedical Science Department at Feitain College in Middletown, New York. He is also a frequent analyst and commentator for Epoch Media Group, VOA, and RFA. He is a veteran who served as a U.S. Army microbiologist and also a member of Committee on the Present Danger: China.

Yuhong Dong, M.D., Ph.D., is a senior medical columnist for The Epoch Times. She is a former senior medical scientific expert and pharmacovigilance leader at Novartis Headquarters in Switzerland, and was a Novartis award winner for four years. She has preclinical research experience in virology, immunology, oncology, neurology, and ophthalmology, and also has clinical experience in infectious disease and internal medicine. She earned her M.D. and a doctorate in infectious diseases at Beijing University in China.

VACCINE INFORMATION FROM THE CDC.GOV WEBSITE

The CDC originally claimed that the mRNA in COVID-19 vaccines was broken down and removed from the body quickly but then quietly removed these claims sometime after July 2022.

Facts About mRNA COVID-19 Vaccines

mRNA COVID-19 vaccines cannot give someone COVID-19 or other illnesses.

- mRNA vaccines do not use any live virus.
- mRNA vaccines cannot cause infection with the virus that causes COVID-19 or other viruses.

They do not affect or interact with our DNA.

- mRNA from these vaccines do not enter the nucleus of the cell where our DNA (genetic material) is located, so it cannot change or influence our genes.

The mRNA and the spike protein do not last long in the body.

- Our cells break down mRNA from these vaccines and get rid of it within a few days after vaccination.
- Scientists estimate that the spike protein, like other proteins our bodies create, may stay in the body up to a few weeks.

Facts About mRNA COVID-19 Vaccines

Currently, there are three main types of COVID-19 vaccines that are approved or authorized for use in the United States: mRNA, viral vector, and protein subunit. Each type of vaccine prompts our bodies to recognize and help protect us from the virus that causes COVID-19.

None of these vaccines can give you COVID-19

- Vaccines do not use any live virus.
- Vaccines cannot cause infection with the virus that causes COVID-19 or other viruses.

They do not affect or interact with our DNA.

- These vaccines do not enter the nucleus of the cell where our DNA (genetic material) is located, so it cannot change or influence our genes.

SOURCE: CDC.GOV WEB ARCHIVE

NEXT WEEK Revelations from international health authorities.



▲ Both COVID-19 and its vaccines are linked to white dot syndrome, which can cause dark blind spots, phantom light flashes, and overall decreased vision.

COVID-19 and Vaccine Linked to Eye Ailment

Woman suffers white dot syndrome in right eye after vaccine and in left eye after infection

By Mary Gillis

Scientists from New Zealand have uncovered the first case of a rare eye disease linked to both the COVID-19 vaccine and the virus itself, a new study published in the Journal of Ophthalmic Inflammation and Infection reveals.

An otherwise healthy 28-year-old patient was diagnosed with multiple eva-

nescent white dot syndrome (MEWDS) after complaining of vision problems just two days after receiving her second dose of the Pfizer-BioNTech vaccine.

The woman's symptoms included dark blind spots, phantom light flashes, and overall decreased vision—all specific to her right eye.

Doctors discovered that the vision in her right eye went from 20/20 to 20/50, meaning that she could see something

The Ultimate Guide to KICKING SUGAR

PART 5 THE DISEASE-FIGHTING POWERS OF HONEY

Honey fights bacteria, viruses, inflammation, and more—and can even outperform some antibiotics

➔ *In this series, we explore the good and bad sugars and sweeteners, including popular natural ones, uncover the unexpected outcomes of cutting out sugar, and discover the ultimate way to do so.*

By Flora Zhao

Honey is a sweet food and medicine that nature has gifted us. Its history of medicinal use can be traced back 8,000 years. Sometimes, the therapeutic effects of honey surpass even those of medications, particularly its outstanding antibacterial and antiviral properties.

Honey's Antibacterial Properties Are Superior to Antibiotics

"Bacteria quickly learn how to fight off the effects of the antibiotic drugs, but they don't have honey resistance," Nural Cokcetin, a research fellow at the Australian Institute for Microbiology and Infection in the science faculty at the University of Technology Sydney, said in an interview with The Epoch Times.

Honey has been used to treat skin problems and wound infections for thousands of years. For instance, ancient Greeks and Egyptians would apply honey topically to the skin to treat wounds and burns. Honey's effectiveness in treating wounds and eczema was also documented in Persian traditional medicine. Interestingly, the concept of microorganisms such as bacteria and fungi causing wound infections during those historical periods might not have even been known.

The broad-spectrum antibacterial activity of honey has been increasingly recognized and substantiated. In recent years, the prevalence of wound infections caused by antibiotic-resistant bacteria has become a major global health care challenge. Honey can disrupt biofilms that are formed by these resistant bacteria and sometimes penetrate the biofilm structure to eliminate the embedded bacteria. An article published in the journal of the American Society for Microbiology in 2020 reported no documented cases of bacteria developing resistance to honey.

In clinical settings, medical-grade honey has been utilized in various ways. It's formulated into topical ointments, dressings, and bandages for the treatment of postoperative wound infections, burns, necrotizing fasciitis, nonhealing wounds, boils, venous ulcers, diabetic foot ulcers, eczema, psoriasis, and dandruff. Additionally,

it has proven effective in both preventing and treating infections caused by multidrug-resistant microorganisms.

In vitro studies have shown that honey can kill *Helicobacter pylori*. Furthermore, oral consumption of honey can reduce the duration of bacterial diarrhea.

The antibacterial properties of honey originate from its inherent characteristics and a diverse array of components derived from both nectar-producing plants and bees themselves.

Key Antimicrobial Components

The antibacterial properties of honey originate from its inherent characteristics and a diverse array of components derived from both nectar-producing plants and bees themselves. Additionally, some of these components are formed during the maturation process of honey.

High Viscosity and pH

Honey has a high sugar content, reaching up to 82.5 percent. As a result, it has a viscous and syrupy consistency, exhibiting hygroscopic properties (ability to absorb moisture) and high osmolality. Bacteria that come into contact with honey undergo dehydration and ultimately perish.

Honey is acidic due to its various organic acids, with a pH value ranging from 3.2 to 4.5. Bacteria can't survive in honey; their optimal pH typically ranges between 6.5 and 7.5.

Primary Antibacterial Agent: Hydrogen Peroxide

An important enzyme in honey derived from bees facilitates the oxidation of glucose, resulting in the production of hydrogen peroxide.

Hydrogen peroxide is an effective bactericidal agent that can inhibit and kill microorganisms.

Interestingly, water is necessary to induce honey's hydrogen peroxide production. The maximum level of hydrogen peroxide can be obtained by diluting honey to a concentration of 30 to 50 percent, according to a paper in the International Journal of Microbiology.

Bees Contribute Antibacterial Component Bee Defensin-1

Bee defensin-1 is another natural antibacterial com-



Honey water can provide effective relief for cold and respiratory symptoms.

Honey has been used to treat skin problems and wound infections for thousands of years.

Bees collect a complex and unique set of compounds from flowers and process it into an incredible food.



Honey's Antiviral Properties May Reduce COVID-19 Complications

Honey not only possesses antibacterial properties but also exhibits antiviral effects, which help protect the body and boost the immune system. Many individuals find relief from symptoms of cold and respiratory illnesses by consuming honey water, and there's a valid basis for this remedy.

Combats Influenza and COVID-19

MGO can inhibit the growth of enveloped viruses, including the virus

ponent in honey originating from the honeybee's hypopharyngeal gland.

Bee defensin-1 is an antimicrobial peptide that can kill various bacteria and microorganisms. Specifically, the defensin protein has been shown to create pores within the bacterial cell membrane, leading to cell death.

Additionally, bee defensin-1 can aid in wound healing by stimulating keratinocytes, the most common type of skin cell.

Unique Antibacterial Component in Manuka Honey: Methylglyoxal

Manuka honey is often mentioned in studies regarding the antibacterial effects of various kinds of honey. As a globally recognized honey with high antibacterial potency, it possesses a unique natural component called methylglyoxal (MGO).

After honeybees gather nectar from the flowers of manuka trees, a natural substance that's found in the trees undergoes spontaneous dehydration, leading to the formation of MGO in the honey.

"The more of [methylglyoxal] there is, the more antibacterial that honey is," Dee Carter, a professor from the School of Life and Environmental Sciences at the University of Sydney, told The Epoch Times.

MGO exhibits remarkable antibacterial properties by itself. It can alter the structure of bacterial fibrillae and flagella (appendages), and induce damage to their cell membranes, ultimately resulting in cell death.

However, this substance is sensitive to heat. Heating manuka honey to 98.6 degrees F (37 degrees C) can increase the levels of MGO, but heating it to 122 degrees F (50 degrees C) results in the loss of MGO.



The varying colors of honey reflect its different polyphenols, minerals, and pollens.

that causes COVID-19.

According to a study published in the Eurasian Journal of Medicine and Oncology in 2020, computer simulations revealed that multiple compounds found in honey can bind to the protease of SARS-CoV-2, effectively inhibiting its replication.

MGO in manuka honey can also inhibit the replication of influenza viruses, including drug-resistant strains.

Currently, scientists are researching the potential of MGO for managing and treating COVID-19.

Boosts the Immune System

Honey can activate several immune cells, enabling them to eliminate viruses effectively. For example, oligosaccharides that are present in honey can enhance the activity of natural killer cells. Additionally, certain immune cells can "remember" specific viruses during the antiviral response, offering future protection against the same viral invasions.

Honey can promote the proliferative activity of immune cells, thus increasing their quantity.

Promotes Autophagy

Honey can promote autophagy, which is crucial in combating deadly viruses such as SARS-CoV-2, which causes COVID-19. It's an internal cellular process that involves the degradation and metabolism

of cells, allowing for the removal and recycling of unwanted or damaged cells and impurities. This process contributes to the generation of healthier cells and promotes recovery.

Honey's Anti-Inflammatory and Gut-Health Benefits

Inflammation is a common occurrence in bacterial or viral infections. Left unchecked, it can significantly harm the body, potentially leading to life-threatening complications.

Moreover, honey has been suggested to have a dual role in inflammation control: It can downregulate anti-inflammatory factors, thereby reducing inflammation damage, and stimulating the production of inflammatory mediators, promoting wound healing.

In one of Ms. Cokcetin's studies, honey could reduce inflammation levels in the intestines. She attributes this effect to the abundant presence of phenolic compounds found in honey.

She explained that honey also contains oligosaccharides and polysaccharides, which are complex sugars. These compounds serve as prebiotics, supporting the growth of beneficial bacteria in the gut and inhibiting the growth of harmful bac-

teria. Additionally, consuming honey promotes the production of short-chain fatty acids in the intestines.

Choosing Honey With Potent Properties

Generally, raw and darker honey varieties tend to have more robust efficacy.

Commercially available honey found on supermarket shelves differs from raw honey sold by beekeepers or at bazaars, as it's generally pasteurized. Research has shown that heat processing can lower the antioxidant capacity of honey by 33.4 percent. Alternatively, you can also choose honey processed using high-pressure techniques.



Many studies indicate that darker honey has higher phenolic compound levels and stronger activity.

Honey comes in a diverse range of colors, from light yellow to amber, dark red, and even nearly black. These colors reflect the varying composition of honey, such as polyphenols, minerals, and pollen. Numerous studies suggest that dark-colored honey generally contains higher levels of phenolic compounds and shows more potent activity.

NEXT WEEK Is maple syrup a good sugar?

FOOD AS MEDICINE

Unique Sugar Shows Cancer-Fighting Abilities

Researcher says mannose sugar an 'untapped treasure trove' of potential cancer treatments

By George Citroner

Could a spoonful of sugar help treat malignant cancer?

A recent study published in eLife is the latest to suggest that mannose, or D-mannose, a natural sugar lethal to honeybees and abundant in many fruits, starves human cancer cells by blocking their ability to build DNA and grow.

A New (Sweet) Way to Combat Cancer

In recent years, mannose's anti-cancer properties have garnered much attention from researchers. Several

studies have shown that mannose can inhibit the growth of various cancers, including lung, colorectal, and prostate cancer. The mechanism of action isn't yet fully understood but is thought to involve the disruption of glycosylation processes in cancer cells, which impairs cell growth and DNA synthesis. The following are some of the ways mannose fights cancer:

- **LUNG CANCER:** A study published in Cancer

Management and Research in 2020 found mannose sugar slowed lung cancer tumor growth and helped make chemotherapy more effective at fighting the disease in an animal study. "Mannose could probably solve the problem of drug resistance during chemotherapy," the study authors wrote.

- **PROSTATE CANCER:** Research from 2022 found that mannose sugar can retard growth and stimulate cell death of prostate cancer in mice through its effect on the mitochondria of these cancer cells.



Mannose is a natural sugar found in fruits like cranberries, blueberries, oranges, apples, and peaches.

- **COLORECTAL CANCER:** A 2022 study found that mannose sugar can halt tumor growth in mice with colorectal cancer.

Mannose's Possible Role in Preventing Cancer

While the exact mechanisms are still being un-

raveled, some scientists hypothesize mannose may also help prevent cancer by supporting healthy cells in the following ways:

- **ACTIVATING THE IMMUNE SYSTEM:** Mannose has been suggested to enhance the activity of immune cells, particularly macrophages, which play a role in identifying and eliminating cancer cells.
- **REDUCING INFLAMMATION:** Chronic inflammation is associated with an increased risk of cancer. Mannose may have anti-inflammatory properties that could help reduce chronic inflammation.
- **INHIBITING TUMOR GROWTH:** One 2021 study suggested that mannose can hinder the growth of tumors by interfering with specific metabolic pathways that cancer cells rely on for energy.
- **DISRUPTING GLYCOSYLATION:** Mannose is involved in glycosylation, a process where

sugar molecules are added to proteins. Some cancer cells exhibit abnormal glycosylation patterns. The theory is that mannose supplementation may interfere with this abnormal glycosylation, inhibiting the growth and spread of cancer cells.

What the Latest Research Says

"It's been known for more than a century that mannose is lethal to honeybees because they can't process it like humans do—it's known as 'honeybee syndrome,'" Hudson Freeze, who holds a doctorate in biology and is the director of the Human Genetics Program at Sanford Burnham Prebys Medical Discovery Institute and coauthor of the study recently published in the eLife journal, said in a press statement.

His team aimed to investigate if this syndrome was connected to mannose's anti-cancer effects.

Using genetically engineered human cancer cells from fibrosarcoma, a rare cancer in connective tissue, the researchers replicated honeybee syndrome in the lab. They found that the

cancer cells struggled to build DNA and replicate without the enzyme to process mannose, making them more vulnerable to chemo.

While promising, the approach requires more research to determine which cancer types respond best to this treatment.

"If we can find cancers that have a low activity of the enzyme that processes mannose, treating them with mannose could give just enough of a nudge to make chemotherapy more effective," Mr. Freeze said, noting that this approach is an unexplored frontier and may represent an "untapped treasure trove" of potential treatments waiting to be discovered.

Mannose Is Already Used to Treat Some Diseases

Mannose is a naturally occurring simple sugar found in fruits, including blueberries, cranberries, oranges, apples, and peaches. Chemically similar to glucose, it's less sweet and impacts blood sugar differently.

Mannose isn't readily absorbed, so

it elicits a lower insulin response, potentially beneficial for diabetes, Emily Feivor, a registered dietitian at Northwell Long Island Jewish Forest Hills, told The Epoch Times. It may also encourage gut health.

Infections

Mannose nurtures the growth of good bacteria in the gut, said Ms. Feivor, noting this is unlike regular table sugar.

"And may have preventative properties for urinary tract infections due to it being metabolized through the kidneys and excreted as urine."

A healthy gut microbiome can have cascading effects on the body, including an improved immune system.

Mannose may prevent recurrent UTIs, a 2013 randomized controlled trial found. A systematic analysis of over 32,000 studies found that mannose is an effective and safe treatment for cystitis and other UTIs, especially during pregnancy.

Genetic Disorders

Mannose sugar has also shown effectiveness in treating

congenital disorders of glycosylation, a group of rare genetic conditions that impact the incorporation of sugar building blocks.

Glycosylation is a process that involves adding sugar molecules to proteins and lipids to stabilize their structure and function. Disorders in the process can cause severe symptoms, including seizures and stroke-like episodes. Mannose was found to normalize this process.

The only side effects associated with use have been relatively minor. According to one study, the most common adverse reaction was diarrhea.

The body's poor absorption of mannose reduces insulin reactions—a benefit for diabetics.



M.M. PHOTO/SHUTTERSTOCK

A Gut Microbe That Heals the Gut Is Dying Off

By Amy Denney

Donna Schwenk's kitchen is overflowing with bacteria. That comes as no surprise after more than two decades of culturing food for healing—first as a personal mission to heal her baby, and now for her business.

Still, she was a bit reluctant to try out a new bacteria. Afterall, her health was in tip-top shape, and her business, Cultured Food Life, was growing. The author of three bestselling books and a podcast host, Ms. Schwenk had her hands full with her courses teaching others the ins and outs of how to make their own fermentation labs at home.

She reluctantly began culturing yogurt with a new bacterial strain—*Limosilactobacillus* (formerly *Lactobacillus*) *reuteri*—at the encouragement of Dr. William Davis, a cardiologist and author of several books including "Super Gut." Dr. Davis also asked her to eat it daily for a year.

The human gut is also a fermentation vat of sorts because it nurtures the growth of many different bacteria.

"It blew my mind. I thought I was really smart. I thought I knew everything," Ms. Schwenk said. "They use *L. reuteri* to clean fermentation vats because it's so strong."

She said the human gut is also a fermentation vat of sorts because it nurtures the growth of many different bacteria, some of which may also need to be cleaned out. That's where *L. reuteri* comes in.

"It will kill all the other [microbes] that don't belong there, and it will thrive. That's why it's working so well for people, because in that upper gastro area, without *L. reuteri*, you start having problems if you get other bacteria in there," Ms. Schwenk said.

She began to offer it to friends, including one who had chronic diarrhea and couldn't leave the house. Relief from pain and embarrassment came in just a few days. Other testimonies included improved energy and mental health, less muscle fatigue, easier breathing, appetite suppression, and more.

A single bacterial species can have widespread effects in the gut by altering the

entire community of microbes in the human microbiome—the total collection of bacteria, viruses, and fungi.

In the case of *L. reuteri*, it inhibits the growth of pathogenic species while remodeling the biome, benefits host immunity, and decreases the translocation of bacteria out of the gastrointestinal tract into the bloodstream or lymphatic system—believed to be a root cause of autoimmune disease.

L. Reuteri's Origins

Discovered in 1962, *L. reuteri* colonizes human gastrointestinal tracts and can withstand a wide range of pH environments, making it a rare beneficial bacteria that can proliferate in the small intestine. Typically, bacterial overgrowth in the small intestine can lead to digestive problems, but that isn't the case with *L. reuteri*. Back when it was discovered, *L. reuteri* was found in about 30 percent to 40 percent of the population. A Science Daily article in

Limosilactobacillus reuteri is a rare and beneficial bacteria that can be used to create yoghurt.

2010 said its presence had shrunk to 10 percent to 20 percent by then. Dr. Davis and others claim its level is now at 4 percent.

As with many other bacteria that are disappearing from the human microbiome, *L. reuteri*'s extinction is connected to antibiotic overuse, glyphosate, emulsifiers in processed food, and stomach acid blockers. Dr. Davis told The Epoch Times that *L. reuteri* is quite susceptible to death by antibiotics.

"Even though *reuteri* is ubiquitous in mammals and in indigenous human population like New Guinea or in the Brazilian rainforest, almost nobody in the modern world has *reuteri* anymore because we've all killed it," he said.

It's believed that *L. reuteri* is conferred to infants from breastfeeding mothers. A 2008 study published in *Microbial Ecology in Health and Disease* looked at samples of breast milk from different regions to illustrate the differences between the bacterial makeup of breast milk by country. Breastfeeding translates to greater protection against childhood diseases such as asthma and obesity.

About half of the mothers from Japan and Sweden had *L. reuteri* in their milk. Mothers in South Africa, Israel, and Denmark had very low or undetectable levels. Urban and rural living didn't appear to play a significant role, although the authors speculated that diet could be a factor. The Japanese diet, for instance, is high in function-



Who Should Not Use Ibuprofen

By Vance Voetberg

Popping an ibuprofen for that pounding headache or twisted ankle can provide quick relief from pain. But although this easily accessible over-the-counter drug could temporarily mask discomfort and sometimes eliminate pain, experts say it does little to spur true healing.

Furthermore, for these five groups of people, ibuprofen poses serious health risks that outweigh potential benefits.

1. People With Liver and Kidney Problems

People with an impaired liver or impaired kidneys should avoid ibuprofen, as the drug can damage these vital organs, Dr. Joseph Maroon, a professor of neurological surgery at the University of Pittsburgh Medical Center, told The Epoch Times.

Even as it's considered one of the safer nonsteroidal anti-inflammatory drugs (NSAIDs) for the liver, ibuprofen can cause damage to liver cells, also known as hepatotoxicity or toxic hepatitis, according to a systematic review analyzing 22 studies. This liver injury occurred within 12 days of starting treatment and was more common in women.

As the body's detoxifier, the liver breaks down and assesses compounds. Ibupro-

fen is challenging for the liver to process, Dr. Maroon said.

"The liver is critical in removing wastes and degrading drugs. Ibuprofen can be toxic to these processes."

The standard dosage of 200 to 400 milligrams three times daily is burdensome for the liver. Though ibuprofen overdose is rare, it can cause liver damage. A 2020 study from the University of California-Davis found that even moderate doses of ibuprofen may have more significant adverse effects on liver health than doctors realize. Research in mice showed that ibuprofen treatment altered metabolic pathways, including those regulating amino acids, hormones, and vitamins.

Ibuprofen is also toxic to the kidneys, as it damages blood vessels that filter waste. Overuse can lead to analgesic nephropathy, a kidney disease caused by excessive medication. It's more common among those older than 45 and with kidney or liver problems, and those populations should avoid ibuprofen, according to Dr. Maroon.

2. People With Asthma

Asthma affects 1 in 13 Americans. It causes inflamed airways that

produce excess mucus, leading to breathing issues. People with asthma should avoid NSAIDs such as ibuprofen.

Ibuprofen blocks inflammation pathways but can increase compounds called leukotrienes, causing bronchospasms, a tightening of the muscles that line the lung's airways.

A 2016 study published in *Medicine* linked short-term use of ibuprofen, aspirin, and diclofenac to asthma exacerbation.

"This study urges the physicians to reassess their treatment strategies for fever in children with asthma," the researchers wrote.

Another 2019 study from Taiwan showed that ibuprofen has higher asthma attack risks than acetaminophen in young children if they had an ER visit or hospitalization the prior year.

People with an impaired liver or impaired kidneys should avoid ibuprofen, as the drug can damage these vital organs.

3. People With Hypertension or Heart Failure

Studies show that ibuprofen and NSAIDs such as naproxen can raise blood pressure.

Two meta-analyses found that NSAID use causes a significant increase in mean blood pressure, especially in hypertensive patients, according to a review article published in *Drug Safety*. One report noted that NSAID users had a 1.7 times higher risk of needing antihyperten-



al, probiotic, and fermented foods.

A Stanford University study that compared diets high in fiber to those high in fermented foods lends credibility to the idea that eating foods rich in probiotics diversifies gut bacteria. Those randomly assigned to fermented food diets for 10 weeks more quickly expanded their microbiomes and also displayed decreases in molecular signs of inflammation associated with disease, according to the results published in 2021 in *Cell*.

L. Reuteri and Gut Infections

L. reuteri appears to have a bi-directional relationship between gut health and disease. Several studies have shown that *L. reuteri*'s antimicrobial properties are nature's version of an antibiotic—capable of protecting the body from gut infections.

There are various strains of *L. reuteri* that undergo a metabolic process that produces lactic acid, acetic acid, ethanol, and/or reutericyclin. These metabolites have proven effective against pathogens including *Escherichia coli*, *Clostridium difficile*, *Salmonella*, and *Helicobacter pylori* (*H. pylori*), according to a 2018 *Frontiers Microbiology* review article.

H. pylori infections are a major cause of chronic gastritis and peptic ulcers, in addition to a risk factor for gastrointestinal (GI) cancers. *L. reuteri* supplementation is particularly effective at decreasing the bacterial load of *H. pylori* when both are competing for food and resources. Some studies have shown that *L. reuteri* has the potential to completely eradicate *H. pylori*.

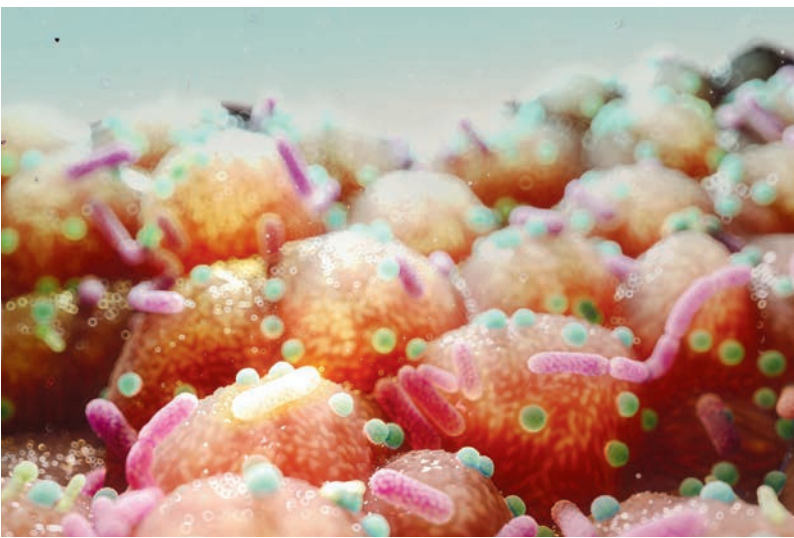
The microbe is able to resist the acidic environment of the small intestine and adhere to intestinal epithelial cells, where it begins to regulate intestinal flora, enhance the mucosal barrier, regulate immune cells, improve antioxidant activity, and regulate the immune system of the host, according to a *Frontiers Immunology* review article published in August that explains *L. reuteri*'s mechanism of action.

L. reuteri has been successfully used in GI diseases such as colic—which can affect as many as 20 percent of newborns—and diarrhea. One way that this pathogenic antagonist does this is by secreting exopolysaccharide, which is able to form mucus that tightens junctions in the intestinal mucosal barrier and begins healing GI damage.

The Rise of SIBO

It's a logical theory that *L. reuteri*'s disappearance is linked to small intestinal bacterial overgrowth (SIBO), which makes its reintroduction to the GI tract a compelling alternative to harsh prescription antibiotics for the condition.

SIBO is the presence of excessive bacteria in the small intestine that cause symptoms such as abdominal pain, bloating, diarrhea, and sometimes malabsorption. Stomach acid and peristalsis (contractions that move food through the digestive tract) are protective mechanisms designed to protect the small intestine



▲ *L. reuteri*'s decline is tied to excessive antibiotic use, glyphosate, processed food emulsifiers, and other harmful modern factors.

Back when it was discovered, *L. reuteri* was found in about 30 TO 40 PERCENT of the population.

A single bacterial species can have widespread effects in the gut by altering the entire community of microbes in the human microbiome.

against excessive bacterial growth. Most nonspecific gastrointestinal complaints are now considered to be SIBO.

"The SIBO gets pushed back by this microbe. There's a variety of ways to gauge that, including if you test," Dr. Davis said.

Besides breath tests that measure the amount of hydrogen or methane that you breathe out, inflammatory markers, blood pressure, body mass index, triglycerides, and symptoms related to inflammatory bowel disease have been associated with SIBO and impacted by *L. reuteri*, he said.

Diseases Associated With L. Reuteri

Weak intestinal barriers—sometimes called "leaky gut"—have been implicated in a number of diseases, particularly autoimmune diseases. According to the 2018 *Frontiers Microbiology* review, many studies have shown that *L. reuteri* induces anti-inflammatory regulatory T cells, or Treg cells, which play a role in preventing autoimmunity, suppressing cytokine storms, and limiting chronic inflammatory diseases.

This makes *L. reuteri* a good candidate for disease prevention, as well as symptom management. "Indeed, the therapeutic potential of various *L. reuteri* strains has been studied in diverse diseases and the results are promising in many cases," the study authors wrote. "The safety and tolerance of *L. reuteri* has been proven by the numerous clinical studies."

Proceed With Caution

While this microbe is very promising, there are some caveats. First, there are many different strains of *L. reuteri* that appear to have specific applications.

Also, as the 2023 review article warned, host genetics and epigenetics—particularly diet—appear to diversify immune responses. Other issues of concern are dosing, how well studies are designed in terms of subjects and controls, the length of intervention, and the synergistic effect of multiple strains, which could be beneficial but potentially damaging.

"[M]ixed strains might get out of control due to the inconsistent reproduction speed of each strain, thus disturbing the balance and hindering the control of microecology," the review article stated.

Weak strains were a concern for Dr.

Davis, which is why he cultured the bacteria in yogurt using a supplement dose intended for newborns, which was the only one available when he began his investigations. Using flow cytometry, he was able to ferment and multiply the dose from 100 million to 300 billion.

Compared with other yogurts, it's a bit harder to culture—requiring a sustained temperature of 100 degrees for 36 hours—and it appears that permanent gut colonization is unlikely, so it would have to be maintained through diet, Dr. Davis said. The microbe is getting a lot of attention, however, with studies in the PubMed database growing to more than 200 in 2022 from 21 studies in 2005.

"So far, every observation made in mice is proving true in humans, seen anecdotally and in clinical trials," Dr. Davis said. "In other words, a lot of the modern phenomenon we're seeing recede by recolonizing the upper intestine with *reuteri*."

The only people who should be cautious with *L. reuteri*—or take reduced doses—are pregnant or menstruating women, and children, he said. That's because when women go into labor, their oxytocin levels surge. Another way that *L. reuteri* is believed to work is by increasing production of oxytocin, the so-called "love" hormone that facilitates bonding, although the mechanism of action isn't well understood.

THERAPEUTIC EFFECTS

Interesting findings about *L. reuteri* revealed by research include:

1. COLON CANCER

Low levels of *L. reuteri* and reuterin levels are linked with colon cancer, according to research published in *Cell* in 2022. The study found that *L. reuteri* was protective against tumor formation in the colon, with reduced *L. reuteri* and reuterin levels found in mice and humans with colon cancer. In mice, both the bacteria and its metabolite were found to decrease tumor growth and prolong survival.

2. OBESITY AND DEPRESSION

One *L. reuteri* strain was shown in a 2023 *Frontiers in Pharmacology* study to alleviate depressive-like behaviors and obesity co-morbidities in mice. They experienced improved blood lipids and insulin resistance. The bacteria also reduced liver inflammation, tightened intestinal junctions, and alleviated dysbiosis, or the overall imbalance of gut microbes.

3. CONSTIPATION

Use of *L. reuteri* for symptoms of gas, abdominal pain, bloating, and incomplete defecation led to better outcomes over a placebo in a double-blind trial published in 2017 in *Beneficial Microbes*.

germ cell count regardless of gestational stage. The adverse effects weren't fully reversed after stopping the drug for five days, indicating long-term effects.

"These findings deserve to be considered in light of the present recommendations about ibuprofen consumption [in] pregnancy," the researchers noted.

A 2021 ex vivo study found that NSAIDs altered fetal kidney development as early as seven developmental weeks in several ways, including cell death.

Additional research has linked ibuprofen during pregnancy to lower birth weight, more maternal bleeding, and higher asthma risk.

5. People With Stroke History

Nerve pain after stroke is common. However, taking NSAIDs for relief isn't recommended, according to Dr. Maroon. A systematic review of 15 studies found that NSAID use significantly raises the risk of hemorrhagic stroke. Researchers attribute the increased stroke risk to vasoconstriction (the narrowing of blood vessels) and sodium excretion, worsening blood pressure.

A 2021 study found that women with menstrual pain using NSAIDs have a higher stroke risk. NSAID use throughout periods is common.

"Especially [for] young women, the risk of stroke is further increased, and the longer the medication [is used], the higher the risk of stroke," the study authors wrote.

sives than nonusers. NSAID use was also linked to a 40 percent increased hypertension diagnosis risk.

Ibuprofen can also decrease the effects of blood pressure medications.

"Since many patients with conditions such as osteoarthritis require treatment and also have hypertension, even modest elevations in blood pressure or inhibition of antihypertensive medication efficacy resulting from nonsteroidal anti-inflammatory drugs can be of significant clinical and public health importance," a paper published in the *Journal of Clinical Hypertension* reads.

Given the link between high blood pressure and heart disease, Dr. Maroon

said people with heart conditions should avoid ibuprofen. A 2016 study published in the *British Medical Journal* associated NSAID use with higher heart failure risk due to increased blood pressure, platelet inhibition, and other properties.

4. Pregnant Women

It's known that pregnant women should avoid NSAIDs after 20 weeks, as the drugs can result in low amniotic fluid, according to the U.S. Food and Drug Administration. However, emerging research suggests that NSAIDs can also harm the baby in early pregnancy.

One study found that ibuprofen reduced cell number, proliferation, and

The standard dosage of 200 TO 400 MILLIGRAMS three times daily is burdensome for the liver.



▲ Research has found mothers who take ibuprofen during pregnancy are more likely to have children with a lower birth weight and asthma.



What You Need to Know ABOUT SURGERY

PART 2 YOU CAN TALK TO YOUR DOCTOR ABOUT SURGERY

For your best chance of a safe and necessary surgery, make sure you know what to ask your doctor and surgeon—and don't be afraid to do so

Continued from Page 1

World Journal of Surgery article found that 1 in 7 patients reported regret about their decision. The authors described the statistic as “uncommon.”

Regret is a relevant pre-surgical subject because evidence shows that both regret and adverse events can be lowered if communication is improved. It's something that health systems, surgeons, organizations, and blogs address by publishing all the questions patients ought to ask before surgery. However, it's questionable whether surgeons are as forthright, as one study in Canadian Journal of Surgery found that 23 percent of clinical discussions don't meet basic informed consent standards.

In essence, the failure to provide thorough risk information undermines patient autonomy, trust, and equitable health care access.

Rosia Parrish, naturopathic doctor

Not only can poor communication strain the doctor-patient relationship, naturopath Dr. Rosia Parrish told The Epoch Times in an email that it can also delay surgical recovery and cause unrealistic expectations for both parties.

But communication is more multifaceted than simple transparency—as pointed out in “Vignettes of Patient Safety.” Subtle nuances in communication help patients identify physician biases and red flags.

It begins with the setting of communication—whether it's poorly lit, full of distractions, or conducted online or with anyone other than the surgeon. Other red flags are surgeons who block conversation by offering advice or reassurance,

explain distress as normal, change the topic, ignore the emotional toll of a condition or decision, and jolly patients along, as the authors explained.

They further described barriers in patient education that can include medical jargon, monologues with little attempt to understand the patient, time restraints, language barriers, and limited understanding of health literacy.

A 2011 study in the Journal of General Internal Medicine noted that many doctors have a bias in that they believe that patient beliefs are aligned with their own. On the flip side, results showed that physicians who better understand patients' health beliefs and values proposed treatments that are better suited for their circumstances and needs.

Communication Is a Critical in Surgical Care

An extensive section in the peer-reviewed book “Vignettes in Patient Safety,” notes that doctor-patient communication has become more collaborative and patient-centered. However, authoritarian styles in health care are plenty—and it's associated with increased medical errors. One report blamed lack of communication on more than 60 percent of adverse events.

While there are patients who prefer to leave all decisions up to their physicians, it's up to doctors not to assume that and approach each situation objectively. This is done with communication that's clear and understood, as well as giving patients time to make up their minds, according to “Vignettes in Patient Safety.”

It's the doctors' responsibility to discern if “internal noise” is interfering with communication, including whether they or the patient are fatigued, hungry, or angry. That's what makes feedback vital; surgeons should be rephrasing what patients said for confirmation to assure total comprehension on their end.

“Though it may take time, once shared decision is made, the process will be long and compliance will be total,” the article stated. “Research has indicated that those who use these tools consistently have not only gained clarity in their communication but they improve the physician-patient relationship and outcomes as well.”

Ethically and even legally, the burden of communication falls on the health care providers, Dr. Parrish said. They shouldn't be closed-minded to conversation, questions, alternatives, and delayed timelines—even when initiated by patients.

“This breach erodes trust and hinders shared decision-making, while also potentially exacerbating healthcare disparities. In essence, the failure to provide thorough risk information undermines patient autonomy, trust, and equitable health care access,” Dr. Parrish said.

The Toll of Regret

Consulting other surgeons—or even other types of providers such as naturopaths or functional medicine doctors—can help patients get another perspective, slow down the decision-making process, and gather more certainty around their decision.

Surgery is irreversible, including organs that are permanently removed, new conditions that could result from the operation, and a chance of other adverse events or even errors. As such, the decision demands a more contemplative approach.

“There's a lot of people who had their appendix out or even their gallbladder removed, and the problem didn't get better,” Dr. Scott Doughty, an integrative family practitioner with U.P. Holistic Medicine, told The Epoch Times.

Dr. Doughty said it's common for surgeons to downplay the importance of the appendix and so see little issue with removing it, even if they aren't sure it's the problem.

“It's a good guess,” he said. Recent research indicates that the appendix may play a role in keeping inflammation and infection at bay. Ironically, the fear of deadly sepsis infections that can result from a burst appendix is likely to spur surgeons to continue advising patients to have them removed.

Understanding Your Risk Factors

Still, second opinions are a good tool—and even required in some cases—to examine the necessity of surgery. Dr. Doughty said it might be particularly beneficial to get an opinion from someone who doesn't have a financial incentive to steer you toward the operating room.

“The question is, ‘Should I be seeking an opinion from some other doctor who has a different tool?’” he said.

The stark reality is surgery inherently carries risks that patients deserve to know. Among them are shock, hemorrhage, wound infection, deep vein thrombosis, pulmonary complications, urinary retention, and reaction to anesthesia.

Not everyone is a good candidate for discretionary surgeries. Considerations for surgery, according to Stanford Medicine, include age, overall health and medical history, the extent of disease, the type of surgery being performed, your opinion/preference, and your tolerance for medications, procedures, and therapies.

A more thorough screening process could reduce mortality rates in the year after surgery. Surgeons who referred their patients to primary care physicians and presurgical care clinics for a frailty assessment experienced an 18 percent reduction in the odds of one-year mortality, according to a study of more than 50,000 patients published in February in JAMA Surgery.

Assessing Competent Surgeons

It can be complicated to navigate the murky waters of how competent your surgeon is, but it's an issue that's attracted some attention. Some believe doctors should also be subject to occasional assessment.

Authoritarian styles in health care are plenty—and are associated with increased medical errors.

A handful of hospitals have introduced mandatory age-based evaluations—similar to age-based testing and forced retirement for professions such as pilots, judges, air traffic controllers, and more—according to a 2017 review published in JAMA Surgery.

The article noted that the number of practicing physicians older than 65 in the United States has increased by more than 374 percent since 1975. In 2015, 23 percent of practicing physicians were 65 years old or older.

“Research shows that between ages 40 and 75 years, the mean cognitive ability declines by more than 20 percent, but there is significant variability from one person to another, indicating that while some older physicians are profoundly impaired, others retain their ability and skills,” the authors wrote.

Basic cognitive testing could be misleading when medical students with little experience are ranked above surgeons with years of practice, according to a statement from Columbia University Irving Medical Center.

“As for what makes a good surgeon, the list is long, but certainly involves manual dexterity, a fund of knowledge, ability to think and readjust on your

feet, compassion, and most importantly, judgment,” Dr. Paul Kurlansky said in the statement. He is associate director of Columbia's Center for Innovation and Outcomes Research and a cardiothoracic surgeon.

Trusted referrals, reviews, and online tools can help determine whether your doctor can handle your surgery. The Society of Thoracic Surgeons, for instance, has an online tool to research outcomes by physicians.

Uncommon Questions to Ask

You can become your own advocate by arming yourself with as many questions as you need. The internet is also filled with lists of what to ask before any specific surgery.

A blog by orthopedic surgeon Dr. Ashvin K. Dewan takes typical lists a step further by discussing questions your surgeon doesn't want you to ask. It includes:

- Do you double-book surgeries? This is a common practice that's sometimes abused. It's important to know what part of your operation will be handled by your surgeon and what part might be done by attending physicians.
- Will you see me post-operatively? Due to reimbursement, Dr. Dewan said many delegate this responsibility to physician assistants or trainees.
- What bills will I get after surgery? Your surgeon should be able to help you understand the overall cost of your surgery beyond the operation including use of the facility, anesthesia, implants, equipment, etc.
- How often do you do this surgery?
- What is your success rate with this surgery?
- Can I delay my surgery?
- Have you ever canceled a surgery because you were mentally or physically unfit?

For Ms. Colgan, more questions may have helped her avoid the problems she's faced since her gastric sleeve weight loss surgery.

The biggest regret she has is not taking a longer list of questions to her doctor.

“I thought I asked a lot of questions. There's so much more I wish I would have asked ahead of time,” Ms. Colgan said.

She's seen many doctors since her surgery in an attempt to resolve the same issues, as well as new food sensitivities that have worsened since her operation.

While her doctor no doubt had good intentions, the fact remains: Surgery is a serious intervention and should remain a last resort for most people.

10 QUESTIONS TO ASK BEFORE SURGERY

Dr. Rosia Parrish, a naturopath and certified functional medicine provider, has compiled 10 questions to ask your doctor about surgery.

Is surgery the best option for my condition?

What are the potential risks and complications associated with this surgery?

What is the success rate of this procedure for my condition?

What is the expected recovery time?

What are the short-term and long-term effects of this surgery on my overall health?

What are the anesthesia options and associated risks?

How experienced are you in performing this procedure?

Are there any lifestyle changes I should make before the surgery?

What can I expect in terms of pain management and discomfort after the surgery?

What is the cost of the surgery and what does it include?

NEXT WEEK How you prepare for surgery can change the outcome

Ultimate Detox: Expert Strategies to Prevent Disease

Continued from Page 1

inherent detoxification capabilities by implementing a consistent strategy of expelling toxins from cells and intercepting them before they can wreak havoc.

An Expert's Guide to Complete Detoxification

“Most people have big stores of toxins in their bodies and need to not only do a formal detox to clear them out, but incorporate detoxification into their lifestyle,” Christopher Shade told me in a recent interview on Discovering True Health, a YouTube channel and podcast dedicated to health and wellness.

Mr. Shade holds a doctorate in environmental sciences and bioanalytical chemistry and is the founder of Quick-silver Scientific, an advanced nutritional systems manufacturer with a focus on detoxification.

Interventions to improve toxin excretion are extremely valuable for reducing related health issues, according to a 2021 study in the Journal of Environmental Studies and Public Health.

“Accordingly, it is imperative that health providers understand the fundamentals of detoxification physiology and biochemistry to secure functioning of the organs of elimination,” the study states.

Aligning with this perspective, Mr. Shade's approach aims to support the body's natural detoxification phases while actively assisting the process. He stresses that “optimal health is built by supporting our body's built-in, profound detoxification abilities regularly.”

‘Push and Catch’

Effective detox hinges on a simple insight: We push toxins out of cells, then catch and bind them before they cause damage, Mr. Shade said.

“I call this ‘push and catch,’” he said.

Proper detoxification requires supporting all phases while moving toxins in the right direction—from cells to tissues to total elimination.

The “push” phase stimulates cells to release toxins for liver processing and bile secretion into the gastrointestinal tract.

The “catch” phase follows within 30 minutes, using binders to eliminate toxins.

Without this binder step, toxins dumped into the intestines can be reabsorbed, causing detox side effects, Mr. Shade said.

“This is what causes a lot of the negative symptoms of a detox or cleanse when they are done incorrectly,” he said.

There are several core concepts to Mr. Shade's detoxification strategy.

Glutathione Support

The liver relies on many enzymes and molecules to detoxify, but one of the most important when it comes to detoxification is glutathione.

Mr. Shade stresses that glutathione can become chronically depleted by toxins and lost during the removal and elimination of mercury and other toxins from the cell. Therefore, it's important to ensure that our bodies have sufficient amounts.

Bile

Bile flow is vital for detoxification. After the liver processes toxins, it secretes them into bile to travel to the intestines. But when bile flow stops, toxins get trapped, Mr. Shade said.

This condition, called intrahepatic cholestasis, decreases detox enzymes, allowing toxin buildup, which may eventually lead to liver damage, chronic diseases, and other toxic effects.

Trapped toxins even cause skin problems, Mr. Shade said.

“When the toxins try to leave your body, they can trigger rashes because they affect your immune system,” he said. “So, itching and rashes happen when toxins can't leave your body through bile. The bile salts and toxins under your skin cause this itchiness.”

The good news is there are natural alternatives to improve and support bile flow.

Toxin Binders

Binders help the body to decrease its toxin levels by attracting, attaching to, and removing toxins from the body, preventing their reabsorption and promoting efficient removal.

Toxins excreted into the intestines can get reabsorbed rather than eliminated if detox pathways are impaired. This disruption, called enterohepatic recirculation, forces endless cycles of liver processing and intestinal reabsorption of the

same toxins, putting a significant burden on the whole body as it tries to detoxify itself. This is where binders can help.

“There is no universal binder that has an equal affinity for all toxins,” Mr. Shade said, noting that a combination will offer a broader protection.

Binders to consider include:

BENTONITE CLAY: Bentonite clay is a volcanic ash with a large surface area that contains minerals, such as calcium, magnesium, silica, potassium, and sodium. It's capable of binding to numerous harmful substances, including mold toxins, heavy metals, and LPS, a pro-inflammatory bacterial byproduct.

ACTIVATED CHARCOAL: Contains millions of micropores on the surface that capture toxins in the gut, including, bacterial lipopolysaccharide, metals, and mycotoxins.

CHITOSAN: Studies have shown that it binds heavy metals and microbes. Chitosan is derived from the outer skeleton of shellfish, so individuals who are allergic to shellfish might have issues.

THIOL-FUNCTIONALIZED SILICA: Shown to capture heavy metals and has a high affinity for capturing inorganic mercury.

Because binders can effectively absorb chemicals and toxins, it's possible that they may bind to beneficial nutrients, although this hasn't been heavily researched.

Taking binders on an empty stomach such as first thing in the morning or before bed can reduce the chance of binding to essential nutrients, Mr. Shade said.

People on medications should consult with a health care professional as binders may interfere with or reduce absorption of medications.

Prerequisites for Detox

Detoxing is a holistic process, Shade said, emphasizing a holistic detox must address nervous system regulation, inflammation, and gut health.

Nervous System Regulation

The sympathetic “fight-or-flight” nervous state impedes detoxification, while parasympathetic “rest-and-digest” mode supports it.

Calming practices that promote relaxation and stress reduction such as tai chi, yoga, mindfulness, and meditation can help to shift the body's nervous system out of the sympathetic mode and into parasympathetic dominance.

“If you're always stressed out, you're not going to be able to detoxify,” Mr. Shade said.

Inflammation

Chronic inflammation also hinders detoxification and amplifies mercury toxicity, he said. A 2012 study published

Some of the Classic Bitter Botanicals That Offer Digestive Support

Bitter botanicals have been used for centuries to treat digestion issues by increasing bile flow and balancing gut flora.

Some of the classic bitter botanicals that offer digestive support include:

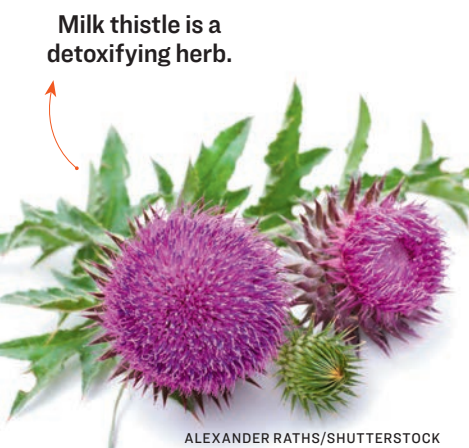
GENTIAN
Increases glutathione levels, improves bile flow (in rats)

MILK THISTLE
Protects liver from toxins, raises glutathione levels in liver and gut

MYRRH
Antimicrobial, guards against oxidative damage from lead

GOLDENROD
Enhances bile flow, detoxifying, anti-inflammatory

DANDELION
Supports liver, shields from oxidative injury



in Environmental Research examined fish consumption in children and compared the levels of mercury with inflammatory markers. Researchers found that higher mercury levels are linked to certain proteins that indicate inflammation in the body.

Gut Health

Inflammation can also be caused by gut issues such as leaky gut. Leaky gut causes dysbiosis, an imbalance of gut bacteria, releasing inflammatory endotoxins from cell walls into the bloodstream. Endotoxins also amplify heavy metal toxicity and inhibit cell signaling pathways regulating inflammation and liver detox function, Mr. Shade 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.

The Body's Natural Detoxification Process

The body's detoxification process has a series of phases that must work in unison to eliminate harmful substances.

The liver is the central detoxification organ and detoxifies in three phases:

PHASE I
Toxins are removed from cells and organs. Enzymes then transform them into less-harmful compounds.

PHASE II
Chemicals bind to toxins, prepping them for elimination. The glutathione pathway is essential for detoxifying heavy metals in this phase.

PHASE III
Processed toxins are transported from the blood to the liver, then to bile, and are removed from the body through urine, feces, or sweat.

Detoxification isn't limited to the liver; the intestines, kidneys, lungs, and brain also play crucial roles in eliminating harmful substances from the body.

The intestines contribute by processing and eliminating waste, while the kidneys filter and remove toxins from the blood. The lungs expel toxins through exhaling, and the brain's glymphatic system helps clear waste products during sleep.

Strategies to increase glutathione include

1. DECREASE THE NEED FOR GLUTATHIONE

This means decreasing the toxic load on the body by avoiding man-made chemicals.

2. SUPPLEMENT WITH ANTIOXIDANTS TO DECREASE OXIDATIVE STRESS

A-lipoic acid has been shown to increase mitochondrial glutathione.

3. ADMINISTER GLUTATHIONE
It can be done orally, topically, intravenously, intranasally, or in nebulized form. Oral administration is controversial, as not all oral supplements are shown to be effective. Liposomes and S-acetyl glutathione have been shown to be the most effective oral methods.

4. SUPPLEMENT WITH NUTRIENTS TO PROMOTE GLUTATHIONE PRODUCTION
N-acetylcysteine (NAC) has been shown to increase glutathione levels, although studies vary as to effective dosage levels.

Another strategy, Mr. Shade said, is to encourage our body's natural production of glutathione. This process can be achieved through the Nr1f2/ARE pathway, which triggers the production of enzymes and proteins that aid in detoxification, he said.

Certain natural substances such as lipoic acid, selenium, DIM, sulforaphane, lycopene, milk thistle, and EGCG have been found to activate Nr1f2, along with lifestyle factors such as relaxation, breathing exercises, and regular exercise, according to Mr. Shade.

CHRIS RYAN/GETTY IMAGES

INTENTIONAL LIVING

15 Things That Weigh More the Longer You Carry Them

By Joshua Becker

If you read my articles or blog regularly, you know I write a lot about how too much stuff can weigh us down. But it's not just about cleaning out your garage or donating old clothes. It's about removing distractions and lightening the load in every part of life.

Sometimes what drags us down isn't a bunch of things in a closet. It's what's going on inside us. Feelings and worries can weigh a lot too, and the longer you carry them, the heavier they get.

For example, here are 15 things you might be carrying inside you that can get pretty heavy over time—especially the longer you've been carrying them.

1 Unforgiveness

Harboring resentment toward someone is like clenching a rock in your outstretched hand. The longer you hold onto it, the heavier it feels.

Forgiveness is a gift you give to yourself, freeing you from that weight.

2 Debt

Financial debt can be suffocating—and because of interest, it often increases stress over time. Not dealing with it can result in a life that feels both tight and limited.

Address it head-on, create a plan, and relieve that burden.

3 Pride

The weight of our own ego often blinds us to our own faults. Pride makes us defensive and prevents us from growing. Admitting we don't know it all is liberating, lightens our emotional load, and provides opportunity to find help.

4 Negative Self-Image

Feeling bad about yourself consumes a lot of mental energy. Every time you look in the mirror and feel discontent, it adds to that weight.

The first step toward change is acceptance and love for who you are now. You're not perfect—nobody is. But if you're trying your best, you deserve more credit than you give yourself.

5 Perfectionism

The constant quest for perfection can be a never-ending cycle that only sets you up for disappointment. Over time, it steals joy and adds undue stress to your life.

Pursue progress, not perfection. After all, the only way to achieve perfection is to start making progress.

6 Fear of Failure

The fear of failure can paralyze us into inaction. The longer we hold onto this fear, the more we deprive ourselves of opportunities for growth and happiness.

I believe so strongly in the importance of recognizing this distraction that I included an entire chapter on the distraction of fear in my book "Things That Matter."

7 Procrastination

The burden of tasks left undone can grow heavier each day. They hang over us, affecting our mood and our confidence.

Take the first step, no matter how small.

The longer you carry your various worries and certain feelings, the heavier they get.

8 Regret

When we live in the past, we carry the weight of our previous mistakes.

Learning from them is beneficial, but dwelling on them is detrimental.

9 Jealousy

Jealousy often creates a cycle of negative thinking and unproductive actions. The longer you allow jealousy to linger, the more it will tarnish your happiness. Releasing it can require dedicated effort.

10 Social Comparisons

The need to keep up with others takes a toll. Social media doesn't help, as it presents an unattainable standard. Limit your consumption and focus on your own journey.

11 Negativity

Negative thoughts attract negative outcomes. The more you focus on what could go wrong, the less room you have for positive actions and reactions.

12 Unfulfilling Relationships

Relationships that don't add value to our lives end up draining our energy. Sometimes the healthiest thing to do is to walk away.

It is certainly important that we have relationships where we selflessly serve and love, but there are times when holding onto a relationship is only adding weight.

13 Guilt and Shame

While they serve as indicators that we've done something wrong, prolonged feelings of guilt and shame can be debilitating. Seek to make amends, find a remedy, and then let them go.

14 Unresolved Conflict

Conflict that is not dealt with becomes heavier over time. Address issues directly and honestly, aiming for resolution and a lighter emotional state.

15 The Need to Be Right

The need to always be right can isolate us and make every interaction a power struggle. Being wrong occasionally doesn't make you less of a person. In fact, it makes you a smarter one.

If you're carrying any of these burdens, take action today. Even if it's a small step, it's still progress.

I assure you, on the other side of these burdens is a life of peace, joy, and purpose. So start unloading these weights today and feel the freedom and lightness that come with it.

Joshua Becker is an author, public speaker, and the founder and editor of *Becoming Minimalist*, where he inspires others to live more by owning less. Visit BecomingMinimalist.com



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Life online leaves the brain overwhelmed, under-stimulated, and under-developed.

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Smartphones—Seductively Addictive, Detrimental to Mental Health

By Ellen Wan

Smartphone addiction is becoming rampant around the globe. Our youth are the most susceptible, although the problem isn't exclusive to them. Social media screen time competes with our focus on loved ones, core life ambitions, and essential chores.

Worldwide, more than 6.6 billion people use smartphones for communication, internet browsing, or gaming. Increasing research reveals that compulsive use of smartphones can significantly affect physical and mental health, leading to depression, infertility, and delayed brain development. Experts suggest that the consequences of excessive smartphone usage might be more severe than anticipated.

Addiction is defined as a "pleasure-inducing behavior that, through repeated exposure, gradually leads to loss of control and further negative consequences." Some research suggests that smartphone addiction is similar to most addictive disorders. That smartphones are small, easy to operate, and portable makes the risk of addiction even more insidious and pervasive.

Effect of Smartphone Addiction on Mental Health

In 2019, a study published in JAMA Psychiatry surveyed 6,595 American teenagers. The study found that compared with those not using social media, those using it for 30 minutes to 3 hours per day had 1.89 times more risk of developing symptoms (including anxiety and depression). The risk increased to 2.47 times for 3 to 6 hours of daily usage and 2.83 times for more

than 6 hours. The more time spent on social media, the stronger the feelings of anxiety, depression, and loneliness.

Although social media can also be accessed via computers, most people use social media through smartphone apps.

A study published in the American Journal of Preventive Medicine in July 2017 revealed that people who frequently check social media were 2.7 times more likely to develop depression than those who checked it the least. Those spending the most time on social media had a 1.7 times higher risk of developing depression than peers spending less time.

A recent study from Canada posited that social media addiction might be as destructive as other forms of addiction, such as gambling and medicine abuse.

Researchers surveyed 750 Canadians aged 16 to 30 and found that those who frequently accessed social media on their smartphones were willing to make various sacrifices to stay on social media.

About 40 percent were willing to give up caffeine, alcohol, and video games; 30 percent preferred not exercising, watching TV, or dining at their favorite restaurant for a year; nearly 10 percent would accept infertility or give up a year of life; 5 percent and 3



Easily accessed addictive content, including social media, is putting children at risk, studies warn.

percent were willing to lose 5 or 10 years of life, respectively; fewer than 5 percent were willing to contract sexually transmitted diseases or life-threatening conditions such as cancer; and 10 percent to 15 percent were ready to gain 15 pounds, shave their heads, give up driving, stop traveling, or live without air conditioning rather than quit social media.

Additionally, the research showed that people with higher levels of smartphone addiction had decreased cognitive abilities, visual and auditory reactions, and self-control. They scored lower on overall happiness and higher on fear of making mistakes and procrastination.

Effects of Smartphone Addiction on Children's Brains

In April this year, data published by the Australian Bureau of Statistics (ABS) showed that 90 percent of children spend at least 1 hour per week on screens, with an increase in the number of children spending more than 20 hours per week. While the proportion of 5- to 14-year-olds using screens remained at 90 percent, the time spent increased compared with 2017-2018.

Michelle Ducat, the head of Education and Training Statistics at the ABS, stated that 40 percent of children spend 10 to 19 hours on screens, but the

MORE THAN
6.6
BILLION
people use smartphones as their main form of communication and entertainment around the globe.

Slowing Cognitive Decline

Knowing B12's potential neuroprotective role, researchers have studied its efficacy in slowing dementia. Observational studies have found low B12 levels were associated with faster cognitive decline and higher Alzheimer's risk.

A Swedish study found that B12 levels of less than 250 picomoles per liter—when normal levels of B12 are considered to be 260 to 1,200 picomoles per liter—doubled the risk of Alzheimer's disease developing in adults older than 75 within three years, especially if the person is also deficient in folate.

Additionally, a 10-year, cross-sectional longitudinal study found that low B12 could sometimes precede cognitive decline. Researchers suggested that correcting B12 deficiency may benefit cognitively impaired seniors.

A 2020 study tested B12 replacement therapy on 202 patients who were deficient in vitamin B12 and who had also experienced impaired cognition and

memory. After treatment, 84 percent of the patients reported marked symptom improvement. Most participants also scored higher on the Mini-Mental State Examination, a screening tool for cognitive impairment.

Well-known for investigating the association between B12 deficiency and dementia, Dr. Spence said that he first witnessed B12's effectiveness when he was an intern after an injection helped a severely B12-deficient older woman.

"[She] was literally on the gurney about to be taken back to the nursing home by ambulance," he said. "Her family doctor called me three days later to tell me that [her cognitive function] had improved remarkably."

"That was one of the reasons I became interested in vitamin B12."

The vitamin can prevent dementia and, if given early enough, can also improve it, Dr. Spence said. However,

it's important to use methylcobalamin or hydroxocobalamin—two different types of B12—because a third type, cyanocobalamin, is toxic in people with impaired kidney function, which often includes older people, he said.



Studies have linked lower B12 levels to faster cognitive decline and higher Alzheimer's risk.

Preventing Dementia Through Lifestyle

The scientific literature and anecdotal accounts both mark the significance of B12's role in dementia prevention. But a holistic view is also essential, according to Pamela Frank, a licensed naturopathic physician.

"Dementia is a complex, chronic illness and is unlikely to be caused by just one issue, such as B12 deficiency," she told The Epoch Times. "There are likely multiple contributing factors."

In addition to optimal B12 levels, Ms. Frank recommends daily aerobic exercise. "Think of a brisk 30-minute walk

percentage of children using screens for more than 20 hours per week has increased from 16 percent to 24 percent.

Longitudinal analyses conducted over several years revealed a concerning trend—a higher frequency of internet use appears to be linked to a decrease in verbal intelligence and a reduced increase in regional gray and white matter volume in growing children across widespread areas of the brain.

The regions affected encompass areas intricately tied to various cognitive functions. These include regions associated with language processing, attention, executive functions, emotion regulation, and reward perception.

In summation, the findings suggest a direct or indirect correlation between frequent internet usage and the decline of verbal intelligence. Moreover, this pattern seems to extend to the development of less gray matter volume in multiple brain areas during later stages. Research from Japan linked students using smartphones for three years since the sixth grade to significantly reduced brain development during that time.

Dr. Ryuta Kawashima, a professor at the Institute of Development, Aging, and Cancer at Tohoku University, conducted research involving more than 70,000 Japanese primary and secondary school students that revealed that longer smartphone usage correlated with greater academic decline.

Dr. Kawashima explained in his Japanese-language book "Online Brain: A dangerous problem revealed from an emergency experiment at Tohoku University" that face-to-face communication stimulates the brain in various ways, leading to active functioning. On the other hand, online communication offers limited brain stimulation, activating only parts of the brain. He stressed that the negative effects of smartphones cannot be overlooked.

Overcoming Dependency on Smartphones

Dr. Kawashima advises students to distance themselves from smartphones while studying and limit daily smartphone usage to one hour or less.

The Taiwan Ministry of Health and Welfare's Department of Mental Health suggests two approaches to treating internet addiction based on its causes. One involves psychological therapy to help those with internet addiction to understand themselves, explore identity, effect change, and ultimately improve internet addiction. The other involves medical intervention, as addicts often have other mental disorders such as depression and anxiety. Treating these related disorders can help alleviate internet addiction.

Dr. Kuen-Hong Wu, director of the Addiction Psychiatry Department of the Ministry of Health and Welfare-affiliated Taoyuan Psychiatric Center in Taiwan, suggests simple methods to address addiction. These include engaging in activities of interest during leisure time, using apps to control usage, turning off smart devices before sleep, gradually reducing screen time, planning regular breaks, turning off notifications, and reducing dependence on technology.

every morning," she said.

This strengthens the circulatory system and increases the production of brain-derived neurotrophic factor (BDNF), which correlates with lower dementia risk. Being outside also improves mood and vitamin D levels, helping to maintain neuron health, Ms. Frank said. Healthy sleep habits are crucial, as sleep deprivation is associated with a higher dementia risk.

Minimizing sugar intake is also key, she said.

"High blood sugar-induced inflammation damages blood vessels that supply nutrients and oxygen to the brain, impairing circulation," Ms. Frank said. Brain inflammation worsens dementia symptoms.

Ms. Frank also emphasized cultivating a healthy gut microbiome with fermented foods, such as kimchi and sauerkraut, and fiber, because gut dysbiosis has been linked to a greater risk of developing dementia.

A balanced lifestyle approach can moderate inflammation and support brain and body health.

Vitamin B12: A Powerful Tool to Combat Dementia

This potent antioxidant shows significant promise and is easily combined with other dementia-fighting activities

By Vance Voetberg

Dementia cases are rising in every country and are expected to triple globally by 2050, according to a study published in The Lancet. However, emerging research suggests a simple remedy may help stomp the brakes on the disease's progression.

Vitamin B12, required for healthy brain and nerve function, is showing promise against this neurodegenerative condition.

Vitamin B12: A Superhero in Neurology

"B12 and folate are required for DNA synthesis, so are essential to the function of cells, including neurons," Dr. J. David Spence, professor emeritus of

neurology and clinical pharmacology at Western University in Ontario, Canada, told The Epoch Times. Folate, a different B vitamin, works in close relation to B12 in forming neurons.

Vitamin B12 is also needed to synthesize neurotransmitters, chemicals that transmit signals between nerve cells. Specifically, B12 is involved in the production of serotonin and dopamine, lower levels of which have been linked to dementia.

Another primary role is its involvement in forming and maintaining the myelin sheath. Myelin is a fatty substance that covers and insulates nerve fibers, allowing for

efficient nerve signal transmission.

Vitamin B12 deficiency causes neuropathy and myelopathy, which can result in difficulties with coordination and balance, Dr. Spence said. Dementia is another potential consequence.

Being outside also improves mood and vitamin D levels, helping maintain neuron health.

A Powerful Antioxidant

While vitamins C and E are well-known antioxidants, research suggests that vitamin B12 is also a potent antioxidant that reduces oxidative stress. Oxidative stress triggers inflammation to repair damage, but sustained inflammation can contribute to a number of diseases, including Alzheimer's disease.

In Alzheimer's disease—which ac-

counts for 60 percent to 70 percent of dementia cases—neurons die throughout the brain, connections break down, and brain regions shrink. Neurons are vulnerable to oxidative stress as they are low in glutathione, a free-radical-eliminating antioxidant, as well as high in polyunsaturated fatty acids that can interact with free radicals and cause damage, according to a 2022 study published in Biomolecules.

"Therefore," the authors of the study wrote, "antioxidants might be potential therapeutics to prevent or treat [Alzheimer's disease]."

B12 is "very interesting" compared to other vitamins, because it not only has antioxidant properties but also can disrupt Alzheimer's disease pathways, the authors wrote.



A Life-Changing Bestseller

Zhuan 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.

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Arthur Waldron
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THE EPOCH TIMES



Full body screenings are being sold on a promise that science says they don't deliver—even if social media influencers claim otherwise.

By Sheramy Tsai

“I felt defeated,” Rachel Siatkowski, a 41-year-old Chicago resident, confessed after receiving unclear results from a comprehensive MRI scan that later turned out to be incorrect.

For a year leading up to this, Ms. Siatkowski had faced a series of medical issues that hindered her ability to walk. Despite emergency room visits and rounds of physical therapy, the cause of her suffering remained nameless.

Desperate for answers, and with a daunting five-month wait before she could see a neurologist, she had turned to her last resort—a \$2,500 state-of-the-art full-body MRI scan. She hoped the money would deliver the clarity prom-

ised by the company providing the scan. Instead, it plunged her into deeper confusion, misinterpreting existing conditions and reporting phantom ones.

Ms. Siatkowski’s ordeal is an example of a broader issue in modern health care: the profound emotional and financial costs when advanced diagnostics miss the mark.

Unpacking the Magnetic Pull of Modern Scans

In the maze of U.S. health care, patients frequently navigate through delays and hurried consultations, emerging with more questions than answers. This experience prompts the nagging question of whether important information is being overlooked. In a society anx-

These comprehensive MRI scans are currently available only to people who can afford the out-of-pocket expenses, as health insurance companies do not cover them.

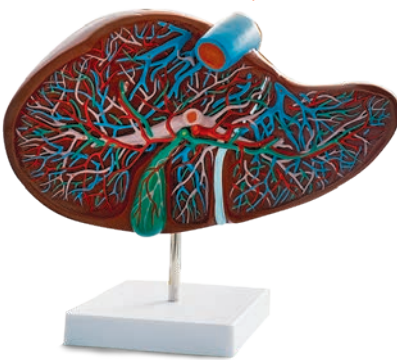
ious for immediate results, one can’t help but wonder whether there’s a more streamlined route to comprehensive health insights.

The answer, for many, lies in the allure of full-body MRI scans. These procedures, completed in the span of a lunch break, promise a panoramic view of our health, flagging everything from incipient cancers to vascular complications.

Prenuvo, headquartered in Redwood City, California, stands at the forefront of the industry. The company’s unique offering proclaims: “We provide whole body, radiation-free MRI scans for early detection of over 500 cancers and diseases.” Its mission reflects an ambition

Continued on Page 16

The liver is a dense lattice of veins.



The Liver’s Phoenix-Like Powers of Self-Healing—and How You Can Help

By Mercura Wang

Like a phoenix rising from the ashes, the human liver possesses a remarkable capacity to regenerate itself—making this vital organ practically ageless.

Exceptional Self-Healing Abilities

As our body’s largest internal organ, the liver possesses a remarkable capacity for self-repair. Even after up to

90 percent removal, it can regrow to full size and resume normal function. Furthermore, transplanted partial livers grow to completion within weeks.

The liver is always less than 3 years old on average, regardless of a person’s age, according to a recent German study. Liver cell renewal is unaffected by aging, making the organ perpetually youthful. With proper health, even older people can have young livers.

These regenerative abilities are vital

for the liver’s many crucial roles, including bile production, plasma protein and cholesterol synthesis, blood glucose regulation, hemoglobin processing, blood detoxification, clotting regulation, and bacteria removal from the bloodstream.

How Does the Liver Get Its Regeneration Capability?

The liver’s regenerative abilities stem from its unique cellular structure and internal division into lobes. Dr. Brian Kessler, who specializes in sports medicine, pain management, and rehabilitative medicine, told The Epoch Times.

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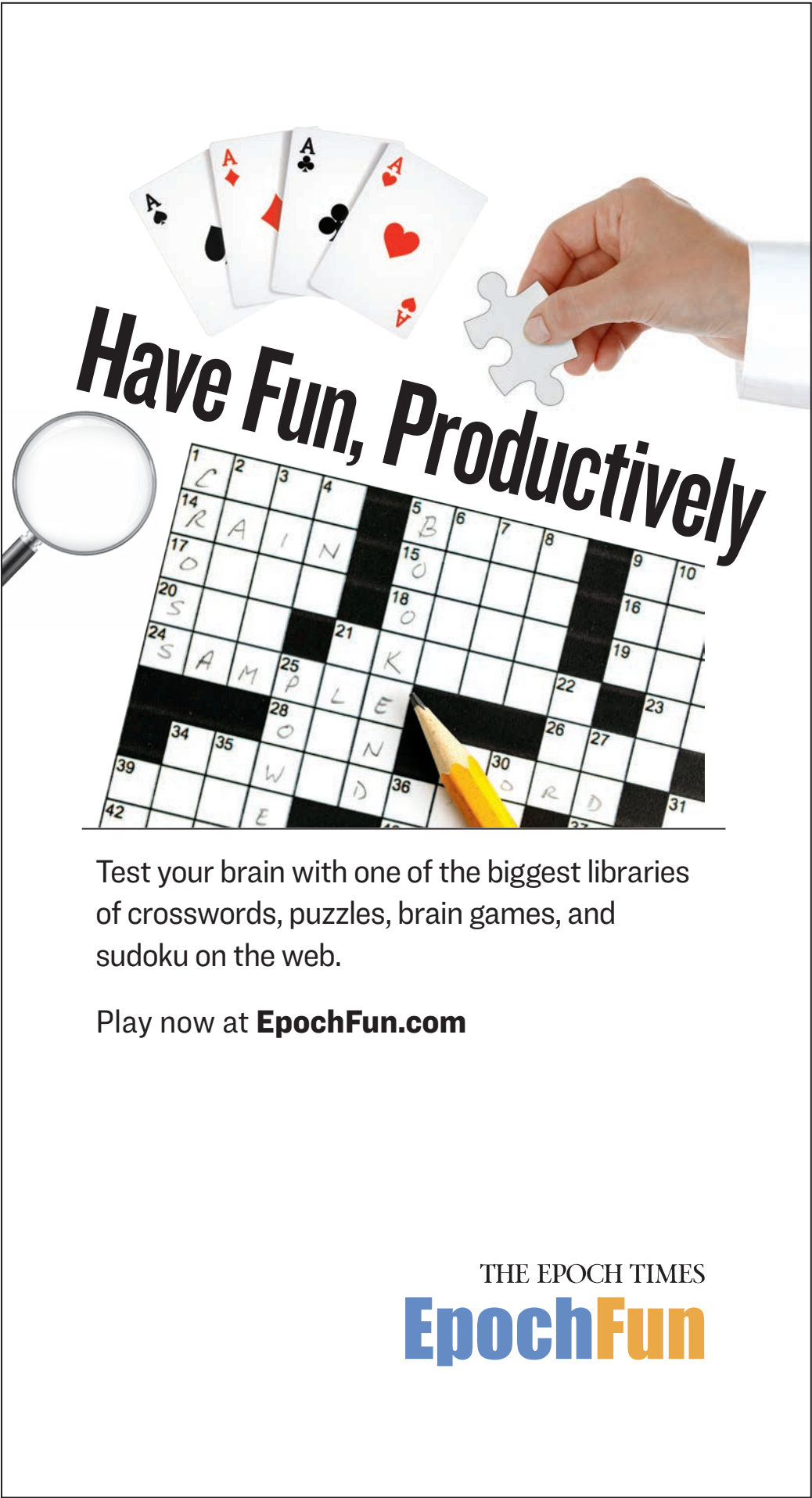
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American baby formula makers replace the lactose in breast milk with glucose, a sugar that can leave blood sugar levels less stable.

Experts Warn Against Corn Syrup in Baby Formula

US children are drinking glucose-based baby formula that is banned in Europe

By Vance Voetberg

Caramel. Licorice. Donuts. Corn syrup lurks inside many of America's favorite sweet treats, and its negative health effects are well known. But it's not as well known that this controversial sugar is used in baby formula, the sole source of nutrition for millions of infants across the country. Recent research suggests this common formula ingredient could set babies up for worse health down the road, raising questions about the long-term risks.

Lactose Versus Glucose

The U.S. Food and Drug Administration (FDA) requires food companies to include at least 30 specific nutrients to sell infant formula, including essential vitamins, minerals, and carbohydrates. Carbohydrates are critical for infant development, so they are the backbone of most infant formulas, just as they are in human breast milk. However, not all carbohydrates are created equal, and there is significant variation in the types of carbs optimal for infants.

While most people ingest carbohydrates as glucose, infants consume carbs in the form of lactose since their gastrointestinal tract is still developing, according to a 2020 paper in Clinical and Experimental Pediatrics. Thus, lactose is the main carbohydrate in breast milk.

Major formula companies use corn syrup, which is pure glucose, instead of lactose. This switch doesn't come without downsides, according to childhood obesity expert Michael Goran, who holds a doctorate in biochemistry and is a professor of pediatrics at the University of Southern California Keck School of Medicine in Los Angeles.

"The body wants to have stable blood glucose levels, but if glucose is the main source of energy, it is more difficult to control levels in the circulation," he told The Epoch Times. "The spikes and crashes will likely lead to greater energy highs and lows, eventually compromising the body's ability to keep blood glucose under proper control."

Mr. Goran started a study to determine whether glucose-based, lactose-reduced infant formula made with corn syrup is associated with increased obesity risk compared with lactose-based formulas.

The study found a 10 percent higher obesity risk at age 2 in babies fed corn syrup formula compared with those fed lactose formula. A higher rate of obesity remained "statistically significant" through age 4, Mr. Goran said.

Prior research in Hispanic infants also links

corn syrup formula to negative effects on gut bacteria that, according to studies, can contribute to childhood obesity, food fussiness, and diminished food satisfaction.

Why Use Corn Syrup?

As the research against corn syrup-based formulas mounts, many U.S. formula makers remain resolute in using corn syrup as a key ingredient. One formula maker argues, "Corn syrup is an important energy source, and infant formulas are rigorously evaluated for safety by national and international authorities, including the FDA."

Companies use corn syrup instead of lactose for two reasons, Dr. Robert Boyle, a London pediatrician and an expert in diagnosing and treating allergies in children, told The Epoch Times.

The first is for marketing purposes. "Low-lactose or lactose-free claims are sometimes linked to claims that the formula will be more easily digested or cause less crying or gas," he said. But most of these claims aren't supported by robust scientific evidence, he added.

The second reason is medical. Some infants, though very few, are born with lactose intolerance, and if they are formula-fed, then a lactose-free formula can be preferable, he said. Additionally, corn syrup is cheaper and easier for manufacturers to process than lactose, according to Mr. Goran. Glucose can easily be generated from organic materials.

Outlawed in Europe

Unlike U.S. companies, formula makers in countries in the European Union (EU) are prohibited from replacing lactose with corn syrup. Additionally, the EU mandates that at least 30 percent of the carbohydrates in the formula come from lactose. This contrast with U.S. formulas has attracted health-conscious parents, who seek European formulas perceived as higher quality.

"The EU is ahead of the game and recognizes the fundamental difference between lactose and corn syrup," Mr. Goran said.

Most babies receive at least some formula milk, so it can be challenging for health care professionals to convey the benefits of breastfeeding fully, Dr. Boyle said. This is because breastfeeding's advantages too strongly can make parents who use formula feel inadequate or judged.

When breastfeeding isn't an option, the whole picture regarding corn syrup formula should be presented. "Parents are not fully informed about the difference in various formulas," nor about their effects on the body, Mr. Goran said.

Formula makers use glucose because of marketing and cost advantages.



FOOD AS MEDICINE

The Many Medicinal Effects of Cayenne Pepper

Cayenne pepper can benefit the heart, resolve headaches, boost the immune system, and more

By Emma Suttie

There's a lot more to cayenne peppers than their spicy flavor. In fact, these small, bright red peppers are loaded with health benefits that have been used medicinally for millennia.

Cayenne peppers are native to Central and South America, and the oldest specimens were discovered in Mexico from seeds found on the floor of caves and in ancient fossilized feces. Based on these samples, scientists have concluded that people were eating cayenne peppers as far back as 7000 B.C. and that the peppers were first cultivated between 5200 B.C. and 3400 B.C., making capsicum peppers one of the oldest cultivated plants on earth.

Cayenne peppers, or Capsicum annuum, belong to the Solanaceae, or nightshade, family of plants that include other culinary spices such as crushed red peppers, chili powder, paprika, and foods such as eggplant, potatoes, and tomatoes.

Cayenne peppers contain a bioactive compound called capsaicin that gives them their spicy flavor. The intensity of any pepper's spiciness is usually measured in Scoville Heat Units (SHUs) using the Scoville scale, created by a U.S. pharmacist named Wilbur Scoville in the early 1900s. The scale subjectively measures people's sensitivity to the capsaicin and related compounds in different peppers, giving them a score that ranges from zero (no spiciness) to one of the hottest peppers known—the ghost pepper—which measures more than 1 million Scoville Heat Units. Cayenne peppers have a score that ranges from 30,000 Scoville Heat Units to 50,000 Scoville Heat Units.

The capsaicin in cayenne and other peppers is also responsible for their medicinal properties, which are plentiful. These are just some of the health benefits of cayenne peppers.

Benefits the Heart

Cayenne pepper is a powerful stimulant, vasodilator, and blood thinner and is well known for benefiting the heart and circulatory system. It regulates blood flow while strengthening the heart, vessels, and nerves and is often used as a heart and digestive tonic. Cayenne peppers also contain salicylates, which are often used in medications to treat pain, fever, and inflammation. Salicylates, such as aspirin, thin the blood by inhibiting platelet aggregation and reducing blood clotting, making them protective against heart disease. Natural salicylates are also known to have anti-inflammatory, neuroprotective, anti-cancer, and anti-diabetic effects.

Capsaicin inhibits stomach acid secretion, stimulates alkali and mucus secretion, and particularly stimulates gastric mucosal blood flow.

Research suggests that the capsaicin in cayenne and other peppers helps to clear lipid deposits that can build up and cause narrowing of the arteries, restricting blood flow to the heart. Capsaicin's ability to dilate blood vessels and remove toxins adds to its heart-protective effects.

A study published in the Journal of the American College of Cardiology, which included 22,811 adult men and women in Italy, found that eating chili peppers regularly was associated with a lower risk of dying from heart disease.

A meta-analysis involving 570,062

people found that chili pepper consumption was associated with a lower risk of all-cause, cardiovascular, and cancer-related mortality.

John Christopher, naturopath, herbalist, and founder of the School of Natural Healing, famously stopped heart attacks using cayenne pepper in some hot water. He said that in 35 years of practice, he never lost a patient to a heart attack because if they were still breathing, he would pour them a cup of hot water and cayenne, and within minutes, they would be up and around.

Relieves Pain

One of the most common uses for capsicum in cayenne and other peppers is to relieve pain. Capsaicin is used to treat pain from arthritis, nerve pain, muscle pain, and headaches, to relieve itching, and to treat psoriasis—in which dry, itchy patches build up on the skin.

Several studies have shown capsaicin to be beneficial in treating migraine and cluster headaches. One double-blind study treating patients for migraines found that those in the group treated with capsaicin showed improvements of 50 percent to 80 percent as compared with those given a placebo.

A double-blind, placebo-controlled trial found that when patients with cluster headaches—excruciating headaches that usually recur over several weeks or months—used intranasal capsaicin over a seven-day period, their headaches were significantly less severe than the headaches

in the placebo group members were.

A double-blind, randomized study of a topical 0.025 percent capsaicin cream used for the pain associated with osteoarthritis concluded that the capsaicin was superior to a placebo at providing pain relief.

Another study, published in the British Journal of Anesthesia, investigated the pain-reducing ability of an 8 percent capsaicin patch on peripheral neuropathy. Researchers found that "a single 60-minute application in patients with neuropathic pain produced effective pain relief for up to 12 weeks." The study authors also noted that the "advantages of the high-concentration capsaicin patch include a longer duration of effect, patient compliance, and low risk for systemic effects or drug-drug interactions."

Helps Weight Loss

Capsaicin has also been shown to help with weight loss.

A double-blind, randomized, placebo-controlled trial found that treating

overweight or obese subjects with 6 milligrams a day of capsinoid for 12 weeks was associated with abdominal fat loss, measured by dual-energy X-ray absorptiometry. Body weight also decreased more in the capsicum group. Notably, none of the patients experienced any adverse events from the treatments.

In a randomized controlled trial published in the journal aptly named Appetite, people who ate red chili peppers with every meal had fewer cravings and an increased feeling of fullness. The study concluded that adding capsaicin to their diet increased feelings of fullness and tended to prevent overeating when participants could eat as much or as often as they wished. The authors also noted that capsaicin decreased the desire to eat after dinner.

Boosts the Immune System

Cayenne peppers are high in vitamins and minerals that benefit the immune system. Cayenne contains ample vitamin C and vitamins B6 and E, which are well known for their immune-boosting effects. Cayenne peppers also contain antioxidants that include vitamins C and E, and choline, as well as carotenoids such as beta carotene, lutein, zeaxanthin, and cryptoxanthin—a pigment that gives the peppers their red color and a source of vitamin A.

The vitamin A in cayenne pepper protects against pathogens by helping to build up healthy mucous membranes in the nasal passages, mouth, and lungs, thus helping the body to fight off infections.

A study titled "Dietary Capsaicin and the Immune System" notes that capsaicin in cayenne and other peppers has anti-inflammatory and immune-modulating properties. It states that capsaicin is rich in vitamins C and A, and bioactive phytochemicals that fight pathogens, strengthen immune cells, and significantly boost the immune system.

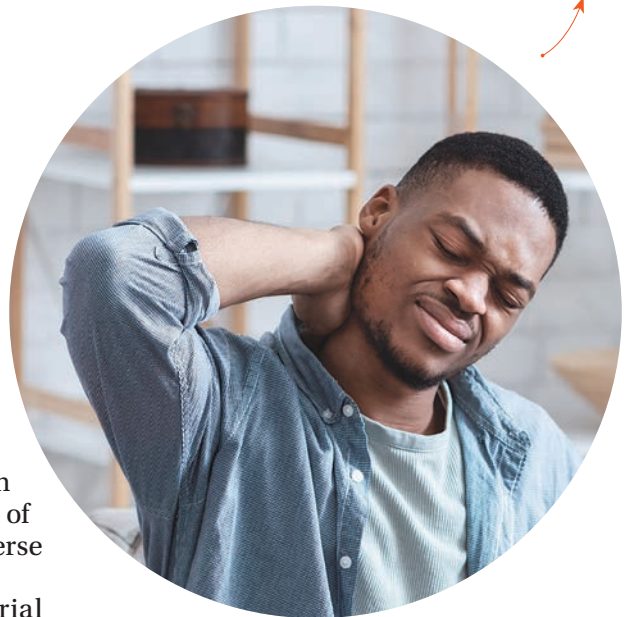
Cayenne pepper is also an excellent remedy to relieve congestion and coughs, and to fight colds and flu.

A study published in the Journal of Allergy and Clinical Immunology found that using a capsaicin nasal spray showed "significant and rapid" relief in all nasal symptoms in subjects with non-allergic rhinitis, a condition involving inflammation of the nasal passages that causes sneezing, a stuffy, drippy nose, and a reduced sense of smell.

Prevention and Healing of Gastric Ulcers

Although it seems counterintuitive that something so spicy could benefit the stomach, research has shown capsaicin can help prevent and heal stomach ulcers.

According to a review published in



Capsaicin is commonly used to treat pain from arthritis, nerve pain, headaches, and muscle pain.

Food Science and Nutrition, capsaicin inhibits stomach acid secretion, stimulates alkali and mucus secretion, and particularly stimulates gastric mucosal blood flow, which helps prevent and heal gastric ulcers.

In a different study titled "Capsaicin and Gastric Ulcers," the authors state that capsaicin stimulates afferent neurons in the stomach, which signal for protection against injury-causing agents. It states that "epidemiologic surveys in Singapore have shown that gastric ulcers are three times more common in the 'Chinese' than among Malaysians and Indians" who consume more chilis.

Adding capsaicin to the diet increased feelings of fullness and tended to prevent overeating when participants could eat as much or as often as they wished.

Risks

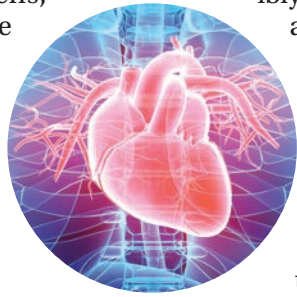
As with all foods and herbs used as medicines, some caution is warranted. Despite cayenne's many health benefits, some people have reported adverse reactions to applying it topically and taking it internally—mostly irritation, inflammation, and a burning sensation. Because we all have our own unique physiology, health issues, activity levels, etc., herbs and spices can react differently in each individual. As always, moderation is key, and if you're on any medications, introduce cayenne with the guidance of a health care provider. For those who aren't on medications, introduce it gradually and see how you feel.

If you use fresh peppers, be mindful not to touch your eyes while handling them. The easiest way to take cayenne is by adding some dried spice to foods or drinks to see how you tolerate it. Also, if you're taking blood thinners, speak to a health care provider before introducing cayenne, as it's a potent blood thinner and may interact with or compound the effects of your medications.

Final Thoughts

Cayenne is a magnificent spice that's easy to find, inexpensive, and incredibly versatile—not only to treat a considerable number of conditions, but also for strengthening the body and preventing illness.

Mr. Christopher, the herbalist who famously stopped heart attacks with cayenne in hot water, had a number of health challenges early in his life. Because of severe hardening of the arteries in his 20s and 30s—which he said was so severe that no insurance company at the time would give him a policy, even for \$1,000—Mr. Christopher started using cayenne. He worked up to taking one teaspoon three times a day. After 10 years, at the age of 45, he was examined by two doctors, the first telling him that despite being 45 years old, he had the venous structure of a teenage boy. The second doctor told him, with a degree of shock, that his systolic and diastolic blood pressure was perfect despite his age. Mr. Christopher credited his healthy blood vessels and perfect blood pressure to cayenne.



Cayenne pepper can enhance heart health and boost circulation.



For many, the true allure of these scans isn't just the technological prowess but also the peace of mind they promise.

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Costly Scans Offer an Illusion of Assurance

Continued from Page 13

to shift the paradigm, harnessing state-of-the-art MRI technology for both reactive and anticipatory health management.

The logic seems impeccable: Pre-emptive action could be a lifesaver. Why not harness advanced technology to stay a step ahead? It's a proposition that's hard to ignore, especially when pop culture icons—such as Kim Kardashian, Maria Menounos, and Paris Hilton—champion it.

Full-body MRI scans use magnetic fields and radio waves to produce detailed images of internal body structures without the radiation risks of traditional X-rays. For many, the true allure of these scans isn't just the technological prowess but also the peace of mind they promise. In a world of uncertainties, especially regarding health, having a clear, comprehensive view of one's body should provide unmatched reassurance. But does it?

The Downsides of Scan Dependence

Dr. Evan Levine, a cardiologist based in New York and acclaimed author of "What Your Doctor Won't (or Can't) Tell You," warns about the escalating reliance on full-body scans. Though promising, these scans come with several inherent risks.

False Positives

While the marketing campaigns for these scans paint a captivating picture—advanced technology detecting early-stage tumors—they often gloss over a crucial downside: a pronounced tendency for false positives. For example, the scans sometimes find tumors that don't exist, leaving many patients subjected to a cascade of invasive tests and biopsies triggered by inconclusive or benign findings.

"In high-risk patients, such as those who have smoked for decades, scans can be life-saving," Dr. Levine told The Epoch Times. "Lesions in these individuals are more frequently indicative of disease rather than being benign."

"However, subjecting low-risk pa-

tients to these tests can be problematic. Many times, a detected lesion isn't pathologic at all. As a result, patients may endure unnecessary anxiety, biopsies, and even potential surgeries simply because they opted for an upscale test."

Ethical Issues

The ethical problem of administering full-body scans to symptom-free individuals is a point of contention. Major medical bodies, including the American College of Radiology and the American College of Preventive Medicine, have consistently advised against it, warning of the risks of superfluous medical procedures and the psychological toll from possible false or trivial findings.

So far, there is no proof that full-body screening provides meaningful health benefits relative to its costs, the American College of Radiology stated in April. The organization expressed concern that these scans mainly find insignificant issues that don't actually improve health. This leads to unnecessary extra testing and procedures, resulting in unneeded stress and expenses for patients.

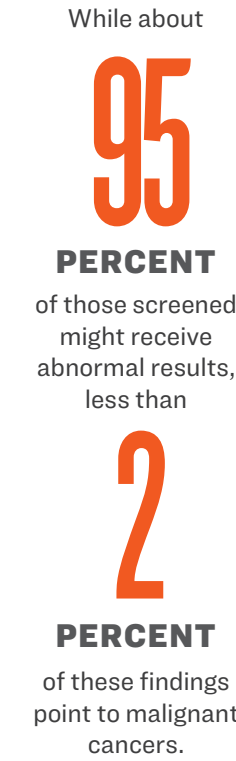
Echoing this sentiment, the U.S. Food and Drug Administration noted its skepticism about the benefits of such scans, stating that it's found "no scientific evidence demonstrating that whole-body scanning of individuals without symptoms provides more benefit than harm to people being screened."

Most Scans Are Inconclusive

Often seen as a beacon of proactive health care, screenings have an alarming caveat: About 95 percent of those screened receive abnormal results, but less than 2 percent of these findings indicate malignant cancers. This discrepancy points to the vast number of patients potentially funneled into unnecessary and costly medical investigations or treatments—especially when subsequent tests prove uneventful.

Adding weight to these worries, a meta-analysis involving 2.1 million people raised questions about the ef-

In a society anxious for immediate results, one can't help but wonder whether there's a more streamlined route to comprehensive health insights.



Are some of these readings driven more by profit than genuine expertise?

ficacy of some prevalent screenings, such as breast imaging, computed tomography of the chest for lung cancer, and prostate-specific antigen tests for prostate cancer. The study found that only sigmoidoscopy showed a significant lifetime gain of 110 days, while other screening tests didn't exhibit significant differences in lifetime gains. The follow-up periods ranged from 10 to 15 years for various tests.

Given these findings, many experts are calling for a careful reevaluation of these techniques, weighing their advertised advantages against the actual risks they present.

Are the Right People Reviewing the Results?

Dr. Richard Semelka, a radiologist with 28 years of experience and a known expert in body MRI, raised an important question: Are those interpreting these scans truly qualified?

"In an ideal scenario, I'd want a professional with my level of experience evaluating the body aspects and a proficient neuroradiologist delving into the neurological facets," he told The Epoch Times. Highlighting the profound effects of accurate scan interpretation, Dr. Semelka said it's important for people to diligently research the credentials of radiologists before undergoing any procedure.

Ms. Siatkowski's experience underscores the significance of Dr. Semelka's concerns. "I honestly wish I had a better experience. I don't know if it was just the location I used or maybe the person who read my report that could have been better, but I had such high hopes for the test," she said.

The Murky Economics of Full Body Scans

Compounding these medical uncertainties is the intricate financial web associated with these scans. Full-body scans are usually not covered by traditional insurance. The financial burdens intensify when these scans point toward further medical investigations or treatments—especially when subsequent tests prove uneventful.

"If these additional procedures weren't initially deemed necessary, why should insurance be burdened with the cost?" Dr. Levine said. "Unwarranted results only drive up the broader health care bill."

Full-body scan companies such as Penuvo have carved out a substantial niche in the expanding medical diagnostics market. Their offerings, priced between \$1,000 and \$2,500, position them at a premium tier in medical imaging services.

Other companies, including Ezra, SimonOne, and Neko Health, offer consumers elective full-body imaging services. Neko Health secured about \$65 million in investments in 2023, and Penuvo raised \$70 million in 2022.

Emotional Tolls

MRI scans and other advanced diagnostics serve crucial roles in specific medical scenarios. However, their widespread use, especially when unnecessary, raises concerns about our dependence on them, potentially sidelining our ability to read our bodies' nuanced signals.

Moreover, when these scans unveil benign anomalies, what is the physiological fallout? Consider the scenario in which a scan identifies a diminutive nodule in the lung, assessed as minor and not immediately worrisome. With such knowledge, might every future cough or common cold induce undue stress?

Kindled by the shadow of incidental findings, this perpetual anxiety may have genuine health implications. Since the body is constantly changing, certain conditions may appear and disappear. But these seemingly harmless test results can plant lasting seeds of worry.

Instead of leaning solely on technology, people can take an active role in their health choices, fostering a deep trust in their bodies' messages. This intuitive approach not only is psychologically empowering, but also might be a financially sustainable alternative to pricey, technology-driven diagnostics.

Intuition: Rekindling Our Natural Health Compass

Long before the advent of body scans, humans relied on intuition and self-awareness as primary health indicators. For centuries, traditional societies have turned to holistic approaches emphasizing the importance of attuning oneself to bodily cues.

Modern science affirms this ancient insight. A 2022 study published in BMC Primary Care emphasized the diagnostic value of patients' gut feelings as recognized by primary care doctors. They found that a patient's intuitive feelings often unmasked potential health concerns and enriched their understanding of the patient's condition.

"Overall, I find that intuition helps patients feel better faster," Dr. Donielle Wilson, a bestselling author and naturopathic doctor with more than 22 years of experience, said on her website. "I think it is because when they make choices (about their health) based on their own intuition, they are more accepting of themselves, more empowered about those decisions, and more likely to continue on that path to improving their health."

Ms. Siatkowski's journey reminds us of the very human face behind this issue. "In my search for answers, I learned that advanced technology doesn't always provide the clarity we seek," she said.

The Liver's Phoenix-Like Powers of Self-Healing and How You Can Help It

Continued from Page 13

Liver Parts Can Regrow Independently

The liver contains four lobes—left, right, caudate, and quadrate—and each can regenerate independently.

If one or more lobes are removed, they don't regrow. As the remaining lobes undergo compensatory hyperplasia, proliferating and expanding in size until the liver regains its original mass, they take over the functions of the removed ones. The liver's overall shape is permanently changed after regeneration, but its function is fully restored.

Liver Cells Divide to Repopulate Damaged Tissues

The liver's lobules, the building blocks of the liver tissue, reveal another secret behind the organ's renewable powers. Lobules comprise hexagonal arrangements of hepatocytes (liver cells) clustered around a central vein. Each lobule has three zones with distinct roles.

Zones 1 and 3 hepatocytes produce metabolic enzymes responsible for survival and homeostasis, according to a 2021 study.

The liver's regenerative abilities stem from its unique cellular structure and internal division into lobes.

Researchers also identified a signaling pathway that activates zone 2 cells to repopulate injured tissue in the other zones. This zonal compartmentalization allows efficient targeted renewal of damaged regions, enabling the liver's regenerative capacity. Though identical in type, zonation lets hepatocytes alter their function based on location.

Growth Factors Stimulate Cell Growth

The liver's regeneration capacity also relies on specialized growth factors that are released when the organ is injured, according to Dr. Kessler.

The hepatocyte growth factor (HGF) and its specialized receptor (MET) are key players. HGF activates MET to induce cell proliferation, migration, and the formation of new blood vessels in organs, including the liver. This pathway facilitates the development, regeneration, and reduction of tissue scarring.

Other Supporting Systems

The liver relies on several other supporting systems to regenerate itself.

For instance, the liver's extensive blood vessel network heavily influences its ability to regenerate, which relies on the creation of new blood vessels. Platelets accumulating in the liver post-injury contain growth factors. The blood-clotting protein fibrinogen signals platelets to accumulate, and its levels may predict regeneration success.

The immune cells in the liver, including natural killer T cells, natural killer cells, and regulatory T cells, reduce inflammation to aid tissue healing.

Additionally, the extracellular matrix (ECM), a dynamic scaffolding around liver cells, undergoes constant remodeling, especially during injury repair. The ECM structurally supports liver cells and is composed of water, proteins, and proteoglycans.

How Does the Liver Regenerate Itself?

Liver regeneration occurs in two scenarios.



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Preserving the liver's lifelong regenerative capability requires a simple moderation of our habits.

Partial Liver Resection

Partial hepatectomy removes part of the liver to treat tumors or cancer or to obtain a partial liver for transplant. The goal is to regenerate the total hepatocyte count and mass through cell proliferation and enlargement.

In a living-donor transplant, the recipient's diseased liver is replaced with part of the donor's healthy liver.

After the surgery, both donor and recipient livers regenerate to full size within weeks.

Liver Cell Activation for Tissue Repair

Liver injuries from toxins, viruses, or immune attacks trigger inflammation and activate immune cells to release cytokines and growth factors, initiating regeneration. Near the injury, hepatocytes rapidly divide to replace lost cells.

The liver also produces small epithelial cells that can differentiate to regenerate damaged tissue.

In severe cases, if hepatocytes are insufficient, hepatic progenitor cells activate and differentiate to repair the liver.

The Liver Knows Just When to Grow and Shrink

The liver can precisely control its growth and size, even shrinking when needed.

For example, a British study found that mouse livers decreased in weight during alternate-day fasting for one week, affecting metabolism. But upon resuming normal eating, proliferation increased and the livers regained their original size. Similarly, low-sugar diets deplete glycogen, causing temporary liver shrinkage.

When Is Damage Irreversible?

Certain diseases and toxins can overwhelm repair mechanisms and cause permanent damage despite the liver's regenerative capacity.

Even though the liver metabolizes medications and toxins, some drugs taken excessively or with alcohol can harm the liver beyond its ability to heal. These include NSAIDs, or nonsteroidal anti-inflammatory drugs, such as ibuprofen, amiodarone (for heart rhythm problems), birth control pills, statins, anti-seizure medications, and high-dose niacin (vitamin B3).

In a living-donor transplant, the recipient's diseased liver is replaced with part of the donor's healthy liver.

Repeated severe injury causes accumulating scar tissue, called fibrosis, which can advance to cirrhosis—permanent damage impairing liver function. Maintaining liver health through moderation and awareness is vital in preserving the organ's lifelong regenerative potential.

It's a proposition that's hard to ignore, especially when pop culture icons—such as Kim Kardashian, Maria Menounos, and Paris Hilton—champion it.

Full body scans can deliver misleading results, like false positives that lead to unnecessary treatments.





Lead exposure is one of the most significant health issues of the 21st century.

Lead Linked to Millions of Deaths, Shrinking IQs

Study finds lead exposure caused \$6 trillion in economic losses in 2019 and millions of heart disease deaths

By Mary Gillis

In 2019, an estimated 5.5 million adults worldwide died from heart disease, and kids under the age of 5 lost a combined 765 million IQ points due to lead exposure, results of a new modeling study published in the journal The Lancet Planetary Health show.

Evidence shows that exposure to metals such as lead interferes with human intercellular function, resulting in oxidative stress and chronic inflammation, which can lead to hypertension, high cholesterol, and changes in the heart's ability to contract. This puts individuals at risk of ischemic heart disease, stroke, left ventricular hypertrophy, heart failure, and peripheral artery disease.

In addition to reduced IQ, lead exposure stunts brain development in children. A 2022 study shows that this can result in negative behavioral changes such as diminished attention span, increased antisocial behavior, and learning difficulties. A 2023 study found that the effects of exposure followed children into adulthood and were tied to poorer performance on standardized tests later in life.

"Our estimate that 5.5 million died in 2019 from lead exposure was a major surprise," Bjorn Larsen, a study author, environmental economist, and consultant to the World Bank, told The Epoch Times. "The reason for our higher estimate of deaths is that we included a whole range of effects of lead on the cardiovascular system that were not included in the 2019 Global Burden Disease (GBD) study."

The estimate is six times higher than what the GBD study found despite the current research being based on the same data, Mr. Larsen said. The GBD study on lead's effect on heart disease was exclusively measured in terms of its effect on blood pressure. The new study looked at several other ways in which lead affects the heart, such as its hardening of arteries that can lead to stroke, according to Mr. Larsen.

The study results raise serious questions about the long-term consequences

of lead poisoning and how it poses a much more serious worldwide public health threat, study coauthor and World Bank Global Lead for Pollution Management and Circular Economy Ernesto Sánchez-Triana told The Epoch Times.

"There is no safe level of exposure to lead," he said.

Global Cost, IQ Loss, and Air Pollution

The overall IQ loss wasn't equally dispersed globally. The study revealed that more than 95 percent of IQ loss occurred in developing countries—nearly 80 percent higher than previously estimated.

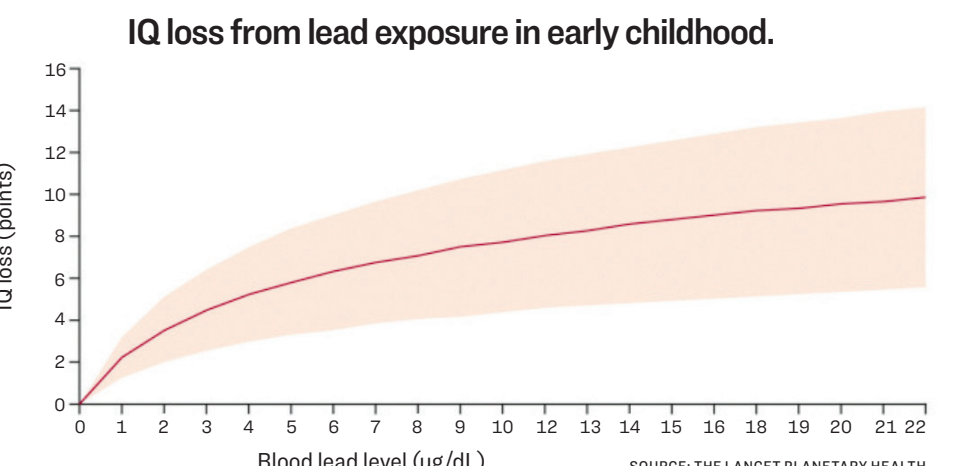
The paper gathered evidence showing that the populations in low- and middle-income countries also share a significant percentage of lead exposure's health and cost burden, with blood lead levels several times higher in low-income countries

than in high-income countries.

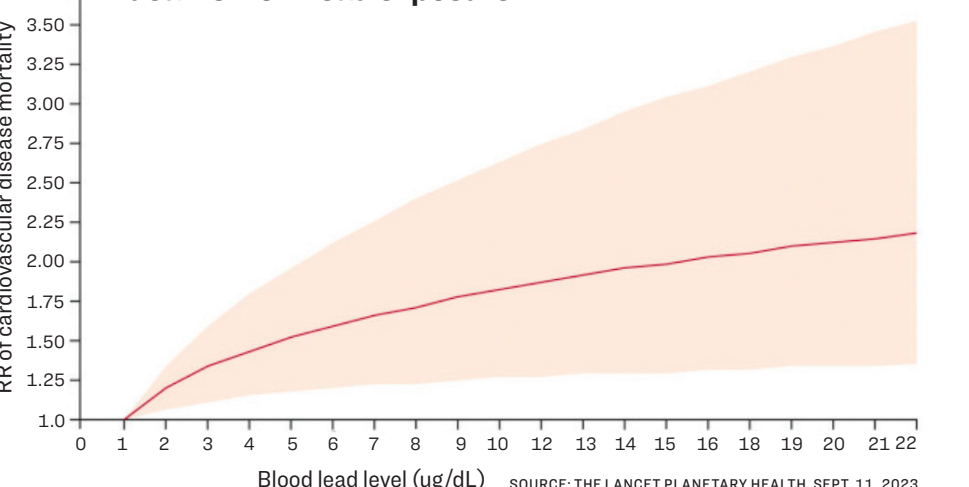
Researchers put the economic cost of lead exposure at \$6 trillion in 2019, equivalent to about 7 percent of the global gross domestic product. This estimate places lead exposure at the top of the list of environmental health risk factors and is on par with air pollution in the form of particulate matter (PM2.5), which is characterized as a mixture of tiny solid particles and liquid droplets that can be made up of hundreds of different chemicals found in the air in the form of dust, dirt, soot, or smoke, according to Mr. Sánchez-Triana.

The study results suggest that lead exposure may be the third most significant cardiovascular disease risk factor ahead of hypertension, dietary risks, tobacco smoking, and high cholesterol, he said.

Lead Exposure and Disease



IQ loss from lead exposure in early childhood.



The relative risk of cardiovascular disease deaths from lead exposure.

The World Health Organization says, "There is no level of exposure to lead that is known to be without harmful effects."

While the study results are sobering, they're not unprecedented.

Neurotoxins emitted from the poisonous metal are found just about everywhere and in everyday items ranging from ceramics, soil fertilizers, batteries, and beauty products, to water supply pipes, children's toys, and even foods and spices.

Lead is a naturally occurring metal, but industrial processes expose us to levels we wouldn't otherwise experience. It affects multiple body systems. Lead can enter the bloodstream and circulate to the brain, liver, kidneys, and bones, resulting in long-term, sometimes permanent, adverse health effects. In addition to cardiovascular disease, adults have an increased risk of high blood pressure and kidney damage.

Exposure during pregnancy affects the growing fetus, potentially causing miscarriages, stillbirths, premature birth, and low birth weight. Young children are particularly at risk of the toxic effects of lead in the air in the form of dust, dirt, soot, or smoke, according to Mr. Sánchez-Triana.

Is There a Solution? "Lead exposure (and, in general, chemical pollution) is one of the defining challenges of the 21st century. It affects everyone and everything," Mr. Sánchez-Triana warned.

According to him, it could be an even more challenging problem than climate change.

"When we worry about climate change, we worry about a few greenhouse gases and climate pollutants. However, when we worry about chemical pollution, the orders of magnitude are in the tens of thousands of potentially harmful chemicals," he said.

That's why the World Bank is conducting analyses studying the impacts of other toxins such as cadmium, nitrogen, asbestos, and fine and ultra-fine particles with sulfur and other chemical species.

For Mr. Larsen, the first and foremost priority is institutionalizing routine, nationwide blood lead level measurements in both children and adults.

"This must be accompanied by comprehensive identification of sources of lead exposure, especially in locations and regions with elevated blood lead levels," he said.

Lead sources vary greatly across countries, and each source's contribution to population blood lead levels needs to be better understood to develop effective ways to minimize its deadly dangers, Mr. Larsen said.

Mary Elizabeth Gillis is a health reporter and cardiopulmonary specialist with over a decade of experience. After graduating with her doctorate in applied physiology, she earned a master of science degree in journalism from Columbia University.

Retraining Your Senses After Long COVID

Research finds that aromatherapy can help you regain your senses of smell and taste if you're experiencing loss due to long COVID

By Ellen Wan

Ms. Chen, 29, is one of the many people to suffer lingering symptoms long after being infected with COVID-19. After the virus seemingly cleared her system, she was left without a sense of smell and she continued to tire easily.

Dr. Lee Choi-Keung, a traditional Chinese medicine (TCM) physician at Taiwan Jinhe Traditional Chinese Medicine Clinic, found that Ms. Chen had a thick tongue coating and a weak spleen and stomach. Dr. Lee prescribed Xanthii fructus powder, supplemented with Lycium formula, Acori tatarinowii rhizoma, and Asari radix et rhizoma for resolving phlegm and warming the lungs.

After taking the medicine for about four days, the patient regained some sense of smell. After a week, more potent scents became detectable.

Current Western treatments for loss of taste and smell are based primarily on olfactory training (a rehabilitation method). TCM has long used similar techniques.

But TCM also offers additional treatments based on insights passed down for generations that provide therapeutic options even for new diseases, such as long COVID. TCM approaches for long COVID focus on its connections to the lungs, spleen, and kidneys.

The right treatments can restore the senses of smell and taste, but because these senses can require regrowth in the nervous system, it can take some time to see results. Patients should seek medical assistance as soon as possible, but there is no need to panic.

Long COVID

According to the World Health Organization, as of August, more than 769 million people worldwide have been diagnosed with COVID-19. About 10 percent to 20 percent of these people continue to suffer with long COVID long after their initial infection.

Common symptoms include fatigue, shortness of breath, abnormal taste and smell, cough, brain fog, chest pain, and muscle pain.

Studies have shown that among all COVID-19 patients, 40 percent to 50 percent of people worldwide report symptoms of olfactory and taste

disturbances. In objective tests, up to 98 percent of people show a decline in olfactory function.

According to a meta-analysis published in the British Medical Journal in 2022, disturbances of smell and taste manifest mainly as decrease or loss, abnormality, a sense of rancidity, or even hallucinations.

Researchers conducted 18 randomized studies on 3,699 patients. The results showed that 74.1 percent of patients recovered their senses of smell within 30 days, and 85.8 percent recovered it within 60 days. For sense of taste, 78.8 percent of patients recovered it within 30 days, 87.7 percent within 60 days, 90.3 percent within 90 days, and 98 percent within 180 days.

The researchers found that women with more severe loss of smell and nasal congestion early in the infection were less likely to recover. Additionally, although most patients can expect to regain their sense of smell or taste within three months, most will experience long-term dysfunction.

How Does COVID-19 Affect Smell?

A study published in December 2022 in Science Translational Medicine, a sister journal of Science, revealed the main reason for the loss of smell after COVID-19 infection. Researchers analyzed olfactory epithelium samples collected from 24 biopsies, nine of which were from patients with long-term loss of smell after infection with COVID-19. Samples from these nine patients showed extensive CD45+ immune cell infiltration and inflammatory responses in their olfactory epithelium.

Although the samples showed they were free of the COVID-19 virus, inflammation persisted, and the number of olfactory neurons was significantly reduced. This showed that the viral infection causes an abnormal immune response in the human body, which continues to destroy the olfactory neuron cells in the nose, causing a massive reduction of those cells and resulting in loss of smell. This is why recovery requires regrowth of these neurons.

Aromatherapy can stimulate the growth of new neural connections between nose and brain.

Essential oils, such as citrus, eucalyptus, patchouli, German citrus, rosewood, and real lavender, can be used to help restore your senses.

People can also use essential oils to help restore their senses.

40 TO 50 PERCENT OF ALL COVID PATIENTS

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Aromatherapy

Dr. Li Jialing, an aromatherapist with dual licenses in TCM and Western medicine and the director of the Fujian Traditional Chinese Medicine Clinic, said on NT-DTV's "Health 1+1" program that people with smell or taste disorders should first address nutrition and avoid greasy food. People can also use essential oils (EOs), such as citrus, eucalyptus, patchouli, German citrus, rosewood, and real lavender, to help restore their senses, with different EOs selected according to different personal constitutions.

"When sniffing essential oils, it is not recommended to use a type with 100 percent concentration because it will be very irritating to the sense of smell. Long-term exposure to such high-concentration EOs will reduce the sensitivity of smell," Dr. Li said.

"It is best to add some carrier oils, such as sweet almond oil or sunflower oil, among others, diluted to 5 to 10 percent. When this concentration improves the sense of smell, then lower the concentration; during the process, keep lowering the concentration and try to see if you can smell it; if you can smell it, it means that the sense of smell is gradually recovering."

Recent research in the United States also shows that smelling EOs can help patients recover their sense of smell faster. Researchers selected four essential oils of rose, lemon, eucalyptus, and clove for a three-month experiment with adults who had lost their sense of smell because of COVID-19 infection. They discovered that having study participants view pictures of corresponding smells while smelling EOs promoted the recovery of the sense of smell to a certain extent.

Regarding the restoration of taste, Dr. Li said that different EOs can be applied during the treatment's early, middle, and final stages. For the early stage, employ small-molecule EOs, such as citrus essential oils, and in the final stage, use large-molecule resinous EOs, such as rock bluegrass, sandalwood, frankincense, or patchouli. The choice of oils will depend on different personal constitutions. After that, adjust the smell and sniff the small and large molecule EOs daily.

*Note: Some of the herbs mentioned in this article may sound unfamiliar, but many are available in health food and Asian grocery stores. Because everyone's physique differs, please consult a professional physician for specific treatment options.



Recovering your sense of smell requires regrowing the neurons that pass scents on to the brain for interpretation.



To restore taste, sniff different essential oils at different stages of the treatment. The choice of oils will also depend on the person's constitution.



Don't sniff essential oils at 100 percent concentration as it can be irritating. Mix with 5 to 10 percent carrier oils such as sweet almond.

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Therapy for Depression Lowers Risk of Heart Disease

A new large-cohort study found that psychological treatments for depression can significantly lower stroke and heart disease risk

By Sarah Cownley

A new study published in the European Heart Journal suggests that taking part in psychological therapies such as cognitive-behavioral therapy can lower the risk of stroke and heart disease—even more than simple lifestyle changes such as diet or exercise alone.

More research is being done on the relationship between physical health and mental health, and this new study adds to mounting evidence that the two are strongly connected. This new study was the first to investigate whether reducing depression with psychological therapy could help lower the likelihood of future cardiovascular disease.

The study included 636,955 adults older than 45 who had depression, didn't have cardiovascular disease or dementia, and had completed a course of psychological

therapy. The average age of the participants was 55, and 66 percent were women. Electronic health records were used to obtain information on psychological treatment, incidence of cardiovascular disease, and death.

Depression levels were assessed before and after therapy using the Patient Health Questionnaire-9 (PHQ-9), which asks for a score of zero (not at all) to three (nearly every day) for nine items: little interest or pleasure in doing things; feeling down, depressed, or hopeless; trouble falling or staying asleep, or sleeping too much; feeling tired or having little energy; poor appetite or overeating; feeling you are a failure or have let yourself or your family down; trouble concentrating on things; moving or speaking slowly or being fidgety or restless; and thoughts that you would be better off dead, or of hurting yourself in some way.

Participants who scored 10 points or more were considered to have depression; an improvement in depression was defined as a reduction of 6 points or more. Anxiety was also included in the definition of depression, as the therapy outcome wasn't considered good if depression improved but anxiety worsened. All patients were monitored for new onset all-cause cardiovascular disease, stroke, coronary heart disease, and all-cause mortality. It was found that during a median follow-up of 3.1 years, depression symptoms improved in 59 percent of participants. The improvement of depression, compared with no improvement, was associated with an 11 percent to 19 percent lower risk of any cardiovascular disease, coronary heart disease, stroke, and all-cause mortality. All associations were strongest in 45- to 60-year-olds. Study author Céline El Baoui said: "Our

findings emphasize the importance of making psychological treatments more widely available and accessible to enhance mental and physical health. This is especially relevant for certain groups who face barriers to accessing psychological therapies and are at greater risk of cardiovascular disease. Collaborative care systems where specialists from both disciplines work together could be one way to make treatment more accessible and obtain better outcomes overall."

Sarah Cownley earned a diploma in Nutritional Therapy from Health Sciences Academy in London and she enjoys helping others by teaching healthy lifestyle changes through her personal consultations and with her regular contributions to the Doctors Health Press. This article was originally published on BelMarraHealth.com



Researchers found that treating depression was linked with an 11 percent to 19 percent lower risk of any cardiovascular disease.

INTENTIONAL LIVING

Excess Possessions Are Wasted Potential

Every unused item and unnecessary purchase is energy, focus, and money not put toward our dreams

By Joshua Becker

There is no doubt that possessions can be incredibly useful.

A car transports us to work, the grocery store, or a parent’s house. A home gives us a place to rest, grow, and raise a family. Computers and tools offer us the capacity to solve complex problems and accomplish tasks more efficiently.

Physical possessions help us accomplish more.

But that doesn’t mean that owning more helps us accomplish more.

In fact, just the opposite is true. Excess possessions have a way of slowing us down and even wasting our true potential.

Possessions serve a role in our lives by increasing our potential. But too many possessions actually detract from it.

This, for me, is why minimalism is so important. And it’s why I believe it is important for everybody!

Owning excess possessions wastes your potential.

Chasing and accumulating things we don’t need uses up our money, time, energy, and attention.

Think of your closet, as an example. Some clothes are needed, certainly. But too many clothes, crammed in a closet, many of which you haven’t worn in months or years, isn’t just fabric taking up space. It’s money you could have spent elsewhere. It represents time wasted shopping, returning, and deciding what to pick out every morning. Just think, for a minute, of how you could have spent that money instead.

I don’t offer this example to guilt us or make us feel overly negative—I just mean it as one practical example of how excess possessions waste our potential.

And the more we think of the money and time wasted on things we don’t need, the more lost potential we begin to see.

The tech gadget you researched for hours, only to purchase and rarely use.



ALL PHOTOS BY SHUTTERSTOCK

▲ A closet full of clothes you don’t wear is time and money not spent on something more important.

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The hobby supplies you bought but never used. The fad item that has sat unused in your drawers for years. The rooms in your home that nobody enters. The gifts you bought for others that were never used. Even all the toys you bought for your kids that were played with briefly then quickly forgotten.

Again, that list isn’t just wasted money; it’s lost opportunity. That time could have been spent on activities that genuinely enrich your life, such as writing that novel you’ve always wanted to pen, starting a garden, taking a trip with your kids, or supporting a cause you’re passionate about.



These are not easy truths to face, especially because we live in a society that often equates material abundance with success. But becoming aware of this waste is a life-changing invitation to dream bigger dreams for our lives.

Unused items are more than just clutter; they are a diversion of resources from activities and goals that align with our values and could truly enrich us.

This is the cornerstone of minimalism: owning the optimal number of things to make our lives more efficient and more in line with our true selves.

The goal isn’t to live with as little as possible but to make room for what genuinely contributes to our well-being and expands our potential.

Your life is a canvas with limitless potential. But every stroke matters. With every unnecessary item we buy, we trade a bit of our freedom, focus, resources, and yes, our potential.

So here’s the challenge for all of us: Remove the pursuit of anything that is distracting you from your greatest values and highest potential. And if an item in your life doesn’t serve a purpose or bring you joy, consider freeing yourself from it.

Start today. Start now. Unburden yourself of the excess and see how much more room you have to grow, to breathe, and to pursue what genuinely matters to you. Reclaim your time, your resources, and your potential.

I can’t think of anything more valuable than that.

Joshua Becker is an author, public speaker, and the founder and editor of *Becoming Minimalist*, where he inspires others to live more by owning less. Visit BecomingMinimalist.com

▲ Saving time and money by not shopping can let you pursue more enriching pursuits.



THINK TWICE

Don’t let these mistaken beliefs hold you back

MYTH	REALITY
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I can find similar content somewhere else for free.	The Epoch Times is the number one independent media in America. Not only do we report stories the legacy media won’t touch, we regularly break stories before even conservative sources can. Our worldwide team of carefully vetted investigative journalists is second to none, and that means you get news you won’t find anywhere else. Plus, we have exclusive EpochTV shows, Epoch Health, special reports, premium magazines and so much more.

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