WEEK 6, 2023
THE EPOCH TIMES

MIND & BODY

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MINDSET MATTERS

Why Some People Never Become Infected With COVID-19

Immunity is very much linked to several aspects of our character, including our daily habits, stress levels, and even how honest we are

YUHONG DONG

With the ongoing surge of COVID-19 infections in China, many are shocked by its scale and worried about a potential new wave hitting the rest of the world.

Let's take a close look into the factors that affect our antiviral immunity, and how to better protect yourself if another wave hits where you live.

Some People Never Get Infected by Viruses

Looking at pandemics throughout history, one can't ignore the impact of the Black Death, which swept across Europe and reduced the population by more than half in some areas. Yet, some people never got sick.

Cholera assailed Europe, but some people stayed uninfected, even though they ate the same contaminated food and drank the same tainted water.

Some doctors and nurses dedicated their lives to the leprous tribes, and yet they never contracted the bacterial infection.

Two human challenge trials were done during the 1918 Spanish flu by two independent groups of doctors in Boston and San Francisco with 62 and 50 healthy volunteers, respectively. Regardless of how many aggressive means were taken to try to infect people (even dropping mucus or bodily fluids from flu patients into the healthy volunteers' eyes, noses, or throats), none of the participants became infected.

During the COVID-19 pandemic, a SARS-CoV-2 human challenge study published in Nature in 2022 found that of the 36 healthy volunteers inoculated with the SARS-CoV-2 virus intranasally, only a little more than half became infected with mild symptoms, and the other half remained uninfected. Two were excluded from the per-protocol analysis, so the experiment went on with 34 participants.

These experiments show that some people just don't get infected.

Viruses 'See' People With Weakened Immunity

While people may look similar on the outside, we look very different in the microscopic world of viruses. Our immune systems look different, too.

Continued on ***Page 6***

43 PERCENT
reduced risk of mortality for a person who scored high on the life purpose measure compared to a person with a low score.

Fear, stress, and other mental and emotional factors affect immune response.

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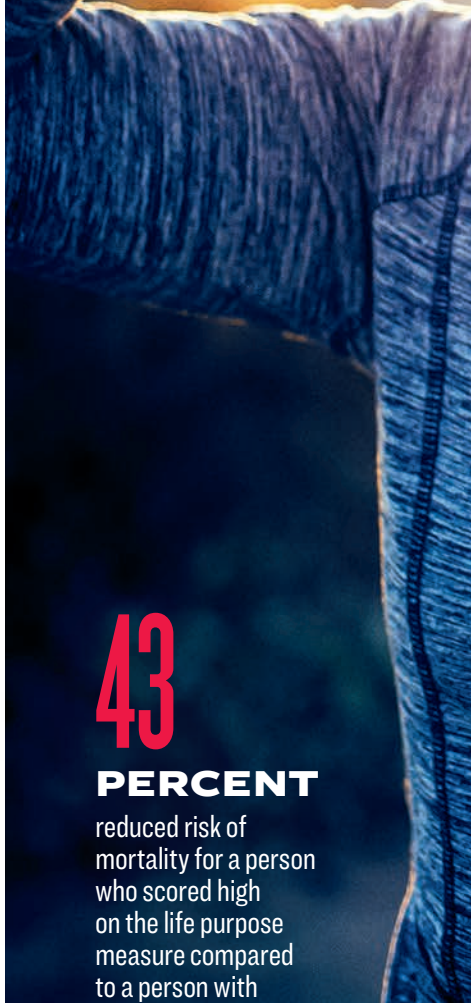

How LEDs Can Negatively Influence Our Health

As our lighting becomes less sun-like, the health consequences increase

Incandescents typically deliver a healthier spectrum of warmer light.

CONAN MILNER

There's been a subtle, yet unmistakable change in lighting over the past few years. And it isn't entirely by choice. For nearly two decades, government policies around the globe have been slowly phasing out the classic incandescent light bulb we've known since Thomas Edison's time and pushing a new source of illumination called LEDs.

In just a few years, LED bulbs have become our most prominent source of indoor and outdoor light. You'll find them in homes, schools, offices, and street lights—virtually anywhere that incandescents once reigned. But the technology's popularity has little if anything to do with the quality of the light they shine. LEDs beam a much colder light than their comparatively warm incandescent cousins, and they fetch a higher price wherever you buy your bulbs.

The primary driver behind LED's rise to the top is energy savings. U.S. efficiency standards starting in 2007 helped extinguish many incandescent bulbs from the market, giving a lot of room for LEDs to shine. In most places, a few incandescent options still remain. However, states with stronger standards have more restrictions.

Shining a light in the dark has always been a matter of energy. A couple centuries ago, some form of fire was the only option once the sun went down.

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MONKEY BUSINESS IMAGES/SHUTTERSTOCK

For many people, just getting their blood pressure tested can cause stress that raises their blood pressure.

OVERTREATMENT

Is High Blood Pressure Overtreated?

As more people are drugged for hypertension, the individual health benefits decrease–or reverse

SUSAN C. OLMSTEAD

Concerned about a high blood pressure reading at your last doctor's appointment? Your concern may be misplaced. Some doctors believe that hypertension is commonly over- or misdiagnosed, and official blood pressure guidelines from medical organizations around the world differ.

Blood pressure measures the force the heart exerts on blood vessels. Systolic pressure (the first or upper number) measures the force in the arteries as the heart beats; while diastolic pressure (the second or lower number) is the measure of force in the arteries as the heart rests between beats. It's measured in millimeters of mercury (mm HG).

"White-coat" hypertension (in which an anxious patient's blood pressure rises in the presence of a doctor)—along with a shifting definition of hypertension to include lower readings—may mean that more people are diagnosed with the condition and are prescribed medication for it than actually have it.

Shifting Definition

The number of adults with hypertension worldwide increased to 1.13 billion in 2015 from 594 million in 1975, according to the World Health Organization. However, the exact definition of hypertension is in dispute and thus may skew the numbers.

A 2017 guideline from the American College of Cardiology and American Heart Association lowered the cutoff point for a high blood pressure diagnosis in adults from 140/90 mm Hg to 130/80 mm Hg.

This change meant "while about 14 percent more people will be diagnosed with high blood pressure and counseled about lifestyle changes, there will only be a small increase in those who will be prescribed medication," the American Heart Association claimed at the time.

But in using this cutoff point, nearly half of the adults in the United States (47 percent, or 116 million) in 2022 had hypertension or took medication for hypertension, according to the Centers for Disease Control and Prevention.

In 2021, The World Health Organization still recommended that doctors hold off prescribing blood pressure medication unless blood pressure hit the 140/90 mm Hg threshold. For patients with existing cardiovascular disease, the group recommended initiating medication at a systolic reading of 130–139 mm Hg.

'White-Coat' Hypertension

Dr. Leland Stillman, in a November 2022 interview with Dr. Joseph Mercola, said many patients are being overtreated for high blood pressure. In some cases, improper readings are to blame.

Stillman, the author of "Dying to Be Free: How America's Ruling Class Is Killing and Bankrupting Americans, and What to Do About It," told Mercola that patients may be prescribed blood pressure medication "because they were relying on one or two numbers from the doctor's office," where they may be nervous or agitated.

Stillman called this problem "an epidemic" and said, "I think high blood pressure is massively over-diagnosed because of this, and it's just one of many examples I can give you about how the mainstream practices [result in overtreatment]."

Stillman said when he takes patients' blood pressure readings after they've been sitting and resting for five minutes, "lo and behold, they'll have completely normal numbers."

In part to account for white-coat hypertension, the International Society of Hypertension in 2021 recommended using a threshold of 140/90 mmHg for an official diagnosis of hypertension, but 135/85 mm Hg for home blood pressure monitoring and 130/80 mm Hg for 24-hour ambulatory monitoring.

In using this cutoff point (130 80 mm Hg), nearly half of the adults in the United States in 2022 had hypertension or took medication for hypertension.

'Harm and Waste'

"Lowering definitions of hypertension has led to identification and drug treatment of larger populations of patients despite lack of evidence that drugs reduce morbidity or mortality," American and Canadian doctors wrote in a 2014 BMJ analysis.

That was in response to an even earlier lowering of the threshold for medical intervention—from a diastolic pressure of greater than 115 mm Hg to a reading of 140/90 mm Hg.

The doctors noted that using the same threshold for all patients ignores individual risk profiles, overlooks adverse effects of medication, and removes incentives for patients to lower blood pressure through "lifestyle choices"—that is, diet and exercise.

1.13 BILLION
adults with hypertension worldwide in 2015, up from 594 million in 1975.

They wrote that people with what they called "mild hypertension" (a systolic pressure reading of 140 to 159 mm Hg) don't necessarily benefit from drug treatment.

Dr. John Brodersen told The Epoch Times that lowering the threshold for a high blood pressure diagnosis in 2017 was "helpful to only a few people, maybe nobody, and it was harmful to thousands or millions of people." He's a general practitioner with a doctorate in public health and psychometrics and works as an associate research professor in the area of medical screening at the University of Copenhagen's Department of Public Health.

"Expanding definitions of disease are causing too many people to be diagnosed and treated unnecessarily, producing harm and waste, posing a major threat to human health and the sustainability of health systems, and creating growing conflict within medicine," a 2018 analysis co-authored by Brodersen states in the BMJ.

Susan C. Olmstead writes about health and medicine, food, social issues, and culture. Her work has appeared in The Epoch Times, Children's Health Defense, Salvo Magazine, and many other publications.

How LEDs Can Negatively Influence Our Health

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Whether it was wood or wicks, something had to be burning to light the dark.

Electric light bulbs changed the game. Incandescent bulbs still radiate heat—they shine by a hot filament found at their core. But compared to fire, incandescent bulbs burn far brighter for much longer. Just imagine how many candles you would need to match a 60-watt bulb.

LED light boasts an even better light-to-energy ratio, producing the same level of lumens (brightness) at a fraction of incandescent wattage. That's because 90 percent of the energy an incandescent bulb burns goes to heat. LEDs illuminate not by heat (although they do get warm) but rather they work via a special semiconductor that gives off light when an electric current flows through it. LED stands for light emitting diode.

Although LEDs cost more upfront, they promise to cost less over the life of the bulb, because it uses less energy and lasts longer than incandescent.

Still, not everyone is a fan. Despite all the advantages LEDs offer, people can be turned off by the cold quality of light they emit. Although manufacturers have managed to give LEDs a warmer glow as the technology has improved, they still pale in comparison to the familiar, sun-like warmth of incandescent bulbs.

Some researchers are concerned that LED light may also have downsides beyond aesthetics. For example, studies have shown that exposure to LED light may be linked to mental illness, sleep disturbance, hormonal imbalance, and even cancer.

Scientists who explore this area of research say what's fueling these conditions is the kind of colder light LED bulbs emit—something called blue light. According to a study published in a 2018 edition of the journal Environmental Health Perspectives, exposure to outdoor light at night in the blue light spectrum was associated with breast and prostate cancer.

An Energizing Light

Blue light is nothing new. In fact, it's been around forever. The sun shines some blue as part of its full spectrum of color illumination. On a clear, sunny day, blue will be the predominant light color thanks to a bright blue sky.

What makes blue light so problematic is the time that we're exposed to it. Consider that blue is an energizing color. This isn't a subjective observation, but a scientific fact. Light is composed of particles that travel in waves, and blue light has a short wavelength compared to colors at the warmer end of the spectrum (think red and orange). This means that waves of blue light meet our eyes with greater frequency than the waveforms of other colors.

This energizing feature of blue light is an advantage throughout the morning when the sun is up, your day has just begun, and there's a lot that you still want to accomplish. However, after the sun sets, and particularly in the last few hours before we go to bed, blue light can influence us in ways that go against the delicate balance of our well-being.

Beyond the Visual

Melatonin is at the heart of why scientists believe blue light exposure at the wrong time of day can lead to health problems. Studies have shown that blue light inhibits the body's production of melatonin. A disruption in this hormone is known to upset biological processes such as sleep, menstrual cycles, mental health, and immunity. Melatonin is also a powerful antioxidant.

How much melatonin the body produces and when it produces it can impact the entire body. However, when it comes to light's influence, the process primarily starts in the eyes. The short, rapid wavelength of blue light has been shown to stimulate an ocular pigment called melanopsin, which signals the production or suppression of melatonin.

We often switch on a light or step outside so we can see better, but different kinds of light can influence our bodies in ways we can't see. For example, our skin can only produce vitamin D when it comes into contact with UV rays, which are plentiful in the sunshine, scant in most incandescent bulbs, and practically nonexistent in LED light.

But even if we're just talking about the light that meets our eyes, the influence goes deeper than our visual perception.

How this works has only been recently understood. In the past, scientists believed that the human retina only had two types of photoreceptors: rods and cones. Both of these retinal structures helped us understand how we see, but mysteries remained. For example, why did blind patients have a sleep-wake pattern that followed the cycle of a sun they couldn't see?

In the past few decades, scientists have discovered another structure in the eye, something called intrinsically photosensitive retinal ganglion cells (ipRGCs). These cells are found at the back of our retina, and blue stimulates them. These ipRGCs may be a part of our eyes, but they don't aid in sight. Instead, they work exclusively to regulate your sleep-wake pattern—also known as the circadian rhythm.

We get most of our blue light exposure from the tablets, phones, and computer monitors we stare at all day and often late into the night. Some of these devices use an LED screen, but most use an LCD (liquid crystal display), which is backlit for illumination.

Whichever screen type you choose, it seems you can't do without blue. Since blue is a primary color, its light is an essential ingredient in creating the enormous range of colors in photos, videos, and graphics that illuminate your screen. Even a bright white screen requires that indispensable blue light.

A review published in the December 2019 edition of the Journal of Biophotonics explains that chronic exposure to blue light directly before bedtime "may have serious implications on sleep quality, circadian phase and cycle durations."

"This rises inevitably the need for solutions to improve wellbeing, alertness, and cognitive performance in today's modern society where exposure to blue light emitting devices is ever increasing," the review reads.

As people around the world have increased their amount of screen time, awareness of the effects of blue light has grown. Today, some health experts recommend that people, especially those with hormonal imbalances, sleep problems, or vision issues, lay off the screens at least a half hour or so before bed.

If you can't part with your device, you can buy special orange-tinted glasses designed to block out the blue. Most devices also offer night light settings to minimize blue and mitigate the problems associated with viewing this light too close to bedtime.

And don't forget to shut off or turn down the LED bulbs that illuminate your evening environment. Consider night lighting with bulbs that have a lower lumen count or try a red bulb. Red has the longest wavelength of all the colors and is therefore least likely to upset your circadian rhythm.

Light at Night

LEDs were first invented in the 1960s, and the first example wasn't blue, but red. Over the next few decades, engineers from Texas Instruments, General Electric, and Monsanto created other LED colors, but a blue diode didn't make it onto the scene until the 1990s.

The discovery marked a major turning point for applied LED technology. Blue was deemed necessary to create a light bulb bright enough to match or exceed the once-prevailing incandescent bulb. Government subsidies inspired a bulb with a price low enough for consumers to purchase them. And the price per LED bulb has continued to drop ever since.

As technology marches on, more advancements in lighting are sure to follow. But how will they affect us long term? Lighting isn't just a convenience. It has become a way of life for generations. It would be hard to cope if we were suddenly forced to revert back to candles and oil lamps.

Electric light has granted humans a level of nighttime activity and illumination that our ancestors could never have fathomed. Whereas the boundaries of the day for people of the past were closely tied to the cycles of the sun, our days now last indefinitely, until we're finally ready to switch them off.

But like so many other advantages of modernity, artificial light at night (ALAN) comes at a price. Even before the ubiquity of blue light, studies found ALAN to be implicated in the emergence of several diseases, such as metabolic syndrome, obesity, depression, and cancer. In every case, the imbalance of circadian rhythms was to blame.

A 2018 review published in the Journal of Experimental Biology highlights the hormonal influence of ALAN on both humans and animals.

This review doesn't compare our predominantly incandescent ALAN past to all the blue light we're now bathed in thanks to smartphone screens and LED bulbs. But researchers suggest that it's something to consider.

"As governments and agencies begin to switch to LEDs for economic reasons, do we know enough about these alternative light sources to justify policy change?" researchers wrote.

Chronic exposure to blue light before bed can affect the hormone that regulates sleep.

Our brightly lit homes, indoor work spaces, and shopping centers can leave our bodies confused about whether it is time to rise or sleep.

7 HOURS
is the average amount of time a person spends in front of a screen per day.

LED lights are cheap and versatile but researchers are still unsure of their long-term effects on our mental and physical health.

Despite all the advantages LEDs offer, people can be turned off by the cold quality of light they emit.

ALL PHOTOS BY SHUTTERSTOCK

Seek out warmer LED lighting that is lower on the kelvin scale; around 2700K is reasonably warm.

Cellphones have dramatically increased our exposure to the melatonin-inhibiting effects of blue light.

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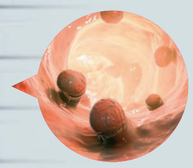
MICROBIOME

How to Deal With Gut Bacteria Linked to Colorectal Cancer

There are 3 simple and effective things you can do to improve your microbiome, reduce colorectal cancer risk

Escherichia coli is positively associated with colorectal cancer, with an about **60 PERCENT** detection rate in colorectal cancer patients.



Colorectal cancer is one of the most common killers in America and our food is largely to blame.

HSYNCOBAN/GETTY IMAGES

Genetics only accounts for 12 to 35 percent, of the risk factor for colorectal cancer.

CAMILLE SU

A growing number of studies have shown that gut bacteria have a significant impact on the development of colorectal cancer, the third most common form of cancer worldwide.

So how do we cultivate a good gut microbiome to prevent the disease?

Gut Bacteria Are Closely Related to Colorectal Cancer

Colorectal cancer is affected by various risk factors, including genetic and environmental factors. The genetic factor only accounts for 12 percent to 35 percent of one's risk of developing colorectal cancer, while the impact of environmental factors is greater. In particular, the effects of the Western diet and lifestyles on the gut microbiome can increase one's risk. One's oral hygiene habits are also a factor.

The degree of inflammation in the gut is related to the overall state of the gut microbiome.

The gut microbiome of patients with colorectal cancer is different from that of healthy patients. One study found that stool and tumor samples from patients with colorectal cancer tended to have more Escherichia coli, Bacteroides fragilis, Streptococcus gallolyticus, Enterococcus faecalis, Fusobacterium nucleatum, and Porphyromonas.

Escherichia coli is a diverse group of bacteria that most people know better as E. coli. Most of these bacteria are harmless to humans, but some are pathogenic. The American Journal of Clinical Investigation pointed out that Escherichia coli is positively associated with colorectal cancer, with an about 60 percent detection rate in colorectal cancer patients and approximately 20 percent in healthy individuals.

In addition, many bacteria in the feces of patients with colorectal cancer are related to oral commensal bacteria, such as Fusobacterium nucleatum and Porrinomonas gingivalis. A large-scale study showed that women with low tooth count and moderate to severe periodontal disease had a 48 percent increased risk of colorectal cancer.

Ying-Chieh Tsai, an expert in probiotics in Asia and a professor at National Yang Ming Chiao Tung University in Taiwan, pointed out that all these studies used comparative methods to compare the differences in the gut microbiome between healthy people and patients with colorectal cancer. However, the scientific community still doesn't understand exactly how these bacteria affect colorectal cancer.

The current most accepted theory is that these "bad" bacteria disrupt the balance of the gut microbiome and release toxins that affect cell regulation or directly damage cells. They also produce toxic metabolites, cause chronic inflammation, and change intestinal permeability. These changes affect the mucosal cells of the large intestine. Cumulative damage can lead to abnormal cell proliferation and genotoxicity, resulting in adenomas and even colon cancer.

Butyrate Paradox: Promotes Gut Health but Causes Cancer?

Another factor in the association between gut bacteria and colorectal cancer is the secretion of the bacterial metabolite butyrate by these bacteria, which can induce cell aging and inflammation, and promote tumorigenesis.

Paradoxically, however, short-chain fatty acids produced by gut bacteria fermenting dietary fiber, especially butyrate, have been found to balance the gut microbiota, maintain the mucosal barrier, modulate the host immune response, prevent infection, and regulate energy expenditure. Therefore, butyrate-producing bacteria are considered probiotics.

Tsai emphasized that every kind of bacteria will produce butyrate to some extent; bad bacteria will also produce it but in a small amount, and the harm of bad bacteria mainly comes from the toxins they produce. The paradoxical effects of butyrate have indeed been discussed over the years, and this is known as the butyrate paradox.

There are several views and findings on this topic:

Concentration of Butyrate

The appropriate concentration of butyrate is beneficial to the human body, but it's harmful when it's too high; the problem is that the true cutoff value isn't yet known.

Stem Cells

Stem cells can renew and differentiate; they can proliferate into the same type of cells or differentiate into cells with differing functions.

The growth of intestinal cells is derived from the differentiation of stem cells. Butyrate inhibits stem cell growth, but it promotes the growth of normal cells that differentiate from stem cells. Then, the normal cells will in turn protect the stem cells from butyrate.

Tsai says that we still don't understand the reason behind it, but "the growth of stem cells is not necessarily good, as it may lead to the differentiation and growth of cancer cells."

The State of Gut Health

Butyrate is harmful if the intestinal tract is in a state of severe ulceration. On the other hand, it's beneficial for people with mild intestinal ulcers or those who are completely healthy. This view has been widely accepted in recent years.

So is butyrate good or bad? Tsai believes that the good outweighs the bad; however, the intake of fiber should be reduced when the intestinal tract is severely inflamed and ulcerated. For the same reason, people with poor gut health or who have just undergone surgery shouldn't take probiotics, as fiber and probiotics will increase the level of butyrate.

He reiterated that patients with colorectal cancer need to pay attention to the timing of taking probiotics. Such patients are more likely to have an imbalance of gut microbiota, so it's beneficial for them to take probiotics. However, this isn't recommended right after surgery or during chemotherapy. Instead, they can take the supplements after the acute phase passes.

3 Ways to Regulate Gut Microbiome to Prevent Colorectal Cancer

Does reducing specific bad bacteria in the body lower the risk of colorectal cancer? Yuan-Yu Jeng, a former chief physician at the Department of Infectious Disease of Taipei Veterans General Hospital, pointed out that the microbiota of the digestive tract are in a state of dynamic balance with the human body, and various microorganisms in the internal environment form a complex ecosystem. Trying to get rid of certain bad bacteria from the body won't necessarily lead to a good outcome, as the whole system is affected.

It also isn't a good idea to prevent certain types of bacteria from entering the body, mainly because most of these bacteria are part of the body's natural system. Some bad bacteria already exist in the body and will overgrow in an imbalanced environment.

Jeng says that the fundamental solution is to maintain the micro-ecosystem in the body, which includes eating a healthy diet, getting the right and enough exercise, preserving good mental health, sticking to a regular sleep schedule, practicing good oral hygiene, and controlling chronic diseases such as the "three highs"—high cholesterol, high blood pressure, and high blood sugar.

Nonetheless, modulating the gut microbiome is still a powerful tool in colorectal cancer prevention. There are several specific methods to do this:

1. Eat Differently

Improving the gut microbiome takes time. One way to do this is by increasing the consumption of fermented foods (such as yogurt), as well as implementing a moderate intake of fiber-rich vegetables, fruits, and whole grains.

Several studies have shown that excessive intake of red meat and processed meat may increase the risk of developing colorectal cancer. When the diet residues entering the colon are mainly protein residues and bile acids secreted by the liver to digest fat, they may cause damage to colonic cells through proinflammatory and proneoplastic effects after being fermented by intestinal bacteria, leading to an increased risk of colorectal cancer.

A Mediterranean diet consisting mainly of fruits and vegetables, high-quality fats, and high-quality protein can reduce the incidence of colorectal cancer. One of the reasons is that the Mediterranean diet can increase the good bacteria in the gut and cultivate a healthy gut microbiome.

Tsai added that it may take up to half a year for people who have a poor gut microbiome to feel the improvement after switching to a Mediterranean diet. In addition, it isn't recommended for this group of people to consume a large amount of high-fiber food at once. He explained that such people have fewer bacteria that can decompose fiber in their intestines, and a sudden intake of excessive fiber will cause discomfort. It's recommended for them to take probiotics first to directly improve the gut microbiome; after some time, they'll notice the effect of dietary improvement.

The Mediterranean diet is good for your gut.

2. Take a Probiotic Supplement

The degree of inflammation in the gut is related to the overall state of the gut microbiome. At present, there's no single bacteria strain that can improve the overall gut microbiome. Various types of bacteria need to be supplemented at the same time, such as Lactobacilli and Bifidobacteria. Tsai suggests that we choose probiotics products that contain five to six types of good bacteria. The best probiotic products are typically refrigerated to preserve the bacteria.

Fermented food will nurture helpful bacteria.

3. Maintain Oral Health and Good Food Hygiene

Good food hygiene can prevent bacteria such as E. coli from getting in through our mouths and causing illness. Oral health is also an important part of human health in general. For example, it's difficult to suppress Porphyromonas gingivalis by relying on good intestinal bacteria alone; it's also necessary to maintain oral hygiene.

Chih-Chung suggested that we carry dental floss with us and use it to clean the triangular gap between teeth after meals. In addition, it's recommended to perform a full-mouth debridement and dental check-up every six months for better oral health.

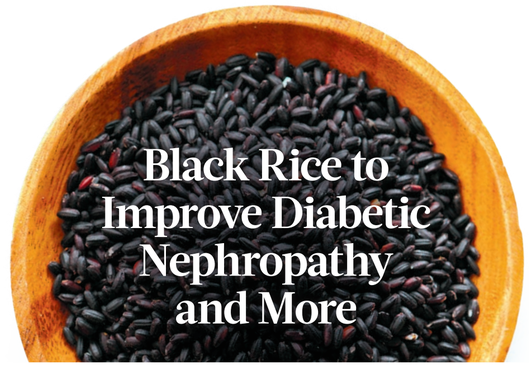
The Bass brushing technique is currently recognized as the most effective way to brush your teeth. When brushing, hold the toothbrush bristles at a 45-degree angle to your teeth. This angle allows the bristles to gently brush the gingival sulcus, the point where the teeth and gums meet, thereby preventing the accumulation of bacteria.

Chih-Chung suggested that we carry dental floss with us and use it to clean the triangular gap between teeth after meals. In addition, it's recommended to perform a full-mouth debridement and dental check-up every six months for better oral health.

Some oral hygiene habits are associated with the risk of colorectal cancer.

Mouth bacteria migrate to the gut, so good oral hygiene is important.

TRADITIONAL CHINESE MEDICINE



Black Rice to Improve Diabetic Nephropathy and More

An ancient insight into how food colors reveal their effect on the body continues to gain credibility

ELLEN WAN & WEBER LEE

Rice varieties can be divided into white, glutinous, purple, and black. Among them, black rice has the most nutritional and medicinal value. In ancient China, black rice was reputed to cure disease, contribute to longevity, and was used as a tribute to the Emperor—so powerful and rare it was.

According to the Chinese medical classic "Compendium of Materia Medica," black rice can "nourish yin and tonify the kidneys, keep the body fit, warm the stomach, improve eyesight, and promote blood circulation." Studies have also confirmed that black rice contains anthocyanins (a group of deep red, purple and blue pigments found in plants), which can effectively improve diabetic nephropathy (kidney disease) and vision, as well as prevent cardiovascular disease and cancer.

5 Colored Foods Nourish 5 Internal Organs

Traditional Chinese medicine (TCM) theory is based on the five elements or five phases theory—that all things in the universe are composed of five basic qualities or substances: wood, fire, earth, metal, and water. The development and changes of various things and phenomena in nature are the results of the continuous movement and interaction among these five substances. For instance, earth nourishes wood, and wood nourishes fire, like how soil creates food that our body "burns" as it extracts calories from that food.

According to the theory of TCM, the five elements also correspond to the five internal organs of the human body: "liver, heart, spleen, lung, and kidney," which in turn correspond to the five colors "blue (green), red, yellow, white, and black (purple)."

The Chinese medicine classic "Huang Di Nei Jing" (The Yellow Emperor's Classic of Medicine) describes the theory of "five colors nourish the five internal organs," essentially meaning that foods of different colors have different health benefits, and eating more of the five-colored foods can impact the corresponding five internal organs.

Research has found that the pigments that color plants are actually potent phytochemicals.

In that respect, it's said that white moisturizes the lungs, yellow is for the spleen, red for the heart, blue for the liver, and black for the kidneys.

Beets provide a particularly vivid example of how color reveals a food's biological effect.

"Beets are unique for their cardiovascular and heart health benefits," registered dietitian Sarah Thomsen Ferreira tells Health Essentials, a publication from the Cleveland Clinic. "Due to a combination of compounds found in beets, they are able to enhance blood flow, improve the health of arteries, support lower homocysteine levels and reduce LDL cholesterol."

According to TCM, eating more black food, such as black rice, will bring direct nourishment to the kidneys. While it may sound unusual to think of foods having medicinal properties according to their colors, research has found that the pigments that color plants are actually potent phytochemicals.

The Surprising Benefits of Anthocyanins

Modern studies have also found that black rice can effectively improve diabetic nephropathy. A study published in 2020 in the academic journal, Journal of Functional Foods, confirmed that cyanidin-3-glucoside in black rice can inhibit the accumulation of extracellular matrix (ECM) in the kidneys of rats with diabetic nephropathy. It's also been found to alleviate oxidative stress and inflammatory cytokines and inhibit renal interstitial fibrosis and glomerulosclerosis in rats with diabetic nephropathy.

Black rice contains an abundance of anthocyanins, comparable to blueberries. Anthocyanins are plant pigments that give plants their black, blue, and dark purple colors. In November 2022, a study published in the journal Translational Medicine also pointed out that anthocyanins can improve kidney function in patients with diabetes. Through experiments on mice, it was found that anthocyanins play a significant role in improving hyperglycemia and insulin sensitivity.

In 2017, the medical journal Food & Nutrition Research published a research paper stating that anthocyanins have a multitude of beneficial effects such as prevention of cardiovascular disease, and being anti-cancer, anti-diabetes, improved vision, anti-obesity, antibacterial, and neuroprotective. In addition, black rice is also rich in various trace elements, vitamins, carotene, and more. At the same time, it also has the characteristics of brown rice, which is rich in dietary fiber and can promote intestinal peristalsis.

BLACK RICE SUSHI—DELICIOUS AND NUTRITIOUS

Recently, the Health Promotion Administration of Taiwan shared an article about how to make sushi with black rice. Here is the recipe:

100 g (3.5 oz) black rice

50 g (1.8 oz) Taiwanese quinoa

200 g (7 oz) white rice

100 g (3.5 oz) raw bean buns (a steamed bun made of sweetened adzuki bean filling and soft, leavened dough).

100 g (3.5 oz) chicken breast

100 g (3.5 oz) cucumbers

100 g (3.5 oz) carrot

4 pieces (10 g-0.4 oz each) nori seaweed slices

350 ml (11.8 fl oz) water

PREPARATION

Wash and drain dry the black rice, Taiwan quinoa, and white rice. Add 350 ml (11.8 fl oz) of water, and steam in a 1.5-meter jar.

Wash in sequence the cucumbers, carrots, bean buns, and chicken breasts.

Cut the cucumbers lengthwise into long strips, peel the carrot and cut into strips.

Boil a pot of boiling water, blanch the carrots, bean buns, and chicken breasts in it. Cut the bean buns and chicken breasts into strips and set aside to cool and ready for further processing.

After the black rice is steamed and well cooked, stir it loose with a rice spoon, and let it cool.

Spread a layer of plastic wrap, put nori seaweed on top, spread the black rice flat, add the ingredients, roll it up, slice, and serve.

Black rice can also be made into Chinese pastries, sweet soup, or cooked into cereal porridge. All are healthy and delicious dishes.

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Dehydration Linked to Depression, Anxiety, and Cognitive Decline

Even mild dehydration can affect mood and cognitive performance, studies have found

17% TO 28%

of older adults are dehydrated; it's also frequently a reason for admission to the hospital.

D3SIGN/GETTY IMAGES

HEATHER LIGHTNER

What if improving depression and lowering your risk of dementia was as simple as drinking more water?

Dehydration is usually linked to low blood pressure, increased heart rate, and headache. But it's also related to these two unexpected diseases.

Researchers believe hydration could be a powerful tool to help our brain be at its best—physically and emotionally.

The Body and the Brain Need Water

Without water, an adult can only survive for about three days. This makes perfect sense, given that an adult's body is between 55 and 60 percent water.

Water is important for so many different body functions and organs, including the brain. When the brain isn't hydrated, brain cells aren't able to work properly.

Dehydration forces the brain to work harder than usual to perform a task. Additionally, dehydration can lead to volume changes in the brain and brain ventricles.

Dehydration in older people is considered a common occurrence. It has been reported that 17 to 28 percent of older adults are dehydrated; it's also frequently a reason for admission to the hospital. One study showed the issue is diagnosed in 8.9 percent of hospitalized patients over the age of 65.

Dehydration can cause illness and death on its own and can also worsen a variety of medical conditions.

Failure to drink enough water or losing water through fever, sweat, vomiting, and diarrhea can cause dehydration. Some medications, such as diuretics, can also cause dehydration by increasing urination—so can caffeine and alcohol consumption.

Getting dehydrated is easier than you'd think. Just a 1.5 percent decrease in body weight (e.g. 2.25 pounds for an adult weighing 150 pounds) due to inadequate water consumption or water loss can result in mild dehydration. A lack of adequate water in the body's cells and blood vessels can cause an assortment of unpleasant symptoms including dizziness, headache, tiredness, dry mouth, and constipation.

Being Dehydrated Can Bring You Down

Although it isn't widely known, depression and anxiety have been linked to dehydration. One study demonstrated an inverse relationship between drinking water and depression. Researchers discovered that people who drank five glasses or more of water per day were at a lower risk of depression and anxiety. Alternatively, people drinking less than two glasses per day doubled their risk of depression and anxiety.

Increasing water intake has the potential to improve mood in people who are low-water drinkers—and to lower mood when water consumption is restricted in those who are high-water drinkers. Why is this so?

Depression is related to low levels of serotonin, a neurotransmitter that has a significant effect on mood and also cognition. Serotonin is generated from the amino acid tryptophan. If enough water isn't present within the brain, the tryptophan can't cross the blood-brain barrier—which is "a network of blood vessels and tissue that is made up of closely spaced cells and helps keep harmful substances from reaching the brain," according to the National Cancer Institute. Dehydration limits how much tryptophan is present in the brain and subsequently lowers serotonin levels, contributing to depression.

MEN NEED 125 OZ or (3.7 liters) of water daily.

"Mood clearly is impacted by dehydration [creating greater feelings of fatigue, less vigor]," Mindy Millard-Stafford, the director of the Exercise Physiology Laboratory at Georgia Institute of Technology, wrote in an email interview with The Epoch Times. She holds a doctorate in exercise physiology and has researched the effects of dehydration.

Dehydration also has been linked to poor sleep, which can be a contributing factor to depression and anxiety. Additionally, dehydration has been associated with increased levels of cortisol—a stress hormone—which can lead to feelings of anxiety.

Lowered Cognitive Performance

Research has shown that even mild dehydration can have an adverse effect on cognitive performance. A review of studies to date showed that being dehydrated by just 2 percent lowers the ability to perform tasks that require "attention, psychomotor, and immediate memory skills."

Another study looked at the effect of mild dehydration on the cognitive performance of healthy young men. Researchers found that mild dehydration (1 to 2 percent) resulted in decreased attention and working memory, and increased anxiety, tension, and fatigue.

"The reason we believe this happens is that when a fluid shift occurs in the brain, some of the structures change in size, based on neuroimaging studies," Millard-Stafford said, while noting that this hypothesis still needs to be proven.

The elderly, who are more at risk of developing dehydration, can experience even more significant changes in cognitive performance than their younger counterparts, including confusion and delirium, which could result in a fall.

It doesn't take much for an elderly person to become dehydrated—a loss of less than 1 percent of body weight because of inadequate water consumption can result in cognitive impairment in this population.

Older people are also more at risk of dehydration because they have less water in their bodies from a loss of muscle mass, the use of diuretics, and a lowered ability to recognize when they are thirsty. Dementia can also increase the risk of developing dehydration, because of forgetting to drink or difficulty in communicating the need to have a drink.

For an older adult who may already be prone to dehydration, a more chronic state of dehydration might also be present.

"Coupling [chronic dehydration] with any age-related cognitive deficits, this could have a greater risk," Millard-Stafford said.

Being dehydrated by just 2 percent lowers the ability to perform tasks that require 'attention, psychomotor, and immediate memory skills.'

To find the studies mentioned in this article, please see the article online at TheEpochTimes.com

A Link Between Dehydration, Dementia

Is there a link between dehydration and dementia?

A German study of people between the age of 60 and 89 showed that higher dehydration was associated with a more significant decline in cognitive functioning and well-being over time—confirming that good hydration plays an important role in preserving cognition and well-being as we age.

Another study investigated the connection between dehydration and the risk of dementia—and revealed some worrisome results. The study, which involved more than 1,000 participants over the age of 65, determined that dehydrated individuals had a higher risk of dementia. Additionally, researchers found that those with dementia had an increased risk of dehydration, which may result in a vicious cycle.

It also has been suggested that dehydration can speed up cognitive decline in those suffering from dementia. A study published in Frontiers in Molecular Biosciences in 2016 showed that dehydration could cause "protein misfolding" and protein aggregation (proteins come together to form aggregate structures). This mechanism leads to progressive loss of the structure and function of neurons, including the death of neurons and decreased cognition in the elderly.

WOMEN NEED 91 OZ or (2.7 liters) of water daily.

Another study published in Nutrients in 2018 showed that dehydration is associated with developing a type of dementia, such as Alzheimer's disease or vascular dementia.

Hydrating for a Healthy Brain

Although dehydration can cause a decline in cognitive performance, depression, and anxiety, proper hydration can help improve and may even reverse these conditions.

According to the National Academies of Sciences, Engineering, and Medicine, men should consume about 125 ounces (3.7 liters) daily, and women should consume 91 ounces (2.7 liters). Keep in mind that about 80 percent of total water intake comes from drinking water and other beverages—the other 20 percent comes from the food we eat.

The total amount of fluid needed to stay hydrated may need to be modified, based on exercise level, hot or humid weather, fever, vomiting, diarrhea, pregnancy, and breastfeeding.

Not feeling thirsty and producing colorless or light-yellow urine are indicators of adequate hydration.

There are a variety of apps available to help you manage hydration, but these may be unnecessary. To stay hydrated, it's recommended that you drink water between meals, before, during, and after exercise, and whenever you feel thirsty.

Older people are at greater risk of dehydration because they have reduced muscle mass, often use diuretics, and have a harder time recognizing when they're thirsty.

Dehydration can quickly lead to reduced cognitive function, including difficulties with memory and attention.

Hot weather, exercise, and illness that includes diarrhea or vomiting can all lead to dehydration.

MINDSET MATTERS

Why Some People Never Become Infected With COVID-19

Continued from ***Page 1***

The immune system we were born with is a sophisticated design. It has layer upon layer of defenses and acts like an army protecting us 24/7 against various viruses and bacteria.

Viruses need suitable cells to hijack so they can replicate. If a person's cells are in a good antiviral state, there's no soil for the virus to spread its roots, so to speak, so that person won't become infected.

For instance, mucosal epithelial cells in our nose can automatically secrete a substance that puts this cell into an antiviral state.

This substance is called interferon. It interferes with the replication of the virus, breaking down its protein, enzymes, and RNA so that the virus can't survive in these cells.

Going deeper, there are a variety of immune cells, such as natural killer (NK) cells, macrophages, and lymphocytes. Each cell is like a special soldier possessing special skills to fight viruses.

Even if you become infected, if your immune system is strong, you will suffer only mild illness and quickly recover.

Research published in the journal Scientific Reports of Nature proves that at the early stage of infection, the more interferon that's present, the lower the incidence of developing severe symptoms of COVID.

On the contrary, if a person has poor antiviral immunity, the virus is more likely to infect cells, replicate, and establish a devastating presence in the person's body.

2 States of Immunity

There are generally two distinct states of immune response—one healthy and effective, the other not.

The first state is the antiviral state. It's characterized by strong antiviral immunity from immune cells that can secrete interferons to eradicate viruses. The second is the systemic chronic inflammation state. This state makes people susceptible to viral infections.

A study published in Nature Medicine summarizes the causes of chronic inflammation and its consequences. Some of the most common factors are physical inactivity, obesity, a poor diet, social isolation, psychological stress, and poor sleep.

Meaningful joy can strengthen our immune response, research suggests.

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EUDAIMONIC VS HEDONIC PLEASURE

Eudaimonic happiness is a durable pleasure from meaningful experiences. Hedonic happiness is a fleeting pleasure from sensual experiences.

Positive Thinking Promotes Antiviral Immunity

When we talk about strengthening immunity, people often think about improving nutrition or developing antibodies. Those factors are important; boosting nutrition and adding exercise to one's regimen will certainly help. At the same time, there are other internal ways to enhance our ability to fight viruses.

Everyone has emotions, thoughts, characteristics, and different mental states. People think that our thoughts are intangible, but they do, in fact, have material effects. Science has proved this point already. Depression, anxiety, stress, anger, and fear all have widespread and well-documented physiological effects. They can affect essential aspects of our biochemistry, from hormone production, to our perception of pain. Positive emotions also have an effect, though it can be mixed.

In psychology, there are two broad concepts of happiness: hedonic and eudaimonic. Hedonic refers to the happiness gained through a pleasurable experience such as eating a tasty meal. Eudaimonic refers to happiness that comes from achieving purpose and meaning, such as raising a child. Hedonic happiness is often fleeting and may leave us pursuing more of the stimulus that caused it, such as tasty foods, or indulgences such as watching movies or drinking alcohol. Eudaimonic happiness is often more lasting because it's derived from more substantial experiences or aspects of our own character.

A 2013 study published in PNAS, a top-ranked journal, discovered that people who were inclined to pursue justice and noble goals (eudaimonic) had higher interferon gene expression, higher ability to produce antibodies, and significantly lower expression of chronic inflammatory genes.

Furthermore, according to a Harvard University and the University of California–Berkeley study published in Current Opinion in Psychology in 2015, people with honest hearts are less prone to viral infections. That's because the cortisol responsiveness of liars is significantly higher than that of truth-tellers. And the higher the cortisol responsiveness, the easier it is for the stress hormone levels in the body to rise.

Corticosteroids and cortisol have an inhibitory effect on immune cells and suppress the body's ability to fight viruses. Therefore, dishonest behavior will lead to a decline in antiviral ability.

Additionally, research has found that people who seek purpose in life have stronger natural killer cell function and immunity.

A study was conducted by the Rush Alzheimer's Disease Center in the Departments of Behavioral Sciences and Neurological Sciences at the Rush University Medical Center in Chicago on the important determinant of health outcomes and mortality in community-dwelling elderly persons in the United States.

Researchers found that having a stronger sense of purpose in life effectively prevents lethal events. A person with a high score on the purpose in life measure had a 43 percent reduced risk of mortality compared to a person with a low score. Thus, developing and refining people's sense of purpose can protect health and potentially save lives.

The scientific evidence supports that our thoughts, mindsets, and moral standards can affect the genes and functions of immune cells, affect hormone levels, and impact holistic antiviral immunity.

As a whole, our thoughts can contribute to whether or not we are infected in an epidemic, or whether or not we will be seriously ill after we are infected.

In traditional cultures, people who are kind, altruistic, honest, and have a calm heart and humble attitude are normally healthier. Now we understand that it's because they produce high levels of interferon, strong NK cell function, and strong antiviral immunity. Such people are less susceptible to viral infections.

People of upright faith are taught to be kind and honest, characteristics that can lead to a calm mind and better immunity.

People with these qualities usually have a stable mind and better mental health and don't easily become anxious, depressed, or have negative and intense emotions.

I have a friend who has faith, is kind, often volunteers to help others, and has been in the COVID ward every day throughout the pandemic. This friend has never been infected with COVID-19. I also have many other friends similar to her who have remained uninfected during the pandemic, too.

Throughout the recent COVID surge in China, there have been an unusual number of high-profile Chinese officials who have died of suspected COVID-19 infections. As high-ranking officials in China, they enjoy state-of-the-art medical care and have first-class food, nutrients, and dietary supplements.

So why have they been dying during this wave?

We all know about the fake news and deceitful propaganda in China, including the cover-up and concealment of COVID-19 data, the suppression of whistleblowers, and the suppression of people who dare to speak the truth.

The high-ranking officials in China—not all, but many of them—didn't share the truth with people. They either executed the cover-up or helped with the cover-up. From a biological perspective, their bodies' stress hormone levels may be much higher than people who don't bear the stress of dishonesty. If they lived in that state constantly, the chronically elevated stress hormones would have done great damage to their immunity.

These officials don't put the well-being of the Chinese people before profits or power. Therefore, the interferon gene expression level of their immune cells is expected to be lower than that of people who care for others.

If these officials were to have had more virtuous minds and kinder hearts, they might have been less prone to viral infections or at risk for severe disease.

There is a Chinese traditional saying: "Illnesses are caused by 70 percent mental and 30 percent physical." During the pandemic, it's not only important to keep a good physical state, but to also keep a kind and virtuous mindset to aid your immune system.

Dr. Yuhong Dong, a medical doctor who also holds a doctorate in infectious diseases in China, is the chief scientific officer and co-founder of a Swiss biotech company and former senior medical scientific expert for antiviral drug development at Novartis Pharma in Switzerland.

Viruses can make us sick, but the greater factor in illness is usually the state of our immune system.

Drugs may help us combat a virus, but the immune system is the real key, so supporting it is critical.

D3SIGN/GETTY IMAGES

WISE HABITS

For many decisions, there isn't really a right or wrong choice, at least not of great significance. Sometimes you just need to choose.

The Art of Effortless Decision Making

LEO BABAUTA

So many of us spend a ton of time and energy stuck in indecision—the stress and delays that come with this are quite incredible.

One of the things I'm proud of about myself is my ability to make decisions quite effortlessly. This isn't to brag—there are costs to that sometimes, and it took me a while to develop this kind of trust in myself. But overall, it's something I think has served me really well as a leader and entrepreneur.

Besides practice, a couple of mindset shifts have been important to this process of learning effortless decision-making.

I'm going to talk about those mindset shifts, how to practice, and how I make decisions in this article. But first, I'll talk about what gets in the way.

What Gets Us Stuck in Indecision (and the Cost)

Indecision costs us dearly. When we're stuck in indecision, we lose a lot of time questioning our decisions, asking others for their opinions, or avoiding thinking about the decision. It also costs us a lot of stress. It delays projects and also makes us feel guilty because we keep putting things off.

Without fear of doing something wrong and getting judged, you would simply make decisions based on the best info you have and on your gut

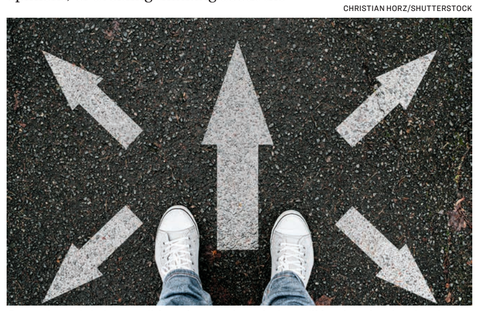
It's usually more costly to avoid deciding than it is to take decisive action and be wrong sometimes.

Marcus Tullius Cicero, the Roman statesman, philosopher, and scholar, once said, "More is lost by indecision than wrong decision. Indecision is the thief of opportunity. It will steal you blind."

So what gets us stuck in indecision? Usually, it's fear.

We fear making the "wrong" decision because we worry that it will make us look bad, that we'll be judged, that it won't give us the validation we seek from others, or that we'll regret making the mistake and be critical toward ourselves. We get stuck because of fear, and so we put it off rather than letting ourselves deal with the fear.

CHRISTIAN HORZ/SHUTTERSTOCK



Sometimes it is impossible to know what choice will lead to the destination we hope to arrive at. In this case, we can just choose what our heart prefers.

What Effortless Decision-Making Looks Like

Imagine if we could make decisions and take action without all the fear. I'm not saying we could be completely free of fear, but I'm asking you to imagine what decision-making would look like without fear.

Without fear of doing something wrong and getting judged, you would simply make decisions based on the best info you have and on your gut. You would choose from the heart, rather than getting caught up in overthinking. You might make mistakes, but you would learn from them and make adjustments.

It's so much simpler this way—simply choose from the heart. Trust. Take action. And clean up any messes that get made if things don't work out as you had hoped.

Fear does come up, of course. And you simply deal with the fear, with breath and love. It doesn't have to be a blocker.

Sometimes a decision is a big one, and the consequences could be pretty costly. In those cases, you might give it more thought, sit with the uncertainty for a bit, do some research, ask the opinions of others, and then breathe and choose from the heart. And be nimble in dealing with the outcome. This is where the trust comes in—you learn to trust that you can deal with anything that arises.

The Mindset Shifts

You can see from what I've just shared that there are some mindset approaches that are helpful. The three shifts I recommend include:

1. Choose from the heart instead of overthinking. When we get caught up in thinking, it's because we think we can solve the uncertainty by thinking it through. While thinking can be helpful, it will rarely cut through indecision when fear takes over. A different approach is simply to choose from the heart—ask yourself what your heart wants in this situation. For example, "do I want to write a blog post or go work out?" There's no right answer. I can think for a long time and not come up with the answer. Choosing from the heart is trusting that it's OK to actually want what you want.

2. Trust instead of wasting brain cycles. I've seen people spend so many brain cycles thinking things through and then deciding—only to worry that their decision isn't the right one. They make a decision and then think about it some more. What if we could free ourselves from so much thinking, worry, and rethinking by just trusting ourselves?

3. Learn instead of trying to get it 'right.' A lot of the time, we get stuck in indecision because we want to make the right decision, but that's not very helpful because you can't know what the right decision is. In fact, there might not be a right decision. What if, instead, we could see it as a learning process in which we try things out and see how that goes? This learning approach frees us from having to get it right and allows for it to be a more empowered process.

You can see from these shifts in mindset that decision-making becomes more relaxed, less tight, and more trusting. Effortless, almost.

How to Practice

So how do we practice these shifts and this effortless approach?

I wouldn't recommend starting with super tough decisions, such as whether to leave your current job or not. Practice with the easy day-to-day stuff to start with, until you develop more and more trust in yourself.

So things such as the following: What should I work on next? How should I reply to this person's email? Do I want a veggie burger or a lentil salad? Do I want to say yes to this invitation or not? Do I want to take on the clutter in my garage?

With each of these decisions, notice if you get caught up in overthinking, and see if you can practice choosing from the heart. Notice if you start to doubt your choice, and see if you can practice trusting your choice. Notice if you're worried about whether you made the right decision, and see if you can practice looking at it as a learning process instead.

Ask yourself if you can make these decisions more effortless; see what you can discover through this kind of practice.

Leo Babauta is the author of six books and the writer of Zen Habits, a blog with over 2 million subscribers. Visit ZenHabits.net

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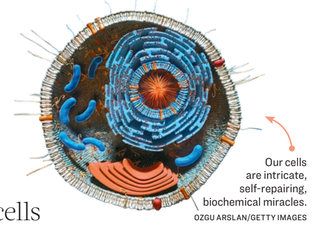
A diet rich in vegetables, fruits, legumes, nuts, and whole grains will provide our cells with the essential nutrients they need.

Regular exercise helps boost cellular function, repair, and organ regeneration while ensuring our body operates at top capacity.

Lose all of your bad habits like drinking and smoking and you will be able to live a much longer and healthier life.

3 Ways to Nurture
Cellular Self-Healing

Fight cancer and other chronic diseases by ensuring the health of your cells



Our cells are intricate, self-repairing, biochemical miracles.

OZGU ARSLAN/GETTY IMAGES

MERCURA WANG

Our bodies are made up of 100 trillion cells, and these cells can heal themselves to heal our bodies.

Chien-Feng Li, the author of "Kindly Treat the Cells: The Art of Getting Well" and a Taiwan-based cellular pathologist, realized through her research that almost all illnesses are somewhat self-inflicted and that there are many measures we can take to help our cells repair themselves and keep our bodies healthy.

Li developed cancer herself. After having gone through surgery and chemotherapy, her health gradually deteriorated, and many side effects started to pop up. At one point, she was hospitalized for pneumonia, and on the third day of treatment, she developed toxic hepatitis, as she couldn't tolerate the toxicity of the medication her doctor had given her. As a result, her doctor stopped the medication but kept her hospitalized for close monitoring.

After being in the hospital for a month, with only meditation and sleep as her daily activities, Li was miraculously cured of pneumonia. In her opinion, it was her cells' self-repair mechanism that led to her complete recovery from hepatitis.

After this hospital stay, Li turned to self-healing by taking many measures to "treat her cells well." She lived peacefully with cancer and healthily for more than five decades, exceeding her doctor's prediction that she'd only live for six months.

Cell Structure More Complex Than Previously Thought

Our cells are the smallest known units capable of reproducing and maintaining our survival.

Cells can replicate themselves by division to replace lost cells.

BOGDAN FLORES/OUTTHE EPOCH TIMES

A cell is generally composed of three parts: the cell membrane, the nucleus, and the cytoplasm.

The cell membrane controls the movement of material into and out of the cell. For instance, oxygen and water enter the cell, while waste material moves out of the cell into the bloodstream.

As the cell's control center, the nucleus determines the cell's structure and function. The cytoplasm is the fluid inside the cell. Powered by chemical energy generated by the mitochondria, most chemical reactions within the cell all take place in the cytoplasm.

There are more than 200 cell types, and they all perform different functions.

Every day, some of our cells die or become unhealthy.

Continued on ***Page 14***

Many PTSD patients can't benefit from therapy until their nervous system calms down.

LIGHTFIELD STUDIOS/SHUTTERSTOCK

Treating Trauma With a Nerve-Numbing Injection

Stellate ganglion blocks appear to reset the sympathetic nervous system and ease brain areas linked to anxiety, trauma

AMY DENNEY

For most of his life, Isaiah Heller has oscillated between panic and prescriptions, alcohol, and marijuana to numb difficult emotions and a mind that "moved at 100 miles a second."

The U.S. Army veteran tried to take his own life twice. He couldn't keep a job, and his driver's license was once revoked after he suffered a trauma-induced seizure disorder. He attempted—but walked out of—cognitive processing therapy, a specialized clinical treatment to reframe past events and gain emotional freedom.

Heller suffered from shame and trauma due to experiences in foster care, a near-death hate crime assault as a young teen, and sexual abuse in the military. But his silent suffering echoed in the walls of his own home with night terrors, paranoia, and his inability to be present—psychological symptoms that bled into the lives of his wife and children.

It's theorized that the reason SGBs work is because they reset the nervous system to its state before the trauma.

And then, one day, these symptoms came to a grinding halt; his nervous system relaxed like a rubber band that loses tension. He was miraculously present and at peace when he walked out of the Joy Wellness Partners clinic after getting his first stellate ganglion block (SGB).

"It was almost like the weight of the universe lifted up off my body. It was such a euphoric feeling," he said. "I am getting time back in my life because I'm enjoying the moment."

Trauma isn't rare. Heller is among the 6 percent of the population that experiences post-traumatic stress disorder (PTSD)—about 12 million adults in a given year. At some point in their lifetime, half of all adults will have trauma, a shocking event witnessed or that happens to them.

Continued on ***Page 14***

Are Medical Associations Compromised by Corporate Funding?

Some experts allege Big Pharma is steering the direction of medical associations that guide disease treatment, medical care

MARTHA ROSENBERG

Professional medical associations (PMAs) are foundational to the U.S. medical system, developing practice guidelines, providing medical education, and publishing journals. While there are scores of PMAs, probably the most well-known and largest are the American Heart Association, with more than 33,000 members; the American Academy of Pediatrics, with more than 64,000 members; and the American Medical Association, with more than 200,000 members.

Yet, according to doctor-authored opinion pieces in medical journals, conflicts of interest (COIs) such as a lack of transparency about industry money received, can present ethical challenges. For example, does funding from a drug or device maker influence an association's recommendation in its official guidelines? There are reasons to be concerned that it might.

Such conflicts of interest "require PMAs to maintain a high degree of academic independence and scientific integrity by avoiding inappropriate influence from commercial interests," Dr. Steven Nissen wrote in the Journal of the American Medical Association.

"Some physicians focus only on their medical practices, but along with actively maintaining mine, I have chosen to speak out on matters of public policy," Nissen, who was named one of the most influential people in 2007 by Time magazine, told the Cleveland Jewish News. "To be free of conflict of interest, I never receive an honorarium from any drug company I work with."

Financial COIs Identified in British Medical Journal

Researchers writing in the British Medical Journal in 2020 followed the "money trail" of several prominent PMAs and found their leaders received significant drug maker largesse between 2017 and 2019.

"Leaders of the North American Spine Society received more than $9.5 million for general payments," the researchers wrote. Orthopaedic Trauma Association (OTA) leaders received more than $4.7 million during the time period. Michael McKee, president of the OTA, responded to the research article by saying most of that funding was for research. Other PMA leaders took money for similar reasons.

"Research payments linked to leaders of the American Society of Clinical Oncology were over $54 million and for those of the American College of Cardiology, almost $21 million," the BMJ study noted.

The researchers obtained the financial information from the U.S. Centers for Medicare & Medicaid Services (CMS) Open Payments system, which maintains transparent databases mandated by the 2010 Sunshine Act to disclose financial relationships between industry and medical practitioners and teaching hospitals.

"Despite their influence over key aspects of medicine, the leaders of professional medical associations have received limited scrutiny about their relationships with industry," the researchers wrote. "Industries interested in maximizing markets," can easily drive "overdiagnosis, overuse, and overmedicalization," resulting in at least 20 percent of health care spending that's estimated to be wasted.

Is Heart Association's Food Certification Program a Conflict?

Almost everyone is familiar with the 108-year-old American Heart Association (AHA) and its public health messaging. Yet fewer people know that the organization is paid by food manufacturers to put a "heart-check" mark on hundreds of foods that reads "American Heart Association Certified: Meets criteria for heart-healthy food."

According to the AHA, food manufacturers can pay up to $6,000 for yearly licenses for five food products. The program not only raises conflicts of interest questions but also questions about medical veracity.

"The AHA rakes in millions from food corporations for the use of its 'heart-check mark,' cardiologist Barbara Roberts, author of "The Truth About Statins: Risks and Alternatives to Cholesterol-Lowering Drugs," said in an interview with HuffPost. "Some of the so-called heart-healthy foods it has endorsed include Boar's Head All Natural Ham, which contains 340 milligrams of sodium in a two-ounce serving, and Boar's Head EverRoast Oven Roasted Chicken Breast, which contains 440 milligrams of sodium in a two-ounce serving.

"High sodium intake raises blood pressure, which increases the risk of cardiovascular disease. In addition, studies have shown that eating processed meat increases the risk of diabetes and atherosclerosis."

The AHA didn't respond to questions from The Epoch Times when contacted for this story.

Questions About Diabetes Associations

According to its website, the Juvenile Diabetes Research Foundation (JDRF) is funded by many corporations including drug makers Abbott, Lilly Diabetes, and Novo Nordisk who are "Platinum Partners" contributing between $1 million and $2.5 million annually. The Access to Medicine Foundation calls Lilly Diabetes and Novo Nordisk two of the world's top three insulin makers (The third is Sanofi.) Since insulin is basic to diabetes care and prohibitively costly, some have asked why JDFR and the American Diabetes Association (ADA) haven't been more aggressive in protesting the high price of insulin on behalf of patients.

The authors of a 2022 story in U.S. political magazine Jacobin say they have suffered from high insulin prices.

"Living with this illness is a precarious existence. As people with T1D [Type 1 diabetes], we have traveled to other countries to get cheaper versions of the drug and have been forced by insurance companies to use lower-quality insulin," they wrote. "Many people with diabetes meet in parking lots to exchange supplies or starve themselves to lower the amount of insulin they need."

Twenty-five percent of insulin-dependent diabetics "ration insulin, which can lead to complications including life-threatening diabetic ketoacidosis, blindness, amputation, and death," Annalisa van den Bergh and Robin Cressman wrote.

The authors weren't entirely pleased with diabetes nonprofits and recent U.S. national legislation.

"Major diabetes nonprofits have supported incremental measures but have remained silent on more meaningful reform," they wrote.

ALL PHOTOS BY SHUTTERSTOCK

While JDRF and ADA both supported the insulin pricing cap in the Build Back Better bill and the House-passed the Affordable Insulin Now Act, which caps insulin out-of-pocket expenses, the measure only pertains to co-pays, the Jacobin authors wrote.

"Copay caps tie our survival to the health care status quo because anyone is at risk of losing their insurance, allow the big three to continue to profit from $300 a vial insulin, and in our view give the false impression that the problem is being solved."

The ADA didn't respond to The Epoch Times' request for comment about its insulin pricing efforts. Meanwhile, the JDRF told The Epoch Times it has long advocated for the lowering of out-of-pocket insulin costs for people with diabetes.

"This includes our recent multimillion-dollar investment in the Civica insulin project that will provide three of the most frequently prescribed insulins for $30 per vial and $55 for a box of five pens, regardless of insurance status. We have also spent years lobbying Congress and calling on insulin manufacturers, health plans, employers, and the government to take action to lower the cost of insulin. These efforts have led to the recent $35 monthly cap on insulin costs for Medicare enrollees," the JDRF said.

The PMA says less than 1 percent of its funding comes from companies that manufacture insulin, and they disclose those monies on their website.

"These companies have no role in decisions about advocacy and research priorities. Most of our funding comes from those affected by Type 1 diabetes, who raise funds from their friends, families, and professional contacts through our Walk, Gala, Ride, and other fundraising programs," the JDRF responded.

While the JDRF may provide a reasonable argument for the judicious use of corporate funders with vested interests, other examples raise more concerning issues.

Concerns About Association COIs Aren't New

More than 10 years ago, concerns about pharmaceutical funding influencing policy guidelines and clinicians were already surfacing. Researchers wrote in the journal Annals of Family Medicine that "there has been dramatic increase in the diagnosis and pharmaceutical management of common chronic illnesses." After conducting a study of Type 2 diabetes and hypertension treatment in 44 primary care clinics in Michigan, they recommended "limiting the influence of the pharmaceutical industry on clinical practice, toward improving the well-being of patients with chronic illness."

One example of such apparent influence was reported by the Milwaukee Journal Sentinel.

"In 2009, the American Geriatrics Society joined others in advocating for greater opioid use to treat chronic pain in seniors, especially those 75 and older," the newspaper reported. "The new guidelines recommended that over-the-counter pain relievers, such as ibuprofen and naproxen, be used rarely and that doctors instead consider prescribing opioids for all patients with moderate to severe pain. The group's guidelines are a key reference for thousands of doctors on the front line of medicine."

Conflicts of interest, such as a lack of transparency about industry money received, can present ethical challenges.

> **"[Such conflicts of interest] 'require PMAs to maintain a high degree of academic independence and scientific integrity by avoiding inappropriate influence from commercial interests.'**
>
> *Dr. Steven Nissen, named one of the most influential people in 2007 by Time magazine*

Concerns that pharmaceutical funding influences policy guidelines have plagued medical associations for decades.

On the basis of disclosures filed with the American Geriatrics Society, it was found that of a panel of 10 experts who made the pain recommendations, at least "five had financial ties to opioid companies, as paid speakers, consultants or advisers at the time the guidelines were issued."

Other Medical Associations Respond

The Epoch Times asked the North American Spine Society to comment on the BMJ's characterization of its industry funding, and Jeff Karzen, senior manager of publications at the society, said he had no comment.

Dr. James Kirkpatrick, chair of the American College of Cardiology [ACC] Ethics and Compliance Committee, spoke to The Epoch Times about the figures identified in the BMJ article.

"The ACC itself collaborates with industry, including in the administration of unrestricted, multi-company financial support, In doing so, we follow the highest standards of oversight, transparent structure, and unbiased management.

"It is worth noting that, in the BMJ study, more than 90 percent of payments made to ACC leaders was in the form of research support, which is categorically different than direct payments to physicians and other transfers of value, as it is usually administered through a third party, such as a medical school, research institute, or granting agency."

The American Society of Clinical Oncology (ASCO) also emphasized research support when responding to The Epoch Times' request for comment.

"As referenced by the BMJ article, the majority of financial relationships with healthcare companies were related to research and paid directly to academic institutions," the ASCO said. "This research serves an important role in clinical oncology and is critical to making progress against cancer through improved treatments that advance cancer care for patients."

On its website, the society states, "ASCO regards the management of potential conflicts of interest as paramount to the integrity of ASCO's programs, products, and services."

Its COI policy primarily relies on "disclosure of all financial relationships that might result in actual, potential, or perceived conflicts of interest" but also "recognizes that some relationships cannot be managed with disclosure alone and identifies additional management steps in this case."

Conclusion

Certainly, PMAs are invaluable in researching and raising awareness of respective diseases, providing medical education and publishing journals, but some medical voices would like to see greater transparency and firewalls with industry, especially when it comes to practice guidelines. As both writers in the Annals of Family Medicine and Jacobin have noted, the sales of pharmaceutical products should never come before patients' interests.

To find out possible industry funding of medical practitioners, hospitals, and medical centers that you may visit, the CMS Open Payments database is searchable. Another useful database where such information can be searched is ProPublica's Dollars for Docs site.

$9.5 MILLION

"Leaders of the North American Spine Society received more than $9.5 million for general payments," the researchers wrote.

Critics allege major diabetes nonprofits haven't fought hard enough to compel drug makers to bring down the cost of insulin.

How 30 Minutes per Day Can Add 2 Years to Your Life—Without Exercise

MOHAN GARIKIPARITHI

In what might be the most surprising bit of news I've read in a while, I learned that sitting with a book for at least 30 minutes per day has the potential to lead to a longer life. It may also have the potential to maintain cognition and stave off dementia.

Researchers from Yale University concluded that reading books was associated with longer, healthier lives. Looking at data collected from the University of Michigan's Health and Retirement Study, they found that reading books for at least 30 minutes per day was associated with living two years longer when compared to nonreaders. They also found that book readers were 23 percent less likely to die than those that only read newspapers and magazines.

What gives books the benefit over newspapers, magazines, Facebook, and Instagram? It could be that books encourage a deeper form of engagement. As opposed to skimming news or rifling through headlines, reading books forces people to pay more attention and use more of their brains.

Reading books for at least 30 minutes per day was associated with living two years longer when compared to nonreaders.

Or it could be that reading isn't the factor but rather something about people that read instead. In other words, maybe people that read books are generally calmer, have more free time, or are better educated.

But there could be something to reading, in and of itself.

Research has indicated that reading books may cause people to form greater connections or expand their perception of the outside world. These connections may activate the brain to forge pathways between hemispheres and lobes at a higher rate. Creating and activating neural networks can promote brain health and is closely associated with preventing dementia and cognitive decline. Close, engaged reading may also stimulate greater blood flow in the region.

Sitting quietly and reading a book, not social media, newspapers, or magazines may help boost the length and quality of your life. Reading may just be the most accessible anti-aging tool yet!

Mohan Garikiparithi, MD, practiced clinical medicine for over a decade before shifting his focus to health communications. This article was originally published by Bel Marra Health.

Reading books is a calming and mentally stimulating activity that requires attention and often a good dose of imagination.

LJUPCO SMOKOVSKI/SHUTTERSTOCK

A Simple Guide to the Keto Diet

The benefits, risks, and metabolic actions of a high-fat diet

JINGDUAN YANG

As the new year begins, getting fit and healthy is one of the top resolutions around the world. Keto has become one of the trending weight loss approaches in recent years. But with so many diet plans available, is it the best one for you? What are the pros and cons of the keto diet?

Foods full of healthy fat can leave you fuller, longer—and that can lead to weight loss.

How Does a Ketogenic Diet Work?

There are three primary energy sources for the human body: carbohydrates, fat, and protein. As such, our regular diet typically includes these three elements.

After we consume food—especially certain foods—our blood sugar level elevates quickly. As soon as carbohydrates are absorbed, they immediately become sugar. An elevated blood sugar level stimulates islet cells to secrete insulin into the blood.

Insulin helps transport blood sugar to the cells of the body as energy. Sugar excess will be stored in the liver and fat cells for later use. Our blood sugar level can change for various reasons, such as eating irregularly or consuming minimal carbohydrates. Islet cells will secrete a kind of glucagon to release stored glucose into the blood.

If the body doesn't supply enough blood sugar, it will decompose protein in muscles into amino acids before sending it to the liver and converting it into glucose. Alternatively, islet cells will turn stored body fat into energy. The human body can balance, self-regulate, and maintain blood sugar at an average level.

So under what circumstances will our bodies consume fat to provide energy? If we restrict the carbohydrates we consume daily to 50 grams, our body will be glucose-insufficient. The liver will then release stored glucose to replenish what the body needs to regulate its blood sugar levels.

When we eat carbohydrates, digestion unlocks their sugar. Then our islet cells will release insulin to turn that sugar into fuel.

If we stick to a diet that results in ketosis for more than four days, the human body will adjust its metabolic energy response and learn to use fat as the primary source of body energy.

However, if this state lasts three to four days, the glucose stored in the liver will be entirely consumed. The human body will then reduce the secretion of insulin and increase glucagon secretion to promote the breakdown of body fat before releasing it into the blood, which is then metabolized into ketones in the liver.

The liver will release ketones into the blood and circulate them throughout the rest of the body, providing energy for the body and making it ketogenic.

The ketogenic concentration of the blood can measure the level of ketosis. Ketosis is a metabolic state marked by the presence of more ketone bodies in the blood or urine.

If the level of ketosis in the blood reaches 0.3 millimoles per liter (mmol/L), the body has obtained energy from burning fat. People naturally produce mild ketosis when they're exercising vigorously or fasting. This is also a dieting method many people use to reach ketosis.

What Food Is Ideal for a Keto Diet?

For a ketogenic diet, you mainly consume fat. Every 2,000 calories should contain 165 grams of fat, 75 grams of protein, and 40 grams of carbohydrates. The raw ketogenic diet includes healthy unsaturated fats, such as nuts (almonds, walnuts), seeds, tofu, olive oil, and coconut oil. Lard and butter are considered by many to be unhealthy saturated fatty acids. Protein is also part of the ketogenic diet. The diet usually doesn't distinguish between lean meat, protein foods, and saturated fats with protein, such as beef, pork, and bacon.

Since all fruits are rich in carbohydrates, you may think you have to avoid them. However, there are some keto-friendly fruits. These are usually berries in small quantities. Vegetables are also rich in carbohydrates. Choose leafy greens, such as kale and spinach, as well as beets, broccoli, cauliflower, cabbage, asparagus, bell pepper, onion, garlic, mushroom, cucumber, celery, and zucchini, as they contain fewer carbohydrates.

To some people, a keto diet is a great way to lose weight in the short term. It may seem ridiculous that people need more fat to lose weight. However, the typical American diet often results in overeating because it contains high-calorie processed foods and high-calorie sweetened beverages.

A regular diet stays within 2,000 calories. Carbohydrates cause blood sugar levels to elevate and insulin levels to rise. High-sugar foods and overprocessed carbs, such as refined grains, can spike blood sugar and force the body to produce too much insulin. With increased insulin in the body, human cells will become desensitized to insulin and worsen the glucose utilization rate.

This vicious cycle makes people prone to hunger and eating more than they should. Thus, controlling carbohydrate intake will also reduce insulin secretion and hormone growth that stimulates appetite.

Benefits of a Keto Diet

People who eat more fat tend to desire less food, as ketogenesis will directly reduce hunger and provide energy for the body. The body needs to burn more calories to metabolize more fat and protein. Insulin resistance, hypertension, and hyperglycemia will improve with weight loss and metabolic change.

In other words, keto diets are great for people with obesity and Type 2 diabetes because of poor diets. Short-term ketogenic diets will help achieve significant weight loss and health improvement.

Insulin resistance is a pathological response when fat cells, muscle cells, and liver cells don't usually respond to the hormone insulin. Type 2 diabetes is a chronic metabolic disease characterized by hyperglycemia, insulin deficiency, and insulin resistance.

Ketogenic diets existed in 1920, long before they became trendy in recent years. The ketogenic diet originated as a solution for treating neurological diseases such as epilepsy, particularly in children.

The mechanism of ketogenic action is to protect nerve cells. That's also why some people advocated keto diets to treat other neurological diseases, such as Parkinson's disease, Alzheimer's disease, polycystic ovary syndrome, and multiple sclerosis (which is when the central nervous system, brain, and spinal cord lose myelin, an insulating substance on the surface of nerve cells).

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WHAT EXACTLY IS A KETOGENIC DIET?

A ketogenic diet, or keto diet, is one in which a person's daily food is only about

5 to 10%

carbohydrates, which, in theory, is similar to the Atkins diet or low-carb diets. While

20 to 30%

of daily calories come from protein. Fat makes up most dietary calories, accounting for about

70 to 80%

The ketogenic diet originated as a solution for treating neurological diseases such as epilepsy, particularly in children.

People naturally produce mild ketosis when they're exercising vigorously or fasting.

Every **2,000 CALORIES** should contain

165 grams of fat

75 grams of protein

40 grams of carbohydrates

Risks of Being on a Keto Diet

1. Unhealthy Fat

Some people only focus on increasing fat intake, but not on the quality of the fats. Some unhealthy fats, such as saturated fatty acids, can trigger various health problems. Please choose healthy fats such as eggs, fish (such as salmon), cheese, avocado, olives, olive oil, nuts, nut butter, and melon seeds.

2. Diabetic Acidosis

Patients with Type 1 diabetes aren't suited for a ketogenic diet because their immune systems destroy the cells that produce insulin, so their bodies can't produce enough insulin. When insulin is insufficient in the body, fat cells will continue to release fat into the circulating blood, and the liver will continue producing more ketones and keto acids.

The rising level of keto acid will also lower the blood pH, leading to acidosis and diabetic ketoacidosis. The blood's ketogenic level will then be 10 to 15 times above normal. Diabetic acidosis is an emergency medical situation that requires immediate medical attention.

People with Type 1 diabetes are also at risk of acidosis when their blood sugar rises to more than 240 milligrams. When their blood sugar elevates, these people must monitor their conditions. Frequent urination, hyperglycemia, nausea, dry or fruity breath, and difficulty breathing are signs of ketoacidemia.

Those with Type 1 diabetes are usually comparatively thinner than those with Type 2 diabetes, and going on a ketogenic diet is dangerous and unnecessary. Anyone with pancreas, thyroid, liver, and gallbladder diseases shouldn't be on a ketogenic diet, as it depends on these organs to function normally.

3. Malnutrition and Imbalance

Many people obtain their vital nutrients and trace elements from carbohydrates, such as fruits, high-carb vegetables, meat, and seafood. Nutrition and a dietary balance must be supervised during a ketogenic diet to avoid malnutrition or dietary imbalance.

Is the Ketogenic Diet Risk-Free?

In the early stage of a ketogenic diet, people might experience specific symptoms because of the sudden lack of carbohydrates.

Common complaints include headache, dizziness, insomnia, irritability, nausea, vomiting, constipation, stomachache, muscle spasms, and fatigue. The symptoms are similar to those of the flu, which is also why they're called ketogenic flu. This "flu" usually subsides within a week.

Should You Continue Beyond Achieving Weight Loss Goals?

It's best not to go on a ketogenic diet for an extended period. When people reach their ideal weight or health goals, carbohydrates in food should be gradually increased and restored to a standard balanced and healthy diet.

According to the Taiwan Nutrition Psychiatry Research Association, Mediterranean diets are an overall ideal diet model. The Mediterranean diet includes fruits, vegetables, nuts, unrefined whole grains, fish, and healthy fats. Instead of picking over-processed foods, choose natural and whole foods to prevent inflammation.

If you suffer from obesity or overeating and are without liver, kidney, or endocrine disorders, adopting a ketogenic diet for a short period can boost weight loss and fix metabolic issues. Whatever diet you choose, you should always be mindful of nutrient and carbohydrate intake to maintain good health.

A balanced and healthy diet should be resumed as soon as possible after achieving desired results. If necessary, intermittent fasting or resuming the ketogenic diet can help maintain results.

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Short-term ketogenic diets will help achieve significant weight loss and health improvement.

Vitamin C Even Helps Unborn Babies of Smoking Mothers

Vitamin C is an important antioxidant with wide-ranging effects on the body

EMMA SUTTIE

Smoking during pregnancy is the largest preventable cause of respiratory illnesses in children, which include wheezing and asthma.

Researchers set out to see if women who smoked during pregnancy could benefit from vitamin C supplementation and what effect it might have on the respiratory health of their babies.

Two studies conducted years apart have shown both the short- and long-term benefits of vitamin C on the children of women who smoked during their pregnancies. The first study, published in 2017, randomized pregnant women for vitamin C or a placebo, then tested their babies at 3 and 12 months to evaluate their lung function.

The researchers state that 12 percent of American women can't quit smoking while pregnant, resulting in more than 450,000 infants born yearly who are exposed to smoke. They continue, saying that smoking during pregnancy is the largest preventable cause of respiratory illnesses in children, which include wheezing and asthma, and that recent studies have shown that vitamin C has a protective effect on the lung function of offspring exposed to in-utero smoke in both a nonhuman primate and initial human trial.

This study was a randomized, double-blind, placebo-controlled trial that took place between 2012 and 2016. The women were randomized to receive 500 mg a day of vitamin C versus a placebo during pregnancy. Once the babies were born, their lung function was evaluated at three months, and lung function and the incidence of wheezing were evaluated at 12 months. The results showed significant improvements in lung function and a significant decrease in wheezing in the babies whose mothers had taken vitamin C.

450,000 infants are born yearly to mothers who smoke.

The follow-up study looked at those same babies—now 5 years old—and tested them to see if the benefits of the vitamin C were still apparent.

This study, published in November 2022 in the Journal of the American Medical Association, revisited the 213 children of smokers in the original study at 5 years of age to evaluate if the effects of the vitamin C their mothers took while pregnant were still benefiting their lung function. The follow-up study took place between 2018 and 2021.

Results showed that the children of pregnant smokers who took vitamin C during pregnancy had significantly increased airway function at 5 years of age and significantly decreased instances of wheezing. The findings suggest that vitamin C supplementation for pregnant smokers may reduce the effects of smoking in pregnancy on childhood lung function and respiratory health.

The Importance of Vitamin C

According to the U.S. National Institutes of Health, vitamin C, or ascorbic acid, is a water-soluble nutrient and powerful antioxidant our bodies need to perform a number of vital functions. Vitamin C helps fight infections and is one of the best vitamins to boost the immune system and fight foreign invaders. An article published in the journal Nutrients states that vitamin C exerts many beneficial effects on the innate and adaptive immune systems and appears able to prevent and treat respiratory as well as systemic infections.

Vitamin C benefits the body in multiple ways. It promotes healthy skin and collagen production, improves wound healing, enhances iron absorption, boosts the immune system, fights free radical damage, supports heart health, protects the brain in neurodegenerative disorders, and helps to fight cancer.

Vitamin C is also a potent antioxidant—which helps defend against free radicals that, in excess, can damage our cells, adversely alter our DNA, and accelerate aging. Inside the body, free radicals are a natural byproduct of converting food into energy; however, they can also form from external sources such as exposure to cigarette smoke, X-rays, air pollution, toxic chemicals, and ultraviolet light from the sun.

There is tremendous interest in the clinical uses of vitamin C because it benefits oxidative damage—a crucial factor in the development of many diseases. Studies show that individuals with high intakes of vitamin C have a lower risk of many chronic diseases, including heart disease, cancer, eye diseases, and neurodegenerative conditions.

Vitamin C is an essential nutrient, meaning we can't produce it, and our bodies don't store it, making it vital that we get enough from the foods we eat or from supplements. The best way to get vitamin C is from the foods we eat, as they are forms our bodies recognize, so eating vitamin-rich foods will help you reap the most benefits. In fact, a study published in the Annals of Internal Medicine showed that eating your veggies is a better way to get your vitamins than taking supplements.

Vitamin C, or ascorbic acid, is a water-soluble nutrient and powerful antioxidant our bodies need to perform a number of vital functions.

Recommended Daily Intake

The recommended dietary allowance (RDA) for adults older than 19 years of age is 90 milligrams (mg) for men and 75 mg for women. Pregnant women need 85 mg, and for lactating women, the RDA is 120 mg daily. Smoking depletes vitamin C levels in the body, and smoke increases the amount of vitamin C the body needs to repair the damage caused by free radicals (from cigarette smoke). Smokers need 35 mg more per day than nonsmokers.

Not Enough Vitamin C

Getting less than 10 mg daily of vitamin C is considered a deficiency and can cause scurvy. Scurvy was made famous by pirates and British sailors in the 18th century because they spent months or years at sea without access to fresh produce—and back then, the disease killed more sailors than storms and shipwrecks combined.

Today, scurvy is less of a concern, and most people in the developed world can easily get the recommended daily amount with access to fresh fruits and vegetables and by eating a varied diet. Symptoms of scurvy include depression, fatigue, swollen and bleeding gums, loose teeth, bruising, poor wound healing, rashes, joint pain, small red or purple spots on the skin, and corkscrew hairs.

More Vitamin C

On the other end of the spectrum, some recommend taking considerably more than the RDA—up to 1,000 mg (1 gram) of vitamin C daily. Because it's a water-soluble vitamin, it isn't stored in the body, and any extra the body can't use is passed through the urine. If you want to take these larger amounts of vitamin C that exceed RDA guidelines, increase gradually and track your tolerance. If you experience digestive discomfort and diarrhea, you are likely taking too much.

Final Thoughts

Vitamin C is a powerful antioxidant that serves multiple essential functions, boosts the immune system, and protects us against numerous diseases. Many of us consider taking supplements or adding specific foods to our diet to improve our health, but the tangible benefits can be difficult to measure. The study mentioned early in this article offers a concrete example that vitamin C supplementation had very real benefits to the children of the mothers who took it, in both the short and the long term (until at least 5 years of age).

So adding bell peppers to a salad, grabbing a citrus fruit on the go, and incorporating a handful of kale into the occasional smoothie can help add some vitamin C to your diet so you, too, can begin reaping the health benefits of this crucial vitamin.

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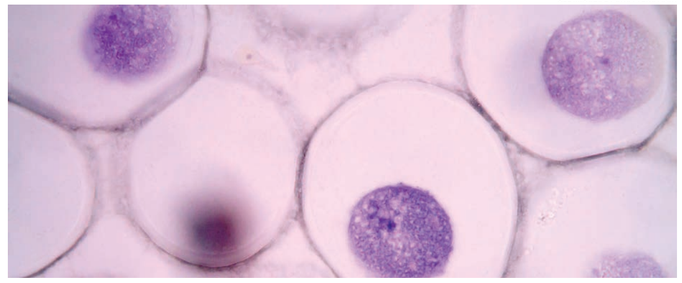
Foods High in Vitamin C

- rose hips
- black currants
- bell peppers
- strawberries
- chili pepper
- guava
- cantaloupe
- oranges
- grapefruits
- kiwis
- papaya
- tangerines
- spinach
- snow peas
- kale
- tomatoes
- parsley
- pineapple
- mango
- lemon
- honeydew
- camu camu
- acerola cherry
- Chinese red dates
- cruciferous vegetables (broccoli, Brussels sprouts, cabbage, cauliflower)

Rose hips are high in vitamin C.

Mix vitamin C-rich foods in a smoothie.

3 Ways to Nurture Cellular Self-Healing



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Mitosis is how healthy cells duplicate. It is also how organisms grow and replace damaged cells. Healthy mitosis is key to healthy cells.

Continued from ***Page 9***

In some cases, they become cancerous, and our body must produce new cells to replace them. Cell division forms new cells for cell growth, repair, and replacement.

Our bodies are made up of

100 TRILLION

cells, and these cells can heal themselves to heal our bodies.

Cells Can Heal Themselves

Depending on the severity, some cell damage can be reversed.

When a cell is injured, if its membrane ruptures, the organelles and cytoplasm inside the membrane will leak out. At this point, a process called wound healing takes place, as the cell stops further loss of its material. Then, regeneration starts, and cells grow new structures to replace the lost ones.

One type of cell is the neuron and it comes in a few different forms. Neurons are the building blocks of our nervous system and the basic unit of our brain. Each has a long projection called an axon. The neurons can sometimes repair and regenerate axons that were damaged due to nerve injury or neurodegenerative diseases.

Cells can also replicate themselves by division to replace lost cells.

The human liver has a remarkable ability to regenerate after injury, as it can "regrow to a normal size even after as much as 90 percent of it is removed," according to the National Institutes of Health.

Under normal circumstances, liver cells duplicate themselves to maintain cell turnover. However, in the case of a severe liver injury, the liver cells can repair and restore themselves by reentering the cell cycle.

Old and damaged cells are taken apart and recycled in a very controlled process called apoptosis—programmed cell death.

Neurons are the building blocks of our brain and nervous system. If they can't self repair, neurodegenerative disease may follow.

Natural Elimination of Cancer Cells

If cells are genetically damaged, our bodies can naturally eliminate them and create new ones to take their place.

Cancerous cells are usually the result of gene mutations. Such cells tend to have abnormal chromosomes with duplicated or missing parts. In this case, cell apoptosis will come into play instead of cell self-repair or regeneration.

Apoptosis is a programmed cell death. It's a normal part of cell development and turnover, as well as the proper functioning of the immune system. Apoptosis is highly controlled. If a cell seems to be too irregular, or it isn't supposed to exist, it or other cells may send a signal to activate the enzymes that degrade proteins to kill the cell.

In another case, once a cell is infected, to prevent the infection from spreading to other cells, the infected cell may initiate a "scorched earth defense" by committing suicide.

Cells Defend Against Oxidation

One of the cells' enemies is oxidation.

Oxidation is both vital to our existence and inevitable. In a sense, you can think of oxidation as fire. When we inhale air, oxygen will enter our cells, where it will be used to convert food into energy, like how fire needs air to burn wood. Then, the process of oxidation takes place, which produces free radicals. Free radicals are like smoke and ash from the fire, and they can be detrimental to cells. We need oxidation, but it inevitably produces free radicals. And while some oxidation is useful, too much is a significant problem.

Cells have their own defense system against oxidation. They produce antioxidants such as superoxide dismutase (SOD) to protect themselves from damage induced by free radicals.

3 Ways to Boost Cell Healing

Healthy cells are full of water and vitality, while unhealthy cells look distorted and deformed. This is especially true for cancer cells, which don't contain enough fluid and have no vitality.

Li says that if we don't treat our cells properly, and if we subject ourselves to pressure over a long period, our cells will look deformed under the microscope. When the accumulation of pressure reaches a certain level and the cells can no longer withstand it, they will become sick and even become cancerous.

Oxidative stress can lead to various illnesses, including cancer, Parkinson's disease, Alzheimer's disease, lung diseases, multiple sclerosis, and heart failure.

Bad habits like smoking or exposure to environmental toxins like chemical cleaning products can also make cells produce a lot more free radicals, leading to oxidative stress and causing cell, tissue, and DNA damage, thus triggering cell death in some cases. Oxidative stress can lead to various illnesses, including cancer, Parkinson's disease, Alzheimer's disease, lung diseases, multiple sclerosis, and heart failure.

Environmental pollutants, heavy metals, food high in sugar and fat, and negative emotions can all lead to oxidative stress.

In her book, Li recommends three basic methods to keep cells healthy. Many of these methods—which address diet, nutrition, exercise, mindfulness, laughter, stress management, and alcohol consumption—are also proven to be helpful with cancer and other chronic diseases.

1 Consume Foods Beneficial to Cells

Legumes are an important food to feed your cells.

If our daily foods include cereals, legumes, nuts, vegetables, and fruits, the basic needs of our cells are already met.

Chew a bit longer when eating. This helps mix the special enzymes in our saliva with the food so we can better digest it and absorb its nutrients.

Limit the amount of refined foods you eat, such as processed foods and ingredients like white sugar, refined salt, processed meats, and white flour. Instead, consume more whole foods and use more nutritious ingredients, like brown sugar, cane sugar, sea salt, rock salt, and whole wheat flour.

Obtaining sufficient antioxidants from food is important, as this can prevent oxidative damage.

Consume leafy vegetables, as they're rich in antioxidants, vitamin C, magnesium, folate, and many other nutrients that are essential to our cellular health. Vitamin C is especially helpful in cells' self-repair process.

Nuts and seeds are also healthy foods, as they're rich in vitamin E, another antioxidant that protects our cell membranes against oxidation.

Furthermore, as more than 70 percent of a cell is composed of water, we need to drink a sufficient amount of water to keep our cells functioning properly. The best water, according to Li, is spring water, which is free of bacteria but still contains a small number of minerals. She recommends the installation of a good water filter at home.

If we respect the needs of our cells and supply them with the right nutrients and water, they'll reward us with an increasingly healthier body.

2 Exercise Your Body and Your Cells

Exercise is essential to a healthy brain, body, and cells.

Physical exercise is paramount to health and includes walking, cycling, sports, and other forms of aerobic exercise.

Many studies have found that exercise helps boost cell function and organ regeneration. It can also induce the apoptosis of cancer cells.

Static exercise forms, including qigong, yoga, and sitting in meditation, are also effective. When these exercises are performed well, our bodies become relaxed, our cells feel at ease and unconstrained, the blood circulation of our bodies is active, and our organs are in balance, so our bodies' self-healing functions are running properly.

Meditation and yoga significantly reduce oxidative stress and oxidative DNA damage. Tai chi can increase the level of antioxidants in our bodies.

We should also be optimistic and laugh often.

According to Li, laughing makes our cells "dance," as it's an intense whole-body movement.

In addition, when we laugh, our bodies relax and relieve tension, and our cells become unstrained. They can then work freely without stress. At that time, even if we aren't feeling well, the self-healing function of our cells will be in effect.

3 Abandon Unhealthy Habits

Junk foods and processed foods create oxidative stress.

To maintain the health and self-repairing ability of our cells, we need to avoid or quit certain unhealthy habits, such as drinking and smoking. Alcohol use can cause excessive production of free radicals. Also, free radicals inhaled when smoking can increase oxidative stress by decreasing antioxidants contained in red cells and platelets.

Replace the above unhealthy habits with beneficial ones such as spending more time under the sun, in nature, and with family and friends.

If we respect the needs of our cells and supply them with the right nutrients and water, they'll reward us with an increasingly healthier body.

Treating Trauma With a Nerve-Numbing Injection

Continued from ***Page 9***

SGBs are simple procedures that take minutes, involving an anesthetic injected into the stellate ganglion, a bundle of nerves in the cervical spinal column associated with the sympathetic nervous system.

Guided by sonogram imagery, a physician inserts a small needle of medicine that temporarily dulls this starburst of nerves connecting the body to the brain. The block lasts for about eight to 10 hours with a similar mechanism as an epidural, which blocks sensation from the belly button to the upper thighs for pregnant women in labor.

It's a well-established procedure anesthesiologists have used for a century for pain. A case report of PTSD in 1990 inspired its "off-label" use for trauma.

In most cases, SGBs offer instantaneous relief to burdened nervous systems that have become stuck in "fight-or-flight." But rocky reviews and murkiness over its mechanism have stalled wide acceptance of the procedure. Research hasn't pinpointed why it doesn't reboot everyone's nervous systems. Also, among those who enjoy its benefits, the longevity of the reset varies extensively. It may last a decade or only a few months, with no foreknowledge on factors that make it more effective.

How SGB Works

It's theorized that the reason SGBs work is because they reset the nervous system to its state before the trauma. The sympathetic nervous system is a component of the autonomic nervous system that's designed to unite the brain and body for effortless, instantaneous responses to threats, whether physical or emotional.

> **"It was almost like the weight of the universe lifted up off my body. It was such a euphoric feeling.**
>
> *Isaiah Heller, U.S. Army veteran*

12 MILLION

adults experience post-traumatic stress disorder (PTSD), which is 6 percent of the population.

Dr. Frank Ochberg, a pioneer in trauma science, has petitioned for years to reclassify PTSD as post-traumatic stress injury (PTSI) because improved brain scans now reveal that trauma can be healed, boosting the validity of biological interventions such as SGB. He argues a change in name could remove the stigma attached to trauma and better allow the injured to seek help.

One simple theory is that SGB works by calming the nervous system. The cervical sympathetic trunk is the link between the body and the brain, holding polysynaptic neurological connections from the stellate ganglion leading to the amygdala, the part of the brain associated with anxiety and trauma.

Another hypothesis is the injection could be suppressing nerve growth factor, which lowers norepinephrine and mutes physiological symptoms like rapid heart rate, shallow breathing, sweaty palms, and brain fog. The activation of the fight-or-flight system elevates norepinephrine in the brain, a neurotransmitter that leads to arousal, selective attention, and vigilance.

Those with PTSD have high levels of norepinephrine in their cerebrospinal fluid. High norepinephrine symptoms are associated with sleep dysfunction, impulsivity, anxiety, depression, and sexual dysfunction.

Finally, additional evidence indicates SGB might work as a sedative due to the reduction in norepinephrine. The nervous system then "boots up" back at baseline.

Assessing Risks and Side Effects

Until the development of fluoroscopy, SGBs were performed by using vertebrae as landmarks to guide the injection. Now, sonograms are used for the procedure, which lowers many risks by helping doctors guide the needle to the anterior lateral C6 vertebrae and allowing them to watch the administration of medication using dye.

Risks associated with SBG include a small chance of infection. There are very rare occurrences of the injection hitting a blood vessel and forming a hematoma, which is why it's not done on those taking blood thinners. Temporary side effects such as droopy eyes or a hoarse voice are common.

Prevalent, but rarely a significant problem, is the rush of emotions and memories that happens after the procedure. Heller believes the effect is what enabled him to talk about his trauma and process it in healthy ways. He re-entered therapy, this time successfully. Eight weeks in, he told his wife about the sexual abuse.

"That was a breakthrough for me, and I never thought I was ever going to get there. It doesn't affect me anymore," Heller said. "It's crazy what you can do when you're in the right phase of mind."

Lives Changed

The number of clinics specializing in SGBs is growing, as are non-profit organizations that offset costs. A mix of studies and proponents claim a success rate claim of about 75–90 percent. But while some patients rave about the results, it isn't always a one-and-done fix.

Dave Conley, U.S. Navy veteran and founder of One More Day Inc., is a pragmatic advocate. Focused on the prevention of veteran and military suicide, One More Day helps connect veterans to The Stellate Institute, run by veteran physicians Drs. Sean Mulvaney and James Lynch, among other providers.

"You've got to still put the work in," said Conley, who had an SGB followed by two weeks of intensive PTSD therapy in 2022. He lost four friends to suicide after they returned from serving. After his own attempt at taking his life, he started the organization and then a podcast.

Conley's nightmares eased up significantly after his SGB. He said the procedure stirs a lot of excitement, but people should be wary of false hope. Many need a follow-up procedure, oftentimes because of re-exposure to new trauma or intense triggers.

Heller opted for two follow-up procedures after a car accident introduced new stress. His experiences overall have motivated him—to find a job he loves, dig into his school work, and enjoy every moment with his three children.

"People that say they want to change, they act on it. I've worked for everything I've gotten," Heller said. "This is my life, and it's amazing."

That tenacity to stick with therapy is a key component of the SGB success story, Conley said. He was ready to quit after three days, but by the second week, it all began to click.

A randomized study of 113 active military personnel published in 2019 in JAMA found a significant improvement in symptoms in the group that had SGB. The author wrote that the procedure buoys therapy for patients with barriers to cognitive-based therapies because of concentration and hyperarousal issues, which can affect the brain's ability to function normally.

"Specifically, encoding and retrieving memories or integrating new learning becomes very challenging," wrote Kristine L. Rae Olmsted, a behavioral epidemiologist whose focus is military mental health. "As a psychologist who has deeply collaborated with physicians who provide SGB, I have observed that many of the insights discussed prior to SGB have been more easily applied following the procedure."

Broader Reach

Conley believes the use of this novel trauma treatment could expand dramatically, though SGBs haven't garnered sweeping support from governmental agencies. Doctors have spent years seeking more veteran access to SGBs, but legislation to expand the treatment option—the Treat PTSD Act—died in committee during the last two congressional sessions.

The bill would require the Department of Veterans Affairs and the Department of Defense to provide SGBs for qualified military and veterans, as well as updating clinical practice guidelines to include it as a PTSD treatment option. Support has come from both sides of the aisle.

There's another hiccup in SGB's history. A study published in 2016 Regional Anesthesia and Pain Medicine—a double-blind, randomized controlled trial—concluded there's no evidence to support SGB for PTSD. The study, authored by Dr. Steven Hanling who didn't reply to a request for an interview, "did not demonstrate any appreciable difference between SGB and sham treatment on psychological or pain outcomes."

However, a Department of Defense analysis that looked at this study and the 2019 JAMA study noted that the 2016 study "had a number of methodological limitations, including high attrition, absence of key outcomes, and deviance from commonly used administration techniques for SGB." The 2016 study also had a smaller sample size of 42 participants while the 2019 study that found evidence of efficacy had 113 participants.

The 2019 study also had its own issues, including a lack of blinding of treating physicians, meaning they knew which patients got the real treatment. There was also a possible unblinding of participants due to side effects of SBG, meaning some patients may have figured out if they got the real treatment or the sham treatment.

Proponents have questioned the reliability of the 2016 study in light of other evidence, including an analysis published in 2021 of 205 patients that showed 90 percent responded positively to the procedure. Of the 20 who didn't receive a reset, 10 had the procedure done on the other side of their neck, and nine of those patients had a favorable outcome.

Lipov admits the limited acceptance of SGB could simply be because it's a "weird concept," a disruptive use of technology that doesn't fit medical training and thinking. His career pivoted to focus on it only because of his own observations of its efficacy.

Patients who want an SGB must pay out-of-pocket, which can limit the market size for interested physicians. But the treatment may also rub up against the pharmaceutical industry, which sells billions of dollars in drugs used for PTSD and anxiety disorders.

"The main problem it's not accepted I think is there's no pharmaceutical dollar behind it," Lipov said. "There's no patent on the drug, and the distribution process is a complex undertaking."

A stellate ganglion procedure performed at Joy Wellness Partners.

RAFA CUADRAS

Want to Lose Weight?

Add a Bit of Exercise to Your Coffee

Caffeine can help women lose weight and improve high-intensity exercise performance, studies show

NATHAN AMERY & AUDREY LEE

Coffee is the morning elixir of the masses. In addition to the benefits of feeling awake and refreshed, studies have discovered that drinking coffee can assist with the reduction of body fat, is associated with increased fat burning in aerobic exercise, and improves exercise performance.

A study published in The Journal of Nutrition found that women aged 20 to 44 in the United States who drank two to three cups of coffee a day had 2.1 percent less total body fat and 2.9 percent less trunk fat than women who didn't drink coffee.

Men in the study aged 20 to 44 who drank two to three cups of coffee each day had 1.3 percent less total body fat and 1.8 percent less trunk fat than those men of the same age who didn't drink coffee.

Overall, the study found that the effect of consuming coffee was less obvious in men's body fat.

The study showed that drinking coffee was especially helpful in reducing obesity in the torso area of women. Researchers believe that the inclusion of coffee and its active ingredients in a healthy diet can help reduce the risk of obesity-related chronic diseases.

A study by the Department of Physiology of the University of Granada in Spain also found that caffeine in coffee can enhance exercise performance by promoting fat oxidation.

Researchers tested 15 men, with an average age of 32, who were given three milligrams (mg) of caffeine for each kilogram of body weight or a placebo at 8 a.m. and 5 p.m. every day, followed by half an hour of rest to ensure absorption, followed by exercise testing. The results showed that the maximal fat oxidation during exercise increased by an average of 10.7 percent in the morning and 29 percent in the afternoon in the caffeine group compared to the placebo group.

The research team believes that a combination of caffeine intake and moderate-intensity aerobic exercise in the afternoon may be the best solution for accelerating fat burning through aerobic exercise.

Researchers believe that the inclusion of coffee and its active ingredients in a healthy diet can help reduce the risk of obesity-related chronic diseases.

Caffeine can help improve high-intensity anaerobic exercise performance.

ALL PHOTOS BY SHUTTERSTOCK

Drinking coffee was especially helpful in reducing obesity in the torso area of women.

In addition to improving aerobic exercise, caffeine can also help improve high-intensity anaerobic exercise performance. A study by Cheng Ching-feng, a professor at the Department of Athletic Performance at National Taiwan Normal University, found that basketball players consuming six mg of caffeine per kilogram of body weight one hour before exercise helped promote anaerobic function by about 11 percent, and delayed the decline in the performance of high-intensity sports.

The study also found that caffeine intake can reduce potassium ion concentration before exercise, which may be related to delaying fatigue after high-intensity exercise.

The research team recommends one to two cups of coffee an hour before exercise or competition for athletes weighing around 154 pounds (70kg). However, sugar added to coffee increases the body's metabolism effect, which does not help the body to generate energy for exercise.

In traditional Chinese medicine (TCM), people with yin deficiency and high heat, in contrast, shouldn't drink much coffee.

Chen Hsin Hung, a TCM physician at Taiwan's Joyful HAN Chinese Medicine Clinic, wrote that from the perspective of traditional Chinese medicine, moderate intake of bitterness can strengthen the spleen and stomach and increase metabolism. Coffee itself is warm in nature, sweet and bitter, and drinking it at the right time can indeed help metabolism. However, due to habitual staying up late, irregular work and rest, or high stress, the constitution of yin deficiency, and high heat in modern people, excessive drinking of coffee will cause dryness and heat, and in severe cases, it may cause symptoms such as stomach heat and esophagus reflux.

Chen suggested that for adults with an average weight of 132 pounds (60 kg), the daily intake of caffeine should not exceed 500 mg. A 360 milliliter (about 12 ounce) cup of Americano-style coffee contains about 150 mg of caffeine.

2.1%

less total body fat and 2.9 percent less trunk fat for women aged 20 to 44 in the United States who drank two to three cups of coffee a day.