

# THE EPOCH TIMES

# MIND & BODY

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RADIATION

## Contending With Rising Rates of Manmade Radiation

Skyrocketing rates of electromagnetic radiation can affect our health but there are steps we can take

ASHLEY TURNER

The amount of electromagnetic frequencies (EMF) we are exposed to has skyrocketed in the past couple of decades. With 5G technology now fueling the internet of devices, our near-constant use of smartphones, and ubiquitous hotspots, we must consider the ramifications that these long-term exposures bring.

Unfortunately, experts have told us for years that EMFs aren't harmful

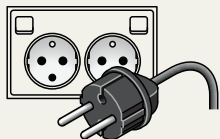
to our health, but a growing body of research indicates EMFs actually affect the human body in several detrimental ways.

### What Exactly Are Electromagnetic Fields?

There are many different types of EMFs. Each type has its own frequency, or the number of waves that pass through a fixed point per second. Frequency is measured in hertz (Hz).

*Continued on Page 4*

The potential harms of low-level, non-ionizing radiation have long been controversial but mounting research suggests we have reason to be concerned.



AC power (50 to 60 Hz).



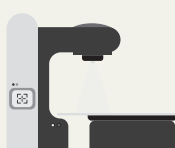
Cellphone signals.



Microwaves.



Ultraviolet light.



Gamma rays.



TV and radio waves.



Wi-Fi.



Visible light.



X-rays.



Cosmic rays.

LOW LEVEL

NON-IONIZING

HIGH LEVEL

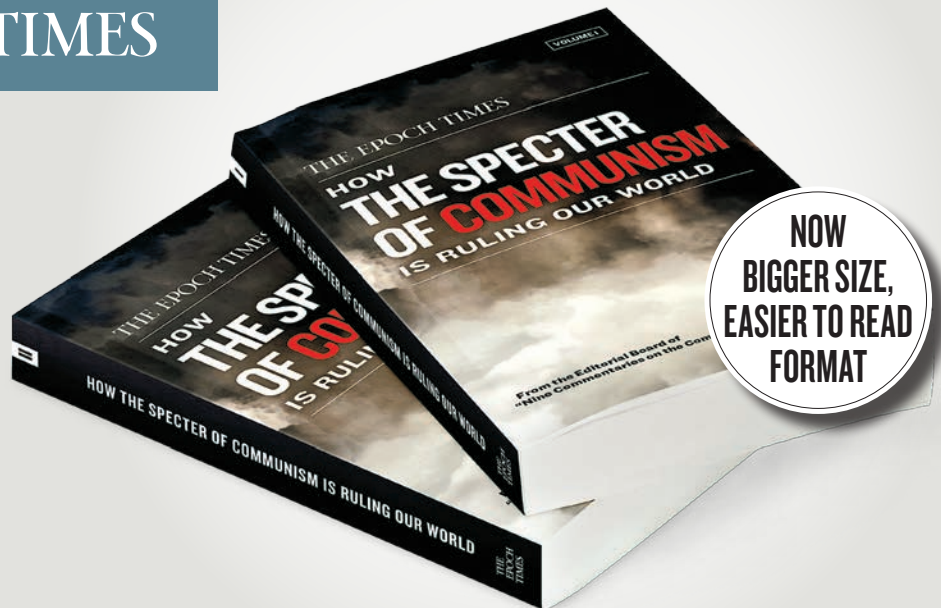
IONIZING





THE EPOCH TIMES

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# Honey's Unexpected Effect on Diabetes

While being high in glucose and fructose, honey has some helpful effects for diabetics

CHRIS CHEN

Yes, you aren't reading incorrectly: Honey can reduce blood sugar despite being roughly 80 percent sugar. In addition to lowering blood sugar, honey can boost immunity and slow the aging process. Recently, researchers have shown that honey has a wide range of unanticipated advantages. For example, diabetics who consume honey in moderation might significantly reduce their risk of developing heart disease and diabetes complications. Eating honey can also help with obesity and lower blood pressure to prevent diabetes. Although honey has long been used in traditional medicine, it has only recently come to the attention of scientists who have begun to explain its advantages. The health advantages of honey are covered in full here, which may inform your view on it.

### Can Diabetic Patients Eat Honey?

There is a long-standing misconception that diabetics can't use honey in their diets because of the high amount of carbohydrates in its chemical makeup. So can diabetics eat honey or not?

Researchers from the University of Agricultural Sciences and Veterinary Medicine in Romania discovered that when compared to the consumption of dextrose and sucrose, honey

caused people with diabetes to have lower elevated blood sugar levels and higher elevated insulin levels. According to the study, honey benefits diabetic individuals. Additionally, honey's antioxidant properties are crucial in the management of diabetes.

According to research published in 2008 in The Scientific World Journal, these beneficial effects may be related to the high content of fructose in honey. The high amount of fructose in honey stimulates glucokinase in liver cells, which plays an important role in promoting the uptake and storage of glucose in the liver. Therefore, fructose in honey is very important in lowering blood sugar. Honey also contains other sugars; notably, it contains high amounts of glucose, but has significantly less maltose and sucrose.

Mamdouh Abdulrhman, a professor of pediatrics at Ain Shams University in Egypt, has been studying the health effects of honey for a long time. One of his studies reported that diabetic patients taking honey might experience an increase in blood sugar in the first few weeks, but consuming small amounts of honey over a long period can be beneficial to health. The study also showed that honey can lower blood pressure as well as improve cardiovascular function when consumed by diabetics over a long period.

### Prevent Heart Disease Complications in Diabetics

Diabetic patients are known to be prone to heart disease. In general, diabetic patients have complications such as hypertension and lipid metabolism in addition to hyperglycemia, which can easily lead to atherosclerotic heart disease. In November 2022, researchers from the Temerty Faculty of Medicine at the University of To-



Honey can be consumed in a variety of ways. Adding honey to water or coffee is a convenient way to receive its benefits.

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### AGE WELL

## Anti-Aging Drugs and Dietary Habits

Breakthrough drugs may extend our lives but lifestyle is the real key

GEORGE CITRONER

The field of anti-aging research is constantly evolving, and new discoveries and treatments are being developed all the time. Let's look at a few of the most recent—and promising—advancements in anti-aging science.

### 1. Senolytics

Senolytic drugs are effective in treating a known cause of aging and could prevent a broad range of age-related diseases.

They act by destroying senescent cells—damaged cells that have stopped dividing but refuse to die. Senescent cells accumu-

late with aging at the causal sites of many chronic disorders and diseases. They can excrete a wide variety of potentially harmful or proinflammatory molecules that damage surrounding tissues.

Clearance of senescent cells has been demonstrated to delay aging, treat age-related diseases, and extend “health spans.”

Different from life span, which is the total number of years a person would live, “health span is how many of those years a person would be considered healthy and disease free,” Dr. Theodore Strange, chair of medicine and a geriatrician at Staten Island University Hospital, part of Northwell Health in New York, told The Epoch Times.

Some commonly studied senolytic compounds that are easy to obtain from your diet include:

- Fisetin, a plant-based flavonoid found in many fruits and vegetables, including strawberries, apples, onions, and grapes.
- Quercetin, another plant flavonol that's found in onions, red wine, green tea, apples, and berries.



Quercetin, a flavonol found in many fruits and vegetables, is often taken as a supplement.

- 2. Metformin  
There's much evidence that metformin, a di-

ronto, Canada, found that eating honey in moderation can effectively reduce the risk of heart disease.

The study found that honey was able to lower key indicators of the development of heart disease, including total cholesterol and triglycerides. The researchers explained that honey is a complex composition of common and rare sugars, proteins, organic acids, and other biologically active compounds that are likely to benefit health.

### Honey Can Improve Obesity, Prevent Diabetes

Obese patients are more likely to develop diabetes compared to healthy individuals. Obesity is the most significant risk factor for diabetes because obese patients frequently have higher overt insulin resistance and because research demonstrates a clear association between obesity and insulin resistance.

Studies have reported that honey not only doesn't contribute to obesity, but it can also help reduce it. The Scientific World Journal study included 55 overweight and obese participants in a 30-day trial. The participants were split into two groups, with one group consuming 70 grams of sucrose daily and the other 70 grams of raw honey.

The scientists discovered that eating honey led to a slight decrease in body weight (1.3 percent) and body fat (1.1 percent). Honey was also found to lower total cholesterol (3 percent), LDL cholesterol (5.8 percent, a “bad” cholesterol), triacylglycerol (11 percent), fasting glucose (4.2 percent), and increase HDL cholesterol (3.3 percent, a “good” cholesterol) in the subjects. The researchers concluded that the consumption of natural honey didn't increase body weight in these subjects.

The study concluded that the control of obesity could be attributed to fructose, which is a major component of honey, as well as the many other proteins, organic acids, vitamins, minerals, and phenolic compounds found in honey. These substances in honey cause a decrease in lipogenic activity, thus reducing the accumulation of lipids in fat cells. In addition, the phenylalanine found in honey increases the levels of peptide YY, a substance that reduces appetite. Therefore, honey is ideal for obese or overweight people whose high body weight and caloric intake can be controlled by it. In addition, honey contains several bioactive compounds, including phenolic acids and flavonoids, which positively affect obesity and weight management.

In fact, it may be a mistake to overemphasize fructose as a weight-loss measure or a part of a healthy diet, given research that suggests that fructose on its own can have harmful effects. A review study published in Critical Reviews in Clinical Laboratory Sciences in 2020 found “dietary fructose intake strongly promotes hepatic insulin resistance via complex interplay of several metabolic pathways, at least some of which are independent of increased weight gain and caloric intake.”

Other research also linked fructose with decreased insulin sensitivity, a defining trait of diabetes. These findings suggest that the combination of complex compounds

in honey provides a critical element to its overall effect.

### Honey Is Best When Eaten in Moderation

Companies often promote their products in a way that magnifies their benefits; therefore, people should be wary of packaging that features “honey.” These products often contain little real honey and more substantial amounts of other added sugars along with processed ingredients that negate any real benefit.

It also isn't wise to consume excessive amounts of honey. Consuming three to four tablespoons per day is sufficient. According to the World Health Organization, the calories provided by simple sugars shouldn't exceed 10 percent of the total body requirement.

Honey contains approximately 60 calories per tablespoon. Therefore, the 180 to 240 calories provided by honey per day is significant and will require you to closely watch other sugar intake.

To absorb the maximum benefits of honey, consume it one hour before lunch. Drinking it 30 minutes before bedtime helps to relax the nerves and help you fall asleep. Some people have allergic reactions to certain enzymes or pollen in honey, resulting in atopic dermatitis and allergic rhinitis. People with allergies should take a small amount of honey to test their sensitivity. Babies shouldn't be given honey either, as it can lead to infant botulism.

Diabetes is a chronic disease, and according to the researchers from the Romanian study, it's vital to determine the optimal dose of honey for human intake. People with diabetes shouldn't drink honey indiscriminately. People should have their blood sugar levels tested and be sure they are normal before consuming honey regularly. More than 80 percent of honey is composed of sugar. Because honey is rich in monosaccharides and fructose, it's a blood sugar-raising food that acts quickly.

While eating honey won't cause high blood sugar in an average person, drinking a lot of honey water or consuming a lot of honey will cause a sudden rise in blood sugar in a diabetic patient, almost like drinking sugar water. Therefore, it's recommended that people with diabetes pay attention to the amount of honey they use and not consume large amounts at once. A sudden rise in blood sugar can be challenging to control in this population, and acute complications of hyperglycemia may occur.

While honey can be used as a potential hypoglycemic agent that can reduce the complications of diabetes, long-term studies on diabetics are needed. What is certain is that honey can be a good sugar substitute to meet the sugar needs of people with diabetes.

and nicotinamide mononucleotide (NMN)—and are present in certain foods.

Nicotinamide riboside can be found in cow's milk, and nicotinamide mononucleotide is found naturally in foods such as edamame, broccoli, cabbage, cucumber, and avocado.

### Anti-Aging Diet: Calorie Restriction

Drugs and compounds from food aren't the only way to slow aging. In fact, not eating can also have a profound effect.

A first-of-its-kind randomized controlled trial by an international team of researchers shows that restricting the number of calories we eat can slow the pace of aging in healthy adults.

The pace of aging was measured by participants' blood DNA methylation (the process of adding a methyl group to DNA). The measured effect was equivalent to a 2 to 3 percent reduction in the pace of aging.

Previous research confirms that even a modest reduction in the rate of aging can have profound effects on population health.

Calen Ryan, a postdoctoral research scientist at Columbia University's Butler Aging Center and co-lead author of the study, said that while the study found evidence that calorie restriction slowed the pace of aging in humans, it might not be right for everyone.

“Our findings are important because they provide evidence from a randomized trial that slowing human aging may be possible,” Ryan said in a statement. “They also give us a sense of the kinds of effects we might look for in trials of interventions that could appeal to more people, like intermittent fasting or time-restricted eating.”

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



**80% SUGAR**  
Roughly 80 percent of honey is fructose and glucose. These unrefined monosaccharides are accompanied by other compounds.

## HONEY FOR THE HEART

Honey can lower blood pressure, improve cardiovascular function, and improve key indicators of heart disease, including total cholesterol.

Studies have reported that honey not only doesn't contribute to obesity, but it can also help reduce it.



Be wary of honey adulterated with rice or corn syrup. Find a local provider you trust.

### How to Consume Honey

Honey is a completely natural food that may be eaten on its own. A popular method of consuming honey is to make honey water, prepared by combining a suitable quantity of honey with hot water. Honey shouldn't be brewed with water that is hotter than 140 degrees Fahrenheit (60 degrees C), which is hot enough to steam but not bubble and to dip your finger in briefly without burning you. Heating honey beyond 140 degrees F will cause many of the health-promoting active ingredients to lose their potency and reduce the nutritional content of the honey.

Honey can also be added to other foods for consumption. Honey can be used instead of syrup for pancakes and waffles. Honey can also be spread on toast or bread, or added to coffee or tea to enhance the taste. Mixing honey with yogurt, cereal, porridge, or oatmeal also tastes excellent. Adding honey to hot milk before bedtime can also improve sleep.

### Ensure Your Honey Is Genuine

In the face of the booming honey market, some shady vendors have begun producing “fake honey,” and there are many ways to counterfeit it. It can be difficult to tell real honey from fake, though there are a variety of tests promoted online that may give you some indication.

One of the best ways to ensure your honey is real is to purchase it from a local producer. Then you will not only gain the benefits of real honey, but also gain additional benefits from supporting your local food system and drawing a deeper connection to the local plants bees feed on.



Consuming **3 to 4** TABLESPOONS of honey per day is more than sufficient to receive its benefits.

## Living a Healthy Lifestyle

Dr. Theodore Strange cautions that no single medication or class of medications significantly slows the aging process and is approved for such use.

It's important to note that while these advancements are promising, most are still in the early stages of research and have yet to be fully tested and proven in human trials.

However, keeping healthy habits is still one of the most effective ways to increase health span and improve overall health.

The key components of a healthy lifestyle include:

- A diet that's rich in fruits, vegetables, whole grains, and lean protein can help reduce the risk of chronic diseases such as heart disease, diabetes, and certain cancers.
- Physical activity is crucial for maintaining good health and increasing our health spans. Regular exercise can help improve cardiovascular health, maintain a healthy weight, and reduce the risk of chronic diseases.

- Chronic stress can negatively affect physical health and increase our risk of developing chronic conditions. Finding healthy ways to manage stress, such as through meditation, yoga, or regular exercise, can help reduce stress levels and improve overall health.

- Getting enough sleep is essential for maintaining good health. Aim for seven to nine hours of quality sleep per night and avoid staying up late or using electronic devices before bedtime, as this could interfere with sleep quality.

- Smoking and excessive alcohol consumption are two unhealthy habits that could significantly reduce your health span by increasing your risk of chronic diseases and cancer. Quitting smoking and limiting alcohol consumption can have a positive effect on overall health that increases both health and life span.

“What we eat, staying active physically and mentally, and taking care of one's self are the best ways possible to slow the aging process,” Strange said.





Get your sleep and wake cycle in top shape by setting your circadian rhythm with a healthy dose of sunlight as soon as you wake (if the sun has risen, that is).

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# 17 Pathways to Better Sleep

Sound sleeping advice from a modern and traditional perspective

ELLEN WAN

In today's stressful world, many people are prone to sleep problems. According to some studies, nearly 30 percent of people have trouble sleeping—and that number may have increased during the pandemic. COVID-19 is just one of many health conditions that can lead to insomnia and other sleep problems.

The American Academy of Sleep Medicine defines insomnia as difficulty either falling asleep or staying asleep, accompanied by daytime impairments related to those sleep troubles. Long-term insomnia can lead to depression, drug dependence, and poor cognitive function. In addition, it affects cardiovascular and cerebrovascular health.

Dr. Guobin Wu, director of Taipei's Xin Yi Tang Chinese Medicine Clinic, spoke to The Epoch Times about insomnia and how to get a good night's sleep without resorting to medication.



## Cultivate Better Breathing Habits

If someone is snoring—whether it's you or your bed partner—you can say goodbye to sleep. Abdominal breathing, also called deep breathing or belly breathing, can help reduce snoring. Abdominal breathing exercises involve breathing in and out through the nose, while fully engaging the diaphragm. Better breathing habits can alleviate insomnia caused by open-mouth breathing, reducing or eliminating snoring.

Practicing deep breathing before going to bed can also reduce heart rate and blood pressure, calm the nerves, and promote relaxation—all factors in getting good sleep.



## Take a Warm Bath

Soaking your body in a warm bath (about 105 degrees F) approximately 90 minutes before bedtime can slow down the activity of the sympathetic nervous system. According to traditional Chinese medicine, calming the sympathetic nervous system can regulate excess heat in the body and hasten sleep. The warm water will help to lower your body's core temperature, signaling the body that it's time to sleep.

Keep the water temperate: A bath that is too hot (above 110 degrees) will raise your body temperature, and you will have to wait until your body temperature drops below a certain level before you can fall asleep.



## Use Aromatherapy

Research shows that aromatherapy can significantly increase sleep quality. However, even if a fragrance has a calming effect, it may still hinder sleep if you dislike its aroma. So choose a scent that you are comfortable with.



## Switch Indoor Lighting to Warm Colors

Research has found that warm light tones actually increase production of melatonin. However, bright lights of any color can decrease sleepiness, so switch indoor lighting to warmer colors, but keep lights dim. Make the switch at least 30 minutes before bedtime.



## Head to Bed as Soon as You Feel Sleepy

If you feel sleepy ahead of your scheduled bedtime, try to go to bed right away. Otherwise, you may find the sleepiness receding and have difficulty falling asleep.



## Choose the Right Pillow

Choose a slightly lower pillow, and add layers of sheets under the pillow to slowly raise it to the most suitable height. Side sleepers will need the support of slightly higher pillows on both sides to take pressure off the shoulders. Pillow height should allow the head and neck to be naturally aligned. Memory foam pillows are not recommended since they collapse after a long night's sleep. The pillow needs to have a moderate degree of elasticity to properly support the head and neck during sleep.



## Reduce Screen Time

Turn off your computer or phone at least an hour before bedtime. Blue light from digital screens inhibits the secretion of melatonin, affecting sleep negatively. You can also set your device to reduce blue light earlier in the evening.



## Reduce Sympathetic Nervous System Activity

Staying focused on anything, whether it's a computer screen, driving, or physical exercise, increases the activity of the sympathetic nervous system. So does stress. That in turn prompts the brain to reduce melatonin secretion, making it harder to fall asleep. Try to avoid these activities before bedtime.



## Use the Bathroom Before Bed

It may seem obvious, but it's worth stating: Going to the bathroom within 20 minutes of bedtime can reduce the need to go to the bathroom in the middle of the night.



## Get Some Sun

The biological rhythms of the human body are heavily influenced by sunlight. Nothing can strengthen and normalize the circadian rhythm that governs the sleep-wake cycle like getting sunlight soon after waking up. That could even mean getting sunlight through a window while you eat breakfast. Thirty minutes of sun exposure in the morning, and another hour or more in the afternoon, can aid in the production of melatonin, which helps sleep. Maintaining this routine for at least three days a week can strengthen your biological rhythm and improve sleep overall.



## Adjust Your Mood

If you cannot sleep, trying to force yourself to sleep will only make you more stressed and further prevent sleep. If you can't sleep, consider getting out of bed, taking a walk, or relaxing. Try to clear and calm your mind.



## Avoid Drinking and Smoking Before Bedtime

Small amounts of alcohol have a stimulating effect and can keep you awake. So can nicotine. Although a drink at bedtime might cause you to nod off faster, alcohol can actually interfere with deep sleep later on by reducing REM sleep. Both alcohol and nicotine can increase your heart rate during sleep, which burdens your body and reduces sleep quality. Further, nicotine can increase blood pressure and even contribute to irregular heart rhythms at night.



## Pamper Your Feet

Using a foot spa can quickly improve blood circulation in the feet and aid the body's thermoregulation.



## Adjust Room Temperature and Humidity

Maintaining a sleep environment with the appropriate temperature and humidity is important. Generally, the most comfortable temperature for sleeping lies between 68 and 73 degrees, with humidity at 50 to 60 percent. However, the best temperature for sleep changes with the seasons. During winter, the appropriate temperature is lower, 61 to 68 degrees, with humidity above 50 percent. In summer, the best temperature is 77 to 82 degrees, with humidity at less than 70 percent.



## Practice Stretching Exercises

Stretching can relieve muscle tension and encourage slower breathing from the abdomen. This can ease nerve tension and help you achieve a state of physical and mental relaxation, which will help to induce sleep.



## Watch Your Diet

Consuming foods that are rich in tryptophan and vitamin B6 can improve sleep quality by encouraging the body's production of melatonin and serotonin. Soybeans, bananas, carrots, spinach, and potatoes are good sources of B6. Tryptophan can be found in cheese, fish, milk, sunflower seeds, and turkey.

It is also important to have fixed meal times. According to traditional Chinese medicine, eating at regular times throughout the day can adjust the functions of the liver and small intestines in order to control the body's circadian rhythm. Strengthening circadian rhythms can promote metabolic heat production, which generates body temperature rhythms. The result is deeper and better sleep.

Ideally, eat dinner at least three hours before going to bed, and avoid overly fatty foods, eating too much, and hard-to-digest foods.



## Pay Attention to Bedding and Pajamas

In winter, use bedding that is light in weight but offers good thermal insulation and good moisture permeability. In summer, choose bed sheets and mattresses made from more breathable materials, such as linen.

Overly soft mattresses should be avoided, as they fail to support the back. Low rebound mattresses can better support the body. Choose pajamas that are loose and have good heat retention and moisture absorption. Poor moisture absorption will make the body sweaty and overly warm, which is not conducive to good sleep.

### RADIATION

## Contending With Rising Rates of Manmade Radiation

Continued from **Page 1**

EMFs come from natural and manmade sources. The Earth's magnetic field and sunlight are examples of EMFs that are natural. Wi-Fi, electrical wiring, and cellphones are a few sources of manmade EMFs. All EMF frequencies fall on a spectrum from extremely low frequency to extremely high frequency. The spectrum of EMFs goes from extremely low frequencies, such as radio waves, to high frequencies, such as the gamma rays that hit Earth from outer space.

Here are some examples from lower frequencies to higher ones:

- AC power (50 to 60 Hz)
- TV and radio waves
- Cellphone signals
- Wi-Fi
- Microwaves
- Some cellphone networks and Wi-Fi
- Infrared rays
- Visible light
- Ultraviolet (UV) light
- X-rays
- Gamma rays
- Cosmic rays

#### Types of EMFs

On the spectrum listed above, those sources of EMFs are classified into two groups, ac-

avoid the effects of the sun's ultraviolet rays.

The potential harms of low-level, non-ionizing radiation are more controversial, despite a growing abundance of evidence to suggest that it has its own detriments to health.

In our modern society, we depend upon many pieces of technology in our everyday lives. Virtually all technologies generate electromagnetic fields, even lamps, but it's the most recent surge in wireless devices, including cell towers, cellphones, Wi-Fi devices, and so on that have really saturated our bodies with unprecedented levels of EMF radiation.



EMF frequencies range from extremely low to extremely high.

#### How Do EMFs Cause Damage to the Body?

Research shows that low-frequency radiation disrupts voltage-gated calcium channels (VGCC), which are transmembrane proteins that are found in many cells within the body. In healthy cells, there's a very specific amount of calcium within the cell to maintain homeostasis, while too much can contribute to problems.

VGCCs are found in various cells including muscle cells, glial cells, and neurons and are important regulators of the brain, heart, and muscles. VGCCs act as gatekeepers for the cell and allow calcium ions into the cell to carry out various processes, such as genetic expression, endocrine balance, and neurotransmitter function.

There are many studies that show how VGCCs are disrupted by EMFs. These studies demonstrate that low-level radiation

causes a huge influx of calcium ions into the cells. This calcium influx can lead to oxidative stress, cellular DNA damage, apoptosis (cell death), enzyme activity disruption, and excitotoxicity—effects also directly linked to EMFs. These damaging effects on the body therefore can lead to various disease states.

We also can't forget the fact that humans are electrical beings. In fact, all of our cells have a measurable voltage. All organs, including the brain and heart, function based on intricate electrochemical signals. These signals are intimately involved with virtually every process in the body, from digestion to muscle movement to brain function and sleep. As you might guess, EMFs can directly affect the "electricity" within our bodies and disrupt normal physiology.

#### Health Risks From EMF Exposure

You may be surprised to know that there's a growing body of evidence that points to the relationship between prolonged EMF exposure and various health concerns and disease states. We believe there are likely greater health implications to EMF exposure than those listed here, but research is starting to show the following disease states and health consequences:

- Cancer
- Alzheimer's Disease
- Heart disease
- Autoimmunity
- Autism Spectrum Disorder and other neurological disorders
- Thyroid issues
- Infertility and reproductive problems
- Chronic pain
- Skin conditions

- Increased severity of other conditions such as Lyme disease and mold illness
- Sleep disruption
- Increased risk of miscarriage
- Decreased sperm motility
- Abnormal diurnal rhythms of blood pressure and heart rate

#### Electromagnetic Hypersensitivity Syndrome

EMF exposure can manifest itself in many symptoms. In fact, it's estimated that at least 6 percent of the population is more sensitive to EMFs than others and fall under the term electromagnetic hypersensitivity syndrome. Symptoms associated with EMFs include:

- Fatigue
- Difficulty concentrating
- Headaches
- Nausea
- Dizziness
- Heart palpitations
- Digestive issues
- Red skin
- Tingling
- Burning sensation
- Sleep disruption or Insomnia
- Muscle aches and pains
- Depression
- Infertility
- Tinnitus
- Cardiac arrhythmia

#### How Do EMFs Affect Children?

Children are more susceptible to EMFs because of the rate of development in both their osseous structure and nervous system. Additionally, children's brain tissue is more conductive, making it especially

vulnerable. The brain's protective barrier, the blood-brain barrier, is also more permeable in children; some say it isn't fully sealed until age 7.

Because this barrier isn't yet fully intact in many young children, their brains are even more vulnerable to the toxins and free radicals present in the bloodstream. The "specific absorption rate" produced by cellphones differs between children and adults. EMF penetrates greater relative to one's head size.

A 2011 study published in Electromagnetic Biology and Medicine helps to illustrate EMFs' great absorption into the brain. The authors wrote, "When electrical properties are considered, a child's head's absorption can be over two times greater, and absorption of the skull's bone marrow can be 10 times greater than adults."

With this understanding in mind, adults should be vigilant in protecting youth from EMF exposure. Screen time should be nonexistent or incredibly limited in our pediatric population. We must protect the future generation!

*Dr. Ashley Turner is a traditionally trained naturopath and board-certified doctor of holistic health for Restorative Wellness Center. As an expert in functional medicine, Turner is the author of the gut-healing guide "Restorative Kitchen" and "Restorative Traditions," a cookbook comprised of non-inflammatory holiday recipes.*



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

### How to Protect Yourself and Loved Ones

Thankfully, despite the onslaught of EMFs in our environment, there are various ways to protect yourself and your loved ones from EMF exposures. Three key aspects of protecting yourself include decreasing the use of EMF-emitting devices, increasing the distance between yourself and EMFs, and choosing hardwired options over wireless.

- Consider turning off Wi-Fi for a large portion of the day, especially while you sleep. Install a switch to easily turn it off.
- Take your Apple Watch, Fitbit, or other wearables off. Consider not wearing them at all!
- Ditch your microwave oven.
- Keep your phone in airplane mode when you aren't using it.
- Don't use Bluetooth in your car. Turn it off to avoid EMFs.
- Avoid smart appliances, home devices, thermostats, and 5G-enabled cellphones.
- Use the speaker function on your phone and hold it further away from your body.
- Don't carry your phone on your body.
- Use a faraday case while carrying your phone.



Our EMF exposure has become more intense, intimate, and ever-present.

- Don't use your phone when the signal is weak, as the phone will boost its output to reach a signal.
- Use an EMF protection device on your cellphone, iPad, laptop, and desktop computer.
- When using a laptop, use a shield to protect yourself from harmful radiation. This is particularly important in keeping reproductive organs safe.
- Consider placing EMF shielding paint in sleeping areas.
- Remove all fluorescent bulbs and fixtures from your home.
- If you can't turn off your Wi-Fi at night or are still exposed to your neighbor's Wi-Fi, a faraday canopy can be helpful for protecting the sleep environment.
- Install a smart meter cover and try to place beds as far away from the household smart meter as possible.
- Use a hardwired mouse, keyboard, telephone, and ethernet.

While EMF exposure is an ever-increasing reality of our world today, be empowered with tools to protect yourself and your loved ones from the detrimental effects of EMFs. With intentional steps forward, you can drastically reduce EMF exposure and promote optimal health.

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# Neurological Healing for Traumatic Experiences

Resilience training can help resolve the effects of trauma by drawing on the brain's ability to reshape itself

EMMA SUTTIE

Ever wonder why, in the face of tragedy, some people remain calm and collected and others fall apart? It's called resilience and all of us have it, to varying degrees. The thing is that most of us don't know how much we've got until we are faced with a crisis.

There are many ways to define resilience, but simply put, resilience is our ability to bounce back after a setback, to

get up and dust ourselves off after a failure, or to keep going after a tragedy. It's being able to adapt to life's challenges, misfortunes, hardships, and traumas.

To previous generations, these "adverse events" were simply called "life," and many of us (myself included) were taught to "suck it up" and just deal with them. But psychologists, psychiatrists, and other experts are beginning to understand that these adverse, stressful events that we all experience actually change the brain and can change the way we perceive the world and evaluate danger.

Sometimes, it seems that we've gone from the "suck it up" mentality of dealing with adversity to the opposite end of the spectrum, with many universities now offering "safe spaces" and "cry closets." And we seem to have gone from a culture of warriors to one that seeks to avoid pain and discomfort at all costs—which we can see from our inability to handle opposing viewpoints to our ever-increasing reliance on antidepressants.

With the new and evolving understanding of trauma by pioneers such as Bessel van der Kolk, who wrote the seminal book "Your Body Keeps the Score," Peter Levine, author of "Healing Trauma," and Gabor Maté, who has studied and treated trauma for decades, we are better able to understand how these inevitable events affect us and, most importantly, how to heal from them and move on.

You may be wondering what kinds of events can be defined as traumas. Well, that's tricky, as something that may be traumatic for one person may not be for another—and it isn't the event, but how we respond to it that defines it as traumatic. There are some common situations, however, that are thought to be traumatic for most people. One of the definitions of trauma is feeling overwhelmed by events that are beyond your control.



FRANCO VOGT/GETTY IMAGES

Reaching out to friends and making social connections is helpful in the healing process.

## Healing From Trauma, Building Resilience

Even though traumatic events and the resulting changes to the brain can seem daunting, there is good news, and it can be summed up in one word: neuroplasticity. Neuroplasticity is defined as the brain's constant physiological changes and reorganization in response to interactions with our environment. This means that our brains can heal from the traumas that we have experienced, and we can go on to have happy, meaningful lives.

Healing from trauma is a highly individualized process, and many factors affect how quickly someone recovers after a traumatic event or events. Some of the things proven to help people recover after trauma are having a strong support system and a positive state of mind. Here's a list of some other things that can help you to heal after experiencing trauma:

- Develop strong relationships with others.
- Cultivate a spiritual outlook and engage



IAN LAKER PHOTOGRAPHY/GETTY IMAGES

Having a creative outlet or hobby that you enjoy can help you better recover from trauma.

- with your faith community.
- Stay positive and have a good sense of humor.
- Be able to express yourself freely.
- Be flexible to new situations.
- Know how to set boundaries and stick to them.
- Develop self-awareness, understand what you need, and be able to express it to others.
- Identify your talents and personal strengths.
- Have a creative outlet or hobby that you enjoy.
- Ask for help when you need it.
- Actively work on solving any problems in your life.
- Learn to take time for yourself and to relax and let go.
- Offer emotional support to people with whom you are close.

People who have suffered from traumatic events often have a hard time feeling joy and pleasure, connecting with others, and learning new things, and they tend to experience a decrease in their ability to manage stress and emotions as a consequence of the brain changes discussed above. There are many strategies that you can use to help you heal from trauma, but it takes time and patience. Below are some short-, medium-, and long-term strategies that can help you recover.

## Final Thoughts

What experts like van der Kolk were surprised to discover when they began learning about trauma was that trauma was so common. Because we will all go through stressful events, challenging situations, and hardships throughout our lives, knowing ways to build resilience can only help us when they arrive. Difficulties in life are also opportunities for growth and change—from pain, we can learn wisdom, from fear we can learn courage, and from suffering can come strength, which makes us stronger as individuals and as a community.

## Trauma and the Brain

Three parts of the brain are affected when we experience traumatic events—traumatic because they overwhelm our ability to process them in the moment. We all experience lots of unpleasant things in our day-to-day lives, and most of the time, they happen, and then they are over and we don't think about them again. A traumatic event, however, is one that your body repeatedly relives after the fact, according to Bessel van der Kolk.

### The Prefrontal Cortex

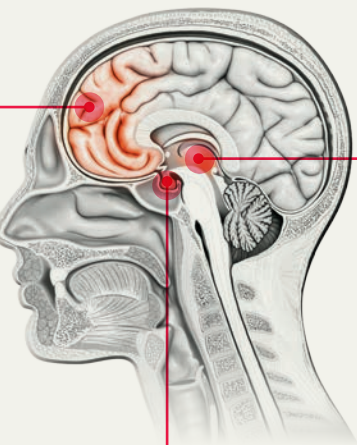
The prefrontal cortex is the part of the brain that's responsible for higher-level thinking and reasoning and helps us think logically, analyze information, and solve problems. The prefrontal cortex is also needed for focus and attention.

When this part of the brain is changed by trauma, we tend to make riskier decisions, have a stronger urge to make poor choices, and have less ability to resist them. A decrease in our executive function makes it harder for us to consider the long-term consequences of our actions. Damage to the prefrontal cortex also can lead to learning problems, difficulty understanding new concepts, and a much harder time focusing.

### The Amygdala

The amygdala deep inside our brain is part of the limbic system. It helps us perceive and control our emotions, and is responsible for our fear response. When a threat is detected, the amygdala sounds the alarm and initiates the fight, flight, or freeze response. A traumatic event can cause the amygdala to become overactive long after the traumatic event is over, making people overly alert, on edge, and susceptible to seeing threats that may not exist. This is also called hypervigilance.

An overactive amygdala can make a person more susceptible to anxiety disorders, excessive worrying, irritability, trouble



focusing, and an upset stomach, to name a few. A key symptom of anxiety disorder is panic attacks, which can include symptoms such as shortness of breath, a racing heartbeat, tightness in the chest, and dizziness.

One of the ways that people sometimes cope if they have experienced a traumatic event and have an overactive amygdala is by adopting "avoidance behaviors," meaning they avoid people, places, or experiences that may trigger the memory of the trauma. For example, veterans may stop watching the news or scrolling social media because they want to avoid stories about war or other military conflicts.

### The Hippocampus

Also part of the limbic system, the hippocampus is another brain structure involved in learning and the formation, storage, and retrieval of memories. In a dangerous situation or perceived threat, the hippocampus starts telling the body to pump out the stress hormone cortisol, which stops us from feeling pain so we can focus on survival, either fighting the threat or running away (fight or flight).

It was observed that the hippocampus can be smaller and have decreased function in those with post-traumatic stress disorder (PTSD), compared to those exposed to trauma who didn't experience PTSD. The National Cancer Institute defines PTSD as "an anxiety disorder that develops in reaction to physical injury or severe mental or emotional distress, such as military combat, violent assault, natural disaster, or other life-threatening events."

When you encounter a dangerous situation, your hippocampus signals the release of cortisol, which helps you focus on survival and not feel pain in case you are injured. It also diverts your body's energy to functions it needs to survive, fight, or flee and suppresses any nonessential functions, such as digestion, so all your physiological resources can be optimized for immediate life-saving action.

When these systems are functioning the way they should, they go back to normal after the threat has passed. In cases of trauma, however, the brain continues to sense danger, and the continued release of cortisol can have detrimental effects on health. Elevated cortisol levels weaken the immune system and make a person more susceptible to a variety of illnesses and infections. Studies have also shown that victims of childhood trauma have a much higher risk of developing chronic health conditions in adulthood.

## Here is a list of some common causes of trauma:

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"><li>• Experiencing a natural disaster, such as an earthquake, flood, fire, or tornado</li><li>• Being in a serious accident, like a car accident</li><li>• Receiving a disease diagnosis</li><li>• Suffering a violent attack by a stranger (assault, robbery)</li><li>• Suffering</li></ul> | <ul style="list-style-type: none"><li>• a violent attack by a relative or someone you know</li><li>• The sudden, unexpected death of a loved one</li><li>• Combat or war exposure</li><li>• Childhood physical or sexual abuse</li><li>• Being neglected or abandoned by parents or caregivers</li><li>• Being sexually assaulted</li><li>• The death of a child,</li></ul> | <ul style="list-style-type: none"><li>• sibling, friend, or relative</li><li>• Witnessing someone being hurt or killed</li><li>• Imprisonment</li><li>• Going through a divorce or the breakup of a relationship</li><li>• Witnessing abuse</li><li>• Extreme poverty</li><li>• Frightening or painful medical procedures</li><li>• Being separated from a parent or loved one</li></ul> |
|--|---|--|

These events and their consequences are complex, as everyone reacts differently based on a huge variety of circumstances. Some people are better able to cope because some people naturally have more resilience than others. Resilience, however, can be cultivated, which we will talk about in a moment.

# The Critical Link Between the Microbiome, Motivation, and Cancer

Research is revealing how a virtuous cycle between exercise and a healthy microbiome may be a key cancer treatment

AMY DENNEY

Whether you're searching for a simple way to improve your health, boost the effectiveness of your cancer treatment, or understand your complete lack of willpower when it comes to exercise, the answers could be found in your microbiome.

The gut microbiome is the ecological community of organisms called microbes—bacteria, viruses, and fungi—that live inside our intestinal tract.

## A Virtuous Cycle

Two recent novel studies on exercise are pointing to similar conclusions—that the gut microbiome might be the reason we have trouble with fitness and that intentional daily movement increases beneficial bacteria that improve the microbiome.

One study found colorectal cancer patients who exercised even moderately gained more healthy, diverse microbiomes and improved their treatment outcomes.

Another study, conducted with mice, found that microbiome-dependent production of certain gut metabolites elevates dopamine levels during exercise and improves performance—thereby making it more rewarding.

The two findings suggest the possibility of a virtuous circle: exercise improves the microbiome, which increases motivation to exercise, which further enhances the microbiome.

A review study in *Frontiers in Nutrition* in 2021 further affirmed that cycle.

"Moderate endurance exercise reduces in-

flammation, improves body composition and leads to positive effects on gut microbial diversity and composition and its metabolic contribution to human health," it found.

## Deeper Insight

As microbiology research is gaining more precise knowledge and naming specific bacteria, the spotlight is shifting to etiology—the causes and origins of disease—and pathology, how the disease develops and progresses.

There are more than 100 trillion microbes that "influence human physiology, metabolism, nutrition, and immune function," notes a 2013 study.

Our microbes help with all sorts of physiological functions such as turning food into energy and converting it into vitamins. Among their many roles, microbes break down toxins and fight off invading pathogenic bacteria and viruses. They've also been linked to our mental health.

Published in the *American Journal of Cancer Research* on Oct. 15, 2022, the cancer study is the first of its kind to look at how the gut microbiome can specifically affect cancer treatment outcomes, and it concluded that increased physical activity can prevent or counteract dysbiosis—an unhealthy microbial imbalance—due to obesity.



Exercise triggers changes in the gut microbiome that can help us combat cancer.

ALL PHOTO BY GETTY IMAGES

The study examining motivation in mice, published on Dec. 14, 2022, in *Nature*, is the first to connect a specific bacteria to a metabolic process linked to a region in the brain that controls exercise motivation.

Even those who have prioritized exercise for years describe days when they hit the gym only out of habit—not because they feel like it. The studies help clarify the mysterious physiological processes happening in the gut during exercise. They offer insight into behavior and outcomes that may help us tip the scale of motivation toward daily movement.

## Cancer Study

Microbial communities, considered to be an "organ" in themselves, outnumber human cells 10 to one. They're integral to overall health and could play a key part in reducing the cancer burden, as the new study illustrates.

"[W]e observed that alpha diversity was lower among 'inactive' patients and lowest among 'overweight/obese/inactive.' Alpha diversity describes the number of microbial species relative to its abundance within one sample and has been identified as an indicator of [a] healthy state with higher diversity indicating improved health," reported the researchers in the cancer study.

Specifically, the more active patients had higher amounts of bacteria that protect against colorectal cancer, one of the study's researchers, Caroline Himbert, who holds a doctorate in population health sciences said in a statement. A healthy microbiome is correlated to reduced inflammation, according to the study's researchers, even in obese or overweight patients.

"Our study suggests that nobody needs to be an athlete to get the benefits. It can be easy activities," she said. "Just staying active is very beneficial."

Adults need 150 minutes of moderate exercise a week, according to the U.S. Centers for Disease Control and Prevention. That's about 20 minutes of brisk walking or light jogging each day.

## Another Cancer Connection

Not counting skin cancers, colorectal cancer is the third most common cancer in the United States, with 106,970 new cases of colon cancer and 44,050 new instances of rectal cancer this year, according to the American Cancer Society. Having high levels of inflammation, as seen in those with a higher body mass index or who aren't physically active, increases a person's risk of developing colon cancer.

Commensal and pathogenic bacteria are known to contribute to inflammation and cancer development. Inflammation is a normal protective mechanism the body undergoes when injured and infected, but chronic inflammation due to an imbalance of bacteria known as dysbiosis may linger for months or years, causing disease. Inflammation is believed to contribute to more than half of all deaths worldwide.

Experts have found that inflammation is necessary for tumor development, and increased pathogenic bacteria in a dysbiotic state leads to a pro-inflammatory response in the intestine and sometimes beyond. Dysbiosis can overamplify the immune response and break down the intestinal epithelial barrier.

Researchers are studying how the microbial ratios shift in cancer patients because preserving the integrity of the microbiome could prevent or slow down cancer development.

"Inflammation is a key process that drives colorectal cancer. We know a high BMI causes inflammation around the body," said Cornelia Ulrich, who's the executive director of the Comprehensive Cancer Center at Huntsman Cancer Institute at the University of Utah.

"Obesity is on the verge of becoming the number one cause of cancer in the United States, surpassing smoking. More than 13 cancers are linked to obesity," she added in the news release. "It's important we understand that moderate exercise can help colorectal cancer patients reduce inflammation, improve their gut health, and live longer—even if they are overweight or obese."

## Mice Motivation Study

Knowing we need to exercise is one thing, but finding the desire to prioritize it can be a real struggle. The study in mice conducted at the University of Pennsylvania may have captured a collective sigh of relief among those who simply can't find the energy to work out and don't know why.

## A couple of decades ago, exercise wasn't recommended for cancer patients. But that advice has changed.

The researchers found differences in running performance within a large group of lab mice that were largely attributable to the presence of certain gut bacterial species in the higher-performing animals, according to a Penn Medicine statement. Those mice that ran endlessly on their wheels possessed bacteria that produce certain small molecules—called metabolites—that stimulate sensory nerves in the gut and communicate on a gut-brain axis to enhance activity in a motivation-controlling brain region during exercise.

"If we can confirm the presence of a similar pathway in humans, it could offer an effective way to boost people's levels of exercise to improve public health gener-

ally," study senior author Christoph Thaiss said, whose doctoral research focused on the role of the intestinal microbiome in metabolic and inflammatory diseases.

Thaiss and colleagues recorded the genome sequences, gut bacterial species, bloodstream metabolites, and other data for genetically diverse mice. They then measured the amount of daily voluntary wheel running the animals did, as well as their endurance, searching broadly for factors that determine exercise performance.

Results showed that genetics seemed to account for only a small portion of performance differences, but differences in gut bacterial populations played a much larger role. They gave mice broad-spectrum antibiotics to get rid of their gut bacteria, and it reduced the mice's running performance by about half.

Years of detective work have allowed researchers to conclude that two bacterial species are closely tied to better performance: *Eubacterium rectale* and *Coprococcus eutactus*, which produce metabolites known as fatty acid amides. These fatty acid amides stimulate receptors on gut-embedded sensory nerves that travel to the brain from the spine and cause an increase in the neurotransmitter dopamine during exercise.

Dopamine is released from a brain region called the ventral striatum, a critical node in the brain's reward and motivation network. The researchers concluded that extra dopamine in this region during exercise boosts performance because it reinforces the desire to exercise.

It's the first time the microbiome has been connected to what's referred to as a "runner's high"—when a state of euphoria is experienced during intense exercise. This gut-brain axis is an area of study that researchers said could develop into a branch of exercise physiology.

But first, the team must confirm the existence of this gut-to-brain pathway in

humans, where it could play a part in understanding other conditions, such as depression and addiction, that are impacted by motivation.

## Practical Takeaways

Cancer diagnosis or not, people who care about their health can assume exercise is the right prescription for them. Plenty of other research has connected exercise to certain cancer survival rates and longevity in general.

A couple of decades ago, exercise wasn't recommended for cancer patients. But that advice has changed.

"We are at a point in the evolution of the field where we can dose exercise precisely, just as we do with drugs, to address several cancer-related health outcomes," said Kathryn Schmitz, professor at the University of Pittsburgh Department of Medicine's division of hematology/oncology. She led a panel that helped rewrite guidelines for cancer prevention and survivorship.

"We need a paradigm shift here, as we have had with exercise and heart disease." In a 2019 National Cancer Institute article, Schmitz wrote that providers rarely discuss exercise with cancer patients, in part due to lack of time. Another reason they don't bring up the subject is that they feel uncertain about whether it's safe for certain patients, and they feel unsure about specific advice.

But the research is clear—exercise leads to better health. There's evidence that 30 minutes of aerobic exercise three times a week can improve anxiety, depression, fatigue, quality of life, and physical function in cancer survivors.

"The ACSM's [American College of Sports Medicine's] recommendation to providers is simple," Schmitz wrote. "Ask cancer patients about their physical activity. If their activity is inadequate, providers should advise their patients to do more."



INTENTIONAL LIVING

# The Minimalist Guide to Tracking Habits

Being productive doesn't have to be complicated, but you do have to ask yourself 2 key questions

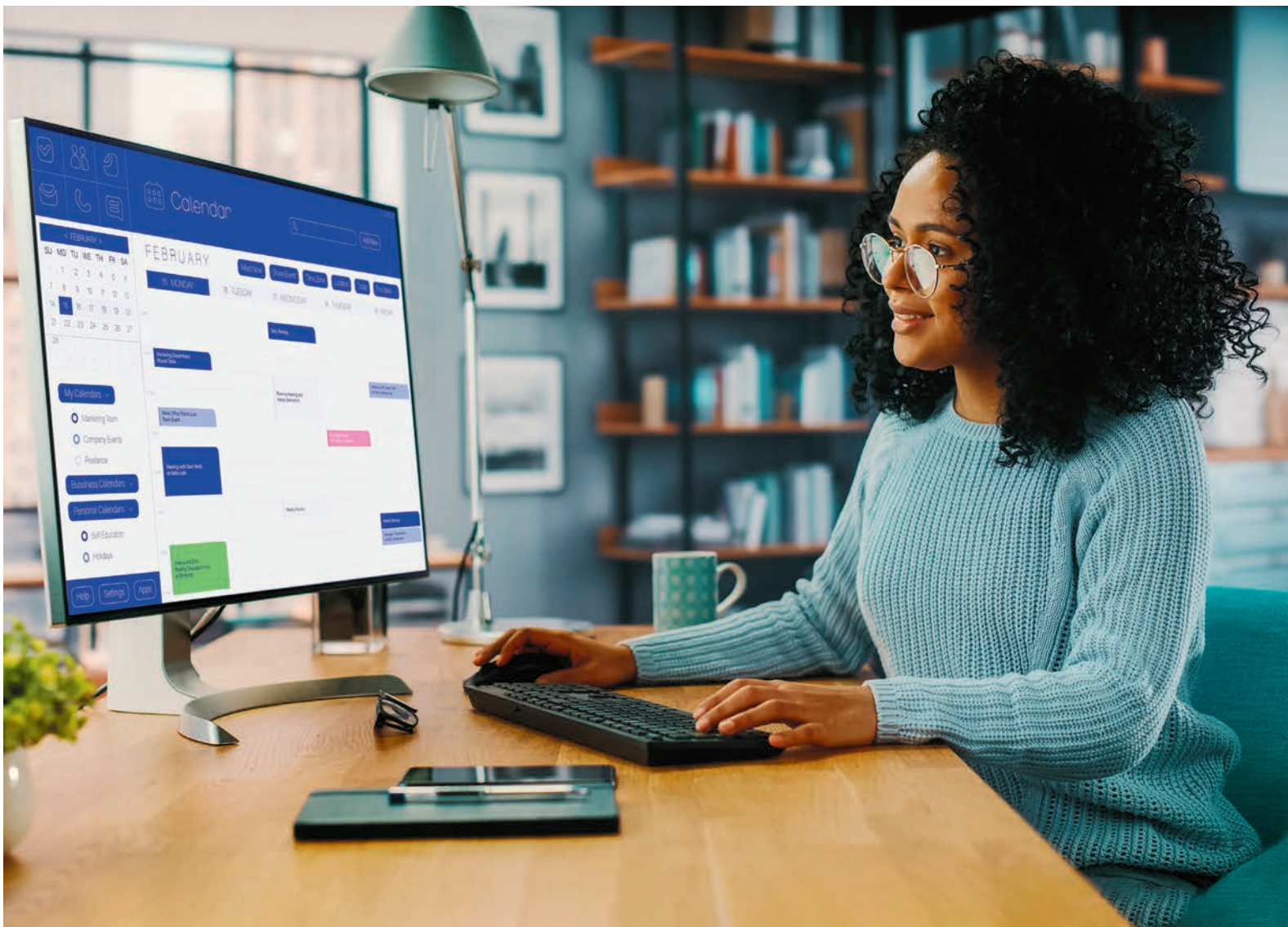
MIKE DONGHIA

Some of the best-selling books over the past few decades fall under the broad topic of productivity advice. The popularity of titles such as "Atomic Habits," "Getting Things Done," and "Deep Work" suggests that many people have a strong desire to figure out how to organize their lives and be productive through set daily habits. For a long time, I was a significant consumer of this kind of reading. I lamented my own struggles with procrastination and figured the solution must exist in one of these systems. If only I followed the right steps, I could unlock my potential and multiply my output—or so I thought.

**Moving Beyond the Text** The problem, of course, isn't in the books themselves. They're largely great volumes with plenty of actionable advice. The real issue was that I had missed the forest for the trees. I was so focused on the specific details of how productive people organized their lives that I missed the far more important foundations that allowed them to do meaningful things. It took me a while, but I now see that answering the following two questions is more important than any technical details about tracking, organizing, or accomplishing tasks. They are:

1. What is the most important, highest-value thing I can be doing right now?
2. What truly motivates me to take action instead of merely planning or talking about it?

The advice I would give to my 22-year-old self would be to forget everything else about "being productive" and just master those two questions. I would tell him that no system in the world will matter if you haven't done the internal work to answer them. Once I made that leap forward in my understanding, I discovered that big books with elaborate systems no longer appealed to me. In my mind, the best system for tracking habits and tasks would be one that worked for me and was as simple as possible. I found it far more interesting to observe my friends, colleagues, and other people I knew who consistently got things done in their life. There are some problems in life where it's best to look to the practitioners and observe what they do, rather than the experts and their theories about why it works. And I believe this is one of them.



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In my mind, the best system for tracking habits and tasks would be one that worked for me and was as simple as possible.



A paper calendar is nice on your desk but not as portable as a phone.



A piece of paper is a great tool to help you organize your thoughts.

## 3 Pieces to Tracking My Habits

If you ask 10 people what helps them be more productive, you'll likely get 10 different answers. But just asking, and thinking about their approach, will help you start to develop an effective approach that works for you. You'll find yourself inclined toward a particular method, and hopefully, will take the time to try it out in your own life. Here is what has worked for me. My habit and task-tracking system has only three components:

A calendar, a visual tracker, and a piece of paper. For me, all three of these would be paper-based and within arms reach of my desk—and that's coming from someone who's generally pro-technology and spends much of my time working on a computer. Sometimes the good old paper and pencil method is the simplest of them all. My calendar is the only completely digital part of my system. There are too many benefits to sharing my calendar with others and being able to access it from my phone when I'm away from the house. It's a compromise, but it works. Each component of my system serves a different but significant purpose.

**Calendar.** My calendar is where anything goes that I only need to remember on a particular date. This could be meeting someone for lunch,

scheduling a two-hour chunk of time to work on a specific project, or just reminding myself to check our smoke detectors once per year.

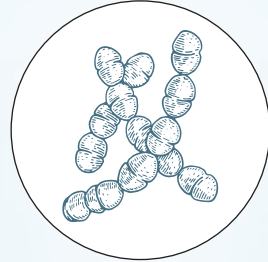
**Visual tracker.** If there's a particular habit I'm working on, such as a new exercise routine, I don't put it on my calendar or to-do list. Instead, I use a printable visual tracker and display it prominently on my desk where I'm able to check that habit off my list as I complete it. This keeps the habit tracking from cluttering up my other systems, and it also gives the habit special prominence in my life.

**Piece of paper.** For any other task that isn't a daily habit and doesn't need to get done by a particular date, I write it down on a piece of paper that sits on my desk. It's as simple as that. Compared to a digital list, a piece of paper provides a spatial dimension to my organization. I remember where on the page I wrote it down and can add other elements such as bolding, circling, or underlining with ease. And when something is really important, I write it on a sticky note or index card and put it front and center. **Create the System That Works for You** Is my system perfect? Of course not. Do I make exceptions to these rules? All the time. It's through new, improved versions that I'm able to customize the most effective system for me. As a general framework, I've found it to be a simple, low-hassle way to keep track of the various habits and tasks that come into my life.

Tracking your progress doesn't have to be an intensive, complicated system in order to work. I hope this article sparks useful ideas for how you can track your own habits, but even more than that, I hope you'll spend some time thinking about the two important questions I shared above and just get started.

There are countless apps that can help you to be more productive, but they can only get you so far.

# Probiotic Strain Offers New Weapon in Fight Against Infectious Disease and COVID-19



Streptococcus salivarius K12 reduced the incidence of respiratory tract infections

by 64.8% and reduced the time patients experienced respiratory tract infections

by 78% And shortened days absent from work

by 95.5%

SOURCE: OROPHARYNGEAL PROBIOTIC ENT-K12 PREVENTS RESPIRATORY TRACT INFECTIONS AMONG FRONTLINE MEDICAL STAFF FIGHTING AGAINST COVID-19: A PILOT STUDY. FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY, JULY 2021

While some drugs, like steroids and anti-inflammatories can play an important role in COVID-19 treatment protocols, patients that took Streptococcus salivarius K12 didn't seem to need them.

LAUREN NICOLE/GETTY IMAGES

New research shows evidence Streptococcus salivarius K12 may combat infectious disease and COVID-19 respiratory infections

CHRISTY PRAIS

Breakthroughs in scientific research and a growing body of evidence show that an oral probiotic strain, Streptococcus salivarius K12, can help protect against bacterial infections of the respiratory tract caused by COVID-19 and other respiratory viruses, making it a new weapon in the fight against infectious disease and COVID-19. Alternative therapies and protections are necessary because of the incomplete

When buying oral probiotics, there are several things to look for to ensure that you are getting a high-quality product.

protection offered by COVID-19 vaccines, which fail to block infection or prevent transmission and may cause vaccine injury, including death. The oral probiotic strain Streptococcus salivarius K12 works by crowding out bad bacteria and stopping their ability to colonize our bodies. This is part of the nature of how human beings relate to the microbial world. Health often depends on hosting a preponderance of beneficial bacteria that can preempt an invasion of pathological bacteria while simultaneously carrying out important roles in the body. New studies have also found that Streptococcus salivarius K12 has antibacterial and antiviral properties and stimulates substances that kill or inhibit the growth of various bacterial species, disabling the reproduction of pathogenic bacteria on the oropharyngeal mucus surfaces in the mouth and the pharynx.

Continued on Page 10

MENTAL WELLNESS

## Easy Ways to Boost Mood and Lift Depression

The morning is 1 of the most important times to practice some powerful habits that can improve the rest of your day

DUSTIN LUCHMEE

A majority of people will experience depression at some point in their lifetimes, just as they will the common cold. While depression is uncomfortable, there are some things that people can do in the morning to reduce symptoms.

**Soak Yourself in Sunlight** Sunlight exposure is a great way to start your day and one of the best things you can do for an immediate boost to mental well-being. Sunlight has been shown to boost cognitive function, reduce morning levels of the stress hormone cortisol, and has been used as a lifestyle medicine or nature-assisted therapy to enhance mood and reduce depressive symptoms.

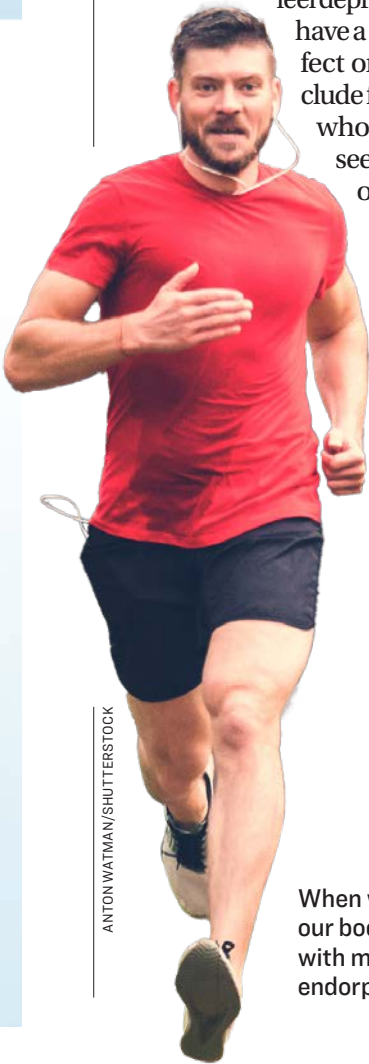
Consuming alcohol can cause individuals with depression to experience increased sadness,

While researchers are still studying the mechanisms behind the therapeutic effects of sunlight, current research shows that the immune system may be the mediator, as demonstrated by reduced inflammatory biomarkers following sunlight exposure.

**Eat a Nutrient-Dense Breakfast** It may be tempting to reach for convenient options, but taking the time to have a nutrient-dense breakfast can set you up to have a great day.

What foods do we need when we feel depressed? Foods that have a demonstrated effect on depression include fruits, vegetables, whole grains, nuts, seeds, legumes, and olive oil. Eating fish occasionally is a good idea, too. These foods are all staples of the well-studied Mediterranean diet, which is linked to a longer, healthier life.

Continued on Page 16



ANTON WATMAN/SHUTTERSTOCK

When we exercise, our body rewards us with mood-boosting endorphins.

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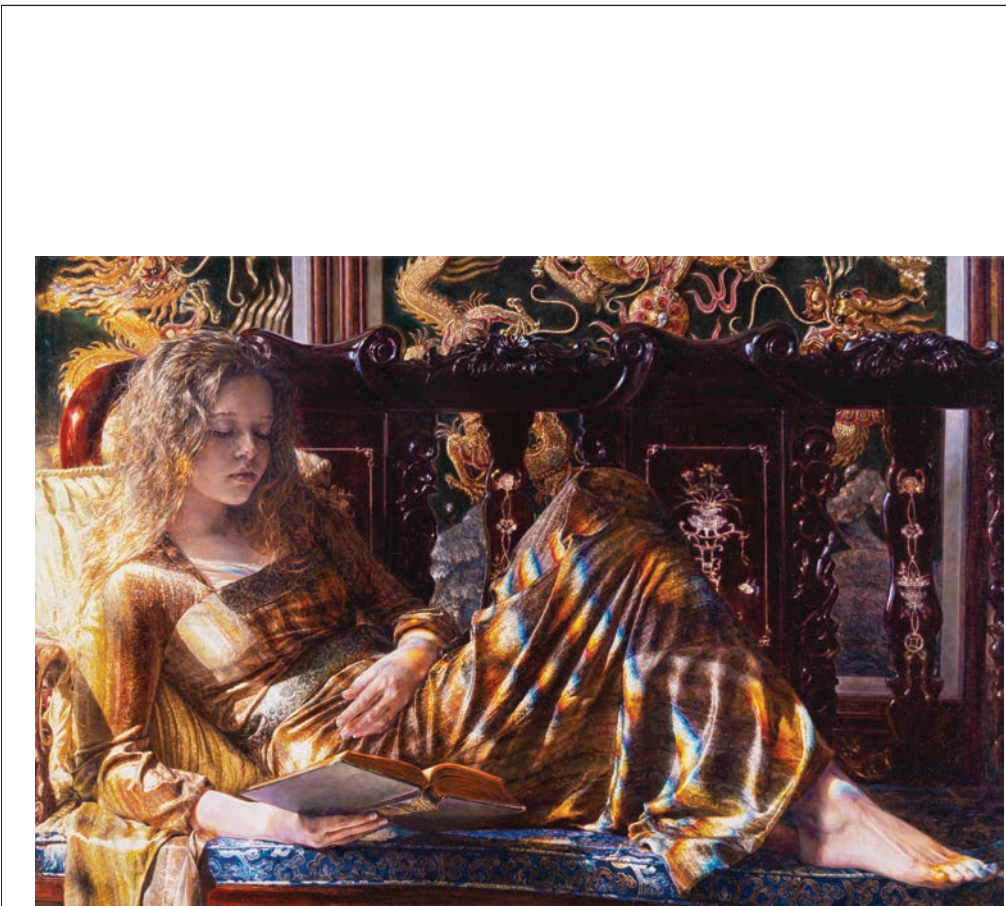
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TRUTH AND TRADITION



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Bacteria  
Bifidobacterium, an  
anaerobic rod-shaped  
bacteria, is another  
helpful probiotic found  
in the gut and used in  
yogurt production.

ORAL MICROBIOME

# Probiotic Strain Offers New Weapon in Fight Against Infectious Disease and COVID-19

Continued from Page 3

The Bacterial Factor

For a majority of people, current COVID-19 variants present with mild cold- or flu-like symptoms including low fever, fatigue, and dry cough. The severe cases, which are less common, present with dyspnea (difficulty breathing) that can rapidly deteriorate into serious complications, such as acute respiratory distress syndrome.

Research has shown that secondary bacterial infections in COVID-19 patients are significant contributors to fatal infections. In other words, the virus opens a gateway to a more dangerous bacterial infection.

A study done in Wuhan, China, published in *Frontiers in Microbiology* in July 2021, found that bacterial infections (bacteremia and pneumonia) were more common in fatal COVID-19 cases.

The National Institutes of Health noted that in the 1918 Spanish flu pandemic, upward of 95 percent of mortality was directly attributable to secondary bacterial pneumonia.

Also, during the outbreaks of SARS (severe acute respiratory syndrome) in 2003 and H1N1 influenza in 2009, bacterial complications were associated with serious outcomes such as death and admission to intensive care. During the 2009 influenza pandemic specifically, almost one in four patients presented with bacterial complications.

A study conducted between April and June 2020, published in *Environmental Research and Public Health* in February 2022, stated that bacterial colonization increased the length of ICU hospitalization and the mortality rate, with 53 percent of ICU-admitted COVID-19 patients having bacterial infections. They advised that clinical management of COVID-19 patients should

also consider the assessment of co-infections so that treatment for both COVID-19 and bacterial infection can be administered.

Between January and February 2020, a study was conducted in Wuhan, China, to investigate the benefits of the oropharyngeal probiotic strain *Streptococcus salivarius* K12 in preventing respiratory tract infections in frontline medical staff who were in close contact with COVID-19 hospitalized patients.

It found that “oropharyngeal probiotic administration significantly reduced the incidence of respiratory tract infections by 64.8 percent, reduced the time experiencing respiratory tract infections and oral ulcer symptoms by 78 percent, shortened the days absent from work by 95.5 percent, and reduced the time under medication where there is no record of antibiotic and anti-viral drug intake in the probiotic group.”

It was also noted that there was no intake of steroid/anti-inflammatory drugs in the probiotic group compared with 10 days of intake of steroid/anti-inflammatory drugs in the control group. The results of this study indicate that the oropharyngeal probiotic formula

containing *Streptococcus salivarius* K12 “can reduce susceptibility to respiratory tract infections for frontline medical staff fighting against COVID-19.”

Only one out of 98 enrolled medical staff in the probiotic group had the pneumococcal vaccine, and four out of 98 had the influenza vaccine, while one out of 95 in the control group had received the pneumococcal vaccine and four out of 95 had received the influenza vaccine. The two groups had no statistically significant differences in vaccination status and outcomes.

The study was published in *Frontiers in Bioengineering and Bio Technology* in June 2021 and was peer-reviewed by Stephen A. Morse, a senior consultant at the Centers for Disease Control and Prevention (CDC). Yet the CDC’s guidelines don’t seem to reflect the findings, instead focusing solely on vaccines and the unapproved investigational medicine Paxlovid.

In May 2022, a study confirmed that the intake of the oropharyngeal *Streptococcus salivarius* K12 as a dietary

intervention can effectively reduce episodes of upper respiratory tract infections in children. Those in the probiotic group experienced 68 percent fewer days of onset of respiratory symptoms than the control group.

The most recent study of the probiotic, published in *Probiotics and Antimicrobial Proteins* in December 2022, found that *Streptococcus salivarius* K12 evokes an immunological response in the oral cavity—an effect that may contribute to the protection of the host against certain viral infections. The study states, “This is the potential for application as a short-term cross-protective (‘priming’) activity against viral infections initiating within the oral cavity.”

The Oral Microbiome

The importance of our gut also consider the assessment of co-infections so that treatment for both COVID-19 and bacterial infection can be administered. The importance of our gut also consider the assessment of co-infections so that treatment for both COVID-19 and bacterial infection can be administered.

The oral cavity houses the second-largest microbiome in the human body and is made up of distinct communities of bacteria, fungi, viruses, archaea, protists, and other microorganisms, whose compositions are dependent upon environmental conditions that change daily based on multiple factors.

The association between the microbiome and health has been documented in key concepts in ancient medical systems such as ayurveda and traditional Chinese medicine for thousands of years, but it was first “discovered” in Western science in the 1840s.

In 2007, the Human Microbiome Project began its research to understand the mechanisms governing the similarities and differences in the microbes we share as a population, microbes’ association with diseases, and the functional roles microbiota play in health and disease. The project’s research has been groundbreaking and is ongoing.

It’s been found that modern practices, including the use of antibiotics and vaccines, have likely affected the composition and diversity of the human microbiome, and more studies are underway to discover how to leverage natural microorganisms to combat viruses and chronic illness.

The oral microbiome contains one of the most diverse communities of microbes in the human body, yet this niche was relatively understudied as compared with the gut microbiome. As of 2020, a PubMed search for “oral microbiome” resulted in 746 articles, as compared with 5,605 for “gut microbiome.”

In the past two years, research on the oral microbiome has dramatically increased. A PubMed search of “oral microbiome” at the time of writing this article yielded 102,461 articles, compared with 108,688 “gut microbiome” articles.

According to the expanded Human Oral Microbiome Database, only 58 percent of oral bacterial species have been officially named, 16 percent have been cultivated yet remain unnamed, and 26 percent are uncultivated.

COVID-19 and the Oral Microbiome

A growing number of studies show associations between diseases and viruses and changes in the oral microbiome. For example, imbalances in the oral microbiome can cause gut microbes to produce carcinogenic toxins, triggering gut inflammation and metabolic problems.

The mouth is an entry point to the respiratory and digestive systems and is highly vascularized, meaning it has many channels for conveying bodily fluids such as blood. High vascularization of the mouth can contribute to illness by exacerbating the inflammatory response, which causes vascular changes and leads to low oxygen levels. This can lead to oral changes associated with endocrine illness and an increased risk of cardiovascular disease, clogged arteries, stroke, and peripheral vascular disease.

Replication of COVID-19 occurs in the nose and throat and initially develops as a respiratory infection in the cells of the nasal cavity and respiratory tract; 95.86 percent of ACE2-positive cells are located on the surface of the tongue (epithelial cells).

A study published in the journal *Nature* revealed that COVID-19 might interact with members of the oral microbiome in either the lungs or the oral cavity. Viral shedding from the nose and mouth is also a major factor in transmission, with evidence suggesting that the first response on this battleground may help determine who will develop severe disease.

Studies show that lung microbiota is more similar to those in the oropharynx than those in the nasopharynx or lower digestive tract. Because of this, the oral microbiome could be a driving force in regulating the immune system in the mouth, which could affect the ability of pathogens to cause infection.

Germ Warfare

Some microbial species live in harmony, and others engage in relentless war. Bacterial competition in the microbiome is driven by the fight for resources, such as space, light, and nutrients.

Leveraging this competitive behavior in bacteria by colonizing our oral microbiome with bacteria that are beneficial to the body is one strategy that microbiologists are finding has potential in virus and infection prevention.

Good bacteria—some of which have been developed into probiotic foods or supplements—are also a good source of antimicrobial molecules that are part of the innate immune response and whose fundamental biological role is to control pathogenic microorganisms, including negative bacteria, fungi, and viruses.

Antimicrobial molecules are produced as a first line of defense against invading pathogens and form a foundation for the development of new therapeutics.

Scientific Breakthroughs

*Streptococcus salivarius* K12, which has been developed as a probiotic for the oral cavity, has been clinically demonstrated to improve the upper respiratory tract microbiota, protecting the host from pathogenic bacteria, fungi, and viruses and thus reducing the incidence of viral respiratory tract infections and bacterial co-infections.

There are currently more than 100 studies on its benefits, and more are underway.

## HISTORY OF THE BACTERIA/PANDEMIC CONNECTION



1918 Spanish Flu

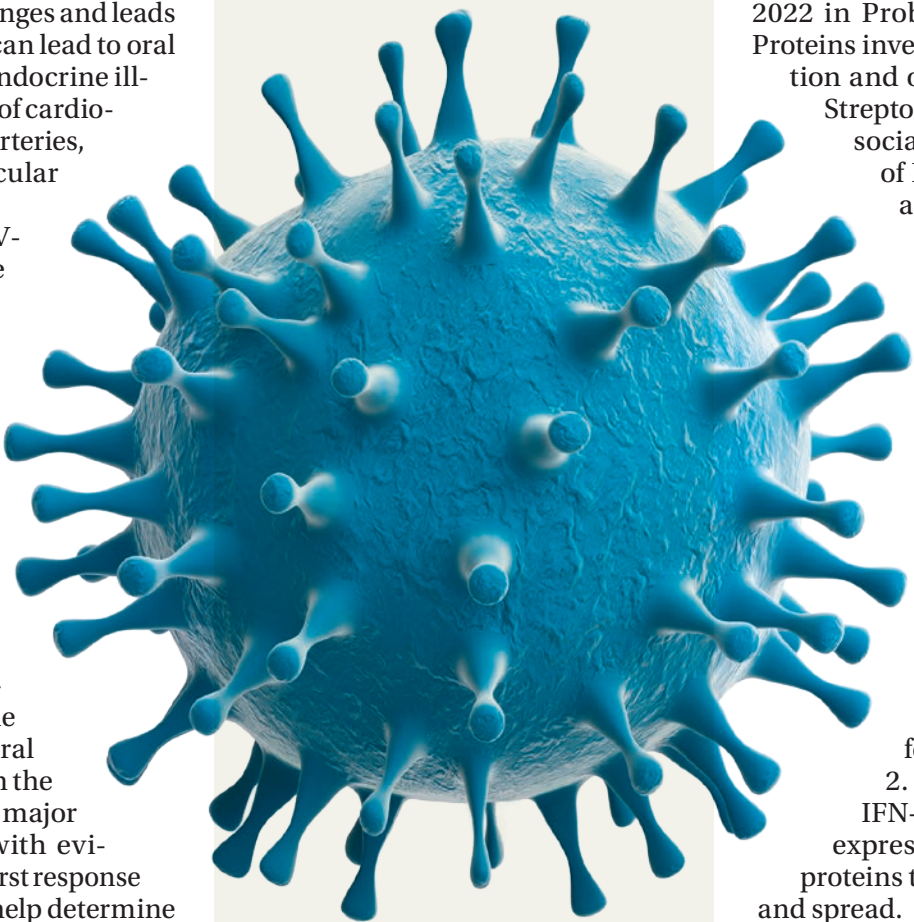
In the 1918 Spanish flu pandemic, upward of 95 percent of mortality was directly attributable to secondary bacterial pneumonia.

2009 H1N1 influenza

Almost one in four patients presented with bacterial complications associated with serious outcomes such as death and admission to intensive care.

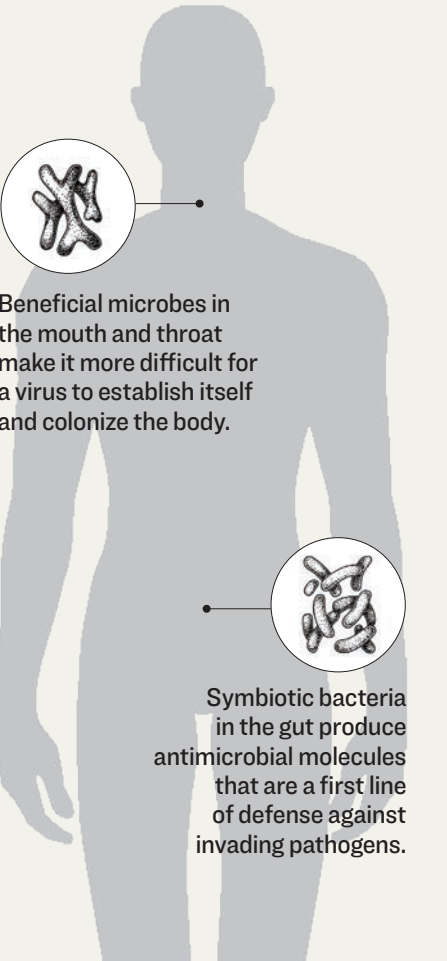
2019 Covid-19

Secondary bacterial infections following SARS-CoV-2 viral infections are key contributors to extended ICU stays and increased mortality.



The SARS-CoV-2 virus that causes COVID-19 is an opportunistic invader that many people are able to fight off.

## IMPORTANCE OF A HEALTHY MICROBIOME



The *Frontiers in Bioengineering and Bio Technology* study, which primarily investigated the effectiveness of *Streptococcus salivarius* K12 in preventing respiratory tract infections in frontline medical staff working with COVID-19 patients, found that the oropharyngeal probiotic plays a role in creating a stable upper respiratory tract microbiota capable of protecting the host.

“Its anti-viral capability to build a well-established first-line defense on the upper respiratory tract and oropharyngeal microbiome to protect individuals from respiratory tract infection” means it could be part of a “promising strategy to prevent respiratory tract infections,” including those caused by COVID-19, the authors state.

*Streptococcus salivarius* K12 works in several ways to fight off viral infections.

One is by producing various salivaryns, a kind of natural antibiotic that pit bacteria against other bacteria. Salivaryns can inhibit the growth of various pathogens by binding to their surface and disrupting their cell membranes. This can help to prevent viral infections from taking hold in the body and shows promising inhibitory activity toward an array of bacterial pathogens.

*Streptococcus salivarius* K12 also stimulates an anti-inflammatory response, actively protecting the host against cellular death caused by pathogens. It may also protect host tissues from damage caused by immunostimulatory cells and products.

The probiotic can also compete with pathogenic bacteria for space and nutrients in the host’s oral cavity, which prevents the colonization of viruses and other pathogens.

A recent study published in December 2022 in *Probiotics and Antimicrobial Proteins* investigated whether the ingestion and oral cavity colonization by *Streptococcus salivarius* K12 is associated with the enhancement of IFN-gamma (a protein that affects the immune system) levels in saliva.

The study found that the oral probiotic strain did increase IFN-gamma levels in human saliva within 24 hours of consumption. This increase helps to fight off viruses in several ways:

1. Activating other immune cells: IFN-gamma activates immune cells such as macrophages and natural killer cells, which can directly kill virus-infected cells.
2. Inducing antiviral genes: IFN-gamma can also induce the expression of genes that produce proteins that inhibit viral replication and spread.
3. Enhancing the adaptive immune response: IFN-gamma activates other T cells that play a critical role in the adaptive immune response.

Keeping Our Microbiome Strong

*Streptococcus salivarius* K12 naturally occurs in a healthy person’s mouth and throat. But the oral microbiome composition can be highly variable among individuals depending on health, lifestyle, age, and environment.

Smoking, alcohol consumption, hormonal changes, poor diet, and spicy foods can harm the oral microbiome.

The K12 strain became the first species to be commercially developed as a probiotic, and many high-quality brands market it. Here are two notable brands that have been studied and published in the randomized control trials mentioned in this article:

- The Bactoblis oropharyngeal probiotic formula by Probiobiont GmbH was used in the *Frontiers in Bioengineering and Bio Technology* study. There are 31 clinical trials conducted with Bactoblis to date and 10 review or meta-analysis articles mentioning the studies conducted with Bactoblis.
- BLIS Probiotics, formulated by BLIS Technologies Ltd., which has completed multiple studies on the product’s anti-inflammatory immune effects and efficacy as an oropharyngeal probiotic. Their most recent clinical trial shows protection of the host against certain viral infections.

Tips on Buying and Taking Oral Probiotics

When buying oral probiotics, there are several things to look for to ensure that you are getting a high-quality product. John Hale, who has a doctorate in microbiology and has been involved in numer-



The incomplete protection offered by COVID-19 vaccines gives further reason to explore immune-boosting therapies.

ous studies, clinical trials, and research on *Streptococcus salivarius* K12, shared some great tips to keep in mind when purchasing a quality oral probiotic:

- “One important thing to look for is if the company is a member of the International Probiotics Association. Members of the IPA must adhere to guidelines, so you can trust that they are producing safe and effective products.” You can check if a company is a member of the IPA by looking for the association’s logo on the packaging or checking the IPA’s website.
- “It’s important to see the genus, species, and strain name of the bacteria. For example, when buying this specific oral probiotic strain, you want to see ‘*Streptococcus salivarius* K12.’ This ensures that the company has done research and understands what they are giving you.”
- “The amount of bacteria listed on the packaging is usually not as important as the dose that was found to work in clinical trials and studies. It is important to note that more is not always better. The specific dose that was found to work in the trials and studies on *Streptococcus salivarius* K12 is 1 billion CFU [colony-forming unit] or greater.”

How often should we take oral probiotics for viral and respiratory tract infection defense? “For upper respiratory infection prevention, you should take a daily dose during peak periods when you are likely to get sick—the winter months, for example,” Hale said. “It is also important to take them daily around times you will be in a confined environment with other people.”

Superbugs, Vaccines, and the Antibiotic Apocalypse

Anti-microbial resistance (AMR) is a global public health crisis that has dramatically increased over the past decade.

The overuse of antibiotics and vaccines can lead to the development of “superbugs”—strains of bacteria and viruses that have evolved to resist the effects of both antibiotics and vaccines. As these superbugs spread, they can become more difficult to treat and can lead to an “antibiotic apocalypse” in which common infections can become deadly.

A review done on AMR that began in 2014 and was published in 2016 estimated that by 2050, as many as 10 million people could die each year as a result of AMR.

Many felt this number was inflated, because at the time there were about 700,000 deaths per year associated with AMR, but a global analysis of AMR published in *The Lancet* in January 2022 estimated that 4.95 million deaths were associated with AMR in 2019.

Fortunately, many types of bacteria that live on and in our bodies that are harmless to us produce bacteriocins that may be of great value in the development of novel antibacterial therapies.

Administration of *Streptococcus salivarius* K12 is a promising strategy to protect individuals during the outbreak of seasonal or emerging respiratory infectious diseases and to mitigate an emerging worldwide public health crisis.

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



Modern practices, including the use of antibiotics and vaccines, have likely affected the composition and diversity of the human microbiome.





# Will We Eat Bugs?

## A French Biotech Firm Thinks So

The controversy over eating bugs largely comes down to whether it's a choice

EMMA SUTTIE

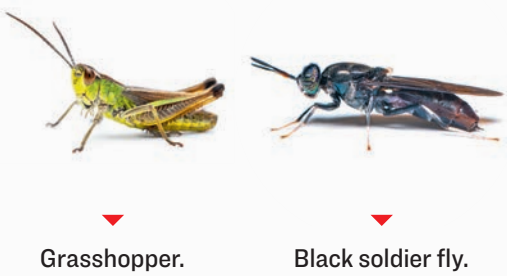
The edible insect industry is booming. And although the thought of eating bugs may be unappealing, insect protein is already being used for aquaculture, livestock feed, pet foods, and some products intended for human consumption. Insects are also being hailed as a possible solution to world hunger as rising populations and limited resources compel food industries and governments to find viable alternatives to meat. The French biotech firm Ÿnsect has just announced plans to construct a global network of insect farms, significantly ramping up production. Ÿnsect will soon boast the world's largest vertical insect farm, located in Amiens, France. The company stated that the vertical farm model allows the production of more protein using less space and fewer resources. The automated facility is the second in France, and the company

Other things the FDA allows in our foods are mold, *Drosophila* fly eggs, and 'rodent filth,' which includes hairs and feces.

### Type of Insects

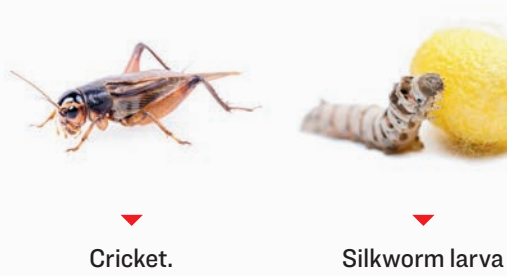
The most popular insects in the edible market intended for humans are black soldier flies, grasshoppers, mealworms, silkworms, and crickets.

Ÿnsect uses two types of mealworms: the beetle larvae of the *Molitor* mealworm (*Tenebrio molitor*) and the *Buffalo* mealworm (*Alphitobius diaperinus*).



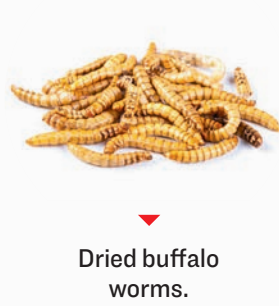
Grasshopper.

Black soldier fly.



Cricket.

Silkworm larva and cocoon.



Dried buffalo worms.

claims that it will manufacture 20,000 tons of insect-based foods annually. In December 2022, the company announced that it was expanding into the United States and Mexico to build insect ingredient production facilities, pushing into two substantial new markets. Ÿnsect also signed a deal with the U.S. flour milling company Ardent Mills to build a factory next to one of its U.S.-Midwest sites, expanding its reach into new territory.

#### Insects for Human Consumption

For the past decade, Ÿnsect has produced insects used as nutritional additives in pet foods and to feed fish and livestock. However, that all changed when in early 2021, the European Food Safety Authority declared that mealworms—used whole or as a powder—were deemed safe for human consumption. Ever since, Ÿnsect has been selling powders for baked goods, sports nutrition products, pasta, meat, and meat alternatives—and business is thriving.

#### The FDA

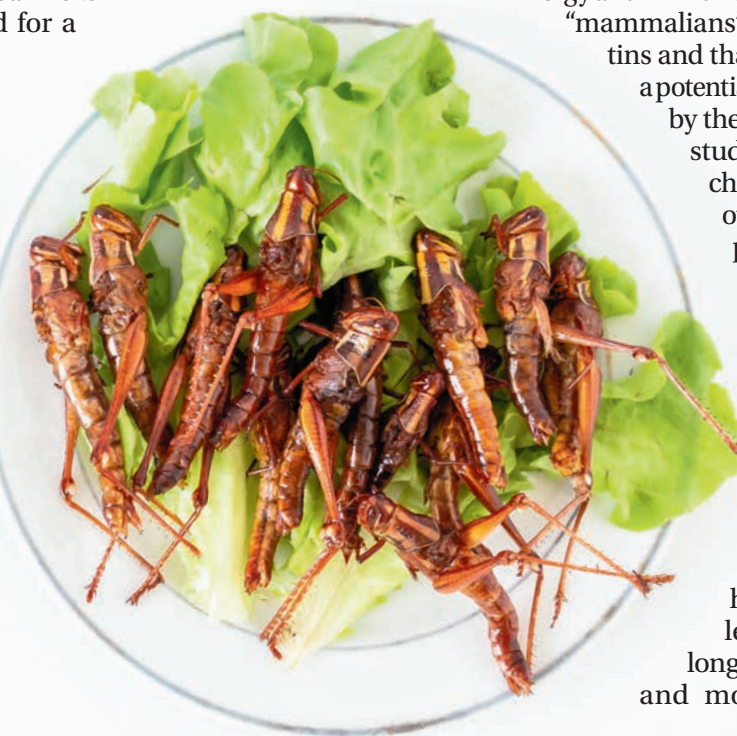
Back in the United States, we're already eating bugs, mostly unintentionally. According to Food and Drug Administration (FDA) guidelines, a certain amount of insect parts are, although not desirable, allowed in the foods that we eat. The FDA's Defect Levels Handbook states that certain "natural and unavoidable defects" are allowed in our food and don't pose threats to humans. For example, any macaroni and cheese product may contain up to 225 insect fragments per 225 grams of food, peanut butter up to 30 insect fragments per 100 grams, and wheat flour up to 75 insect fragments per 50 grams. The FDA categorizes the presence of insect parts in foods as "insect filth." Other things it allows up to certain levels in our foods are mold, *Drosophila* fly eggs, and "rodent filth," which includes hairs and feces. The list is comprehensive and a sobering reminder that we're already consuming things we might not have imagined. Simply put, it's all but impossible to keep these

contaminants out of our food entirely. The FDA has long classified insects as "filth," but as we usher in a new era of edible insects, it seems that the agency is likely to revise its classification from insects being something it tolerates to something it regulates. This disconnect was observed in an article by Marie Boyd, a law professor at the University of South Carolina School of Law. In her article entitled "Cricket Soup: A Critical Examination of the Regulation of Insects as Food," she explained that although the FDA has devoted significant attention to insects as undesirable defects in human food, it has given little attention to insects as human food.

#### The USDA

Regardless of the way insects are categorized, the United States is investing in edible insects and has been for some time. The U.S. Department of Agriculture's National Institute of Food and Agriculture has created a U.S. government interagency working group called the IPWG, which stands for the Insects as Protein Working Group. The group's mission is to facilitate exploration, coordination, and decision-making around the "burgeoning oppor-

One market research firm predicts the edible insect market will grow by **26.5 PERCENT** between 2020 and 2027.



Insects are now being produced to feed livestock like chickens.



#### Edible Insect Market Projections

Metliculous Market Research projects that the edible insect market will be worth \$4.63 billion by 2027. The company also predicts that the edible insect market will grow by 26.5 percent between 2020 and 2027.

Products in the edible insect market include whole insects, insect powder, insect meal, and insect oil. Types of insects included in the analysis are crickets, black soldier flies, and mealworms. Their applications include animal feed, protein bars and shakes, bakery and confectionery products, and beverages.

#### It's About Choice

The bigger question might not be whether we'll eat bugs but whether we'll choose to eat them. While some may see insects as an easy win for their ethics around food and the environment, others may find them a glaring imposition made by a wealthy elite who can have their steak and eat it too. Regarding those fundamental everyday life decisions such as what we eat, choice matters. The benefits of edible insects might be obvious to the food industry looking for more sustainable options, but little attention seems to be paid to the intended consumers of all these bugs—us. Ultimately, having options when it comes to food seems wise considering the challenges we face, but allowing people the freedom to choose from the available options appears to be the most crucial issue to the people meant to consume them—because no one wants to be forced to eat bugs.

"transition to net-zero, nature-positive food" to fight "food insecurity." The WEF considers edible insects a zero-emission food. The report states that the WEF calls for "radical policy measures" to encourage the transition to "zero-emissions food." These statements have raised concerns that new burdens on the cattle and dairy industry will make it difficult for them to survive, which may pave the way for the insect industry to thrive and, ultimately, give less choice to consumers.

#### Are Insects Healthy for Humans?

The food industry is looking into ways to mass produce insects as a food source for fish and chickens that eat them as a part of their natural diet, but what about how eating bugs might affect humans? One issue that doesn't come up in the discussion about edible insects is the effect of eating bugs on human health. And while the benefits seem clear to a planet with an ever-increasing population and food industries that can save costs and resources, we might consider if eating insects is actually good for us and what the consequences might be—especially long-term.

One concern is that there seems to be some uncertainty about whether chitin, an abundant polysaccharide found in the exoskeleton of insects, can be digested by humans and whether it has negative health effects—especially inflammation and triggering the immune response. A review published in *Clinical Reviews in Allergy and Immunology* in 2018 states that "mammals" can't synthesize chitins and that they are considered a potential target for recognition by the immune system. The study authors wrote that chitins can activate various immune responses, primarily in the lungs and gut, and elicit allergic reactions, raising concerns about their consumption. The lack of research on the effects of consuming insects on human health makes it challenging to know the long-term consequences, and more investigation is

The lack of research on the effects of consuming insects on human health makes it challenging to know the long-term consequences.

### TRADITIONAL CHINESE MEDICINE

## Evidence for This Alternative Ancient Cancer Treatment

Chinese medicine has shown efficacy for treating cancer, including helping patients arrest tumor growth

TERESA ZHANG & MAY CHENG

Tumors have become a common abnormality in modern-day society. While many cancerous tumors have reached an advanced stage by the time they're discovered, traditional Chinese medicine (TCM) can offer a viable treatment option. Yuen Oi-lin, a registered TCM practitioner in Hong Kong, references the program "100 Ways to Treat 100 Diseases" to show how TCM treatment can stimulate the body's ability to fight disease, control the spread of cancer cells, and improve a cancer patient's quality of life. She says that even advanced cancer patients can live alongside their tumors. Despite the continuous development of modern medicine, the incidence of cancer cases remains consistently high. In the United States, more than 1.7 million people are diagnosed with cancer each year. In Hong Kong, the incidence of cancer has increased at an annual rate of about 3.1 percent in the past 10 years. Yuen noted both internal and external causes for tumor formation. The internal factor is a weak immune system, which is exacerbated by too much pressure from a typical modern-day lifestyle; while the external factor results from carcinogens in the environment. The latter comes from everyday toxins found in things such as food preservatives, formaldehyde in building materials, and so on.

TCM Strengthens the Body's Immune Response  
TCM treatment of cancer focuses primarily

on enhancing the body's immune response and ability to fight cancer. In terms of medication, Yuen noted that the herb commonly used to treat cancer is ginseng because ginseng can greatly replenish vitality. In TCM, qi and blood are the most important fundamental substances necessary for life. The concept of "qi" can be understood as the "vital energy" or "vitality" that constitutes life in the body. Yuan-primordial qi is the fundamental qi of the human body, which is crucial to promoting the physiological activities of various tissues and organs within the body. Modern medicine is also aware of the potential of ginseng in the production of anti-cancer drugs. Hundreds of studies have been published proving the anti-cancer and anti-inflammatory benefits of ginsenosides and ginseng, and their positive impact on the immune, cardiovascular, and nervous systems. One 2017 study showed that ginsenosides in ginseng inhibit cancer cell metastasis, inhibit angiogenesis to retard tumor growth, and induce eventual cancer cell apoptosis. In the theory of TCM, a meridian is a channel of energy in the human body, and the internal organs are connected to the surface of the human body through the meridians. Acupuncture can be used to treat cancers corresponding to visceral organs by activating the acupoints on the meridians. "Relatively speaking, if there is a problem with the internal organs, there will be a problem with the acupoints where the



It is not particularly worrisome to have cancer. The main problem is how to deal with it. Some people die soon, and some can live for decades. The key is to let go of the load (worry) resting in your heart.

Yuen Oi-lin, registered TCM practitioner

disease qi will accumulate. Acupuncture at the appropriate acupoints can speed up the movement of energy in the meridians and let the disease qi dissipate faster. When combined with Chinese medicine, the effect will be even better," Yuen said. In terms of medication, Chinese medicine has "meridian affinity," that is, the energy of different medicinal materials can correspond to different meridians in the human body. According to Yuen: "TCM uses plants and animals as prime sources of medicine. Plants and animals have the energy of the universe after being exposed to the sun and rain. If people lack energy, they will get sick. In Chinese medicine, the energy of plants is used to supplement the patient's energy, and the disease will be cured." Medicine Plus Acupuncture May Cure Cervical Carcinoma in Situ Yuen said that with this treatment method, she successfully cured a young woman suffering from carcinoma in situ of the cervix. Carcinoma in situ is an abnormal change in the cells of the cervix, a likely precursor of full-blown cancer that may follow. Western medicine usually uses surgery to remove the abnormal cells and may even need to remove the entire uterus. Yuen's patient, who wasn't yet married, began to cry at the thought of possibly losing her womb. Fortunately, after acupuncture and Chinese medicine treatment, when she went to the hospital for a pap smear a few months later, she found that her cervical cells had returned to normal. The recovery experience of this female patient isn't an isolated case. A study based on data in Taiwan's national health insurance database showed that patients with cervical

dysplasia who subsequently developed cervical cancer had used less Chinese medicine than those who didn't develop cervical cancer. The longer the patients received Chinese medicine, the lower their risk of developing cervical cancer. Tumor No Longer Spreads in Advanced Cancer Patient For tumors or cancers in the early stage, TCM treatment focuses on stimulating the body's self-healing abilities to fight the tumor. For advanced cancer patients, TCM treatment can also inhibit the spread of cancer cells, improve symptoms of discomfort, and allow the patients to maintain their quality of life for a longer period. One of Yuen's patients, a man in his 70s, was diagnosed with stage 4 (terminal) throat cancer. Yuen recalls that he was very depressed when he initially came to see her. She asked him, "Are you worried?" He nodded in agreement. Yuen told him, "First of all, don't mention the word 'cancer,' just say what problem you want to solve." He replied, "I don't sleep well and have constipation." Yuen replied, "I will help you solve the problem. If I can make you sleep and have a regular bowel movement, will you feel better?" The patient agreed. Moxibustion is a form of heat therapy in which dried plant materials called "moxa" are burned on or very near the surface of the skin. The intention is to warm and invigorate the flow of qi in the body and dispel certain pathogenic influences. Therapy can be a combination of acupuncture and moxibustion. In TCM, acupuncture and moxibustion are used singly or together to treat diseases. After acupuncture, moxibustion, and Chinese medicine, the patient's insomnia and constipation symptoms improved. Prior to one of his clinic treatments, the patient's phone rang. Yuen asked him to answer the phone first, but he refused. He

said: "It's the government hospital calling me for chemotherapy and radiotherapy. The hospital said that if I didn't do it, I would die in six months. I am very scared." Yuen suggested that since TCM treatment had been effective, he could continue with the same treatment instead of chemotherapy and radiotherapy. The patient chose to cancel the appointment with the hospital and continue his TCM treatment. After that, the patient felt much more relaxed. In addition to acupuncture treatment and medicine, he practiced Zhan Zhuang—a meditative martial arts practice of standing still—while improving his daily eating habits, all under the guidance of Yuen. Six years later, he's still alive, is no longer as thin and frail as before, and has a much-improved complexion. Although he can still feel the tumor in his throat, the cancer has stopped spreading. Blood tests show a normal cancer index with no detectable cancer cells. Yuen said: "It is not particularly worrisome to have cancer. The main problem is how to deal with it. Some people die soon, and some

For tumors or cancers in the early stage, TCM treatment focuses on stimulating the body's self-healing abilities to fight the tumor.

can live for decades. The key is to let go of the load (worry) resting in your heart." TCM May Lower the Risk of Death in Advanced Breast Cancer Patients Yuen recently treated a patient with advanced breast cancer. The cancer cells had spread, and ascites (a condition in which fluid collects in spaces within your abdomen) occurred, making radiotherapy and chemotherapy impossible. After acupuncture and taking Chinese medicine, the patient's pain was relieved, and the edema disappeared. For patients with advanced breast cancer, receiving TCM treatment may prolong life. A study utilizing Taiwan's health insurance database showed that patients with advanced breast cancer who were treated with TCM for one to six months had a 45 percent lower risk of death than those who received no TCM treatment. Those treated with TCM for more than six months had a 54 percent reduction in mortality. In addition to giving acupuncture treatment and prescribing medication, Yuen also spoke with the patient and her family regularly to help alleviate her depression, having learned that the patient was worried about her child. Yuen quoted from the Chinese medicine classic "Yellow Emperor's Inner Canon" that "all diseases originate from qi," and that qi in the body is affected by emotions such as joy, anger, sadness, and fear. Therefore, if you want to treat and prevent cancer, start with your mood first; don't get worried or angry too easily. Acupoint Massage Strengthens Immunity Yuen encourages the practice of massaging the Zusanli (ST 36) acupoint, making the body less vulnerable to tumors. The Zusanli is located about four finger widths below the outer knee. She recommends regular massage of this acupoint while resting or watching TV. This can help strengthen the immune and digestive systems.



Research suggests Chinese medicine and acupuncture may offer effective treatments for cervical and other types of cancer.





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MIND-BODY CONNECTION

# COVID-19 Can Cause Virus-Induced Trauma

Virus interrupts a process linked to depression, leading to higher percentages of PTSD than seen in war veterans

AMY DENNEY

COVID-19 infections are responsible for an upswing in post-traumatic stress disorder (PTSD), but now the underlying mechanisms are being identified by research, offering a deeper understanding of this virus-induced mental health disorder. A metabolic process in the gut is interrupted when angiotensin-converting enzyme-2 (ACE-2), the receptor site for SARS-CoV-2, is occupied by the virus. Tryptophan transporter is typically co-expressed with ACE-2, but when the virus is taking over ACE-2, tryptophan isn't absorbed.

This is problematic because tryptophan, an essential amino acid that must be taken in by the diet, plays a vital role in making serotonin and melatonin. Tryptophan—found in bananas, oats, tuna, chicken, cheese, and turkey—is the sole precursor for serotonin, a neurotransmitter involved in mood, behavior, and cognition. About 30 percent of those with acute COVID-19 infections also have PTSD. “As serotonin is an antidepressant, the virus can cause depression directly,” Dr. Adonis Sfera, a psychiatrist, told The Epoch Times. “Tryptophan is also important for PTSD and we think that virus-induced PTSD occurs because of low tryptophan. Thus, in addition to being depressed because they got infected, people can develop depression and PTSD directly by virus-disrupted tryptophan absorption.”

This may explain the phenomenon of infections causing higher percentages of PTSD than those seen in military and war veterans, which is about 16 percent. Human immunodeficiency virus (HIV) and Ebola are also associated with PTSD rates of 30 percent or higher.

Though the diagnosis has roots in combat, PTSD understanding has continued to evolve. It's recognized to affect an array of experiences from being in a traumatic event to witnessing one. Its biological mechanisms are becoming more broadly understood, with more physiological treatments reversing it, motivating many experts to call for its name to be changed to post-traumatic stress injury.

Adding to biological evidence, Sfera and others hypothesized in 2021 that COVID-19 disrupts the intestinal and blood-brain barriers and produces premature endothelial cell senescence, a cellular arrest process involved in age-related disease. This can activate stress

molecules and give them access to the amygdala and other areas of the brain. It explains not only PTSD but also other symptoms of long-COVID such as chronic fatigue and brain fog. Those findings have since been validated by other studies.

At the center of this mechanism is the breakdown of the intestinal epithelial barrier that allows for the translocation of microorganisms out of their home in the microbiome, the normally contained space where bacteria, viruses, fungi, and other microbes live in symbiotic fashion—even when fighting off colds. Studies have shown that COVID-19 also results in the loss of immunoprotective bacteria such as bifidobacteria.

Tryptophan metabolism is a byproduct of bifidobacteria, so tryptophan is doubly assaulted in COVID-19 infections. Tryptophan also produces melatonin,

which protects the body from premature cellular senescence, Sfera said. Loss of tryptophan is also associated with metabolic syndrome, high blood pressure, and strokes. “That’s why it’s important that we pay attention to bifidobacterium and other protective germs,” he said. “It has consequences that we don’t know of yet.” Sfera said a loss of bifidobacteria is a higher possibility in those who experience gastrointestinal symptoms with the virus, and it isn’t exactly a new phenomenon. Sfera said HIV infections also cause the loss of microbes, and those patients also sometimes experience dementia, which he said has already been documented in COVID-19 cases. It could be an alarm for more problematic chronic diseases on the horizon.

Additionally, early evidence from one study that’s pending peer review suggests messenger RNA vaccines are also reducing bifidobacteria.

## The Trauma-Gut Connection

Stress is known to alter the gut microbiota and gut barrier function, and research suggests that certain people are more predisposed to PTSD based on early microbiome formation and childhood stress.

PTSD is a mental health diagnosis typically linked to going through or witnessing a life-threatening event. While a certain amount of stress is expected in such circumstances, lingering symptoms that interfere with quality of life can be warning signs of the disorder.

The four common types of PTSD symptoms, according to the U.S. Department of Veterans Affairs are:

- Reliving the event with memories that intrude at any time in the form of flashbacks, nightmares, or sensory triggers.
- Avoidance of situations and people that remind you of the traumatic event, including the inability to talk about it. Staying too busy and distracted to think about it is also a type of avoidance.
- Generally feeling more negative and depressed than before the event, including using techniques to numb emotions and feeling guilt or shame about the event.
- Physical symptoms of rapid heart rate and breathing are associated with hyperarousal. These can include being hypervigilant and jittery, and having a hard time focusing and sleeping.

Childhood trauma can alter the gut microbiome, creating long-lasting immune consequences and vulnerabilities and raising the risk of disorders such as PTSD later in life, according to a 2016 study published in The Canadian Journal of Psychiatry. Enhanced levels of proinflammatory cytokines and stress also increase PTSD predisposition.

In the case of COVID-19, having a pre-existing psychiatric diagnosis makes it more likely to have recurrent depression, anxiety, and addiction risks. Restrictive measures, mandatory isolation, social distancing, and the absence of support systems were burdensome on fragile populations, according to a 2021 article in Frontiers in Cellular Neuroscience.

## Stress is known to alter the gut microbiota and gut barrier function.

“Moreover, the experience of being hospitalized with COVID-19, facing intubation, tracheostomy, and the possibility of death, amplified the perception of life-threat, facilitating the development of stress-related disorders as well as depression and anxiety,” the article said.

## COVID-19’s Reverberating Trauma

For LaDonna Smith, COVID-19 represented a trauma like nothing she had experienced before, and she’s still coping with grief and triggers that began 18 months ago.

“My case of COVID was mild overall, but it was heightened because of the fear,” she said. “The what-ifs were the hardest, wondering, ‘Is there something in me genetically that I won’t handle [the virus] well?’ That constant fear was the biggest thing.”

Her concerns were valid. Before she contracted COVID-19, the virus led to her 87-year-old father’s death after his hospitalization. Smith’s sister and brother-in-law also were both hospitalized in intensive care at the time of her father’s death—in isolation from one another and visitors and unable to participate in the funeral.

Smith’s father had dementia and was legally blind, making communication in the hospital more challenging. “Not being able to be there with him and knowing he was agitated—it was just an awful, awful thing,” she said. “The fact that he had to go through that alone.”

Smith choked back tears as she recounted that it wasn’t until her father was moved off the COVID-19 floor and to hospice that she was finally able to hold his hand

and offer comfort. By then, he was comatose. Her stress recovery is continuous, complicated by the timing of two of her adult children moving out of state, plus her own chronic health diagnosis after years of gastrointestinal distress.

“The isolation COVID brought was as devastating as the disease itself,” she said. “God just brought people into my life. It was such a healing process. I started seeing a counselor. It has been ongoing.”

## Leveraging Oxytocin to Heal

Social distancing, lack of social interaction, and touch—vital for boosting oxytocin—affect recovery and will continue to have far-reaching health consequences, according to a 2022 study in Psychoneuroendocrinology that examined the relationship between social isolation and oxytocin.

“Pandemic-associated social restrictions resulted in increased levels of psychosocial stress, and the loss of an essential stress buffer and important parameter for general mental and physical health—social support. This in combination with the fear of the disease, the COVID-19 pandemic has substantial impact on the world’s mental health,” authors of the study wrote.

There’s evidence that oxytocin, a neurotransmitter sometimes called the “love hormone” because it’s involved in mother-infant bonding and intimate relationships, plays a role in modulating the serotonergic system. This nervous system component modulates emotional functions and is the pathway for many psychiatric disorders. Both serotonin and oxytocin have been implicated in the control of stress, anxiety, and social cooperation.

A 2022 review of oxytocin research in Frontiers in Endocrinology suggested that oxytocin could also play a role in preventing and treating COVID-19. The review cited studies that highlight oxytocin’s immunity-regulating and anti-stress functions that could help ward off viral infections. Oxytocin has an anti-atherosclerosis and an antihypertensive effect, can reduce cardiovascular complications, and is involved in promoting tissue regeneration.

Oxytocin could even offset some of the damage the pandemic has done to mental health and help people mobilize greater personal immunity. Used in synthetic form to start labor, it’s also available as an intranasal spray for psychiatric, endocrine, and weight management purposes.

But a prescription may not be necessary, the article states.

Oxytocin can be part of a broader personal protection plan against disease and illness, and it’s an area that warrants more study and attention, argue the authors of the Frontiers in Endocrinology review.

“Further exploring the preventive potential of mobilizing endogenous oxytocin secretion, executing intense clinical trials and applying exogenous oxytocin or its agonists are warranted in controlling COVID-19 and other viral diseases.”

## Ways to Increase Oxytocin Production Naturally

- Exposure to natural light and bright indoor lights
- Music and other auditory stimuli
- Hugging, cuddling, and touch
- Probiotics
- Exercise
- Massage therapy
- Meditation
- Breathing exercises
- Aromatherapy
- Reading

Oxytocin is a hormone linked to affection and social bonding that also offers personal protection against disease and illness.



## FOOD AS MEDICINE

# Miracle Herb Cinnamon Improves Memory and Learning Capacity

Revered for its therapeutic effects since ancient times, this delicious spice has now garnered significant scientific study

CHRIS CHEN & STEPHANIE ZHANG

Cinnamon is a well-known aromatic spice commonly used in baking and delicacies, but a study published in Nutritional Neuroscience on Jan. 18 indicates its potential value for preventing memory loss and learning disabilities. This study suggests some good news for the middle-aged and elderly, since memory loss is inevitable as we age. Cinnamon is also an amazing herbal material. According to Chinese medicine, cinnamon is good for strengthening the spleen and warming the stomach, nourishing fire and drawing it back to its source, helping yang, dispersing cold and relieving pain, warming the meridians, and opening the veins.

## Cinnamon Improves Learning Capacity and Memory

Researchers from Birjand University of Medical Sciences in Iran recently reported in Nutritional Neuroscience the potential value of cinnamon for improving learning and memory capacity. This was a large systematic review in which researchers collected 2,605 studies from multiple databases in PubMed, Scopus, Google Scholar, and Web of Science and finally selected 40 eligible studies for systematic review based on evaluation criteria. Of these, 33 were studies in living organisms (e.g., humans, mice, or other animals), two of which were clinical studies (i.e., clinical patients), and five of which were studies outside of living organisms (e.g., various isolated cells or tissues).

The review’s authors noted that in most of these studies, the results indicated that cinnamon significantly improved learning and memory capacity. The results of one of the studies in vivo suggest that eugenol, cinnamaldehyde, and cinnamic acid, which are contained in cinnamon, may be associated with improved cognitive function. In vitro studies found that cinnamaldehyde was effective in reducing tau protein aggregation and beta-amyloid and increasing cell viability. Analysis of two clinical studies showed that one concluded that cinnamon had a positive efficacy on cognitive function, while the other concluded that it had no such effect. “Most studies reported that cinnamon might be useful for preventing and reducing cognitive function impairment. It can be used as an adjuvant in the treatment of related diseases,” the authors wrote. “However, more studies need to be done on this subject.” Cinnamon also contains cinnamyl alcho-

hol and cinnamic acid. These substances usually increase the level of acetylcholine (a substance very important for the human memory system), thus enhancing memory and brain activity.

## Cinnamaldehyde Has Potential to Prevent Alzheimer’s Disease

As mentioned, cinnamaldehyde is effective in reducing tau protein aggregation and beta-amyloid while increasing cell viability. This is exciting news, as tau protein aggregation and beta-amyloid are widely considered to be markers for Alzheimer’s disease. Thus, cinnamon may well be of potential value in the prevention of Alzheimer’s disease.

In 2017, a report published in the journal Pharmacological Research concluded that cinnamon and its bioactive components could effectively enhance neurological health by inhibiting tau protein aggregation and amyloid-beta peptide accumulation. The study also noted that cinnamaldehyde appears to be an effective and safe way to prevent and improve Alzheimer’s disease.

## Cinnamon Is a Miracle Herb

Cinnamon has been an important spice and part of traditional Chinese medicine for thousands of years. Cinnamon is derived from the inner bark of the cinnamon tree. It’s found in the Malayas and other mountainous regions, as well as in the rainforests and other forests of Southern China, India, and Southeast Asia. It can play an important role in the treatment of many diseases. Cinnamon was documented in the Shen Nong Ben Cao Jing, a Chinese work from the Eastern Han Dynasty (A.D. 25–220), where it was mentioned as a remedy for arthritis. In modern times, traditional Chinese medicine believes that cinnamon has the following five main effects:

1. **Strengthens the spleen and warms the stomach.** Many have indigestion issues after eating. Stomach pain and bloating are the most obvious symptoms. In this case, you can use cinnamon to regulate digestion. It can strengthen the stomach and help process food.
2. **Protects against wind and cold.** You can use cinnamon to reduce the effects on the body from wind and cold. When used when you’ve been out in the rain, wind, or cold, it can reduce your chances of catching a cold.
3. **Promotes blood circulation to restore menstrual flow.** Cinnamon can help regulate women’s menstrual flow and



Because of its anti-inflammatory properties, cinnamon can help lower the risk of disease in middle-aged and elderly people.

## Cinnamon and its bioactive components can effectively enhance neurological health by inhibiting tau protein aggregation.



You can add cinnamon to milk or coconut milk to make deliciously sweet and tangy cinnamon milk.



Cinnamon is derived from the inner bark of the cinnamon tree.

- help infertile women to regulate their bodies, thus making menstruation more regular and preventing the occurrence of some gynecological diseases.
4. **Warms kidneys and strengthens yang energy.** Middle-aged men are prone to impotence, which can be a problem for some. When taken correctly, cinnamon can warm the kidneys and aid men with impotence issues.
  5. **Disperses cold and relieves pain.** Many middle-aged and elderly people have rheumatic pain, especially when it rains. If joint swelling and pain are problematic, cinnamon can help disperse cold and relieve pain, especially in the autumn and winter.

## Does Cinnamon Have Any Side Effects?

Because of its anti-inflammatory properties, cinnamon can help lower the risk of disease in middle-aged and elderly people. While it’s generally beneficial to these age groups, cinnamon shouldn’t be consumed excessively.

Each teaspoon of cinnamon powder contains about seven to 18 milligrams of coumarin. The intake of coumarin is calculated at 0.1 milligrams per kilogram of body weight. Therefore, for a 110-pound (50 kilograms) adult, it’s best not to exceed 5 milligrams. In short, 1 teaspoon of cinnamon powder per day may exceed the daily limit of intake.

Cinnamon may cause skin or allergic reactions, which in almost all cases are mild. However, it can sometimes result in more serious symptoms, such as mouth ulcers, nausea, vomiting, low blood pressure, and other symptoms. If you have any side effects, please consult your doctor immediately.

## How to Use Cinnamon

You can add ground cinnamon to food when baking bread, pizza, or other things, or you can make a baked cinnamon soda cake. You can also add it to syrup or use it to make desserts such as bread pudding. You can add cinnamon powder to tea or coffee, but it shouldn’t be added just to water. You can add cinnamon to milk or coconut milk to make deliciously sweet and tangy cinnamon milk.

# Stress Relief May Hold the Key to Weight Loss

DAVID CHU

Modern city life is filled with unhealthy living habits that put our health at risk. Eating too much readily available high-calorie food, staying up late, being surrounded by constant noise, and experiencing long-term and excessive stress can all affect our physical health. One possible consequence is obesity.

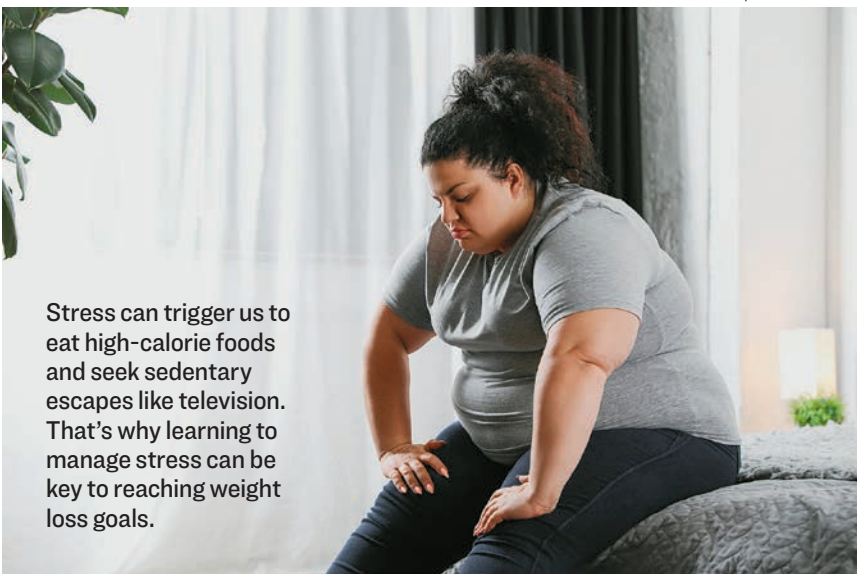
For those who suffer from obesity, weight fluctuations can be the most difficult challenge.

Clinician Dr. Xiao Lingzi at Taiwan Good Day Clinic said that we must treat ourselves well to lose weight. “You must know your own needs. Consume enough nutrition and get sufficient sleep, and find a way to relieve stress. Then you will realize what you need is relaxation, not indulgence,” Xiao said.

## Common Misconceptions of Food Intake

“Many patients think they are treating themselves too well when they gain weight and body fat due to food indulgence,” Xiao said. “But eating things such as chips and cookies, or sugary tea every day, is a negative habit that causes a lot of stress to the body and jeopardizes health.”

The clinician also mentioned that most patients’ second most common mistake was a lack of discipline.



Stress can trigger us to eat high-calorie foods and seek sedentary escapes like television. That’s why learning to manage stress can be key to reaching weight loss goals.

“They thought because they skipped breakfast, they could feast at dinner,” Xiao said. “Some people would stuff themselves at all-you-can-eat buffets, while others would stay up and binge on Netflix for three nights straight.”

The doctor emphasized that when people indulge, they sabotage themselves and create strain instead of addressing their real needs.

## Work Stress Can Make Us Fat

A 19-year study by the University of London School of Medicine discovered that accumulated work stress is closely tied to obesity.

## Many people unconsciously choose high-sugar and high-fat foods to destress.

The study analyzed the results of regular questionnaires on work stress among 10,308 respondents between 35 and 55 years old. Compared with participants who have never felt pressure, the likelihood of obesity in participants who experienced “excessive stress” once, twice, and “three times or more” increased by 17 percent, 24 percent, and 73 percent, respectively.

Weight loss specialist Dr. Xu Jinqun wrote on the Taiwan Lin Heisho Clinic blog that excessive stress reduces serotonin in the brain and causes anxiety.

## Break the Cycle

Many people unconsciously choose high-sugar and high-fat foods to destress. This causes a rapid rise in blood sugar. As a result, the brain feels dopamine-induced pleasure.

However, the concentration of blood sugar and dopamine also drops rapidly, which in turn triggers the desire to keep eating. This dopamine-sugar rollercoaster can lead to obesity, resulting in more stress—a nightmare cycle for those concerned about their weight.

To break the vicious cycle of stress, weight gain, and more stress due to weight gain, Xu recommends using a more positive and healthy approach to relieve stress and thus allow ourselves to ease into the weight loss journey.

17%, 24%, and 73%

Compared with participants who have never felt pressure, the likelihood of obesity in participants who experienced “excessive stress” once, twice, and “three times or more” increased by 17 percent, 24 percent, and 73 percent, respectively.



ALENA OZEROVA/SHUTTERSTOCK

MENTAL WELLNESS

# Easy Ways to Boost Mood and Lift Depression

The morning is one of the most important times to practice some powerful habits that can improve the rest of your day



*Continued from Page 9*

What would a depression-fighting breakfast look like?

Try some slices of smoked salmon with low-fat cheese, cantaloupe, and Brazil nuts. Instead of coffee, opt for tea or cacao, which contain flavonoids that not only improve mood but also reduce blood pressure and diabetes risk. This meal idea provides you with a balance of protein, omega-3 fatty acids, vitamin C, calcium, magnesium, and flavonoids.

Avoid junk foods such as candies, chips, soda, and fast foods. These contain simple carbohydrates and high fats that can lower mood. Nutrient-dense foods are absorbed more slowly and offer complex nutrients that support bodily functions, whereas processed foods contain high calories and are of low nutritional value.

Most importantly, individuals with depression should avoid alcohol.

While culturally coveted as an easy fix around the world, alcohol functions as a depressant. Consuming alcohol can cause individuals with depression to experience increased sadness. If you'd like a more exciting beverage, try a "mocktail" that includes

your favorite fruit and vegetable juices, along with spices that will nurture your brain.

**Get Physical (Outside!)**

You don't have to do CrossFit to reap the benefits of exercise. Effective methods of mood-boosting exercise include walking, hiking, swimming, biking, gentle weight training, and mobility work.

Exercise has been long proven to improve both physical and mental health. Aerobic exercise has been shown to increase the volume of the hippocampus, the brain's memory center. Other benefits of exercise include increased blood flow, improved cognitive functioning, better academic performance, and healthier psychosocial functioning.

When we exercise, we release endorphins—the biochemicals responsible for a "runner's high." The increased blood flow that results from exercise also circulates important biochemicals such as brain-derived neurotrophic factor, which is needed for brain development and optimal cognitive functioning.

Want to reap some added benefits of exercise? Do your workout outside to get some sunlight.

**'Bathe' in a Forest or Park**

No need for soap and water. Shinrin-yoku, or "forest bathing," is a practice of submerging oneself in nature while disconnecting from technology and other stressors.

**Earthing has been demonstrated to improve mood, reduce blood viscosity, and reduce pain.**

When mindfully spending time in nature, studies show that you are also lowering your blood pressure and cortisol levels. In short, this means that spending time in nature reduces stress, which can help alleviate depression.

If you have a backyard or access to a clean outdoor space, you may want to incorporate earthing, which is simply going barefoot on natural terrain. Otherwise known as grounding, earthing has been demonstrated to improve mood, reduce blood viscosity, and reduce pain.

Take time to connect with nature in the morning. If you can, try walking barefoot if

you're sure that the ground you're walking on is clean and safe for you to do so.

**Read Something You Enjoy**

Reading offers tremendous benefits, such as stimulating our creativity and imagination, building our vocabulary, and helping us to decompress. In fact, reading aloud has been demonstrated to be an effective method for stress reduction.

How can reading help with depression? Reading improves connectivity between different brain regions, especially those for language and memory.

People living with depression may experience cognitive challenges, such as impaired learning and memory. This can cause individuals with depression to feel frustrated and experience obstacles in everyday life, which can worsen depressive symptoms.

By doing activities or therapies that target these cognitive abilities, one can help strengthen the neural pathways responsible for these skills and reduce depression's impact on them.

In the morning, put away your phone and opt for a book, magazine, or newspaper article that you enjoy. Your brain will thank you.


**Follow a Sleep Routine**

While this is something you do the night before, it will help you in the morning. A sleep routine includes having regular practices before bed, such as avoiding blue light for an hour before going to bed at a set time and waking up at a consistent time.

What's most important is waking up to the sun. Without sunlight, our brains aren't able to stay on the 24-hour clock, which can cause sleep-wake disorders. During the winter months when daylight is scarce, our body's cycle lengthens.

When people experience disruption in their circadian rhythms, or their sleep and wake cycles, problems can arise. These disruptions can cause someone to feel tired, need caffeine, crave sugar, and become irritable. By maintaining a regular sleep schedule and waking with the sun, one can avoid further complications of depression and feel restored during the day.

*Dustin Luchmee is a Philadelphia based independent journalist.*

 **To find the studies mentioned in this article, please see the article online at** [TheEpochTimes.com](https://TheEpochTimes.com)

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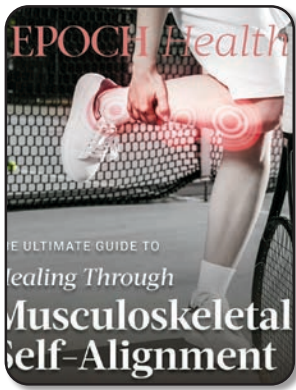
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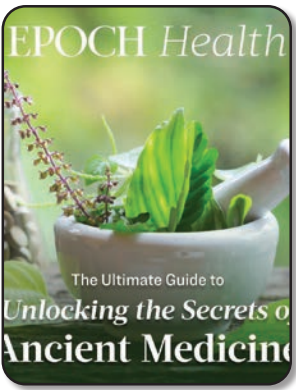
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