

Prevention

STAY SHARP FOR LIFE

KEEP YOUR MIND YOUNG & VIBRANT

SECRETS
TO A BETTER
MEMORY



101
Ways to
Boost
Your
Brain
Power

The Easy
Cure for
Brain Fog

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Prevention **STAY SHARP FOR LIFE**

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INTRODUCTION

Healthy Brain, Healthy Body

The Female Brain in Focus (Finally)

Women's brains are much more vulnerable to problems, from headaches to anxiety to Alzheimer's disease. Now, thanks to research being done by a group of mostly female neuroscientists, we're learning more about sex differences in the brain—and how to harness that information to protect ourselves.

BY MEGHAN RABBITT







The alarm bells started going off for neuroscientist Roberta Diaz Brinton, Ph.D., three decades ago, when she saw just how hard women in particular were being hit by Alzheimer's disease. Consider these current stats: Nearly two-thirds of patients diagnosed with the brain disorder are women—one in five of us will be diagnosed by the time we're 65—and by 2050, as many as 9 million women may end up with the disease. It's worse for African Americans, who are two to three times as likely as non-Hispanic whites to develop Alzheimer's.

But when Brinton, the director of the Center for Innovation in Brain Science at the University of Arizona, went looking for answers, she found the status quo response to these stats unsatisfying at best and maddening at worst. "I kept hearing over and over that it was because women live longer than men," she says. "But we only live about four and a half years longer. That does not explain our twofold greater lifetime risk."

It also doesn't explain why a number of other brain-health issues affect women far more than men: Women are twice as likely as men to develop certain types of brain tumors, nearly twice as likely to deal with mental health disorders like depression, and three times as likely to get headaches. We're also much more likely to have a stroke and to develop an autoimmune disorder that affects the brain, like multiple sclerosis.

So Brinton and a number of her colleagues around the world started focusing on what might be going on specifically in women's brains—beyond aging and unlucky genes—to lead to such higher rates of brain disease. The answer became clear. "We know that Alzheimer's disease can take about 20 years to develop prior to a diagnosis, and that the average age of an Alzheimer's diagnosis is about 72 to 75," says Brinton. "It doesn't take a rocket scientist to do the math and see that when you subtract 20 from that average age of an Alzheimer's diagnosis, you run into the average age of menopause, which is 51."

Since Brinton's aha moment, even more research has provided compelling reasons that women's brains are more vulnerable than men's to certain diseases. "Sex differences in our biologies—different chromosomes and hormones, for example—affect every chronic disease," says Jill Goldstein, M.D., a professor of psychiatry and medicine at Harvard Medical School and executive director of the Innovation Center on Sex Differences in Medicine. "So does our gender, including things like social roles and expectations. I am more optimistic than ever that we can have an impact on how we prevent and treat disease if we pay attention to the importance of these differences."

That's the good news: Scientists have more information than ever before about how and why sex differences in the brain create vulnerabilities to disease and what you can do about it. "The aging brain is dynamic—it's not this linear decline that most of us fear," says Brinton. "And when you know the transitions the female brain experiences that may contribute to disease, you can make yours more resilient."

THIS IS YOUR BRAIN ON ESTROGEN

WHEN IT COMES TO TRANSITIONS, puberty, pregnancy, and perimenopause are the big ones that play a key role in shaping—and changing—the female brain. And while we may think primarily about reproduction when it comes to sex hormones, they actually serve a number of functions that have nothing to do with reproduction and everything to do with how the brain uses energy, says Lisa Mosconi, Ph.D., director of the Women's Brain Initiative and author of *The XX Brain: The Groundbreaking Science Empowering Women to Maximize Cognitive Health and Prevent Alzheimer's Disease*.

For the female brain, estrogen is the master regulator of energy production, keeping brain cells healthy and active as well as fostering brain activity in regions responsible for memory, attention, and planning. "We know that estrogen encourages the formation of new connections between brain cells, which makes the brain more resilient and adaptable," says Mosconi. "It's also a neuroprotective hormone that actually shields brain cells from harm." In men, testosterone works in similar ways, helping their brains work optimally.

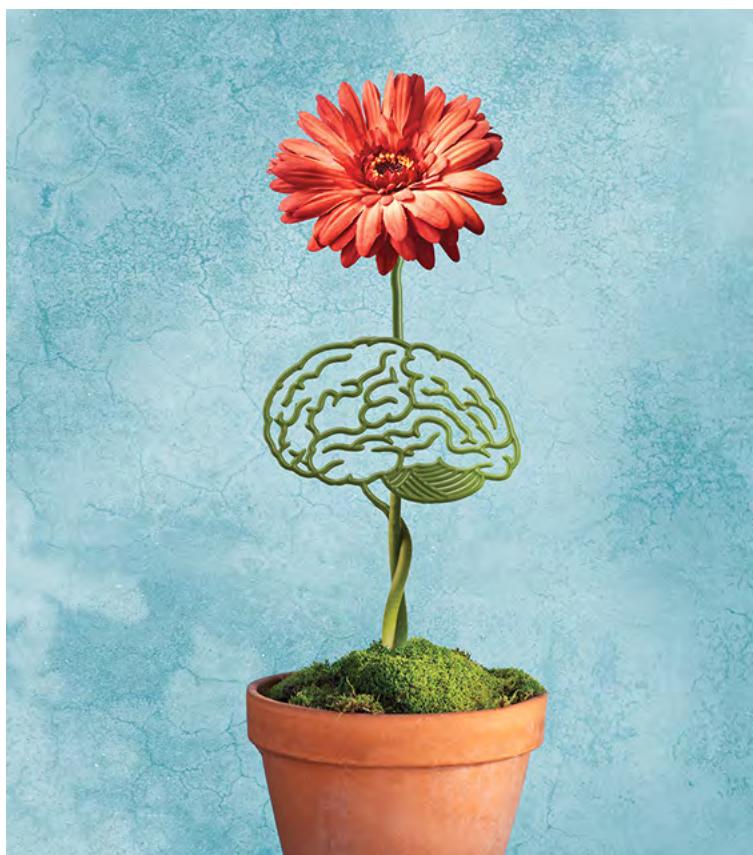
Yet after men experience a surge in testosterone during puberty, their hormone levels stay relatively steady until andropause, when they gradually decline. (That can happen any time from a man's 40s to his 80s—or never.) Women, on the other hand, go through multiple surges and dips in estrogen, thanks to our menstrual cycles and pregnancy, and we experience a drastic plummet in the years leading up to menopause. "If you consider estrogen as fuel for the brain rather than just for making babies, the magnitude of this dip in estrogen around menopause becomes a lot clearer," says Mosconi.

Changing hormones in the female brain also accelerate the aging process, says Mosconi, weakening our neurons

and making our brains more vulnerable to age and disease. For example, when Mosconi looked at brain scans of perimenopausal and postmenopausal women, she found 30% reduced brain energy levels. Interestingly, men of the same age showed minimal brain changes or none.

Mosconi's and Brinton's research on the differences in how female and male brains metabolize glucose may help explain these findings. "In both men and women, the brain consumes quite a bit of glucose—its primary source of fuel," says Brinton. "But in women, estrogen regulates up to 25% of this glucose metabolism." Any condition that limits the brain's ability to either take up glucose from the blood vessels or convert that glucose into energy will have an impact on brain function, Brinton adds. This explains why women often experience cognitive decline (brain fog and memory lapses, anyone?) when estrogen drops during perimenopause.

Yet something even more alarming starts to happen when having less estrogen slows down your brain's glucose





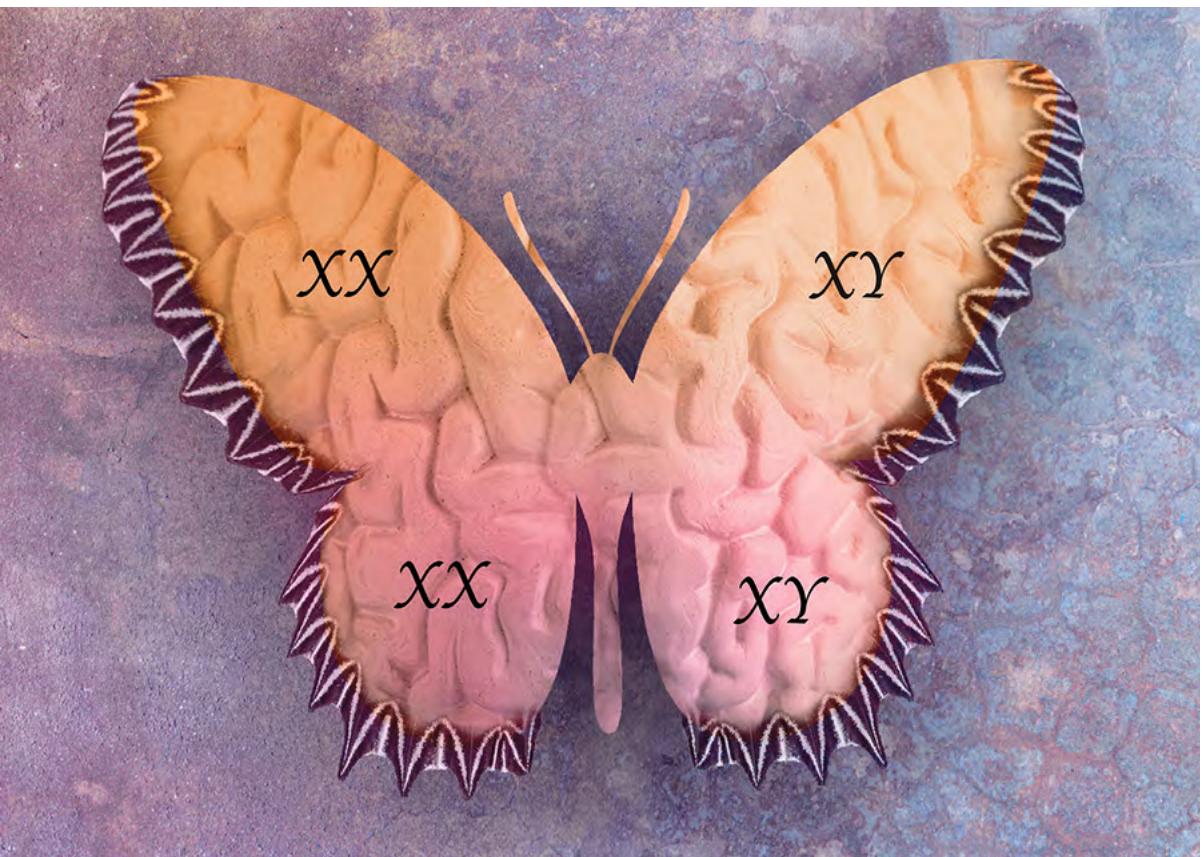
WHY ESTROGEN ISN'T THE ONLY STORY

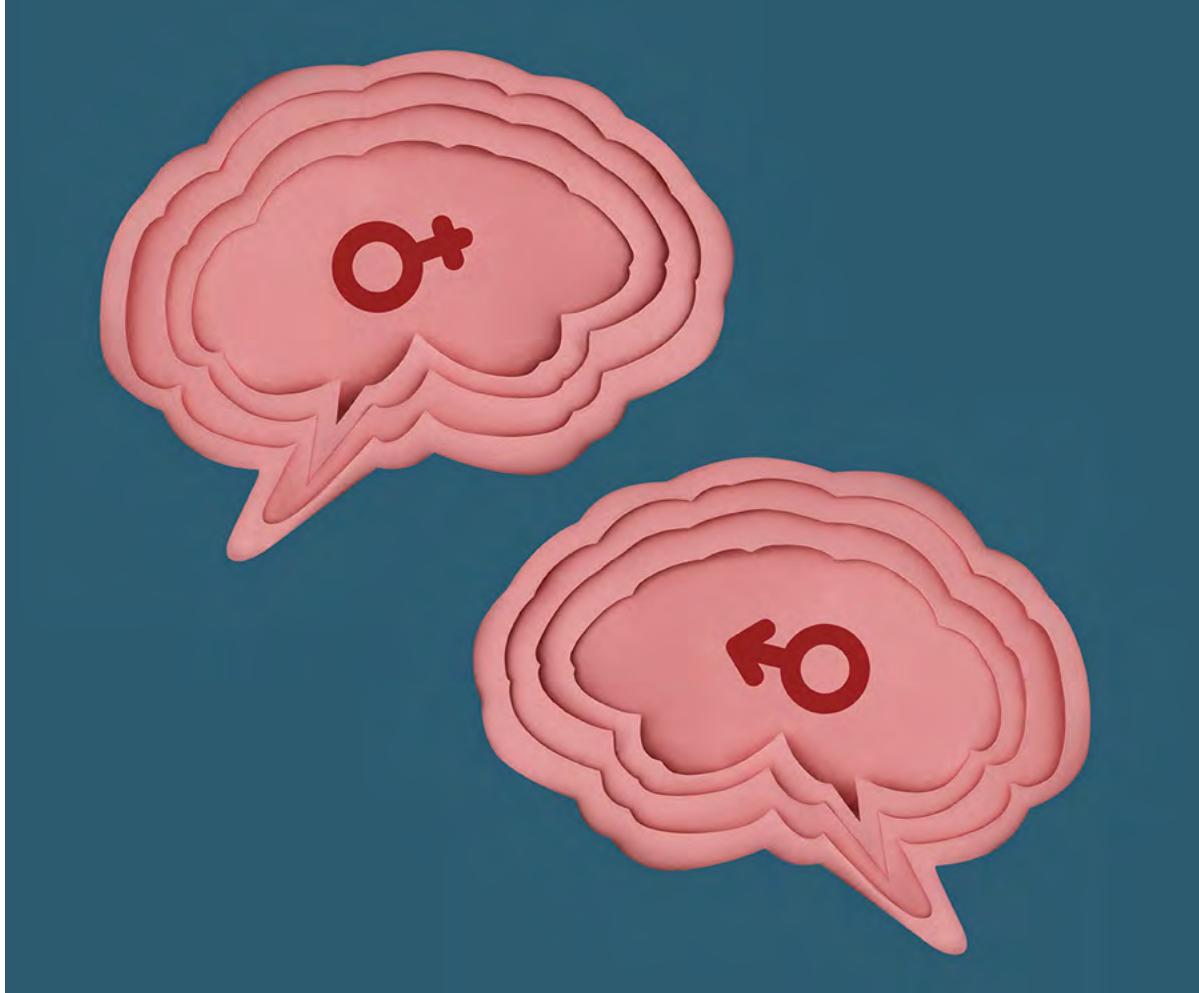
metabolism: Your brain sends out a starvation response. “The good news is that your brain starts pulling peripheral fat from your thighs and belly to get this auxiliary source of fuel to tide you over,” says Brinton. “But over the long haul, the brain doesn’t like not getting enough glucose—and it will actually start to ‘eat’ its own white matter for energy.” (White matter provides essential connectivity, uniting different brain regions into networks that perform various tasks.)

This relatively new understanding of the many ways in which estrogen protects the brain may help explain how male and female brains age differently, says Mosconi. “Generally, 40- to 60-year-old men have high brain energy levels, but for women, there’s a marked decline in brain energy during menopause. And for those with a predisposition to Alzheimer’s, there tends to be an increased risk of developing Alzheimer’s amyloid plaques during menopause. To be clear, not all women develop Alzheimer’s plaques, and not all women with the plaques develop dementia. We are working to better understand this risk.”

ANOTHER IMPORTANT PIECE OF the puzzle is the different ways men’s and women’s brains respond to stress, says Cynthia Munro, Ph.D., an associate professor of psychiatry and behavioral sciences at Johns Hopkins University.

Consider recent research involving nearly a thousand brain scans: It found that chronic stress led to brain shrinkage and reduced memory performance in people in their 40s and 50s—a change that was more severe in women. Other studies have shown that men may be biologically better able than women to adapt their brain





responses to chronic stress, says Jessica Caldwell, Ph.D., a neuropsychologist focused on sex-based brain research at the Lou Ruvo Center for Brain Health at Cleveland Clinic. “In the face of chronic stress, men’s brains seem to be able to adapt to the stressor in a way that allows them to function at a new set point,” Caldwell says. “Women’s brains don’t do this, and when stress is chronic and our bodies are telling our brains that we’re continuously in fight-or-flight mode, it’s really bad for the hippocampus, which is responsible for memory.”

That’s because the hippocampus region of the brain is loaded with stress hormone receptors (a.k.a. glucocorticoid receptors), which makes it particularly sensitive to stress, says Caldwell. When the brain is overwhelmed with cortisol, it tries to recalibrate by reducing the amount of the stress signal it listens to—and those glucocorticoid receptors may start to disappear as a result, deranging the brain’s response to stress even more, which could affect any cognitive

problems you might already be experiencing. When stress is severe and unrelenting, the ability to respond to future stressors in a healthy way also becomes impaired.

“This is a big problem for women in particular because we tend to experience some types of stresses more than men do, at every age,” says Caldwell. “From our mid-30s to our mid-40s, women are in the ‘work/life/caring for children and elders/juggling everything’ years—and that happens to be when perimenopause is sending estrogen levels down as well.” This combination may prevent new brain cells from growing and even kill brain cells in the hippocampus—a perfect storm seen in women, but not men.

“In a memory test, women who reported more stressors in their 40s were able to recall fewer words than those who reported fewer stressors,” says Munro. That same study didn’t find a difference in men. “We know we can’t stop stress,” she says. “But the research makes it clear that we need to train our ability to stay calm in the face of it.”



PROVEN WAYS TO PROTECT YOUR BRAIN



A paradigm shift is happening in terms of how neuroscientists and doctors are thinking about women's brain health, says Brinton. Rather than treating symptoms when we're older and cognitively too far gone, we need to take brain-health-boosting steps now. In fact, recent population-based studies estimate that over a third of all Alzheimer's cases could be prevented if people made key lifestyle shifts. Here's what you can do in your 40s, 50s, and beyond to make your brain more resilient. The best part: It's never too late to start.

▲ **DON'T IGNORE BRAIN BLIPS**

Brain fog and forgetfulness may seem like normal parts of perimenopause, but they're actually important clues that estrogen changes are happening in your brain, says Brinton. "These are signs that you have a window of opportunity to implement strategies that can prevent risks." For example, you may be a good candidate for hormone replacement therapy (HRT). "Our research shows that if hormone therapy is prescribed when women have menopausal symptoms, it can reduce the risk of developing Alzheimer's," says Brinton. "When HRT is introduced after menopause, when the brain's estrogen response system has already been dismantled, HRT is of no benefit."

▲ **CHOW DOWN THIS WAY**

If you're looking for a science-backed diet for your brain's health, loading up on veggies, herbs, fish, fruits, nuts, beans, and whole grains (the Mediterranean diet) is the way to go, says Mosconi. Her research found that brains of 50-year-old women following this diet looked five years younger than those of same-age women who ate a typical Western diet. The plant-based foods are rich in phytoestrogens, which act like mild estrogen in the body. It's also important to get enough fiber, she says. "Fiber influences levels of sex hormone binding globulin [SHBG], which greatly impacts estrogen," says Mosconi. "Fibrous veggies are a great way to get your brain the glucose it needs, because fiber stabilizes your blood sugar, which allows the glucose to reach your brain." Veggies with the highest concentration

of glucose and fiber include scallions, spring onions, turnips, rutabagas, carrots, parsnips, and red beets.

▲ **MOVE YOUR BODY**

Exercise is one of the strongest preventive tools against Alzheimer's disease for everyone, but it seems to be especially important for women. In females younger than 65, physical activity is associated with a 30% lower risk of Alzheimer's compared with those who are sedentary. And active women ages 65 to

establish a relaxing bedtime routine, spend time in natural light to regulate your circadian rhythm, and avoid daytime naps. And get professional help if you are having trouble sleeping or don't feel rested when you wake up, says Brinton.

▲ **LIGHTEN YOUR "MENTAL LOAD"**

Female neuroscientists have just started to study the concept of "cognitive load" (a.k.a. the amount of mental gymnastics most women do

EXERCISE IS ONE OF THE STRONGEST PREVENTIVE TOOLS AGAINST ALZHEIMER'S DISEASE FOR EVERYONE.

70 are 20% less likely to develop the disease. Not a big fan of the gym? Says Brinton: "Just try to sneak in more movement throughout your day." She has a stair stepper next to her desk and uses it for a few minutes every hour. "If you love higher-intensity workouts, go for it," says Brinton. "But know that even little bouts of lower-intensity movement throughout the day will get your heart rate up and increase blood flow to your brain, which helps to keep it healthy."

▲ **REST YOUR BODY AND MIND**

Research shows that women have a harder time falling asleep and staying asleep than men do, which is a shame, because sleep is what Brinton calls *the great brain elixir*. "As you get older, you have to build in additional repair and recovery time, which happens while you sleep," she says. So follow the good sleep hygiene advice you've heard before: Limit screen time at night,

on a daily basis to keep all the balls in the air) and its impact on our brains. It turns out that doing most of the planning work in the household—making doctor's appointments, booking the family vacation, and the list goes on—can mean cognitive problems later in life. "Having some mental load is a good thing," says Caldwell, but when this added responsibility gets overwhelming, "you've got a potentially chronic stressor that's really bad for your brain." Be honest about what you can juggle—and what feels like too much. Then take some things off your list. Says Caldwell: "If you had a friend with your level of load, what would you tell her?"

As Brinton says, "The neural circuitry in your brain makes up who you are—which means taking care of your brain is crucial if you want to take care of yourself." Protecting your brain is the ultimate form of self-care. So do that for yourself, as Brinton and her colleagues search for solutions for all.

Why Your Mind Feels Foggy

Being forgetful, unfocused, and mind-sluggish can be scary—but science shows that brain fog is super common, especially in these stressful times. Here's why, along with easy, research-backed ways to get back up to speed.

BY MEGHAN RABBITT





Safe to say we're all feeling more than a bit overwhelmed with the state of the world right now. And that can lead to some fuzzy-brain moments, says Jessica Caldwell, Ph.D., a neuropsychologist and the director of the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic. "It's tempting to think that brain fog won't happen until you're much older, but I see it in so many patients at every age—and stress is a known trigger," she says.

Take Delia Lewis,* a marketing strategist from Manalapan Township, NJ. Three months into the COVID-19 pandemic, Delia started feeling a little foggier than usual. She'd sit down at her desk in her new home office and begin

doomscrolling instead of answering emails. Tasks she used to rip through in 10 minutes started taking an hour. On calls with her manager, she had to type madly as they talked so she could remember her to-do's. "Usually I can keep all the balls in the air," says Delia. "Now I'm like, 'What did you want me to do?'"

Stress is certainly a big factor behind that fuzzy feeling, experts say: In fact, being frazzled creates toxins that can build up in your brain and impact your ability to focus, concentrate, and remember multiple things, according to Sandra Bond Chapman, Ph.D., chief director of the Center for Brain Health at the University of Texas at Dallas. "We all do things that wear out the brain,

What Is Brain Fog?

When Delia started feeling a little less sharp and a lot more distracted than usual, she chalked it up to Zoom meeting fatigue, not being able to blow off steam at the gym, and the sudden lack of socializing with friends. She figured some extra sleep and a little time would help her adjust to our collective new normal. But when her symptoms persisted, she saw her doctor, who told her she was likely dealing with brain fog—not a technical diagnosis exactly, but a term many people use when they feel absentminded or not as sharp as they used to be or have difficulty focusing. Other symptoms include being more forgetful than usual or sluggish when you're trying to remember things—almost as if you can feel your brain chugging but not firing on all cylinders, says Caldwell.

There's actually a physiological reason why it's so common, adds Gayatri Devi, M.D., a clinical professor of neurology at SUNY Downstate Medical Center and an attending physician at Lenox Hill Hospital in New York City. Of the trillions of neurons in your brain, just 10,000 to 20,000 secrete a neuropeptide called orexin, which is one of several circuits that keep us awake and alert. "It's astounding that our wakefulness and arousal is controlled by such a small number of nerve cells—and easy to see how this part of the brain system might be easily impacted," says Dr. Devi. The good news is that our brains are hardwired to be alert. That's what helps us react so quickly to our environment and keeps us on task throughout the day. Yet the fact that such clarity is our brain's go-to mode helps explain why brain fog can feel so disorienting—and stressful.

"When my brain fog is bad, I feel totally overwhelmed way sooner than I otherwise would," says Lila Jones,* a wellness coordinator for a nonprofit who has been dealing with brain fog for a few years. "Everything just gets harder—driving is more stressful, multitasking at work is nearly impossible, and I'm not as with it in conversation. It just feels like my brain is in molasses, which is no fun."

and then we wonder why we're not as clearheaded as we used to be," she says. "When our bodies are fatigued, we recognize that we need to rest. But when our brains are tired, we tend to slog through." Yet the more you ignore brain fog, the more it builds up—and the more likely it is that you'll keep having unproductive days and many "it's on the tip of my tongue" moments.

On the flip side, if you start implementing simple strategies that will give your gray matter a rest, you'll start feeling clearer—quickly. "Science has revealed the surprising truth that you can actually do more to make your brain healthy than any other part of your body," says Chapman. Here are just a few ways to start now.

Why Does It Happen?

There are a number of reasons why your mind may feel foggy, says Chapman. When Delia's brain fog settled in and nothing she tried—extra sleep, meditation, even a week off from work—seemed to help, she got a little nervous: “I started wondering if I was really sick.”

Though brain fog isn't on the official list of symptoms of COVID-19, Delia's doc made sure to rule it out, as some infections—including the novel coronavirus—can present with brain fog. “It's especially common in infections that affect the upper respiratory system, because reduced oxygen flow to the brain and fever can lead to mental impairment,” Dr. Devi says. “While brain fog isn't a common symptom of COVID, it can happen—and we're seeing it as an ongoing complication for those who are recovering.”

The most likely causes of brain fog, it turns out, are things that many of us are dealing with right now (or will at some point), including:

STRESS. The human body is amazing at adapting in the face of tension. When we perceive that we're in danger, the brain releases a cascade of neurochemicals and hormones to help us mobilize (hello, fight-or-flight mode!). But this cocktail is only meant to pump through our bodies for a limited time, Caldwell says, and these substances exhaust our brains when they stick around longer than they should.

“That's why there's a feedback loop built into the system,” she says, “where your brain eventually gets a message that says, Let's shut this stress hormone release down—there's no acute threat anymore.”

One part of the brain that gets this shutoff signal is the hippocampus, which is responsible for taking in new information and consolidating it into long-term memory storage.

Unfortunately, when stress becomes chronic (say, when you're trying to work from home, parent your kids, and navigate the world during a global health pandemic), the brain stays in protection mode and doesn't get the message to

turn off that stress hormone cascade. The result: The hippocampus gets tired, and over time its cells start to die. This important area of the brain begins to shrink, and brain fog can set in.

NOT ENOUGH SLEEP. This is one of the biggest culprits behind brain fog simply because it makes you feel less alert. Not getting enough z's also means you miss out on important brain cleansing that happens when you're snoozing soundly, adds Caldwell. For example, research in the journal *Science* found that the ebb and flow of blood and electrical activity that takes place during sleep actually triggers cleansing waves of blood and cerebrospinal fluid—prompting scientists to call sleep the brain's “rinse cycle.” “Sleep is when your brain reviews new information and consolidates it, helping you form more stable, long-term memory,” Caldwell says. “It's a time when unneeded stuff is cleared from the brain.” (Bonus: This cycle also clears amyloid, the substance involved in Alzheimer's, from the brain.)

MENOPAUSE. Yes, mood swings and night sweats often show up during perimenopause, but Dr. Devi says brain fog is a major symptom that's too often overlooked. “I've actually had patients misdiagnosed with dementia and Alzheimer's disease when really it was menopause-related brain fog,” she says. Before this hormonal transition, estrogen gives the female brain a big advantage in a number of ways. Remember the hippocampus, the part of the brain important for memory and speech? It's also home to a slew of estrogen receptors. “Think of those receptors as being like little docking sites for estrogen that are spread out across the hippocampus,” says Dr. Devi. When estrogen takes a dip during perimenopause, those sites don't get what they've long relied on, and as a result, the brain has to adjust, which can feel like brain fog, adds Caldwell. “It's your brain figuring out how to work without as much estrogen as it's used to.”

MEDICATION SIDE EFFECTS. A number of medications can cause brain fog, from migraine and antiseizure prescriptions to over-the-counter drugs



for sleep or allergies. Add alcohol to any of these drugs—even a moderate single glass of wine per night—and you might feel even less clear, says Caldwell.

MEDICAL CONDITIONS. There are times when brain fog might be the result of a health issue such as a head injury, thyroid problems, or the early stages of multiple sclerosis. These more serious cases are also much more rare, but it's important to note any additional symptoms that may signal that what you're experiencing may be more than just brain fog. (See "When Is Fogginess More Than Brain Fog?" on page 21.)

How to Treat It—and Prevent It

When you're in the thick of brain fog, you might convince yourself that if you do nothing, it'll go away on its own. "It's really important not to just say, Oh, well, I'm a little foggy today—tomorrow will be better," says Chapman. "The brain is an amazing machine that will rebound, but the question is, will it return to the same level? It's important to do something proactively to help." When you're feeling foggy, try these tips:



TAKE CONTROL OF YOUR STRESS REACTION. “It’s easy to get into a mindset in which everything is negative and it feels like there’s nothing you can do about stress,” says Caldwell. “But if you really look at what’s making you feel the most anxious, you may see things you can take off your plate or different ways to cope.” Even simply acknowledging what’s stressing you out can help you refine the way you cope with the tough stuff life will inevitably throw at you. Even better, it’ll help your brain turn off that cascade of stress hormones that tires out your hippocampus.

NAIL YOUR SLEEP ROUTINE. “Too many of us think of our brain like a motor that can be switched on and off, but the brain is more like a plant that’s growing and changing all the time,” says Dr. Devi. “And nothing is more elegant than or as powerful as sleep to feed that plant and keep it healthy.” While a night or two of poor z’s won’t have a huge impact on your overall brain health, consistent sleep trouble is a problem worth fixing. “There are many proven ways to treat insomnia these days,” says Dr. Devi. “You can train yourself back into a good sleep routine.”

MOVE YOUR BODY. What's good for your heart (read: exercise!) is good for your brain. That's because upward of 40% of blood from your heart ends up circulating to your noggin, says Dr. Devi: "It's proof of how much energy your brain requires, and how much it relies on your heart to get that energy." If your heart isn't pumping blood properly, your brain won't get the oxygen-rich blood it needs to support memory function and alertness. Plus, exercise improves your mood and reduces stress. "If you can do one thing to get multiple benefits when it comes to preventing or treating brain fog, exercise is a great choice," says Caldwell.

CHECK IN WITH YOUR BRAIN.

Try an exercise Chapman prescribes to all her patients, which she calls "five by five": Set an alarm to go off at five intervals throughout the day and spend five minutes stopping all brain activity (don't even meditate!) and just being in the moment. You might close your eyes and take a rest or sit outside and look at trees. Go for a walk (without listening to a podcast!) and zone out. "Just five minutes with no major input is the best way to reset your brain," says Chapman.

STOP MULTITASKING. It may make you feel super productive, but multitasking actually irritates your brain, ultimately slowing it down, says Chapman. Instead of trying to juggle multiple things at once, focus on one goal at a time—and make it doable in a 30-minute chunk of time.

OVERTHINK ONE THING EVERY DAY. "Thinking deeply is like push-ups for your brain," Chapman says. When you read an interesting article online, spend 15 minutes thinking about it and how you might apply it to your life. If you and your partner watch a movie, talk about its message and how it connects with your life rather than just rehashing the plot. Chapman's research has found that when people engage in deeper levels of thinking, they increase the speed of connectivity across the brain's central executive network—which is where decision-making, planning, goal-setting, and

clear thinking happen—by 30%. "That's like regaining almost two decades of neural function," says Chapman.

EXCITE YOUR BRAIN. Your brain actually hates the same old thinking and ways of doing things. That means the best way to give your gray matter a shot of excitement is to innovate, says Chapman: "This prompts the brain to produce norepinephrine, a brain chemical that makes us excited to learn." Even simple things can help. At work, try a different approach to a task you've done a thousand times. In your downtime, take a new route to the grocery store or listen to different music as you walk around your neighborhood.

Delia Lewis started to bake banana bread when her brain fog got really bad, and she says spending time in the kitchen gave her a surprising shot of joy—and a chance to turn her brain away from the worry and stress that she faced in her day-to-day life.

"Baking has become a chance to give my brain a break," she says. "Plus, it has the added bonus of helping me feel like I've accomplished something on days I don't get enough done on the work front." And that has helped her feel sharper all around.



WHEN IS FOGGINESS MORE THAN BRAIN FOG?

If you check any of these boxes, see your doctor to get a sense of what might be causing your symptoms:

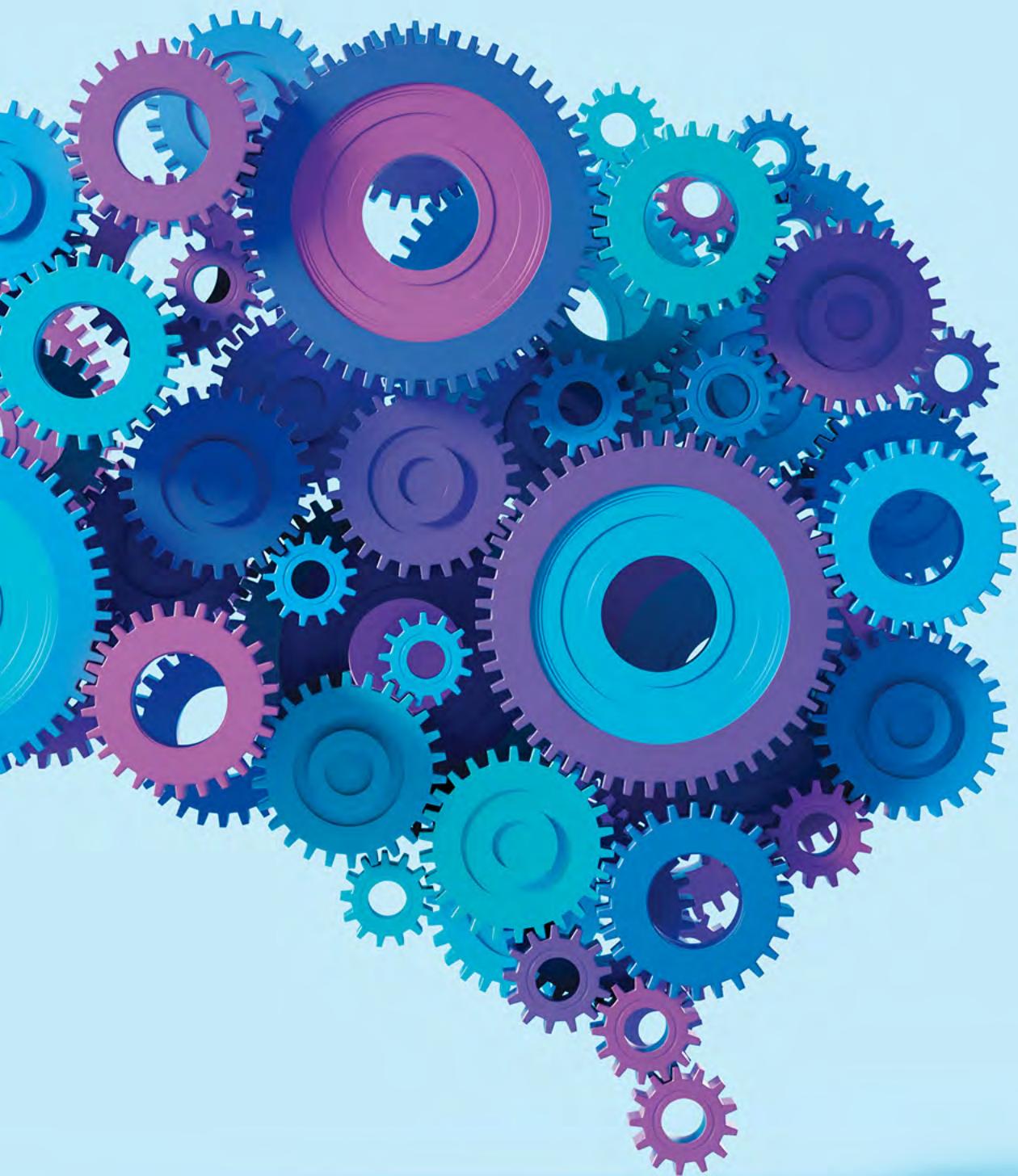
- I've felt foggy for months and nothing (more sleep, less stress) makes it go away.
- My brain fog prompts me to make big mistakes at work, with my finances, or in other ways that have significant negative impacts.
- I have other symptoms in addition to brain fog, like a change in balance or a new pain.
- I don't remember conversations I have had with family and friends (though they tell me I was perfectly coherent).

Secrets to Staying Sharp

When it comes to making your synapses snappier and your neural connections stronger, there are specific, proven steps that can help. Here's what the latest research says about maximizing your memory, sharpening your focus, and more.

BY LYNNA FLOYD







For anyone who's had to search their mind for a word or a detail (all of us!), it may be a surprise to hear that, according to brain health experts, memory isn't everything. So why is it the first or only thing we worry about? "People don't really care about performing better on some mental test," says Gary Small, M.D., chair of psychiatry at Hackensack University Medical Center, behavioral health physician-in-chief at Hackensack Meridian Health, and the author of *The Memory Bible*. "They want to remember their grocery list. When they're walking down the street and see someone they know, they want to remember that person's name so they don't have to say, 'Hi, um, how are you?' and can say, 'Hi, Mary, how are you doing?'"

But memory is much more complicated than plucking a name from your brain or knowing you're running low on milk. Recalling a friend's name, for example, is also tied to your brain's processing speed, your ability to focus, and a host of other factors you can improve. But you'll have to put in some effort.

"In general, people have unrealistic expectations around memory," says Sherrie D. All, Ph.D., owner and director of the Chicago Center for Cognitive Wellness and author of *The Neuroscience of Memory*. And, as she points out, it's not all about age: "People over 40 forget that they forgot things when they were in their 20s too."

A fair amount of misinformation is out there that can make you feel bad about your brain and how it functions. For instance, your brain doesn't stop growing as soon as you step away from the school desk, as you might have heard. A reassuring scientific concept called neuroplasticity means your brain has the ability to modify its structure and function throughout your life. New cells can be produced in our brains—and we can continue learning—even when we're considered to be in old age. This means that if you're wishing you could make your brain stronger, you absolutely can. "We can't boost your IQ, but with brain training, you can improve your concentration, expand your working memory, and more," explains All.

WHAT BRAIN TRAINING IS ALL ABOUT

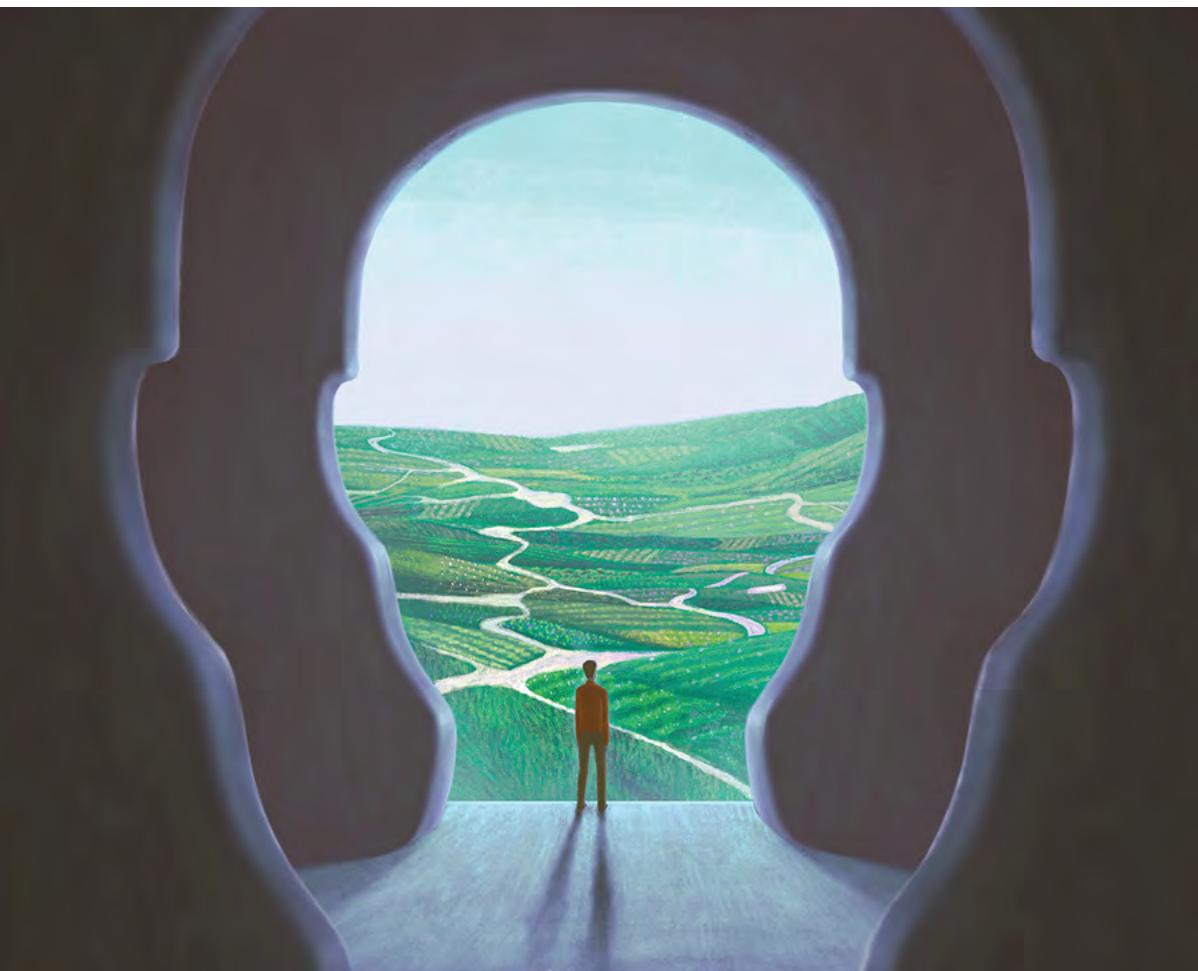
When it comes to the field of cognitive rehabilitation, which usually addresses people who have had a stroke or a brain injury, there are two types of strategies used to improve cognitive skills: compensatory and restorative. And they can work for the rest of us as well. Compensatory strategies are workarounds that help you complete tasks, the way a crutch might help you walk if you had a broken leg. Think of that song you sang to memorize the presidents, or how you visualized a hydrant with a balloon tied to it to help you remember that the periodic table starts with hydrogen and helium. It's

making a habit of always putting your car keys on a hook by the door or, when meeting a new person, repeating their name to solidify the memory.

Compensatory strategies make up the majority of what you can do to build up your brain. But a small number of cognitive-rehab strategies are restorative, meaning they're actually repairing or improving brain function. Think about, for example, how a person who's had a stroke may have to relearn to walk or speak. "And then there are other brain health behaviors you can adopt—like getting enough sleep and eating well—to focus your memory, improve your recall and comprehension, and more," says All.

What should you expect when you're expecting to make brain gains? "What's realistic depends on what people are willing to do," says Dr. Small. Brain training isn't all fun and games (although, admittedly, some of it is!). To some degree, just as with diet and exercise, you get out of it what you put into it. But it's important to note that what happens in a lab doesn't always





translate to the outside world. “Usually activities in scientific studies are not the same as what people actually do from day to day,” says Dr. Small. (Perhaps you’re not able to spend three months on a meditation retreat, for example.) Regardless, experts told us that the following strategies not only are worth your time and energy, but also have been shown to improve the way people process, focus on, store, and recall information. See how many mind-modifying habits you can regularly work into your life.

1 Commit to Moving Your Body

There’s no debate: Working out does a body and a brain good. “We have really strong evidence that exercise can help you grow more brain cells, increase the number of connections and pathways in your brain, and create more nerve growth factors—which are

like Miracle-Gro for your brain cells,” says All.

While there’s no one specific type of workout that all experts recommend, studies have looked at the brain-building benefits of everything from hopping on a bike to getting into bird pose. One small study showed that high-intensity interval training in adults 60 and older, for example, resulted in an increase of up to 30% in memory performance. The research, published in *Applied Physiology, Nutrition, and Metabolism*, focused on high-interference memory, which helps you do things like distinguish one car from another that’s the same make and model.

A scientific review from the University of Illinois used MRI images to demonstrate one benefit of yoga: Regular yoga practice brought about increased volume in the hippocampus (a part of the brain involved in memory) and a larger prefrontal cortex (which is

essential to planning). Bottom line: Pick a fitness path you enjoy—and stay on it.

2 Challenge Yourself to Learn New Things

You may have heard this and thought it meant you had to learn to play the guitar or download Duolingo and take up Mandarin. Sure, those things would definitely sharpen your brain (learning a new language boosts your gray matter, which is tied to memory and attention, for example), but you might give up by the third lesson if you're overwhelmed.

"The idea is to train your brain, not strain your brain," says Dr. Small about whatever brain-building activity you choose to engage in. "Each of us needs to find that entry point so the new activities we choose are engaging and we're motivated to do better at them." That might mean bringing novelty and variety into your favorite activity by, say, switching out your daily crossword for a sudoku puzzle a few days a week. If you like painting, try a freehand drawing class. You're easing yourself into something new by building on something you enjoy. Introducing a challenge helps your brain create new pathways instead of repeatedly activating the old ones, experts say.

"If you're committed to working on any kind of mental task, you'll get better and faster at it over time," says Dr. Small, who used to get stuck on the *New York Times* crossword puzzle (which gets harder each day of the week) by Tuesday but now makes it to Thursday. "We all have the capacity to improve. It's a matter of practice," he says.

3 Do Something Meditative & Mindful

You'll never remember the name of the person you just met or the five things your partner asked you to buy from the store if you can't focus on those things. Thankfully, a 7,000-year-old practice can help sharpen your attention in less time than you probably spend looking for something you've misplaced. Research has shown that even brief bouts of mindfulness meditation can have instant benefits. In one small study, novices to the practice spent 10 minutes

listening to an audio-guided mindfulness meditation and saw an immediate increase in their attention, accuracy, and reaction times in a task performed afterward, compared with a control group.

Another long-term study from the University of California, Davis, Center for Mind and Brain, looked at the impact of a three-month meditation retreat on a group of 60 experienced practitioners. Few of us have that kind of time, but interestingly, some of the gains in attention the participants achieved immediately after the retreat stayed with them seven years later, though they had reduced their practice to about an hour a day.

Focus is a good place to, well, focus your brain-building desires. "Attention is

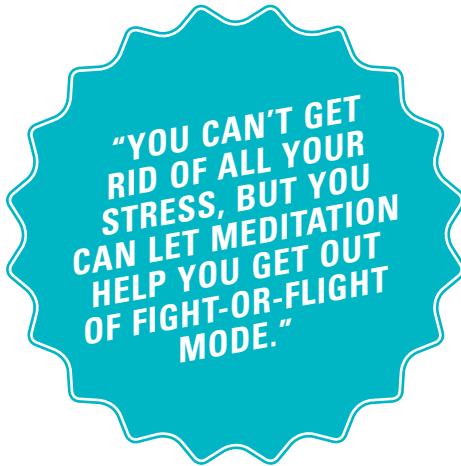


SNOOZE FOR A BETTER BRAIN

When it comes to strengthening your brain, here's a no-brainer: Get a full, uninterrupted seven to eight hours of sleep per night. Research showed that the effects of a lost night of sleep were similar to that of being drunk when study subjects had to perform tasks.

Over seven or eight hours, your body goes through a brain-care cycle. "Deep sleep happens early in the night and allows your brain to flush out toxins, including Alzheimer's-causing beta-amyloid plaques," says All. "REM sleep happens between hours four and eight and consolidates long-term memories into really long-term memories. If you're awake for more than 30 minutes during the night, the whole process starts over, meaning you may not get all the REM you need."

But pause before reaching for sleep meds. "Benzodiazepines like Xanax can block memory formation. Ambien can cause amnesia during the dose as well," says All. "OTC sleep drugs are antihistamines, which lower the amount of acetylcholine in the brain. This is your memory neurotransmitter." If you're having trouble getting a solid night's sleep, All recommends talking to a doctor about lifestyle modifications you can make to help you get the z's your brain needs.



"YOU CAN'T GET RID OF ALL YOUR STRESS, BUT YOU CAN LET MEDITATION HELP YOU GET OUT OF FIGHT-OR-FLIGHT MODE."

definitely the most malleable of all the cognitive domains, from what we've been able to see or prove," says All. "Meditation is a good strategy for strengthening your brain—even if you're just focusing on your breath during those minutes. When people meditate, over the course of weeks their hippocampus grows, their prefrontal cortex increases in volume, and their fear detector—the amygdala—likely shrinks." That last part is key, because you can't focus when you're in a state of panic or stress. "Cortisol is toxic to brain cells," says All. "You can't get rid of all your stress, but you can let meditation help you get out of fight-or-flight mode."

4 Get More Social

"Once we've moved beyond the financial and physical impact of the pandemic, the longest-lasting negative consequence will be its mental health impact," says Adam Gazzaley, M.D., Ph.D., the founder and executive director of Neuroscape, a neuroscience center at the University of California at San Francisco that's focused on the intersection of technology and brain health. He notes that isolation is not good for brain health: "The data is quite convincing that isolation can impact not only how long you live but also how well you live." He says we need to find ways to stay in touch with family and friends, even if our day-to-day activities have changed as a result of the pandemic. That means reaching out to friends who have moved away or keeping up with family dinners, even as life gets hectic.

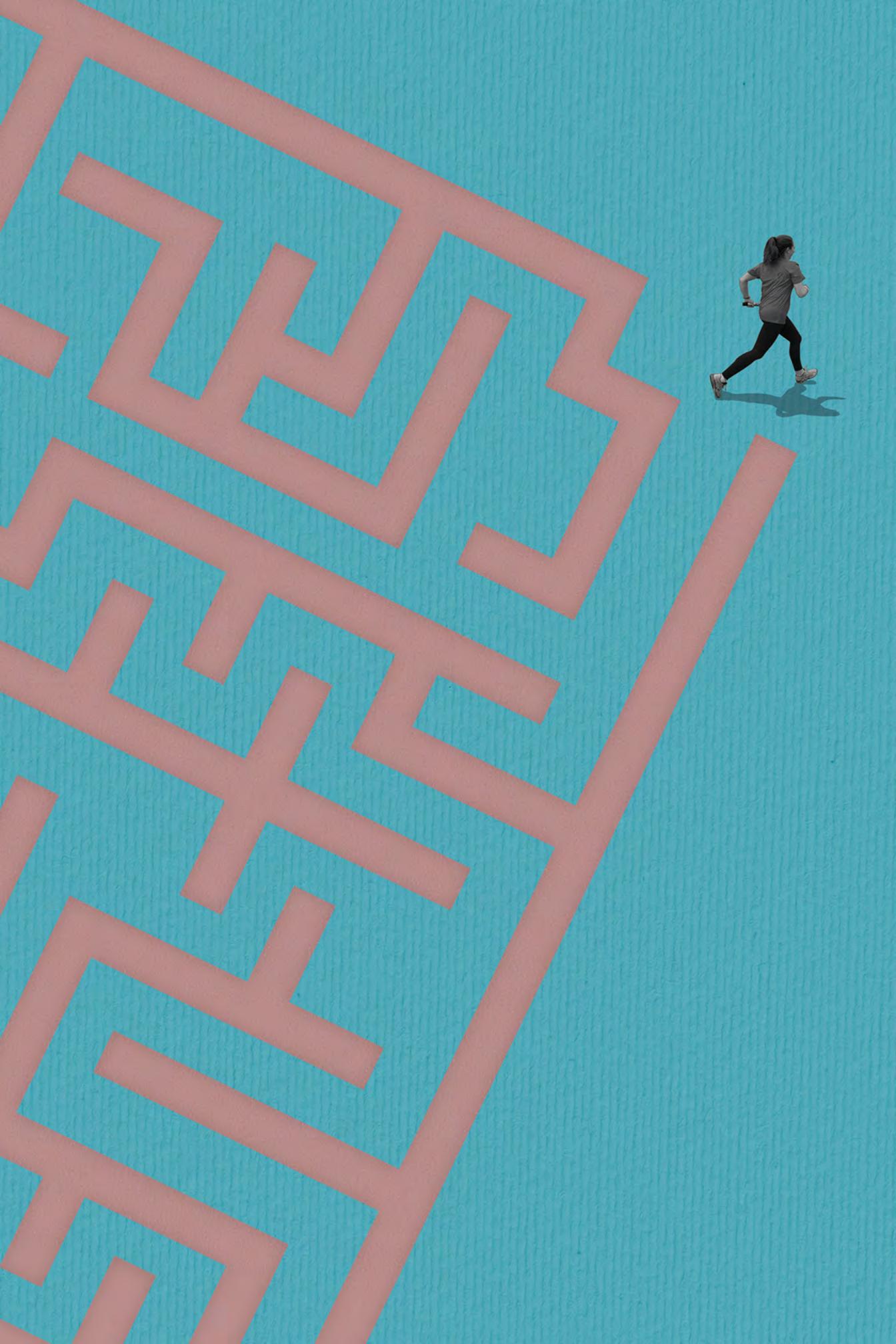
It's not just that isolation brings greater risk of cognitive decline—socializing is very good for your brain because it's another way to learn new things. "When you're having conversations with other people, you're working your brain," says Dr. Small. Just 10 minutes of conversation (not debate) can increase executive-functioning skills like working memory and the ability to suppress distractions, says a study in *Social Psychological and Personality Science*.

5 Play Games & Puzzles

Brain-training games are a multibillion-dollar industry that has skyrocketed in recent years, thanks to the pandemic-spurred need for e-learning. If you've ever wondered whether the apps you see advertised on your Facebook feed are worth it, know that the answer is a solid...maybe. The first thing to know is that not all brain games are created equal. "There are good games and bad games," says Dr. Gazzaley, whose lab has been developing and testing video game technology to enhance brain health for over a decade. "So 'Do games help or hurt?' isn't a good question. The devil is in the details."

Also, different games have different brain-gain goals. Some are slow and strategic with the aim of enhancing your thinking skills, while others are action-packed with the aim of speeding up your processing. "The challenge is that a lot of the data is mixed right now," says Dr. Gazzaley, who is working to understand how the enhanced attention abilities achieved in a game can affect day-to-day life. As it stands now, there isn't a ton of definitive research on the benefits of commercially available brain games. But the likelihood of their hurting you is low, and it's possible that they will help, so do a little research on their claims before you buy, and then, if you're interested, give them a go.

It may seem overwhelming to adopt all these new behaviors, but one key to bringing ease to the process: Look at it less as a chore than as pure fun. Whether it's going for a bike ride or finding 10 minutes to de-stress, let the brain-boosting elements of all these habits be the icing on your cerebral cake.







STAY-SHARP
SECRET #1

**Commit to
Moving
Your Body**

Walking Can Change Your Life

It's one of the simplest ways to get healthy, see the world with fresh eyes, and find peace within yourself. But don't take our word for it—here's what folks around the country have to say about why walking is so powerful. Be inspired, then head out there with tips from top experts for getting the most out of your walks.

BY ALYSSA JUNG





One of the most powerful ways to maintain a healthy weight, stay strong, and live longer is so shockingly simple.

The health benefits of walking are endless, and experts agree that by adding walking to your routine, you “can truly improve your physical and mental health.”

The key is to strut for, ideally, at least 30 minutes a day, says Melina B. Jampolis, M.D., author of *The Doctor on Demand Diet*. And whether you decide to lace up your walking shoes and walk to work, pair up with a friend, or join a hiking club, research shows that walking can do everything from lower your blood pressure and reduce your risk of chronic

diseases to making your brain sharper and your heart happier.

And when it comes to walking’s effect on your mental health, the research here is quickly growing. In one study, brain scans of people who walked briskly for one hour, three times a week, showed the decision-making areas of their brains worked more efficiently than people who attended education seminars instead. Other research shows physical exercise, like walking, can improve brain function in older women. Experts think these benefits could be due in part to increased blood flow to the brain that occurs with exercise.

Here’s what else you can expect when you start walking for just a half hour most days of the week.



BECOME A STRONGER WALKER

EASY WAYS TO MOVE MORE FROM TEDDY SAVAGE, HEAD OF HEALTH AND EXCELLENCE AT PLANET FITNESS—IT'LL BENEFIT YOUR OVERALL HEALTH AND FITNESS!

TURN STAGNANT MOMENTS INTO ACTIVE ONES.

Do calf raises while you brush your teeth, squats while you reheat lunch, or high knees as you move between rooms, suggests Savage. An activity tracker like a Fitbit can help those little movements really come to life to add steps into your day, he adds—you'll be surprised by what you see!

ELEVATE DOWNTIME.

We all need time to rest and recharge, but too much time spent lounging can turn into a habit (and fuel other unhealthy habits like excessive snacking) as well as lead to stiff or tight muscles, says Savage. Instead, do crunches or chair dips during commercials or push-ups between chapters, or simply walk in place on and off, Savage says.

FIND EXCUSES TO WALK.

Tack on extra steps wherever you can, and don't be afraid to get creative. Challenge yourself to walk up and down every aisle of the grocery store instead of heading straight to the one you need, walk or bike to the post office instead of hopping in the car, or volunteer to drag the trash cans out front on garbage night. Anything counts!



WALKING HEALED ME

I noticed that my dad changed when he was in nature. During the week he was tense and monosyllabic. But in the woods, his shoulders relaxed, and he held my gaze longer and spoke fluidly and openly. When he died of lung cancer, I was emotionally paralyzed. But in his spirit, I laced up my sneakers and started walking when I could find no other reason to get out of bed. Every walk was tear-laced, tinged with memories; grief made it difficult to pick up my feet.

But then something remarkable happened: Walking allowed me to let go as I faced the reality of life without my father.

—Cassie L. Taylor,
Olympia, WA

I Walk to Stay Clean

I LOST MY FIANCÉ TO A DRUG OVERDOSE RIGHT AFTER I FINALLY GOT SOBER. NOW I'M SIX YEARS CLEAN, AND I WALK BECAUSE IT GIVES ME TIME TO THINK ABOUT THE REASONS I WANT TO STAY THIS WAY, AND TO REMEMBER ALL MY FRIENDS AND LOVED ONES WHO DIDN'T MAKE IT THROUGH THIS BATTLE.

—Erin Martin, Olean, NY

EXPLORING CLOSE TO HOME

I'm a traveler, and the best way to experience a new place is by foot—you don't miss little details like the smells of local restaurants or the sound of people chatting. When the pandemic started, I was still new to the area, so I started taking long walks around my neighborhood. I got to know my neighbors, what their gardens looked like, and that they loved barbecuing and having bonfires in the warm weather. I became part of a community.

—Alysa Pomer, New Haven, CT



I WALK BECAUSE I CAN

I walk for all the moments I almost never had. I was diagnosed with blood clots in my leg and lungs when I was 13 weeks pregnant. In the ambulance, I imagined every moment I would cherish with my baby if we both made it. We did—but that scare inspired my will to walk now so I'll be healthy for every future moment. Now I have a little walking buddy who keeps me going and loves to watch the neighborhood dogs as I push her in her stroller.

—*Miranda Weiss,*
Livingston, TX

How I Find Peace and Purpose

WALKING, LIKE ALL THINGS, HAS AN EXPIRATION DATE, SO I WANT TO ENJOY IT WHILE I CAN. I LOOK FORWARD TO IT EACH MORNING AND REGRET MISSING OUT WHEN CIRCUMSTANCES PREVENT IT. I FIND PEACE AND CALM WITH DELIBERATE STEPS. ALONG MY JOURNEY I MAKE UNEXPECTED DISCOVERIES, AND IT'S THE SENSE OF PURPOSEFUL MOVEMENT COMBINED WITH THE FEELING OF FREEDOM AND WELL-BEING THAT MAKES THE ACTIVITY SO SPECIAL FOR ME.

—*Terrance Carroll, Lunenburg, MA*





CHOOSING JOY

Plugging my earbuds in, I walk to bring order back to my brain. The world I'm forced into breeds chaos and anxiety, but the world I choose—the walking world—is where I can focus on all that brings me joy. The notes of the song, the squirrels scampering up a tree, the wind through my ponytail...it realigns my thoughts. It reins me back in to a place where it's OK to let go and to just be.

—Christina DeVantier, Buffalo, NY

GET MORE FROM EVERY WALK

Whether you're working up to completing 3.1 miles in one shot (you've got this!) or you're focused on improving your endurance or speed, these easy tricks can help you crush your walking goals.

▲ If You Can, Walk Outside

A treadmill is a great training tool, but getting outdoors is really important too, says Savage. It's smart to walk further than the distance that you're training for on some days, and this can be easier to do outside when you're not staring at the mileage on a treadmill screen. Also, "outdoor walking forces you to deal with changes to terrain, like periods of uphill and downhill, which strengthens your muscles by working them harder," he adds.

▲ Listen to Tunes

Bopping to your favorite songs can help you walk better and breathe smarter. "Music, or even just humming a tune in your head, can be helpful when it comes to stride and even breathing," says Savage. "Try to match your foot strikes and breaths to the rhythm. This helps ensure that you're using your energy efficiently, which can lead to a better time or simply push you to finish."

▲ Carry Some Weights

Strength training is an important part of any exercise routine, walking included, so why not try bringing the

weights from your living room to the sidewalk? "Carrying light weights while you walk can add a little extra challenge to your workout as well as help improve your arm swing so your legs aren't doing all the work," says Savage. Trying a weighted vest, if you're interested, can boost your cardiorespiratory fitness (a.k.a. your endurance) to help you walk longer or faster. But don't walk with ankle weights—these can mess with your gait, leading to potential injury, he says.

▲ Add Drills

Spice up your walk by incorporating different forms of exercise such as power skips, walking lunges, side shuffles, hills, or intervals of power walking or sprints. "Adding these functional drills can help improve your performance by strengthening your muscles and loosening your hips, two things that propel you forward," Savage says.

WALKING ZEN

WE LOVE THESE APPS FOR MORE MINDFUL WALKING.

- **MY LIFE**

Browse a variety of guided meditations, including ones specifically for walking or that target emotions like forgiveness, joy, and compassion.

- **CALM**

You can find guided meditations of all types, but this app also offers mindful walking meditations ranging from five minutes to 30 minutes. It also has music you can try walking along to that is specifically designed to induce a peaceful mindset.

- **HEADSPACE**

This app guides you through walking mindfully in a city, nature, or your home. Choose your environment, and you'll be taken step-by-step through how to really take it all in while reducing stress.

- **TEN PERCENT HAPPIER**

If you're ready to move from newbie to pro in mindfulness, this app is for you. Find meditations led by top experts and podcasts on the topic. You can give it a test run with a free trial.

- **FITBIT**

A mindfulness tile in the Fitbit app helps support your journey. Set daily or weekly reminders to engage in mindfulness activities (you can track your heart rate while doing so to see how relaxed you are), and log your mood after each session to see how it's going.

- **99 WALKS**

Find 15-minute walking meditations designed to ground, center, inspire, and motivate under the Class tab. A free trial lets you see how you like it!

WALKING IS PART OF ME

I recently retired after 20 years in the U.S. Army. Physical activity was always an important part of my routine, and now I walk to stay connected to my service and maintain the healthy lifestyle that grew from it. I walk to clear my mind, breathe fresh air, and stay connected to friends. I really love walking—and the peace it brings is priceless!

—Lakeisha Matthews, Tampa



EASE YOUR WORRIES

Walking a mile a day can do wonders when it comes to stress relief. Exercise helps flood the brain with feel-good chemicals, being in nature is calming, and walking itself is a form of meditation, says Koya Webb, a holistic health and wellness coach. Here are a few of her favorite tips to help you harness walking's mind-soothing powers:

DON'T OVERTHINK IT. Any type of meditation is really just the practice of being fully present and aware, says Webb. "Many times we don't check in with ourselves and our needs, which can mean we're spending too much time in our minds, worrying or stressed," she says. "Take a moment to be grateful for what your body does for you. Your heart

pumps blood, your legs and feet carry you from place to place, and your hands do labor. Mindful walking is a chance to return to ourselves, and this frees up energy to help us maintain positive perspectives in life."

SET AN INTENTION. Think about what you want your daily walk to be about. Do you want to use it as a time to reflect on your day? Is it an opportunity to think about what your body needs and wants? Or maybe it's simply walking toward a goal, like making it a certain distance or trying a different route. There's no right or wrong way to go about it; just be sure the intention is unique to you and leaves you feeling energized and inspired, Webb advises.

LISTEN. Pay attention to the sounds you encounter, tune in to your thoughts and emotions, or find music or a podcast that helps you channel the right message and energy for the day, says Webb: "Over time, and with practice, your awareness will expand to include more aspects of your body and your environment."

Harness the Healing Power of Yoga

Research suggests that engaging in a regular practice can improve cognitive performance and protect your memory. Start with these simple yoga positions.

BY BETSY STEPHENS

In the quest to keep dementia and Alzheimer's out of your future, a new study offers up one more tool to add to your anti-aging brain plan: gentle yoga.

In a study published in the *Journals of Gerontology*, two groups of adults 55 and older were tested on cognitive skills such as planning, problem-solving, and multitasking. Then they were split into two groups: One group did gentle yoga for 60 minutes, three times a week, and the other did a series of stretches and strengthening exercises, like biceps curls and flutter kicks, for the same amount of time. After eight weeks, the participants' cognitive skills were tested again. The result: The yoga group significantly improved their cognitive performance, while the stretching group showed no changes.



WHAT IS IT ABOUT YOGA THAT WAKES UP YOUR BRAIN?

Study author Neha Gothe, Ph.D., who researches physical activity and yoga interventions, isn't entirely sure why yoga has an impact on mental skills, but she believes it has something to do with the mind-body element of the exercise. "While practicing yoga, you're not just moving your body," she says. "You're focused on your breath and mindfully aware of your postures." If you're doing other kinds of exercise, like running, it's much easier to get distracted by

everything going on around you—but get distracted during, say, Triangle pose, and you could end up kissing the mat.

Plus, according to past research, stress and anxiety have a huge impact on cognitive function, so the relaxation aspect of yoga might also come into play.

To make the most of yoga's cognitive-boosting benefits, try these gentle yoga poses. Choose one in a moment of need or do flow through them together for a relaxing, total-body routine.

RELIEVE BACK PAIN

As you twist to one side, the muscles on the other side of your back release, says Ricardo Colberg, M.D., of Andrews Sports Medicine and Orthopaedic Center in Birmingham, AL.

try it

Lie on your back with your arms extended out to your sides; bring your left knee across your body and let it drop toward the floor, as shown. Turn your head to the left. Breathe, and relax for a minute. Switch sides.



RELAX TENSE SHOULDERS

If you're feeling the strain of our always-on society, your body is probably wound extra tight. Your fix: gentle movements that help the neck and shoulder muscles decompress.

try it

Start by exhaling and dropping your chin toward your chest. Inhale and roll your right ear to your right shoulder, as shown; repeat to the left. Do 5 reps on each side. Next, inhale deeply as you draw your shoulders up to your ears as much as possible, then exhale and quickly drop your shoulders down.





Breathe in and try to lengthen your spine so you feel as if you're growing a bit taller.

BOOST YOUR BODY'S DETOX SYSTEM

Twists are thought to stimulate the liver and kidneys, which helps rid the body of toxins, explains Sara Gottfried, M.D., a clinical assistant professor at Thomas Jefferson University Hospitals in California.

try it

Sit with your legs extended. Bend your right knee and place your right palm on the floor behind you, as shown. Reach your left fingertips toward the ceiling and turn toward the right, looking over your shoulder. Next, bend your left arm and hook your elbow on the outside of your right knee. Take 10 breaths; switch sides.

SLEEP EASIER

A forward bend can have calming effects—you literally close the world out and focus in on yourself, says physical therapist Joanne Cesiro, a clinical assistant professor at Stony Brook University. Do this “resting” Pigeon pose before bed.

try it

Begin on your hands and knees. Bring your right leg forward and place your right knee on the floor in front of you, as shown. Slide your left leg back, then lower your forehead toward the floor. Hold for 10 breaths; switch sides.



If you're extra tight in the hips, skip this position and try Child's pose: From hands and knees, spread your knees wide apart, bring your big toes together, and sit on your heels. Bend forward, rest your head on the floor, and relax.

REVIVE TIRED EYES

Eyestrain happens when you spend a lot of time looking at something up close; you lock your eyes into habitual patterns. Lots of computer work, phone time, and Zoom calls can bring it on. Even your eye muscles could use yoga!

try it

Without moving your head, gaze straight up toward the ceiling. Slowly circle your eyes in a clockwise direction, making as large a circle as possible. Repeat 3 times, then close your eyes and relax for 3 breaths. Repeat, rolling your eyes in the opposite direction.



FEEL HAPPIER

Performing a mini back bend helps stimulate the vagus nerve at the base of the brain; that can trigger the release of feel-good hormones, says Fiona Gupta, M.D., a neurologist and assistant professor at Mount Sinai Health System in New York.

try it

Start from a kneeling position (you can use a folded towel under your knees for cushioning). Then put your hands on your backside, as if inside a pair of imaginary jeans pockets, with fingers pointing toward the floor. Exhale and begin to lean back slightly. Stretch your chest toward the ceiling, using your hands to help stabilize your back as you keep your belly tight.





MAKE IT EASIER

Lie on your back with legs extended. Hug your right knee in, interlacing your fingers behind your thigh. Inhale and exhale for 10 to 15 breaths. Switch sides.

SOOTHE AN UPSET STOMACH

If you've overindulged or are dealing with PMS symptoms, you'll be glad to get into a position that helps relax and stretch the intestines. If squatting feels too hard, do the easier variation above.

try it

Stand with your feet shoulder-distance apart, and keep your toes and heels grounded as you exhale; bend your knees and slowly lower into a squat position. Bring your palms together and rest your arms against your inner knees, as shown, then relax your shoulders. You can also sit on firm pillows or books for support. Hold for 10 breaths.

BEAT BURNOUT

If you've been spreading yourself thinner than a pancake, plug into this power source. Chair pose flexes the major muscle groups in your legs and core; activating them can release feel-good endorphins.

try it

Stand with your feet together, and bend your knees deeply as if sitting in a chair. Reach your fingers toward the ceiling, squeeze your arms by your ears, and take up to 10 deep breaths. Hold the pose longer if you can.



DEAL WITH A STRESSFUL SITUATION

Your breath is your friend in hard-to-handle moments. When you need superhuman strength to face an overstuffed day, one of the best things you can do is sit still for a minute or two. Bonus relaxation points if you do this with the lights dim, sitting on a cushion.

try it

Place the palms of your hands together and bring your thumbs to the center of your chest. Then, just breathe: Inhale and exhale slowly, and think about what you're grateful for and what's working—not what isn't—in your life.





STAY-SHARP
SECRET #2

**Challenge
Yourself
to Learn New
Things**



Create a More Amazing Brain

Getting creative can help you build a vibrant, resilient mind. The best news? You don't have to be the slightest bit artistic to harness its power. Here's what the concept really means, why it's so valuable, and how to find your own way of expressing it.

BY LORA SHIN







When my daughter was in preschool, we had a pretty regular thing going. I'd give her broccoli, she'd frown and fold her arms across her chest, and I'd sigh in resignation. Until one day I decided to draw on my previously nonexistent improv skills: "I need you to be the guard. Don't let any ogres get near that tree, and especially don't let an ogre eat it," I told her. "Can you do this, guard?"

She knew I was joking, but she was in. As soon as I turned my back, she

chortled and started eating her broccoli, purely for my horrified reaction: "What kind of guard are you?!" I said. The "guard game" soon became central to our two-person comedy skit whenever new foods were on the menu.

I'll never take my show on the road, but my little burst of inventiveness certainly changed our lives for the better. We often think of creative people as those working in the arts, yet in daily life, creativity is less about what you make than it is about how you think.



or a method of Tetris-ing keepsakes into a closet. Creativity is an attitude.

“Creativity is not mysterious or magical, but something everybody can do,” says James C. Kaufman, Ph.D., a professor of educational psychology at the University of Connecticut.

Within psychology, creativity is usually understood as the ability to produce things or objects that are new (at least to the person creating the work) and useful, or appropriate for the situation or purpose, says John Kounios, Ph.D., a professor of psychological and brain science at Drexel University. However, he prefers to define creativity as a way of reorganizing the elements of a situation or a thought.

For those in business or law, creativity is usually a form of problem-solving and a new way of seeing things while navigating change and innovating. In the workplace, creativity benefits both the organization and the employee, says Crystal Farh, Ph.D., a business professor at the University of Washington. “Engaging in creative work is extremely motivating and engrossing,” she says. “Creators report feeling happier, more fulfilled, and more energized than non-creators.”

Creativity can even be taught, or at least fostered. That’s the whole idea behind the nation’s first Ph.D. program in creativity at Philadelphia’s University of the Arts. Patricia Salkin, formerly a government lawyer and now provost at Touro College, is one of the nine students enrolled. The students’ backgrounds sound like the start of a joke, she says: “A lawyer, a filmmaker, and a psychotherapist walk into a classroom...”

The college’s immersion program asked enrollees to perform improvisational theater, use percussion instruments to make music, and discuss with artists the inspiration behind their works. “I don’t consider myself an artist in the sense of fine art, but every one of us can be an artist in whatever field we choose, as we create our own canvas,” Salkin says.

WHAT IS CREATIVITY?

ALMOST ANYTHING CAN BE DONE

by rote or in a new way, says Julie Fratantoni, Ph.D., a cognitive neuroscientist at the Center for BrainHealth at the University of Texas at Dallas. Creativity can look like crafting a quirky road trip or picking out a unique present. It can also be coming up with an off-the-wall yet fun date idea



HOW THE BRAIN INNOVATES

WHERE IN THE BRAIN DOES CREATIVITY reside? Some bodily functions—like wiggling your toes—stem from a specific “address” in the brain. But creativity is more like a boat on a river than a stationary street address. It involves brain networks linking memory and language, spatial understanding, and fine motor skills. The networks are like interconnected rivers down which the party boat of creativity floats—rivers also used by ordinary barges to solve math problems, follow recipes, or read reports.

Yet creativity isn’t as mysterious as it might first appear to be. Your brain can help you generate a creative idea in two ways: through the famous aha moment of insight, and via more analytical thinking. Your brain solves thorny problems even as you sleep, daydream, or relax, and aha moments rely on unconscious mental processes. A great insight is likely to arrive when you’re in a slightly unfocused state or you change locations. That’s why it might appear while you’re in the shower or on a walk, or even at 2 a.m., explains Kounios.

Creativity can spring from deliberate step-by-step analysis and problem-solving too. When you consciously invent and tinker, evaluating and modifying ideas, you can wind up creating something entirely innovative.

And the better you are at problem-solving, the more effectively you’ll be able to navigate the world and the healthier you’ll be, Fratantoni says. So while creativity is its own reward—and might get your kid to eat her broccoli—it contributes to your brain-specific health too. A growing number of arts

organizations and studies over the past 15 years have found that participating in creative efforts can help stave off loneliness, mitigate dementia, and enhance engagement, Kaufman says. And when we’re not exposed to anything new, cognitive decline may accelerate, Fratantoni says.

Any activity that keeps the brain active helps with aging, Kounios says. When we undertake learning new skills or hobbies or encounter new situations, we grow new brain cells and form new connections between existing ones. These brain-cell-generating creative experiences could include painting, writing, doing math, or learning a language.

“Creativity can activate the brain’s reward system,” Kounios says. “This may be why art therapy, writing therapy, and other forms of creative expression are uplifting and effective for many people.”

Lynnea Doublette, based in Minneapolis, thought adulthood meant she had to leave the arts behind, since she wasn’t going to become a film star or a world-renowned singer. “But it’s part of who I am,” she says. “When I’m not creative, that’s what seems to breed isolation and loneliness.”

So Doublette found a way to bring her creativity into her daily life. She now works in both the performing arts and health care. With her two sisters and her mother, she often performs in a gospel quartet for health care professionals and those in nursing homes. She has also worked with Kairos Alive, a nonprofit that encourages older adult voices through storytelling, dance, and music. Last year she even wrote two songs—but only after having thought for a long time that she couldn’t be creative in that way.

“When we think we’re not creative, it’s just not true,” she says. “Creativity can be in walking a certain way or doing a little dance when you get good news. Creativity is in you.”

For Doublette, creativity enriches in both professional and personal ways. “The channels and pathways in my brain open back up. I see possibilities for how to handle a problem at work or deal with a task,” she says. “When I’m embracing myself as an actor or artist, I’m going into the fullness of myself, and ideas abound.”

4 Kinds of Creativity

SEE IF YOU RECOGNIZE YOUR OWN INGENUITY IN THESE TYPES, AS IDENTIFIED BY KAUFMAN.

Mini-C:

Personal creativity you experience and enjoy, like crafting or doodling in the margins of a notebook.

Little-C:

Creativity you generate that other people can also recognize and enjoy, like a paper clip sculpture for the county fair or poetry you perform at a coffeehouse.

Pro-C:

Expert-level creativity. The writer gets published, and the entrepreneur finds financial success with her fantastic new paper clip idea.

Big-C:

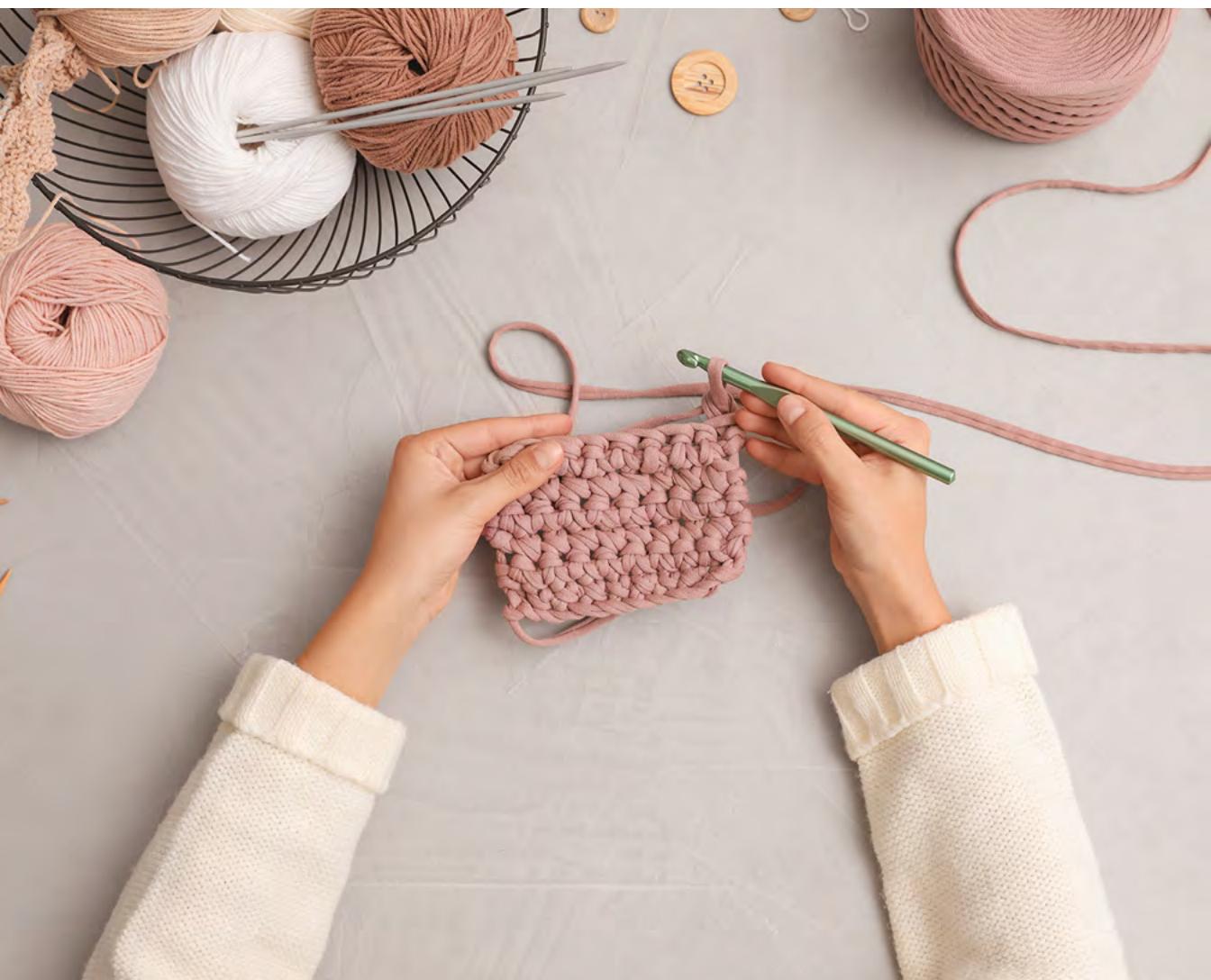
Creative genius. Genius is subjective, and the label is dependent on conventional wisdom to a degree. For example, composer Harold Rome was popular in the early 20th century, but contemporaries Rodgers and Hammerstein are considered creative geniuses. "People want to see Oklahoma, not a drama about factory workers. Does it mean Oklahoma is better? Not necessarily," says Kaufman.

The Best Hobbies for Your Health

Some research on what assists in boosting or unblocking brain power is contradictory. But that may just mean that various approaches work differently for different people. Try a few of these to see what works for you.







In our productivity-obsessed society, it can be all too easy to get sucked into a cycle of waking up, going to work, running errands, maybe doing some more work, and falling into bed before setting an alarm to get up and do it all over again. But research shows that cultivating hobbies outside of the rat race isn't just a nice break for your body and brain—it actually carries mental and physical health benefits. Participants in four different studies who engaged in one or more of 10 different leisure time activities had lower blood pressure, a smaller waist circumference, a lower body mass index, and perceptions of better physical health.

When it comes to what you do in your downtime, there's a lot to be said for mixing it up. "Lifelong learning and

challenging yourself are so important to our health," says Adam Borland, Psy.D., a psychologist at the Cleveland Clinic. Researchers have found that older adults who master a new, challenging skill show greater gains in memory than those who do their usual less cognitively demanding activities. Plus, a study by University of California health psychologist Matthew Zawadzki found that leisure activity can provide immediate stress relief, as well as lower stress and depression in the longer term.

Of course, finding a new hobby you enjoy can feel like just another thing to add to your to-do list. That's why we compiled these fun and restorative ideas, to take the guesswork out of it. For a menu of health-boosting hobbies, read on.

■ Knit One, Purl Two

Repetitive motions such as knitting and other needlecrafts can be soothing and elicit the body's relaxation response, says Borland—the same calm, meditative feeling some people get from formal mindfulness practices or yoga. In a survey of more than 3,500 knitters, 81% who suffered from depression described feeling happier and calmer after clicking their needles. Other studies have shown that knitting can curb rumination (repetitive negative thoughts) in people with eating disorders, lessen the focus on chronic pain, and provide a respite from depressive thoughts.

Chain craft stores such as Jo-Ann as well as local mom-and-pop shops offer in-store knitting classes that range from basic to more specialized. If you'd rather learn at home, check out We Are Knitters, which sells kits that include all the yarn, needles, and instructions beginners need to make blankets, scarves, and even knit tees (from \$40, weareknitters.com).

■ Seek Solutions

Working on puzzles, reading murder mysteries, and performing research (genealogy, anyone?) all count. When you solve a whodunit or discover a new connection, your brain's neural reward processing signal is activated, and that helps increase your power of insight.

ANYONE CAN REAP THE BENEFITS OF PAINTING, EVEN IF THE RESULTS AREN'T MUSEUM-WORTHY.

■ Make Like Bob Ross and Paint a Picture

No artistic talent? No worries! Anyone can reap the relaxing benefits of painting their own forest of happy little trees even if the results aren't exactly museum-worthy. Sign up for a guided paint night if you prefer a more structured environment or grab a set of brushes and paints at your local craft store if you'd rather fly solo.

■ Daydream

The brain's default mode network involves imagination, daydreaming, and spontaneous thoughts. We spend 30% of our day there, says Julie Fratantoni, Ph.D., a cognitive neuroscientist at the Center for BrainHealth at the University of Texas at Dallas. Turn off social media and other inputs and give yourself time to dream during the day.





**PHOTOGRAPHY
CAN HELP YOU SEE
THE WORLD
AROUND YOU FROM
A DIFFERENT
PERSPECTIVE.**

■ Learn to Take Better Pictures

Smartphones mean most of us have a camera in our pockets at all times, but few of us give much thought to lighting, composition, or even subject matter. Photography can help you see the world around you from a different perspective. And you can even turn the fruits of your labor into decor!

■ Cheer Up

In one study, subjects could generate more word association problems after watching a funny clip. “Figure out what gets you in a good mood,” Fratantoni says. This might include establishing a practice around gratitude and mindfulness.

■ Sleep!

“If there’s one thing a person can do to be more creative, it’s sleep more,” says John Kounios, Ph.D., a professor of psychological and brain science at Drexel University. It boosts your mood, purges unhelpful ideas, and helps you process problems subconsciously. Even taking a 10-minute nap can help you generate new ideas and see connections you didn’t before.

■ Sew Your Own Stylish Fashions

Sewing isn't just for your grandmother. Learning to sew your own clothes can result in a fabulous wardrobe tailored to fit your unique body, and it's more sustainable than fast fashion. You can find tons of online sewing tutorials on YouTube, and some local craft stores offer virtual or in-person classes that provide you with the instruction and the materials needed.

■ Learn Origami

The Japanese art of folding paper into whimsical shapes isn't just for children. It's a great activity to help maintain manual dexterity, and you can enjoy it in the comfort of your own home. Plus, it only costs as much as the paper you use.

■ Consider Your Chronotype

If you're a night owl, you may not get your best ideas in the morning, when your brain's a bit fuzzy. In that case, work on your analytical thinking in your peak evening hours. Early birds should try the opposite, Kounios says.

■ Cook Up a New Hobby

Cooking may rank as the most useful of the hobbies you can learn, and it can be as simple or complex as you want. If you generally make the meals at your house, mix it up by trying a new cuisine, a different technique, or a tool you've never explored to put the spice back in mealtime.

■ Change Your Surroundings

Being outside or in a room with high ceilings can help expand your attention, enhancing creative thinking, Kounios says. Sharp edges, loud colors, and striking music can instill a hint of anxiety or danger and distract the mind from letting itself wander. "The ideal situation is a spacious, warm, fuzzy environment with rounded, soft edges and muted colors," Kounios says.



■ Start a Collection

Collecting can be a bit of a double-edged sword. If you're careful, you can find some amazing treasures at a reasonable price point, but it's easy to get carried away. Strategize your antiques shopping before you leave the house, or log on to your favorite surplus site and enlist an accountability buddy to keep you (and your credit card!) from going overboard.

■ Don't Compare

Recognize and appreciate your creativity when it pops up. Just because the bedtime story you told your child or grandchild isn't Shakespearean doesn't mean it's not creative. Personally meaningful creativity should be celebrated, Kaufman says.

■ Hammer Home the Art of Woodworking

Those who enjoy arts and crafts may especially love woodworking, but anyone can try it. Look for a woodworking or carpentry class in your area to help you learn how to safely use the tools of the trade. The sharp instruments you'll need can be dangerous without the proper technique.

■ Ask for Opinions

Get input from people with diverse points of view when tackling a problem, especially at work. "Create the conditions where diverse perspectives are invited to have a voice in the room," says Crystal Farh, Ph.D., a business professor at the University of Washington, "and where all individuals feel psychologically safe enough to put their ideas out there."





■ **Make Your Own Jewelry**

Making your own jewelry has two benefits: It will help you get in touch with your creative side, and you'll get so many compliments on your wares. And if you decide to use vintage beads and baubles, finding your materials can be half the fun.

■ **Do Something Else**

When your brain is stuck in fight-or-flight-or-freeze mode, it can't access creative solutions. Get a glass of water, gaze out a window, or do a non-challenging task like folding laundry. "Taking a short break lets you pull together disparate information and put it together in new ways," Fratantoni says.

■ **Sketch Your ABCs**

Take birthday and holiday cards to the next level by learning calligraphy. Some libraries and art centers offer classes, but you can also purchase your own pens and ink and find free tutorials online.

**RECOGNIZE
AND APPRECIATE
YOUR CREATIVITY
WHEN IT POPS UP.**

■ **Establish Limits**

Some studies have shown that constraints can make for better outcomes, Fratantoni says. For example, when one group was asked just to write a poem and another group had to write one featuring eight specific nouns, the poets with the constraint did better. Generate a constraint (even if it feels silly) that might work well for you.





*STAY-SHARP
SECRET #3*

***Do Something
Meditative
& Mindful***

Ease Into a Calmer Life

Meditation is a powerful tool—and there are as many ways to do it as there are people who've tried it. So where can you even begin? Right here, with these simple techniques.

BY NICOL NATALE

Does your mind race? Do you feel stressed and distracted a lot of the time? Do you wish you could just slow down?

We're never taught how to calm a restless mind, but there is a simple way to teach yourself to do so at any stage of life. "A daily meditation practice improves our ability to return to the present moment and improve our response to now," says Lori Ryland, Ph.D., a licensed clinical psychologist and chief clinical officer at Pinnacle Treatment Centers. It can profoundly ease stress, improve sleep, and help you feel more focused and present.

Before you begin, note that there is absolutely no wrong way to meditate. The three practices here, from Prevention's 14-Day Meditation Challenge (exclusive to members of Prevention Premium—learn more at prevention.com/meditationchallenge), are meant to help you explore meditation to see what might bring you the most peace.





Practice #1

DO A BODY SCAN

HOW IS YOUR BODY FEELING RIGHT now? Does your stomach feel anxious, or are your shoulders tense? By tuning in to your body in this moment, you've just done a simple body scan, a type of meditation that calls you to mindfully scan areas of your body and notice any physical or emotional sensations. Daily mental stress can lead to subconscious physical tension and tightness in the body, and body scan meditation can help release these by centering your focus on one body part at a time, says Rach Junard, a Black Queer femme, meditation expert, and wellness

educator. In addition to helping you become present, directing your focus to various parts of your body during a body scan meditation can help you reduce stress and get better sleep, studies have shown. Plus, in one study, chronic pain sufferers who listened to a 10-minute recorded body scan meditation reported reduced levels of pain, according to a study published in the *Journal of Behavioral Medicine*.

HOW TO DO A BODY SCAN MEDITATION

BY RACH JUNARD, WELLNESS EDUCATOR

▶ STEP 1

Lie down on a mat or another comfortable surface. Close your eyes or maintain a soft gaze to limit visual distraction.

▶ STEP 2

Take some deep breaths. Slowly inhale through your nose, expanding your belly and chest. Slowly exhale through your nose, emptying your lungs completely. Continue, paying attention to bodily sensations, starting with your feet and moving up.

▶ STEP 3

Observe sensations and feelings. Let yourself notice any sensations without judgment. As you

scan from your feet to the crown of your head, offer nurturing language to yourself with every exhale. This helps you stay present. Try phrases like “I love my feet” and “I love my belly.”

▶ STEP 4

Bring your awareness back to your space. When you are ready, let your breath bring your awareness back into your space. Gently move your fingers and toes. Draw your chin from side to side.

▶ STEP 5

Offer yourself a hug by drawing your hands to the opposite shoulders, then say to yourself, *Thank you for listening.*



Practice #2

RECITE A MANTRA

CONSIDER HOW MANY THOUGHTS YOU have through the day. Chances are a lot of them are adding to your stress about things that have happened or might happen. A mantra-based meditation allows you to bring your focus to the present by repeating a word or phrase. “This can be done silently, by whispering, by chanting, or by singing aloud,” says Kelsey J. Patel, author of *Burning Bright* and host of the podcast *Magik Vibes*. “Mantras are used by many, with and without spiritual elements.” To choose one for today, Patel suggests deciding what you want to work through and coming up with an affirmation of the

behavior you wish to create, such as “I am ready for change” or “I have all my answers within.” For a more spiritual connection, you can try a simple “Om,” which is a Vedic Sanskrit word derived from Hindu and Buddhist teachings that represents supreme power. One study found that chanting “Om” might help deactivate the right amygdala, a part of the brain associated with negative emotions like fear and sadness.



HOW TO DO A MANTRA MEDITATION

BY KELSEY J. PATEL,
AUTHOR OF *BURNING BRIGHT*

▶ STEP 1

Choose a mantra.

What are you hoping to invite into your world or release during your practice today? Choose a mantra to support you.

▶ STEP 2

Find a comfortable position.

Close your eyes and take several deep, long, slow breaths. Allow yourself to melt into your seat.

▶ STEP 3

Repeat your mantra out loud.

With each breath, repeat your mantra over and over, in unison with the natural rhythm of your breath.

▶ STEP 4

Repeat your mantra in your head.

After about 20 recitations out loud, transition to reciting your mantra in your head. As thoughts arise, simply return to your mantra and continue to repeat it in your head.

▶ STEP 5

Continue reciting

your mantra for three to five minutes, or however long you have set aside for your meditation today.



Practice #3

VISUALIZATION

REMEMBER HOW EASY IT WAS TO dream up imaginary worlds when you were a kid? That same technique is used to do a visualization meditation. Imagining a calming place or a pleasant experience can lead to a range of emotional and physical benefits, says Frances Naude, founder of Four Noble Healing. Visualizing a task can even make you more successful at completing it, according to a 2017 study published in *Psychology*. Visualization meditation provides you with a momentary escape from reality, and it naturally reduces stress and anxiety, a study published in *Frontiers in Psychology* found.

Naude says this type of meditation is great for beginners. “Many times people give up their meditation practice because they struggle to stop their thoughts from flowing through their minds. While this is 100% normal, it

can be very frustrating and disheartening,” she says. With visualization, you’re able to drop into a meditative state through attention, not silence: “By giving the mind something to focus on, you naturally quiet the ‘noise’ and you are more likely to drop into that quiet, meditative state through the imagery journey.”

While you can choose to visualize something you hope to accomplish, we’ll focus today on using visualization to elicit an emotion—in this case, a sense of peace. So, what brings you calmness? Our instructions will focus on the beach, but the beauty of visualization is that you can choose any environment that suits you.

HOW TO DO A VISUALIZATION MEDITATION

BY FRANCES NAUDE OF FOUR NOBLE HEALING

Read through the steps, then go through them in your own way. It's OK if you don't remember the exact words, but focus on the senses you're experiencing as you visualize.

▶ STEP 1

Prepare your mind and your body. Sit or lie down, then set an intention: For today, it can be to calm your mind for peace and bliss. Our environment will be a warm beach with tall palm trees, crystal blue water, and vibrant coral reefs. You may want to set a timer for 10 minutes, or you may prefer to remain in this state for the amount of time that serves you best. Let your intuition guide you.

▶ STEP 2

Visualize. Close your eyes and breathe deeply. Start to smell the salty air and feel the warm wind. Imagine sand underneath you, palm leaves rustling in the wind, and the gentle lapping of the waves. Notice all that surrounds you and, when you're ready, envision yourself standing up. Walk

mindfully to the ocean, letting the warm water kiss your toes. Maybe you want to dive in. If so, feel the gentle sway and support of the ocean. When you're ready, walk out of the water and notice how you are warmed by the sun. Walk, observing shells, birds, dolphins, and other magical sights. It is just you and this place, perfectly at peace. Continue to be here, doing whatever feels the most calming and enjoyable. Remember, there is no right or wrong way to practice.

▶ STEP 3

Gently bring your awareness back to your body. When you're ready to leave (or when your timer goes off), sit or lie down on the beach and gently feel the visualization dissipate as you return to your current state. Bring your awareness back to your body and your surroundings, grounding yourself with your newfound sense of peace. Recognize how your mind feels calm, and be grateful to yourself and your practice.



DOWNLOAD THE WHOLE CHALLENGE

These practices are from our exclusive guide, *The 14-Day Meditation Challenge*, which is available to members of Prevention Premium at prevention.com/meditation-challenge. Upgrade your print subscription to access it and other special editions. A more peaceful life awaits you.

How to Really Relax

Stress is known to decrease amounts of clotho, a hormone that keeps toxins in the brain in check. If you're feeling tense, it's crucial to find a way to dial it down. Utilize each of your five senses for deeper and more satisfying levels of calm.

BY ELLA DOVE





There's something unique about the level of frazzle that hits from time to time: There's little hope to dampen the brain's constant whirring. Real calm, it turns out, is hard to find.

As neuroscientist Tara Swart, M.D., explains, when your body is stressed—even sometimes when you're doing nothing—you're in fight-or-flight mode. "The difference between the nonrelaxed mode and the relaxed mode is your stress hormone levels," Dr. Swart says. "When cortisol is high, which happens when you're really focused, switched on, busy, or stressed, that prevents your body from going into rest-and-repair mode because

it's trying to make sure that you can meet any challenges," she adds. "It's so important that we learn to encourage a switch to recuperation mode, using the parasympathetic nervous system, which helps us rest and digest."

Unsurprisingly, given the past few years that society has weathered, making this switch is proving harder than ever. And while regular yoga classes and a Netflix binge can help in the short-term, how can you make real change for the long haul? Dr. Swart suggests honing in on each of the five senses in turn to focus on what you're experiencing, rather than multitasking, as everyone's guilty of doing. Here's how.

1 SOUND

There's a reason why they play gentle zen music in spas; certain sounds, especially those from nature, are scientifically proven to help you relax. Researchers at Brighton and Sussex Medical School in the UK have found that playing natural sounds affects your body's fight-or-flight response, increasing the resting activity of the brain. Sound therapy is a holistic treatment that uses sound, vibration, and different frequencies to put you into a deep state of meditation, says Farzana Ali, founder of sound healing organization The Sound Therapist (find her on Instagram @thesoundtherapist). "We use singing bowls, gongs, and drums to generate sounds that wash over you, which is why we call sessions a 'sound bath,'" says Ali. "Higher frequencies are the most stimulating and used when someone is feeling stuck or blocked, whereas lower frequencies are calmer and more restful, perfect for tackling stress and anxiety. Sound healing allows your brain to move from a beta-dominant brainwave state (when you're focused, concentrating, or stressed), to a relaxed and restful alpha-dominant brainwave state. The sounds you hear also trigger your parasympathetic nervous system. Your breathing becomes relaxed, and your heart rate slows down too. This will encourage your body to fall into a deep relaxed state. Therapeutic sound work can also improve your sleep, as well as help with pain management and even lower high blood pressure."

"THERAPEUTIC SOUND WORK CAN ALSO IMPROVE YOUR SLEEP, AS WELL AS HELP WITH PAIN MANAGEMENT AND EVEN LOWER HIGH BLOOD PRESSURE."

2 SMELL

"The olfactory nerve connects to the part of the brain associated with memory and emotion," says Dr. Swart. "That's why you'll be able to think of a smell that evokes a childhood memory quite easily. It's also why scent is so powerful. You can use different scents to create links in your brain—an obvious one is lavender, which is associated with sleep. Citrus scents are used for energizing and rose for optimism. It's about discovering what works for you." Or try frankincense, which has been used for centuries to help relieve anxiety, says Amy Bonfield, head of spa activities at Aromatherapy Associates in Liverpool, England. "It has a relaxing effect on the diaphragm, encouraging deeper breathing and lowering stress levels," she says.





THE ART OF CALM

"The people depicted in *The Garden of Earthly Delights* by Hieronymus Bosch are getting up to all kinds of bizarre things. It suggests that human beings and their follies, pleasures, and wrongdoings are far more strange than they might first appear," says art therapist Sarah Stein Lubrano. "This piece makes me feel less ashamed of my own peculiarities, and more forgiving of other people's."

"There's something hopeful about the *Proun Series* by Russian artist El Lissitzky. He portrays a future free of problems in these abstract drawings with implied movement, which help us think differently too."

"Indigenous art such as the Maliwawa Figures, found on rocks in Australia's Arnhem Land, were painted almost 10,000 years ago and show that people before us have seen worse and people born after us will too. As a worrier, I find this helpful in allowing me to think about the future in less definitive ways."

3 TASTE

This is the sense you tend to forget when it comes to relaxation, yet you'll know by now that sugar and caffeine stimulate your system. For the opposite, try chamomile tea to reduce anxiety; oily fish to regulate dopamine and serotonin, which have calming and relaxing properties; and dark chocolate, which contains flavonoids—antioxidants that improve blood flow to the brain, promoting its ability to adapt to stress. Dr. Swart says: "[Author] Deepak Chopra taught me the idea of putting a grain of sugar in your mouth and savoring it; imagining the sugar cane field where it came from and how far it has traveled; connecting to that sense in a deep way. That is very relaxing, because when you're just focused on that one taste, you're not worrying about yesterday or tomorrow. You become present."

4 SIGHT

“Often we only see what is right in front of us,” say therapists and authors of *Everyday Confidence*, Nik and Eva Speakman. “By expanding your scope of vision, you distract your mind, which can help you relax. Try looking at five things you wouldn’t usually notice, such as the stitching on your sofa, the curve of the skirting board, or the direction of the carpet pile. To intensify the experience, close your eyes and imagine observing the intricacy of the face of a loved one, the petals of a flower, or the ripples of an ocean.” For more visualization exercises, check out sparkup.io, a neuroplasticity-based visualization and mindfulness app created by Dr. Tara Swart.

Another way to harness this powerful sense is through art therapy. “Art can be therapeutic as it allows people to experience and understand their own emotions in new ways,” says Sarah Stein Lubrano, designer and faculty member at The School of Life in London. She looks at a few favorite paintings (see *The Art of Calm*, left), as a way of resetting her emotions.

THE BEST YOGA POSE FOR INSTANT CALM

Set a timer for five minutes and move into a forward fold. Start standing then hinge from the waist, dropping your head toward the floor and your chest toward your knees. Dr. Swart says holding a position for this length of time will move your body from the sympathetic nervous system, which is fight-or-flight, to the parasympathetic nervous system, which is rest-and-digest, and give you the same feeling you get after waking up from a good sleep.

5 TOUCH

There’s a reason massages are so relaxing. Skin is the body’s largest organ and, as such, it is extremely sensitive to external stimuli. One of the fastest routes to relaxation? Warm it up—either in a bath or with the heat of the sun. Stretching your muscles is important, too. Yin yoga is great for going deep, but simply stretching for a few minutes per day can help you soothe stiff joints, reduce chronic stress, improve sleep, and revive energy.





STAY-SHARP
SECRET #4

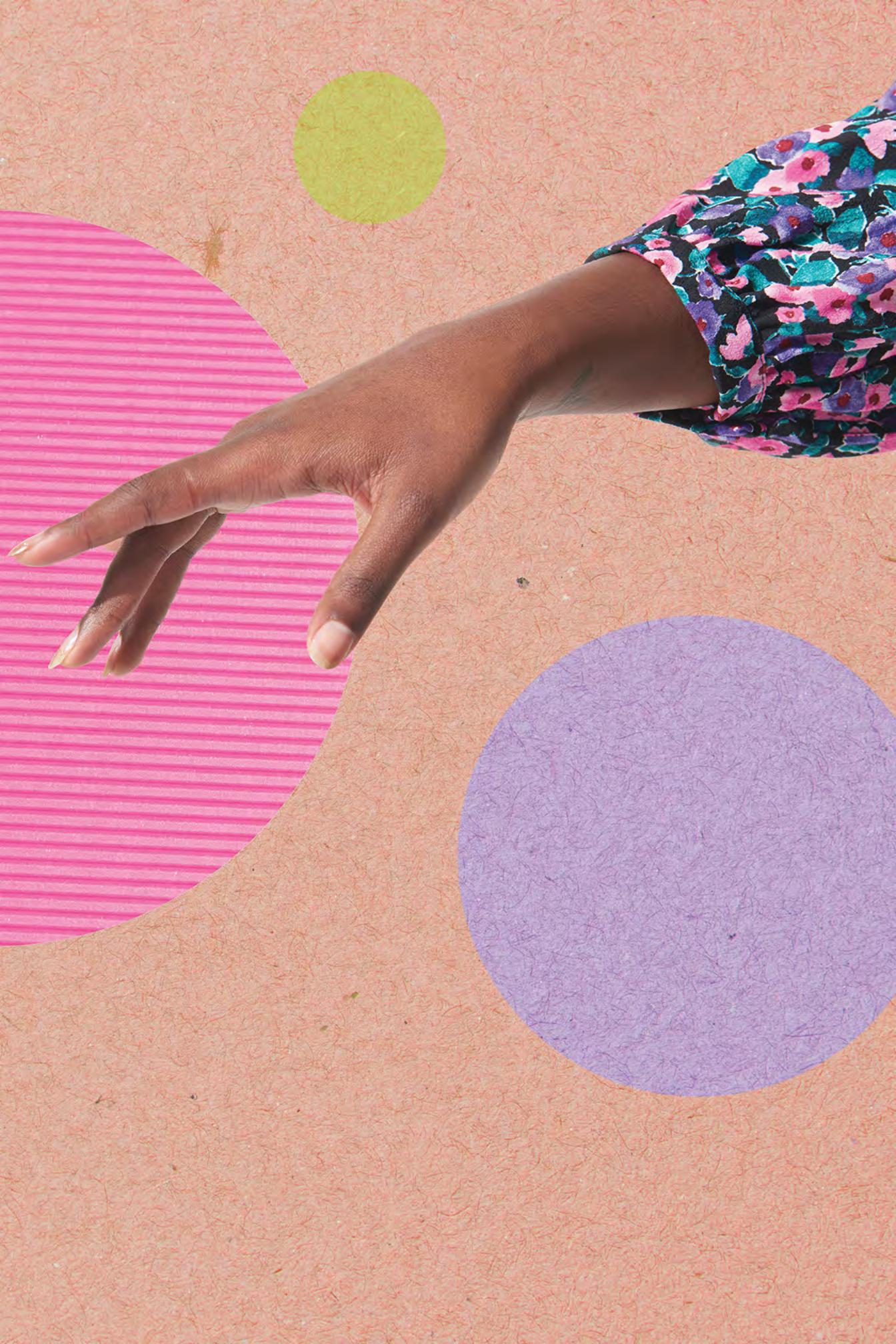
Get More Social

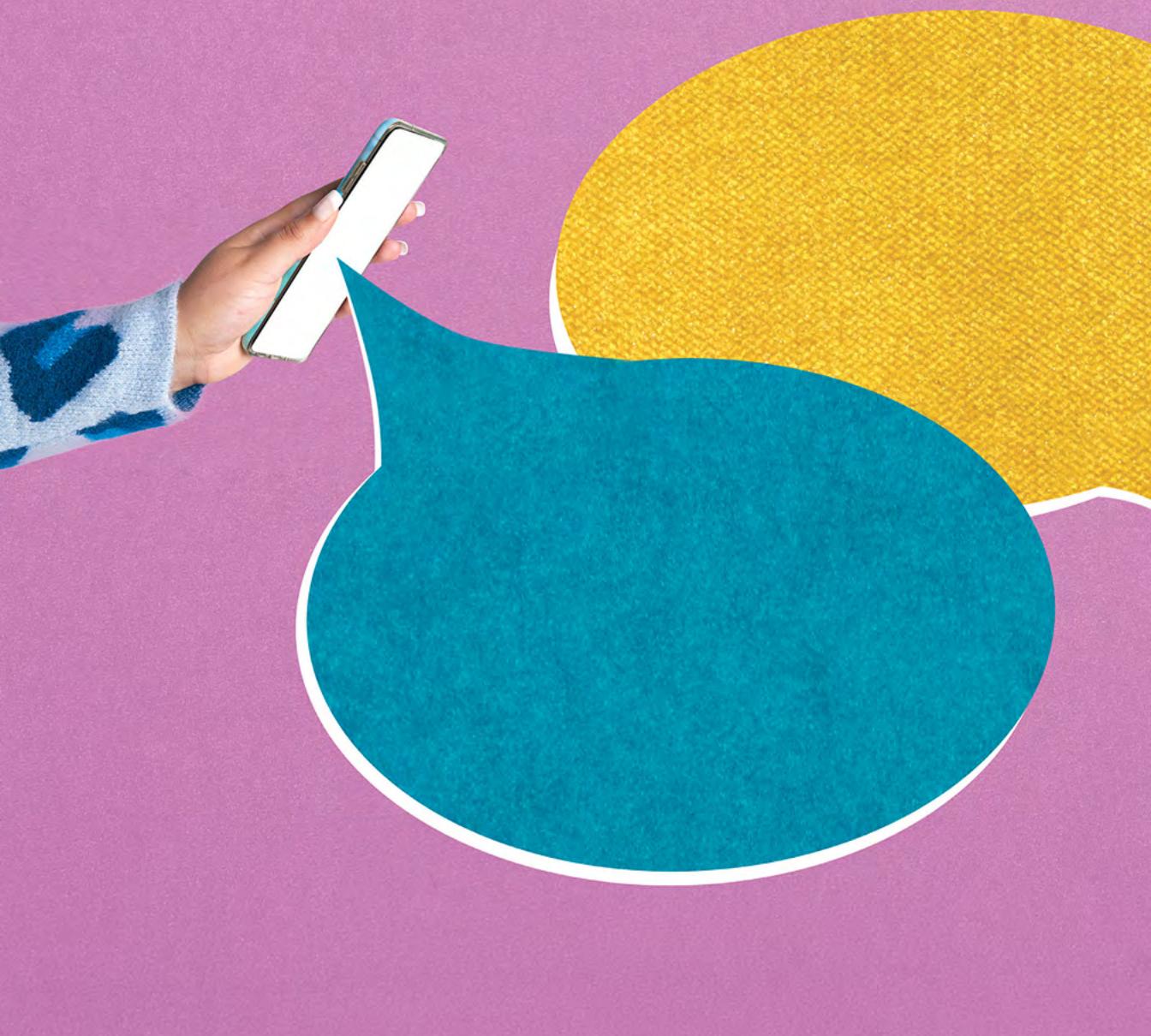


Connect with Yourself and Others

If you're feeling isolated, it's possible to reach out to others—as well as to become more comfortable with solitude. Both will pay off in benefits for your body and mind.

BY KIERA CARTER





There's so much in our world that connects us to others. There's the instant communication of social media, texts, and video calls, TikTok trends that go viral seemingly instantaneously, and globe-crossing news that hits our phones as soon as something happens. In large metropolitan melting pots—and even in small towns—people from different countries and cultures mingle and break bread. It's as if time and space are collapsing, bringing all sorts of people closer to one another—yet so many of us feel lonely and can't seem to shake it.

Researchers say that the U.S. is experiencing a “loneliness epidemic.” In a 2018 survey, conducted by the Kaiser

Family Foundation, experts discovered that 22% of Americans say they constantly feel alone. Such prolonged feelings of isolation can come with serious health problems, both mental and physical. Feelings of isolation are associated with depression, anxiety, and suicidal thoughts. Doctors have also found that lonely people tend to have increased blood pressure, weaker immune systems, and more inflammation throughout the body.

And yet many people living with a cacophony of duties related to work, home life, and socializing often find themselves yearning for a bit of silence



and solitude. In essence, they're feeling isolated by their responsibilities and disconnected from those they care about, even though they may see them every day.

Many studies warn against the disastrous effects of loneliness—a very different state from being alone—but there's also plenty of scientific research supporting the benefits of spending time solo and in silence. Multiple studies acknowledge the ability of peace and quiet to relieve stress and depression and power up creativity, empathy, productivity, and even overall happiness.

"Solitude is a calm you get from being alone—the flip side to loneliness," says Meghan Meyer, Ph.D., a professor of

psychological and brain sciences at Dartmouth College.

The good news: It's never too late to redefine your relationships with others—and with yourself—so you can get the best of both worlds.

"Until midlife, many of us buddy up with those who feed our instrumental needs, meaning the needs that help us get things done," says Suzanne Degges-White, Ph.D., chair of the department of counseling at Northern Illinois University.

Consider how new parents join up and share childcare hacks. But as we age,



STAY IN TOUCH

Maintaining friendships isn't easy, especially as you get older. Degges-White, the coauthor of *Friends Forever: How Girls and Women Forge Lasting Relationships*, shares her recipe for success.

► VULNERABILITY

Sharing creates intimacy, and getting personal separates friends from acquaintances, she says. If you're feeling low or going through some capital-S stuff, don't worry: It's not too much to share with a true friend—and doing so may even bring you closer.

► TRUST

Vulnerability doesn't work without it. "You need to be able to open up to a friend and trust that you won't get burned," Degges-White says.

► LAUGHTER

A solid friendship strikes a balance between serious and silly. "A similar sense of humor can produce a strong bond," she says.

► CATCHING UP

It doesn't need to be every day or week, but staying connected is staying invested, Degges-White says. Try an old-school phone call if you're online all day, or make a plan to meet up in person, even if it's just for coffee or a short walk.

“we often begin focusing on friends who meet more of our emotional needs,” she says. This means we naturally cut back on friendships (and frankly, all relationships) that drain us and foster ones that feed us. “We finally have the room to reflect on who we are and what we need in our lives in terms of people and relationships,” Degges-White says.

What that means for you: You can finally establish boundaries with family members, plan that girls’ trip, or spend the afternoon alone. Remember, your time is valuable, and it’s fine—even empowering—to turn down activities and people if they don’t enhance your well-being. Online, consider removing whiners from your social media or leaving groups filled with negative chatter. Here are a few more ways to boost your own feelings of contentment.

Create a List of Activities You Can Do by Yourself

Have a list of simple activities you enjoy or would be willing to try when you’re feeling lonely or craving some solitude: a puzzle, crocheting, quilting, watching movies, painting, screenwriting, woodworking. Better yet, date yourself, says Kate Balestrieri, a psychologist in Los Angeles. Take yourself to dinner, a movie, the park, a museum, a place you’ve always wanted to go. Many people look to relationships to regulate their emotions, Balestrieri says, but you can learn to do that for yourself.



Be Open to a New You

You may feel lonely if you recently lost a community you used to identify with—maybe because you were furloughed or because your homeschooling pod of mama friends broke up when the kids went back to school. “Your social identity is a core part of who you are,” says Jenny Groarke, Ph.D., a psychology lecturer at Queen’s University Belfast in Northern Ireland, so it hurts extra hard when you need to make a shift. But keep in mind: “People can hold multiple social identities, so the loss of one does not equal the loss of all,” she says. If your life circumstances have changed, or you want to boost your sense of self, become more involved in groups or activities that speak to who you are as a person now, Groarke says.

12%
**OF AMERICAN
ADULTS SAY
THEY’VE
EXPERIENCED
SOCIAL ANXIETY
DISORDER AT
SOME POINT IN
THEIR LIVES.**



HOW TO KEEP YOUR SOCIAL SKILLS SHARP

At this point in the pandemic, as people meet up with friends in person, one woman asks: Can we forget how to interact?

Imagine someone covering your eyes from behind and steering you down a dark hall. That’s what social anxiety feels like to me: daunting, terrifying, and out of my control. But thanks to therapy and new friends, I finally had mine in check. And then the big, bad quarantine wolf paused my progress. So I had to know: Did I lose all my gains? Will I need to start over?

Thankfully, no. “You don’t forget how to socialize,” says Ellen Hendriksen, Ph.D., a clinical psychologist in Boston. She likens it to fitness: “It’s much easier to get back into an old routine than it is to get fit for the first time.”

First off, phew. But I still felt a little rusty chatting with small groups in person after communicating online for months. Hendriksen’s advice: “Stop focusing on being witty or cool all the time, and instead focus on the other person.” Make eye contact (especially important if masks are involved). Ask follow-up questions. Take note of how they’re doing. Fun fact: This is called being present, and it helps with all kinds of anxiety. Nice!

Also important: putting action before readiness. “You don’t need to feel like doing something before you do it,” Hendriksen says. Before quarantine, that

meant taking my nonartistic self to a pottery class.

I was nervous at first, but soon enough, I felt confident at the wheel. Even during lockdown, I caught myself singing—an off-pitch show usually reserved for my empty home—in front of close friends. “Giving people more of yourself—not necessarily dark secrets, just showing them another side—can increase closeness and comfort,” Hendriksen says. That’s something we all could use right now. Maybe it’s why, instead of getting red-faced after my impromptu karaoke session, I felt free—no small feat these days.

Why Being Kind Is Good for Your Health

Did you know that treating others warmly can help improve your longevity? Experts explain why going the extra mile for someone else can do a lot for our collective well-being.

BY SARAH DIGIULIO

Thanks to the cooperation and collaboration it fosters, kindness is one of the main reasons people have been able to survive and thrive in communities for thousands of years. It also seems more important than ever given the challenges we're facing today, from climate change to racial and economic injustice, according to Kelli Harding, M.D., M.P.H., an assistant clinical professor of psychiatry at Columbia University Irving Medical Center in New York City. In fact, she says, kindness "might be the critical issue facing our world right now."

That's because kinder communities—ones that allow for fair access to things like housing, education, and health care—help us live longer, healthier lives, says Dr. Harding, who wrote a book on the topic called *The Rabbit Effect: Live Longer, Happier, and Healthier With the Groundbreaking Science of Kindness*.





The COVID-19 pandemic is just one stark example of this paradigm: Disadvantaged communities that haven't received the same consideration (financial and otherwise) as wealthier ones have faced much higher tolls from the deadly virus.

This is true on an individual level as well, research shows. Our bodies work better when our lives are filled with more empathy and kindness. It doesn't make us immune to the stressors and dangers around us, Dr. Harding explains, but "kindness helps us do better mentally and physically with whatever illness or other adversity shows up."

YOUR BODY ON KINDNESS

It makes sense that when someone kindly holds the door open for us, we benefit by not getting smacked in the face with the door. But research suggests that practicing kindness also significantly improves our own physical

well-being. Even after researchers account for differences in factors like age, gender, education, personality, and mental health, studies show that kinder behavior is linked to having fewer health problems—such as heart disease, sleep disorders, and even hearing loss—and to greater longevity.

Studies have also found that being kind can help lower blood pressure and anxiety. And some research found helping others even lessened symptoms of depression in people who had lost a spouse. Experiments show that doing something kind for someone is more likely to boost your mood and lower your stress than doing something for yourself. Plus, a recent sweeping review of data from nearly 200,000 research participants around the world found that prosocial behavior (things like donating money to charity, volunteering, and spontaneously helping out) was linked to better physical and mental health.



What makes these acts of kindness so powerful? Think of life partly as a series of choices. “Each small daily choice we make either nurtures our emotional well-being or aggravates stress, and that helps or hinders our physical health,” Dr. Harding says. Practicing kindness is on the helping side of that equation.

The precise connection to our physical health isn’t known, but we do know that kindness triggers a neurochemical response, says Waguih IsHak, M.D., a professor of psychiatry and behavioral neurosciences at Cedars-Sinai Medical Center and editor of *The Handbook of Wellness Medicine*. When we do something nice for someone else, oxytocin and dopamine (feel-good hormones) are released in our bodies, and levels of cortisol (a hormone related to stress) fall.

There’s also evidence that kindness affects our genes. Our DNA is the blueprint for our cells as they replicate



4 Ways to Practice Kindness Online

Sometimes it’s hard to remember you’re interacting with real humans when you’re looking at a screen. Use these strategies to make digital kindness your new superpower.

1 | Notice how well you play with others.

Did you react too quickly to your cousin’s social media post? Were you prompted to post a negative response because someone else did? Pay attention to your patterns.

2 | Take a pause.

Rushing leads us to feel stressed, which makes it difficult to practice empathy and kindness. Avoid looking at social media when you don’t have time to sit and digest everything you’re reading.

3 | Try to see it their way.

Consider the situation from the other person’s point of view. What led them to do what they did or think the way they do? If you find it hard to humanize the poster, it’s better to disengage: Just put your phone away and do another activity.

4 | Create kind habits.

Regularly make an effort to send a Facebook message to a friend who is struggling, give a genuine compliment to a person on your Instagram feed, or tweet at someone well-known to tell them you appreciated a book they wrote or a speech they gave.

over the course of our lives. Diet, exercise, and smoking all affect how well that blueprint gets translated into new cells—and whether genes linked to heart disease or cancer get activated. But kindness and other social factors in our environments impact that process as well, Dr. Harding says. Studies suggest that things like feeling socially isolated, not having someone who shows affection to you, and feeling discriminated against (all examples of unkindness) hamper it.

KINDNESS + EMPATHY = TURBOCHARGED BENEFITS

One way to amplify the effects of kindness on your health is to understand how it connects with empathy—feeling what someone else is feeling (such as being upset when a friend is upset over a breakup, though it has no direct bearing on your life). Empathy isn't necessary to be kind (you might donate to your niece's fundraiser out of obligation rather than because you feel for her in her desire to collect money for school).



GET YOUR KIDS ON THE KINDNESS TRAIN

THE FOLLOWING CHARITABLE ORGANIZATIONS OFFER KID-FRIENDLY VOLUNTEER OPPORTUNITIES:

••• LASAGNA LOVE

You and your child become chefs and prepare a delicious pasta meal for a local family in need, then drop it off at their home. The global nonprofit has a network of more than 20,000 volunteers across all 50 states. To get your child cooking, visit lasagnalove.org.

••• PROJECT LINUS

Help your child learn a skill like sewing, knitting, or crocheting so they can join the army of "Blanketeers" and help provide comforting handmade blankets to kids who are ill or otherwise in need. Find a nearby chapter at projectlinus.org.

••• A MILLION THANKS

Teach your kids about the sacrifices brave men and women make for our country. Then go to amillionthanks.org and encourage them to write from-the-heart thank-you notes to active, reserve, or veteran U.S. military members.

—Lisa Mulcahy

Though related, empathy can be a strong motivator for kind behavior and can make kind actions more powerful, explains Jamil Zaki, Ph.D., an associate professor in the department of psychology at Stanford University who researches the neuroscience of how people connect with and care for one another. Zaki's research has shown that people tend to feel happier and less stressed after they have done something kind for a friend—and those benefits are greatest on days when they also report empathizing with a friend. For instance, picking up your friend's kid at day care when she works late is an act of kindness, but if you empathize with how stressed your friend is, you might feel better emotionally as a result.

Other studies have found that when people give to charity and think their money has had a positive impact on others, the emotional benefits of that spending increase. Volunteering seems to have a similar effect. In one study, people who volunteered tended to live longer than those who didn't—but not when they volunteered for "self-oriented" reasons (like taking advantage of an employer's offer of a free day off for volunteering).

Beyond the mental health benefits, empathy can also help us be kind to people when we might not normally be inclined to do so. For instance, if a coworker is difficult to work with, empathizing with hardships they're experiencing at home might motivate you to pick up coffee for them on your way to work or lend a hand with a project they're working on.

If that sounds like a stretch, remind yourself that being kind doesn't mean you're letting other people walk all over you or that you can't set boundaries when you're asked to help and you're tapped out. It also doesn't mean never getting angry or having negative emotions. Kindness is a matter of treating others with dignity and respect even when you disagree with them. And in the process of creating a more enjoyable environment for everyone around you, you could lower your own stress levels and boost your well-being.

REAL-LIFE ACTS OF KINDNESS

Get inspired by these stories from women who were blown away by others' good deeds.

▲ **"My late brother, Jack,** had his name inscribed on the Fallen Fire Fighter Memorial in Colorado, and there was a dinner for the families. It happened to be on Jack's birthday, and I was alone. While getting ready at my hotel for this very emotional event, I realized I'd forgotten to pack my hairbrush. I was so upset, and the driver on the shuttle bus to the dinner heard me telling someone. She insisted on dropping everyone off, then taking me to a store

and waiting for me to buy a brush. I could never thank her enough—she made everything OK." —*Debbie Jeffries, Fitchburg, MA*

▲ **"Years ago at a career** fair, I lost my wallet with my driver's license, credit cards, and cash. I frantically retraced my steps but had no luck finding it. About a week later, I received a FedEx package containing my wallet—untouched, with every cent intact! There was a

heartwarming message from a complete stranger too. I still remember how I felt: that there were good people in the world who would go out of their way to help." —*Guri Mehta, San Jose, CA*

▲ **"I smiled at an elderly** woman on the street, and later we both ended up in the library. She said, 'You know, I have to tell you this: Your smile made my day.' Her kindness made my heart soar! I was reminded of something someone once told me: 'Thinking of a compliment and not saying it is like wrapping a gift and not giving it.' It helps me remember that we all have the power to turn someone's day around." —*Audrey Lin, Berkeley, CA*
—as told to *Lisa Mulcahy*





**STAY-SHARP
SECRET #5**

**Redefine
What It
Means to Eat
Smart**

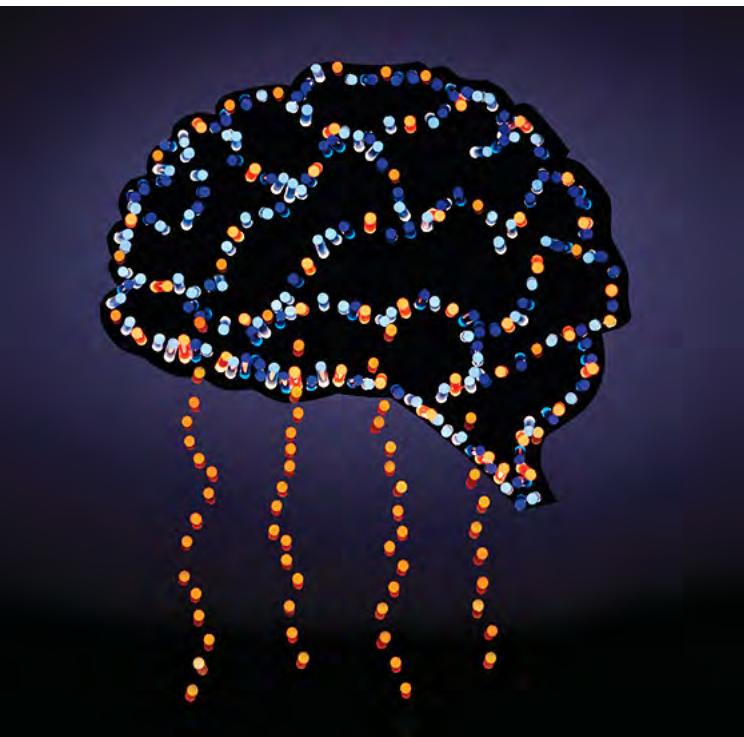


Your Second Brain

Experts say the gut is nearly as powerful a force as the brain, affecting your physical and mental health right now—and into your future. Here's the latest thinking about how your amazing, complex gut microbiome works, and ways you can keep it healthy.

BY LORA SHINN





GETTING INTO THE GUT MICROBIOME

With the help of everyday people, University of California, San Diego, researchers have uncovered new facets of the worlds within us. As part of the American Gut Project, more than 10,000 people from around the world mailed in their poop (yep). Scientists analyzed it to understand how organisms inside us—our microbiomes—interact with diet, lifestyle, and disease.

You may remember the word “biome” from biology class—a habitat such as desert or grassland, designated based on local climate and plant life. Our bodies contain their own worlds, unique habitats of trillions of wee beasties—viruses, fungi, bacteria, and other microorganisms living on us and inside us. In humans, microbes gather in these worlds on the skin, in the nose, and in the gastrointestinal tract (a.k.a. the gut).

Over the past 20 years, experts have refined techniques to “fingerprint” the gut’s cast of microbes through sequencing DNA, says Ami Bhatt, M.D., Ph.D., an associate professor of medicine and genetics at Stanford University.

You’ve had a microbiome since the day you were born, and it’s been evolving and growing with you. On your ride through the birth canal, your gut filled with a wide cast of microorganisms passed along by your mom. Then skin-to-skin contact, first foods, infections (and antibiotics), and all those germ-y toys changed your microbiome. Each new interaction, from childhood on, brings in new guest stars, removes old standbys, and casts long-term recurring roles—your gut’s world is constantly in flux.

Animal and human research has found that the gut microbiome can be influenced by environmental factors such as chronic stress, artificial sweeteners, pesticides, disinfection, and

If you’ve ever experienced butterflies in your stomach before a speech, you knew the sensation didn’t result from a lost monarch. But this common experience—your gut seeming to act out your brain’s anxiety—is an everyday example of fascinating new research into the interconnected worlds inside us.

While your stomach (likely) doesn’t contain butterflies, there are tiny organisms in there that are engaged in a conversation with your brain about that stress you’re experiencing. These organisms and their home could be far more powerful than we’ve realized, according to a burst of new studies.

Many of the tens of trillions of organisms in your gut, or gastrointestinal tract, can help maintain good digestion and health. But some of them are not so cooperative: When they take over, they wreak havoc. That might mean you get food poisoning or make more bathroom trips than you’d like—but some might have bigger implications. These nasty bugs could be sending the brain signals connected to brain-related disorders including anxiety and Alzheimer’s disease. Is your gut the key to a healthy brain?

ultrafine particles in polluted air. You can pick up new gut bacteria from your pet or a bad meal, Dr. Bhatt notes. Ultimately, microbial worlds wholly unique to you inhabit your body.

Helpful gut microorganisms have processes for breaking down foods and turning them into ingredients our bodies use. They develop the immune system, block pathogens, synthesize vitamins, and more.

GUT REACTIONS

In the past, you've probably lost your appetite because of stress or sadness—or falling in love. Maybe you've “followed your gut” or made a “gut decision.” These familiar terms and experiences clue us in to why some researchers are now calling the gut our “second brain” and saying bacteria may be the “master puppeteers” of our brains.

Scientists aren't sure yet how the gut's microbiome influences the brain—but it seems to be a fascinating two-way relationship. For example, among middle-aged adults, a more diverse microbiome was associated with better performance on cognitive tests.

Various theories posit that the gut produces molecules that signal the brain via the bloodstream or the enteric nervous system. For example, specific gut bacteria can detect and increase the production of serotonin, which is associated with feelings of contentment. In fact, 90% of the body's serotonin is made right in the gut. Another kind of bacteria commonly found in the human gut, *Lactobacillus rhamnosus*, actually contains a neurotransmitter that can help calm anxiety. Other bacteria may influence our social behavior and interactions and our responses to stress.

“It's a two-way street of feedback loops” between the gut and the brain, says researcher Laura Cox, Ph.D., a Harvard assistant professor seeking to understand how the microbiome can affect the brain in aging.

BAD BUGS AND THE BRAIN

Sometimes unhelpful critters stage a takeover of the gut. This overpopulation can lead to gut dysbiosis, a negative imbalance that seems to cause static in the body's communication lines and influence the brain's everyday work. For example, gut dysbiosis is associated with depressive-like behaviors. In an animal study, transferring a mood-disordered animal's gut bacteria into a healthy animal led to depressive symptoms for the formerly well animal, says Smita Patel, D.O., a neurologist and sleep specialist at iNeuro Institute. Other research is investigating the links between the gut microbiome and ADHD, autism spectrum disorders, anxiety, and stress.

Unhelpful gut microbes may create irritants to the immune system that travel through the bloodstream and influence the brain's immune cells. For example, the guts of Alzheimer's disease patients show a lack of diversity compared with those of similar adults and are often overpopulated with a specific microbe. This microbe may impair immune functions related to clearing a plaque built upon the brain's structures that is related to Alzheimer's symptoms.

Sex-based differences come into play as well, says Cox. The gut microbiota can



SIGNS OF TROUBLE

People struggling with anxiety and depression can experience digestive symptoms such as gas and bloating. “Often these cognitive and digestive symptoms are thought to be independent of one another, ignoring the important link between the gut and the brain,” says Smita Patel, D.O. Watch for symptoms like these, and try dietary and lifestyle solutions. If those don't help, talk to your doctor.

- Gas and bloating
- Nausea
- Constipation
- Diarrhea
- Brain fog or headaches
- Sugar cravings
- Muscle aches and pains
- Weight gain

regulate levels of hormones, including estrogen. When gut dysbiosis sets in, estrogen levels can change, possibly influencing cognitive decline.

Fascinating research is now being done by the Alzheimer Gut Microbiome Project in collaboration with 10 Alzheimer's Disease Research Centers and three major diet and lifestyle modification clinical trials. At-home fecal and blood collection kits from more than 3,000 racially diverse participants are being analyzed to help researchers understand gut microbiome changes across the stages of Alzheimer's disease. The project is also exploring lifestyle and diet impacts on Alzheimer's disease-related cognitive outcomes and gathering new evidence on the gut-brain axis of communication.

If researchers can home in on the precise mechanisms and environmental factors that make these connections work, they may be able to slow or prevent the Alzheimer's processes that begin in people's 50s or even earlier. The gut houses a world of information, and we are learning from it every day.

CHANGING YOUR GUT WORLD FOR THE BETTER

Your microbiome is potentially modifiable, Dr. Patel says. Tweaking your microbiome could help prevent or treat brain-related diseases or mental health conditions.

Be Mindful of What You Eat

"The lowest-hanging fruit for intervention is diet," Dr. Patel says. "A diet rich in plants, unsaturated fats, and vegetable oils and low in refined sugars and red and processed meat has been shown to increase gut microbe diversity and reduce physiological changes such as chronic inflammation."

For example, according to the UC San Diego study, those who ate more than 30 unique plant foods per week had more diverse gut microbiomes than those who consumed 10 or fewer types weekly.

While eating 30 different plant foods every week might seem like a gutsy ask, any improvement helps. The average American consumes only 0.9 cups of fruit and 1.4 cups of vegetables per day, far below recommended amounts.

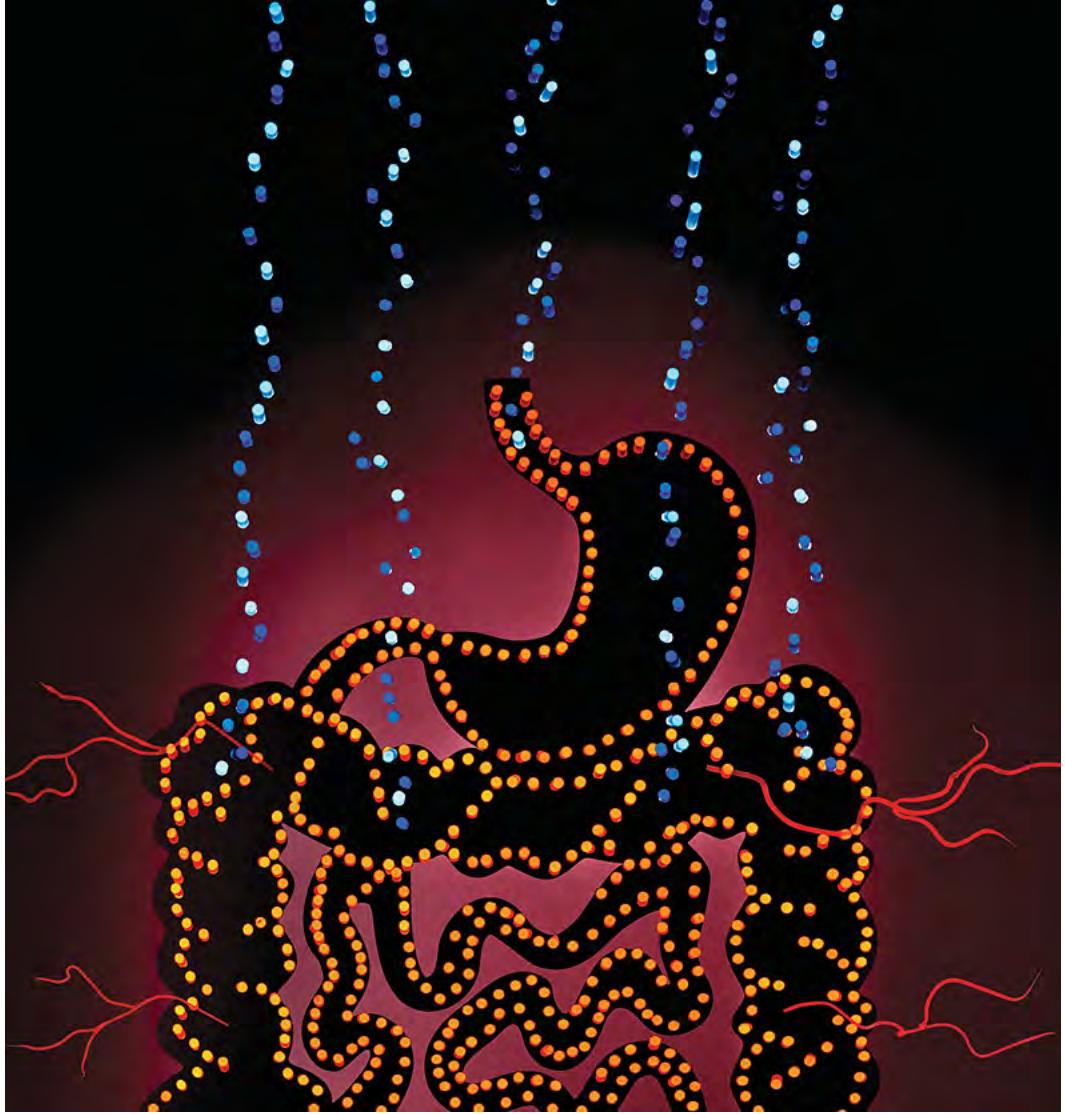
A quick refresher: Plant foods are anything but meat and animal products and include fruits, vegetables, whole grains, legumes, nuts, seeds, herbs, and spices. A multigrain sandwich with hummus (fiber-rich garbanzo beans, olive oil, and seed-based tahini), tomatoes, avocado, lettuce, sprouts, and red peppers could supply at least 10 plant foods in just one meal. Chart your plant foods for a week—you may find yourself trying new foods or ones you've forgotten about.

The fiber in your lunch's veggies, grains, and beans can increase bacterial colonies and species diversity. When gut microbes are fed complex carbs, they ferment the fiber-rich food, producing helpful metabolites that promote gut health. In essence, Cox says, fiber can help feed good microbes and promote a healthy microbiome. High amounts of fiber are found in beans, whole-grain cereals, broccoli, cauliflower, and even raspberries. (But switching too quickly to a high-fiber diet can lead to uncomfortable gas, Cox says.) If you add sauerkraut, tempeh, or fermented tofu to your sandwich, you may get extra gut points. Fermented foods can help "seed" good microbes, Cox says.

There's one wise takeaway experts agree on: "Be thoughtful about your food choices," Dr. Bhatt says. "You're eating for trillions."

Treat Your Body Kindly

Studies suggest that stress, sleep rhythm disturbances, and lack of exercise are linked to an imbalanced gut microbiome. Increasing your exercise, relaxation, and sleep can create a more diverse gut microbiome, Dr. Patel says. Exercise's blood flow kickstarts the gut's and nervous system's activity, contributing to a healthier gut, Cox adds. Aerobic



exercise has been shown to increase gut microbiome diversity and abundance.

Reduce stress by trying meditation or yoga, Dr. Patel suggests, and get the recommended seven to nine hours of sleep at night. Focus for a week on getting enough water (which helps move food through the intestines) and taking a 30-minute walk during lunch or after work, she says. “A healthy lifestyle isn’t an overnight accomplishment,” she adds. “It’s an accumulation of daily practices resulting from making conscious decisions.”

Be Cautious With Biotics

Antibiotics can be lifesaving, but it is important to avoid unnecessary exposure to them to minimize “collateral damage” when good bacteria die off alongside bad bacteria, Dr. Bhatt says.

Probiotic supplements can help boost beneficial bacteria after you’ve taken a round of antibiotics or if you’ve endured

a bacterial bug. But microbes you consume don’t stick around after you cease your daily dose, Cox says. Some probiotic supplements may help some people but make others feel worse; it depends on a person’s level of immune system inflammation and unique genetic makeup, she says, adding that the FDA doesn’t regulate most probiotics found in yogurt and other over-the-counter products. “Before you pay for a probiotic, see what it does,” she suggests—this may require reading the manufacturer’s studies or other health research.

Be skeptical of sweeping claims regarding the gut microbiome, Dr. Bhatt says. “These are early days, and we’re working to understand this very complicated web of interactions, though there’s a ton of promise. As in the rest of life, there aren’t simple answers.”

Foods That'll Keep You Young

Want to feel 10 years younger, in both body and mind? We've got a grocery cart's worth of delicious picks—all backed by science to keep you sharp, fit, and having fun.

BY ALYSSA JUNG







The things many of us take for granted when we're young—having sharp vision, bouncing back from illness, remembering names with ease, being able to skip down the block—don't have to fade away entirely (even if you'd rather walk than skip!). The foods we eat can have profound effects on how we move through the world, and can contribute to both longevity and quality of life along the way.

The key is anti-inflammatory foods. “Chronic inflammation pushes your body's organ systems to work extra hard to achieve normal functionality,” explains Jaelyn London, M.S., R.D.,

author of *Dressing on the Side (and Other Diet Myths Debunked)* and host of the podcast *On the Side With Jackie London, R.D.* “All that extra work is what ultimately damages your cells over time and can increase risk of chronic diseases like type 2 diabetes, heart disease, and cancer,” she adds.

So that's the big picture, but what's extra amazing about these types of food is that most of them have bonus benefits that improve specific functions of your body, like vision, heart health, and joint movement. Oh, and they're really delicious, because what's the point of feeling young if you can't enjoy what gets you there?



FOR A SHARP BRAIN

Blueberries

These tiny fruits are so packed with anthocyanins (antioxidants known for giving blue-, red-, and purple-pigmented foods their color) that they've become the berry of choice in brain research. "A growing body of scientific evidence is examining how blueberries can support brain health as part of a healthy eating pattern, and recent studies suggest that they may help ward off cognitive decline and improve cognition in older adults," says Frances Largeman-Roth, R.D.N., a nutrition expert and creator of *The Smoothie Plan*, a *Prevention* book.

Walnuts

It's funny that this wrinkly nut resembles a brain, because it harbors a slew of nutrients for your noggin. In one study, consuming walnuts helped adults perform better on cognitive tests of memory and concentration, likely due to their polyphenols and polyunsaturated fat. Another study found that women were less likely to have memory issues after age 65 when they ate at least two servings of walnuts per week during the prior decade or so.

Farro

Whole grains like farro, quinoa, and barley are rich in B vitamins, which research suggests can help protect memory and may slow the rate of cognitive decline. Bonus: B vitamins also help your body more efficiently use all the other nutrients you consume, London adds.

LONGEVITY HACKS

"SIMPLY PUT, THERE'S NO SUBSTITUTE FOR OR magic pill to replace a balanced diet. We need a combination of all three macronutrients (protein, carbohydrate, and fat), as well as an array of micronutrients and phytonutrients, to thrive," says Jennifer Agha-Khan, M.S., R.D., a registered dietitian at Culina Health.

"PHYSICAL ACTIVITY, STRESS MANAGEMENT, sleep, spending time outdoors, and mindfulness/meditation are important parts of the overall wellness spectrum that play a huge role in conjunction with diet," says Vanessa Rissetto, M.S., R.D., cofounder of Culina Health.

"THE EASIEST SMALL CHANGE WITH LASTING impact for your overall health and well-being is to swap out sugar-sweetened beverages for unsweetened ones, including antioxidant-packed coffee and tea. This can significantly reduce your intake of added sugar (beverages are the number one source in the American diet) while keeping you hydrated and allowing you to prioritize the types of treats you truly enjoy having, like dessert," London says.

"ENJOY ALCOHOL, ADDED SUGARS, AND processed meats in moderation, as they can increase the risk for chronic diseases like diabetes, heart disease, and even some cancers," says Tamar Samuels, M.S., R.D., cofounder of Culina Health.

"RATHER THAN STRIVING TO EAT PERFECTLY every day, consider focusing on adding more of these superfood picks over time, and have fun finding ways to eat them!" says Laura Iu, R.D., owner of Laura Iu Nutrition.



FOR GOOD VISION

Eggs

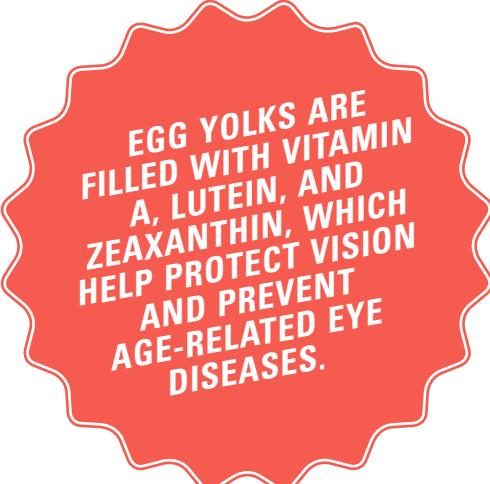
Their yolks are filled with vitamin A, lutein, and zeaxanthin, which function as antioxidants to protect vision and prevent age-related eye diseases. Choline supports good eyesight and may protect against glaucoma, while “vitamin D can improve and prevent age-related macular degeneration,” says Largeman-Roth.

Bell Peppers

All colors contain several eye-centric nutrients: vitamins A and C as well as other antioxidants like quercetin, lutein, and zeaxanthin. Vitamin C may help lower the risk of cataracts and other vision problems by preventing the oxidation that can cloud eyes' lenses.

Peanuts

These crunchy guys are packed with vitamin E, which helps prevent the breakdown of eye tissue; this may reduce the risk of vision problems. They're also filled with healthy fats that help you absorb lutein and zeaxanthin.



EGG YOLKS ARE FILLED WITH VITAMIN A, LUTEIN, AND ZEAXANTHIN, WHICH HELP PROTECT VISION AND PREVENT AGE-RELATED EYE DISEASES.



FOR A STRONG HEART

Legumes

Whether you are a garbanzo bean loyalist or you prefer a bowl of lentils, eating pulses helps keep your heart healthy. “Legumes like beans are naturally high in fiber, which binds to cholesterol particles in the intestines. So instead of entering the bloodstream, where it can harm your heart, it's excreted,” explains Laura Iu, R.D., owner of Laura Iu Nutrition. Many beans also contain folic acid, a B vitamin that helps regulate blood levels of homocysteine, an amino acid; too much homocysteine can damage blood vessel walls or lead to blood clots over time.

Plant-Based Oils

These types of oil (corn oil, canola oil, olive oil) contain polyunsaturated fats, which are important for heart health. “The combo of unsaturated fats and antioxidants helps improve total cholesterol and protect blood vessels from inflammatory damage,” London says.

Spinach

“Magnesium is a mineral strongly linked to cardiovascular disease prevention,” says Largeman-Roth. Abundant in spinach, it plays a role in regulating blood pressure, blood glucose levels, and more. Spinach is also a source of calcium, which aids the heart by helping regulate blood pressure and supporting maintenance of a healthful weight.



» TO PREVENT ILLNESS

Garlic

Part of the allium family (onions, scallions, and chives are also in this club), garlic contains a compound called allicin that fights inflammation and boosts white blood cells' infection-fighting response, says Iu. "To really reap the benefits, don't be shy—use more than one clove per meal," she advises.

Tea

The antioxidants in the leaves of black, green, oolong, and other nonherbal teas offer powerful immune support, which

can help prevent illness in both the short- and long-term. "But what many people might not know is that they also turn on certain genes that may help us combat diseases like cancer and heart disease, and they help reduce inflammation, another contributor to chronic disease," Iu says.

Cauliflower

Cruciferous veggies contain glucosinolates, compounds that may help protect against certain cancers, says London.



» TO MOVE WELL

Yogurt

All dairy is a good source of nutritional necessities for strong bones, joints, and muscles. Yogurt is an especially smart choice, letting you spoon up calcium and protein; look for one fortified with vitamin D to help with calcium absorption.

Salmon

Protein supports strong bones and is essential to building and maintaining muscle mass, and this fatty fish also boasts inflammation-zapping omega-3s,

which have been shown to have a positive effect on joints in people with rheumatoid arthritis. And give the canned kind a shot—it often contains tiny edible bones that deliver a bit of calcium.

Herbs and Spices

These flavor boosters have anti-inflammatory properties and can be especially helpful in easing joint pain and stiffness. They also provide antioxidant compounds for overall health and well-being.

Live, Love, Laugh—and Eat!

HAVE YOU HEARD OF BLUE ZONES? THEY'RE REGIONS OF THE GLOBE WHERE PEOPLE LIVE LONGEST AND ARE HEALTHIEST, AND THEY WERE POPULARIZED BY DAN BUETTNER, A NATIONAL GEOGRAPHIC FELLOW AND THE AUTHOR OF SEVERAL BOOKS, INCLUDING *THE BLUE ZONES CHALLENGE: A 4-WEEK PLAN FOR A LONGER, BETTER LIFE*. TOP PICKS FOR EATING LIKE THE WORLD'S LONGEST-LIVING PEOPLE:

▶ SARDINIA, ITALY

The land of olive oil and red wine also relies on:

Fennel: Used as a vegetable (the bulb), an herb (the fronds), and a spice (the seeds), it's rich in fiber and vitamins A and C.

Sourdough Bread: It's often made from whole-wheat flour in this region, along with live lactobacillus (instead of yeast). Fermentation creates organic acids that delay starch absorption, giving this tangy bread a lower glycemic index.

▶ OKINAWA, JAPAN

Seaweed, tofu, and fermented ingredients like miso are joined by:

Purple Sweet Potatoes: These don't spike blood sugar as much as white potatoes, and they're packed with anthocyanins.

Sesame Oil: It contains phytosterols, compounds that contribute to lower blood cholesterol levels, and vitamin E, which has antioxidant properties and supports healthy skin.

▶ NICOYA, COSTA RICA

Fiber-packed black beans are eaten almost daily—also try:

Yuca: This root veggie is high in vitamin C and other antioxidants.

Ground Corn: Used to make tortillas eaten at every meal, it increases the body's absorption of minerals.

▶ IKARIA, GREECE

Potatoes and oregano star in Greek cuisine, but these foods also take center stage:

Lemons: They're eaten whole, skin and all—the peel may positively affect blood glucose to help control or prevent diabetes.

Sage: This herb may be a reason Ikarians have lower rates of dementia.

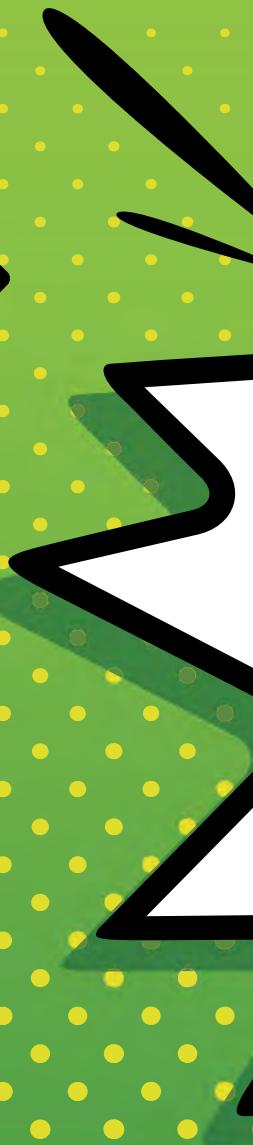
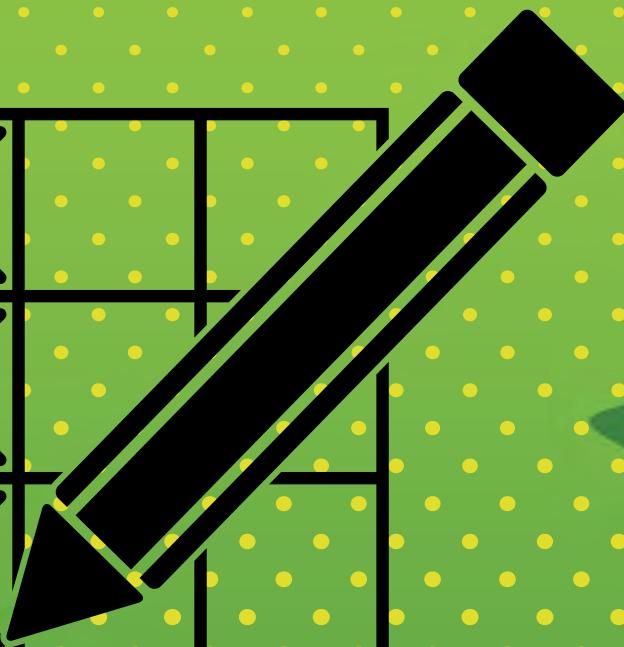
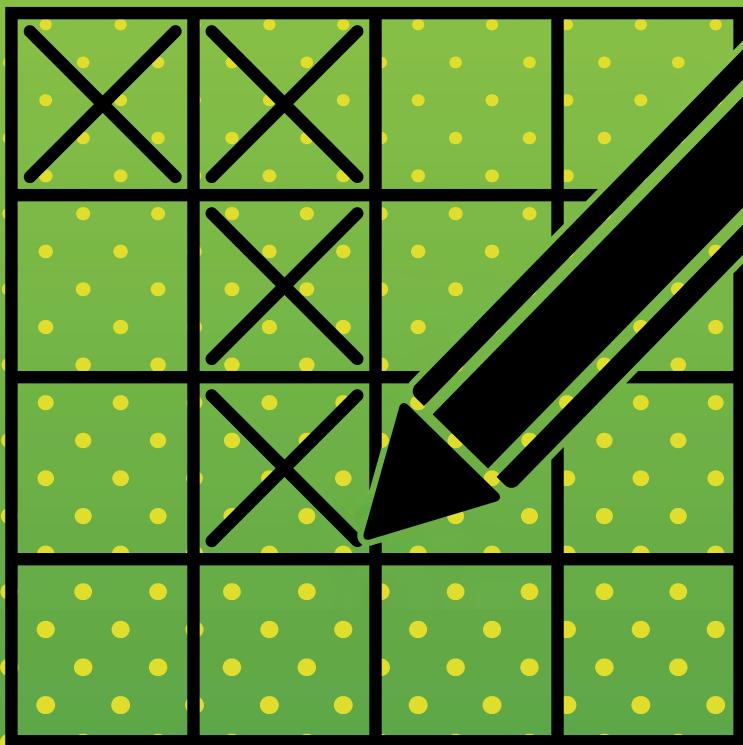
▶ LOMA LINDA, CA

Home to Seventh Day Adventists who eat largely vegetarian and embrace foods from other cultures. Go for:

Vegemite: An Australian spread with nutrients to support the brain and immunity.

Avocado: It has heart-healthy fats, and potassium helps balance fluid and sodium levels in the body.

FENNEL IS A VERSATILE FOOD THAT IS RICH IN FIBER AND VITAMINS A AND C. EATING IT CAN ALSO HELP SOOTHE AN UPSET STOMACH.





STAY-SHARP
SECRET #6

Play Games & Puzzles

Solving the Puzzle of Puzzles

One man's quest to harness the brain-sharpening, creativity-boosting, and altogether life-enhancing power of problem-solving.

BY A.J. JACOBS







Teams from all over the world gathered in Valladolid, Spain, for the World Jigsaw Puzzle Championship.

My back aches. I'm sweating. My bladder is sending out distress signals. I've been going full throttle for three hours and still have five hours to go, but I can't slow down. Not when the stakes are so high: I'm representing my country among a crowd of the best competitors on earth, sandwiched between teams from Turkey and Bulgaria.

I am competing in the equivalent of an Ironman triathlon for assembling little cardboard pieces. No, seriously. I'm part of Team USA at the World Jigsaw Puzzle Championship.

A few months ago, I didn't know such a competition existed. But it does, and these people are serious. Several hundred have gathered in a small city in Spain after years of training.

I've joined them not because I'm particularly brilliant at jigsaw puzzles but because I'm a true believer. I believe puzzles—jigsaws, as well as crosswords, sudokus, Rubik's Cubes, and all the other genres—aren't just time-wasting hobbies. I believe puzzles can make us

better thinkers and better people—maybe even help save the world. This tournament is a crucial part of my quest, despite the risk of a public whomping.

Team USA consists of me, my wife, and two of our teenage sons. We are at one of dozens of tables inside a hot, bubble-shaped dome. We've practiced for a month, but nothing like the jigsaw masters, who have trained several hours a day for years.

A few hours earlier, a man in a blazer read out the instructions into a microphone: We had eight hours to complete four large puzzles. Tres, dos, uno . . . puzzle!

We grabbed one of the boxes on our table—the African safari scene. Immediately we were at a disadvantage. Other teams had brought letter openers and knives to rip off the plastic wrapping on the box. Team USA was reduced to using our fingernails. Dammit. We dumped out the pieces and tried to snap some of the gray ones together, but they didn't fit. "I wish I'd brought a hammer," my son said. Good idea. But even that probably wouldn't have been enough.



LET ME BACK UP A BIT. Most humans have a masochistic streak. Some of us plunge into icy streams while running Tough Mudders. Some of us subject ourselves to jump-scare-filled horror movies.

My self-inflicted pain of choice: puzzles. The more frustrating, the better. And I'm not picky—I love the classics, but also the more cultish, such as Japanese puzzle boxes and chess problems.

The pandemic was a boom time for puzzle nerds like me. With all of us indoors looking for stress relief, puzzles underwent a surge in popularity not seen since the Great Depression. Word games like Wordle filled our Twitter feeds. One jigsaw company talked about being on “war footing,” unable to keep up with the demand.

As a writer who has made a career of exploring cultural flash points ranging from religion to family, I couldn't resist this opportunity to dive deep into my true passion. So began a two-year odyssey to solve the most baffling puzzles I could find in every genre. That included jigsaws, which I wrongly believed were simple. So naive.

But before I began solving puzzles themselves, I decided to tackle the puzzle of puzzles. Why do millions of us subject ourselves to these frustrating brainteasers? I called psychologist Paul Bloom, Ph.D., author of the book *The Sweet Spot: The Pleasures of Suffering and the Search for Meaning*. He agreed that, on the surface, puzzles seem odd. “When people are doing puzzles, they're not attracting mates, they're not eating food, they're not exercising, they're not making money. They're not doing something which is pleasurable in the obvious sense, like taking a hot bath or eating chocolate. They're working, they're struggling, yet they seem to be drawn to that.”

Bloom has several theories as to why we like to torture ourselves. First, we can thank the Puritan work ethic. We have been conditioned to associate hard work with a positive feeling. Hence the message “No pain, no gain.”

But it goes deeper. Bloom says our brains have evolved to try hard things. “There's something wired within us to take pleasure in the exercise of our abilities. Even rats exert extra effort in some cases, as if they are taking pleasure from the effort.”

Puzzles are a form of intellectual practice. And practice is important—it's at the root of our desire for play of any kind. Just as dogs wrestle with each other to get stronger and prepare for an actual fight, we are programmed to work on play puzzles to get better at solving life's puzzles. Because life is full of high-stakes puzzles, whether it's a chimp figuring out how to use a stick to retrieve dinner from the termite mound or scientists figuring out how to prevent COVID-19 with an mRNA vaccine.

We seek that aha moment, that almost orgasmic feeling when our paradigm shifts and the puzzle becomes clear and the dopamine flows. The more ingenuity needed, the more satisfying, perhaps because life's hardest conundrums often require the biggest mental leaps.

Take crossword clues: Wait! Those aren't letters; they're Roman numerals. Wait! That's not the elephant trunk; that's the luggage trunk. Even jigsaw puzzles—if created cleverly—provide surprises. That flat side looks like an edge, but it's smack in the middle! (Test your own abilities on page 124.)

This hunt for intellectual breakthroughs helps keep our minds sharp. There's increasing evidence that doing puzzles might help delay cognitive decline. Adults age 50 and older who

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EVEN OLDER PEOPLE WHO DO JIGSAW PUZZLES HAVE DEMONSTRATED BETTER VISUAL AND SPATIAL COGNITION COMPARED WITH THOSE WHO DON'T.

regularly engage with word and number challenges have been shown to score years younger than those who don't on tests that measure attention, reasoning, and memory.

Even older people who do jigsaw puzzles have demonstrated better visual and spatial cognition compared with those who don't. It's probably not just brain games that help—any mental challenge might maintain your sharpness, whether it's puzzles or learning a new language. Scientists tend to back the “use it or lose it” side of the debate.

But to me, the benefits of puzzles go beyond that. Puzzles can shift our worldview. They can nudge us to adopt the Puzzle Mindset—a ceaseless curiosity about everything in the world, from politics to science to human relationships, and a desire to find solutions. And we need solutions more than ever.



WHEN I BEGIN PROJECT PUZZLE, I know I'll have to tackle jigsaws, even though I'm more of a word puzzle addict myself. Jigsaws are the prototypical puzzle. When you say the word puzzle, many conjure up the image of those knobby little pieces.

So I start, as I usually do, with a Google search. I discover that most historians believe the first jigsaw puzzles were created by a British cartographer named John Spilsbury around 1760. He

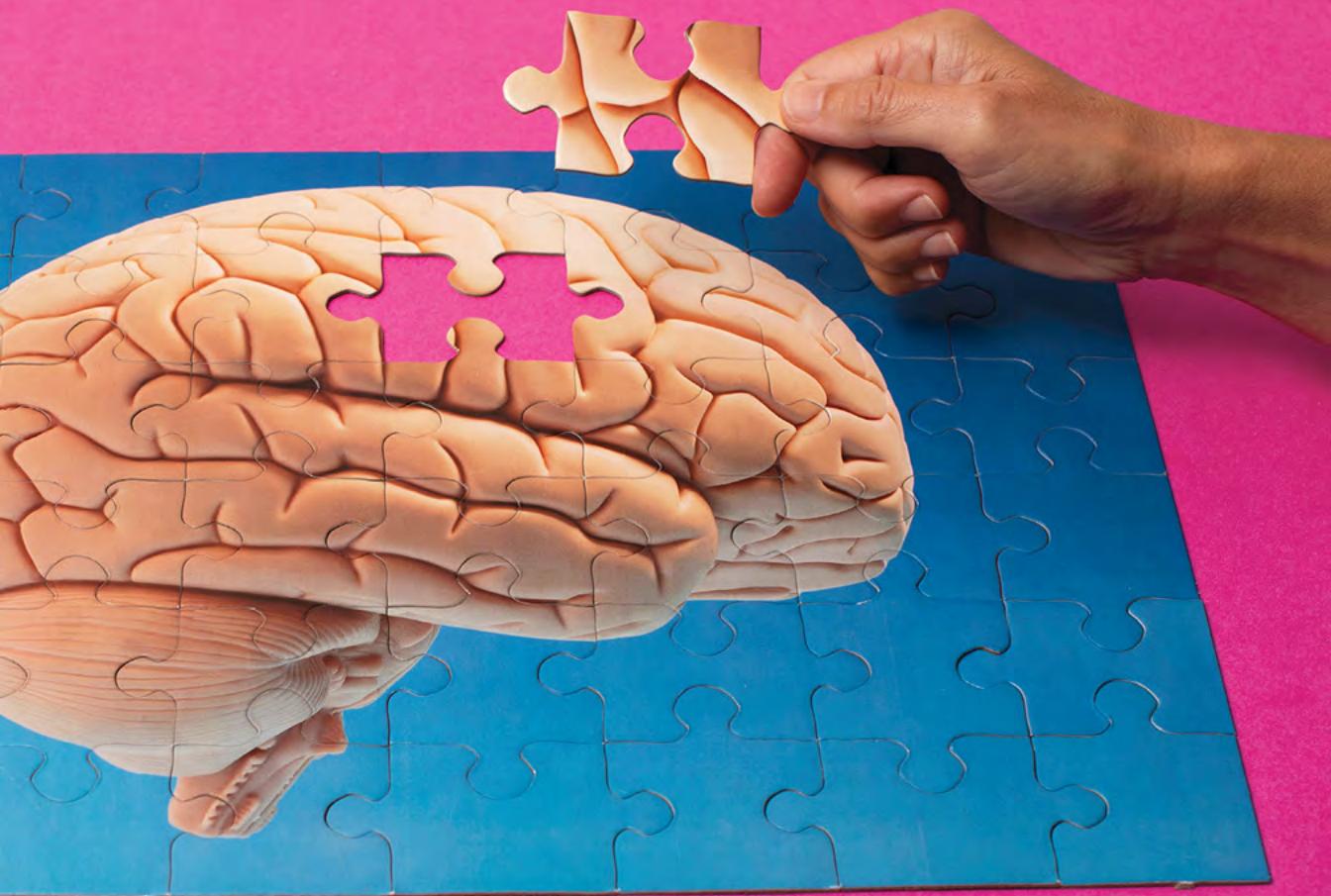


dissected a map in order to teach kids about geography. Probably the most benign case in history of a Brit carving up a map.

I learn that jigsaw fans include everyone from British royalty to Hugh Jackman. Then, deep into my search, I spot an intriguing link: the World Jigsaw Puzzle Championship. Nearly 40 countries are represented.

Yet, oddly, no Team USA.

On a whim, I fill out the application for the four-person team event. I figure this will be the first step in a rigorous screening process—timed trials, perhaps



an interview—that I will surely fail. A day later, an email pings: “Congratulations. You are confirmed as Team USA in the World Jigsaw Puzzle Championship.” I am equal parts thrilled and horrified. I mean, I know it’s not the Olympics. But still, there’s pressure. It’s an international competition, and I will be representing my fellow 330 million Americans.

As my teammates, I recruit my somewhat reluctant wife and two of our sons. “It’s your patriotic duty,” I tell them.

We need coaching, so I call up Karen Kavett, a New Jersey native with a

popular YouTube channel about jigsaws. She loves jigsaws for their meditative and calming properties—which is yet another benefit of doing puzzles. They get us into the flow state, when hours pass by like minutes.

Still, Karen knows the best strategies for speed solving. She gives me a crash course.

●●● **Yes, you should usually start with the edges. But not always. It depends on how colorful the puzzle is. Some experts start by sorting the colors instead, assembling those, and then working outward to the edges.**



The more challenging the puzzle, the bigger hit of dopamine when we finish.

- **If you're not sure two pieces actually fit together, hold them up to the light and make sure no brightness seeps through.**
- **Sometimes you should work backward. Visualize what's missing and look for that piece.**
- **When confronted with a dreaded big sky, or any monochromatic expanse, switch strategies. Instead of sorting by color, sort by shape. Make a pile of pieces with two outies and two innies. Make another for one outie and three innies. And so on.**

Next, I interview a German man who calls himself the Puzzle King. Peter Schubert recently spent months trying to be the first to assemble the largest jigsaw in the world: a monster with 54,000 pieces. It features great paintings from history and is about the size of three ping-pong tables.

He worked for 137 days, sometimes as much as 14 hours per day, until he finally got to the end. Or almost. He put together 53,999 pieces—only to find the last piece was missing. Peter's is a

cautionary tale: Keep track of your pieces at all costs.

My family and I spend our evenings working on jigsaws. But we only have a month to prepare.

When we show up at the Millennium Dome in Valladolid (about two hours south of Madrid), a structure with an indoor space the size of a minor-league baseball stadium, there's no doubt we're in the right place. The floor is packed with jigsaw enthusiasts, hundreds of them. I see jigsaw earrings, jigsaw-patterned clothes, and plenty of jigsaw tattoos.

We are shown to our spot, one of 86 tables (some countries have more than one team), each with a name card adorned with a flag. The Turkish team consists of four women wearing hijabs and skirts with a multicolored jigsaw pattern.

"I can't believe it, but I've got butterflies," my wife, Julie, says.

Julie starts doing stretches like she's running a 5K. One of the Turkish puzzlers has her head down and hands cupped in prayer. I say my own secular prayer to myself: *Please don't let us finish last.*



WE ARE SORTING THE EDGES AND COLORS. It immediately becomes clear the monkey will be a problem—it's the same color as the tree.

"Monkeys used to be my favorite animal," says Julie. "Don't make me hate you, monkeys!"

I love that Julie, once skeptical, has fully committed. She's trash-talking the puzzle.

We're making headway on the zebras, but the elephant is troublesome. I'm paying attention to the hues. The elephant and the rhino—both gray, but slightly different. This is a good life lesson, I tell my sons. Life is full of subtleties, different shades of gray. Nothing is black-and-white.

No response. I tell myself it's because they're focused. At the two-hour mark, a mini-crisis. On the carpet between our

[PUZZLES] CAN NUDGE US TO ADOPT THE PUZZLE MINDSET—A CEASELESS CURIOSITY ABOUT EVERYTHING IN THE WORLD, AND A DESIRE TO FIND SOLUTIONS.

table and the Bulgarian table, I spot a yellow-and-green piece.

"Is that your piece?" I ask them.

"Not ours," says a Bulgarian man with a tone that implies "Do we look like we'd make a rookie mistake like that?"

I pick it up. Imagine the Peter Schubert-like nightmare I just dodged—a missing piece at the end.

I glance at the Bulgarians' puzzle. They're close to finishing, only missing the lake and the sky. On the other hand, we are not close to finishing. In fact, we are well behind every other team that I can see.

At three hours and 25 minutes, we hear some sort of hubbub. There's a scrum of people around a table on the far side of the dome.

"What's happening?" I ask a group of Canadians near our table.

"It's the Russians. They are close to finishing."

"Finishing a puzzle?"

"No, finishing."

As in all four puzzles. It hasn't even been four hours.

The commotion builds. A short time later, a loud cheer. Four women—three blondes and one brunette—emerge from the little mob. They're in their 20s and wearing T-shirts with white, blue, and red stripes.

They walk to the stage to be interviewed for the livestream by the man in the blazer.

"*Campeones del mundo!*" he says.

They are beaming.

"That's insane," my son Jasper says.

"How'd they do that?"

"Just keep working," I say.

Every five or six minutes, we hear another burst of applause. The Brazilians finish. Then Japan. Then Mexico.

Each cheer is a knee to my ribs. Finally, at six hours and two minutes, we do it. We finish. Our first puzzle, that is.

My sons don't even fight about who gets to put in the last piece, which makes me proud. Julie whoops it up and applauds. Other tables join in, before realizing we're only one fourth of the way through.

Later, the results are posted on a TV screen. I jostle my way to see it, and we are way down at the bottom. But not the very bottom. We beat one of the Spanish teams.



I DON'T MIND BEING SECOND TO LAST.

I don't even mind that we were beaten by a man from Uganda who later told me he is color-blind but loves puzzles so much he chose this hobby. Now that's inspiring.

It's humiliating, yes. But we are in the mix, here with the best of the world, participating, not spectating. During the

awards ceremony, the Russian team accepts its 4,000-euro prize along with a jigsaw-shaped trophy.

I approach the champions to congratulate them and ask for an interview. Irina—one of the blond women—is the spokesperson, since she speaks better English than the others.

"Where in Russia are you from?" I ask. "Siberia," says Irina.

Makes sense, I think. What else is there to do in Siberia? I stop myself from saying it out loud. I'm sure they've heard the same lame observation a thousand times.

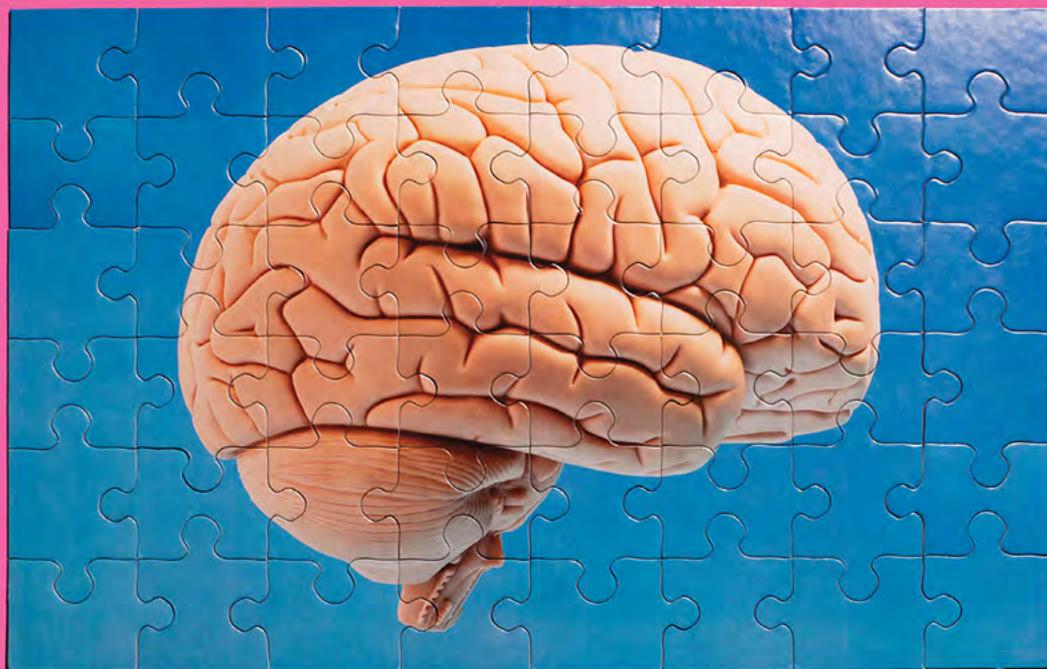
"What's your secret?"

"I can't tell you. It's a secret."

Fair enough. But Irina eventually relents and tells me one key to success: division of labor. One of them specializes in sorting the colors. Another specializes in the edges. Yet another is master of the monochromatic sections—the skies, the oceans—and solves them by shape.

"Wait a moment, please," Irina says.

She goes off to a duffel bag and returns with a gift. A little stuffed animal. Their team mascot: Ivan the bear.





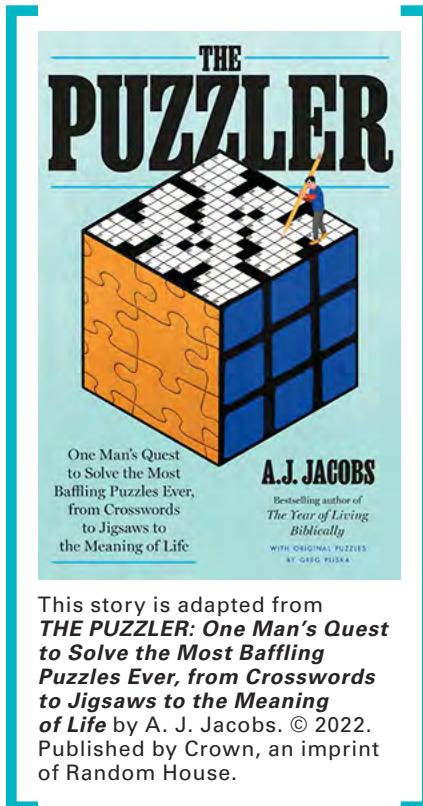
The author and his family representing the United States at the World Jigsaw Puzzle Championship in 2019. Their jigsaw-logged T-shirts read *e pluribus unum pictura*, which is Latin for “Out of many, one picture.”

“We want you to have this,” she says. I may hate Vladimir Putin, with his corrupt election meddling and his anti-gay policies, but this? This is a lovely moment of humanity. Jigsaw diplomacy.

As absurd as a jigsaw-puzzle tournament might seem, and as badly as we performed, I enjoyed this experience for many reasons.

I got to spend time with my kids, who took a break from Nintendo Switch. I got to see people demonstrating total mastery. Watching people performing at peak skill is inspiring, even if this skill isn’t one prized by the International Olympic Committee or ESPN. (I later watched a video of the Russian team solving. Their hands flew around the table so quickly, I had to check to make sure the video wasn’t on double speed.)

And, finally, I felt part of a community that transcends national borders. Geopolitics is a messy business. Just like many things in life, the pieces don’t fit smoothly. But every little bit of face-to-face interaction helps. I believe it more than ever: Puzzles can help save the world.



This story is adapted from **THE PUZZLER: One Man’s Quest to Solve the Most Baffling Puzzles Ever, from Crosswords to Jigsaws to the Meaning of Life** by A. J. Jacobs. © 2022. Published by Crown, an imprint of Random House.



ONE OF THE
BEST WAYS TO
SHARPEN YOUR
BRAIN IS
TO LEARN NEW
THINGS.

4 SCRAMBLER

To test your brain's flexibility, try to make as many words out of the following as you can. Can you find 10 per word?

Perseverance

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Tenacity

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10 VISUAL MATH

What number does each fruit represent?

$$\text{Apple} + \text{Apple} + \text{Strawberry} = 70$$

$$\text{Apple} + \text{Strawberry} + \text{Strawberry} = 50$$

$$\text{Apple} + \text{Strawberry} + \text{Orange} = 60$$

11 CRYPTOGRAM

Crack the code to find some advice from Eleanor Roosevelt.

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M A I B I J H L A H S D

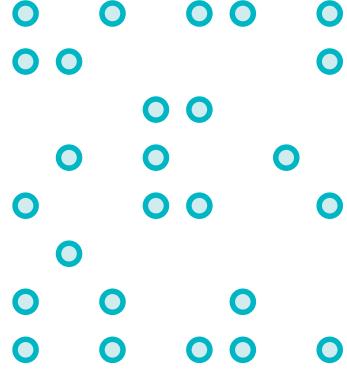
T _ _ _ **y** _ _
H S F W X M A I

T _ _ _ **y** _ _
H S F W U M A I

_ _ _ **T** _ _
R Z W W A H L A

12 BUILD A SQUARE

To strengthen your visualization skills, determine how many circles you need to add to the rows and columns to fill in the square.



13 ODD ONE OUT

Test your critical-thinking skills by figuring out which word doesn't belong in each group. Check our answers below, then see what other solutions you can find.

A

Limp,
Drop, Plain,
Like, True

B

Avid,
Underneath,
Island, Try,
Era

C

Away,
Data, Easy,
Aha,
Manna



FROM CHANGING YOUR DIET AND UPPING YOUR EXERCISE REGIMEN TO PLAYING MEMORY GAMES, *PREVENTION'S STAY SHARP FOR LIFE* OFFERS EASY, EFFECTIVE ADVICE TO SHARPEN YOUR MEMORY AND KEEP YOUR MIND STRONG AND VIBRANT FOR YEARS TO COME.

