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Can Yoga Do for Your Memory What It Does So Well for Your Mood and Muscles?

Research suggests that yoga is associated with better brain function, and even doing gentler versions of some poses can be beneficial.

An estimated 35 million people in the United States practice yoga in their homes, yoga studios, schools, recreation centers, parks, senior centers, and just about anywhere they can roll out a mat and strike a pose—or, rather, dozens of poses. For people who can't get up and down on the floor very easily, chair yoga and its modified poses offer a safe way to participate in this global mind and body practice.

Yoga can be as much a physical exercise—one that emphasizes strength and flexibility—as it is a way to relax and manage stress. But perhaps one of yoga's lesser known benefits is its positive impact on memory and thinking skills.

Maren Nyer, PhD, director of Yoga Studies and the associate director of the Research



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Yoga's ability to ease stress and improve your physical health may also benefit your cognition, as research suggests that yoga can help with memory and attention.

Coordinator Program at the Depression Clinical and Research Program at Massachusetts General Hospital, notes that yoga has been studied much more for its role in improving physical health, but that there is mounting evidence of yoga's positive effects on memory, learning, attention, and other brain functions.

Numerous studies in recent years have explored the connection between yoga and cognition in older adults. In one review of six randomized controlled trials, published in the journal *Complementary Therapies in Medicine*, four out of the

six studies showed that yoga had significant positive impacts on memory and executive function, as well as other cognitive functions. In a separate review of 11 studies, published

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JUST A SPOONFUL OF OLIVE OIL MAY HELP PROTECT AGAINST DEMENTIA-RELATED DEATH

Olive oil, a staple of the Mediterranean diet, is associated with several health benefits. Rich in antioxidants, olive oil helps lower the risk of chronic diseases. Its healthy fats may help protect against harmful inflammation and reduce blood pressure and levels of LDL ("bad") cholesterol. In a Harvard T.H. Chan School of Public Health study, published recently by *JAMA Network Open*, olive oil also appears to be associated with a lower risk of dying from dementia. The study included more than 92,000 men and women, whose health and dietary

patterns were monitored every four years for an average of 28 years. Those who consumed more than 7 grams of olive oil daily (at least half a teaspoon) had a 28 percent lower risk of dementia-related death compared with their peers who seldom or never had olive oil. While the study was observational and didn't prove that olive oil consumption actually reduces the risk of dementia-related death, the findings did underscore years of previous research that have identified olive oil as an important feature of a healthy diet and a wise alternative to items such as margarine and mayonnaise, which don't have olive oil's health benefits. **MMM**

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Better Sleep Associated with Lower Levels of Loneliness

Sleep quality and quantity are associated with many aspects of health, including better brain function, blood pressure management, more energy, a stronger immune system, and much more. A study published recently in the journal *SLEEP* suggests that better sleep also helps combat feelings of loneliness. In a study of 2,297 adult men and women, participants filled out a questionnaire and a loneliness scale. Those who regularly experienced better sleep tended to have lower total loneliness scores and lower emotional loneliness scores. Current National Institutes of Health guidelines recommend adults get at least seven hours of sleep per night. The researchers suggested that better sleep quality and quantity should be emphasized in the medical and mental health communities as a possible way to reduce feelings of loneliness.



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Getting at least seven hours of quality sleep a night promotes better health and may reduce feelings of loneliness.

Study: 1 Out of 8 Older Adults Experiences Traumatic Brain Injury

In an 18-year study of more than 9,200 Medicare enrollees, researchers found that about 13 percent of those individuals experienced at least one traumatic brain injury (TBI). Most TBI incidents involve falls from ground level. The study findings, published by *JAMA Network Open*, also note that the percentage of older adults suffering a TBI may be much higher because the research identified only cases that were diagnosed and treated. Previous research suggests that many older adults who experience a TBI or possible TBI do not seek medical attention. While many TBIs can be treated effectively, these injuries do raise the risk of cognitive impairment and the onset of conditions such as Parkinson's disease, seizures, and mood disorders (primarily anxiety and depression). The researchers also explained that fall injuries may be more common among healthy, active seniors who are walking, biking, playing sports, traveling, and doing other activities in which falls may be more likely. The study findings should serve as a good reminder to take precautions, such as wearing a bicycle helmet, walking or jogging on an even surface, using handrails on stairs and grab bars in the bathroom (if needed), making sure walking areas in your home are well-lighted, and being careful that your home is free of throw rugs, floor clutter, and other trip hazards.

Steps or Minutes? Both Count Toward Better Health and Fitness

When it comes to exercise advice in recent years, health experts have often focused on two options: 150 minutes a week of moderate-intensity aerobic activity (or 75 minutes of vigorous-intensity exercise) or 10,000 walking steps per day—though that figure has been debated, with some researchers suggesting that health benefits tend to plateau after 7,000 steps. So, are steps or minutes the way to gauge your exercise productivity? According to a Harvard study, published recently in *JAMA Internal Medicine*, both approaches can be equally helpful in lowering your risk of cardiovascular disease and premature death. In the study, 14,000 healthy women (ages 62 and older) wore activity trackers and were followed for nine years. The average moderate-exercise time was about 62 minutes per week, while the average step count was about 5,200 per day. Regardless of their exercise type, the women who were the most active experienced the largest risk reductions compared with their peers who exercised the least per day and per week. Given the study findings and the ubiquity of pedometers and activity trackers, the study authors suggest that step counts be incorporated into national exercise guidelines to identify individuals who want to track their activity by the foot, rather than the minute. **MMM**



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Tracking your physical activity with a step counter or a watch can be equally effective in helping you reach your exercise goals.

Early Signs of Memory Loss May Indicate Presence of Tau Tangles in the Brain

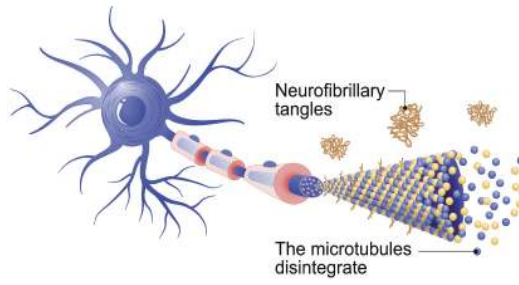
These biomarkers associated with Alzheimer's disease may be present before significant symptoms of cognitive decline are obvious.

Individuals who experience early memory difficulties and whose partners agree that there may be memory problems often have higher levels of tau tangles in the brain, according to a study led by researchers from Massachusetts General Hospital (MGH) and Brigham and Women's Hospital. Tau is a protein in the brain that can form tangles within neurons, causing them to stop functioning normally and eventually die. Tau tangles are a common biomarker associated with Alzheimer's disease (AD).

Researchers are hopeful that if people who have AD biomarkers, but only mild symptoms, can be identified, they may be able to begin disease-altering medications. So far, these medications have shown some effectiveness if started in AD's earliest stages. "Understanding the earliest signs of Alzheimer's disease is even more important now that new disease-modifying drugs are becoming available," says study author and clinical neuropsychologist Rebecca E. Amariglio, PhD, with MGH and Brigham and Women's. "Our study found early suspicions of memory problems by both participants and the people who knew them well were linked to higher levels of tau tangles in the brain."

Tracking Tau

The study, published recently in the journal *Neurology*, involved 675 adults (average age of 72) with no cognitive impairment at the start of the study. All of the participants also had a study partner, such as a spouse, adult child, or friend who could answer specific questions about the person's memory and thinking skills. In most cases, the study partner lived with the participant.



When tangles of tau protein build up in microtubules—the structures that help form a neuron's "skeleton"—brain cell damage can occur and Alzheimer's disease may follow.

Each participant and partner completed questionnaires to assess the individual's subjective cognitive decline. Subjective cognitive decline describes self-reported changes in memory and thinking skills that are not significant enough to show up on standard, objective cognition tests. Questions included, "Compared to one year ago, do you feel that your memory has declined substantially?" and "Compared to one year ago, do you have more difficulty managing money?" The responses were scored, with higher scores indicating greater complaints about memory.

Study participants also had brain scans for tau and amyloid plaque, another toxic brain protein that, at high levels, is a biomarker for AD. About 60 percent of the participants had elevated amyloid levels, meaning that they were at higher risk for cognitive impairment, even though they had normal cognitive functioning at the start of the study. Tau buildup tends to be greater when there are also higher amyloid levels.

In the study, researchers found that participants with higher levels of tau tangles had higher memory complaint scores. Their partners also scored them higher. The

association was even stronger when amyloid plaques were also detected.

"Our study included a high percentage of people with elevated amyloid, and for this reason we were able to also see that memory complaints were associated with higher tau tangles," Dr. Amariglio says. "Our findings suggest that asking older people who have elevated Alzheimer's disease biomarkers about subjective cognitive decline may be valuable for early detection. This is particularly important since it is predicted that treatments given at the earliest diagnosable form of the disease will be the most effective in slowing the disease."

Takeaway

While you may look at any memory change as cause for concern, it's important to understand that occasional memory lapses or struggles with word finding aren't always early signs of dementia. It's normal for age-related changes in memory and other brain functions to occur a little more often as the years go by. Other factors, such as medication side effects, insufficient sleep, vitamin B12 deficiency, and conditions such as urinary tract infections can cause temporary, but often reversible, changes in memory and cognition.

Because memory problems can stem from chronic, progressive conditions such as AD, as well as other factors, it's always important to pay attention to memory lapses and to any other thinking-skills changes.

Have honest and open conversations with family members about their observations. Also talk with your primary care doctor, who may give you a simple cognitive test as an initial screening. From there, you may be given some reassurance that your memory changes are not a reason for concern or that seeing a neurologist or neuropsychologist may be a good next step. [MMM](#)

Eating Too Much Ultra-Processed Food Could Raise Stroke and Cognitive Decline Risks

A diet rich in whole foods, however, supports healthy brain function and reduces the risk of stroke and other conditions.

Unless it's something like a carrot or an almond, the crunch you crave may be affecting your thinking skills. According to a Massachusetts General Hospital study, eating too many ultra-processed foods is associated with an increased risk of cognitive impairment. Ultra-processed foods (UPFs)—items packed with additives and preservatives but lacking in much nutrition—include most chips, crackers, and packaged sweets.

As health and nutrition experts have been saying all along, it's always best to stick with whole foods (like vegetables, nuts, fruits, etc.) and eschew most items with lengthy, hard-to-pronounce ingredient lists. “We’ve shown that increased intake over time of ultra-processed foods can impact the two most common and significant causes of neurological disability—stroke and cognitive impairment. The good news is that even modest cutbacks in consumption of UPFs are associated with meaningful brain health benefits,” says the study’s senior author, W. Taylor Kimberly, MD, PhD, chief of the Division of Neurocritical Care at Massachusetts General Hospital (MGH).

Processed vs. Ultra-Processed

Processed foods have long been considered dietary no-no’s, items that may be tasty and convenient, but shouldn’t be taking the place of healthier whole foods at mealtime or snack time. But in recent years, nutrition experts have been sounding the alarm regarding ultra-processed foods, which may have you asking: “What’s the difference?”

In simple terms, processed foods are those that have undergone some



Hot dogs may be tasty at a summer barbecue, but too much ultra-processed food can take a toll on your physical and cognitive health.

type of change from their natural state. The change could be minimal, leaving the food’s nutritional value intact. Think frozen vegetables. But processed foods also may contain other ingredients that may raise some health concerns. Think canned vegetables preserved with hundreds of milligrams of sodium.

Ultra-processed foods, as you might imagine, include products that are a long way from their natural state. Ultra-processed foods are often made up of substances extracted from whole foods or derived from food constituents, leaving little actual whole food intact. Examples of ultra-processed foods include soda, hot dogs, cookies, and most boxed or bagged snack foods and sweets.

“It’s important for individuals to pay attention to not just what foods they eat, but how those foods are processed before they eat them,” Dr. Kimberly says. Ultra-processed foods often contain fats, starches, sugars, salts, and hydrogenated oils to boost their flavor and extend their shelf-life. Over time, however, these added ingredients may not be doing the same for your own life. In many cases, the more ingredients a product has, especially if those ingredients are chemicals and preservatives, the more likely it is to fall into the ultra-processed category.

UPFs and the Brain

Numerous studies in recent years have established a strong association between the consumption of ultra-processed foods and increased risks of conditions such as cardiovascular disease, diabetes, obesity, and even cancer.

In the MGH study, researchers analyzed 10 years worth of data from REGARDS, a stroke research project based at the University of Alabama Birmingham (UAB) School of Public Health and involving more than 30,000 adults. Researchers found that increased consumption of UPFs was associated with a 9 percent increased risk of stroke and a 12 percent increased risk of accelerated cognitive decline. The study findings, published recently in the journal *Neurology*, also suggest that the association between UPFs and stroke is stronger among Black adults, possibly because of the higher incidence of hypertension in that population.

Researchers also looked at how specific diets, such as the Mediterranean, DASH (Dietary Approaches to Stop Hypertension) and MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) might affect stroke and cognitive decline risk. Those diets emphasize vegetables, fresh fruits, whole grains, lean proteins, and healthy fats (such as olive oil), while minimizing red and processed meats, and foods with added sugars and unhealthy fats.

Study authors found those diets were independently associated with reduced risk of stroke and cognitive decline. The findings also suggest that the degree of food processing plays a key role in overall brain health and function. They also underscore the degree to which other dietary patterns doctors often recommend, such as Mediterranean, DASH and MIND eschew ultra-processed foods and

include only processed foods that are still rich in health benefits.

Next Steps

Researchers at MGH and UAB say it's now important to learn more about the biological mechanisms that link UPFs to poorer brain health and to better understand the role of the gut microbiome in metabolizing the foods we eat. Dr. Kimberly explains that such research could lead to the discovery of biomarkers in the blood that measure UPF intake, which could then be used to develop personalized medicine plans to help individuals decide if changing their diet could help them improve their brain health or at least reduce the risk of cognitive decline or stroke.

“While our study clearly sounds a warning, it also provides hope that there are things we can do as individuals and which policymakers can do on a national scale to reduce UPFs from our daily diets,” Dr. Kimberly says. “As we found, even incremental changes are associated with a significant difference in improving our brain health, along with lowering our risk for stroke and cognitive decline.”

Health experts often recommend making slow, small dietary changes in order to establish a healthy eating pattern that will stick. To that end, opt for a small bowl of berries for dessert instead of cookies or other sweets. Try sparkling water instead of soda and raw vegetables with hummus instead of chips or crackers. Aim for making one or two changes a week, rather than trying to overhaul your diet in a day.

The next time you go shopping, take a moment before buying ultra-processed products and think about healthier alternatives. And if the idea of making major dietary changes seems overwhelming on your own, talk with your doctor about prescribing the services of a registered dietitian to help you plan meals and snacks. **MMM**

MEMORY MAXIMIZERS

HERE'S THE LATEST RESEARCH TO HELP YOU KEEP YOUR BRAIN SHARP.

Practice May Not Make Perfect, But It May Boost Your Memory

You may recall the old joke about the person asking a stranger for directions: “How do you get to Carnegie Hall?” And the stranger answers, “Practice, practice, practice.” It turns out that a lot of practice won't just sharpen your piano skills (or whatever you're working on), but it also may sharpen your memory. A study published recently in the journal *Nature* suggests that the repetitive nature of practicing a particular skill or activity can change the memory pathways in the brain. The researchers said one way to think about it is to imagine each neuron in the brain sounding a unique note as you learn a new skill. The melody produced by all those notes may differ as you learn new things, make mistakes, start over, and so on. But the more you practice and the more you repeat certain actions, the more streamlined that melody becomes until it plays without much variation during each practice session. This process not only helps certain skills become somewhat automatic, but it also may help train the brain to make it easier to learn and remember other new skills and information. The researchers also suggest that the “practice, practice, practice” idea may be helpful in treating people with memory-related disorders. So, if you're getting tired of practicing that concerto, mastering a new recipe, or perfecting your tennis serve, just know that you may be boosting your ability to learn and recall all kinds of new things. (But if you really do just want to get to Carnegie Hall, know that it's at the corner of 7th Avenue and W. 57th Street, just south of Central Park.)



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Frequently practicing just about any skill will improve your ability, but it may also help change memory pathways in the brain in order to better learn and recall all kinds of new information and skills.

Replace Multitasking with Single-Tasking

As you read this month's Memory Maximizers, are you also listening to music? Is the weather forecast on your TV? While background noise may not seem like much of a distraction, your brain's attention is being divided between processing the words on this page and the music or meteorologist in your ear. As a result, your ability to recall any of it later on is compromised. It's a busy world, and multitasking has been heralded as a vital skill in the workplace and elsewhere. However, memory experts tend to agree that, in practice, multitasking is not a great way to learn and remember new information or make thoughtful, thorough decisions. Instead, try to focus on one thing at a time, especially if you're trying to learn something new or recall something you should have learned. Turn down the music or television and set your phone aside and concentrate.



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Multitasking may seem like an efficient use of time, but too much divided attention can make learning and recall much more difficult.

If you aren't trying to learn something, then a little multitasking may be okay. Background music while you're on the treadmill or making dinner can make both those activities more enjoyable, but when you need your brain to be at its best, just give it one assignment before moving on to something else. **MMM**

Yoga and Meditation May Trigger Helpful Altered States of Consciousness

These altered states often are beneficial to your well-being, but in some cases, they can cause distress.

Yoga, meditation, and similar practices are often thought of as paths to relaxation and stress management. However, a surprising number of people who engage in these behaviors experience altered states of consciousness, according to a study published in the journal *Mindfulness* and led by Matthew Sacchet, PhD, director of the Meditation Research Program at Massachusetts General Hospital (MGH).

In the study of 3,135 adults in the United States and United Kingdom, researchers found that about 45 percent of them reported experiencing non-pharmacologically induced altered states of consciousness at least once in their lives. Previous estimates put that number closer to 5 percent of U.S. adults and 15 percent of people in the UK who practice yoga, meditation, and deep breathing exercises.

“With more people engaging in mindfulness, meditation, and other contemplative and mind-body practices, we thought that altered states and their effects might be common among the general population. We conducted a series of international surveys to investigate and indeed found that such experiences were widespread,” Dr. Sacchet says.

What Are Altered States?

Altered states of consciousness, sometimes referred to as “non-ordinary states,” mean that the mind is aware, but is not in its usual wakeful condition. In an altered state you may be able to examine your life and the world around you with different perspectives—some that you may not be able to find when your mind is in an “ordinary state.”



Yoga and meditation may simply ease your stress and help you focus, but for some people these practices can lead to temporary episodes of altered states of consciousness.

Altered states can include sensations such as derealization—the feeling of being detached from your environment, along with unitive experiences (a sense of “oneness” with the universe or with the things and people around you), vivid perceptions, out-of-body experiences, and even physical sensations such as bodily heat or electricity.

It isn’t just intentional practices such as yoga or meditation that can lead you to altered states of consciousness. Events such as childbirth or traumatic experiences can also affect your mental state. Hypnosis or the dream stage during sleep are more common examples of altered states.

Struggles in an Altered State

In most cases, an altered state of consciousness can bring on healing and be the means of finding a helpful perspective to manage many of life’s problems. However, the MGH study found that nearly one out of five people who enter an altered state of consciousness experience suffering or distress.

What makes that figure even more concerning is that nearly two-thirds of those individuals do not seek mental health counseling to deal with

their challenges. “Rather than being extremely unusual and rare, our study found that altered states of consciousness are a common variant of normal human experience,” Dr. Sacchet says. “However, we’ve found that those who experience negative outcomes related to these altered states often do not seek help, and that clinicians are poorly prepared to recognize or support these kinds of experiences. This has contributed to what might be considered a public health issue as a certain proportion of people have difficulty integrating their experiences of altered states into their existing conceptions of self and reality.”

Takeaway

Despite the possible risk that meditation, yoga, or similar relaxation exercises may induce distressing altered states of consciousness, these practices have been proven to be overwhelmingly beneficial for mental and physical health. Most people who practice yoga and meditation find the experiences helpful in managing stress, thinking more clearly, and providing tools that help them navigate their everyday lives more calmly, even when they aren’t in a meditative state.

“We should not dismiss meditation and other practices as inherently dangerous, but rather we need to better understand and support meditators to fully realize the potential of these practices,” Dr. Sacchet says. “Similar to psychotherapy, pharmacology, and other therapeutic tools, it’s important that we learn to best implement and support people when engaging with these powerful practices.”

He adds that clinicians need to be better trained to help individuals who struggle after experiencing an altered state of consciousness. Likewise, people teaching meditation should alert their students to the chance that they may have a more profound or intense experience than they’re expecting. **MMM**

YOGA (cont. from page 1)

in the journal *Brain Plasticity*, researchers looked into how yoga affects certain brain structures, cerebral blood flow, and brain functions. Among the more consistent findings was that yoga—like aerobic exercise and mindfulness meditation—appears to have positive effects on the hippocampus, a brain region responsible for learning and memory.

Yoga incorporates a physical workout with a stress-reduction component similar to mindfulness training, making it an especially helpful practice for overall health and well-being.

“The physical benefits of yoga, non-heated of course, are much more widely studied and are very compelling,” Dr. Nyer says, suggesting that many physical and mental health advantages associated with yoga can go a long way in supporting healthy brain function. “They include anti-inflammatory benefits, heart rate variability improvements—basically how people respond to stress is better with yoga—physical fitness, flexibility, reductions in depression and anxiety, stress reductions, and general quality of life improvements.”

What Type of Yoga Is Best?

If you want to try yoga for the benefits it offers your muscles, joints, mood, and brainpower, there are many different types of yoga to choose from.

Dr. Nyer explains that researchers have studied a wide range of yoga types, so there isn't yet a consensus on which type of yoga is best for the brain, let alone how many sessions or how much time is necessary to reap any cognitive rewards.

“The researcher really is all over the place with regard to duration, dose, type, etc.,” she says. “It's one of the reasons that Bikram (heated) yoga is so much easier to study, because it is uniform every class.” Dr. Nyer adds that a relatively new yoga



Taking a chair yoga class is one way to obtain some of the physical and mental benefits of yoga if traditional yoga exercises are too difficult.

trend, called CorePower yoga also has a CorePower 1 class for beginners that follows the same sequence of poses in each session.

Hatha yoga is one type of yoga often recommended for beginners. Unlike some other types of yoga, Hatha yoga is a fairly slow and gentle exercise, emphasizing more static poses. Hatha also focuses on breathing techniques to help with relaxation and stress reduction. As your interest and enjoyment of yoga grows, you can try different, more challenging types of yoga. Some forms of yoga focus more on the exercise element, while others emphasize calm or spirituality.

Yoga Just for You

As you can with many other sports and exercises, you can tailor your yoga practices to your physical ability and schedule, and you don't always need a yoga studio to learn and practice. “The great thing about yoga is that you can do it at home and for even short amounts of time,” Dr. Nyer says. “There are many different types of classes available through online platforms and videos, which make it accessible to people from the comfort of their own home.”

If the idea of yoga conjures up images of twisting yourself into a pretzel, it's important to know that many poses are simple and don't require a great deal of flexibility. If you're taking a yoga class and a pose looks to be too advanced or beyond what you're physically capable of, you can always skip that one or do a

version of it that feels safe. Also understand that you don't need any experience to take a yoga class for beginners. The goal is to learn a helpful type of exercise, but in a way that works best for you. “Once a yoga instructor told me, ‘You don't come to German class because you know German.’ Stretching of any kind, even if you feel you are inflexible, can be useful,” Dr. Nyer says.

And as your flexibility, strength, and comfort level with yoga improve, you may find that you can try poses that at one time seemed too intimidating or difficult.

While you can find yoga videos online or use yoga apps on your phone or computer, you may find it best to take a class when you're just starting out. Having an instructor guide you through a warm-up and various poses will reduce your risk of injury and help introduce you to the practice of yoga in a positive way.

If you have any physical limitations, whether it's a heart condition, arthritis, or other concern, let your instructor know ahead of time. You may find that chair yoga is the right choice for you. You can be seated and still move your limbs and trunk in a variety of ways that will help improve flexibility and strength.

A 2023 study of women with knee arthritis, published in the journal *Healthcare*, found that twice-weekly chair yoga sessions led to improvements in functional fitness, as well as reduced levels of pain and stress after just 12 weeks. Individuals in that study and in other chair yoga studies also tend to report a greater sense of overall well-being and quality of life. Yoga instructors teaching chair yoga understand the limitations of their students. Taking yoga classes, whether you're in a chair or on a mat, can also be good for the brain because of the socialization that comes with interacting with other people on a regular basis. And if you prefer to do yoga in the privacy of your home, then enjoy a little peace with your poses. **MMM**

ASK THE DOCTOR



Editor-in-Chief
Maurizio Fava, MD

Maurizio Fava, MD, Psychiatrist-in-Chief, Massachusetts General Hospital (MGH), Associate Dean for Clinical and Translational Research and Slater Family Professor of Psychiatry, Harvard Medical School

CHEMO BRAIN... MISATTRIBUTION OF MEMORY... ACCEPTING ANXIETY

Q Can you recover from “chemo brain?”

A The term “chemo brain” refers to memory and thinking changes that can occur during or after cancer treatment. Chemo brain is often characterized by disorganized thinking, confusion, memory loss, and trouble concentrating, learning, and making decisions. Though it’s most often associated with chemotherapy, chemo brain symptoms may develop as a result of radiation therapy, surgery, and certain anticancer drugs. The cancer itself may be to blame, typically if there is a brain tumor. Conditions related to cancer, such as fatigue, difficulty sleeping, anemia, hormone changes, stress and physical pain, can also affect how you think and process information. The timeline for chemo brain varies considerably from one person to another, though in most cases, symptoms are temporary. Symptoms may last a few weeks, months, or linger for many years. Treatment tends to focus on coping with symptoms and adjusting at home or work to manage certain cognitive changes. If symptoms don’t go away or get worse, tell your doctor or see a neuropsychologist.

information if you gather news and information from many sources and share it with many people. The more news sources you have, the more likely it is they’ll blend together in your mind. The more people you interact with on a regular basis, the harder it can be to keep track of who told you what and with whom you shared new information. Given that misattribution of memory is universal, go easy on yourself when you’re the one assigning information to the wrong source, and be patient with others when they share news with you and they don’t remember that you were the one who told them about it in the first place.

Q A friend recently said she’d learned to “accept” her anxiety. Is that healthy or a sign that she’s giving up trying to deal with something that often bothers her greatly?

A Depending on how much her anxiety affects her well-being or interferes with her daily activities, acceptance can be helpful, but it doesn’t necessarily mean anxiety can’t also be managed. This is true with many feelings. You may grieve the loss of a loved one, for example, but also learn how to cope with those emotions and move on from that loss. Accepting anxiety as something everyone experiences to some extent normalizes it. Without any anxiety, we would be less equipped to sense real threats and respond accordingly. Acceptance can also be a good first step in recognizing when anxiety is helpful and when we need to reframe our thoughts and feelings. Hopefully, your friend is also doing things like practicing mindfulness, which allows you to acknowledge anxiety or other uncomfortable feelings without judgment and redirect thoughts toward something more positive and helpful. If your friend has an anxiety disorder, rather than everyday worry, she may benefit from seeing a mental health professional. Accepting anxiety is like accepting a condition such as arthritis. Yes, it exists and yes, it’s something that may be treatable. **MMM**

Q What is “misattribution of memory” and is it an early sign of dementia?

A Misattribution of memory occurs when you assign the origin or cause of a memory to an incorrect source. For example, one friend shares a bit of news with you and when you repeat it, you say you heard it from a different friend or that you heard it on TV. You can recall the information accurately, but you can’t remember its source. Misattribution is quite common and not indicative of cognitive decline. One possible explanation for this phenomenon is that the brain tends to focus on the substance of new information rather than its source. As remarkable as memory is, there are limits to how much can be stored for recall later on. You’re also more likely to misattribute

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