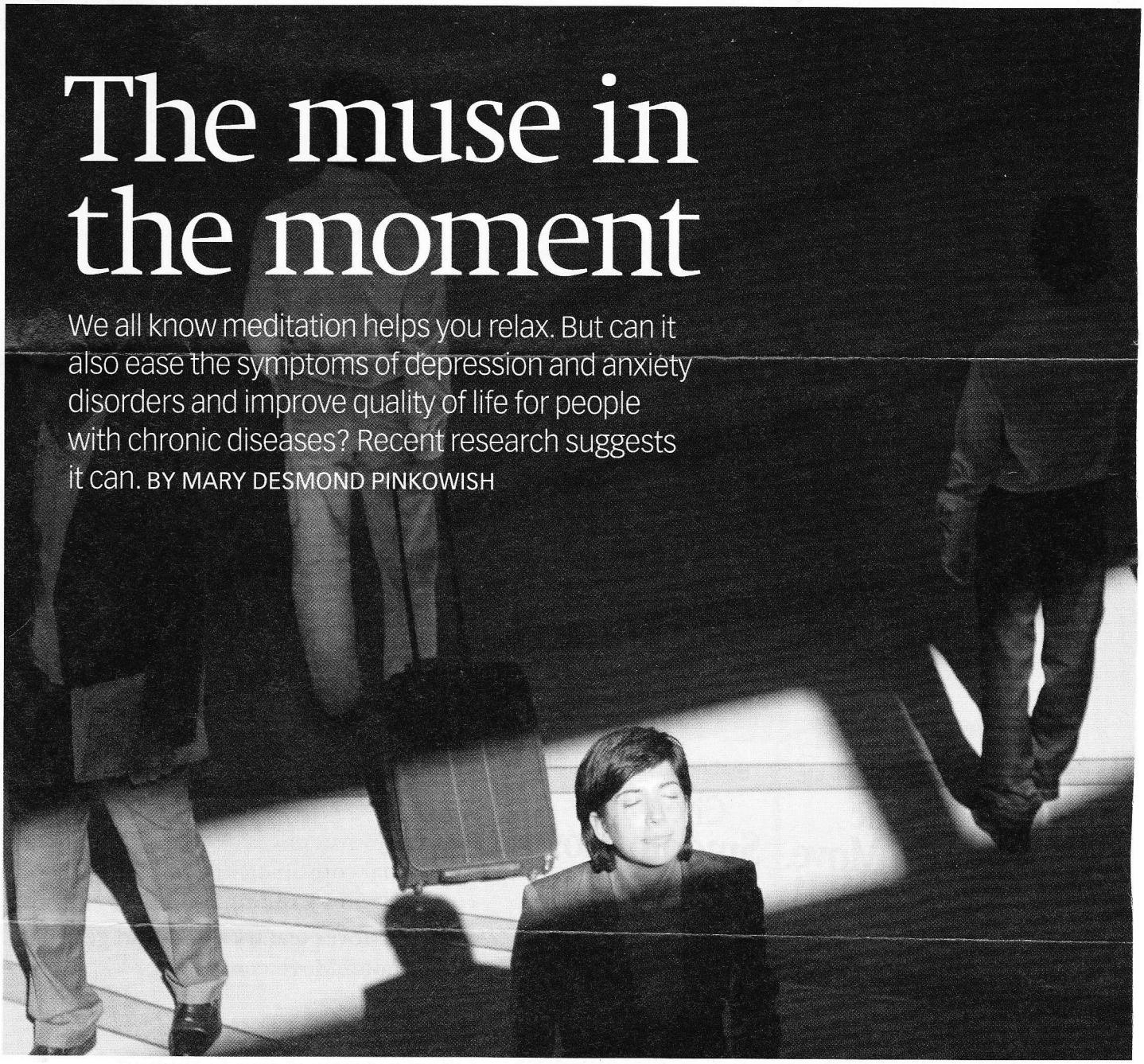
The muse in the moment

We all know meditation helps you relax. But can it also ease the symptoms of depression and anxiety disorders and improve quality of life for people with chronic diseases? Recent research suggests it can. BY MARY DESMOND PINKOWISH



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FOR THOSE OF US WHO HAVEN'T practiced it, meditation can seem like a glorified nap or an ultra-serene form of yoga. It's neither. Meditation is a broadly defined term encompassing a related group of practices, nearly all of which are rooted in Eastern spiritual traditions—transcendental meditation (TM), mindfulness meditation, mantra meditation ("om") and the relaxation response. People have been practicing meditation for millennia, and there's no evidence to indicate that we're tiring of the activity.

Until recently, meditation has been considered almost exclusively in the context of spirituality. Now, though, scientists and physicians are investigating meditation to see how it can benefit physical as well as mental health. Meditation may be accepted as a stepping stone on the path toward enlightenment, but can it help people with depression and anxiety disorders? Can it improve the quality of life for sufferers of chronic disease and other physical ailments? Can it help make employees more productive and companies more profitable? Recent research suggests it can. (For more on meditation in the business environment, see "Management as meditation" on page 30.)

"The research is stunning now," says Lawrence Edwards, program manager of the Integrative Care Clinical Program at Cincinnati Children's Hospital Medical Center in Ohio, and a meditation teacher of 35 years. "We are at the interface of scientific research and powerful, ancient practices to shift consciousness."

If grant money is any indication, meditation is enjoying a golden age. The Dalai Lama recently contributed $50,000

to the Center for Investigating Healthy Minds at the University of Madison-Wisconsin to study whether meditation can help people become more compassionate and kind. Earlier this year, the European Commission funded the CAMbrella project to research complementary and alternative medicine in Europe. The ambitious project is led by a consortium of 14 university-based research teams working with an advisory group comprised of complementary and alternative medicine (CAM) practitioners, patients and consumers. A major study conducted at the University of Exeter and commissioned by the U.K.'s National Institute for Health Research Technology is underway to determine whether a form of meditation—mindfulness-based cognitive therapy—might be as good as or better than antidepressants in preventing depression relapse. And the U.S. National Institutes of Health is funding some 100 studies that include a meditation component.

The aim of this research isn't just to show that meditation can put a damper on unbridled stress. The goal is much more fundamental: to determine if meditation changes the way the brain works. If it does, then meditation can help us feel and act differently, too. If you're recovering from an addiction, dealing with chronic pain, confronting mental health issues or simply struggling with the vagaries of your professional and personal life, meditation may offer both respite and recourse. Ready to start? Then let's begin.

"**EVERYBODY HAS EXPERIENCES OF** being in the flow or zone, days when things are fluid and going well," says Edwards. "Meditation is a set of practices that allows you to access that state of mind more easily and readily instead of waiting for it to occur by happenstance. You can work on and develop the skills you need to get to that zone and access the joy, fluidity, spontaneity and creativity that go with it. You invite the muse to dance with you in the moment."

Mindfulness practice is the oldest form of Buddhist meditation and the type of meditation that has been most rigorously studied by neuroscientists. "The aim of mindfulness, as originally conceived in Buddhist psychology and very recently in mindfulness-based interventions, is to ameliorate the suffering that comes with unpredictable and dissatisfactory experiences that are inevitably part of life," says Paul Grossman, director of research in the Department of Psychosomatic and Internal Medicine at the University of Basel Hospital in Switzerland.

Insight, according to Grossman, comes from non-judgmentally paying attention to senses, perceptions, emotions, thoughts and other mental states and processes, without getting tangled up in our observations or other distractions. Grossman recently completed a study of meditation in patients with multiple sclerosis (MS), a chronic condition that causes damage to the nerve fibers carrying messages to and from the brain, to see if mindfulness could help ease patients' symptoms.

In Grossman's study, patients who participated in eight weeks of mindfulness training experienced markedly less fatigue and depression and greater improvements in quality of life than patients who received regular medical care. Those most debilitated by fatigue and depression at the beginning of the study experienced the greatest benefits from meditation.

MS patients "may gradually learn to more accurately perceive their experience and situation," Grossman says of the results. "A more realistic perception may enable them to gain a greater sense of control over those aspects of life they can truly control. It may also help [them] see that their lives and experiences are not always defined by their disease, as well as notice those pleasurable small experiences of life that are often hidden to our normal state of 'not paying attention.'"

Grossman, who had similar results several years ago in a study of patients with fibromyalgia, which causes pain in the muscles, ligaments and tendons, stresses that mindfulness training isn't a kind of psychotherapy, and that mindfulness-based interventions aren't intended to change specific symptoms. Instead, participants learn to shift the way they experience and think about their conditions in such a way that many aspects of well-being improve.

"Strengthening the qualities of patience, kindness and acceptance toward themselves, their bodies and their experiences may help individuals with MS develop a different perspective on their disease that is more gentle, accepting and courageous," Grossman explains. "A significant number of patients anecdotally reported that the program genuinely changed their lives and their attitudes toward MS." One patient even started a one-year program to become a mindfulness-based intervention instructor herself. Some 80 percent of the original patients in the group still regularly practice mindfulness. »»

Nearly all meditation practices emphasize the importance of living in the moment and staying non-judgmental. This can be mystifying to beginners. Edwards, of the Cincinnati Children's Hospital, describes how the mind loves to project into the future, to the next big thing, the to-do list—whatever happens to be on our minds. The mind builds a pattern and projects the pattern onto the future. And when the mind isn't diving into the future, it tends to plunge into the past, often second-guessing, recriminating or ruminating.

For Edwards, the problem with spending too much time in the past or the future is it prevents us from being in the here and now. "When we aren't here, we give up power, clarity of vision and the ability to be effective and act, because all action occurs in the moment," he says. "This diverted energy is lost in the future or past. The mind works best in the moment."

One of the principles of mindfulness meditation is that "you have a mind, but you aren't your mind," Edwards says. "You have thoughts, but you aren't your thoughts. You have feelings, but you aren't your feelings. Stepping back from your mind, thoughts and feelings provides perspective and clarity, which are essential to maintaining peace of mind and making smart decisions. You don't have the freedom to change thoughts and feelings if you're too immersed in them."

MANY PSYCHOLOGISTS BELIEVE the benefits of mindfulness meditation derive from what's called "de-centering," especially among people with depression or anxiety disorders. "Instead of identifying with your feelings, de-centering trains you to hold your emotions at arm's length, where you can observe them," says Anthony King, a post-doctoral fellow in cellular neurophysiology at the University of Michigan. "This is a state of mind associated with metacognition, or being able to have a relationship with thoughts and feelings." De-centering may also play a crucial role in cognitive therapy, a technique successfully used to treat people with depression and anxiety.

There's already evidence that meditation may help in these and related disorders. In 2009, researchers in the department of psychiatry at Oxford University conducted a preliminary study of mindfulness-based cognitive therapy (MBCT) in patients who had experienced at least three previous episodes of depression and some suicidal thoughts. Compared to patients who received their usual care, those who participated in MBCT experienced a decrease in the severity of their symptoms, and some no longer met diagnostic criteria for depression at the end of the study. A preliminary study of mindfulness meditation in people with bipolar disorder conducted at Geneva University Hospital suggested that the meditation practice might reduce symptoms of depression in people with this disorder.

An investigation of a similar meditation technique—integrative body-mind training (IBMT)—conducted at the University of Oregon demonstrated that the connectivity among brain cells was enhanced when participants spent as little as 11 hours practicing the technique. The area of the brain most affected was the anterior cingulate, which scientists think has a role in regulating conflict. Similar work by the same team of researchers has shown that practitioners of IBMT had fewer feelings of anger, fatigue, depression and anxiety.

Most of us tend to think of pain and suffering as a package deal; if you've got one, you've got the other. But pain is a physiological signal that serves an important purpose. When you touch a hot stove, to cite the classic example, pain signals travel to your brain, which then sends a message back to your hand, directing it to let go.

Suffering, however, is an emotional state distinct from pain, and this may be part of the reason meditation has been successfully used to help people with chronic illness. Many people with chronic conditions suffer regular or even constant pain. "Suffering is what we put on top of the pain we all suffer," says King. "Despair. 'Why me? My life is ruined.' Sadness. This is our mental reaction to the pain—our suffering—and it can make the pain, and our experience of living with it, much worse. Mindfulness can help us determine what is pain and what is suffering."

According to Grossman, "the effects of the mindfulness training can extend to real-life situations completely unrelated to the participant's own disease." He offers an email from one of his patients, whose best friend's grandchild had just died, to illustrate the point. "In such moments, I have always screamed from within and my feelings have consumed me like a tsunami," the patient wrote. "Yesterday, this didn't happen. The healing calm of my mindfulness practice helped me … Never have I experienced such a deep sense of peace like I sometimes encounter when applying the exercises."

Much of the meditation work done with cancer patients helps them clarify the different layers of pain, illness and suffering. The results of an analysis conducted at Prince of Songkhla University in Thailand led investigators to conclude that mindfulness-based stress reduction (MBSR) programs should be incorporated into oncology nursing programs. In another study, conducted among cancer patients at the Osher Center for Integrative Medicine at the Karolinska Institute in Stockholm, Sweden, many participants reported that the mindfulness exercises improved the quality of their sleep, enhanced their feelings of well-being, diminished their physical pain and helped them feel more energetic and calmer.

Another study, conducted among women with advanced breast cancer at the Maharishi University of Management Research Institute in Maharishi Vedic City, Iowa, compared women who received standard care for their disease to women who received standard care plus transcendental meditation training. After 18 months, women in the TM group had measurable improvements in quality of life, emotional and social well-being and mental health compared to the women who received only standard medical care. Meditation did not—and cannot—cure the women's cancer, but it did help improve the quality of the time they had left.

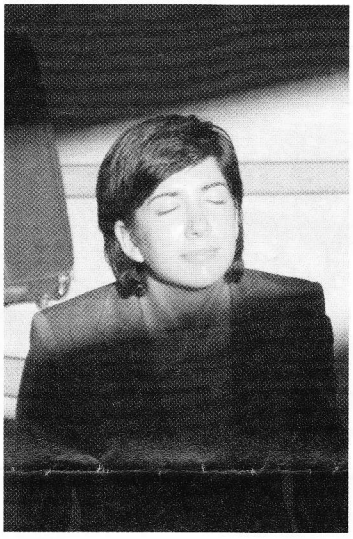
At the University of Michigan, King, a specialist in trauma- and stress-related disorders, is conducting studies of mindfulness meditation with combat veterans, some of them with post-traumatic

stress disorder (PTSD) symptoms going back 50 years or more. People with PTSD startle easily and experience disturbing physiological symptoms. They often have difficulty regulating their emotions and maintaining concentration. Intrusive, unwanted memories may trigger dramatic emotional responses. Many people cope by remaining perpetually busy and distracted. Mindfulness can help these people (mostly men) see that how they respond to these disturbing stimuli is important.

Earlier investigations looked at the effect of MBSR programs on patients who didn't suffer from psychiatric disorders, but worked for the financial services industry in very high stress situations. Using sophisticated brain scanning techniques, researchers found that as subjects became more adept at stress-reduction meditation, their brain activity shifted to the area that cultivates attention and dials down distress. "We wondered if it was possible that, while people are suffering, we could help them notice how we experience these disturbances and actually work with them" instead of moving away, King says. During a four-year study funded by the U.S. Department of Defense, King and colleagues will conduct a 16-week intervention in combat veterans with PTSD that includes a meditation component. The goal: to shift brain activity to regions that control calmer, more attentive states of mind.

People with PTSD process threats differently than the rest of us. The amygdala, the brain region involved in the "fight or flight" response, is overactive in people with PTSD. The same is true of a nearby brain structure called the insula, which processes certain types of negative emotions. When people with combat-related PTSD see disturbing photos (not necessarily of war), signals generated in the amygdala and insula are exaggerated relative to those without PTSD. Conversely, PTSD sufferers show diminished activity in the medial prefrontal cortex, an area of the brain responsible for emotional regulation.

Researchers hypothesize that part of the problem in PTSD is that the medial prefrontal cortex shuts down, allowing the amygdala and insula to run amok. King and colleagues think meditation, including



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LAWRENCE EDWARDS, CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER

efforts to cultivate an attitude of objectivity and distance from emotional responses, could strengthen activity in the medial prefrontal cortex and rein in overreactive amygdalas and insulas. Based on results from several studies of MBSR in people subject to extreme stress, King is optimistic about the results of the upcoming work. "There are many reasons to suggest that the skills acquired in mindfulness meditation may help people cope with negative emotions," he says.

AND WHAT EXACTLY CAN MEDItation do for you? "The two best things I can do for my life are aerobic exercise and meditation," the Cincinnati Children's Hospital's Edwards says. "They work hand in hand, and I recommend that people do both."

The documented physical and mental benefits of aerobic exercise are legion. What exercise doesn't do, however, is restructure cognition. But meditation, recent research suggests, can change our brains. "Meditation helps keep us moving moment to moment all day with increased resilience, flexibility, detachment, awareness, engagement in the flow and the ability to deal with whatever comes up while remaining relaxed and at ease," according to Edwards.

Meditation changes things remarkably—and quickly. Within weeks, practitioners can have an increased sense of focus, better moods and a heightened state of compassionate, loving kindness. With sustained practice, the effects of 20 to 30 minutes of meditation in the morning should last all day, according to Edwards.

Still, making those 20 to 30 minutes happen is easier said than done. "It takes effort," King says. "It's not about sitting and thinking happy thoughts. Paying attention to our sensory and emotional experiences may not always be pleasurable, and is sometimes uncomfortable, boring or even frightening." But is it worth it? Studies suggest so. King cites one study of mindfulness meditation on depression in which the rate of relapse over the subsequent 18 months was cut by 50 percent, an effect that rivals medication.

But there's always that pesky issue of attention. So many of us are habitually inattentive that we naturally overlook its importance. King tells the story of an elderly veteran who completed mindfulness meditation training. Afterward, he was asked to comment on what, if anything, he gained from the program. He didn't mention metacognition, increased compassion or a better-behaved insula. Instead, he said that even though he had been married for more than 50 years, he had never once noticed his wife's cooking. "But now all of a sudden I see it," he said. "She's a really good cook!" ■

MARY DESMOND PINKOWISH, *who wrote about the health effects of optimism in the September issue, lives in the here and now, at the speed of life.*

Read some tips for meditation: odemagazine.com/meditationtips