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Meditation ‘fools the brain’ in a threatening world

[By R.J. Ignelzi]

For years, Buddhist monks, yogis and the Beatles have been telling us about the benefits of meditation. Now, scientists and doctors are hopping on the meditation bandwagon.

Thanks to cutting-edge technologies like functional MRI scans, neuroscientists can look inside the brain to see if meditation actually produces physical change. Although they’re still not sure how meditation works, research is beginning to show that, in fact, it does.

Through the brain’s hard wiring (the nerves) and the soft wiring (hormones), the brain is “perpetually informing the body if the world is safe or threatening,” says Dr. David Simon, a San Diego neurologist and the medical director for the Chopra Center at La Costa Resort in Carlsbad, Calif.

“Meditation fools the brain into perceiving the world as not sothreatening, so the brain then sends out hormones and electrical signs telling the body to relax a bit.

“The changes that happen physiologically when we practice meditation are the opposite of and counterbalance those (physiological changes) that occur in the fight-or-flight response that we experience when we’re stressed. The heart rate slows, the blood pressure comes down, breathing slows. We neutralize the harmful effects of stress on our system.”

Here’s a look at some of the science that’s validating meditation’s health claims.

- Might increase happiness and strengthen the immune system. Scientists at the University of Wisconsin reported that people newly trained in meditation have shown an increase in electrical activity in the left frontal

part of the brain, an area associated with positive emotion and happiness. Meditators also showed a significant boost of immunity to the flu.

“Meditation (promotes) a neurochemical shifting. The stress hormones are acutely lowered,” says Dr. Robert Bonakdar, director of pain management at the Scripps Center for Integrative Medicine. “When we feel more relaxed, the brain generates natural anti-anxiety and happiness-enhancing chemicals like endorphins and (high levels of) serotonin.”

- Might enhance memory and attention. A study at Massachusetts General Hospital found that parts of the brain’s cerebral cortex were thicker in people who had practiced meditation daily for just 40 minutes for several years. The cerebral cortex is the part of the brain that deals with attention and processing sensory input and tends to thin with age.
- “Research has shown that if you stress an animal, there is degeneration of the brain. The brain actually starts to deteriorate,” Simon says. “Physiologically, when the brain is functioning in a more relaxed state, it’s able to absorb and retain memory better.”
- Lowers blood pressure. A 2004 study published in the American Journal of Cardiology showed meditation can lower blood pressure and mortality rates in older people with hypertension.

“When you’re sitting meditating, most people’s blood pressure comes down,” Simon says. “But if you do it regularly, even outside the actual time of meditation, the benefits continue and your blood pressure continues to be lower.”

- Might help alleviate mild to moderate anxiety and depression. Researchers at the University of Louisville found that mindfulness meditation alleviates depression in women with fibromyalgia.
- “In meditation, you’re breathing better, so you cope better. But it’s more than that,” Bonakdar says. “If you look at depression as an inflammatory state, we see that meditation causes those (inflammatory) neurochemicals not to pour out.”
- Increases alertness. University of Kentucky researchers found that sleepy people who meditated for 40 minutes did better on a test of mental quickness than people who had taken a 40-minute nap.
- Might help control binge eating. A study at Indiana State University found that obese women who practiced mindfulness meditation had an average of four fewer binge-eating episodes a week than before they took up the practice. Mindfulness can help bingers recognize when they want to overeat and lower the odds that they will.
- Might help lower blood sugar: Researchers at Cedars-Sinai Medical Center in Los Angeles showed that

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patients were able to lower their blood pressure, blood sugar and insulin by practicing transcendental meditation.

SIDEBAR

Quiet the inner riot

By R.J. Ignelzi

Katie Beroukhim, an instructor at the Encinitas YMCA, meditates daily. While at the Self-Realization Fellowship Meditation Garden in Encinitas, Calif., she focuses on clearing her mind of extraneous thoughts.

Contemplating his breathing for an hour a day is the last thing David Tedlow ever thought he'd be doing at the age of 65.

"I thought meditation was for people in left-wing politics. I didn't think it had any application for me," says the retired travel agent from Solana Beach, Calif., who described himself as "impatient with process" and wanting "to get everything done yesterday."

"I was the man in the gray flannel suit. I wasn't a Woodstock type of person."

But when one doctor told him he might have congestive heart failure and another diagnosed him as "uptight and tense," he was persuaded to give meditation a try. That's all it took.

"I thought it was wonderful from the get-go. I saw benefits almost immediately. I was more relaxed and calm," says Tedlow, who participated in the Mindfulness-Based Stress Reduction class at Scripps Center for Integrative Medicine in San Diego.

As he continued meditating through the year, he "got in touch with myself," he says, noting that the practice has made him a stronger, more compassionate, more loving individual. "Meditation enabled me to be completely comfortable with myself. I don't sweat the small stuff anymore."

No longer just for barefoot, chanting New-Agers, the ancient practice of meditation is being incorporated into the hectic, stressful lives of accountants, lawyers and stay-at-home moms. According to the National Centers for Complementary and Alternative Medicine, a division of the National Institutes of Health, more than 15 million Americans say they practice some kind of meditation, transcending their minds from active to quiet states of consciousness for 10 to 30 minutes a day.

Not only has meditation been shown to ease stress and help relax people who practice it regularly, but recent scientific research also has credited it for a number of health benefits, including lifting depression, lowering blood pressure and reversing heart disease.

"The real benefit of meditation comes when you stop meditating and start interacting with people in the world," says David Greenspan, chief executive officer of the Chopra Center at La Costa Resort in Carlsbad, Calif., and an instructor of primordial sound meditation. "You'll feel better. You'll react with greater patience, intuition and creativity. You won't give in to the impulses that drive our behavior."

Six months ago, waiting in a store checkout line would have made an impatient Michaelene Mooney tense and irritated. Now, after regularly attending meditation classes at the Magdalena Ecke YMCA in Encinitas, she takes some deep breaths and gains a new perspective.

"Now, I look at the people in line. I wonder what their day is like. Or, think, 'What pretty hair she has,' or 'That little boy is so cute,'" the 51-year-old Carlsbad resident says. "I'm not thinking about what I have to do when I'm outside that line. I'm just thinking about that particular moment that I'm there."

A cancer survivor of nearly five years, her method of releasing stress had always been cardiovascular exercise. She took high-

energy indoor cycling classes at the Y five or six times a week. But, after an ailing Achilles tendon forced her to give up her strenuous workouts, she turned to yoga and meditation "to keep from losing my mind," she says.

While some of the calming benefits of meditation were immediate, she admits the process hasn't been easy. But she's kept it up because she's better able to cope with long checkout lines and other daily annoyances.

"It's put me in a place I have never experienced before. A very quiet, peaceful place, which has spilled over into my life outside of [meditation] class," Mooney says. "I like that. I really needed that."

There are many different kinds of meditation, each using different tools to guide the practitioner into a gentler state of mind. The two most common types practiced in this country are mantra-based or concentration meditation (one of the most popular is transcendental meditation or TM) and mindfulness meditation.

In mantra-based meditation, the practitioner repeats a phrase, word or sound.

"By focusing on a word, a sound or an image, it gives the mind something to attend to," says Karen Sothers, Mindfulness-based Stress Reduction teacher at Scripps Center for Integrative Medicine. "If you don't give the mind something to attend to, it will be very scattered with thoughts coming and going. Since much of stress is created by our thoughts, focusing the mind can create a very peaceful, calm state."

Mindfulness meditation most often focuses attention on rhythmic breathing.

"In mindfulness, you are paying close attention to the moment-to-moment flow of experience without adding a mental story to it," Sothers says. "So, if you're concentrating on your breathing, you just focus on the sensation of

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the rise and fall of your belly without thinking about if you like the feeling or not. There is a non-judging awareness of the present moment and what's happening right now."

However you choose to get there, the goal of meditation is basically the same: to disconnect from your thoughts and anxieties and promote a more clear and focused mind.

What surprises many people is not only how good meditation makes them feel, but also how difficult it is.

"It was a lot harder than I ever thought it would be, especially in the beginning," Mooney says. "It's a long time to sit without doing or saying anything."

One thing that most people find especially challenging is focusing their mind without thinking about what's for dinner or what your mother said to you on the phone or if you remembered to pay the power bill.

Not to worry, Sothers says. It's a myth that you need to blank out all thoughts in meditation. The nature of the mind is to think thoughts.

"It's not true, and it can lead to a lot of frustration," Sothers says. "We're not trying to get rid of thoughts, just loosen our fixation on them."

When Encinitas YMCA meditation teacher Katie Beroukhim is meditating and a thought comes into her mind, she acknowledges the thought, but doesn't engage in it.

"The thoughts are like light, puffy clouds. They're there, but then, poof, you just let them go," she says.

The more you practice meditation, the easier it becomes to detangle yourself from your thoughts and return to your point of focus. This constant returning of focus is what meditation is all about, says Sothers, who likens the process to working out in the gym.

"When you're doing bicep curls in the gym, each repetition is strengthening the muscles. The same thing when you keep coming back (to your object of focus) in meditation," she says. "It's (strengthening) the ability to be focused and present in the moment."

SIDEBAR

Create quiet space

By R.J. Ignelzi

It's easy to see why meditation advocates say it's the perfect elixir. It's cheap, readily available and offers an abundance of health benefits. But it's not always easy to get started.

Although there are many books, CDs and videos on meditation instruction, most meditation advocates say it's a good idea to get some formal training, at least when starting out.

"Although meditation is very simple, it's still very helpful to have someone teach it to you. When people learn it off a tape or from a book, we find that they aren't as likely to continue it," says Dr. David Simon, a San Diego neurologist and the medical director for the Chopra Center at La Costa Resort in Carlsbad, Calif.

To give you just a "taste" of meditation, here's a step-by-step intro to basic technique.

1. Create a quiet space. It can be anywhere: your bedroom, car (not while driving), park bench or the beach. Try to limit distractions; turn off the TV, CD player, radio and your cell phone.
2. Set a timer. You don't want to keep peeking at the clock. Try to use one that has a gentle alarm so it doesn't startle you.

Although many meditation practitioners recommend meditating for 30 minutes twice a day, that's not practical for many people, especially beginners.

Karen Sothers, Mindfulness-based Stress Reduction teacher at Scripps Center for Integrative Medicine in San Diego, tells her students to start with five minutes a day.

3. Get comfortable. Wear nonbinding clothing. Sit comfortably in a chair, on a sofa or the floor. Try to not slump. You can even lie on the floor or a bed, although you risk falling asleep.

4. Think about what part of your body is tense. Starting from the top of your head, think about relaxing your body.

"You don't have to do anything (to make you relax)," Sothers says. "The best way to relax is to stop making things different. Just noting the tension will help muscles relax."

5. Choose an object of attention. It can be your breath, a word or phrase, sounds such as the surf, or a candle flame.

If your focal point is a word or phrase, softly repeat it to yourself, over and over. If you're focusing on your breath, don't try to change the way you are breathing. Just let your attention rest on the flow of your breath.

Close your eyes unless you're focusing on a visual cue.

6. Return to your focus. As the mind wanders - and it will - gently bring it back by again concentrating on your breathing, mantra or point of focus.
7. Slowly wake up. When your meditation time is up, take a few deep breaths, open your eyes and sit quietly for a few minutes.