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MINDFULNESS MEDITATION GAINING ACCEPTANCE

Challenges are landing fast and furious on Capitol Hill. So Rep. Tim Ryan, D-Ohio, feels he has to arrive at the top of his game every day. And Ryan says he has found a way to do that: He meditates for at least 45 minutes before leaving home.

Ryan, 35, sits on a floor cushion, closes his eyes, focuses on his breath and tries to detach from any thoughts, just observing them like clouds moving across the sky -- a practice he learned at a retreat. "I find it makes me a better listener, and my concentration is sharper. I get less distracted when I'm reading," he says. "It's like you see through the clutter of life and can penetrate to what's really going on."

Once thought of as an esoteric, mystical pursuit, meditation is going mainstream. A government survey in 2007 found that about 1 out of 11 Americans, more than 20 million, meditated in the past year. And a growing number of medical centers are teaching meditation to patients for relief of pain and stress.

More than 240 programs in clinics and hospitals teach the same type of meditation that Ryan learned, says Jon Kabat-Zinn, who developed mindfulness-based stress reduction 30 years ago at the University of Massachusetts Medical Center. Other types, such as transcendental meditation, use a mantra or repeated phrase.

'A colossal shift in acceptance'

Some kind of meditative practice is found in all the world's religions, says Shauna Shapiro of Santa Clara (Calif.) University, co-author with Linda

Carlson of the new book *The Art and Science of Mindfulness*. Most include focusing attention and letting thoughts and emotions go by without judgment or becoming involved.

Kabat-Zinn credits "a colossal shift in acceptance" to accelerating research on the benefits of meditation.

Studies suggest the practice can ease pain, improve concentration and immune function, lower blood pressure, curb anxiety and insomnia, and possibly even help prevent depression. Newer research tools, such as high-tech brain scans, show how meditation might have diverse effects.

In a brain-scan study of long-time meditators compared with a control group that never meditated, the meditators had increased thickness in parts of the brain associated with attention and with sensitivity to internal sensations of the body. "These are people who would notice their muscles tensing when they're angry or butterflies in their stomach if they're scared," says study leader Sara Lazar, a neuroscientist at Massachusetts General Hospital.

And a UCLA study out in May found that, compared with a non-meditating control group, meditators' brains have larger volume in areas important for attention, focus and regulating emotion. They also have more gray matter, which could sharpen mental function, says study leader Eileen Luders, a neuroscientist.

Of course, nobody knows whether these meditators' brains were different to begin with. And that's the problem with much of the meditation research so far. Although studies have improved, most still aren't large and lack good control groups, says Richard Davidson, a pioneering meditation researcher and neuroscientist at the University of Wisconsin.

His research shows that even novice meditators have greater activation in a part of the brain tied to well-being. The more activation, the greater their antibody response to a flu vaccine, which makes the vaccine more protective. By changing the brain, meditation could affect many biological processes, he says.

Settling down, not lashing out A cutting-edge approach to meditation practice starts with children. In scattered pockets across the USA, students are learning meditation at school.

Steve Reidman, a fourth-grade teacher at Toluca Lake Elementary School in North Hollywood, Calif., says teaching meditation to children has curbed fighting while sharpening their focus. "You can just watch them breathe deeply and settle down rather than lashing out."

Susan Kaiser Greenland, whose InnerKids Foundation teaches in Los Angeles-area schools, works with Reidman's class.

Preliminary research shows that Los Angeles preschoolers who were taught meditation improved in their ability to pay attention and focus. For early elementary school kids, improvement came only in those who had attention problems at the start, says Susan Smalley, a UCLA behavioral geneticist who did the research with psychologist Lisa Flook. Very young brains may be more malleable, she speculates.

As research expands, scientists expect to unlock more of the mysteries around meditation. Meanwhile, for those such as Ryan, proof of benefit is already evident. "I'm much more aware now than I used to be," he says. "I enjoy my life more because you notice, and you really appreciate."