

# Yoga, deep breathing used to treat soldiers' stress

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Rich Low dreamed of Iraq long after he returned home from the war.

The memories haunted him when he was awake, too. About six months after his deployment, he was driving at night when a sudden burst of lightning snapped him back to Baghdad and the bomb that exploded near him during a thunderstorm.

Low's pulse raced as adrenaline surged through his body even though he was driving on a road far from any [war zone](#).

He didn't know post-traumatic stress was affecting him. Not until he took part in a University of Wisconsin-Madison study that taught Iraq and Afghanistan veterans yoga, [meditation](#) and [breathing techniques](#) to cope with PTSD.

Another group of veterans was recently at UW's Center for Investigating Healthy Minds learning meditation, deep breathing and Sudarshan Kriya Yoga techniques. Before the 10 Iraq and Afghanistan veterans started the weeklong course, they underwent MRIs, which were followed by another brain scan after the class is done.

The aim is to see if meditation, yoga and deep breathing can help veterans with PTSD.

The pilot study in fall 2010, which Low participated in, showed such positive results that researchers scheduled a longer, more in-depth study

for this week in Madison. Meditation and yoga are already offered at veterans hospitals, but few studies have researched their effectiveness.

Low, an officer in charge of an Army infantry platoon, said meditation and deep breathing helped him recover from the stress of combat.

"I didn't notice a change right away (after the study) but my dad did," said Low, 31, of Madison, who deployed to Iraq in 2005 and '06. "My dad and I were riding in a car when he said I seemed like myself from three, four years before and that's when it struck me that maybe Iraq affected me more than I knew."

PTSD is a growing problem as veterans from two long wars in Iraq and Afghanistan return home to face emotional demons. An estimated 20 percent of the 2 million Iraq and Afghanistan veterans suffer from post-traumatic stress. And suicide rates among male post 9-11 veterans are much higher than the rest of the U.S. population.

Common symptoms of PTSD are hyper-vigilance, which makes veterans jumpy at the slightest sound; intrusive thoughts such as flashbacks and nightmares; and emotional numbness, including the inability to feel love.

Treating PTSD often involves medication and psychotherapy to force patients to grapple with their trauma. But yoga and meditation could be a gentler, less invasive way to treat the effects of combat stress, said Jack Nitschke, one of the lead investigators of the study.

"No one thinks yoga is a panacea," said Nitschke, a neuroscientist and UW associate professor of psychiatry and psychology. "This would be one more treatment that could be tailored to veterans suffering from PTSD."

Of the 20 Wisconsin veterans participating in the pilot study, many

experienced fewer PTSD symptoms and anxiety problems after learning meditation and deep breathing, said Emma Seppala, the research scientist who initiated the study.

Depression and anxiety levels were measured before and after the meditation and deep breathing course. Startle responses were gauged by measuring the number of eye blinks in response to sudden, loud sounds.

Veterans who experience trauma in war zones tend to have a higher resting pulse rate. Meditation and deep breathing helped the veterans participating in the pilot study lower their heart and breathing rates, sort of like hitting the reset button on their nervous system.

"We know that memory is very malleable. What I think is happening is the association between trauma and memory change - they remember what happened, but it's no longer present and now," said Seppala, associate director at the Center for Compassion and Altruism Research and Education at Stanford University.

One of the veterans said on the last day of the study that he remembered everything that happened to him but his war experiences were no longer a part of him. Follow-up queries of participants more than a year after the study have been positive. Not everyone sticks with the program, though.

"One of the guys said, 'I'm sorry. I have to drop out because I'm not ready to let go,' " said Seppala.

Travis Leanna, 26, a UW-Madison student who deployed to Iraq, admits he was skeptical. He was not diagnosed with PTSD and didn't want to be seen as weak. But he decided to volunteer for the [pilot study](#).

Switching from the camaraderie and sense of purpose in the Marines to

becoming a college student was a difficult transition. Sometimes, Leanna felt overwhelmed. He often felt like staying home and being a hermit.

By the third day of the pilot program, Leanna had learned the power breathing techniques, which prepared him for the deeper meditation and discussions of his emotions and mind-set.

"I went with the flow and participated fully, but I didn't really expect anything. At the end of the workshop, I was blown away by the progress I made," said Leanna, an electrical engineering student.

Though some gentle stretching is involved, it's not a rigorous yoga class. Some of it is done while sitting on a mat or in a chair, which is helpful for veterans suffering from chronic pain. Leanna continues to perform deep breathing exercises and meditation every day and this June completed 3 weeks of training to teach the power breathing course to others; he's one of the power breathing instructors at this week's study in Madison.

"It's definitely been a positive change in my life. This course was the catalyst," Leanna said.

While anecdotal responses are helpful, researchers need stronger data. That's why all veterans participating in the study underwent MRIs, to look at how different areas of the brain respond to anxiety and negative events such as combat trauma, said Nitschke.

At VA hospitals throughout the nation, yoga and meditation classes are taught to veterans. But one hurdle is convincing macho, battle-hardened veterans to meditate.

"There are different ways of marketing it. They might think this is New Age-y or holistic," said Robert Drury, one of the investigators of the

Madison study and psychology executive at the William S. Middleton Memorial Veterans Hospital in Madison.

"Many of the veterans said, 'The breathing techniques are really good because before combat I had to recalibrate my equipment, and this allows me to recalibrate myself,' " Drury said.

Michael McBride, a psychiatrist at the Zablocki [Veterans](#) Affairs Medical Center in Milwaukee, tells his patients that meditation can help their bodies shift from the fight-or-flight response that kept them alive in a war zone to the more relaxed state needed in civilian life.

"Obviously, the practice is not simple because it takes a willingness to train yourself. I think the military is starting to get this. We are beginning to train active duty troops to begin this relaxation training prior to deploying," said McBride, who served two tours of Iraq in the Army Reserves.

"I know the Russian army has researched yoga, so this is not some newfangled idea. This has hard-core science to back it up."

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