

# Meditation May Reduce Pain

Brain Imaging Shows Impact of Brief Mindfulness Meditation Training  
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April 6, 2011 -- Even very brief instruction in [meditation](#) appears to help people cope with [pain](#), and a newly published [brain](#) imaging study may explain why.

After just four, 20-minute instructional sessions in mindfulness meditation, most participants in the small study experienced big reductions in pain intensity and unpleasantness when subjected to painful stimuli.

Prior to learning the meditation technique, brain imaging showed significant activity in a key area of the brain when the participants were subjected to intense heat, but this activity was reduced when they were meditating.

“This is the first study to show that only a little over an hour of meditation training can dramatically reduce both the experience of pain and pain-related brain activation,” said researcher Fadel Zeidan, PhD, who is a postdoctoral fellow at Wake Forest University School of Medicine.

## Meditation Helped Block Pain

The researchers recruited 18 healthy young adults who had never meditated prior to joining the study.

Over the four, 20-minute training sessions, the study participants were taught a meditation technique known as focused attention, which involves paying close attention to breathing patterns while acknowledging and letting go of thoughts that distract from this practice, Zeidan says.

Before and after mindfulness meditation training, brain activity was measured using a special type of [magnetic resonance imaging](#) that captures longer-duration brain processes, such as meditation, better than standard MRI.

While the MRIs were being performed, a device was placed on each participant’s right calf that delivered 120 degrees of heat -- a temperature that most people find painful. The heat was kept on the [skin](#) for 12 seconds and then taken off the skin for the same amount of time over a total of 5 minutes.

Even though the MRI was very loud, most of the participants were able to successfully block out the noise and the pain from the heat source and focus on their breathing.

Pain intensity ratings were reduced after meditation by an average of 40%, and pain unpleasantness rating were reduced by 57%.

Meditation was shown to reduce activity in key pain-processing regions of the brain.

The study appears in the April 6 issue of the *The Journal of Neuroscience*.

### **Meditation 101: Accept the Distractions**

The study confirms that mindfulness meditation can have a real and measurable impact on the experience of acute pain, even in people with very little formal training, Wake Forest associate professor of neurobiology and anatomy Robert C. Coghill, PhD, tells WebMD.

He says meditation could prove useful for the management of postoperative pain and in other acute pain settings.

It remains to be seen if the brief instruction can help people with chronic pain.

“Meditation has been used to treat chronic pain for a long time, but patients tend to have a lot more training,” he says. “It is not clear if the brief training sessions like the ones used in this study would be useful for these patients.”