

# Zen meditation fends off pain

February 24 2010

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(PhysOrg.com) -- People can reduce their sensitivity to pain by thickening their brain, according to a new study published in a special issue of the American Psychological Association journal, *Emotion*. Researchers from the Université de Montréal made their discovery by comparing the grey matter thickness of Zen meditators and non-meditators. They found evidence that practicing the centuries-old discipline of Zen can reinforce a central brain region (anterior cingulate) that regulates pain.

"Through training, Zen meditators appear to thicken certain areas of their cortex and this appears to be underlie their lower sensitivity to pain," says lead author Joshua A. Grant, a doctoral student in the Université de Montréal Department of Physiology and Institut universitaire de gériatrie de Montréal. "We found a relationship between cortical thickness and [pain sensitivity](#), which supports our previous study on how Zen meditation regulates pain."

As part of this study, scientists recruited 17 meditators and 18 non-meditators who in addition had never practiced yoga, experienced chronic pain, neurological or psychological illness. Grant and his team, under the direction of Pierre Rainville of the Université de Montréal and the Institut universitaire de gériatrie de Montréal, measured thermal pain sensitivity by applying a heated plate to the calf of participants and followed by scanning the brains of subjects with structural magnetic resonance imaging. According to MRI results, central [brain](#) regions that regulate emotion and pain were significantly thicker in meditators compared to non-meditators.

"The often painful posture associated with Zen meditation may lead to thicker cortex and lower pain sensitivity," says Grant, noting that meditative practices could be helpful in general for [pain](#) management, for preventing normal age-related grey matter reductions or potentially for any condition where the grey matter is compromised such as stroke.

**More information:** *Emotion* study:  
[psycnet.apa.org/journals/emo/10/1/43.pdf](https://psycnet.apa.org/journals/emo/10/1/43.pdf)

Provided by University of Montreal

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