

## Latest evidence of brain changes after mindfulness training

*A summary of evidence by Harvard Professor Sara Lazar  
(Mind and Matter Conference, April 2017)*

Neuroscience is providing compelling evidence, using MRI scans, of changes to the brain in trials of mindfulness practitioners. The changes include:

- An increase in the grey matter of:
  - The insula, which controls the integration of thoughts and senses, and leads to greater emotional intelligence
  - The frontal cortex, which includes working memory, selective attention and executive functioning (the essence of human intelligence)
  - The posterior cingulate, which stops the mind wandering (or allows us to ignore the unhelpful 'chatter' in our minds)
  - The temporo parietal junction, which allows us to see things from different, and other people's, points of view
  - The cerebellum, which controls balance and motor control
  - The left hippocampus, which controls emotion regulation, fear and anxiety
- A decrease in the loss of brain efficiency due to aging (regular meditators aged 60 show little decrease compared to 25 year olds)
- A decrease in the amygdala, which controls how we react to fearful stimuli

There is conflicting evidence about the potential loss of positive effects depending on on-going mindfulness practice, but Professor Lazar indicates that continued practice is probably important. She suggests that the key difference mindfulness makes is to affect 'our relationship to stress', ie that the same stress factors cease to have a similar effect on us.