

## Yoga, Tai Chi and Meditation alter genes to rejuvenate - scientific study

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The benefits of meditation and yoga are established, but these mind-body interventions not only relax one but are also able to alter one's genes.



According to a new study researchers at the University of Coventry in Britain performed, MBIs or Mind-body interventions such as yoga, Tai Chi, or meditation are instrumental in reversing the stress-causing DNA reactions. Basically, these molecular reactions in the human DNA are responsible for depression and ill-health.

Meditation and yoga are known to have stress-relieving benefits and the latest research establishes how these MBIs are effective in altering the genetic behavior.

### How Meditation, Yoga, and Tai Chi Reverse Stress-Related DNA Reactions

The researchers [published](#) their findings in the journal *Frontiers in Immunology*. The study examined the genetic behavior in the human body, and how Tai Chi, meditation, and yoga impacted the same.

The scientists examined 18 studies which had over 846 subjects over a period of 11 years. These studies revealed a pattern in the molecular alterations, which occur in the human body because of the MBIs and how these impact physical and mental health.

The team focused on how the genes become activated when one meditates, does yoga, or Tai Chi. The genes then produce proteins, which are instrumental in impacting the immune system, the brain, and the body's biological makeup.

The researchers shared that when an individual is in a stressful situation their SNS or sympathetic nervous system gets triggered. For the unfamiliar, the SNS dictates an individual's response to flee or fight. When the SNS is triggered, the production of NF-kB or nuclear factor kappa molecule gets increased. This molecule is instrumental in regulating the human body's gene expression.

When a person is stressed, NF-kB activates the genes to create cytokines, which are proteins that

result in cellular inflammation. This reaction during stress is beneficial if it is short-lived flight or fight. However, if this continues, then an individual becomes vulnerable to high cancer risk, depression, as well as aging gets accelerated.

The research shows that individuals who meditate, do yoga, or practice Tai Chi produce less cytokines and NF-kB. These MBIs regulates their production and effectively decreases cytokines, which leads to the inflammatory gene expression pattern getting reversed. This also leads to decreased chances of diseases that are linked with inflammation.

### **Health Benefits Of Yoga And Meditation**

Modern-day society is synonymous with high-stress levels as people grapple with their day-to-day lives. Work- and family-related stress can often bog down individuals. Engaging in yoga, Tai Chi, Qi Gong, meditation, or any such practice helps relax both the body and mind and manage stress levels better.

“Millions of people around the world already enjoy the health benefits of mind-body interventions like yoga or meditation, but what they perhaps don’t realize is that these benefits begin at a molecular level and can change the way our genetic code goes about its business,” the study’s lead author Ivana Buric [revealed](#).

The MBIs essentially leave a “molecular signature in our cells” and this reverses the anxiety and stress effects on the human body by simply altering its gene expression. To put it succinctly, MBIs enable one’s brain to channel the DNA process toward a positive direction, which fuels the body’s wellbeing.

However, the researchers assert that more in-depth studies need to be conducted to ascertain the positive effects of MBIs in detail and how these practices compare with nutrition and exercise.

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Jungle Drum Prose/Poetry. <http://jungledrum.lingama.net/news/story-2716.html>