

# The Science of Yoga

The story of the “relaxation response” and the “fight or flight response” is a story of scientific discovery. In 1915, Dr. Walter Cannon first used the nomen “fight or flight response” – a genetic wisdom (so he said) hard wired into our brains to keep us from harm.

Dr. Walter Cannon was a physiologist at Harvard, and his studies describe the release of chemicals adrenaline, noradrenaline and cortisol into the blood stream, and the patterns of nerve cell firing in the hypothalamus at the center front of the brain, when something startles or scares us. Blood pressure, heart rate, and breathing rate all increase markedly. The elicitation of the “fight or flight response” also depresses the immune system.

Years later, in 1975, Dr. Herbert Benson published his groundbreaking book, *The Relaxation Response*. The “relaxation response” is the opposite of the “fight or flight response.” It is associated with decreased metabolism, blood pressure, heart rate, breathing rate, and stabilization of blood-flow to the muscles. Skin resistance increases, and more alpha, theta, and delta waves are produced in the brain. Herbert Benson, M.D., is the Director Emeritus of the Benson-Henry Institute (BHI), and Mind/Body Medical Institute Associate Professor of Medicine, Harvard Medical School.

In his studies, Dr. Benson found that practicing meditation along with yoga stretches proved beneficial for the health of the heart. He emphasizes that a wide variety of relaxation techniques can elicit the same set of physiologic changes. If students run or play ball they’ll likely have the same “relaxation response.” But it’s not possible in our schools to have constant outdoor physical activity.

These are not yes or no, black or white conditions, but full of gradations in intensity. The “fight or flight” is the state we’re in when we are in the real or imagined presence of danger; the “relaxation response” is the state we are in when we are in the real or imagined presence of ease.

Yoga practice doesn’t suppress or block emotions and memories and impulses, but encourages us to see where they commence and how they take us over. That’s why yoga is called a science of the mind. The science is internal, a personal science. By observing, knowing, and accepting ourselves more openly, the feelings flow more freely.