

Yoga and Stress Reduction

Stress

The feeling of stress is a combination of our perception of an event and our body's physiological reaction. Work issues, difficulties, challenges, obstacles, deadlines, papers, tests, athletic events, performances, family problems, and tragic events are only a few of the events that can instigate stress. World events, particularly surrounding the recent Hurricane Katrina, can create stress not only in the local area of the tragedy, but can have wide-ranging impacts, affecting people's mental health.

One of the ways in which we respond to stress is through our fight-or-flight response. This is a combination of the activation of our sympathetic nervous system and specific hormonal pathways which result in the release of cortisol, one of our primary stress hormones, from the adrenal glands.

Acute, or immediate stress, can often be motivating, or can activate systems in the body. We have heard of people being able to accomplish physical feats in emergency circumstances because cortisol increases blood pressure, heart rate and blood sugar, as well as increasing mental focus. Because the stress response increases mental focus, it can often help us meet a deadline or finish a project. Too much stress, on the other hand, can interfere with numerous physical and mental abilities.

On a long-term basis, chronic stress can be damaging. Stress hormones including cortisol decrease the ability of our immune system to respond. They also increase blood sugar levels as well as blood pressure and heart rate, helpful in a crisis, but not for long-term health and wellbeing. This is where how we respond to stress can have a significant impact.

Yoga and Stress

The practice of Yoga is well-demonstrated to reduce the physical effects of stress on the body, and has even been found to lower cortisol levels. People find that they feel more relaxed after practicing Yoga. The *asana*, or physical postures of yoga, are helpful for reducing muscular tension, which reduces stress. Since we often have a tendency to store stress not only in our nervous system, but distributed throughout the musculature and other tissues of the body, Yoga can be a valuable and effective tool for releasing this pent-up or stored stress. This can be true even for post-traumatic stress or the after-effects of traumatic events.

Yoga includes not only the *asana* or physical postures most often considered, but most Yoga classes end with *savasana*, or a pose of relaxation. Some classes include a guided relaxation where the teacher leads students through a progressive relaxation of the body, which further reduces the experience of stress.

Yoga also includes meditation and breathing practices as well as a set of ethical precepts and observances (*yamas* and *niyamas*). These other elements also have beneficial stress-reducing qualities, partially by improving our relationships with the various aspects of our inner nature.

Yoga, the Breath and Stress

Working with the breath can be a particularly effective method for treating a negative response to stress. When we are experiencing stress, our breathing tends to become shallow and rapid. Shallow and rapid breath further heightens the body's stress response, and we can become caught up in an ineffective breathing pattern that only causes more stress. Many yoga techniques emphasize slowing and deepening the breath, which activates the body's parasympathetic system, or relaxation response. Just by changing our pattern of breathing, we can significantly affect our body's experience of and response to stress. This may be one of the most profound lessons from yoga practice.

Selected Research Investigating Yoga and Stress

Several different types of programs have been studied in regard to their effect on the ability to relieve stress. One is the mindfulness-based stress reduction program (MBSR), which is taught, studied and popularized by Jon Kabat-Zinn and the Center for Mindfulness in Medicine, Healthcare and Society at the University of Massachusetts Medical School. The mindfulness-based stress reduction program includes guided instruction in mindfulness meditation practices, yoga and gentle stretching, inquiry exercises to enhance awareness, individual instruction, group dialogue and home assignments.

The effectiveness of the MBSR has been studied in a variety of different scientific studies both at the University of Massachusetts as well as other medical centers around the world. Results that they have reported on their website which are still in the process of being written about include improved ability to react effectively under high degrees of stress. Published studies have found that program participants experience lower levels of stress. Kabat-Zinn and colleagues also found that people who practiced a meditation technique while receiving treatments for the skin disorder psoriasis (which is sensitive to stress) had skin that healed faster than people who did not listen to the meditation tapes during treatment.

Other types of yoga practice have demonstrated the ability to reduce stress. As mentioned earlier, Yoga can reduce cortisol levels, a finding which was documented in the October 2004 issue of the journal, *Annals of Behavioral Science*. In the June 2004 issue of the *Journal of Clinical Psychology*, researchers found that caregivers for people with dementia (a very challenging condition) improved physical and emotional functioning after practicing Yoga. February and August 2005 studies published in the *Journal of Alternative and Complementary Medicine* analyzed the breathing techniques of Sudardhan Yoga Kriya, which the authors maintain reduce stress, including post-traumatic stress disorder.

Selected References

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Center for Mindfulness at the University of Massachusetts Medical School Web site:
www.umassmed.edu/cfm.

Note: *The International Association of Yoga Therapists (IAYT) carries an extensive set of Yoga and Health Bibliographies, including citations for ongoing research, on their website. Eleven of the most requested bibliographies are accessible free of charge. Dozens more are freely accessible by IAYT members, or available to nonmembers for a modest fee. IAYT also maintains an extensive library containing many of the articles cited, which is open to researchers and the general public. For more information, please see www.iayt.org or call IAYT at 928-541-0004, M-F, 10-4, MST.*