

Stress and Health

Stress is the current catch-all term being used to indicate a range of experiences including, but not limited to, exhaustion, frustration, pressure, a sense of being overwhelmed, feeling inundated, beleaguered, annoyed, anxious, worn-out, hassled, etc. Interestingly, the term as it is used today was developed by accidental translation, approximately 75 years ago. Hans Selye, MD, a Hungarian doctor, was attempting to describe the generalized and specific adaptive responses which occur within the body and mind when exposed to short-term and long-term internal or external forces, or stressors.

Our bodily systems, for all of their tremendous intricacies, are fairly hard-wired. Certain things happen which trigger a specific response within the body, which then triggers another, creating a cascade of emotions, thoughts and biochemical reactions. Many of these cascades once triggered cannot be stymied, while others can be shifted only with practice and concerted effort. An example is something referred to as the Fight or Flight response, which describes the response within our systems most likely instilled by multiple encounters over thousands of years with predators and environmental catastrophes. If you are out gathering berries and were to come face to face with a bear, immediately, a host of thoughts, feelings, and physiological responses occur within your body, mind and spirit.

Before we discuss the many reactions which occur, however, it is important to understand that the process depends upon the initial interpretation of the trigger. An excellent example of this is 'man's best friend', a dog. Two people approach the same dog at the same time. For one person, she sees a cute, tail-wagging, tongue-lolling, four-legged friend who will bring on the Rest and Digest response of happiness and peace. For the second, who happens to have had a traumatic experience with a dog, he sees a ferocious, teeth-bearing attack animal which immediately sends him into the Fight or Flight response, which includes a racing pulse and cold sweat. The classification of the initial trigger as either dangerous or friendly activates the Fight or Flight response of the sympathetic nervous system, or the Rest and Digest of the parasympathetic nervous system.

The mechanics of the Fight or Flight response begin from the sensory receptors - vision, smell, sound, taste or touch - which send signals to the part of the brain called the thalamus. The thalamus then translates and relays this sensory information to other areas of the brain and, in some cases, filters the information determining what gets passed along and what gets discarded. If the information does make it to the various areas of the brain, and specifically to the locus ceruleus, one's basic alertness will increase. If the trigger is then further interpreted as being dangerous, then the sympathetic nervous system is also activated and triggers the release of epinephrine (adrenaline) and cortisol from the adrenal glands.

For most of us, what happens next is the most relevant part of the discussion. When epinephrine rushes through our bodies, we are poised to react to the most dangerous situations life can throw at us. Our heart rate and breathing rate increase. Our intestinal tract and stomach functions decrease. Capillaries and many blood vessels constrict to reduce blood loss from potential wounds. Our blood platelets, the component of our blood responsible for clotting, become highly reactive also to reduce blood loss from potential wounds. Nutrients are liberated from storage and drawn from other functions and sent to muscle tissue. Blood vessels feeding muscles dilate to allow for more blood to oxygenate and bring nutrients to the muscles. The overall muscle tone of one's body increases, readying one for explosive physical activity. Our pupils dilate to allow more light into our eyes for clearer vision. And finally, our bladders relax, in cases of severe terror so much so that we urinate.

This reaction is very effective in keeping us alive when we are out gathering berries and come face to face with the aforementioned bear. However, over time, many of us have re-interpreted danger from the level of occasional life-threatening bear attacks to daily experiences

such as work, financial pressures, driving frustrations, near miss accidents, and relationship and family turmoil, just to name a few. These very real experiences have taken the place of bear attacks as triggers of our Fight or Flight response. The challenge this presents to us is that one of the main methods our body utilizes to process the adrenaline rushing around in our systems, physical activity, is usually the last thing we are able to activate in the moment when faced with present day triggers of stress and the Fight or Flight response. It is socially unacceptable to haul off and punch a fellow employee, commuter, or family member when we are 'stressed out' by an experience we are having. Likewise we usually can't run away from said experience, as that could have equally negative consequences. And if we faint, (which, along with freeze, make up the rest of the Fight, Flight, Freeze or Faint responses to life-threatening danger) we are completely unable to respond to the situation at all.

Further, the historical occasional life threatening experience has become a daily occurrence in our society. Cortisol, another hormone secreted by the adrenal glands in response to stress, increases the impact of epinephrine on the body, especially the constriction of blood vessels and allows for the formation of glucose by the body to feed the brain and muscle tissues. Normal levels of cortisol are important for the ongoing balanced functioning of the body. However, long-term elevated levels of cortisol caused by sustained stress can be responsible for depressed cartilage and bone formation, muscle degeneration, depressed immune functioning, poor wound healing, redistribution of fat to the abdomen and posterior neck, insulin resistance, and hypertension and edema.

So, what can we do when we can't fight or run? When we can't do what has been programmed into our systems as a result of hundreds of thousands of years of evolution? There is one major key to interrupting this domino effect in our systems when modern living is highly stressful:

Breathing.

Conscious control of our breath is the key element to drawing us out of our experience of stress. Now, certainly there are other things that support this interruptive factor including warmth, meditation, soothing touch such as massage, gentle stretching, and certain smells such as rose and orange blossom. However, because the neurological control centers of breathing are located in the most primitive area of our brain, consciously controlling this fundamental physiological process has a tremendous impact upon the rest of the body. This conscious change is the activation of the parasympathetic nervous system into the Rest and Digest response.

With the activation of the Rest and Digest response of the body, we relax and move into maintenance functions in the body, including digestive functions, tissue repair, elimination and sexual responsiveness. Being able to move from a place of conscious stressfulness into a place of relaxation allows the body to regulate cortisol appropriately.

Within the parameters of the spa world and health and wellness, we are helping clients and guests activate their parasympathetic nervous system to move into the experience of Rest and Digest and, more specifically, the tissue repair aspects of the Parasympathetic Nervous System. The very concept of a Swedish massage is to experience gentle flowing strokes, breathing with the massage, 78-degree rooms, soothing music, low lighting, and silence so that you can let go of the pressures and stressors of daily life. And this is "just a Swedish massage." There are a number of other treatments that even though considered work, such as deep tissue massage, are meant to help the body move out of the adrenaline rush and into a place where the system can heal itself. The use of breathing and conscious relaxation of the muscles while applying precise and deep pressure moves one's body, mind, and spirit into a state of relaxation. Still others, such as Cranio Sacral Therapy, Lymphatic Drainage Therapy, Watsu, Reiki, Aromatherapy massage, as well as others are key treatments which allow the client to drop into a deeper experience of peacefulness and recuperation.

Recognizing the profound level of stress in our lives can be an 'aha!' moment. It is as important to recognize that making adequate time in our lives to step out of the stress and into peacefulness is no longer considered a luxury. In fact, this becomes a necessity for long term health and vitality. It is no longer an indulgence to get a massage, it is as crucial as eating berries for their anti-oxidant properties. At least with a massage you can rest assured that you won't be running into any bears.

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