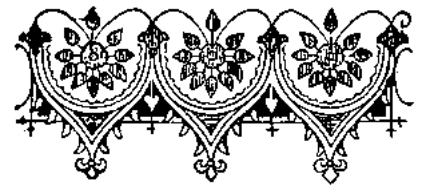


# Health & Medicine



## You Are What You Think And Feel —Stress Reduction From the Heart



Dr. Kate Thomsen and Silky

You've probably heard of the Autonomic Nervous System. The ANS manages many bodily functions so that you don't have to think about them. Digesting food, dilating and constricting your pupils, speeding and slowing your breathing and heart rate are a few of the functions of the ANS. There are 3 parts to the ANS: the enteric, the sympathetic, and the parasympathetic. The enteric system maintains your digestive system through the regulation of valves and muscles in your gastrointestinal tract. The sympathetic system creates a fight or flight reaction (stimulating/accelerated response). The parasympathetic system allows the maintenance state to exist by keeping the brake on the fight or flight accelerator.

It would seem that our external circumstances determine whether we are in a sympathetic or parasympathetically dominated state. For example, we know we would be in fight or flight mode if we were being chased by a lion - our heart beat will race, our alertness will sharpen, we will make more of the stress hormone cortisol. We will flood our bodies with glucose to feed our muscle cells for the upcoming fight or flight. If we escape the danger, our bodies will return to the parasympathetic state until the next lion comes along. It is understood that the physiological state of fight or flight should be short lived and infrequent — you should not be running from a lion several times a day. However, in 21st century America, we are doing just that. We call it stress.

Stress is the physiological and emotional reactions we go through in response to events. We used to believe that messages from the external world perceived by our body through our senses (the sight of a lion) had to be evaluated by our cortex (reasoning brain) before we could assign it an emotion (fear) and register it in our memory (lion = fear = run). But, in the 1990's, it was discovered that sensation and emotion can be directly linked, and bypass any rational evaluation by the cortex. It can be stored as emotional memory. Strong and repeated sensations can create stronger emotions, explaining post traumatic stress disorder. Negative emotions that we have associated with certain events in our lives are unique. This explains why people "stress" over different things. Some people are extremely frightened of public speaking and others get stressed being on an airplane. Feelings of stress are not based on the events themselves but on the perceptions and emotions we feel about those events. Nevertheless, our bodies receive the same message: "This is a life threatening situation! Turn on the sympathetic nervous system!" And the immediate effects of a sympathetic shift can be seen in physiologic measurements for hours after the acute stressful event is over.

So, your health does depend on how you think and feel. New research is teaching us that we can change the way we think, feel and react. Learning to be more resilient, we can maintain flexibility and balance in our lives, even when dealing with adversity and stress.

So how is this done? It has a lot to do with the heart. The heart is not just a pump. It is also part of the nervous system and part of the endocrine system. It receives input through nerves of the sympathetic and parasympathetic branches of the ANS. But, it turns out, the heart actually sends more information to the

brain than the brain sends to the heart. In 1991, researchers found that the heart had an intrinsic nervous system all its own. The heart can make its own decisions — apart from the brain!! The heart is also part of the endocrine system, secreting hormones like BNP and oxytocin which feed input to the brain. Who knew? And if that is not WOW enough for you, check this out. The electromagnetic frequency (EMF) of the heart goes out 3 feet! The EMF of the brain only extends 8". So, your emotional state is being broadcast through the EMF from your heart. These EMFs are influencing the nervous systems of others up to 3 feet away. Experiments have shown this influence occurring when one partner of a "couple" thinks lovingly or appreciatively of the other. Without physical contact, mothers' brain waves will become synchronized with their babies' heart rates. The same will happen with pet owners and their pets.

So your heart, the most powerful generator of rhythmic information patterns in your body, helps to synchronize your entire being: energetically, biochemically, biophysically and neurologically. In our office we eavesdrop on the conversation between the brain and the heart by studying heart rate variability. This is the time between each and every heart beat. The test involves wearing a small monitor on the chest wall for 24 hours. The data is analyzed and a heart rate variability report is generated. The report, correlated with an activity diary, should show dynamic heart rate variability and some time spent in a sine wave pattern reflecting heart and brain synchronization called coherence. The amount of variability, coherence and other patterns inform us of how dynamic and immediate an individual's heart is in responding to emotions/stress/memories, indicating levels of behavioral flexibility and physiological resilience. In

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**Chronic stress is associated with all kinds of poor health outcomes:**

- \* accelerated aging
- \* osteoporosis, ulcers, cancers
- \* decreased muscle mass and increased fat accumulation around the waist
- \* impaired immune function
- \* elevated blood sugar
- \* impaired memory and learning, brain cell death
- \* inhibition of growth/metabolism/ reproduction
- \* psychiatric illnesses
- \* sleep dysfunctions

Workplace stress is as bad for your heart as smoking and high cholesterol —*JAMA 2007*  
 85-90% of all visits to primary care doctors are related to stress —*Am Instit Stress 1991*

**Ask Us About the 24 Hour Heart Rate Variability Test**  
**See What Stress Is Doing To Your Body – and What You Can Do About It.**

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general, good health is associated with increased heart rate variability and more time spent in coherence.

How does this information help us? Heart rate variability is a measure of physiologic age. It can reveal stress related depletion reflected in the balance of the autonomic nervous system. Historically, research has shown that a decrease in heart rate variability predicts fetal distress, autonomic neuropathy in people with diabetes and the risk of death after a heart attack. In our office, patterns of heart rate variability helps us to determine 1) the balance or imbalance of the autonomic nervous system as a reflection of overall health, and 2) better strategies for treating metabolic syndrome, sleep maintenance, stress and emotional management, improving cognitive performance, decreasing inflamma-

tion and increasing immunity, improving vitality, energy and resilience.

Using this new science to get more synchronization in our own bodies, we can all create clearer and more efficient thought, word and deed. Our 3 foot heart EMF extensions would be generating synchronization of us with others and, who knows, all that harmony and cooperation could create..... world peace???

*Dr. Kate Thomsen has a holistic health practice in Pennington, NJ. She is board certified in Family Medicine and in Integrative/Holistic Medicine. Visit [www.drkatethomsen.com](http://www.drkatethomsen.com) or call the office at 609-818-9700.*