

Neurocardiology: Your Heart Has A Brain

Did you know that your heart consists of more neurological tissue than muscle? Your heart actually has its own brain, a brain that is fifty times more powerful electrically and five thousand times more powerful magnetically than the brain in your skull. Work done in the field of neurocardiology, much of it at the Institute of HeartMath in Boulder Creek, California, is demonstrating the healing power of the human heart.

Just like the conductor of an orchestra, your heart has the capacity to create system-wide order and harmony that leads to positive changes in gene expression, biochemistry and self-healing. From this perspective, poets have always known more about the healing power of the human heart than cardiologists.

The heart has the power to enhance our intelligence and intuition, while lowering stress, anxiety, anger, and blood pressure. The heart has been shown to strengthen our immune response by raising circulating levels of the IgA antibody*. It also has the power to create emotional clarity, enhance creativity and balance hormones. The heart's balancing influence on the brain and the autonomic nervous system partially explains the comprehensive healing impact of the heart.

A significant discovery is that the beat-to-beat changes measured in the heart rhythm (known as heart rate variability) reflect emotional states more accurately than changes in skin measurements or even brain wave changes. Negative or stressful emotional states produce a more random or disorganized beat pattern, while positive emotions create a very orderly, or 'coherent' heart rate variability pattern. This coherent pattern inhibits the stress response from the sympathetic branch of the autonomic nervous system, while activating the parasympathetic division that is responsible for the healing response.



We can learn to reduce emotional reactivity by cultivating a coherent heart rhythm. Our perception is habitually routed through the amygdala, a portion of the brain that assesses incoming perceptions based on past emotional threats. This style of perception triggers emotional reactivity - we can be reacting to imagined or remembered threats that are no longer appropriate. A more coherent heart rhythm allows new perceptions to bypass the amygdala in favor of the pre-frontal cortex, where perceptions can be evaluated free of unwarranted emotionality. The pre-frontal area helps us to appreciate just being in the moment, being here now.

Your heart produces electromagnetic signals that influence your health for better or worse. The quality of your heart rate variability is reflected in the electromagnetic field produced by the heart. Information from this field is imprinted into your blood with each heartbeat and is communicated to your fifty trillion or so cell membranes. A coherent heartbeat reflecting calm, peace, gratitude or joy has a very positive effect on gene expression and ultimately on your health. A less than coherent heart rhythm reflecting anger, worry, anxiety or

hopelessness has a negative impact on the expression of your genes and ultimately on your capacity for healing.

If the heart has such great healing potential, then why are we so stressed and sick? We live in a culture where we are encouraged to distance ourselves from our heart-felt feelings and the guidance they offer us. We've become alienated from the wisdom of our hearts and bodies. We live instead in our heads, cut off from the heart's healing wisdom.

We distract and distance ourselves from our feelings because we were never taught how to experience them and the energy they contain in a way that allows them to support us, to balance us and to lead us more powerfully forward in life. Most of us have been programmed from childhood to unconsciously resist and judge feelings as if they were symptoms that needed to be eliminated, when in fact they are integral aspects of our self-regulating capacity.

The research emerging from the field of neurocardiology continues to validate our self-healing potential. Hopefully, this information about the self-healing and self-regulating power of the heart will encourage us to be more conscious of the moment-to-moment thoughts, attitudes and emotions that ultimately create our biology.

If we consistently practice the self-healing modalities of our choice we will create a coherent heart beat, leading to epigenetic changes and a biology that is favorable to healing, health and wholeness.

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* Antibodies (also known as immunoglobulins) are substances made by the body's immune system in response to bacteria, viruses, fungus or cancer cells. Antibodies attach to foreign substances so the immune system can destroy them.

Antibodies are specific to each type of foreign substance - antibodies made in response to a tuberculosis infection attach only to tuberculosis bacteria. If your immune system makes low levels of antibodies, you have a greater chance of developing repeated infections.

Antibodies also work in allergic reactions. Antibodies may occasionally be made against your own tissues. This is called autoimmune disease.

IgA antibodies are found in areas of the body such the nose, breathing passages, digestive tract, ears, eyes and vagina. They protect body surfaces that are exposed to outside foreign substances. This type of antibody is also found in saliva, tears and blood. About 10% to 15% of the antibodies present in the body are IgA antibodies.