

“THE MEASURE of intelligence is the ability to change,” said Albert Einstein. Others of comparable IQ have defined intelligence similarly, as the ability to adapt to change. I find this an interesting way of looking at something we try so hard to measure, whether by exams, IQ tests, or career. How does one adapt to a math problem? To a physics final? To an emergency? To a flat tire? To a challenging work situation? To a screaming baby? To a location or job change? To a natural disaster? All of these are relatively stressful scenarios and what is being suggested is that intelligence is requisite to the ability to adapt to these changes in a successful manner.

The brain is a key organ of adaptation and response to any change or stress. It detects alterations in the environment, thanks to our senses, and aids in the compensatory adjustments of our physiology

and mentation. We were created with the amazing ability to determine slight changes in temperature, facial expression, taste, and so on. We sense disturbance, including what is potentially threatening. It is fascinating to ponder how so much of the body mechanisms are devoted to this work of detecting change while simultaneously maintaining homeostasis.

Homeostasis is one of those words that just sounds peaceful. It paints a mental picture of a still, glassy lake, of tranquil mountains, of a copasetic relationship. Yet, the study of physiology, and the study of any other system in the universe reveal that the process of maintaining homeostasis is anything but still. Homeostasis is a term most often used in biology to describe how the human body reacts to change and keeps itself within certain parameters to ensure survival and proper functioning.

These reactions include a range of responses. If the body becomes too hot, hormones are released to initiate

sweating to lower the body temperature; too cold and the muscles are triggered to shiver. When a hot fudge brownie sundae is consumed (by an individual who does not have diabetes), a hormone is released to ensure that blood sugar levels stay within a certain range, in spite of the influx of a tremendous amount of sugar. Specific pH levels are maintained in the intestines, within cells, and in the blood. If blood pressure drops, the adrenal glands secrete a neurotransmitter, which causes the blood vessels to constrict and increases the heart rate, resulting in a rise in blood pressure. The body works constantly to achieve the balance of homeostasis in numerous ways.

The adrenal glands are a major contributor to maintaining homeostasis amidst the constant changes that occur within and around us. Located atop the kidneys, they were labeled by Dr. Hans Selye as the body's prime reactors to stress. Dr. Selye was an endocrinologist who is best known for defining the term stress as we know it, in relation to its effect on human health. He stated that the adrenals “are the only organs that do not shrink under stress; they thrive and enlarge. If you remove them, and subject an animal to stress it can't live. But if you remove them, and then inject extract of cattle adrenals (cortex), stress resistance will vary in direct proportion to the amount of the injection, and even be put back to normal.”²¹ Similarly, our ability to handle, or make the necessary adjustments to stress, is dependent on the competence of the adrenal glands.



Physiological and behavioral responses of the brain and parts of the body like the adrenal glands are adaptive and lifesaving, but can also be damaging if put into overdrive. Dr. Selye also coined the term “General Adaptation Syndrome,” a response of the body to the demands placed upon it. “The Syndrome details how stress induces hormonal autonomic responses and, over time, these hormonal changes

WHEN WE ARE SUBJECT TO STRESS, OUR BODY RESPONDS REFLEXIVELY. . . .

can lead to ulcers, high blood pressure, arteriosclerosis, arthritis, kidney disease, and allergic reactions.”² In other words, when we are subject to stress, our body responds reflexively. These compensatory adjustments, as essential as they are, can actually impair health if the cause is not alleviated.

If you were taking a walk in the hills behind my home and you came upon a mountain lion, hormones from the adrenal glands would be released, signaling the liver to instantly break down its stores of glycogen, converting it back into glucose. The glucose would be released into the blood as a source of fuel for the brain and body to move quickly and move now. This could save your life. If, however, the mountain lion in your life is something or someone that you cannot literally run away from, you are left with a surplus of sugar in the blood. An individual with diabetes will experience elevated blood sugar levels irrespective of what foods are eaten or not eaten. The problem is compounded as stress hormones also lead to insulin resistance. In the

absence of physical exertion, the excess blood sugar often becomes stored as abdominal fat. If the “mountain lion” is constantly present in your life, not only are you likely to gain weight or be battling high blood sugar levels, but also the excessive demand placed upon your adaptive response can exhaust your adrenals. Even adrenal glands, which were designed to handle stress can get burned out, fatigued, and become unable to respond as they once were able to.

My point is this. While we are super intelligent beings, possessing brains and

bodies with an amazing ability to adapt, there are certain factors that can dumb it down. Our exposure to the numerous stressors in our lives has the potential of reducing our adaptive intelligence if the stress gets out of control. Viewing it from this perspective, maybe we can see how what we eat can be a stress on our bodies, dumbing it down. Our lack of physical exercise, lack of sleep, lack of schedule and routine, our efforts to chemically balance ourselves out with caffeine, tobacco, and alcohol, are disturbances to internal peace and are wearing us out. Could the manifestation of physical symptoms that you may be experiencing “be messengers asking you to eat, drink, sleep, move, think, believe,” and handle stress in a different way?³ Could what ails you be “an effort of nature to free the system from conditions that result from a violation of the laws of health”?⁴

The laws of health are simply owner’s manual guidelines as to how to take care of our body. They are simply:

- Good nutrition
- Getting adequate, consistent exercise

- Staying hydrated
 - Spending time outdoors in the sunlight, ensuring adequate vitamin D levels
 - Not relying on substances such as caffeine, alcohol, or tobacco to try and achieve homeostasis for us (these only place added stress on our ability to adapt, and weaken our own resources)
 - Breathing properly, deeply, to maintain calm nerves
 - Getting the restorative sleep you need
 - Trusting God with the issues, the stressors, the disruptive changes in your life, seeking Him for the wisdom and grace to handle it
- Taken seriously and put into daily practice, these will protect the body’s organs and mechanisms enabling it to keep fighting strong for inner peace.

¹ Jeremy E. Kaslow, M.D., *Adrenal Dysfunction*, http://www.drkaslow.com/html/adrenal_insufficiency.html.
² Paul J. Rosch, M.D., *Hans Selye: Birth of Stress*, The American Institute of Stress, <http://www.stress.org/about/hans-selye-birth-of-stress>.
³ Dr. Libby, *The Science and Impact of Rushing*, 6/23/14, https://www.drlibby.com/blogs/The_Science_and_Impact_of_Rushing.
⁴ Ellen White, *Counsels on Health*, p. 90.



Risë has been writing on various health subjects for over 20 years. She has inspired many through her research and down-to-earth writing and speaking style. She believes that healthy living is intimately tied to happiness and wholeness.