



Stress and Depression: More Than Just a Mood Disorder

*By Eric Hassid M.D.
CEO and Medical Director, IRH*

Many of us at several points throughout our lives will experience some form of mood challenge transiently, whether it be anxiety or depression or both. Thankfully, for most of us, this ailment is transient and is often situational. However, there are a modest percentage of us who suffer from chronic anxiety and/or depression that plagues us for many years if not for our whole life.

Most of us probably consider mood disorders as annoyances that really have little impact on us other than the mood aspect. However, recent scientific evidence proves this notion to be furthest from the truth.

A new field of science called “psychophysiology” investigates the connections between mind, brain, and systemic physiology. The autonomic nervous system has its roots in the brain and influences most major organ systems such as the heart, lungs, vascular system, gastrointestinal tract, liver, urinary bladder and immune system. This autonomic control is modulated by a primitive center in the brain called the hypothalamus which also regulates one of the body’s master glands called the pituitary gland. This gland secretes a variety of messaging hormones that influence other glands such as the thyroid, ovaries, testes, adrenal gland. Furthermore, hypothalamic activation can influence the secretion of our natural pain and stress relieving neurotransmitters known as endorphins. These endorphins not only make us feel good, but can actually influence immune function. The mind-body connection is appreciated when emotional or psychological stimuli influence alterations in hypothalamic output which then lead to the above mentioned physiological effects. One can now understand the rationale behind the physical symptoms associated with anxiety.

Recent science has revealed that stress, anxiety and depression lead to overproduction of three major hormones known as norepinephrine, epinephrine and cortisol all of which originate from the adrenal gland which is stimulated by pituitary gland hormones. This gland is located at the base of our brain. Again, the pituitary gland is stimulated by hypothalamic hormones whose secretion are controlled by our central nervous system....you now can see the convoluted physiological connection between mind and body.

Overproduction of cortisol, norepinephrine and epinephrine is seen as a natural response to acute stress as in the classic fight or flight response. This is an adaptive mechanism in the acute stage to increase vigilance and mobilize energy sources for purposes of evasion. However, if elevated chronically as in chronic high or even low stress states, these hormones will lead to increased blood sugar, increased central fat deposition, decreased lean body mass, alteration of immune function, alteration in memory and cognitive processing, increased platelet stickiness and even changes in brain growth factor production. Furthermore, sleep is disrupted during this

state and this itself likewise influences the secretion of the above hormones as well as DHEA, growth hormone and positive immune modulators. With all these physiological changes, it is easy to see why chronic anxiety, depression and sleep disruption can increase the likelihood of heart attack, stroke, obesity, infections, worsening asthma, diabetes and autoimmune disorders such as systemic lupus erythematosus and multiple sclerosis.

Mind-body health, restorative sleep, exercise and good nutrition help to reverse these potentially damaging physiological responses. With certain biofeedback techniques, one can actually measure positive changes in autonomic control of blood pressure as well as positive changes in cortisol, DHEA and growth hormone. Simply laughing regularly can achieve similar results!

It is important to realize that stress is one of the major silent killers. Just because we don't "feel" stressed does not mean that our bodies are not responding to stressful stimuli on an ongoing basis without our awareness. We don't have to have major depression or anxiety in order to experience their negative effects. Lower levels chronically can be equally dangerous. It is for this reason that we all make an effort to provide balance in our lives by focusing on proper nutrition, restorative sleep, exercise and mind-body health. These simple principles of good living will increase our chances of better health, vitality and possibly longevity.