



'Tis the season to be stressed

By Markian Hawryluk / *The Bulletin* Published: December 24, 2009

The holidays are supposed to be a time for celebration. Yet many find the season one of stress and anxiety. While a little stress around the holidays is unlikely to have long-term ramifications, research has shown that long-term stress does have a significant impact on your physical health, affecting virtually every part of your body in some way.

What is stress?

Stress is the feeling that your circumstances exceed your ability to cope. The body's reaction to stress is in essence a way of protecting itself from danger. When the brain perceives a threat to life or limb, the nervous system generates what's known as the fight or flight response. That shifts the body's energy resources toward fighting off the threat or fleeing for one's life.

Today, stress is more often psychological stress, such as job stress or economic worries, rather than a physical threat, yet the body's reactions remain largely the same. And while physical threats to well-being often pass quickly, psychological stress often lingers, leading to the problems associated with chronic stress.



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The starting point

1 • Adrenal glands release the hormones called adrenalin and cortisol, increasing heart rate and respiration, dilating blood vessels in the arms and legs, and boosting glucose levels in the bloodstream. These changes happen almost instantaneously, shifting resources to the parts of the body needed to fight or escape the threat. Once the crisis has passed, the body normally returns to a normal, unstressed state. Chronic stress, however, exposes the body to these stressors over a longer period of time and can result in long-term wear and tear on the body.

2 • The liver produces more glucose, which the muscles use for energy. Unused glucose is reabsorbed by the body. Repeated spikes in blood sugar, however, can lead to insulin-resistance or diabetes, particularly in those people at high risk. Studies show managing stress can reduce blood sugar levels, sometimes as much as medication.

3 • Stress hormones can disrupt normal functioning of the **reproductive system**, affecting testosterone and sperm production in men, and interfering with normal menstrual cycles in women. Stress can exacerbate pre-menstrual and menopausal symptoms.

4 • Muscles tense up in a reflex reaction to stress as a way of guarding against pain or injury. With chronic stress, muscles are constantly tight and tense, leading to a variety of physical problems. Taut shoulder, neck and head muscles lead to tension headaches and migraines. Stress over an injury can create a cycle of pain, where muscles tense up in anticipation of pain or re-injury creating new pain pathways.

5 • Stress also impacts the **immune system**, changing the way certain white blood cells react as part of the immune response. Chronic stress can increase the risks for several diseases and has been shown to increase the rate of progression of HIV/AIDS and certain types of cancer.

6 • Stressful events have been linked to **depression**. About 20 to 25 percent of people who experience major stressful events develop depression.

7 • Chronic stress can lead to **sleep disorders**, including shorter duration, worse quality and more daytime functioning impairments. Sleep problems can also lead to increased stress.

8 • High stress levels can lead to excessive **hair loss** and some forms of baldness.

9 • Stress can lead to or exacerbate **skin problems** such as eczema and psoriasis.

10 • In the mouth, stress has been known to result in gum disease. Researchers are unsure whether the link is due to individuals succumbing to poor oral hygiene habits when stressed. Stress has also been linked to mouth ulcers and dryness.

11 • Stress hormones signal the **heart** to beat faster and harder. Blood vessels dilate to direct more blood to the heart and large muscles. Blood pressure rises. These should return to normal once the stressor has passed. Long-term exposure to stress increases the risk of high blood pressure, heart attack and stroke. The stress hormones can also promote inflammation and increase cholesterol levels. Both factors increase the risk for heart disease. Over time, stress can reduce the heart's ability to beat faster to meet short-term demands.

12 • Lungs breathe harder and faster in response to stress, which can cause problems for those with asthma or lung disease. Stress can trigger asthma attacks and panic attacks, as well as cause hyperventilation.

13 • Stress causes the brain to be more alert to the sensations in the **stomach**, causing the feeling known as butterflies, nausea or pain. Severe stress can lead to vomiting. Chronic stress can lead to ulcers. Some of the digestive problems related to stress are caused by changes in diet or an increased use of alcohol or tobacco in an attempt to cope. Stress also affects how fast food moves through the digestive system, resulting in diarrhea or constipation.

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