

WHAT HAPPENS IN THE BODY DURING STRESS?

Factsheet | HGIC 4392 | Published: Jul 26, 2022

What is Stress?

Stress is very common and is how your body responds to different pressures, tensions, or uncontrollable events. However, not all stress is the same. There is negative stress (distress) and positive stress (eustress). Negative stress can be from illness, money problems, or family tensions. Positive stress can be from getting married, having a new child or grandchild, or getting a new job.

Is it Stress or Something Different?

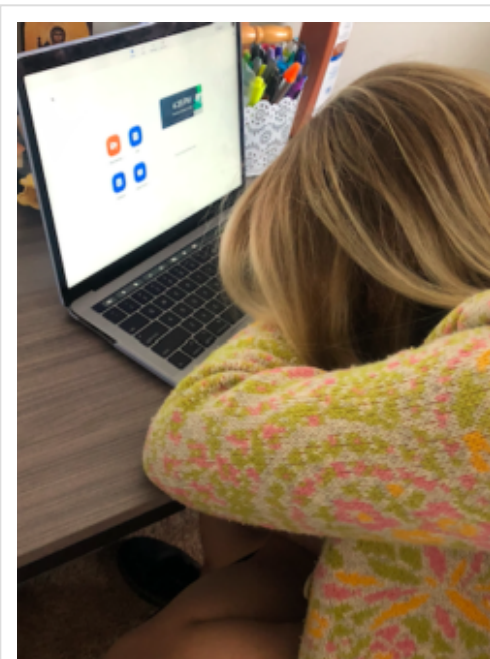
Prolonged stress over time can lead to more severe issues such as burnout or depression. Burnout can happen from all types of stressors when you feel like you can no longer cope. Depression is a more serious condition that can result from prolonged stress and burnout but can also result from other factors such as a family history of depression, taking certain medications, or having certain medical problems, like diabetes. If you think you may be experiencing depression, talk to your doctor about the right treatment plan for you, as depression will not go away on its own.

How Does Each System in The Body React to Stress?

Stress has significant effects on the entire body and all its systems.

The Cardiovascular System: This system contains your heart and vessels that pump blood throughout the body. When stressed for a short time (acute stress), your heart rate rapidly increases, your heart muscle begins to pound harder, your blood vessels grow in width to allow more blood flow, and stress hormones are released throughout your body. In long-term or chronic stress, these vessels are typically expanded for longer than normal, which can lead to adverse health effects such as hypertension and heart disease.

The Endocrine System: This system controls all of your glands and associated hormones. When stressed, the body releases two main stress hormones which can be helpful to boost energy in times of need: adrenaline and cortisol. When you are stressed, your blood sugar is also impacted. Your body's levels of insulin fall, and hormones like adrenaline increase which stimulate your liver to release stored sugar and another hormone called glucagon. This sugar-releasing hormone gets into your bloodstream, causing your blood sugar to rise. This high blood sugar, or hyperglycemia, can lead to adverse side effects, including excessive thirst, vision problems, and more. Those with type 2 diabetes may have a more difficult time managing blood sugar levels during times of stress.



Prolonged stress over time can possibly lead to more severe issues such as burnout or depression..

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The Gastrointestinal System: This system is responsible for controlling digestion. Bacteria reside in your gut, and these bacteria can change and impact your mood when stress occurs. Not to mention that when stressed, poor health behaviors can occur that can affect your gastrointestinal system. Many individuals eat more when stressed, leading to pain, bloating, and nausea in the stomach and bowels. The digestion process may also slow or even stop due to your nervous system's response to stress. It may be telling your body to use energy elsewhere in the body rather than digestion at the time of stress.

The Immune System: The immune system is responsible for keeping us healthy and fighting off infections from foreign particles that may enter our bodies. Stress can lower your immune response, make you more vulnerable to infections, and make it harder to recover from illnesses. Autoimmune diseases are also more likely to flare up during stressful times.

The Musculoskeletal System: The musculoskeletal system is made up of your bones and muscles and helps you move. When you are stressed, your muscles tense up, and, in severe cases, you may become immobile for a period of time. This tension or immobility may result from severe anxiety or a panic attack. The musculoskeletal system's reaction can occur suddenly from short-term stress, or some muscles can be in a constant tensed state, leading to long-term effects.

The Nervous System: The nervous system controls all your nerves and tells your body what to do and how to react. When stress occurs, your body reacts as if it is going into lockdown or an emergency state. This reaction is called the fight or flight response which tells your body how to react to a stressor. Some bodily reactions may include dilating pupils to enhance vision, increasing blood flow to allow for more movement, keeping up with your increased heart rate, and causing your endocrine system to release stress hormones, as mentioned above.

The Reproductive System: In men, stressful events can lower sexual desire and decrease sperm count. The release of stress hormones can impact sex hormones which can lower libido and overall sexual arousal. Similar impacts also occur in women. However, there are additional impacts of stress on women's reproductive systems. It can cause irregular or painful menstrual cycles and have long-term effects on pregnancy, such as difficulties from conception to even early labor.

The Respiratory System: The respiratory system, made up of the lungs and airways, allows you to breathe. When stressed, your airways constrict, leading to shortness of breath and rapid breathing, or hyperventilation. This change in breathing can be especially harmful to someone with a respiratory illness such as chronic obstructive pulmonary disease (COPD) or emphysema. Stress can also lead to many other negative long-term health effects such as chronic muscle tension and pain, muscle atrophy, increased risk for hypertension, heart attack and stroke, chronic fatigue, metabolic disorders, depression and immune disorders, irritable bowel syndrome, polycystic ovarian syndrome, and can lead to burnout.



Healthy Ways to Cope

When experiencing stress, it is important to find different healthy ways to cope. Many common coping mechanisms, like "stress-eating" or using excessive alcohol, or other drugs, can cause more long-term health complications. Finding healthy ways to cope with stress can help limit the impact of stress on your body while potentially leading to other health benefits. One healthy way to cope with stress is to make healthy lifestyle choices like engaging in regular physical activity and following a healthy diet. Another way to reduce and cope with stress is to make healthy changes in your mindset. Replace negative thoughts with helpful

Make healthy changes to your mindset to help reduce and cope with stress.

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thoughts to help you overcome the challenges that are causing you to feel stressed, and use relaxation techniques, like deep breathing and meditation to reduce stress in a healthy way. Finally, you can

change your situation. Sometimes it is beneficial to step away from the problem that is causing you stress. Even spending time playing with a pet can be a great way to change your situation to reduce and cope with stress.

Stress can negatively impact all major systems in your body and make chronic conditions more difficult to manage. By choosing healthy ways to cope with stress, you can continue to make a positive impact on your health.

For more information on stress and ways to cope, check out these other resources on the Home and Garden Information Center:

- **Burnout**
- **HGIC 4384, *Meditation***
- **HGIC 4388, *How Can My Pet Better My Health?***
- **HGIC 4368, *Stress Management***
- **HGIC 4376, *Coping with Stress and Mental Health***



Find things that you enjoy to reduce and cope with stress in healthy ways.

Image Credit: RHN Team Picture Bank

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Originally published 07/22

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