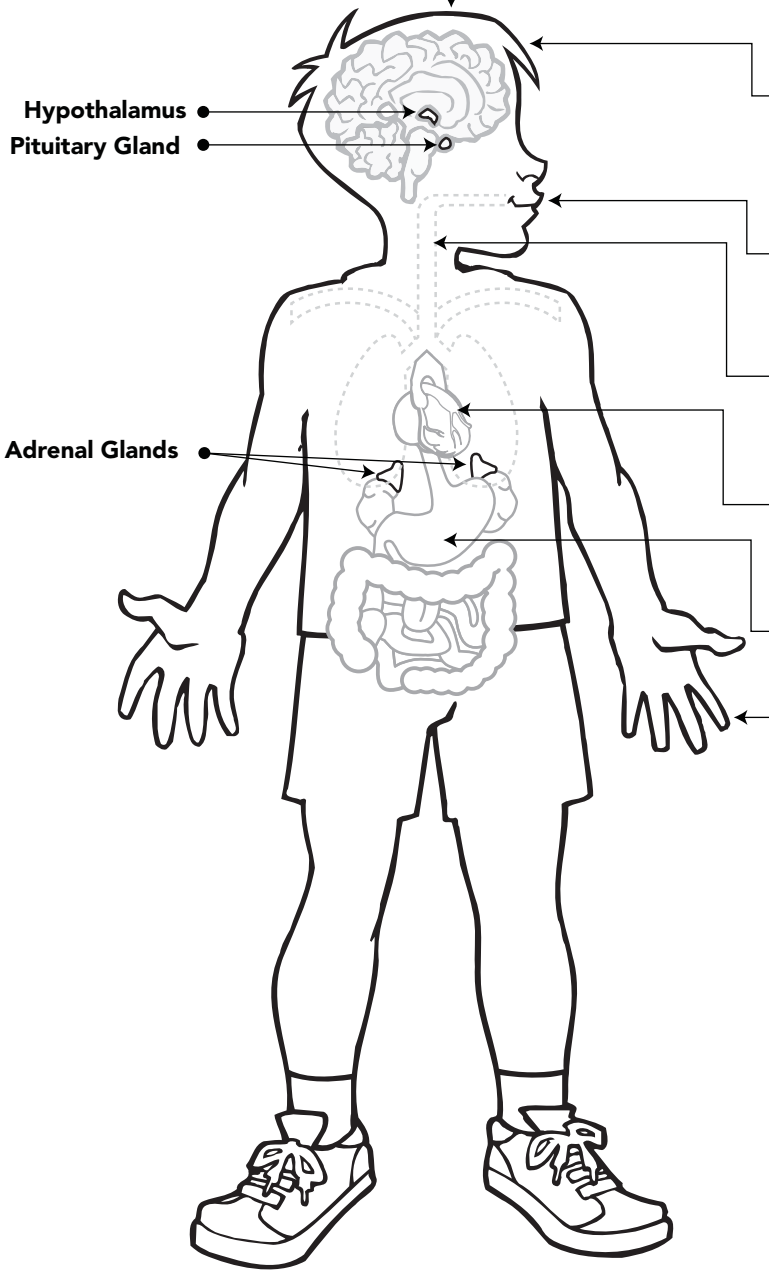
Cold Hands, Fast Heart:
The Body's **Physiological** Reaction to Stress

The human body instinctively reacts to stress by releasing hormones that control the heart rate and breathing. It's the body's way of providing additional energy to either fight or flee—the innate human response to stress.

Hormones are chemicals, produced by glands and carried through the bloodstream, that affect the activities of organs in the body. The ***hypothalamus*** (high-po-THAL-uh-mus) and ***pituitary*** (pih-TOO-ih-tair-ee) glands, located in the brain, and the ***adrenal*** (uh-DREE-nal) glands, situated on top of the kidneys, control the hormones that help the body cope with change or a stressful situation. The hypothalamus signals the pituitary gland that signals the adrenal glands to release the stress hormones ***epinephrine*** (ep-i-NEF-rin), ***norepinephrine*** (nor-EP-i-NEF-rin), and ***cortisol*** (KORT-ti-zol). These chemicals increase heart rate and breathing, which provide a burst of energy (to fight or flee), as well as affect other bodily functions. The release of these hormones can result in a wide range of physical reactions to stress.



Experts think that while dealing with stress, the chemical messengers in your brain tell your blood vessels to get really small. This means that less blood gets to your head, which can cause a **headache**.

Stress hormones affect your short-term memory so you can focus on the "danger" at hand. As a result, you may find that it's **hard to concentrate**.

Fluids in your body go to the organs absolutely necessary to help you survive a stressful situation. This can leave you with a **dry mouth**.

When you're really stressed, your body sends blood primarily to your organs, not your muscles. This can make it **hard to swallow**.

The release of stress hormones can speed up the flow of blood. In order to move all of that blood to vital organs, you have a **pounding heart**.

Stress hormones can put your digestive tract into high speed. This makes you feel **nauseated**.

As stress hormones flow through your bloodstream, it moves blood away from your skin. This gives you **cold hands.**

ALSO:
If you've been under stress for a while, the same hormones, epinephrine and norepinephrine, that give you energy may not turn off at the end of the day and may also block serotonin, a hormone that controls sleep and good feelings. This can make it **hard to sleep**.

Stress may cause a **change in appetite**—either feeling hungrier or not hungry at all. If you crave certain foods when you are stressed out, it may be because these foods increase serotonin.

If you feel locked in a stress cycle, you may feel helpless and overwhelmed, leading to **angry outbursts**.

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