



HIPPOCAMPUS: Cements the response to the threat into long-term memory

PUPILS: Dilate, ready to relay signs of danger to the visual thalamus

SALIVA: Decreases as digestive system slows

THYROID GLAND: Raises resting metabolic rate

LUNG: Bronchioles dilate, taking in more oxygen

HAIR: Stands on end

AMYGDALA: Directs central and autonomic nervous systems to trigger an all-systems alarm; also stores memory of threat

HYPOTHALAMUS: Incorporates signals from organs, triggers pituitary gland and nervous system, causing the body's major organ systems to prepare for action

PITUITARY GLAND: Produces thyrotropin and adrenocorticotropic, calling the thyroid and adrenal system into action

HEART: Blood pressure and heart rate spike, infusing brain and muscles with ready fuel

SKIN: Vessels constrict, causing chills and sweat

SPLEEN: Contracts, pumping out white blood cells and platelets in preparation for possible physical injury

STOMACH AND GASTROINTESTINAL TRACT: Vessels constrict to divert blood to muscles

LIVER: Begins to break down glycogen for instant energy to keep up with higher metabolic rate

BLADDER AND COLON: Prepare to void their contents in preparation for violent action and possible injury

ADRENAL MEDULLA: Floods bloodstream with adrenaline and noradrenaline, increasing the level of blood sugar and constricting blood vessels

ANATOMY OF FEAR

Within seconds of perceiving a threat, the primitive amygdala sounds a general alarm. The adrenal system promptly floods the body with adrenaline and stress hormones. Nonessential physiological processes switch off. Digestion stops, skin chills, and blood is diverted into muscles in preparation for a burst of emergency action. Breathing quickens, the heart races, and blood pressure skyrockets, infusing the body with oxygen while the liver releases glucose for quick fuel. The entire body is suddenly in a state of high alert, ready for fight or flight.

—J. S.