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Brain and Body Terms: Quick Reference

Plain-English definitions for every brain and body terms term on Shrinktionary, in one printable sheet.

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Created and reviewed under the direction of Shariq Refai, MD, MBA, FAPA, a board certified psychiatrist.

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Amygdala

Also: Amygdalae

The amygdala is a small region deep in the brain that helps detect threat and drive fear. It plays a central role in anxiety and the body's stress response.

Autonomic Nervous System

Also: ANS

The autonomic nervous system is the part of the nervous system that runs automatically, controlling heart rate, breathing, digestion, and the stress response. It has two main branches, sympathetic and parasympathetic.

Circadian Rhythm

Also: body clock, sleep-wake cycle

The circadian rhythm is the body's roughly 24-hour internal clock. It guides the sleep-wake cycle along with daily shifts in alertness, hormones, and body temperature.

Cortisol

Also: Stress hormone

Cortisol is the body's main stress hormone. It is released through a system called the HPA axis, and staying elevated for too long can take a toll on health.

Default Mode Network

Also: DMN

The default mode network is a set of connected brain regions that becomes active when your mind is at rest and turned inward, such as during daydreaming or self-reflection.

Dopamine

Also: DA

Dopamine is a chemical messenger in the brain tied to motivation, reward, and movement. It's often called the pleasure chemical, but it has more to do with wanting and pursuing than with happiness itself.

Fight-or-Flight

Also: Acute stress response, Fight, flight, or freeze response

Fight-or-flight is the body's automatic survival response to a perceived threat. It floods the system with stress hormones to prepare a person to confront danger or escape it.

GABA

Also: gamma-aminobutyric acid

GABA is the brain's main calming, or inhibitory, neurotransmitter. It slows nerve activity down, and it's the target of medications like benzodiazepines.

Glutamate

Also: glutamic acid

Glutamate is the brain's main excitatory neurotransmitter, the chemical messenger that speeds up signaling between nerve cells. It plays a central role in learning and memory.

Gut-Brain Axis

The gut-brain axis is the two-way communication system between your digestive tract and your brain. It links how you feel emotionally with what happens in your gut.

Hippocampus

The hippocampus is a brain region central to forming and storing memories. It's sensitive to chronic stress and is often studied in connection with depression and PTSD.

HPA Axis

Also: hypothalamic-pituitary-adrenal axis

The HPA axis is the hypothalamic-pituitary-adrenal system, the body's central stress response network. It controls the release of cortisol and helps the body react to stress.

Hypervigilance

Hypervigilance is a state in which the nervous system stays on high alert for threats, even when the environment is safe. It's a core feature of trauma-related conditions and shows up in anxiety disorders.

Limbic System

Also: emotional brain

The limbic system is a group of connected brain structures involved in emotion, motivation, and memory. It includes regions like the amygdala and hippocampus that help process feelings and form memories.

Neuroplasticity

Also: Brain plasticity, Neural plasticity

Neuroplasticity is the brain's ability to change itself in response to experience, learning, and practice. It is a big part of why therapy and new habits can work.

Neurotransmitter

Also: chemical messenger

A neurotransmitter is a chemical messenger that nerve cells use to send signals to one another. These molecules help control mood, thinking, movement, sleep, and much of what the brain and body do.

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Norepinephrine

Also: noradrenaline

Norepinephrine is a chemical that works as both a neurotransmitter and a stress hormone. It plays a key role in alertness, attention, and the body's fight-or-flight response.

Oxytocin

Also: the bonding hormone

Oxytocin is a hormone and brain chemical involved in bonding, trust, and social connection. It also plays roles in childbirth and breastfeeding.

Prefrontal Cortex

Also: PFC

The prefrontal cortex is the front part of the brain behind the forehead. It supports planning, judgment, and impulse control, and it works closely with what psychologists call executive function.

Reuptake

Reuptake is the process where the brain reabsorbs a neurotransmitter after it has done its job. Many antidepressants work by slowing this process down.

Serotonin

Also: 5-HT

Serotonin is a chemical messenger in the brain and body involved in mood, sleep, appetite, and digestion. It's often called the happiness chemical, but its real role is far more complex.

Sympathetic Nervous System

Also: SNS

The sympathetic nervous system is the part of the body's automatic wiring that ramps up energy and alertness, especially under stress. It drives the fight-or-flight response.

Vagus Nerve

Also: tenth cranial nerve

The vagus nerve is a long nerve that links the brain to many organs, including the heart and gut. It's a key part of the body's calming, rest-and-digest system.

Learn more: see all brain and body terms terms at shrinktionary.com/categories/brain-body-terms