Vegetative Functions Encyclopedia Article

Vegetative Functions

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Vegetative Functions

The vegetative functions are the operations of the body at rest, such as the workings of the **organs**. When a person is in a persistent vegetative state, the vegetative functions continue to work when other functions of the nervous system, such as consciousness and perception, have shut down.

The nervous system consists of the **central nervous system**, that is the **brain** and **spinal cord**, and the **peripheral nervous system**, the nerves that branch throughout the body. The peripheral nervous system is made up of sensory receptors and the motor division, which controls movement. The motor division includes both somatic motor **neurons**, which control voluntary movements, and autonomic motor neurons, which control involuntary movements such as the beating of the **heart**.

The **autonomic nervous system** itself has two divisions. The sympathetic neurons are involved in the "fight or flight" reactions of stress. Responding to the secretion of adrenalin by the adrenal gland, the **sympathetic nervous system** is activated as a unit. Its primary neurotransmitter is norepinephrine, and it serves to dilate the pupils and increase the heart rate, **blood** sugar, and circulation to the skeletal muscles.

The parasympathetic division of the autonomic nervous system controls the vegetative functions by releasing the neurotransmitter acetylcholine, operating on each organ separately. The effects of the parasympathetic division generally slow down the body for rest and **digestion**. The heart rate decreases, and the pupils constrict. Circulation is increased to the skin and internal organs, correspondingly decreasing the blood flow in the skeletal muscles.

Because the survival of the organism generally requires balance, most organs are innervated by both the sympathetic and parasympathetic divisions. Thus the heart rate, for example, can be increased or decreased as necessary.