

What is the Sympathetic System?

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The sympathetic nervous system is part of the **autonomic nervous system** which is the link between the **central nervous system (brain and spinal cord)** and the organs, relaying information concerned with automatic (involuntary) control and maintenance of a stable internal environment (homeostasis).

The autonomic nervous system controls the glands of the body, and is in essence a link between nerves and hormones (the chemicals which effect physiological changes).

The majority of the organs it innervates receive **dual innervation**, which means that they are supplied by both parts of the autonomic nervous system, the **sympathetic** and **parasympathetic** divisions, which broadly speaking have opposing effects.

The exception to this is the **adrenal gland**, in which the cells are directly supplied by messages from the sympathetic nervous system; in fact, the adrenal gland could be said to be a part of the ANS.

Other glands which do not receive both sympathetic and parasympathetic input are: tear ducts, which have only parasympathetic input; and sweat glands and blood vessels, which are controlled almost exclusively by the sympathetic nervous system.

This is of relevance when we consider the clinical effects of a hyperactive sympathetic nervous system.