

# Spinal Cord Function

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The spinal cord consists of **gray and white matter**. The gray matter contains mainly neurons and glial cells. White matter contains spinal pathways that connect individual sections of the nervous system with receptors or effectors.

*You can find more detailed information on the Spinal Cord page.*

## Spinal Reflexes

The spinal cord is the **lowest reflex center**, which is subordinate to the higher sections of the CNS. It is the center of control of motor reactions based on information obtained from proprioceptors and exteroceptors.

*You can find more detailed information on the Spinal Reflexes page.*

## Connection Functions

- Connection and integration of efferent signals - leading from higher sections of the CNS (reticular formation, basal ganglia, cerebellum and cerebral cortex) to the periphery. For example, in the anterior corners of the spinal cord, motor pathways connections are switched.
- Connection of signals leading from the periphery to the center.

## Sensory Functions

The spinal cord mediates the conduction of afferent signals from peripheral receptors to higher sections of the CNS.

## Control of Some Autonomous Functions

The spinal cord is one of the centers of the nuclei of the autonomic nervous system. (The second center is the nuclei of some cranial nerves - see cranial parasympathetic system). In the lateral part of the gray matter of the spinal cord (nucleus intermediolateralis) there are neurons that are included in the afferent and efferent pathways of the autonomic nervous system. In the thoracic and lumbar spinal cord, these neurons are the source of preganglionic sympathetic fibers, and in the sacral spinal cord, they are the source of preganglionic parasympathetic fibers. The spinal cord is therefore involved in the control of vasomotor reactions, cardiac activity, activity of the digestive tract (defecation), urinary tract (micturition), genitals (erection, ejaculation), endocrine glands and skin glands.

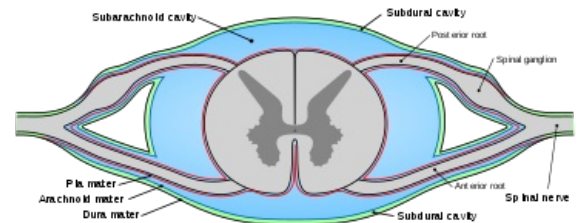
## Links

### Related articles

- Medulla Spinalis
- Sacral Parasympathetic System
- Spinal Pathways
- Spinal Reflexes

### Bibliography

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- KITTNAR, Otomar, et al. *Lékařská fyziologie*. 1. vydání. Praha : Grada, 2011. 790 s. ISBN 978-80-247-3068-4.



Horizontal section of the spinal cord and its covers