

Function of the spinal cord

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

 For more information see *Spinal cord*.

Spinal reflexes

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

 For more information see *Spinal Reflexes*.

Switching function

- Connection and integration of efferent signals - leading from the higher divisions 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 are connected.
- Switching signals leading from the periphery to the center.

Sensory functions

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

Control of some autonomous functions

The spinal cord is one of the centers of the nuclei autonomic nervous system. The second center is the nuclei of some cranial nerves - see cranial parasympathetic. 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 therefore participates in the control of vasomotor reactions, cardiac activity, the activity of the digestive tract (defecation), the urinary tract (micturition), the genitals (erection, ejaculation), endocrine glands and skin glands.

Links

Related articles

- Spinal medulla
- Sacral parasympathetic
- Spinal tracts
- Spinal reflexes

References

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- KITTNAR, Otomar. *Lékařská fyziologie*. 1. edition. Grada, 2011. 790 pp. ISBN 978-80-247-3068-4.

