

Micturition

Micturition is **the process of emptying** the urinary bladder. It's foundation is **micturition reflex** which is an autonomic spinal cord reflex. Despite being autonomic, it can be affected (facilitated or inhibited) by centres in brainstem and cerebral cortex.

The micturition is based on the **contraction** of the smooth muscle of the urinary bladder (m. detrusor) and **synchronized relaxation of the two sphincters of urethra** – **internal** (smooth muscle) and **external** (skeletal muscle). Furthermore the relaxation of the muscles of the pelvic floor takes place.

Micturition reflex

The increased volume of the urine in the urinary bladder is registered by **mechanoreceptors** located in its wall.

Afferent pathway is mediated via **pelvic nerves**. They bring the signal to the **center** of the reflex in **sacral** spinal cord.

Efferent pathway is executed via sacral parasympathetic nerves that are also part of the pelvic nerves. These nerves innervate **m. detrusor** (contraction) and **m. sphincter urethrae internus** (relaxation).

In order to achieve micturition (emptying the urinary bladder) the **m. sphincter urethrae externus** has to be relaxed consciously. The relaxation of the outer sphincter is initiated in cerebral cortex and executed via pudendal nerves. The micturition reflex can be triggered even when the urinary bladder is empty.

Micturition disorders

- dysuria;
- nykturia;
- stranguria;
- polakisuria.

Links

External links

- [1] (https://www.youtube.com/watch?v=JwaeWXhklio&ab_channel=ArmandoHasudungan)<https://www.youtube.com/watch?v=JwaeWXhklio&t=463s>

References

- KITTNAR, Otomar, et al. *Medical physiology*. 1st edition. Prague: Grada, 2011. 790 pp. ISBN 978-80-247-3068-4 .
- GANONG, William F. *Overview of Medical Physiology*. 20th edition. Prague: Galén, 2005. 890 pp. ISBN 80-7262-311-7 .