

Urination

Micturition is the **emptying process** of the bladder. Its basis is the **micturition reflex**, which is an autonomic spinal reflex. Even though it is autonomous, it can be influenced (facilitated or inhibited) by centers in the brain stem and cerebral cortex.

Scheme of micturition reflex

The essence is the **contraction" of the smooth muscle of the bladder (m. detrusor) and the interplay of the relaxation of the two sphincters' urethra - internal** (consisting of smooth muscle) and *external* (consisting of striated muscle). Next, the pelvic floor muscles relax.

micturition reflex

The increased filling of the bladder is registered by **mechanoreceptors** in its wall.

The '**afferent path**' of the reflex is represented by the **pelvic nerves**', which conduct the signal to the **center** of the reflex in the **sacral** [[Medulla spinalis|spinal cord]].

The **efferent pathway**' is represented by nerve fibers *sacral parasympathetic that also run in the pelvic nerves. These fibers innervate the m. detrusor* (contracts) and '**internal sphincter**' (relaxes).

In order for the bladder to be emptied (micturition), there must be simultaneous free relaxation of the external sphincter. Relaxation of the external sphincter is initiated from the cerebral cortex and carried out via the pudendal nerves. Free relaxation of the external sphincter and initiation of the micturition reflex is possible even when the bladder is empty.

Micturition disorders

Micturition disorders include, for example:

- dysuria;
- nocturia;
- stranguria;
- polakisuria.

Links

Related Articles

- Bladder
- Neurogenic bladder
- Diuresis
- Urinary incontinence

External links

- Micturition Reflex - youtube (https://www.youtube.com/watch?v=v3PRC5H3_mw)

References

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