

# Physiotherapy in patients with cerebellar disorders

The term cerebellar disorders refers to health problems and impairments cerebellar areas. Since it is part of the nervous system, any therapy is associated with inherent uncertainty in terms of effectiveness. Already at this moment it is proven that not every type of disorder can be by physiotherapy solved.

At least partial success can be ensured only under certain circumstances: if it is a specific occurrence **cerebellar dysfunction, small structural lesions of the cerebellar cortex, or subcortical areas**. However, if we are talking about more extensive lesions or lesions of the nuclei and junctions of the cerebellum, then we cannot guarantee a successful therapy for the patient - because it is very difficult to affect the mentioned damage. Similar to therapy for children who have suffered damage to the cerebellum in CP.

When compiling a rehabilitation program, it is necessary to take into account the possible **increased fatigue** the patient. If the patient feels tired, it is up to the physiotherapist to decide whether to continue the therapy or not. Individual therapy is appropriate. Group therapies are not recommended because of the need for constant patient correction and also because these patients are at a higher risk of falling.

## Goals of physiotherapy

- to positively influence supportive and targeted motor skills, improve movement coordination, taxi training and influence cerebellar tremor
- it is very important to start with trunk stability training — the foundation for any purposeful movement

## Possibilities of using physiotherapy methods

### Vojt's reflex locomotion

It involves the involvement of trunk muscles, stabilization of the spine and functional centering of the root joints. These are prerequisites for any further movement. It is important that the patient fully concentrates during the exercise and tries to remember the correct interplay of the axial muscles.

### Exercise according to Frenkel

It is a set of certain exercises leading to the relearning of normal movements in patients with ataxia. It progresses from simple elements to more complex ones. The main goal is suppression of ataxia and incoordination of movements. First, exercises with visual correction are performed. At the moment when the patient manages these exercises without difficulty, exercises without visual correction are included in the therapy. Initially, the patient is guided by manual contact, in later stages he is only instructed verbally. The exercise starts in lower positions and gradually moves to higher positions such as the position on all fours, an inclined sit, an upright sit and a stand.

### Proprioceptive neuromuscular facilitation (PNF)

From this methodology, rhythmic stabilization techniques can be used, where the therapist randomly changes the position of the patient's limb and the patient has the task of resisting and keeping the limb in one position.

### Feldenkrais exercises

This is the conscious perception and control of the movements of individual parts of the body.

### Sensorimotor stimulation

For more capable patients, exercises on unstable surfaces can be used.

### Other options

The therapist with the patient can practice stable standing and walking with optical fixation. Furthermore, walking with a normal and narrowed base is trained.

## Links

### Used literature

- KOLÁŘ, Pavel. *Rehabilitace v klinické praxi*. - edition. Galén, 2009. 713 pp. ISBN 9788072626571.