

Hippotherapy

Hippotherapy is a form of physiotherapy that uses the complex therapeutic effect of the horse. The superordinate term is **hiporehabilitation**, which, in addition to hippotherapy, also includes pedagogical-psychological riding and sports riding for the disabled. In general, the term hyporehabilitation includes activities in which a horse comes into contact with a disabled person.

The basis of the treatment is the use of the horse's walking mechanism, i.e. its natural movement, which provides the patient with the necessary motor pattern. A horse, like a human, uses a **crossed locomotion pattern** to move. This means that the step flexion of the horse's front and hind legs is in phase shift. In humans, this pattern manifests itself as the flexion of the upper limbs with the movement of the lower limbs during walking, with a counter-rotation of the trunk as a result of a phase shift. Simply put, the horse provides the same impulses to the patient *"as if his own healthy legs were treading under the patient"*. The patient adapts to the movement of the horse, which leads to **the facilitation of reparative processes on a neurophysiological and psychomotor basis**. However, the effect of the horse is more complex. The animal's body heat acts as a significant **myorelaxation factor**. There is also a **psychic release**. In the case of pediatric patients, a strong motivational element and rest from the hospital environment also play a role.



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Since the basic therapeutic tool is the movement of the horse (stride), a specific horse that best meets his needs is selected for each patient based on an examination and evaluation of his possibilities (degree of disability, ability to sit and coordinate, mental level). From the point of view of the mechanics of movement, it is possible to divide hippotherapy horses into **stimulating and inhibiting** (relaxing). External conditions also have an influence – hard ground, rugged terrain and faster movement of the horse tend to have a stimulating effect, while a free pace and soft terrain without unevenness have a relaxing effect.

Position on horseback

During the therapy, a number of different positions on the horse's back are used, depending on the goal the therapist wants to achieve. The position must also be chosen in such a way that it corresponds to the degree of maturity of the patient's postural motor skills and, at the same time, provides as much stability as possible.

Sit

For the purposes of hippotherapy, a **balancing seat** is used. It differs from the classic riding seat, where the shoulder, hip and heel should be in the same vertical position, in that the patient sits more on the back of the buttocks, the lumbar lordosis is smoother, the legs are freely lowered along the horse's sides and the hands are placed on the thighs or on the handrails. The legs are thus located in front of the imaginary perpendicular connecting the shoulder and the hip. However, too much sagging of the pelvis is a mistake. The patient then sits hunched over and resists the therapeutic movement of the horse. The "balance" of the seat consists in the fact that with each movement of the horse there is a violation of the balance and its re-finding.

Assisted sitting

It is used in patients with **trunk instability** (cerebral palsy, paraplegics). The physiotherapist sits behind the patient and thus maintains an optimal sitting position for movement stimulation. It also has the ability to directly monitor the patient's condition or fatigue. However, this method is quite demanding for horses.

Three month pattern

This position is mainly used for infants and smaller children. The patient lies on his stomach against the direction of travel and leans on his forearm on the horse's back. The lower limbs hang freely along the shoulders. This position stimulates a **horizontal bipedal locomotion pattern**. It also activates the erection mechanisms and can also be used to influence intestinal peristalsis.

Next position

Sack (Indian), inverted sitting, lying on the stomach in the direction of travel.

Main effects of hippotherapy

- walking practice
- trunk balance and upright sitting training (foundation for walking)
- rhythm training
- symmetry training (stimulations come symmetrically from both sides)
- regulation of muscle tone (symmetrization, release of spasms)

- improvement of posture and stabilization of the spine
- breathing rhythm
- violation of pathological stereotypes
- equal involvement of all parts in the overall motor pattern

Main indication

- cerebral palsy
- multiple sclerosis
- scoliosis (up to 25–30° according to Cobb)
- muscle imbalance
- vertebrogenic syndrome
- asthma bronchiale
- cystic fibrosis

Course of the therapeutic unit

The length of one exercise unit depends very much on the patient's capabilities, especially on his fatigue and ability to concentrate. It ranges from a few minutes in infants to 20-30 minutes in more fit patients. Ideally, time spent on horseback should last **from 1 to 2 hours per week**. Total therapy should not be less than 8 weeks. In addition to the patient, at least two other people always participate in the therapy. Physiotherapist and driver. The physiotherapist gives full attention to the patient while the handler controls the horse according to the physiotherapist's instructions. The patient is passive in terms of controlling the horse. In the case of more severe handicaps, it is advisable to involve one or two more assistants who secure the patient from one or both sides. The patient usually sits on the horse's back alone, and the physiotherapist and assistants walk along the horse's sides. An alternative is assisted sitting for more severe disabilities.

Hippotherapy Horse Requirements

Above all, the horse must have a balanced character, be easy to control when led by hand and patient when standing at the loading ramp. They must have excellent movement mechanics, a smooth and flexible step. The horse must not be fearful and should, on the contrary, be used to a number of unusual external stimuli (especially when working with children) - sudden movements, sudden noise or shouting, touching and patting on different parts of the body, colorful and rustling tools and toys, crutches, cart, the movement of more people in its vicinity. Furthermore, it is advisable for the horse to be able to differentiate between the normal swaying of the affected patient on his back and the loss of his balance, when there is a risk of falling. In that case, he should stop. More suitable for hippotherapy are horses with a square frame exterior, which have wider gaits. In addition, a round faucet and a body with a cylindrical cross-section are suitable, because the therapy takes place without a saddle, only on a blanket, and the comfort of the horse's back is the basis for the correct sitting of the patient. Last but not least, it is important that the horse itself is healthy and motivated to work. Otherwise, he could transfer his pathology to the patient, thereby significantly reducing the benefit of the therapy.

Links

References

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