

Brügger concept

History

The method was created by the Swiss neurologist Dr. Alois Brügger. He dealt with the theory of functional disorders of the locomotor system - i.e. a disorder/pain that is not caused by a structural change. The functional disorder is reversible and usually has the character of inhibition of muscle activity. Dr. Brügger developed his own diagnostic and therapeutic concept.

The essence of the concept

Due to the effect of pathologically changed afferent signaling (=disturbing factors), reflective and protective mechanisms (=nociceptive somatomotor blocking effect of NSB) occur in the movement system. These mechanisms cause protective arthrotendomyotic reactions in the locomotor system, and subsequently the physiological courses of movements and posture are changed so that they become uneconomical (the protective reaction creates an overload of other structures).

The goal of the therapy is to eliminate and establish the physiological and economic course of movements and posture based on the determination of the pathologically changed afferent signaling of the pathologically acting phenomenon (the effort to achieve an upright posture with the presence of thoracolumbar lordosis from the os sacrum to Th5).

Malfunction

Unlike structural changes, functional disorders are reversible.

The function forms the body:

- The organism needs adequate subjects for its development
- Normal movement programs are modified in case of imminent or existing overload
- According to B., there are functional changes without demonstrable tissue damage, but there is no structural disorder without functional changes

NSB

- = nociceptive somatomotor blocking effect
- The brain creates protective movement programs (NSPs) to protect tissues from damage
- Movements that do not correspond to the protective movement program (NSB) are perceived by the nervous system with accompanying pain signals

OGE

- Obolenskaya-Goljanitzki effect
- Persistent functional change = overuse edema resulting from repetitive movements® overuse occurs with the simultaneous accumulation of tissue fluid in the muscles and between muscles, ligaments and tendons
- These edemas irritate certain nerve endings®, thus creating disturbing factors in the body

Diagnostics

The Brügger concept has its own, detailed diagnostic and therapeutic procedure.

Inspection examination

The goal is to determine pathological afferent influences (or disturbing factors). Disturbing factors affect the ability to straighten and lead to overloading of structures. It is divided into external (transient, non-permanent) and internal (persistent, permanent). *AND. Factors transitory:* Clothing, footwear, furniture, lighting, sound effects, climatic and thermal changes, forced working positions, fatigue, social environment or social or movement habits. *II. Factors persisting:* Organ diseases, injuries, scars, swellings/OGE, trophic disorders, psychological diseases, etc.

Functional examination

It takes place in the following sequence:

I. Assessment of addictive (habitual) possession:

- It is most often performed in a sitting position, which is normal for the patient (it can also be performed while standing, walking)
- The therapist evaluates the deviation from the imaginary norm = evaluates the size or strength of the defective posture in which the patient is.
- The following are assessed first: tilting the pelvis forward, lifting the chest, stretching the neck.
- The following are also assessed: position in other body segments.
- A three-level rating scale is used.

II. Adjusted Possession Rating:

- The therapist will correct the patient's posture
- Re-evaluates the posture of the body aspects, again determines the deviations from the norm (as in the evaluation of the habitual posture).

Functional Tests

The most common Th5 shunt test is performed:

- Standard functional test in Br. Method
- The patient sits in a corrected posture. The therapist stands behind the patient's back, fixes the patient's shoulders from the front with one upper limb (applying the forearm to the area of the upper thoracic aperture), with the other hand applies rhythmic impulses in a perpendicular direction to the spine from Th5 caudally.
- This test has three phases:
 - Assessment of spine strength
 - Assessment of forward pelvic tilt
 - Shoulder repositioning test

Determining the source of pathological afferent

The determination is made on the basis of anamnesis, inspection and functional examination -> hypothetical determination of the source of pathological afferent.

Establishing a working hypothesis

Based on the determination of pathological afferentation, the working hypothesis is determined by the therapist (ie, the therapy procedure is determined). The procedure is not fixed, in case of inefficiency the therapist changes his working hypothesis based on a reassessment of the diagnosis.

Indication

The method is used in functional disorders of the locomotor system, in neurological diseases (central lesions, Parkinson's), in orthopedics (scoliosis, flat feet), in gynecology (gynecological surgery, pregnancy), in post-operative conditions of the abdomen and pelvis, or in sports as load compensation .

Contraindications

Contraindications are individual, they relate to the current condition of the patient, his diagnosis and the given therapeutic element. E.g. in cardiac patients, it is not advisable to apply a hot roller to the sternum, etc.

Basic elements of the therapeutic procedure

1. Posture correction

- According to B. the assumption that deviations from an upright posture represent an incorrect load for the organism® leads to pathological afferent
- At the beginning of the therapy, the patient is instructed on the correct posture (performed directly on the

patient)

- B. demonstrates proper posture on a model of 3 cogwheels that are interrelated and represent 3 basic movements:
 - ▪ Tilting the pelvis forward
 - ▪ ▪ Chest lift
 - ▪ ▪ ▪ Stretching the neck
- With correct posture, the thoracolumbar lordosis (from os sacrum to Th5) is additionally emphasized

2. Preparatory measures

- This includes positioning in an upright posture (lying on the back) for 20-30 min. before each therapeutic unit
- At the same time, thermal applicators are used, which are placed mainly on: sternocostal joints, neck extensors, lumbar spine and thigh adductors

3. Passive therapeutic procedures

- This includes hot roll (most often to influence OGE)

4. Active therapeutic procedures

- For example, practicing 6 basic exercises, which are integrated into the therapy if possible
- ADL principles, when upright posture, body walking should be integrated into normal daily activities

Links

References

- PAVLŮ, Dagmar. *Special physiotherapy concepts and methods. I., Concepts and methods based mainly on neurophysiology*. 2. edition. Brno : Academic publishing house CERM, 2003. ISBN 80-7204-312-9.