

# Wrong body posture

The spine is kept in the correct position by a system of muscles, ligaments and joints. If one of these systems is weakened, a disorder occurs, which we refer to as bad posture. Defective posture is most often caused by muscle imbalances, weakening of the phasic muscle and stiffening of the antagonistic postural muscle or muscle group. This is a postural defect, but rarely it can turn into a structural defect (we can't fix it by will).

Defective posture is most often caused by a weakening of the muscular system due to neglected physical activity or as a result of psychological changes in adolescents. By actively engaging certain muscle groups, posture can be corrected.

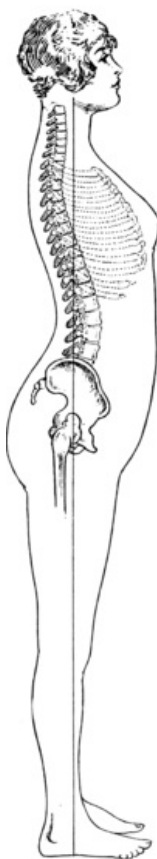
## Types

1. **Flat back** – reduction of physiological curves, smoothing of lumbar lordosis and thoracic kyphosis .
2. **Round back** – increase in thoracic kyphosis ( *postural kyphosis* ).
3. **Kypholordotic posture** – enlargement of both basic curves.
4. **Labile position** – constantly changing position; mostly in neurotics.
5. **Inversion of curvature** - the most severe degree of faulty holding; it often turns into a structural defect.



Kyphosis.

## Investigation



A lowered plumb line in the extension of the ear canal in healthy posture.

Examination of faulty posture can be divided into static or dynamic examinations. Much more often, the tests used are static, as they are fast and often much more accurate.

### Static examinations

#### Examination with a plumb line

- The simplest way of static examination of faulty posture is the use of a plumb line.
- Looking at the patient from the front, we lower the plumb line from the xyphoid process , ideally the tip should land between the toes and the abdominal wall should not protrude. In the case of faulty posture, we find a protruding abdominal wall or the point does not fall between the legs.
- From the side, we lower the plumb line into the extension of the external auditory canal. Ideally, the axis of the shoulder, knee and hip joints should go together with the string, the impact of the tip should be slightly in front of the outer ankle. If it is a faulty body posture, the axis of the joints goes outside the axis of the plumb line or the joints do not form their own axis at all.
- From behind, we place the plumb line on the upper angle of the scapula, when bowing to the opposite side, the tip should touch the heel of the opposite leg, in the case of faulty body posture, the tip is completely outside the heel.

#### Investigation according to Mathias

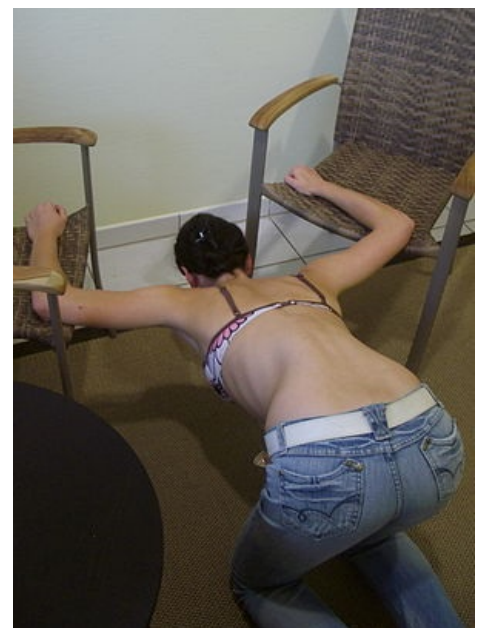
- This simple test is mainly used for children over the age of four and for adolescents. We invite the patient to bend the forearm to 90° and straighten up, if he is unable to take this position due to morphological peculiarities (injuries, painful shoulder syndrome, etc.) we prefer to skip the test. We leave the tested person in this position 30 and ignore him. If the posture is good, the difference between the starting position and the final position is negligible. If it is a faulty posture, the arms drop, one leg is bent at the knee and the pelvis deviates from its axis.

#### Investigation according to Jaroš and Lomíček

- Jaroš and Lomíček developed a somewhat more extensive scale for assessing faulty posture. They focus on the assessment of head posture, chest, abdomen and pelvic tilt, the curve of the back in the sagittal plane and



Corset to correct kyphosis.



Exercises to correct kyphosis.

the position of the DK.

- To each of the objects of interest, they assigned 5 degrees according to the corresponding posture marked by marks 1 (excellent posture) to 5 (very bad defective posture). The marks from the first five evaluated objects are added together, the position of the lower limbs is recorded separately. The record of great posture then looks like this: 5/1

### **Examination according to Klein and Thomas**

- Similar to Jaroš and Lomíček, Klein and Thomas developed a wider range of assessment of poor posture.
- It focuses on five basic objects, namely: head, chest, abdomen and pelvis shape, spine curvature and shoulder height and shoulder blade position. Each of these sections is marked 1 to 4. The axis of the lower limbs is again recorded and evaluated separately.

## **Treatment**

Since poor posture is mainly and most often caused by muscle imbalances, an effective remedy for such poor posture is health physical education in schools (however, not very sufficient due to the low hourly subsidy) or therapeutic physical education under the guidance of a physiotherapist and the targeted elimination of muscle imbalances by stretching overloaded muscles and strengthening weakened muscles. In recent times, preference has been given to exercise with conscious activation of the deep stabilization system, with its strengthening and subsequent removal of muscle imbalances.

## **Links**

### **Source**

- BENEŠ, Jiří. *Study Materials* [online]. [cit. 22.12.2009]. <<http://jirben.wz.cz>>.