

TREATMENT OF DISEASES RELATED TO THE SPINE, WHICH OCCUR IN CHILDREN, WITH THE HELP OF THERAPEUTIC PHYSICAL EDUCATION

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Abstract. *Physical therapy in children is widely used for a variety of purposes, namely: to prevent the development of diseases and for general strengthening purposes, as part of the comprehensive treatment of posture disorders, scoliosis, as well as for rehabilitation after severe damage to the musculoskeletal system or nervous system. Physical therapy is an important component of physical rehabilitation, and often allows for active prevention of pathology associated, among other things, with physical inactivity.*

Keywords: *physical therapy, scoliosis, massage, SEAS gymnastics.*

Not only adults, but also children suffer from various spinal problems today. Diseases can be both congenital and acquired. The state of the musculoskeletal system is negatively affected by both a sedentary lifestyle and an incorrect body position during sleep and wakefulness. The lack of physical activity can be easily compensated with the help of physical therapy (physical therapy). A special set of exercises makes it possible to eliminate small curvatures and a number of other problems. The classes resemble yoga, are conducted carefully, but with maximum efficiency, combined with proper breathing. Physical therapy is not only exercises, but also water treatments, walking and even outdoor games. By practicing regularly and under the supervision of an experienced specialist, you can achieve pronounced results. Physical therapy for children is very useful and absolutely safe. However, the peculiarity of physical therapy (physical therapy) is the need to select an individual set of procedures taking into account the characteristics of a particular patient, concomitant pathology, contraindications and load tolerance. In healthy or relatively healthy children, physical therapy can be used for general strengthening purposes, in which case it is aimed at training muscles, harmonizing the work of internal organs and systems. Physical therapy is widely used to combat excess weight. Despite the fact that this pathology occurs in children much less frequently than in adults, nevertheless, pronounced metabolic disorders occur, and for their correction, physical therapy should be used as part of a comprehensive treatment.

With limited mobility against the background of existing pathology, or in order to expand the motor regime in newborns, various procedures in warm water can be used.

Under the influence of heat, movements are simplified by improving blood supply and reducing pain (if it occurs when the joint or muscles are affected by a pathological process) (Table 1.).

Table 1. Classification of means, forms and methods of physical therapy.

Forms of physical therapy	Means of physical therapy	Methods of physical therapy
<ul style="list-style-type: none"> • Morning hygienic exercises • Therapeutic gymnastics • Dosed walking • Industrial gymnastics • Therapeutic swimming • Hydrokinesotherapy • Mechanotherapy • Occupational therapy, training in household skills and walking • Games, sports games • Tourism • Terrencourt 	<ul style="list-style-type: none"> • Physical exercises • Physical exercises in the water • Walking • Climbing • Training on simulators • Swimming 	<ul style="list-style-type: none"> • Diseases of the musculoskeletal system (exercise therapy with impaired posture, osteochondrosis, scoliosis) • For diseases of the cardiovascular system • For diseases of the respiratory system • For diseases of the digestive system • In case of injuries • During chest surgery • Learning to walk with the support of a cane

In neurological patients, physical education can be used for autogenic training in order to inhibit hyperkinesis, as well as to develop individual muscle groups in paresis and paralysis. Muscle contractures may be subject to correction using various types of exercises, however, in most cases they require complex therapy. The first thing that people pay attention to when the spinal column is curved is a deformity, or rather, a cosmetic defect that it causes. The patients themselves or their parents begin to notice that they have an asymmetry:

- one shoulder has become higher than the other;
- the pelvis is distorted;
- one arm seems longer than the other;
- the shoulder blade or ribs on one side protrude strongly;
- different distance between waist and arms;
- one nipple is higher than the other, etc.

The second is the appearance of back pain. Many people believe that there is always pain with curvature, but this is not the case. It occurs more often in patients over the age of 20, and children complain about it extremely rarely. If the deformity already affects the work of internal organs, then patients may complain of shortness of breath, heart problems, kidney problems and other concomitant symptoms. Signs of spinal curvature appear when the disease is already actively progressing and has passed into a second or more degree of severity. It is quite difficult to recognize it at the very beginning, and it is completely impossible without special tests and radiography. The earlier the correct diagnosis is made and treatment is started, the more favorable the prognosis. Therefore, it is important to pay attention to your health and the health of your children — not to engage in self-examination and self-medication, but to contact specialists. In fact, physical therapy in childhood takes place in the treatment of a wide variety of diseases. Physical therapy is used mainly for hygienic purposes and is generally restorative. When moving the lower extremities, do not allow an increase in lumbar lordosis, which can increase the pain syndrome. In this regard, when performing physical exercises, a soft roller should be placed under

the shins. These recommendations should be taken into account when choosing the means and forms of physical exercise at the sanatorium and polyclinic stages of rehabilitation.

Classes contribute to:

Harmonious development of the musculoskeletal system

Correct formation of posture and its correction

Strengthen muscles

Special exercises develop strength and endurance, improve coordination of movements.

The positive sides of physical therapy also include opportunities for:

Strengthen the immune system

Reducing the body's susceptibility to pathogens of various diseases

Quick adaptation to school loads

Normalization of the body's work

Improved appetite and sleep

Physical therapy for children is not a simple gymnastics complex. Any active recreation can be attributed to physical therapy. Classes are often held in a playful way. This is due to the high efficiency of the complexes and the fact that they are interesting for kids and form a stable motivation. It includes exercises that correspond to the age of the students, their level of physical development and mental state. It is aimed at the development of all systems and organs, allows you to normalize the work of the heart and blood vessels, strengthen the immune system, improve posture, etc. The decision about classes is made by the parents. The doctor can only recommend physical therapy to the child. Only after visiting a doctor and examination. In severe pathologies of the musculoskeletal system, for example, physical therapy alone is not enough. The child will definitely be prescribed other therapy (taking medications, physiotherapy, etc.). Physical therapy is the main method used for scoliosis in children and adults. A variety of physical therapy tools allows a comprehensive approach to solving the problem. Strengthening the muscular corset to support the spinal column in the correct position and form a normal posture. Correction of deformities of the spine, chest, pelvis, legs, which appeared as a result of the disease. Improving the functioning of the lungs, heart and other organs whose functions are impaired due to deformities. Let's consider long-known, but no less effective, and new methods of physical therapy that help stop the progress of the disease and improve the quality of life of patients. Physical therapy exercises are effective at any degree of curvature and are aimed at achieving certain goals.

General restoratives are aimed at:

improving the general condition of the patient;

strengthening of the musculoskeletal system;

development of strength, endurance and a sense of balance.

Special exercises are aimed at correcting the deformation:

reducing the angle of curvature;

normalization of physiological kyphoses and lordoses;

return to the symmetrical position of the head, shoulders and pelvis; strengthen the muscles of the back, abdomen, arms and legs.

The complex of these exercises depends on which part of the spine the curvature is in, the magnitude of its angle, whether it is directed to the right or to the left. These factors influence the starting position in which each patient should perform the exercises — it will differ from patient to patient. During the treatment process, it is important to form the patient's habit of keeping his

back properly. To do this, he must constantly repeat the correct body position while sitting, lying and standing. Exercises in front of a mirror help in this. Massage techniques in the form of metered pressure, stroking, rubbing, kneading, vibration perfectly complement physical exercises and are used in a complex to correct spinal curvature.

Massage tasks:

improve blood circulation and lymph flow;

activate metabolism;

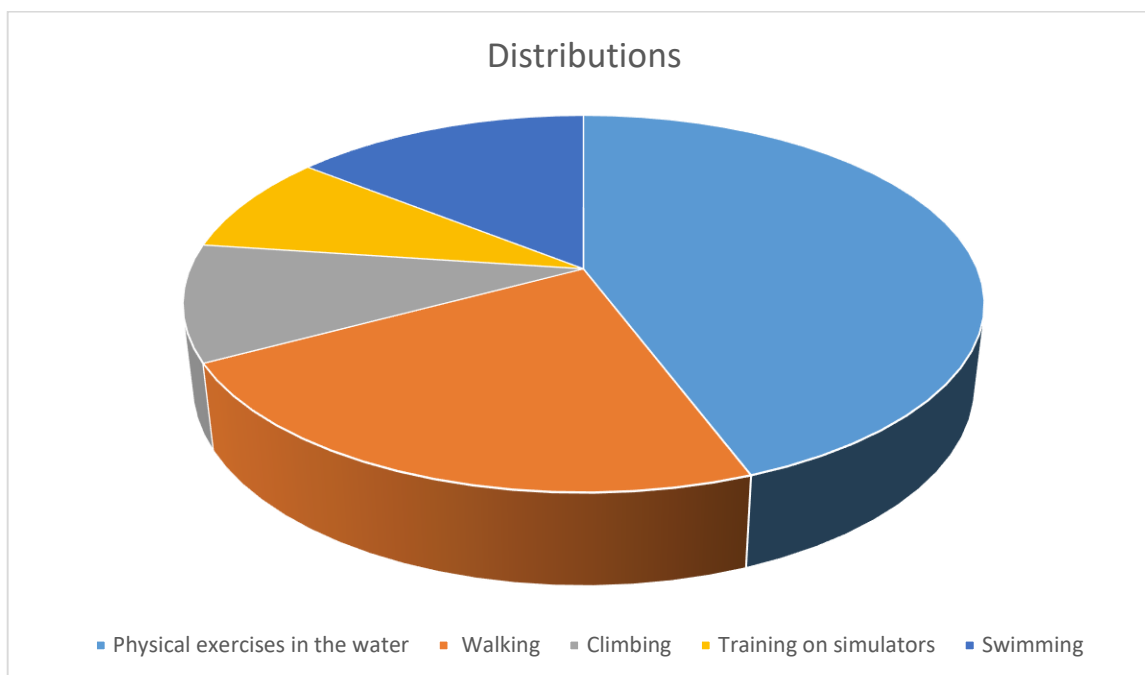
remove fatigue after physical education;

Reduce pain;

strengthen muscles, relieve their overstrain;

improve the emotional state of the patient.

Principles of motor therapy of spinal curvature: Attention is paid not only to the area in which the curvature, but to the entire spine and the body as a whole. Exposure only to the zone of curvature can lead to correction of deformation in this zone and its appearance in another. Restoration of proprioception — the patient has enough resources of his own to recover. The purpose of PNF is to restore the broken connection with the help of special manipulations, to return the patient to the ability to move normally, to correct the deformation of the skeleton. SEAS gymnastics is another modern method of physical therapy. Its therapeutic effect is based on self-correction.



According to the examination and X-ray images, the doctor determines the position in which the patient's spine is in the most correct position. Then he selects a set of exercises that help maintain this position and strengthen the muscular corset. Over time, regular workouts form a certain stereotype of movements in the patient, aimed at maintaining the correct posture throughout the day. The REDCORD system is a physical therapy method based on suspension therapy. The patient performs exercises on a special device that brings him closer to the state of weightlessness. In this state, it is easier to do exercises, and the volume of movements performed is greater. The effect is achieved due to the competent effect on the deep muscles and the redistribution of the load on the musculoskeletal system. Regular training helps to relieve muscles, strengthen them,

form the correct movement pattern and correct curvature. All these methods make it possible to achieve the main goal of physical therapy — to stop the development of curvature and reduce the degree of its manifestation. With scoliosis, you need to be extremely careful with sports so as not to overexert the muscles of the spine and not aggravate the situation, but exercise therapy should become a constant companion of life, and will help develop all muscle groups in a balanced way. Of course, the earlier you start classes and continue them regularly, the better the effect will be. In adulthood, it is also necessary to work with stabilizer muscles, strengthen the muscles of the back, arms and legs so that they "hold" the spine, and scoliosis does not progress. In adults, it is possible to reduce stooping, pain, and asymmetry of the arms and legs.

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