
**МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ**

**NEUROPHYSIOLOGICAL CRITERIA OF THE REHABILITATION
POSSIBILITIES OF KINESITHERAPY IN CHILDREN WITH DIFFUSE
MUSCULAR HYPOTONIA**

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Relevance. In the modern scientific publications on the health of children and adolescents, the term “minimal brain dysfunction” (MMD) occurs, which in clinical practice has not yet received a clear interpretation. Its content remains unclear in most cases, as a result, children with MMD do not receive timely and adequate correctional and rehabilitation assistance. There is no diagnosis of injuries, and there are no rational rehabilitation programs. As the child grows, the diagnosis of “minimal brain dysfunction” appears. If the pathological condition is not diagnosed and treated in a timely manner, this leads to disorders of the regulation of body functions, which then manifest themselves later in life. Involvement of non-specific structures of the brainstem and diencephalic region of the cerebral hemispheres in the pathological process may be accompanied by a violation of the brain’s vegetative regulation with the formation of a psychovegetative syndrome. In the future, this may be one of the reasons for the development of post-tonic disorders, peripheral cervical insufficiency, tension of the neck and occipital muscles, asymmetry of the shoulder girdle, pronounced shoulder blade separation in combination with hypotension of the supraspinatus and subspinal muscles, weakness of the arm muscles, sometimes torticollis. As they grow rapidly, 70–75% develop a curvature of the spine, usually regarded as idiopathic. Identification of the neurogenic origin of scoliotic spinal deformity opens up additional perspectives in therapy. The mechanisms of therapeutic action of physical exercises are based on the correction of mental, physiological and biochemical processes that provide external control effects on the functional systems of the body. A comprehensive method, including individualized kinesotherapy in combination with massage and manual therapy, is the most important and reliable way to rehabilitate children with MMD and accompanying disorders of the musculoskeletal system and vegetative disorders. Materials and methods of research. The purpose of the study was to substantiate the mechanism of development and identify patterns of systemic relationships between autonomic dysfunction and pathological disorders of the musculoskeletal system in

children with MMD, as well as to determine the place of kinesotherapy in the complex of recovery measures. To perform the study, an attempt was made to solve several problems: 1. Identify the most pronounced signs of MMD in children – disorders of the musculoskeletal system and vegetative disorders. 2. Develop a comprehensive method of rehabilitation of children with MMD based on individualized kinesotherapy. 3. Create a mathematical model for evaluating the effectiveness of the method of correction (kinesotherapy) of MMD signs in children. The results of the study significantly supplemented the existing understanding of psychophysiological and electrophysiological features with minimal brain dysfunction in children. A system of comprehensive examination of children with MMD was developed using a set of modern electro- and neurophysiological methods of research of children (the method of computer optical topography, surface electroneuromyography, computer cardiointervalography, methods of neuropsychological examination, etc.) to identify the most pronounced signs of MMD. The methods were selected for targeted detection of signs of MMD-disorders of the musculoskeletal system and vegetative disorders, as well as their quantitative analysis. The proposed mathematical model based on the application of factor analysis of an array of indicators was used to evaluate the effectiveness of the method of correction (kinesotherapy) of MMD signs in children. Based on the results of the study, the following conclusions are made. 1. Children with a diagnosis of “minimal brain dysfunction” have a set of certain clinical manifestations, among which the most frequent are disorders of the musculoskeletal system and autonomic disorders. Comprehensive clinical and psychological, neuropsychological and neurophysiological research makes it possible to carry out their informative diagnostics. 2. The mathematical model based on the application of factor analysis of an array of indicators of electro- and neuropsychological studies is informative for evaluating the effectiveness of the applied method of correction (kinesotherapy) of MMD signs in children.