

City Clinical Hospital No. 15  
Moscow State University of Medicine and Dentistry named after O.M. Filatov  
Health Department  
Chair of Exercise Therapy, Sport Medicine and Physical Therapy  
Moscow

**SUBSTANTIATION OF USE  
OF THE INHALER – RESPIRATION TRAINING DEVICE  
(FROLOV'S RESPIRATION TRAINING DEVICE)  
FOR INDIVIDUAL REHABILITATION**

Substantiation of use of the inhaler – respiration training device for individual rehabilitation of people suffering diseases of respiration organs (acute and chronic bronchitis, bronchial asthma, pneumonia), vegetative-vascular dystonia of hypo- and hypertensive type.

Clinical research is accomplished on a base of Chair of Exercise Therapy, Sport Medicine and Physical Therapy at Moscow State University of Medicine and Dentistry in City Clinical Hospital No. 15.

We tested 37 people (21 females and 16 males), who had respiration diseases in a variety of stages, which included: acute stage, subacute stage and remission stage (acute and chronic bronchitis, bronchial asthma, pneumonia, vegetative-vascular dystonia of hypo- and hypertensive type). All the patients passed a 2-weeks course of rehabilitation, during which the inhaler – respiration training device was used. At the end of the treatment course all the patients proved the improvement.

The result of the research showed that the main pathogenetic factors of different forms of pneumonic pathology are considered during the rehabilitation process.

Drainage function of bronchus proves its recovery. There is recognized the elimination of bronchial spasm and expiratory collapse of bronchial tubes; this happens due to the vibratory massage effect of respiratory training of bronchus and lungs' tissue, due to the tonus increase of sympathetic nervous system, and due to the stimulation of adrenals' functions, which proves a recognizable spasmolytic effect. The device provokes bronchus inflammation reduction due to the free-radical oxidation of lipids because hypercapnic influence of the inhaler – respiration training device occurs. Also occurs the intensification of circulation of blood and lymph in bronchus system, due to the restoration of diaphragmal respiration, which stimulates the movement of lymph. Also occurs the optimization of air-cells ventilation and perfusion/ventilation correlation. It provokes the reduction of respiratory muscles tension, as it is important in therapy, and prevention of fatigue respiratory muscles syndrome; this syndrome is the main reason for the progressive respiratory deficiency. The perfection of tissue breathing, hypoxemia and hypoxia of tissues is recorded along with the prevention of possible emphysema and atelectasis. This leads to the improvement of external respiration function. The right stereotype of respiration develops due to the elimination of discoordination of respiratory act, changes in tempo, rhythm and amplitude of respiratory movements.

The recovery of normal functioning of the immune system due to the adaptation to hypoxia and development of reactions for activation and training occurs; the increase of protective function of respiratory tract happens; that is why respiratory training is preventive against the exacerbation of lungs diseases.

Patients with vegeto-vascular dystonia experience improvement in processes of excitation and inhibition of Central Nervous System; they experience the increase of neuropsychic tonus, improvement of blood and tissues oxygenation, and improvement of oxygen utilization and microcirculation.

The intensification of respiratory gymnastics efficiency with the inhaler – respiration training device for individual rehabilitation is recognized due to the local influence of the essential oils and herbs on the tonus of bronchus, improving capacity of the latter; also the gymnastics influences bronchial receptors, and that correlates the neuron-regulatory processes, normalizing the psychosomatic conditions of the patients.

When examining the inhaler – respiration training device for individual rehabilitation there were recognized several differences in methods of its use applied by the patients; the use of the device differs for: subacute stage, remission stage and when used by healthy people aiming to prevent possible diseases. The main difference is gradual growth of complicatedness of breathing exercises, with an emphasis on prolonging the outward breathing by the patients with bronchopulmonary pathology in subacute stage; this helps body to adapt to the new conditions of the respiration metabolism.

#### Conclusion.

Using inhaler – respiration training device for individual rehabilitation is effective with different pathologies of respiration organs and can be recommended for use in complex therapy as in clinics, so during rehabilitation in out-patient hospitals and sanatorium-resorts, and for home use. It can also be recommended to increase body's functional abilities and to form the right breathing stereotype of healthy people during exercises in medical dispensaries, sport organizations and medical centers.

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