

**COMBINATION OF KINETOTHERAPY AND NANOPLASMA TECHNOLOGIES: IMPACT
ON IMPROVING THE GENERAL HEALTH INDEX IN THE THERAPY OF PAIN CONDITIONS
OF THE SPINE**

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Introduction: Plasma technologies are being intensively investigated across many medical-related areas. Numerous experimental results with preclinical models reveal the potential benefit of plasma in the decontamination of wounds and stimulation of wound healing. Many of the encouraging results seen in preclinical models are also being clinically translated, with plasma treatments benefiting patients by decreasing the bacterial load on wounds and accelerating wound healing, as well as in physiotherapy. More importantly, the plasma treatments are generally painless and well-tolerated by patients, and without any major clinical side effects reported to date, indicating that plasma technologies can be implemented for relatively safe and effective clinical use. The current study evaluates the effectiveness of integrating nanoplasma technologies in combination with kinetotherapy in the treatment and rehabilitation of patients with lumbago and sciatica. Purpose of the study: To determine the optimal rehabilitation strategy to provide maximum reduction in pain and improve the quality of life of patients. Material and methods: The study was conducted at the Physical Rehabilitation Clinic “Kineto Plus”, in Chisinau. In the study 72 patients diagnosed with lumbago and sciatica, aged from 29 to 39 years, were included. The individuals were divided into three groups, each group containing 8 men and 16 women. Each group was compared with a control group. The individuals from the control group were treated according to a rehabilitation program on kinetotherapy. For the first test group, the rehabilitation program included sessions in

a nanoplasma installation solely. For the second test group, the rehabilitation program included a complex treatment by kinetotherapy and sessions in the nanoplasma installation. The rehabilitation course lasted four weeks and included 20 sessions. Each session lasted one hour. The assessment of the functional state of the body was carried out using the Lotus Heart Activity Monitor before the first session and at the end of the study. A complex indicator of health was assessed based on autonomic regulation, neurohumoral regulation, psycho-emotional state and adaptation of the body. Results of the study: The combination of nanoplasma therapy and kinetotherapy showed maximum effectiveness in the rehabilitation of patients with lumbago and sciatica, the complex health indicator in this group was 84.36%, exceeding the results achieved when using each method separately - 69.42% in the test group one and 72.24% in the control group, treated only by kinetotherapy. Conclusions: The study confirmed that nanoplasma fields in combination with kinetotherapy improve the functional state of biological systems. This integration of approaches provides a comprehensive effect on the patient, improving not only physiological indicators, but also the overall quality of life. In terms of future outlook, the results of the study may contribute to the development of new treatment and rehabilitation protocols, expanding the understanding of the capabilities of modern medicine in the treatment of diseases of the musculoskeletal system.

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