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THE USE OF BIOLOGICAL FEEDBACKS AND METHODS OF TESTING FOR LIGHT THERAPY

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Bride using of light therapy, in particular low level laser therapy (LLLT) and non-coherent LED-therapy, force us to look for ways for increasing of effectiveness and adequacy of procedures. Individualization of procedure is impossible without including of biological feedback into system «patient-device» and determination of absorbed doses. Modern methods of testing and influence, including methods traditional Chinese medicine, are used separately. So chronobiological attitude which is used in bio-regulated light therapy and based on using of sensor of pulse and breathing is inculcated in series of devices, however, optical features of tissue are ignored, that means that biophotometrical methods of control are not used. Besides, for making process of fixing of absorbed dose more precise, it is necessary to take into account also thermophysical (heat-transfer) and electrical (acupuncture points) properties of tissue, using for it sensors of temperature, measuring electrodes and algorithms of testing.

This work describes the main problems of realization of systems with biofeedback and methods of testing. As object of analysis we observe systems with biofeedback, based on creation of block of administration, meant for elaboration of signals for block of radiator according to program, taking into account individual feature of patient and information gained from sensors and electrodes. There are a number of problems for elaborators of systems with biofeedback, among which are: lack of clear respond for most of questions concerning of results of influence of laser radiation not only on genic, cellular and between cellular level, but even on level of organs of human organism; there is problem of measuring transducer and electrodes for testing for parameters of bio-objects; there is also very different individual peculiarities of patient.

In order to increase of effectiveness of using of light therapy we offer to use appropriate methods of testing, accounting individual peculiarities of optical, thermophysical and electrical properties of tissue, under bio-regulated version of influence, with modulation of laser or LED radiation by signals from sensor of pulse and breathing.