



THE INFLUENCE OF ULTRASOUND ON THE HUMAN BODY

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It is impossible to imagine modern medicine without powerful diagnostic equipment, which directly determines the diagnosis of the pathological process, the choice of treatment tactics, and further prevention. Such equipment based on the use of high technologies of radiation diagnostics, which allow visualizing normal and pathological tissues of the human body with the help of various physical agents.

One of the important links of instrumental diagnostics is ultrasound diagnostics. Ultrasound is a mechanical vibration of an elastic medium occupying an area above 16000 HZ. Ultrasound with a frequency from 800 to 3000 kHz used in medicine. The important parameters of ultrasound are frequency, amplitude, speed and intensity. All these parameters give an idea of the propagation of the sound wave in the medium. Also very important in ultrasound diagnostics is the idea of how the ultrasonic wave propagates in biological tissues and media. Since organs and liquid media have their own density, the propagation of the sound wave will vary depending on the medium. It is also important to take into account that when a sound wave propagates in the medium, a number of other effects manifest themselves: mechanical, thermal and physico-chemical [1].

In addition to ultrasound diagnostics, the use of ultrasound for the treatment of various pathologies is relevant in modern practice. Among the improved methods of treatment, focused ultrasound of high intensity is widespread, wide possibilities of using this method in such areas of medicine as surgery, hyperthermia of tumors, neurosurgery, treatment of prostate tumors, destruction of stones, stopping bleeding, liposuction, activation of peripheral nerve structures, as well as in otolaryngology, ophthalmology, cardiology, etc. are shown. In modern medicine, also used methods of using ultrasound as a modifier of radiotherapy [2].

The study of all these methods and their intended use is important for improving the instrumental diagnosis and treatment of diseases.

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