

## PECULIARITIES OF MAGNETOTHERAPY AND ITS IMPACT ON PSYCHOEMOTIONAL STATE

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**Abstract:** magnetotherapy, in the form of static or variable magnetic field is used as the basic, additional or alternative therapeutic method.

Despite the fact that among the world medical society there is no common view on magnetotherapy as a treatment method, along with other physical factors it is widely used in the medical practice for healing purposes.

The use of low-frequency field therapy has no age limits.

Both permanent and variable magnetic fields may be used in continuous or pulse mode. Depending on the methodology, pulses may have different frequency, duration and form.

In our opinion, since magnetotherapy has a beneficial impact on psychoemotional state, its combination with different kinds of psycho-energetic training promotes improvement of health and working capacity. Analysis of available data shows that magnetotherapy, in case of its proper use, is an effective physiotherapeutic method.

**Keywords:** magnetotherapy, physical factors, psychoemotional status, permanent and variable magnetic field, physiotherapy.

## ОСОБЕННОСТИ МАГНИТОТЕРАПИИ И ЕЕ ВЛИЯНИЕ НА ПСИХОЭМОЦИОНАЛЬНОЕ СОСТОЯНИЕ

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**Аннотация:** магнитотерапия в виде статического или переменного магнитного поля применяется как базисный, дополнительный или альтернативный метод терапии.

Несмотря на то, что в медицине нет единого взгляда на магнитотерапию как метод лечения, данный метод наряду с другими физическими факторами широко применяется в медицинской практике в лечебных целях. Терапия низкочастотными полями не имеет возрастных ограничений.

*Как постоянные, так и переменные магнитные поля можно применять в непрерывном или импульсном режиме. В зависимости от методики импульсы могут иметь разную частоту, длительность и форму.*

*По нашему мнению, магнитотерапия оказывает положительное влияние на психоэмоциональное состояние, и ее сочетание с разными видами психоэнергетического тренинга будет способствовать улучшению состояния здоровья и работоспособности.*

*Анализ существующих данных показал, что магнитотерапия при ее правильном применении проявляет себя как эффективный физиотерапевтический метод.*

**Ключевые слова:** магнитотерапия, физические факторы, психоэмоциональное состояние, постоянное и переменное магнитное поле, физиотерапия.

Magnetotherapy is ranked among the group of alternative medicine methods and foresees the use of static or variable magnetic fields.

Despite the fact that there is no common view on magnetotherapy as a treatment method among the world medical society [3, 6, 7, 8, 9, 17-22], along with other physical factors it is widely used in the medical practice for healing purposes [1-11, 23-27].

Magnetotherapy is used as a basic, additional or alternative therapeutic method.

Let's discuss the use of magnetotherapy in the different fields of medicine.

The course of magnetotherapy is used during such diseases as stomatitis and parodontosis, dislocation and radiculitis, osteochondrosis, neurosis and migraine, problems with gastrointestinal digestion, painful course of menstruation, bronchitis and respiratory diseases, cystitis, stress, loss of appetite and sleep disorder, loss of skin surface elasticity [23-26].

There is established the role of electromagnetic stimulation in case of hard-to-heal fractures of longitudinal bones [23-25].

It has been mentioned that magnetotherapy may be useful as a beneficial addition to traditional treatment of hard-to-heal fractures of tubular bones.

Magnetotherapy promotes restoration of vital forces lost, immune system reinforcement, pain and spasm control (relieve), psychoemotional state stabilization, blood circulation improvement etc., The major part of patients points at the health improvement: vascular distention, lymph drainage, irritation level decrease and neural system functioning regulation, blood coagulability improvement, lymph node number and size reduction, locomotive system performance optimization, intestinal motility adjustment, bile flow problem settlement.

It can be noted that in order to develop human psycho-energetic capabilities, to improve psychoemotional state and for psychological rehabilitation there are used different exercises of psycho-energetic training, such as relaxation, breathing and meditative exercises that is important for human health protection [14]. Based on the above-mentioned, combination of magnetotherapy with different types of psycho-energetic training will have positive effect on preservation of human health.

The mentioned type of therapy is frequently prescribed during eye, cardiovascular system, spinal column diseases as well as in case of skin diseases and other health problems. This method is effective for treatment of female urogenital system, fight against sleep disorders and for organism recuperation in the post-surgery period.

Magnetotherapy is assigned with rehabilitation purposes to patients after the past corona virus infections.

Manipulations are strictly prohibited if patient has bleeding, severe heart disease or wears cardio-stimulator, has a post-stroke state, fever, cancerous tumors, thyroid gland problems, or thrombosis.

Magnetotherapy contraindications are determined by a doctor in every specific case. Magnetotherapy has to be carefully prescribed for pregnant women, under 1-year age children as well as for older people over 70-year age. Specialist's advice is necessary prior to procedure even if the mentioned diseases and states are not manifested.

In order to get rid of harmful effects of therapeutic course, it is necessary to have a consultation with physician beforehand in case of one or another contraindication for specific patient. Adverse effects may be manifested in dizziness or impaired mood so the consent of doctor to procedures is needed.

Magnetotherapy is used for treatment of joint diseases, arthroses, osteochondrosis, and illnesses related to spinal column. Its positive effect is predetermined by the fact that magnetotherapy alleviates spasms, have an anti-inflammatory and analgesic action, and promotes restoration of normal blood circulation.

As we mentioned above, magnetotherapy is a method, which is easily bore by patients and causes complication on rare occasions only. For treatment of patients with chronic venous insufficiency it is very important that magnetotherapy is able to reduce puffiness (edema) that necessitates carrying out of multiple procedures [12, 13, 15, 16].

Low-frequency magnetotherapy gained widespread use. Variable magnetic field is used for treatment at any stage of chronic venous insufficiency, in case of disease course complication with acute thrombophlebitis, in pre- and post-surgery periods.

Inductors have to be places longitudinally, with a contact with the inner surface of the upper third part of a thigh and lower third of a shin (in the blood vessels direction or transversally on the side surface of a shin). Frequency is 50 Hz, the first 5-7 procedures are conducted in continuous mode with sinusoidal current waveform, while afterwards the pulsative mode is used. Magnetic induction is 20-30 mT, duration – 15-30 min. The course includes 20-25 procedures, which are conducted every day or every second day.

During acute thrombophlebitis a variable magnetic field is prescribed after temperature regulation and in case of absence of intoxication symptoms, using single or double magnetic induction method on vein damage area depending on

transverse extent (depth) and propagation of damage. Current mode is continuous, current waveform is sinusoidal, magnetic induction equals to 20-30 mT, duration – 15-20 min. The course usually includes 10-15 every-day procedures.

It is expedient to use devices, which are equipped with inductor-solenoids. In such case it enables us to place damaged extremity right into solenoid that increases contacted area. The variable magnetic field may be prescribed as well, using “Polus-01” apparatus (III-IV stage of magnetic induction, exposure time – 20-30 min for unilateral localization of the process, course includes 15-20 every-day procedures) or “Polus-2” device (frequency 10-25 Hz, intensity of I-II stage, duration – 20-25 min in case of unilateral localization of the process, course includes up to 20 every-day procedures). A pulse running magnetic field, e.g. using “Olimp” apparatus, may be assigned, too.

Extremity has to be placed into solenoid device, while a couple of doubled solenoids is paravertebrally located in the lumbar region. Frequency is 100 Hz, magnetic induction value – 30%. Starting with 4-5<sup>th</sup> procedure they exert influence on extremities only with 10 Hz frequency and 100% induction. Procedure duration is 15-25 min. 10-20 every-day procedures are usually prescribed per one course

Thus, the analysis of available data shows that magnetic therapy is an effective physiotherapeutic method in case of its proper use.

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