Original informational scientific article

General information on the application of technology Wonder® Strengthening Muscle Therapy.

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I. Introduction.

The human body is an electromagnetic machine whose main source of energy comes from terrestrial magnetism, although this is not the only way. Oxygen, food, cellular activity, physical and mental activity, fluid and biochemical factors represent the constant production of biomagnetic energy. Therefore, the treatment of many diseases and the emergence of treatment methods aimed at improving the physical condition of the body, increasing muscle mass and reducing local fat deposits have, as a cause or as a result, changes in the biomagnetic potential of the body.

The use of magnetism is not new. The strength of the magnet has already been known since the great civilizations of antiquity, Greece, Rome. Even then, magnet powder was used to apply to wounds and accelerate healing. In the same way, they used magnetic stones to extract metal fragments from their skin after battles. The healing properties of magnetic stones were known in China 200 years BC. Theories of electricity and magnetic fields were simultaneously investigated at the end of the 18th and beginning of the 19th century.

In 1819, Danish physicist Hans Christian Oersted made a great discovery, noting that a magnetic needle could be deflected by electric current. But it was not until 1864 that Scottish scientist James Maxwell published a study in which he concluded that light is a type of electromagnetic wave. In 1905, Frenchman Paul Langevin developed a theory about the change in the magnetic properties of substances due to temperature, based on the atomic structure of a substance. This theory is one of the first examples of macroscopic properties from the properties of electrons and atoms.

Langevin theory was expanded by the Frenchman Pierre Ernest Weiss, who postulated the existence of an internal molecular magnetic field in materials such as iron.

This concept served to explain the properties of supermagnetic materials such as magnetic stone. Years of research allowed Dr. Kioichi Nakagawa, a Japanese scientist, to formulate his theory of "magnetic field deficiency syndrome". This syndrome occurs in people who spend most of their time inside buildings, the support of which consists of huge gratings. These gratings do not allow the lines of force of the Earth's magnetic field to pass, just as it does with radio waves when they pass under a bridge.

The syndrome can be effectively combated if wider contact with nature is guaranteed in the open, away from buildings, equipment and power lines.

Walking barefoot on the grass is often recommended for people who live in cities in the previously described conditions. Symptom of this "modern" disease is discomfort not registered during clinical and physical examinations; e.g. numb shoulders, back and neck, chest pains, migraines, heaviness in the head, insomnia, and general tiredness.

The above conditions and a large number of other diseases can be treated with a therapeutic technique called magnetotherapy, a clinical system in which conditions are treated by applying artificial magnetic fields to the patient's body.

Magnetotherapy can also be used using equipment that generates an electric magnetic field: Electromagnetotherapy.

II. Development.

First, we take into account that a magnetic field is a region of space in which magnetic substances are exposed to a force created by magnets, electric currents, or the globe. The magnetic field is invisible, but its strength affects matter endowed with the corresponding physical characteristics, so it is easy to check its presence, identify it and measure its intensity.

The most common use of the magnetic field with Wonder HIEMS is predominantly an electrical component compared to a magnetic one, and is carried out for the following purposes:

- _ The production of chemical changes in tissues.
- _ Generation of sensory stimuli in nerve endings.
- _ Generation of muscle contractions through direct stimuli in muscles or motor nerves.
- _ Increased metabolic stimulation through magnetic energy input.

The toning procedure for muscles with the help of Wonder HIEMS is based on the use of a high magnetic field in the body, which causes the interconnection and mutual action between electric and mobile charges, which are manifested by the forces of attraction and repulsion (called Lorentz).

The following effects are expected during typical Wonder HIEMS treatment using the most appropriate parameters for each patient:

A. Biochemical effects.

- Deflection of particles with electric charge in motion.
- Production of induced currents, intracellular and extracellular.
- Piezoelectric effect on bones and collagen.
- Increased solubility of various substances in water.
- Change in degree of ionization.
- Effect on enzyme activity.
- Improving the effectiveness and efficiency of the respiratory tract.
- Changes in the electromagnetic balance of sodium and potassium.
- Changes in the orientation of macromolecules and subcellular components.

B. Effects at the cellular level.

- General stimulation of cell metabolism.
- Increasing the redox potential tissue.
- Redistribution of load across the membrane potential.
- Increasing in membrane transport

Selective increase in enzyme activity (increase in SOD activity in lymphocytes, but not in red blood cells).

C. Biological effects.

Effect on muscle activity.
Effect on the cardiovascular system.
Increased oxygen partial pressure in tissues.
Effect on calcium metabolism in bones and on collagen.

D. Therapeutic effects.

Intense muscle recovery.
Anti-inflammatory effect. Tissue regeneration effect.
Analgesic effect.
Immunological effect.

III. Conclusions.

An important effect of electromagnetic radiation treatment with Wonder HIEMS is its ability to trophic stimulation of bones and collagen. This is an effect associated with the local production of currents of lower intensity, an increase in the production of collagen, which is very important both for healing processes and to prevent aging of the skin, as well as to increase calcium in the bones.

Benefits of electromagnetic radiation treatment with Wonder HIEMS:

1. Outstanding physiological stimulating effect.
2. High penetration.
3. Virtually no contraindications.
4. Painless.
5. You do not need direct contact with the patient.
6. Non-invasive and non-traumatic.
7. Long term effects.

It is also necessary to take into account the importance of patient education, their physical and nutritional habits as an integral part of the process of obtaining anatomical and physiological results.

The purpose of this study is to clarify the main points of treatment with electromagnetic radiation using Wonder HIEMS, under constant professional supervision and taking into account the specific characteristics of each patient.

According to the author, the use of this technology of controlled electromagnetic radiation is a useful and safe tool to achieve a noticeable increase in muscle tone.

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