

# The importance of buttock muscles and the Wonder® strengthening muscle tonic therapy.

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## I. Background.

A muscle is an organ that consists mainly of muscle tissue, as well as connective tissue formed by contractile spindle-shaped cells that shorten and lengthen in response to a nerve stimulus.

Muscles have the property of contraction, a process in which muscle proteins, calcium and ATP are involved; during this process one of the mechanisms of thermogenesis of the body is produced.

Muscles, thanks to their functions, have exquisite vascularization and innervation. Cells are elongated in muscle tissue, so they are called muscle fibers. This form is adapted to the function that they perform, thus achieving greater efficiency in their contractions.

Muscles have functional properties that support the anatomical structure of our body:

- **Excitability:** This is the property of achieving arousal in response to certain stimuli. Excitability can be direct when the stimulus arises directly on the muscle, and indirect when the stimulus comes from the nerve.
- **Elongation:** This is the ability of muscles to stretch when they are under intense tension.
- **Elasticity:** This is the ability to restore its original form when the action of the force that caused its deformation ceases.
- **Compressibility:** This is a fundamental muscle property that is produced as a result of arousal.
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## II. The importance of buttock area.

Buttocks have been known since antiquity. They appeared when a man got up on his hind legs and began to walk on them, at that moment the buttock muscles began to develop significantly. Hands became free, and the connection of the brain with the spine was changed, which allowed significant development of the brain.

The term «buttock muscle» is used as a euphemism, although in reality it refers to a set of muscles located in the lower part of the spine, which consists of the large buttocks muscle, average buttocks muscle and small buttocks muscle.

Anatomically, the buttocks are deposits of fat applied to the muscles of the buttocks (large buttocks muscle, average buttocks muscle and small buttocks muscle). Buttocks are separated by the so-called interdental fissure, in which the anus is located. When sitting, support comes from the sciatic tubercle, which belongs to the posterior-lower part of the hip bone, which in turn is covered by a serous bursa, which protects against friction in the muscles. The volume of the buttocks does not affect the ability to sit.

The buttock muscles play an important role in the movement of the pelvis, as they are attached to it, and also play a role in sexual desire.

The buttock area is posterolateral and lies between the iliac crest and the skin fold, which defines the lower border of the buttocks.

In addition to moving the hip along the fixed pelvis, these muscles also control the movement of the pelvis relative to the limbs that support body weight.

## III. Benefits of Wonder specific strengthening buttock muscle treatment.

The presence of strong buttocks is necessary in order to move easily and deftly.

### Best posture

Dense and shortened hip flexors, weak and stretched hip extensors and buttocks, which are not properly activated, contribute to the most common postural deviations associated with the spine.

### Pain reduction and injury prevention

Strong buttocks support the lower back. When the buttocks are weak and cannot guarantee hip extension, then muscles that were not designed to do this will do it. Over time, this causes pain in the lumbar spine, hips, and knees.

Improving physical performance

Large buttocks muscle can generate huge amounts of energy. This force is expressed in speed, acceleration, vertical distance and sports resistance. This is the key to improving the ability to run, jump and to pedal faster, harder and longer..

Increased bone density

Bone density peaks 5-10 years after skeletal maturity. Old and damaged bone, from the age of 30, is reabsorbed faster than new, which increases the risk of osteopenia.

Fat loss.

Muscles are metabolically active, and since the buttocks and hamstrings are the two largest muscle groups in the body, their potential contribution to fat loss is crucial.

The buttock muscles are fundamental as accelerators in the phase of movement and momentum and as a brake when stopping walking. Activation and strengthening of the buttocks improves posture of the body, due to the increased stability of the spine. These muscles are used to hold upright. Therefore, the work of the buttocks contributes to greater elegance and health due to proper posture of the body.

#### **IV. The use of combination tonic therapy for muscles: electromagnetism and electrical stimulation.**

There are many treatments for the buttocks, and exercises and workouts take time, but treatments using medical equipment are very effective and do not require long-term therapy. Electrical stimulation and electromagnetism give excellent results.

#### **ELECTRIC STIMULATION.**

When electrical stimulation is applied by contact electrodes, a nerve sarcolemma is excited that innervates the muscle. Electrical stimulation causes a reduction in the normally innervated healthy muscle due to excitation of the motor nerve rather than direct muscle stimulation, since nerve fibers can be excited by short stimuli, while the direct muscle response is achieved by longer stimuli. Electrical stimulation causes an increase in muscle nutrition, an increase in muscle strength, endurance, increases the proportion of muscle fibers depending on the frequency of stimulation and improves venous return.

A visible or tangible effect of electrical stimulation is muscle contraction. The innervated muscle contracts in response to an electrical stimulus. This answer follows the law of "all or nothing," that is, when the intensity and duration of the stimulus are adequate, a contractile effect occurs. Repetition of the stimulus requires recovery time of the muscle fiber so that it is compatible with its physiology.

#### **ELECTROMAGNETIC STIMULATION.**

Electromagnetic emission causes trophic stimulation of bones and collagen. This is an effect associated with the local production of currents of very low intensity through the mechanism of piezoelectricity.

It has an anti-inflammatory effect, anesthetizing and immunological effects, regenerates tissues, stimulates the production of collagen, which is very important both for healing processes and for preventing skin aging and has the general effect of muscle relaxation and sedation.

#### **III. Conclusions.**

Both methods of treatment, based on electromagnetic and electric radiation, have recognized effectiveness and have extensive experience in successful application in various medical fields.

However, a combination of both methods based on the so-called HIEMS technology (high-intensity electromagnetic stimulation) is an innovative and interesting way to increase the speed of results and, according to studies currently being conducted, also the degree of their effectiveness.

From a physiological point of view, you can get better and more intense muscle contractions, and, if necessary, at a deeper level. Combination therapy sessions are recommended one to two times a week, lasting 25 minutes.

These localized and controlled contractions are performed in two stages: firstly, electromagnetic radiation causes "vibration" of muscle fibers, their separation and readiness for excitation. Subsequently, the emission of high-intensity electrical pulses is reduced from 800 to 1200 times per minute.

The medical procedure of combined electromagnetic and electrical radiation is absolutely harmless and painless. It does not require recovery time, which is a useful and easy-to-use tool in the field of aesthetic medicine, physiotherapy, functional recovery and physical medicine.

This procedure is also very useful in bodybuilding as a burning of localized fats. It is always necessary to pay attention to contraindications and intensity levels depending on the individual physical conditions of each patient.

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