



# THE CORESTEIN SYSTEM OF FUNCTIONAL ELECTROSTIMULATION

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“Move forward and the world will walk with you, stop and the world will walk without you”

The Active Electrical Muscle Stimulation, “EMS”, has become a new way of training. As it is well known, everything that is new generates resistance to change, threatens the traditional, invades spaces already conquered by other disciplines and stirs up established systems.

Electrical stimulation is very old, in its beginnings electrodes were placed in different body parts, to stimulate muscle groups in a passive way, which means with the individual in rest. In time, electrodes to stimulate specific muscle zones were developed, and so abdominal belts, bracelets, muscle stripes were born. Keeping the same principle, the use of electrodes and the person keeping in rest. Until in this last years a new principle appeared, Active Electrical Muscle Stimulation. A small change now instead of the person receiving the stimulation being in rest, now you should move: simple...

The principle of active EMS is to generate a balance between the electrical stimulus and the body movement. If the intensity of the stimulus is too high it won't be possible to make the exercises in the right way, as much as in the postures as in the wideness of its articulatory range, and the person will be fatigued too soon. That's why trainings should always be done under the supervision of a professional in the health area.

It is also, worth mentioning that the technology of Electrical Stimulation moves in giant steps. Until very recently the most advanced in EMS machines were brands such as Miha Bodytec, X-Fit, X-BODY, etc. This consoles are connected to the electro stimulation vest to send the electrical stimuli to the muscle through a wire called umbilical. The great novelty that just has been launched to the market are the wireless machines and the market leader, without a doubt is AQ8 System®, a machine that keeps the stimulation standard of the mentioned machines, very reliable and user friendly, where you can move long distances without the limitation of the umbilical wired previously mentioned.

One of the classic questions we always ask is: **“Which is the best training?”**

For some, it is swimming, for others the gym, running, etc. The important thing is not to generalize the answer, but focalize the question, in short words, ask in a different way.

For example; which is the best training specific for each person? It is like shoes, the best shoe is the one that fits comfortably to you. With training it is similar, the best training is the one that is adapted to each person.

Regarding health, the stage is very clear. It is known that sedentary lifestyle is the biggest factor related to chronic not communicable diseases, such as heart failure, high blood pressure. Obesity, diabetes, etc. 9 out of 10 people have sedentary lifestyles, according to the World Health Organization.

But not everything is so bad. In time, people have started to practice more sports. 10 years ago, well known “runners” almost didn’t exist. Nowadays streets are filled with their massive events. Before, gym chains didn’t exist, now they are everywhere, in small or big cities. Every year new training disciplines appear; Zumba, Tae Bo, etc.

The idea is to always add, and today the EMS trainings are here to stay in the worldwide training map. From Spain, where the most important centers are located, it has spread massively to the rest of the world.

### **What is the Corenstein system of Active Electrical Stimulation?**

It is a very modern training system of short duration, only 20 minutes, very effective, since over 300 muscles are activated simultaneously. It improves the muscle resistance tones, increases musculature, enhances aerobic and anaerobic resistance, increments strength, etc. It has very little side effects, with a low number of injuries. It is directed to people over 16 years old, without age limit.

The type of training depends on the objective set and adapted to each person, but there is something fundamental: to change the body, mind has to change. Therefore, besides training, eating habits, and behaviors that favor healthy life; such as avoiding excesses and sleeping well to recover must be combined.

The ideal group to practice EMS, if it is not good to generalize, extends from 16 years old until the person has control of movements.

EMS training routines should be respected:

- Charge principle, volume and intensity. Specifically, the number of series and repetitions and the type and charge of exercise
- Variability. Routines must integrate exercises that vary the muscle groups and incorporate circuit routines, stations, directed exercises, etc.
- All training plan must have a clear work goal
- Specificity. Trainings are specific and designed specially for each person.
- Progression in including exercises, which means, that the degrees of difficulty in the execution of exercises must increase. For example, squats without dumbbell, squats with dumbbell
- Transition and recovery, less intensity exercises must be included after intense exercises.
- Individuality, adapt the training to personal interests and needs.
- Combine isotonic exercises (dynamic), isometric (static) and muscle transference (jumping, etc)
- Motivation and creativity, making emphasis as much in exercises as in the materials used (elastics, dumbbells, canes, balls, etc)
- At the end, do a flexibility 3 minutes routine without electrical stimulations

Corenstein System of Active Functional Electrical Stimulation:

The base of the Corenstein training system with EMS is focused in functional exercises. Incorporating body movement, in a chained way, from feet to arms and vice versa, from one side of the body to the other, adding traction movements and impact.

Movements that combine isotonic contractions with a lot of movement, static or isometric, muscle transference movements, plyometric exercises or jumping.

It combines aerobic and anaerobic systems, increases the ability of resistance to physical effort.

It is divided in 4 work programs:

1. **Abdominal area** – Combines active and passive exercises
2. **General localized** – Combines active, passive exercises and stationary work
3. **General cardio** – Combines active, passive exercises, transference work and jumping
4. **Lower area and posterior zone** - Combines active, passive exercises and assisted.

Type of exercises: squats, lunges, lunges in one leg, planking, abdominal supports, etc.

This systems bases its principle in the flexibility of its structure. In the case of beginners it is important to understand that work programs should be planned with 1 or 2 series and repetitions adapted to their capacities.

Characteristics of the Corenstein system:

- Number of series: varies between 1 and 3
- Number of repetitions: varies between 8 and 12
- Type of contraction: active and passive
- The type of contraction is recommended to start with active movement, increasing little by little the isometric, transference and jumping work.
- To conclude, the training is adapted to the capacities of each person, increasing or reducing the charge, impact, speed and number of exercises.

This article has as a goal to deliver information about the Active Electrical Stimulation, about the improvement of EMS in the last years, about the new system of wireless AQ8 System® machine and about the Corenstein training system. It is fundamental to understand the importances of the different tools needed to train. The sessions must be planed, respecting work goals, and carried on by someone specialized in health area.

Nowadays physical activity, must be part of our daily live, consciousness and knowledge about the importance it has to health and to prevent diseases, must be generated.

The future of Electrical Stimulation will continue focusing from a rational, practical look, where experience and knowledge are combined.

In this way, the results of the experiences of who have used the Electrical Stimulation have strengthened the trust in this method, its expectations have been met and the Electrical Stimulation today has become a irreplaceable part in the fitness and health world.

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