

# **TREATMENT OF THE PELVIC FLOOR.**

## **THERAPIES FOR ACTIVE ELECTRICAL MUSCLE REINFORCEMENT WITH AQ8 EMS SYSTEM DEVICE**

---

Dr. César Caballero

Specialist in Internal Medicine

Military Teaching Hospital "Dr. Joaquin Castillo Duany"

---

### **1. Introduction.**

The pelvic floor is a system of muscles and ligaments that close the abdominal wall holding up the bladder, uterus and rectum against the force of gravity.

Pelvic floor fibers are oriented downward and outward forming something like a hammock which gathers the pelvic viscera (it can also be compared from the outside to the hull of a ship). The muscles intertwine and surround the 3 holes: urethra, vagina and anus, contributing to sphincter control.

The weakening of the pelvic floor causes one or more disorders, among which are urinary incontinence, the dropping of intra-abdominal organs (known medically as prolapse) and sexual dysfunction.

Weak pelvic floor muscles can be caused for different reasons including personal disposition, as there are women who have weak muscle and ligamentous tissues, and situations that increase intra-abdominal pressure such as obesity, certain sports such as running or lifting weights, playing wind instruments, or a chronic cough.

Aside from the menopause, a period in which due to hormonal changes atrophy and hypotonia of the tissues of the genital area occurs, pregnancy is a period in which there is a weakening of these tissues due to various factors such as increased intra abdominal weight, hypermobility of tissues due to hormonal changes and the relaxation of tissues as a result of the passing of the baby during childbirth.

## **II. Recuperative treatment and pelvic floor re-educators.**

The integrity of the pelvic floor plays a fundamental role in maintaining the pelvic viscera, in the mechanisms of continence and sexual activity; pelvic floor dysfunction can lead to genital prolapse, urinary, fecal and gas incontinence, and sexual dysfunction.

Perineal rehabilitation is complex because, unlike any other muscle in the body, muscle contraction of the perineum is not perceptible by sight as this is an internal muscle, thus monitoring and early detection are more complicated than normal. However, it is very important for women's health and quality of life.

## **CAUSES OF WEAKNESS AND TRAUMA OF THE PELVIC FLOOR**

Pregnancy

Birth

Menopause

Surgery

Loss of body schema

Over resisting the urge to urinate

Crunches done using the diaphragm incorrectly

Heridty

Tight fitting clothing

Obesity Constipation

Chronic cough Smoking

Risk professions: singers, athletes, musicians who play wind instruments ....

## **III. The active functional electrical stimulation.**

Using functional electrical stimulation as a recuperator of the pelvic floor is intended to induce the passive contraction of the urethral sphincter and the muscles of the perineum through an electric current that is applied to the vaginal or anal wall.

This electrical stimulation in turn causes a nervous stimulus that activates the sacral roots S1, S2 and S3. The striated sphincter that surrounds the urethra and pelvic floor, especially the transverse, are innervated primarily by these roots, so it will be a fundamental requirement that there is no denervation and that there is a full reflex arc.

Performing muscle contraction exercises incorrectly can lead to undesired contraction of other muscles such as the abdominals, buttocks or adductors, by increasing intra-abdominal pressure. The goal of the treatment is to achieve an active positive or muscular reinforcement, by asking the woman to practice voluntary stable contractions isolated from contractions of the parasitic muscular muscles.

Through a routine of exercise controlled and supervised by qualified personnel the muscles involved are strengthened, improving strength, elasticity, resistance and speed of the perineal muscles. The frequency of electrical stimulation sessions is two weekly, and involve placing carbon rubber electrodes on the abdomen, buttocks, lower back, quadriceps and hamstrings.

The parameters used are as follows:

Duration of the session. 20 minutes

Current intensity: Maximum bearable; between 23 and 45 milliamps

Frequency: 85 Hz

Depth: 350 milliseconds.

#### **IV. Observations and results of the study.**

Conducting voluntary muscle contraction exercises using the technique known as Active Electrical Stimulation is a step forward in the development of therapies aimed at strengthening the pelvic floor with the fundamental enhancement of the pubococígeno or PC muscle, also commonly known as the muscle of the pelvic floor, increasing its strength and endurance.

Prior to treatment the following should be taken into account: the importance of health education of patients, explaining and developing of the awareness of the importance of treatment, partial and total improvements, quality of life, the possibility of avoiding surgical interventions, etc.

This study aims to demonstrate the effectiveness of the new technique of Electrical Stimulation using the AQ8 Activa with EMS SYSTEM device, under professional supervision, obtaining sufficiently rapid and satisfactory results in all cases treated.

Dr. César Caballero Pérez  
Col. No 26825

#### *Bibliographic references*

- Böhler, L. Techniques of fracture treatment. 4th ed. Barcelona: Labor; 1961; t 1: 272–5.*  
*Alvarez, R. Treatise of orthopedic surgery and traumatology. Havana: Editorial Científico-Técnica; 1985; t 1: 92–8.*  
*Zayas, JD. Some considerations about electromagnetic fields CBD in orthopedics and traumatology. [monograph]. Managua ;. Nicaragua; 1988.*  
*Guillen P, Madrigal I. Clinical application of magnetic fields, magnetic and magnetostrogenia. Rev Esp Cir Osteoart 1985: 261–9.*  
*Bassett, CA, Miller, GJ. Repair of non union by pulsing electromagnetic fields; Ort Acta 1994; 44: 7–12.*