



## BIOFEEDBACK SYSTEMS FOR URINARY INCONTINENCE TREATMENT

This new biofeedback has been developed by the division of Biomedical Signals and Systems and the division of Instrumentation and Bioengineering of the CREB of UPC and the support of the Hospital Clínic.

### The Challenge

A "Biofeedback for pelvic floor training" fully functional and competitive has been validated by clinical staff specialized in urology and tested on voluntary giving excellent results. The developed system has an added value in relation to other tele commercial solutions from a usability standpoint and also provides more versatile services personalized to the patient treatment.

The system software has a simple user interface, with a friendly communication with the other stages transparent to the user. Also, the application includes numerous options that allow clinicians to make your task easier and faster.

### The Technology

We have developed an specific hardware for recording pelvic floor and abdominal muscle activity. The system is calibrated automatically for each patient and configured individually with the exercises defined by the medical staff.

The system includes a data management system based on a structure of folders and files specific to each patient in conjunction with a database that allows us to link these files with personal data of the patient.

The design includes a statistical algorithm to evaluate the different exercises performed by the patient, both in the office and in the workouts at home, it make this a unique application software in its field, offering the clinician the opportunity to learn the evolution of the patient after treatment quickly and easily.

### Innovative advantages

The advantage of this new system compared to others, is the study of the signal from the abdomen to monitor whether the exercise is being performed properly. In addition to the signal displayed, it is used as a criterion for evaluating the quality of the exercises performed, thus fulfilling another requirement.

### Current stage of development

Available prototype ready to use.

### Applications and Target Market

The system is designed to facilitate the rehabilitation of the pelvic floor muscles in the treatment of urinary incontinence. It is indicated for patients who wish to do physical therapy exercises at home in a guided and controlled manner. Medical personnel can configure different types of patterns to perform the exercises by the patient at home. The results of the exercise are stored in a non-volatile memory and can be downloaded remotely or when the patient returns to the medical center. It facilitates the monitoring of the patient and therapy success.

### Reference number

MKT2012/0134\_H

New device useful for rehabilitation of the pelvic floor muscles



View of front end electronics for the EMG recording



Result analysis window

### Business Opportunity

Technology available for licensing with technical cooperation

### Patent Status

Priority application

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