Shoulder Pacemaker™

Motion Activated Stimulation

THE SHOULDER PACEMAKER™ PLATFORM

Motion Activated Stimulation: a paradigm change in electro–stimulation

The SHOULDER PACEMAKER™ device is an innovative wearable electro stimulator created for patients suffering from unbalanced muscle activation in the shoulder.

The SHOULDER PACEMAKER™ device allows patients to dynamically interact with it during active rehab. The electrostimulation is guided by the movement and the device adapts naturally to the patient's rhythm.

Smart stimulation

Dynamic interaction between the patient and the device thanks to automatic movement recognition

Rehab protocols

Expert designed protocols available for multiple applications

App supported

Keep track of patient's progress with remote guided treatment using the MySPM App

Automatic and Conventional treatment

Two operating modes for a custom therapeutic approach

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THE GAMECHANGER IN ELECTRICAL MUSCLE STIMULATION

A wearable electro-stimulator created for patients suffering from unbalanced muscle activation in the shoulder.

The **SHOULDER PACEMAKER™** device is used for rehabilitation purposes to stimulate the periscapular musculature that is no longer properly recruited **in patients suffering from various shoulder pathologies**. This can be achieved by combining state of the art sensing technology with electrical stimulation. Electrostimulation is guided by movement and the device adapts to the patient's pace.

AUTOMATIC INTERPRETATION OF THE EXERCISE

SPECIFIC REHAB PROTOCOLS

ADAPTABLE TO THE PATIENT'S PACE AND NEEDS

DYNAMIC STIMULATION

TRACKS AND RECORDS THE EVOLUTION

MOTION ACTIVATED STIMULATION

A new way to synchronize muscle stimulation with timing.

The **SHOULDER PACEMAKER™** device delivers "Motion Activated Stimulation" through a dynamic interaction between the patient and the device.

The embedded motion technology recognizes motor tasks and automatically sets the right stimulation intensity: this unique patented feature allows the patient to dynamically interact with the device in order to restore normal muscle activation patterns and equilibrium.

The SHOULDER PACEMAKER™ platform is an interactive medical device able to interpret the patient's movements and adapt accordingly.

Conventional electrical stimulation devices operate with a pre-defined rhythm that force the patient to adapt their therapy to the electrical impulses of the device.
This limitation is addressed by the **SHOULDER PACEMAKER™** device when a patient's movement is recognized by embedded sensors allowing for precise stimulation at the time and intensity prescribed. This patented feature greatly improves the applicability of muscle stimulation during a dedicated exercise program.

Training when performed with the SHOULDER PACEMAKER™ device aims for automated activation of hypoactive muscle groups during motion. The goal is to help patients re-establish physiological muscle activation through a "feed-forward" mechanism.

SHOULDER PACEMAKER™ DEVICE VS STANDARD EMS

Shoulder Pacemaker™

- AUTOMATIC INTERPRETATION OF THE EXERCISE
- MOTION ACTIVATED STIMULATION
- THE DEVICE ADAPTS TO THE PATIENT'S PACE
- SPECIFIC REHAB PROTOCOLS
- TRACKS AND RECORDS PROGRESS FOR BETTER MOTIVATION

Standard EMS

- NOT INTERACTIVE
- "ON/OFF" STIMULATION
- THE PATIENT HAS TO ADAPT TO THE DEVICE
- GENERAL PURPOSE
- NO RECORD OF PROGRESS

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PATHOLOGIES AND REHABILITATION

A non-surgical effective way for shoulder treatment

The shoulder is a very complex joint, stabilized by the coordinated activation of several muscles that keep the joint in position. If this control system fails, dyskinesia, functional restrictions and instability can occur.

The **SHOULDER PACEMAKER™** device is an electrical muscle stimulator used in these situations to stimulate the shoulder and periscapular musculature in patients **with non-physiological muscle-activation patterns.**

The **SHOULDER PACEMAKER™** device is designed to re-educate patient's muscle activation patterns in patients without structural defects to bone, tendons, muscles or nerves and who suffer from a mal-coordination of their muscle activation leading to severe instability symptoms.

REHABILITATION PROTOCOLS

The **SHOULDER PACEMAKER™** device provides using MySPM App specific rehabilitation protocols for diseases. Each rehabilitation protocol consists of a comprehensive exercise program developed by medical experts and physiotherapists.

MAS stimulation activated by movement, combined with pathology specific rehabilitation pathways aims to maximize the effectiveness of the stimulation.

The **SHOULDER PACEMAKER™** system also makes it easier for the physiotherapist to propose specific rehabilitation programs validated by experts in the field: the exercises are available on MySPM App and the patient can start immediately with the rehabilitation path most suitable for him.

TREATMENT OF DIFFERENT PATHOLOGIES

The **SHOULDER PACEMAKER™** device is the right choice to improve muscle recruitment patterns in patients suffering from various shoulder pathologies.

PLEASE CHECK OUR SITE TO FIND OUT WHICH PROTOCOLS ARE CURRENTLY AVAILABLE

POSTERIOR SHOULDER INSTABILITY

SCAPULAR DYSKINESIS

PREHAB/REHAB FOR REVERSE TOTAL SHOULDER ARTHROPLASTY (RTSA)

ROTATOR CUFF TEAR REHAB

DELTOID TRAINING

THROWING ATHLETES

WEIGHTLIFTING ATHLETES

OVERHEAD ATHLETES

HOW TO USE THE SHOULDER PACEMAKER™ SYSTEM

Designed for simple and intuitive use

The **SHOULDER PACEMAKER™** device is simply managed by rotating a wheel and pressing a button. The status of the device (on, off, pacing, charging) is indicated by the yellow LED located in the middle. Managing the menu and regulating the intensity of stimulation is accomplished by turning the wheel and setting the band of red LEDs to the desired stimulation program.

It is simple because the knowledge is inside the device and there is no need to set parameters.
Once turned on, the device is ready for the treatment and is even easier with the dedicated MySPM app.

2 WORKING MODES:

Conventional operating mode

Stimulation intensity is increased/decreased manually by the operator or by means of pre-set time cycles.
Each training mode consists of different durations of the activation and relaxation phase.

Automatic operating mode

The Automatic mode implements an algorithm for activating/deactivating stimulation intensity according to the patient's arm position during an active motor task. This training allows the implementation of specific rehabilitation protocols with automatic stimulation that adapt to the patient's pace.

THE SHOULDER PACEMAKER™ DEVICE KIT:

- 1 electrostimulator
- 1 elastic band
- 1 pair of stimulation cables
- 2 bags of electrodes (including 4 electrodes each)
- 1 charging cable
- 1 skin protection
- software*

*Kit configuration may change depending upon market conditions and product updates. Please, contact your local representative to ask for product availability in your country.
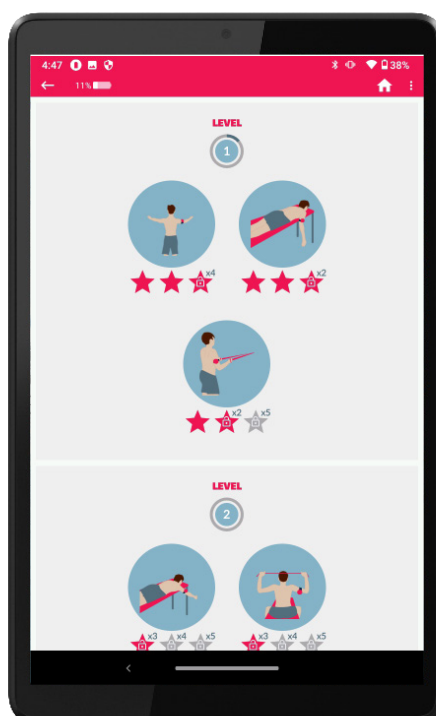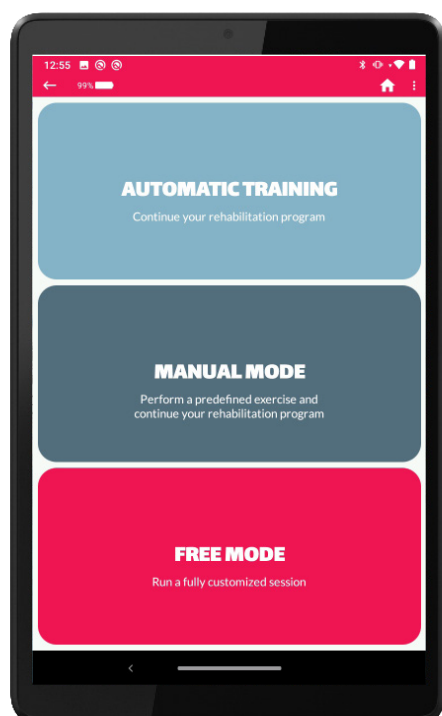
THE SHOULDER PACEMAKER™ DEVICE APP

Tracks & records your progress

MySPM app is an easy and effective wizard that encourages patients to progressively increase the level of difficulty throughout the rehab process. Start from a basic level of difficulty and progress to a more engaging session to reach the full potential of rehab.
Log-in, connect the device and start the rehab protocol: intuitive, easy and effective.

And in support of telemedicine, clinicians are able to remotely monitor a patient's progress with their tablet or laptop to create an efficient link to the patient's rehab process.
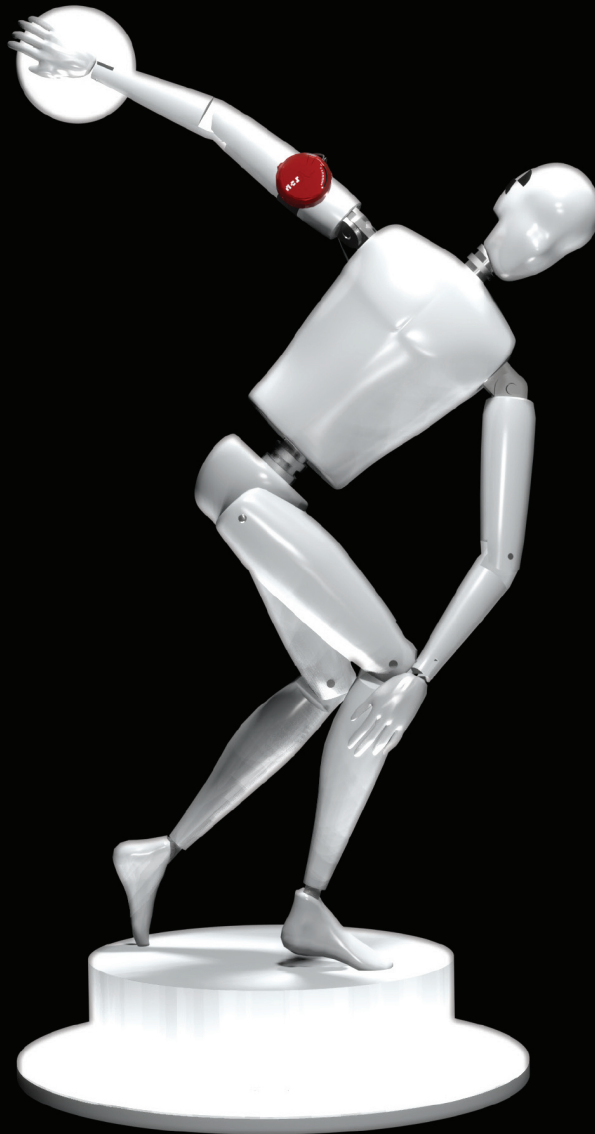
MySPM app

Shoulder Pacemaker™

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SCAN ME

The **SHOULDER PACEMAKER™** device satisfies all the applicable provisions in the Directive 93/42/CE regarding the medical devices amended by the 2007/47/CE and the EC MED 29111 certificate.
The **SHOULDER PACEMAKER™** device is FDA cleared via 510(k) number K210674.

NCS Lab is a UNI EN ISO 9001:2015 and UNI CEI EN ISO 13485:2016 certified company.

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TÜV SÜD ISO 9001

kiwa certified
SISTEMA DI GESTIONE CERTIFICATO

NCS
COMBINED SOLUTIONS FOR INDUSTRY

NCS Lab srl
Via Pola Esterna 4/12 41012 Carpi (MO) - Italy | VAT No. IT02550041202
Phone: +39 059669813 | www.ncs-company.com | info@ncs-company.com