

# *q-physio*

QMR THERAPY



THE NEW  
**FRONTIER**  
IN PHYSIOTHERAPY

# THE NEW FRONTIER IN PHYSIOTHERAPY

**The Q-Physio is a newly developed Medical Device which is based on the innovative QMR Technology (Quantum Molecular Resonance).**

Unlike more traditional Radiofrequency devices, Q-Physio **is not based on the Hyperthermia (heating) effect**. Due to the **peculiar spectrum of multiple frequencies transferred simultaneously**, and its unique way of interacting at cellular level **the injured tissue is stimulated in such a way that a regenerative process is induced**.



## TECHNICAL DATA

Power supply	100-230 V ~
Supply frequency	50 / 60 Hz
Maximum output power	Electrodes: 60W / 200Ω Handle-Gloves: 50W / 200Ω
Output frequency	Frequency spectrum from 4 MHz to 64 MHz
Class I medical device with CF applied parts	
Weight	11 Kg
Dimensions W x D x H	41 x 40 x 18 cm

**q-physio**

# TECHNOLOGY

## QMR (QUANTUM MOLECULAR RESONANCE)

### QMR in physiotherapy

The **QMR** in Physiotherapy is not based on a tissue heating effect but on the **regeneration of the biological tissue** through the particular cellular stimulation. This interaction with the cells occurs in a completely different way than the traditional hyperthermia. The effectiveness and capability of **QMR** technology in physiotherapy **is supported by Scientific Studies that prove its validity.**

After several years of research conducted in collaboration with the **Department of Human Anatomy and Physiology of the University of Padua**, it has been discovered that, when the high frequency electrical fields generated by Q-Physio (Rexon age Technology) interact with the muscle cells in culture, the metabolic pathways are activated and produce the following effects:

### 01

#### Mechanical effect



It has been observed that single muscle cells, stimulated by **QMR**, undergo a series of contractions and relaxations, when the field is turned on or off.

### 02

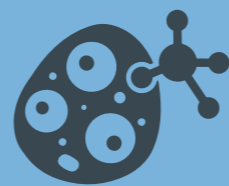
#### Electrical effect



When QMR is activated the membrane potential depolarizes, to return to its "resting" potential when **QMR** stimulation is interrupted.

### 03

#### Biochemical effect



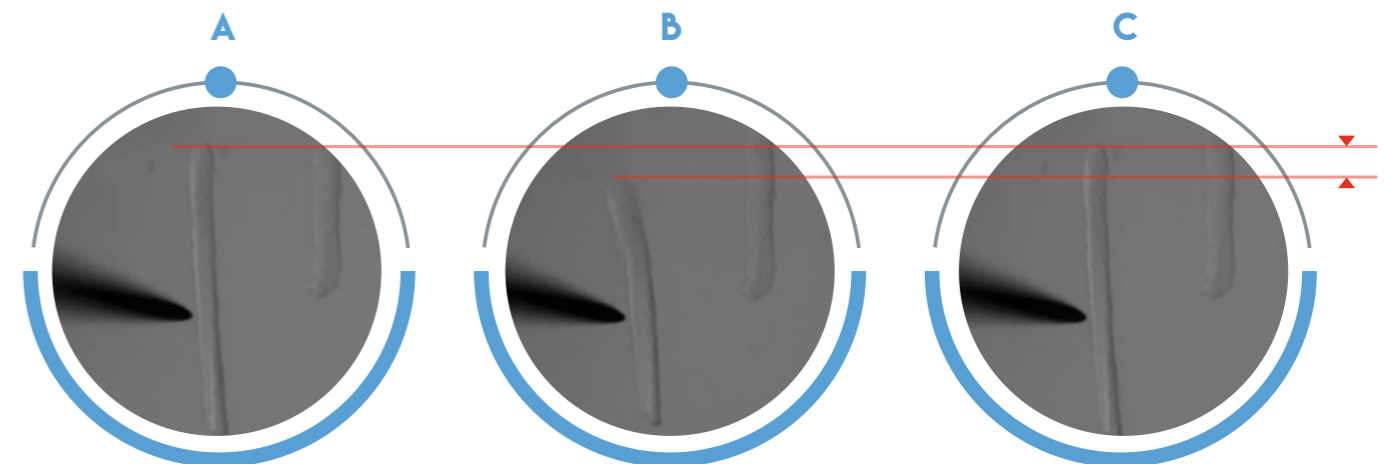
a consistent release of calcium ions by the sarcoplasmic reticulum was found when the cell is stimulated by **QMR**. **This is a signal of activation of calcium-dependent intracellular pathways.**

### QMR (Quantum Molecular Resonance)

is an innovative Technology that describes the interaction of molecular bonds with an electric field having a certain spectrum of frequencies transmitted simultaneously. **QMR** in its application in physiotherapy induces a **regeneration of injured tissues through cellular stimulation.**

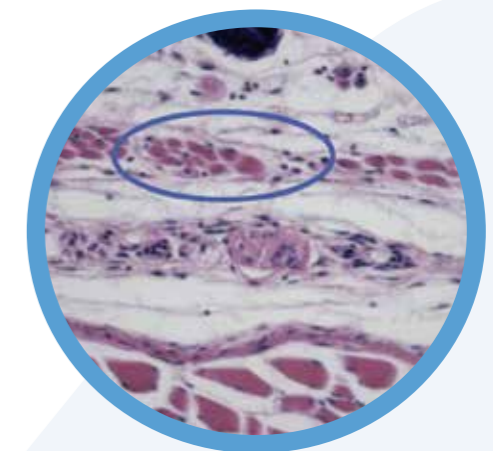
### The tissue regeneration

Cell stimulation induced by q-physio



The following pictures A, B, C show a single muscle cell being stimulated by QMR. The cell misshapes when the QMR electrical field emitted from the tip of a tiny electrode is on (picture B), and then returns to its original shape when the stimulation is interrupted (picture C). This stimulation, which is a sort of a "cellular massage", has an impact on the different membrane proteins (receptor), **intended to detect mechanical type of stress and induce a cell mitosis process.**

Finally, one of the University Studies on the tissue showed that after a course of a QMR stimulation the parvocellular infiltrate (black dots) were observed inside the muscle bundles. **This is a result of the regenerative process in progress.**



# COMPARISON

## OF THE TECHNOLOGIES IN PHYSIOTHERAPY

Treated pathologies	DIATHERMY	LASER THERAPY	SHOCKWAVE THERAPY	QMR
Muscle injury, contusion, sprain	●	●		●
Post-operative and post-traumatic edema		●		●
Neck pain, arm pain, lower back pain	●	●		●
Arthritis and Osteoarthritis		●		●
Bone calcification			●	●
Tendinopathy, synovitis, fasciitis, bursitis	●	●	●	●
Osteonecrosis			●	●
Neuralgia				●
Epicondylitis	●	●		●
Herniated disc				●
<b>Permitted Use</b>				
Skin area with a tattoo	●			●
Immediate use after injury		●		●
Cartilage in developmental age	●			●
Blood vessels areas		●		●
Cervical area	●	●		●
Chest area		●		●
Abdominal area	●	●		●
<b>Comfort e sicurezza</b>				
Pleasant therapy for the patient	●	●		●
Proven cell safety				●

# ADVANTAGES

## \_\_\_ Regeneration

Q-physio Therapy **does not induce** a scar-like repair of the injured tissue, but it rather **stimulates the regenerative capabilities of the tissue itself**, which leads therefore to the regrowth of the tissue with some proprieties and characteristics of the original one.

## \_\_\_ Wide range of treated areas and pathologies

The therapy with Q-Physio is very effective in the treatment of a wide range of pathologies, due to the particular energy produced with a wide spectrum of frequencies (from 4 MHz to 64 MHz), which are simultaneously transmitted to the patient.

## \_\_\_ Very fast, steady and permanent results

The patient can be treated immediately after the injury, as there is no hyperthermia effect. Due to a **fast anti-inflammatory and anti-edema action** the patient benefits of a significant pain decrease even from the first therapy session. Thanks to the therapy made with Q-Physio the healing is usually stable, permanent and without relapses.

## \_\_\_ Cellular safety

**In order to ensure maximum safety for the patient, Telea has performed a series of experiments to ascertain that the stimulation conducted with QMR therapy is totally safe and does not induce any type of cellular damage.**

## \_\_\_ Safe therapy for the patient

Thanks to the extensive experience gained in the use of **QMR** Therapy in physiotherapy, Telea can certainly affirm that it has always proved to be very safe and free of side effects.

# Q-PHYSIO

## IN MEDICINE

The therapeutic action of the Q-Physio is usually accomplished in two phases. **Firstly**, induces a strong anti-inflammatory and anti-edema effect which leads to a significant decrease of pain. During the **second phase**, which occurs later in the following weeks until the end of the therapy cycle, the damaged tissue regenerates in a stable and permanent form.

### Conditions of use and Therapy protocol

The treatment of pathologies not related to chronic diseases usually gives positive results very quickly. In these cases, a substantial reduction of the pain is obtained after only 2 – 3 sessions. The patient should, however, continue and conclude the scheduled sessions, in order to achieve a complete regeneration of the injured tissues, therefore stabilizing and consolidating the result.

The standard protocol prescribes 2 – 3 sessions per week, although the treatment may also be carried out every day. The duration of each therapeutic session is approximately 20 minutes, depending on the type of pathology and the extension of the treated area.

## SPORTS REHABILITATION

Although Q-physio is extremely valid in the treatment of acute, chronic and/or degenerative diseases, another field where it finds its best application through fast results is in **Sports Medicine**. Thanks to QMR technology the injured athlete can be immediately subjected to the therapy, speeding up the healing period. Top ranking sports clubs that are using QMR Therapy in the treatment of injured muscle and / or articular injuries are able to achieve rapid results and significantly speed up the **resumption of competitive activities**.

**QMR Therapy is delivered by Q-Physio through the use of various accessories developed to make the most of QMR technology. During the delivery of energy, the patient perceives a pleasant warmth, radiating only to the skin due to the contact impedance (different composition between the electrodes and the skin with which they are in contact). The warmth must never be annoying or unpleasant. It is also possible to combine more accessories in the same therapeutic session but not at the same time.**

### Adhesive electrodes

These types of electrodes, once connected to the chosen area, are activated sequentially, following the settings selected by the therapist. This static modality turns out to be particularly useful also in those cases in which the therapist is called to manage several patients at the same time.



### Handpiece electrode

The handpiece is ergonomic and lightweight. In order to improve the smoothness of the electrode on the injured area the therapist must use a neutral emulsion supplied and certified (code FR8). At the top of a handpiece can be connected either a circular electrode with a diameter of 3.5 cm or a bigger electrode with a diameter of 5 cm, created for the treatment of large areas.



### Active gloves q-touch

The innovative Q-Touch glove allows the therapy to be delivered through the hands of the therapist without the latter being involved. The result is a perfect combination of manual therapy and stimulation with high frequency QMR fields.



## Easy to use and to carry

Thanks to its **size and low weight**, the Q-Physio is well suited to the dynamic therapist, when it is necessary to work not only at the Studio but to travel directly to the patient or follow the sport clubs. The device is easy to carry thanks to the practical trolley, and to manage through the intuitive and functional display interface. Setting the therapy parameters is very easy and quick.

# ACCESSORIES

## Q-PHYSIO

Accessories and order codes



### Handle and Spheroid

**Handle**  
Spheroid not included  
Code  
4002024



**Spheroid**  
diam. 10 mm  
Code  
2604029



**Spheroid**  
diam. 35 mm  
Code  
2604032



**Spheroid**  
diam. 50 mm  
Code  
2604034



### Gloves

**Q-Touch Gloves**  
The Q-touch gloves must be used covered by the vinyl single use gloves.



Code  
4002023

### Vinyl single use gloves

Quantity  
1 box of 50 pieces  
Code  
4002026



### Snap Cable

Quantity  
4  
Code  
4002020



### Round adhesive electrode

"Small areas" 24x60 mm  
Quantity  
1 box of 50 electrodes  
Code 2503006



Round 50 mm  
Quantity  
1 box of 50 electrodes  
Code 2503008



Round 70 mm  
Quantity  
1 box of 50 electrodes  
Code 2503007



### Cable for Q-Touch Gloves

Code  
4002025



### Cable for adhesive electrodes

(2 connectors)  
Code  
4002019



(4 connectors)  
Code  
4002021



### QMR neutral plate with cable

Code  
2503019C



### Power supply cable 2.5 m

Code  
19001



### Q-Physio Carrello

Code  
2507014



### Stop remote control

Code  
4002018



### Lubricant neutral cream

Quantity  
1 bottle of 500 ml  
Code  
FR8



### Q-Physio Trolley

Code  
2301100



# COLLABORATIONS

- Italian National Research Council of Padua
- Department of Industrial Engineering – University of Padua
- Pediatric Research Institute Città della Speranza of Padua
- Department of Anatomy and Physiology – University of Padua
- Department of Information Engineering – University of Padua
- Department of Pharmaceutical Science – University of Padua
- VIMM (Veneto Institute of Molecular Medicine)
- University Città della Salute e della Scienza of Turin
- University Le Molinette of Turin
- Advanced Cellular Therapy Laboratory, Hematology Unit, Vicenza Hospital
- High Throughput screening core facility, Center of Integrative Biology, University of Trento CIBIO
- Bambino Gesù Pediatric Hospital in Rome
- Policlinic Gemelli in Rome
- The Fatebenefratelli Foundation – Rome
- University of Berlin La Charité
- University San Raffaele of Milan
- IRCCS Carlo Besta Neurological Institute – Milan
- Neurological Hospital Cardinal Massaia of Asti
- University ECampus of Novedrate (CO)

# *q-physio*

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