



icoone[®]

BEST PRACTICE

icoone Medical
as a valid support
for the physiotherapist
in the rehabilitation
process



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DR. ROBERTO CARNIEL

Sports Doctor, Rehabilitation Specialist, Health Director of the Spondilos Medical Center in Conegliano Veneto, Italy.

- **Academic Title:** Sessional professor - School of Specialisation in Physical Medicine and Rehabilitation - University "G. d'Annunzio", Chieti
- **Scientific Title:** President and Scientific Director of Eurogemmer Evolution, private group of research in Neurophysiology dedicated to teaching
- **PhD:** in "Pathophysiology of muscle"
- **Academic Degree:** Surgeon - Specialist in Sports Medicine at the University of Chieti.
- **Diploma in Manual therapy** at the CSTNF of Turin according to the Neuro-Anatomical method of Bourdioul
- **Diploma in Integrative Medicine** (Homeopathy, Organotherapy, Acupuncture) at CSTNF of Turin
- **Diploma in Medical Podology** at the CENTRE of Paris, France

He has promoted and chaired major national and international congresses.



CARLO LOLLO

Physiotherapist

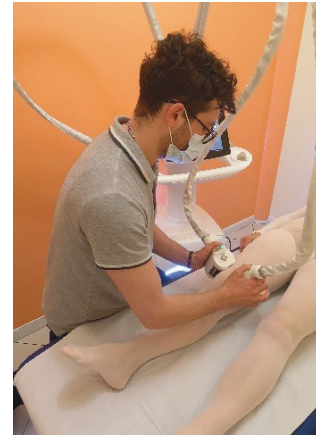
With degree in Physiotherapy at the University of Padua 2016.

Clinical training at the Physical and Rehabilitation Medicine Unit of the Healthcare Centre in Padua and at the Civil Hospital in Conegliano.

He worked at the third-level Specialist Neurological Centre "La Nostra Famiglia" in Pieve di Soligo".

He attended the course on Movement System Impairment developed by Sahrmann, the Lymphatic Drainage Course based on Vodder's method, the course in Kinesio Taping based on Kenzo Kase's method and the Manual Medicine Course based on the neuro-anatomical method developed by Bortolin-Bourdiol.

Today he works as a physiotherapist in the Spondilos Medical Centre.





SPONDILOS MEDICAL CENTRE

The Medical Centre Spondilos of Conegliano Veneto (TV - Italy) is a polyspecialist medical centre specialised in physiotherapy and rehabilitation. It uses a **unique diagnostic and rehabilitation** method based on a comprehensive assessment of the person's health.

The core focus is to assist patients in their **complete and full physical recovery** after injuries or surgery.

The Spondilos method is based on **established therapeutic systems combined with cutting edge methods**, and also on those specific to energy medicine. This results in one of the most effective and natural systems for promoting and maintaining proper health and wellbeing.

The Spondilos method is based on the use of state-of-the-art equipment and technology combined with the philosophy of the neuro-anatomical method developed by Bourdiol-Bortolin. The result is a multidisciplinary method whose strong points are a strictly neurophysiological semiological interpretation that allows establishing a precise functional, topographical and differential diagnosis and a range of natural therapeutic protocols, complementary to traditional medicine, managed in full collaboration between various professional figures such as doctors of different medical specialties. This method, applied within the range of skeletal pathologies, uses some **unique manipulative techniques** defined by Bourdiol himself as "myotensive, neuro-reflexive and proprioceptive". Myotensive manipulation is a gentle, pain-free manual intervention technique that respects joint physiology and restores its normal kinetic function.

INTRODUCTION TO THE PHYSIOTHERAPY

(according to the website of the Order of Physiotherapists in France).

Definition of physiotherapy

Masso-kinesitherapy (international name: physiotherapy) is a health discipline, a clinical science and an art, that focuses on human movement and activity. Masso-kinesitherapy is carried out following a physiotherapeutic diagnosis, usually by means of manual and instrumental techniques, whether or not it is used for therapeutic purposes. It promotes health, physical fitness and well-being.

Movement (from the tissue to the individual), gesture (from conception to execution), functioning (from neuro-vegetative to relational life) and behaviour (from sensorimotor to psychosocial) are the focus of masso-physiotherapy.

Dr. Guimberteau described the close relationships between all the connective tissues in the body as a "spider's web" of cells, organs, vessels and nerves. The holistic approach to the individual in physiotherapy/kinesiotherapy is inspired by this description of the architecture of the body, an interconnected whole that suffers the deleterious effects of the passage of time and the accidents of life (illness, injury, surgery). Its plasticity, its ability to change under the effect of adequate stimulation makes it the preferred field of application for physiotherapy/kinesiotherapy.



ICOONE MEDICAL AND THE MULTI MICRO ALVEOLAR STIMULATION

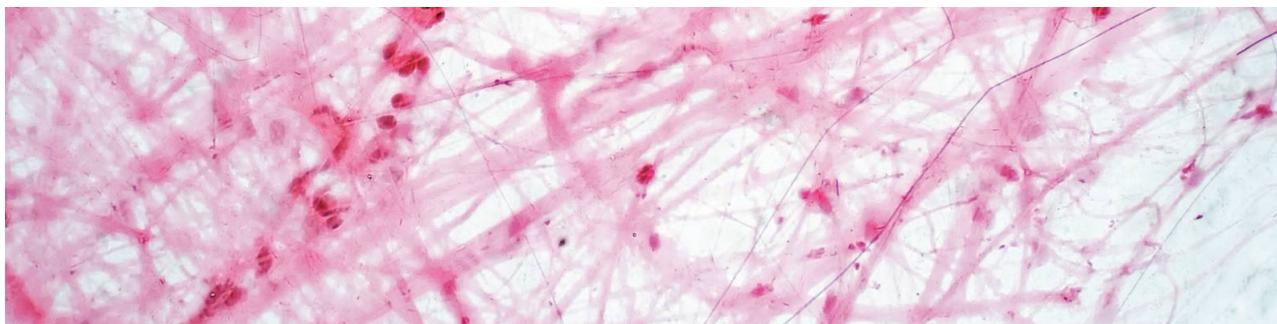
100% tissue-friendly and pain free, icoone® Medical is the ideal technology for therapeutic applications; it provides **proven results on tissue architecture damaged** by disease, treatment, injury, surgery, sport, lack of physical activity or ageing.

icoone® Medical is in fact the only device in the world that, thanks to the innovative Roboderm® patent, makes it possible to perform Multi Micro Alveolar Stimulation (M.M.A.S.), a deep and effective stimulation of the connective tissue that guarantees results from the very first session.

Damaged, fibrotic, oedematous, painful tissues will benefit from this stimulation, which adapts to the condition of the tissues through numerous parameters to rapidly improve their condition. The method uses therapy handpieces of different sizes, on the body as well as the face.

Roboderm technology mechanises the tissues in their deepest structure, optimising circulation and drainage, boosting metabolic exchange, releasing energy and blocking nerve impulses.

In this document you can find examples of concrete clinical cases of rehabilitation, which are among the many indications to use icoone® Medical to facilitate the daily life of physiotherapists who often have to deal, in their clinical practice, with the limitations that all manual techniques have, even if we talk about the most effective ones.



EXAMPLES: KNEE ARTHROPLASTY AND CORRECTIVE OSTEOTOMY

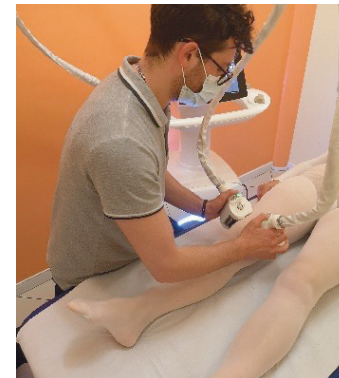
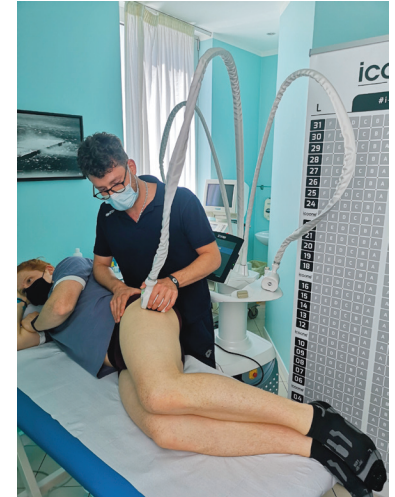
Arthroplasty is the total replacement of a joint such as the hip, knee or shoulder. The operation is often difficult, especially in the knee area, and requires appropriate physiotherapy to restore movement and quality of life to the operated person, as quickly as possible.

Corrective osteotomy is a surgical procedure that aims to realign the lower limb in particular by cutting a bone to shorten, lengthen or modify its mechanical axis. The aim is to shift the weight of the body onto the undamaged part of the joint, thus rebalancing the load on the original joint or prosthesis.

Specificity of the application of icoone® Medical in orthopaedic surgery of the lower limbs.

Robotwings or Robomini handpieces are used to stimulate the tissues of the lower limbs in a physiological, progressive and quickly effective manner.

By reorganising the connective tissues and their deep structure damaged by the operation, fibrosis, oedema and inflammation are reduced and reactive pain is rapidly reduced. This facilitates joint, muscular or functional rehabilitation sessions and optimises recovery. The duration of application of icoone® Medical depends on symptoms and tissue reactivity. If the scar is recent and in an inflammatory state, only the oedematous tissues around the scar are stimulated; if the scar is not in an inflammatory state, it is treated directly in order to act on its mechanical properties.



ORTHOPAEDIC SURGERY: ARTHROPLASTY OR OSTEOTOMY

REHABILITATION AFTER ARTHROPLASTY AND CORRECTIVE OSTEOTOMY

Goals of rehabilitation with icoone® Medical after knee surgery: **limiting the vascular, trophic, pain and functional consequences of surgery.**

Clinical Case 1: male 65 years old, knee arthroplasty completed with a corrective osteotomy of the left valgus knee performed 8 months before the start of the treatment.

The patient complains of pain in the outer compartment of the left knee and posterior to the insertion of the gastrocnemius. Soft tissue oedema is severe, bending range is limited, ambulation and single leg stance are difficult.

icoone Medical Protocol

Stimulation with icoone® Medical was performed on the entire left lower limb, alternating between the use of Robomini and Robotwins.

The frequency of the sessions was daily for a total of 10 sessions.

The duration of each application was 15 minutes combined with changes in knee position.

An NRS* scale was used as a reference, as was the measurement of knee circumference in the joint space.

*NRS scale: pain rating scale.

The NRS consists of a numerical scale from 0 to 10 where:

value 0 indicates no pain

value 10 indicates maximum pain

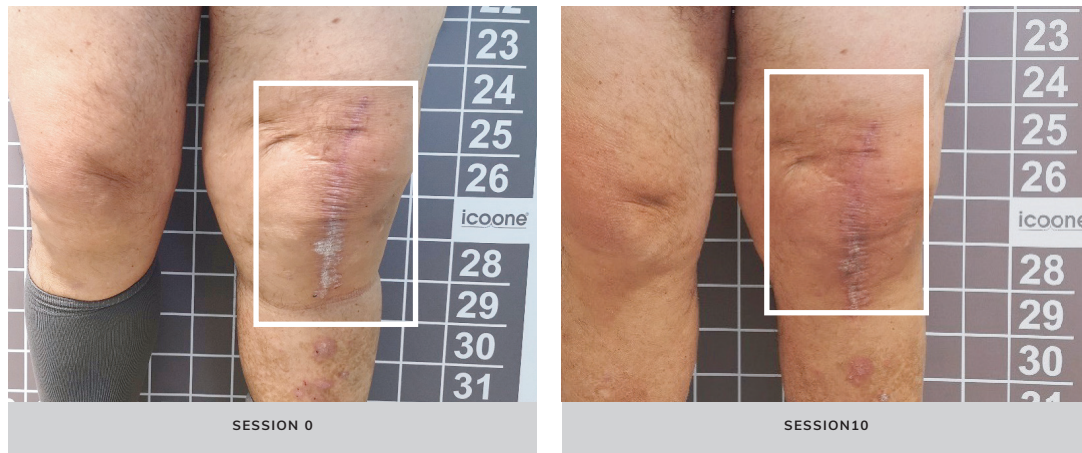
values between 1 and 9 indicate an increasing presence of pain.



ORTHOPAEDIC SURGERY: ARTHROPLASTY OR OSTEOTOMY

REHABILITATION AFTER ARTHROPLASTY AND CORRECTIVE OSTEOTOMY

Male, 65 years



Results:

At the end of the sessions, the patient reported that the pain had disappeared both at rest and during walking and physical activity. The swelling in the knee also decreased, from an initial circumference of **83 to 78 cm** at the end of the sessions.

NRS score decreased from 8 to 1.

ORTHOPAEDIC SURGERY: HIP ARTHROPLASTY

REHABILITATION AFTER HIP ARTHROPLASTY

Goals of rehabilitation with icoone after hip arthroplasty: **limiting the vascular, trophic, pain and functional consequences of the operation.**

Clinical Case 2: male, 65 years old, left hip replacement after femoral head necrosis. Patient operated 15 days ago.

After surgery, the patient complains of pain and heaviness in the left lower limb. The limb appears visibly swollen and oedematous and bruising is observed, the knee is placed in reactive hip flexion. The patient walks with the use of crutches.

icoone Medical Protocol

Stimulation with icoone® Medical affected the left lower limb in the areas of ecchymosis and oedema and in the peri-cicatrical areas.

Stimulation was performed daily for a total of 10 sessions; each session lasted 15 minutes for the entire lower limb.

The rating scale used was the NRS scale.



ORTHOPAEDIC SURGERY: HIP ARTHROPLASTY

REHABILITATION AFTER HIP ARTHROPLASTY

Male, 65 years old



Results:

The patient reports a marked improvement in the left lower limb, which is visibly less swollen and oedematous. The disappearance of haematomas, an improvement in the patient's mobility and a reduction in the antalgic posture are noted. The patient walks without the use of crutches. **NRS score decreased from 8 to 2.**

ORTHOPAEDIC SURGERY: KNEE ARTHROPLASTY

REHABILITATION AFTER KNEE ARTHROPLASTY

Clinical Case 3: female, 65 years old, knee arthroplasty performed 1 month before starting the treatment.

She complains of pain during daily activities and difficulty in walking. The patient has an anterior scar which limits the flexion of the knee in antalgic flexion.

The tissues are very congested.

icoone Medical Protocol

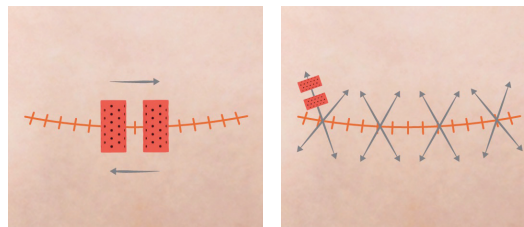
Stimulation with icoone® Medical was performed on the right lower limb the right lower limb combined with a therapeutic approach of the scar. Subsequently, the manoeuvres applied to the entire lower limb aimed to mitigate the consequences of the operation, with a focus on improving the mechanical qualities of the scar. 10 sessions were carried out, 3 times a week.

Two functional knee positions were also assessed: one at the beginning and one at the end of the 10 sessions. The patient was asked to actively bend the knee as much as possible until the pain appears or until bending is no longer possible.

The Vancouver scale was used to evaluate the evolution of the scar with the following parameters: vascularisation, pigmentation, elasticity and extensibility.



Scar outline



ORTHOPAEDIC SURGERY: KNEE ARTHROPLASTY

REHABILITATION AFTER KNEE ARTHROPLASTY

Female, 65 years old patient



SCAR EVALUATION ACCORDING TO VANCOUVER SCALE

SESSION 0	SESSION 10
Vascularisation 3	Vascularisation 1
Hyperpigmentation 3	Hyperpigmentation 2
Elasticity 5	Elasticity 1
Height 2	Height 2
TOT 13	TOT 6

Results:

The elasticity of the scar is greatly improved, muscular tension has disappeared and the patient gradually recovers the flexion range. In addition to the functional improvement of the scar, there is a marked improvement in fibrosis and peri-cicatricial fat. The adipose fibrosis, present in the photos taken in session 0, had generated lymphatic stasis, with further limitation of the bending range.

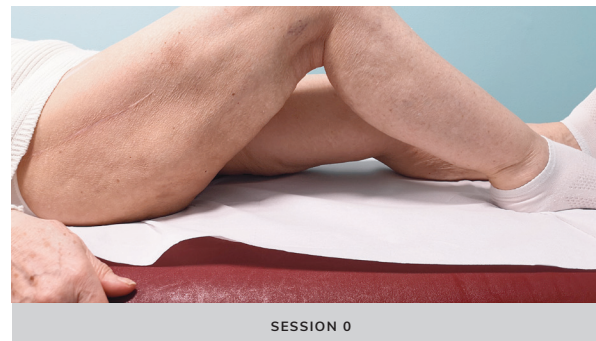
ORTHOPAEDIC SURGERY: KNEE ARTHROPLASTY

REHABILITATION AFTER KNEE ARTHROPLASTY

Female, 65 years old

SESSION 0: Flexion range 40°

The patient is asked to flex her knee to maximum extent until the onset of pain or limitation. Flexion angle of 40°.



SESSION 10: Flexion range 110°

The patient is asked to flex her knee to maximum extent until the onset of pain or limitation. Flexion angle of 110°.

The test performed allows comparing the evolution of the range of motion of the knee, which is improved by adequate stimulation of the periarticular tissues.



REHABILITATION AFTER CORRECTIVE OSTEOTOMY

Clinical Case 4: male, 32 years old underwent corrective osteotomy of the right knee.

There is oedema of the soft tissues above and around the kneecap, which limits the mobility of the knee.

icoone Medical Protocol

Ten sessions were carried out every two days.

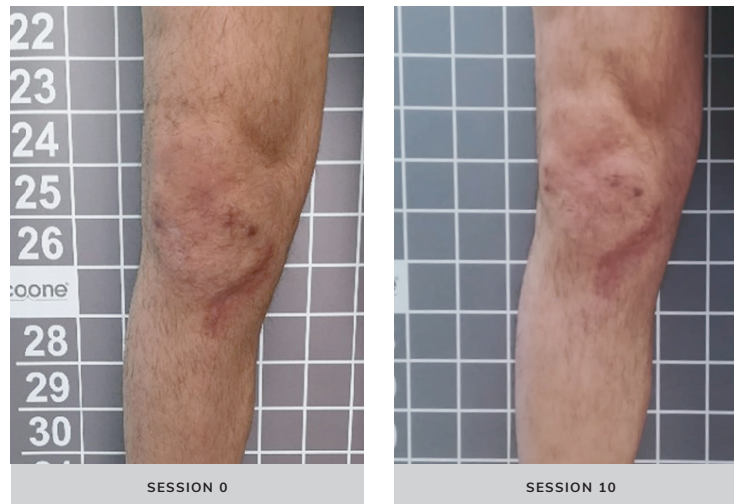
The Vancouver scale was used to evaluate the evolution of the scar with the following parameters: vascularisation, pigmentation, elasticity and extensibility.



CORRECTIVE OSTEOTOMY

REHABILITATION AFTER CORRECTIVE OSTEOTOMY

Male, 32 years old



SCAR EVALUATION ACCORDING TO VANCOUVER SCALE

SESSION 0	SESSION 10
Vascularisation 2	Vascularisation 1
Hyperpigmentation 2	Hyperpigmentation 1
Elasticity 3	Elasticity 2
Height 1	Height 1
TOT 8	TOT 5

Results:

At the end of the treatments the scar's flexibility improved, its adhesion decreased, Vancouver's score went from 8 to 5. Tissue trophism is improved, knee range of motion progresses rapidly.

TENDON SUTURE

This surgical procedure involves joining and suturing the two parts of the tendon that have been cut due to trauma or that have ruptured spontaneously in the context of inflammation or degeneration.

Specificity of the icoone[®] Medical application

Robomini and Robomicro handpieces are used to stimulate smaller areas using applicators of various sizes. Such stimulation reduces inflammation, pain and stiffness in order to improve the flexibility of the affected area. Possibility of adapting the parameters according to tissue elasticity and the patient's feeling.



TENDON SUTURE

REHABILITATION AFTER TENDON SUTURE

Clinical Case 5: male, 29 years old. Traumatic injury to the extensor tendon of the big toe.

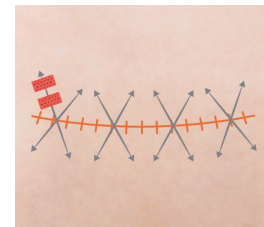
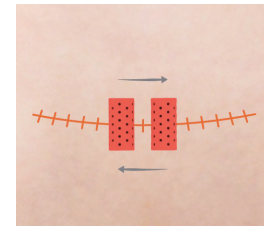
Two operations were required to suture the tendon. The patient complains of pain when walking and when extending the big toe.

icoone Medical Protocol

Ten sessions were carried out every two days.

The duration of each session varied from 5 to 10 minutes per scar, depending on tissue response.

The Vancouver scale was used to evaluate the evolution of the scar with the following parameters: vascularisation, pigmentation, elasticity and extensibility.



TENDON SUTURE

REHABILITATION AFTER TENDON SUTURE:

Male, 29 years old



SCAR EVALUATION ACCORDING TO VANCOUVER SCALE

SESSION 0	SESSION 10
Vascularisation 2	Vascularisation 1
Hyperpigmentation 2	Hyperpigmentation 0
Elasticity 4	Elasticity 1
Height 1	Height 1
TOT 9	TOT 3

Results: after 10 sessions, the patient no longer complains of pain in the big toe when walking.

The appearance and flexibility of the scar is greatly improved. The inflammatory appearance of the scar has been replaced by a smoother and more homogeneous tissue. Joint mobility has increased.

SCARS

A normal scar should be flat, flexible, mobile, painless and clear. If there is no mobility, the skin around the scar loses its natural mechanical capacity. However, adequate and specific stimulation can improve the tissues, thus avoiding fibrosis, adhesions, pain or inflammation that generate joint pain and functional disorders.

Specificity of the icoone® Medical application in rehabilitation physiotherapy

The size of the handpieces is always chosen to stimulate an area larger than the scar itself. In this way, the Robomini or Robotwins handpieces adapt to any region to be treated.

Multi Micro Alveolar Stimulation help to improve the damaged subcutaneous structure in the best possible way, restoring the elasticity of scar tissue, lifting adhesions, reducing inflammation.



SCARS

Clinical Case 6: female, 51 years old, C-section scar with strong adhesion.

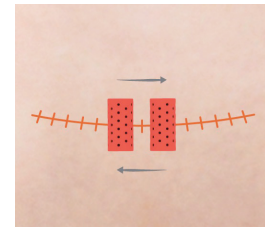
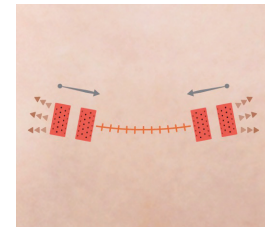
The patient complains of tension in the abdominal region, especially during physical activity.

icoone Medical protocol:

Ten sessions were carried out every two days.

The duration of the application is adapted to the density of the tissue. The manoeuvres are applied on a relaxed abdominal wall, first contracted, then stretched.

The Vancouver scale was used to evaluate the evolution of the scar with the following parameters: vascularisation, pigmentation, elasticity and extensibility.



SCARS

Female, 51 years old.



SCAR EVALUATION ACCORDING TO VANCOUVER SCALE

SESSION 0	SESSION 10
Vascularisation 0	Vascularisation 0
Hyperpigmentation 0	Hyperpigmentation 0
Elasticity 3	Elasticity 2
Height 0	Height 0
TOT 3	TOT 2

Results: The patient noticed improved flexibility of her abdomen with a decrease in abdominal tension, especially during physical activity. The scar is less tight and softer at the end of the sessions.

CONCLUSIONS OF CLINICAL TEAM

We have used the icoone[®] Medical device for the treatment of various pathologies based on the studies of Dr J.C. Guimberteau in Bordeaux, using treatments of different durations. We have been able to treat both chronic problems, such as old scars or fibrous tissue in the operated areas, and acute problems, such as post-traumatic and post-operative oedemas. No side effects have been reported in any of the treatments we have performed and we have worked safely, efficiently and quickly.

The pathologies treated with icoone[®] Medical were:

Scar tissue: post-surgery scars are treated after the scar has healed completely, including old scars such as C-section scars. The aim was to restore elasticity to the tissues by acting on their adhesion points and the surrounding connective tissue, reducing tension during the patient's physiological movements.

Post-surgery oedema: very often, a patient who has undergone joint replacement surgery can develop oedema that slows down the patient's functional recovery. With icoone[®] Medical, we were able to improve the resorption of these oedemas, thus accelerating the healing process and preventing fibrotic transformation of the tissues. As a result, the quality of rehabilitation and the pain experienced by the patient, both during physiotherapy and at rest, improved.

CONCLUSIONS OF CLINICAL TEAM

Myofascial pain problems: patients and athletes suffering from muscular or myofascial pain due to muscle contractures or tension in the fascia have been effectively treated with icoone® Medical. Thanks to the multi micro stimulation of the connective tissue close to the muscles, we were able to loosen contractures and restore elasticity to the tissues in general, resulting in reduced pain, improved mobility and above all functional recovery even in the case of athletic movements.

Tissue fibrosis: thanks to the alveolar stimulation and micro-massage carried out with the icoone® Medical device, we have been able to treat the problems linked to fibrosis that generate pain, joint stiffness and accumulation of fluid in the interstitial spaces. From this experience, we have found icoone to be a useful tool for the doctor and the therapist in the treatment of connective tissues, regardless of their transformation process. Extending the manual skills of physiotherapists, icoone is indicated in many pathologies where the recovery of deep subtle movements is essential.



"You may know well your anatomy and physiology, but when you put your hands on a patient's body, always remember that there you'll find a living soul"

Andrew Taylor Still

A special thanks to the patients of Spondilos Medical Centre for taking part in this project.



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