ASA Magnetotherapy:
the roots of therapeutic energy.





ASA

Research and Therapeutic Solutions.

Since **1983** ASA wants to become the international landmark in **laser therapy** and **magnetotherapy** for multidisciplinary uses: from **Physiotherapy** to **Physical Rehabilitation**, passing through Pain Management, **Sports Medicine** and **Veterinary Medicine**.

In **2003** ASA becomes part of **El.En. Group**, an Italian multinational corporation among the world's leading manufacturers of lasers for medicine, industry, conservation and restoration of artistic heritage.

Research and innovation are the main investment channels and the foundations on which to build an **ethical, sustainable and valuable growth**.

ASA LASER
Research and Therapeutic Solutions

ELEN™
THE FUTURE IN A BEAM

ASA Magnetotherapy: the landmark in the application of ELF (Extremely Low Frequency) magnetic fields.

THE PRINCIPLES OF ASA MAGNETOTHERAPY.

The functioning of ASA Magnetotherapy devices, based on the scientific principles of **Pulsed ElectroMagnetic Field** (PEMF), is characterized by **Extremely Low Frequency** (ELF, <100Hz) **and Low Intensity** (<10mT) magnetic fields.

Devices based on this type of fields have been used for the treatment of **bone union delays and defects** since the 80s, and since then the effectiveness of PEMFs has been clinically proven in numerous other **musculoskeletal disorders** and in **tissue repair**.

Electromagnetic fields can induce biological effects in certain frequency ranges only. Endogenous electromagnetic fields originate from the movement of muscles, tendons, etc. and from the action of the musculoskeletal system itself, and are typically in a frequency range between 5Hz and 30Hz.

For this reason, the magnetic fields of ASA Magnetotherapy devices work at **extremely low frequencies**, which are **highly consistent with human physiological frequencies** and are also reported by scientific literature as the frequencies that are most used in clinical applications.

Physical Therapy



Rheumatology



Orthopedics



Sports Medicine



Traumatology

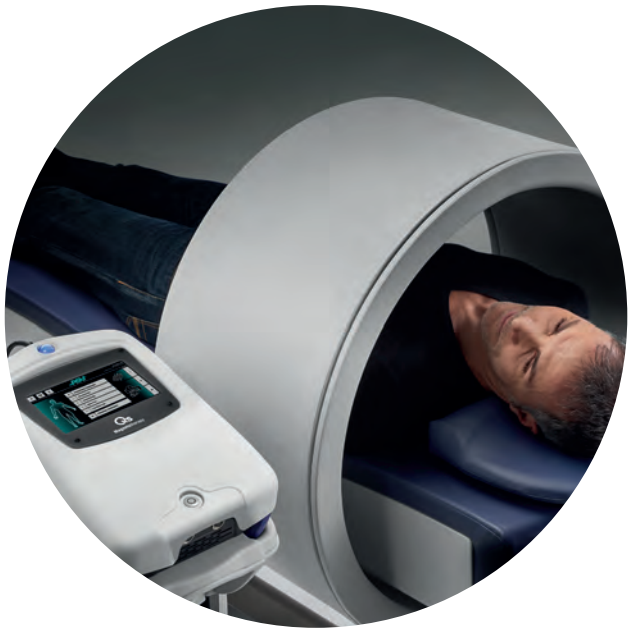


Geriatrics



General rules for ASA Magnetotherapy application.

ASA Magnetotherapy can be applied for the treatment of osteoarticular and neuromuscular diseases, either traumatic or inflammatory, and for tissue healing.



INDICATIONS

- Magnetotherapy can be applied even in the presence of orthopedic braces, plasters or internal and external fixation means, including joint prostheses (subject to specialist assessment), as long as made of material non-sensitive to electromagnetic filed.
- The treatment can be performed with patient being dressed.
- During the treatment the patient must not wear metallic objects or objects that are sensitive to magnetic fields, such as chains, buckles, watches.

ADVANTAGES

- Action even on deep tissues
- Well tolerated, non-invasive and painless
- Can also be used automatically
- Applicable on most patients
- Direct action on the whole body
- Use as stand-alone therapy or in combination with other therapies



PEMF **ACTIONS*** on different body tissues

* The biological mechanisms of action mentioned are derived from the general scientific literature on low-frequency and low-intensity PEMF therapy.

OSTEOARTICULAR LEVEL

PROMOTE BONE HEALING

- Modulating intracellular calcium and matrix mineralization
- Enhancing osteoblastic differentiation and activity
- Inducing osteogenesis
- Increasing some enzymes, such as Alkaline Phosphatase, and growth factors

COUNTERACT OSTEOPOROSIS SYMPTOMS

- Increasing Bone formation
- Increasing Bone Mineral Density (BMD)

CHONDROPROTECTIVE EFFECT ON ARTICULAR CARTILAGE

- Increasing TGFβ level, that subsequently increases the production of the extracellular matrix molecules, such as aggrecan
- Decreasing OA immunoreactivity
- Decreasing pro-inflammatory molecule production, such as IL-1β and TNF-α

NEUROMUSCULAR LEVEL

FAVOUR NERVE RIGENERATION AND ELECTROPHYSIOLOGICAL RECOVERY

- Increasing neurotrophic factors level
- Inhibiting nerve cell apoptosis
- Increasing nervous cell proliferations

FAVOUR MUSCLE REGENERATION AND MYOGENESIS PROCESSES

- Increasing cell metabolic activity
- Promoting cytoskeletal remodeling

MITIGATE CHRONIC GENERALIZED PAIN

- Exerting a positive action on fatigue and function

VASCULAR AND CIRCULATORY LEVEL

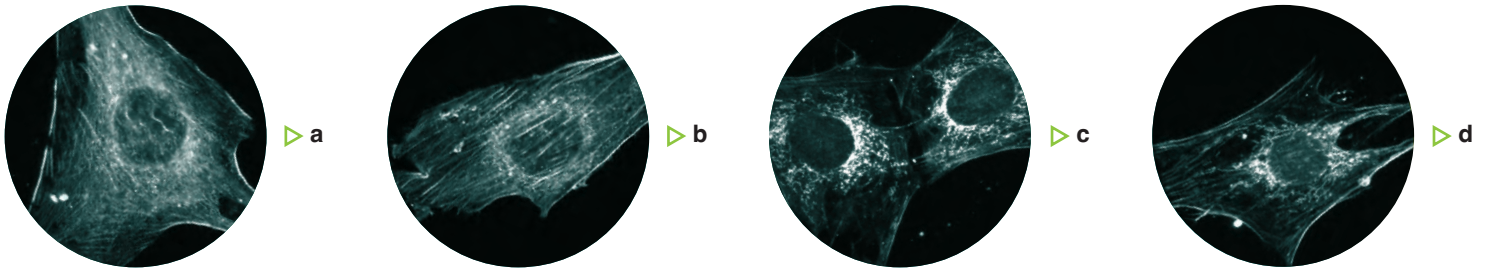
INDUCE HEMODYNAMIC EFFECTS

- Increasing blood flow speed
- Increasing microcirculation
- Enhancing pro-angiogenic factor release

TISSUE HEALING

MODULATE INFLAMMATORY PROCESSES

- Modulating chemokines production
- Increasing growth factors, such as FGF2 and TGFβ that regulate fibroblast function



a-b-c-d
Immunofluorescence microscopy images of nerve cells exposed to ASA ELF PEMFs.
A higher tendency to form branching fibres is observed in treated samples (b, d) compared to controls (a, c).

ASA PEMF MEDICAL INDICATIONS

OSTEOARTICULAR DISEASES

- Osteoporosis [a]
- Osteoarthritis [b]

a Moderate-high level of evidences in increasing the Bone Mineral Density (BMD) in spine and hip regions as prevention and treatment of primary and secondary osteoporosis and osteopenia.

b From mild to moderate OA stages (up to 3rd grade) with higher level of evidences on knee and moderate level of evidences on hip, shoulder and lumbar region.

MUSCULOSKELETAL PAIN

- Low back pain [c]
- Neck pain [d]

c Chronic pain due to postural, mechanical, overuse causes.

d Chronic pain due to postural, mechanical, overuse causes or disc herniation.

PERIPHERAL NEUROPATHIES

- Diabetic polyneuropathy [e]
- Carpal tunnel syndrome [f]
- Facial paralysis [g]

e Clinical evidences for mild DPN which involve pain symptoms and sensory deficit of the lower extremities and/or balance disturbance.

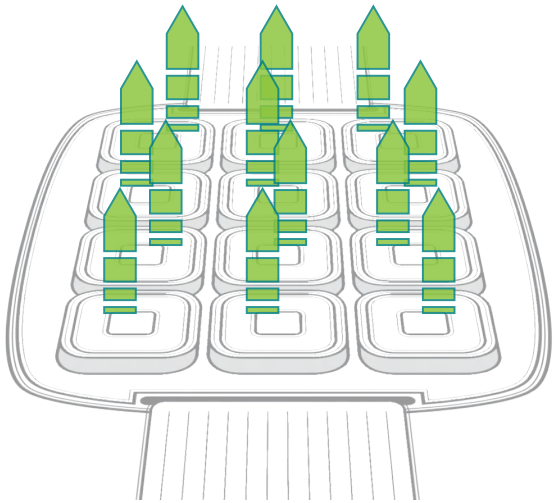
f From mild to moderate stages of primary or secondary CTS which involve pain symptoms, sensory and functional deficit.

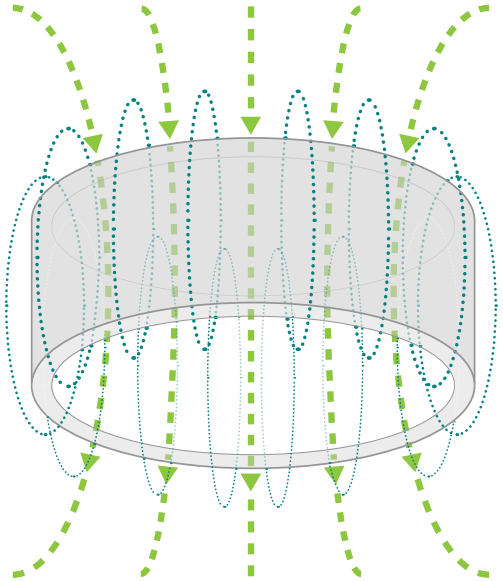
g From moderate grade of dysfunctions up to total paralysis in acute idiopathic peripheral facial paralysis and Chronic Bell's Palsy.

TISSUE HEALING

- Diabetic foot ulcer [h]

h From mild to severe stages (up to 3rd grade) DFU, also in presence of infection and ischemia.





PMT Qs

ERGONOMIC DESIGN FOR A TOTAL BODY TREATMENT.

PMT Qs is the device with an innovative design, ergonomic, easy to use and equipped with a trolley.
The pulsed magnetic field generator is controlled by a microprocessor which manages **3 independent channels**: each channel has 2 outputs to which you can connect 4 solenoids and 2 Flexa applicators.

The device, comes with bed, Ø 80 cm solenoid, and 2 Flexa applicators.

The PMT Qs device is designed for the treatment of several **body areas** such as spinal column, limbs, hips, and shoulders, ensuring the patient **maximum comfort** during the therapy.

PMT Qs can be used in different ways: in motion, in the automatic version, on large body segments up to total body; with localised treatment performed with a cylinder or the Flexa applicators or with the simultaneous use of the cylinder and the applicators positioned in different body areas.

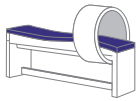
In the automatic version, the electromechanical movement system automatically places the solenoid on the area to treat (5 positions) returning to the initial position at the end of the therapy.

- The wooden structure of the bed minimizes any possible interference with the magnetic field.
- PMT Qs is a modular solution: the user can build the most suitable version based on the needs of the practice up to 2 beds and 6 applicators with a single generator.

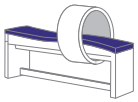


Optional accessories
Ø 30 cm portable solenoid, for the treatment of the limbs, and
Ø 50 cm portable solenoid for body treatment.

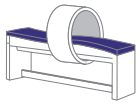




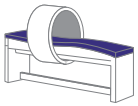
POSITION 1
Lower leg area



POSITION 2
Upper leg area



POSITION 3
Lumbar area



POSITION 4
Dorsal area



POSITION 5
Cervical area



TECHNICAL CHARACTERISTICS

- 3 completely independent channels
- 6 outputs (2 for each channel)
- Frequency from 0.5 to 100 Hz
- Magnetic field intensity variable from 5 to 100%
- Treatment time from 1 to 99 min and continuous
- Pre-set, adjustable, saveable programs
- 7” display with capacitive touch-sensitive screen

ALARMS AND SAFETY FEATURES

- Therapy start and therapy end acoustic signal
- Language option
- Machine status signals and alarms

STANDARD EQUIPMENT

- PMT Qs Generator: 28 x 38 x 14 cm (W x D x H) - 3 kg
- Unit carrying trolley: 48 x 62 x 85 cm (W x D x H) - 17 kg
- Unit carrying case

POWER SUPPLY

- 115/230 V ± 10% 50/60 Hz 235/320 VA

FLEXA APPLICATOR

- 2 flexible applicators with elastic band and integrated vibration system can be managed simultaneously by the same generator to perform localized treatments
  36 x 22 x 2 cm (W x D x H) - 1 kg
- Blister of Flexa cover (100pcs) included with Flexa applicators

MOTORIZED COUCH WITH SOLENOID Ø 80 cm

- Electromechanical system for solenoid movement managed by microprocessor
- Solenoid: Ø 80 cm, depth 40 cm - 25 Kg
- Couch with solenoid: 80 x 188 x 111 cm (W x D x H) - 79 Kg
- Power Supply: 100-240 V ± 10% 50/60 Hz 55-65 VA

OPTIONAL ACCESSORIES

- Portable solenoid Ø 30 cm: depth 21 cm - 8 Kg
- Portable solenoid Ø 50 cm: depth 34 cm - 12 Kg

EASY Qs

PORTABLE AND CUSTOMISABLE.

EASY Qs is ideal for the specific treatment of localised areas thanks to the Flexa applicator. It is portable to flexibly adapt to the logistics of the clinic. EASY Qs offers pre-set treatment programs, giving the operator the possibility to customise the emission parameters based on the type of patient, the pathology, and the clinical phase.



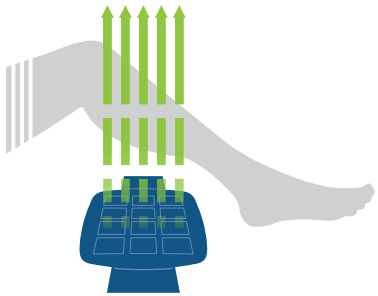




Flexa Applicator

FLEXIBLE AND CONSTANT.

Equipped with a vibration effect, the Flexa applicator has a flexible structure that allows to adapt it to all areas of the body, ensuring a constant and homogeneous distribution of the emission of the magnetic field and allowing perpendicular delivery to the application surface. The flexible applicators are particularly suitable for **localised treatments**.



△

Perpendicular emission to the application surfaces with vibration effect that can be provided in cases where the massage action is appreciated by the patient.







TECHNICAL CHARACTERISTICS

- 1 channel with 2 outputs for connecting the Flexa applicators
- Frequency from 0.5 to 100 Hz
- Magnetic field intensity variable from 5 to 100%
- Treatment time from 1 to 99 min or continuous
- Pre-set, adjustable, savable programs
- 7” display with capacitive touch-sensitive screen

ALARMS AND SAFETY FEATURES

- Therapy start and therapy end acoustic signal
- Language option
- Machine status signals and alarms

STANDARD EQUIPMENT

- Easy Qs Generator: 28 x 38 x 14 cm (W x D x H) - 3 kg
- 2 flexible applicators with elastic band and integrated vibration system can be managed simultaneously by the same generator to perform localized treatments
  36 x 22 x 2 cm (W x D x H) - 1 kg
- Blister of Flexa cover (100pcs) included with Flexa applicators
- Unit carrying case

POWER SUPPLY

- 100-240 V ±10% 50/60 Hz 45-70 VA

OPTIONAL ACCESSORIES

- Unit carrying trolley: 48 x 62 x 85 cm (W x D x H) - 17 kg

A tale of passion, commitment and talent.

ASA Quality System is certified by TÜV SÜD Product Service GmbH (ISO 13485:2016), TÜV SÜD AMERICA (ISO 13485:2016), and TÜV SÜD Italia (ISO 9001:2015).

ASA devices are marked CE0123, EU MDR compliant and US FDA listed.

+ 90 served Countries + 30,000 installed devices



+ 50,000 therapies per day + 15,000,000 patients per year



+ 100 documented clinical cases + 200 scientific publications

FOR EnergyHealth International journal of information and scientific culture

ASA LASER
Research and Therapeutic Solutions

Hilterapia® | MLS Multiwave Lockedsystem | Qs Magnetotherapy

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