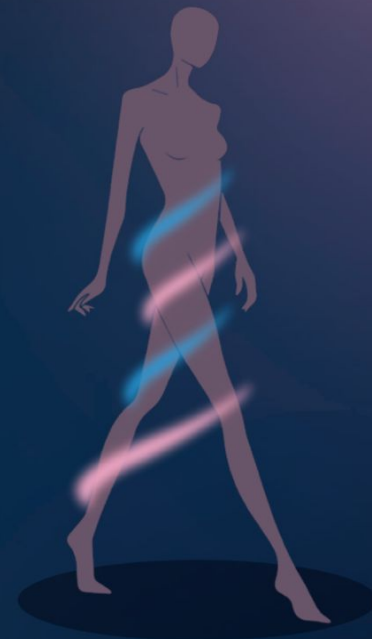


Project presentation



Spikenergy

Elettromagnetotherapy



The company

Gafitex is a historic company located in the industrial district to the north of Mantua, an area with a strong manufacturing vocation.

Originally a textile laboratory, today, the company is an innovative and evolved market leader that continues to invest heavily in research and innovation.

The first trademark registered by Gafitex was **Texenergy**, which was developed into a complete range of products using magnetic microcurrents as a natural pain therapy technique.

In **2002**, Gafitex decided to commit to the research and development of a new fabric, a **highly technological and innovative yarn**, in which **silicon, copper and zinc**

fibres are incorporated. After years of research, studies, patents, certifications and collaborations with prestigious universities, **SPIKE** was born, **a highly performing, soft-to-the-touch fabric** that leverages the most innovative medical research to naturally treat pain, fluid retention and chronic and acute inflammation. **SPIKENERGY** and **SPIKECELL** are the two new **brand** by the company, representing lines of **therapeutic products** available to patients, doctors and pharmacists.

Technology

Spikenergy is born from a revolutionary **technology** that, through the use of **microcurrents**, brings a series of benefits to the human body. It is a weave composed of **copper, zinc, and silicon fibers** that, when **in contact with the sweat of the skin**, generates **210 micro amperes of current**, producing a **healing effect** and a **sense of well-being**.

*A **completely natural process** that recharges cells by generating a gentle **magnetic field** that activates in case of pain, osteo-articular problems, edema, and poor circulation. It is a solution that targets the **mechanisms responsible for the problem**.*

***90% effectiveness** without side effects.*



Energy

While in the membrane of a **healthy cell**, the "resting" electrical potential is around -70/-90 millivolts, in a diseased cell, the electrical potential is much lower, around -40/-50 mV, and it can reach -15/-20 mV in a tumor cell.

ENERGETIC CHAOS = PATHOLOGY

New solutions for old pathologies

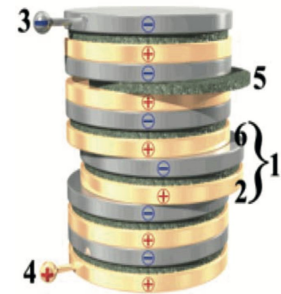
When **cells are stimulated with a microcurrent**, a significant increase in adenosine triphosphate (ATP) is observed.

Specifically, ATP generation increases up to 500% compared to the pre-stimulation state.

Resting membrane potential: membranes maintain a resting potential, which is an electrical charge difference between the inside and outside of the cell. Typically, the inside of the cell is more negative compared to the outside. When a cell is adequately stimulated, the resting potential can undergo a rapid change called an action potential. During the action potential, there is a rapid reversal of the membrane potential.

When cells are stimulated with microcurrent, their metabolism transitions from anaerobic (without oxygen) to aerobic (with oxygen) processes. **The shift to aerobic metabolism enables cells to produce more energy efficiently.**

Figure 1: Zinc-copper-silicon fabric.



1. un elemento della pila
2. strato di rame
3. contatto negativo
4. contatto positivo
5. filtro o carbone imbevuto in soluzione acquosa
6. strato di zinco

Energy

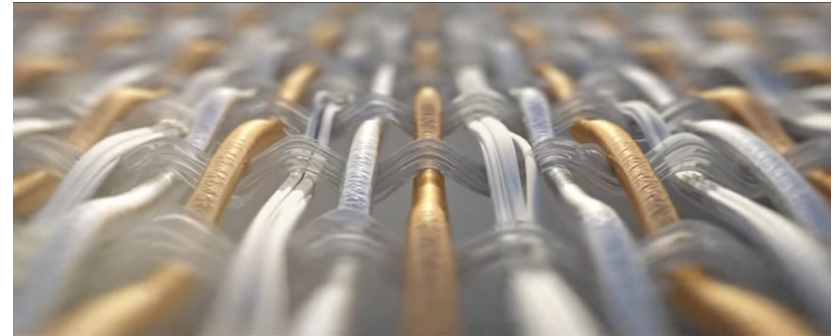
New solutions for old pathologies

Microcurrent stimulation can increase ATP production, accelerate the cellular metabolism from anaerobic to aerobic, influence membrane potentials and the piezoelectric activity of tissue structures, as well as the movement of charges within cells.

The pain response is highly subjective. There are levels of **pain control** that, when stimulated, can reduce the pain threshold.

Inhibitory pain stimulation can occur through various methods, including the use of microcurrents that restore the original well-being and rejuvenate tissues.

It is based on these mechanisms that the Spike fabric has been studied and developed.



Magnetic field test

Measurement of the magnetic anomaly induced by a Spikenergy fabric

From the findings of the tests conducted at the **Geomagnetic Observatory of L'Aquila** on a **Spikenergy fabric** with a zinc-copper weave, a static magnetic anomaly of approximately 4.5 nT was detected at a distance of 3 cm from the magnetic sensor.

[Read clinical study](#)



ISTITUTO NAZIONALE
DI GEOFISICA E VULCANOLOGIA

A new kind of microcurrent-generating fabric with therapeutic properties in the treatment of venous insufficiency

Stefano Dotti¹, Giovanni Sandonini²

1 University of Bergamo, Department of Industrial Engineering.

2 Samatex, Brescia, Research and Development Manager.

ABSTRACT

The clinical study concerns the research and development of an innovative new stocking made with technologically advanced elastic-compressive fabric. The stocking has therapeutic capabilities to treat venous pathology in the lower limbs. Currently, for treating venous insufficiency, graduated compression stockings are used in conjunction with pharmacological treatments such as anti-inflammatories and fibrinolytics. However, this study aimed to create a stocking with unique therapeutic properties, capable of reducing or eliminating the need for pharmaceuticals in the treatment process. This objective was achieved through the use of microcurrent therapy, generated by the electromagnetic fields of the metallic wires present in the stocking's structure.

[DOWNLOAD PDF](#)



A new kind of microcurrent-generating fabric with therapeutic properties in the treatment of venous insufficiency

CONCLUSIONS

The work involved creating an innovative fabric capable of reproducing the phenomenon of an electric cell (battery) within a textile artifact. Thanks to the identification of a microcurrent measure in the developed prototype, it can be asserted that the objective has been achieved.

The fabric, composed of copper and zinc wires coated with polyamide intertwined with silicon threads, generates an electromagnetic field of 0.21 milliamperes when it comes into contact with the skin, and sweat acts as an electrolyte. This current intensity can theoretically stimulate the production of ATP from mitochondria limitlessly, enhancing the functioning of Sodium-Potassium channels and allowing the elimination of catabolites and excess intracellular water. Consequently, this may lead to the resolution of vascular pathologies.

[DOWNLOAD PDF](#)



UNIVERSITÀ DEGLI STUDI
DI BERGAMO

Microcurrent measurements on knitted fabric

Study by Prof. Stefano Dotti

TEST OBJECTIVE:

To measure the microcurrent (in milliamperes) generated by the metallic wires in the structure of the elasticized circular knitted fabric and artificial sweat.

TEST PROCEDURE:

The sample was conditioned for 24 hours in the laboratory at a temperature of 20 degrees Celsius and with a humidity level of 65%. Measurements were taken both with dry fabric and with fabric moistened with artificial sweat solution.

CONCLUSIONS:

Based on the obtained results, the sample of elasticized circular knitted fabric generates a measurable microcurrent of approximately 210 microamperes.

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UNIVERSITÀ DEGLI STUDI
DI BERGAMO

Other published clinical studies

*In recent years, the medical world is witnessing an increasing interest in **alternative bioenergetic therapeutic approaches**, capable of assisting or replacing pharmacological therapies. Recent studies have shown that using **microcurrent bands** promotes the **restoration** and **recovery** of **normal cellular functions**, helping to heal trauma, inflammation, oedema and various degenerative and overload conditions.*

Other published clinical studies

Evaluation of the effectiveness of a reducing and anti-cellulite garment

Dr. Marisa Mosca¹, Dr. Claudia Rona²

¹ Specialist in Allergology, Dermatology Clinic, University of Pavia, Pavia, Italy.

² Specialist in Pharmacology, Dermatology Clinic, University of Pavia, Pavia, Italy.

RATIONALE OF THE STUDY:

To treat cellulite, a patented garment utilizing metallotherapy is used. The fabric of this garment contains intertwined copper, zinc, and silicon threads, harnessing the therapeutic properties of these minerals. The combination of copper and zinc creates an infinitesimal current that stimulates microcirculation, aiding in the disposal of accumulated fluids and fats. Silicon acts as a conductor and protects the skin, contributing to its natural health maintenance.

STUDY:

The study lasted for 8 weeks and involved 21 women aged between 21 and 65 years with cellulite of grade 1-4 on their thighs. Each volunteer received 3 garments and was instructed to wear them for at least 8 consecutive hours every day for the entire 8-week period. The study included three assessments: before the start of the treatment, after 4 weeks, and at the end of the study. Non-invasive methods of skin bioengineering were used to evaluate the biophysical properties that the garment was expected to influence.

RESULTS:

A significant improvement in all investigated parameters was observed: the thickness of the subcutaneous layer decreased; among the biomechanical properties, which are related to the quality of the dermis that represents the supporting tissue of the skin, specifically, viscoelasticity showed a highly significant increase; the garment also contributed to an improvement in microcirculation, consistent with the thermographic data, which had also improved.

The majority of subjects examined at the beginning of the treatment, after 4 and after 8 weeks, exhibited a more compact skin texture with less presence of the so-called "orange peel" appearance. The studied garment can be a valuable support in the treatment of cellulite localized in the lower limbs.

[DOWNLOAD PDF](#)

Other published clinical studies

A new approach to osteoarticular pain control: continuous electromagnetic therapy using a copper-zinc device

Dr. Giuseppe Capua

San Camillo Hospital - Rome.

Head of Sports Medicine and Traumatology.

President of the Anti-Doping Commission of FIGC (Italian Football Federation).

ABSTRACT:

Currently, the traditional medical therapy for pain symptoms is based on the intake of nonsteroidal anti-inflammatory drugs (NSAIDs) and the application of physiotherapeutic means. Among the most accredited physical methods is electromagnetotherapy.

This study evaluates the therapeutic efficacy of a wearable copper-zinc device that delivers continuous electromagnetotherapy for conditions such as: pes anserinus tendinopathy, knee osteoarthritis, knee sprain with intra-articular edema and involvement of collateral ligaments, ankle sprain with involvement of medial or lateral ligaments, and Achilles tendinopathy.

The clinical conditions were assessed at baseline and at 7, 14, and 30 days after applying the ankle and knee device in a double-blind study, without the use of other analgesic therapies administered orally or parenterally.

At the time of enrollment, the patient was asked to fill out a form containing a pain scale (VAS score), which was updated at each follow-up visit conducted at 7, 14, and 30 days.

RESULTS:

The conducted study demonstrated the effectiveness of the wearable electromagnet device. All patients treated with the device reported a reduction in painful symptoms without reporting any clinically significant undesirable or collateral effects attributable to the device itself.

[DOWNLOAD PDF](#)

Other published clinical studies

Double blind randomized study of treatment for ankle sprains using a Spikenergy ankle bandage

Dr. F.Oliva

Department of Orthopedics and Traumatology. University of Rome "Tor Vergata".

INTRODUCTION:

Lateral ankle sprains are common injuries during athletic or recreational activities. Approximately 40% of these sprains can lead to chronic complications.

MATERIALS AND METHODS:

In a randomized double-blind study, the conservative treatment for acute grade I and II ankle sprains using Spikenergy ankle braces was examined in comparison to regular elastic ankle braces.

When the Spikenergy ankle brace is worn, sweat acts as an electrolyte, activating the electric cell that generates an electrical current of 300 microamps and a magnetic field of 4-10 nTesla. The Electromagnetic Field of Spikenergy can increase the amount of ATP available to the cell, and the magnetic field acts on fluid mobilization, resulting in a rapid response to inflammation, edema, and pain.

Both patient groups underwent the same type of rehabilitation treatment and were evaluated at baseline, 2 weeks, and 4 weeks.

RESULTS:

The Spikenergy brace is advantageous in pain control compared to the traditional elastic ankle brace. After 4 weeks of use, significant improvements in joint functionality were observed. The uniqueness of this brace lies in the combination of mechanical features of a regular ankle brace with the ability to generate a magnetic field. This aspect increases patient compliance during motor rehabilitation and allows for a quicker return to daily and sports activities.

[DOWNLOAD PDF](#)

Other published clinical studies

Electromagnetotherapy: an alternative pain therapy for hemiplegic patients

F. Colonna, G. Moraglia

Rehabilitation Center ASL Brindisi - San Raffaele Foundation - Ceglie Messapica.

INTRODUCTION:

In patients affected by cerebral stroke, the complication of painful shoulder is common and hinders rehabilitation. Studies on magnetic fields in living organisms show promising beneficial effects on damaged cells, promoting the restoration of membrane potential and stimulating blood circulation. This leads to a reduction in viscosity and an increase in oxygenation.

The present study aims to test the effectiveness of the wearable electromagnet system, Spikenergy cervico-dorsal, in the treatment of musculoskeletal shoulder pain in hemiplegic patients.

MATERIALS AND METHODS:

In the present study, 18 patients affected by subacute ischemic cerebral stroke with musculoskeletal shoulder pain in the affected hemiplegic side were included.

Initially: 10 sessions of physiotherapy, 10 sessions of laser therapy, and oral ketoprofen for 10 days. Results: 8 patients showed an improvement in pain and range of motion (ROM). However, the other 10 patients continued to experience pain and limitations in shoulder abduction similar to those observed at the beginning of the study.

New treatment for the 10: 5 days of physiotherapy + use of the wearable system "Spikenergy cervico-brachial" for ≥ 12 hours/day. All tolerated and completed the treatment well.

CONCLUSIONS:

Preliminary results show that 70% of the patients consider the treatment good at the end, and 30% excellent. At 60 days, 60% rate it as good, and 40% as excellent. In conclusion, the Spikenergy cervico-dorsal system appears to be a valid therapeutic alternative for musculoskeletal shoulder pain in hemiplegic patients, both in the short and long term.

[DOWNLOAD PDF](#)

Other published clinical studies

Electromagnetic therapy: approach to osteoarthritis with an electromagnetic wrap

Prof. Dr. Antonio Gabriele

Professor of specialization courses at the Magisterium of Rome.

INTRODUCTION:

A study was conducted to determine the effectiveness of an electromagnetic field generated by a special fabric (Spikenergy) in the treatment of knee, cervico-dorsal, and lumbar osteoarthritis. The study involved 290 patients with mild or severe osteoarthritis, treated with various therapies, including exercises, glucosamine, NSAIDs, or hyaluronic acid, depending on the severity of the condition and the intensity of pain. Half of the patients wore the electromagnetic device for 8-10 hours a day throughout the follow-up period. All 290 patients were evaluated at the second, fourth, and sixth month of follow-up.

In comparison to the level of pathology, all therapies yield better results when supported by the device. The difference between patients who used the device and the controls becomes evident, especially starting from the 4th month when the effects of therapy have attenuated, and it is also confirmed at the subsequent 6-month follow-up.

CONCLUSIONS:

The positive results, with a percentage around 90% between good and excellent levels, inspire optimism even for the treatment of chronic conditions such as osteoarthritis. Furthermore, it is worth noting the excellent tolerability of the treatment, even for long-term use (6 months or more).

[DOWNLOAD PDF](#)

Benefits



Accelera il processo di guarigione



Riduce il dolore progressivamente



Rigenera i tessuti



Riattiva la microcircolazione



Riduce il gonfiore e l'infiammazione



Migliora la mobilità articolare



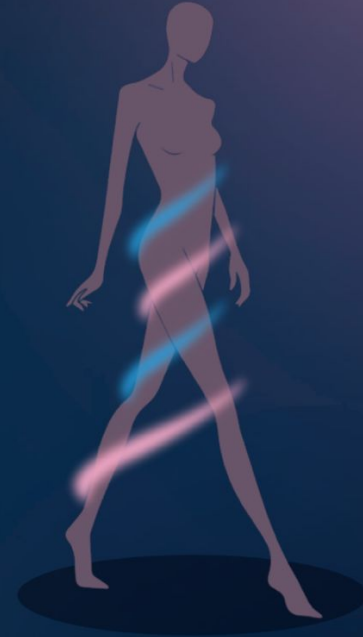
Drenano i liquidi in eccesso

Products

This **technology** has been developed in three different application areas related to the human body, different areas that target different audiences driven by different purchase motivations.

- Treating **chronic or acute joint pathologies**.
- Treating **cellulite imperfections**.

*Products designed and intended to be worn in direct contact with the skin, to provide an **effective therapy against acute and chronic pain**.*



Products

The complete catalog can be found on the [website](#).



Postural support for cervical art and shoulder pain

- Reduces discomfort related to poor posture.
- Provides support to the upper back.
- Improves posture.
- Combats chronic pain in the upper back, shoulders, and neck.
- Reduces pain and corrects posture.



Sprain treatment glove

- Reduce inflammation.
- Progressively reduce pain.
- Improve joint mobility.
- Regenerate tissues.

Products

The complete catalog can be found on the [website](#).



Calf Band

- Band for the treatment of cramps and muscle fatigue.
- Reduce swelling, inflammation.
- Progressively reduce pain.



Shoe Liners

- Reduce foot sweat.
- Prevent soreness and redness.
- Prevent the formation of fungi.
- Relieve rheumatism.
- Prevent bad smells.

Products

The complete catalog can be found on the [website](#).



Lumbar Sacral Support For Women

- Helps counteract back pain.
- Specially designed to give targeted support to the joints of the lumbar part of the back.
- Progressively reduce pain.
- Improve mobility.
- Regenerate tissues.



Knee-High Socks

- Alleviate symptoms relating to poor venous circulation in the legs.
- Reduce swelling.
- Progressively reduce pain.
- Reduce heaviness in the legs.
- Reactivate microcirculation.

Products

The complete catalog can be found on the [website](#).



Therapeutic socks for the treatment of fatigue and cramps

- Treat fatigue and cramps and relieve symptoms relating to poor venous circulation of the feet and ankles.
- Reduce swelling.
- Reduce heaviness in the legs.
- Reactivate microcirculation.



3-Bandage Kit

- 3 elastic bandages of different lengths aimed for applying to various parts of the body, such as wrists, head, neck, arms and legs.
- Reduce inflammation.
- Progressively reduce pain.

Products

The complete catalog can be found on the [website](#).



Closed Band H24

- The postural back band is soft and elastic.
- Progressively reduce pain.
- Improve mobility.
- Regenerate tissues.



Closed Band H32

- The postural back band is soft and elastic.
- Progressively reduce pain.
- Improve mobility.
- Regenerate tissues.

Products

The complete catalog can be found on the [website](#).



Lumbar Band

- The postural back band is soft and elastic, and designed to follow the surface of the body in order to adhere perfectly to the back.
- Progressively reduce pain.
- Improve mobility.
- Regenerate tissues.



Lumbar Sacral Support For Men

- Has no closure or seams and can be worn as ordinary high-waist shorts.
- Progressively reduce pain.
- Improve mobility.
- Regenerate cells and tissues.

Products

The complete catalog can be found on the [website](#).



Elbow Support

- The elbow support is designed and woven to adapt perfectly to the shape of the elbow, guaranteeing a better fit and facilitating flexibility and mobility.
- Reduce swelling and inflammation.
- Progressively reduce pain.
- Improve joint mobility.
- Regenerate tissues.



Wrist Support

- Wrist support for tendinitis and sprains with a Velcro fastener.
- Reduce swelling and inflammation.
- Progressively reduce pain.
- Improve joint mobility.
- Regenerate tissues.

Products

The complete catalog can be found on the [website](#).



Knee Support

- Reduce swelling and inflammation.
- Progressively reduce pain.
- Improve joint mobility.
- Regenerate tissues.



Ankle support for sprains

- Reduce swelling and inflammation.
- Progressively reduce pain.
- Improve joint mobility.
- Regenerate tissues.

Products

The complete catalog can be found on the [website](#).



Low-Waist Girdle

- Reactivate microcirculation.
- Drain excess fluids.
- Reduce swelling.



Anti-Cellulite Shorts

- Reactivate microcirculation.
- Drain excess fluids.
- Reduce swelling.

Products

The complete catalog can be found on the [website](#).



Shorts With Tummy Girdle

- Reactivate microcirculation.
- Drain excess fluids.
- Reduce swelling.



Low-Waist Knee-Length Leggings

- Reactivate microcirculation.
- Drain excess fluids.
- Reduce swelling.

Products

The complete catalog can be found on the [website](#).



High-Waist Knee-Length Leggings

- Reactivate microcirculation.
- Drain excess fluids.
- Reduce swelling.



Anti-Cellulite Leggings

- Reactivate microcirculation.
- Drain excess liquids and fats.
- Reduce swelling.

Products

The complete catalog can be found on the [website](#).



Woman's T-Shirt

- Soft and elastic t-shirt designed to counteract underarm hyperhidrosis.
- Helps to drain excess fluids.
- Helps to biostimulate cell regeneration.
- Counteract excessive sweating.



Man's T-Shirt

- Drain excess fluids.
- Biostimulate cell regeneration.
- Counteract excessive sweating.

Products

The complete catalog can be found on the [website](#).



Woman's Jeans

- Shape hips, buttocks and legs.
- Reactivate microcirculation,.
- Drain excess liquids.
- Fats and reduce swelling.

Key Partner

Spikenergy, with its products, provides for both the **B2C and B2B markets.**

In the B2B market, the target audience consists of **retailers.**

Among the main retailers are:

- **pharmacies**
- **health stores**
- **orthopedics and medical supply stores**
- **specialized beauty centers**
- **sports centers**

In addition to retailers, an important role is played by **professionals in the field:**

- **Physiotherapists and osteopaths**
- **Doctors**



Value Proposition

“The effectiveness of microcurrents in the service of pain therapy. Spikenergy has always been by your side in treating traumas, inflammations, edemas, and various degenerative pathologies.”

Spikenergy

Elettromagnetotherapy