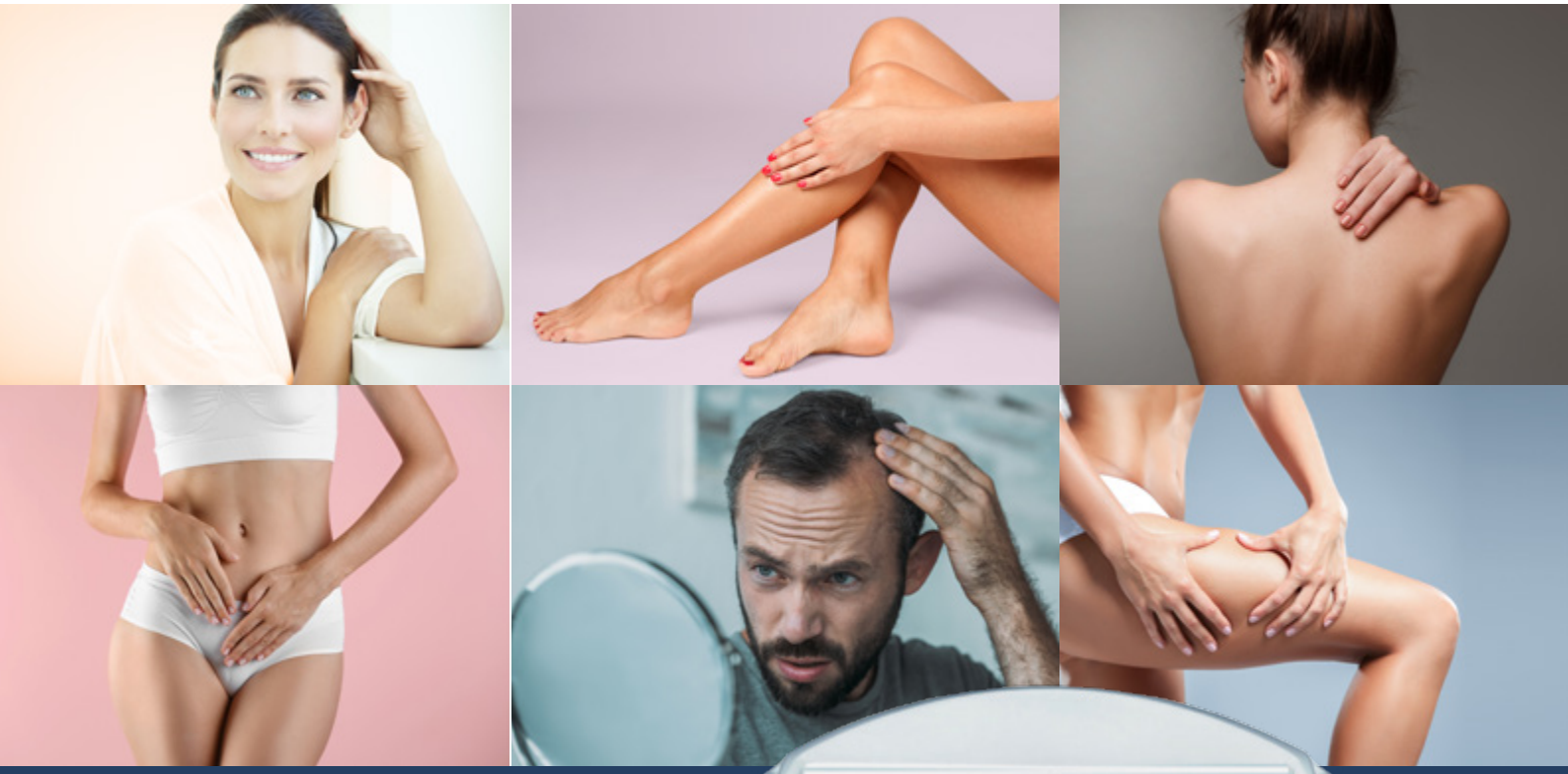
VENUSIAN

CO₂ THERAPY



High and low flow medical carbon dioxide treatment

What is **Carboxytherapy?**

Carboxytherapy consists of subcutaneous and intradermal inoculations of medical Carbon Dioxide (CO_2) for therapeutic purposes.

Only medical professionals can administer it. The therapy consists of localized microinjections of medical Carbon Dioxide administered using a tiny needle inserted on a disposable sterile tube connected to VENUSIAN CO_2 Therapy.

The treatment is safe for the patient, as Carbon Dioxide is non-toxic and does not cause embolisms, and is compatible for the human body that produces it constantly and eliminates it through the venous system via the lungs.

Thanks to sophisticated technology, it is possible to preheat the Carbon Dioxide to 43° before injecting it into the skin, lowering significantly the painful and/or burning sensation felt by the patient.

Where does Carboxytherapy work?

Academic clinical studies and research have demonstrated that the use of injected Carbon Dioxide works on:

- **Microcirculation**, where it mechanically reopens closed capillaries, reactivates the malfunctioning ones and increases the percentage of oxygen in the tissues, improving the state of pathologies such as edematous fibrosclerotic panniculopathy and acrocyanosis, right up to different kinds of ulcers;
- **Adipose tissue**, where, by rupturing adipose cell membranes (lipoclastic effect) it reduces fat deposits;
- **The skin**, where, as well as increasing the percentage of oxygen in the tissues improving skin elasticity, inducing dermal rejuvenation;
- **The lymphatic system**, where it speeds up waste and stagnant fluids drainage, even in more the more severe cases (lymphoedema);
- **Reducing pain**, by inhibiting trigger points and inhibiting cytokines (analgesic effect).

How
Carboxytherapy works with

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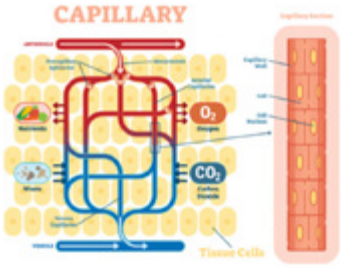
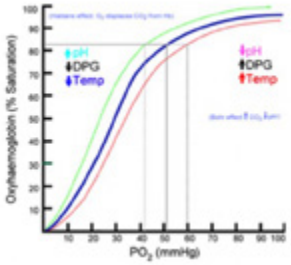
CO_2 THERAPY

1. Effects on circulation

Subcutaneous injection of carbon dioxide results in:

- An improvement in arteriolar and metarterial sphygmicity, leading to improved blood flow and velocity at a microcirculatory level;
- A release of smooth muscle fibrocells of precapillary sphincters, with a marked increase in local vascularization;
- Improved flow of red blood cells through microcirculation, thanks to an increase in their deformability
- An increased release of oxygen into the tissues (as per the Bohr effect the affinity of oxygen of hemoglobin is reduced);
- A powerful stimulus to initiate angiogenesis (synthesis of new blood vessels).





2. The Bohr effect

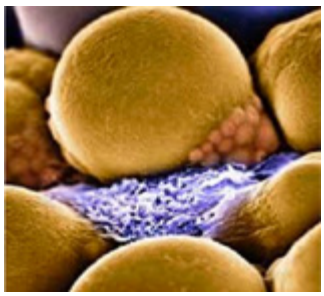
The lowering of PH values, due to the presence of CO_2, is also the cause of the rightward shift of the dissociation curve of hemoglobin, with consequent increased release of O_2 at tissue level.

It is observable as an increase in the partial pressure of O_2 at tissue level.
Hatmann et al. showed that in treated arteriopathic patients there was an increase in local circulation parameters with increased walking time on treadmill test and an overall positive clinical and instrumental effect.

3. Effects on adipose tissue

Direct lipolytic effects related to the mechanical action of the flow of gas injected into the hypodermis without damage to other tissues and an indirect lipolytic effect related to the ability of the gas to increase the bioavailability of O_2 (enhancement of the Bohr effect) for adipocyte metabolic activities, including oxidative processes of fatty acids.

Increasing the amount of oxygen also favors oxidative processes of fatty acids. Receptor activation (Golgi and Pacini corpuscles) involves the release of algogenic substances(Bradykinin, Serotonin, AMPc...) that stimulate lipolysis (the hydrolysis of triglycerides :1 glycerol + 3 fatty acids).



4. Effects on the skin

General appearance of the skin improves, becoming more toned, more compact, more glowing. This is due to increased blood flow, tissue oxygenation and the action on fibroblasts, i.e. the cells capable of producing collagen and elastic fibers (thickening of the dermis).

5. Analgesic effect

Analgesia occurs as a result of a local increase in subcutaneous blood flow and stimulation of local receptors Secondary influences are observed regarding inflammatory cytokine and trigger point inhibition.

VENUSIAN
CO2 THERAPY

Advantages

MADE IN ITALY

A state-of-the-art device to treat face and body

The therapeutic method made with Venusian allows the control of gas sterility and the almost total reduction of pain during treatment.

The **intelligent electronics** of this technology allows:

- **Control of gas purity** through special anti bacterial filters;
- Independent regulation of **speed** and **gas quantity**;
- The reduction of the "rebound effect": through special micro valves controlled by microprocessor, VENUSIAN is able to measure the changes in resistance in the tissues and keep the speed of the **gas flow constant**, greatly **reducing the pain** of treatment;
- **Pain reduction**: through the specific software, VENUSIAN, controls the temperature of the outgoing gas;
- To work with standardized and **dedicated therapeutic programs**, or with free programs;
- Use of needle-free dispensing tubes in sterile disposable packaging in compliance with current regulations.

Thanks to the special gynecological cannula, VENUSIAN is able to inoculate the gas in very precise points of the vaginal canal with remarkable effects on vulvo vaginal atrophy, on circulation and lubrication.

Using the special protocols developed, the operator can offer an effective, natural and safe protocol, without side effects.

Acting on microcirculation, carboxytherapy treatments can be easily combined with laser genital rejuvenation treatments, thus offering an absolutely complete treatment to menopausal patients.

The Protocols

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Dermatology

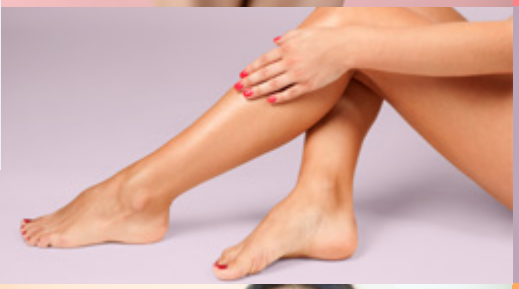
ALOPECIA AND HAIR THINNING
PSORIASIS AND ECZEMA
STRETCH MARKS AND SCARS

Aesthetic medicine

EDEMATOUS-FIBROSCLEROTIC PANNICULOPATHY TREATMENT
LOCALIZED ADIPOSITY
SKIN SLACKENING AND ANTI-AGEING

Aesthetic gynaecology

GENITAL REJUVENATION
VULVO VAGINAL ATROPHY



Phlebology

VASCULAR PATHOLOGIES REYNAUD SYNDROME
RLS (RESTLESS LEGS SYNDROME)
PERIPHERAL VASCULAR DISORDERS (ARTERIAL OR VENOUS)
VASCULAR LESIONS AND VENOUS INSUFFICIENCY
VASCULAR BASED MALE SEXUAL IMPOTENCE
(ERECTILE DYSFUNCTION)

Vascular pathologies

VASCULAR PATHOLOGIES
VENOUS INSUFFICIENCY
ULCERS AND DIFFICULT WOUNDS

Pain management

ORTHHOPEDY
SPORT MEDICINE

VENUSIAN

CO_2 THERAPY

MEDICAL DEVICE
CE0051

AUTHORISATION
FROM ITALIAN MOH
N. 520941/R

MADE IN ITALY

Technical Characteristics:

MANUFACTURER CERTIFICATION
ISO9001-ISO13485

CE CERTIFICATE

Supply Voltage	230 Vac - 50/60 Hz
Max absorbed power	80 VA
Fuse	2 x 2 AT for 230V~
Input Co2 pressure	3,0 bar ± 0,5 bar (300 kPa ±50 kPa)
Selectable flow	From 10 ml/min to 150 ml/min
Time of treatment	From 1 to 99 minutes
Indication flow distributed	From 10 ml to 14.850 ml
Size HxWxD	520 x 540 x 250 mm
Weight	6 Kg
Safety Class	I B

G. Trading company declares that the Venusian is a class IIb medical device and conforms with the following directives:

Directive 93/42/EEC, published in the OEUG L169 of 12/07/1993

Directive 2007/47/EC, published in the OEUG L247/21 of 21/09/2007

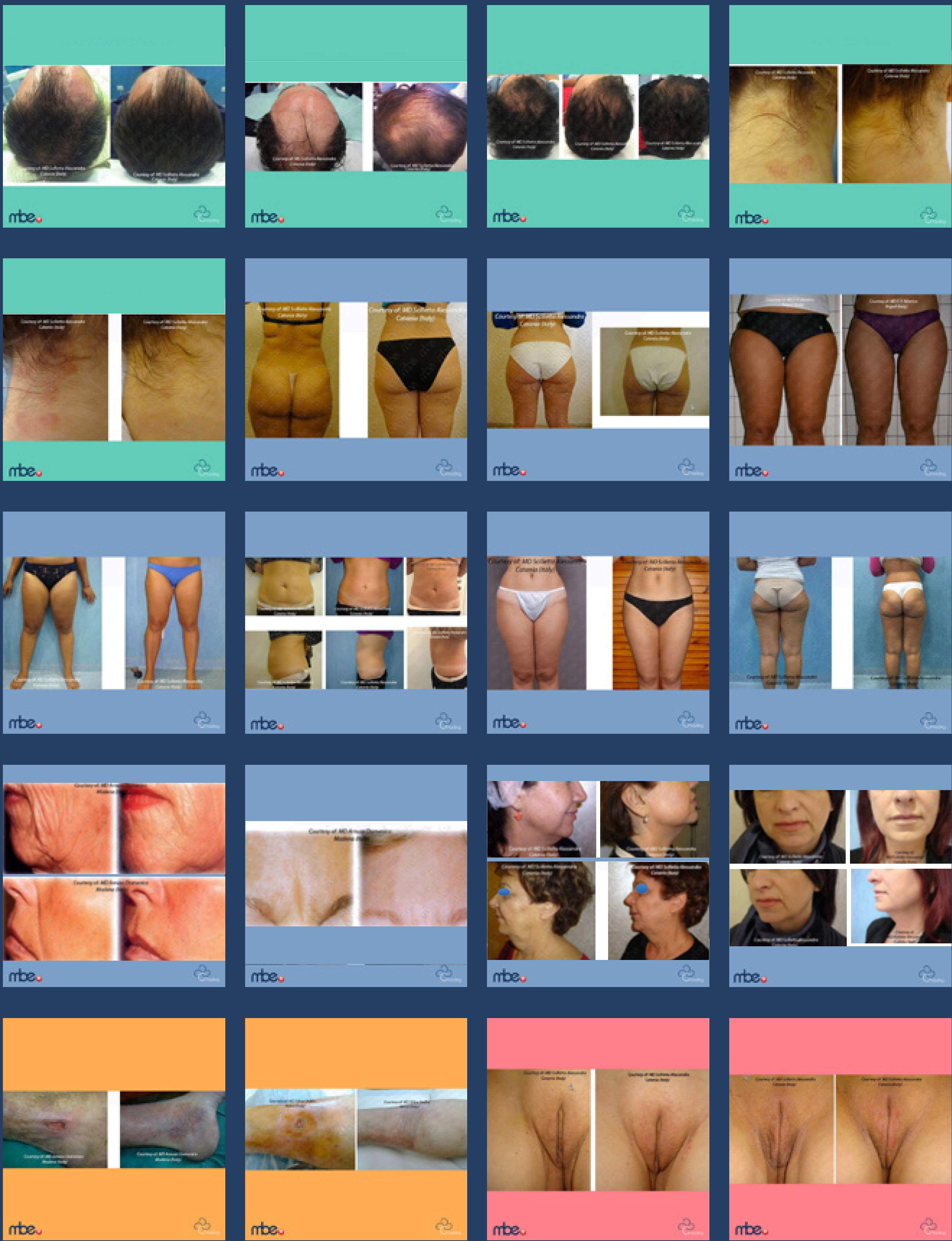
Authorisation form Italian MOH
N. 520941/R

VENUSIAN is supplied with complete video tutorials, including pain management protocols.

Check the White Papers and Clinical Abstracts on VENUSIAN

Frame the QR code with the camera of your smartphone and access the section of the website venusian.it where all the publications are collected.

The results



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