




EMME<sup>®</sup>  
ITALY

RIGENERA<sub>3</sub>  
Radiofrequenza-LED-Softlaser-Vacuum

Combined action  
for extraordinary results  
on face and body



# What is **Rigenera<sup>3</sup>**

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Rigenera<sup>3</sup> is the result of an accurate experimental work carried out by our Research & Development department and today it represents the achievement of an important goal: to **combine different aesthetic technologies in one single device** in order to obtain **better results compared to the use of single technologies**.

In fact, Rigenera<sup>3</sup> is a combined technologies, composed by the synergic work of four different technologies included in one single device: **radiofrequency, softlaser, LED** and **vacuum**.



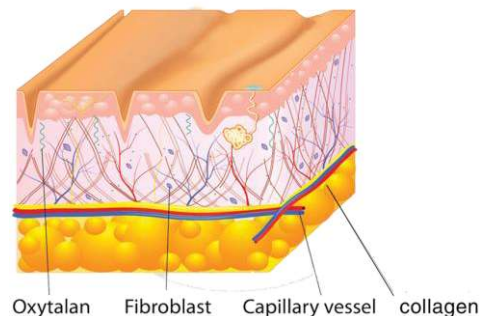
## Radiofrequency

Radiofrequency is based on the **emission of high-frequency electromagnetic waves** and it uses the **heat energy** produced by the tissue when hit by the waves (endodiathermy).

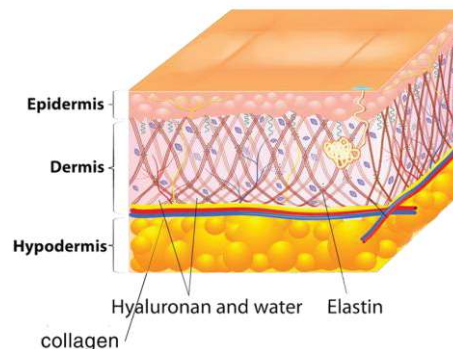
The resistive multipolar RF in the Rigenera<sup>3</sup> technology has a different penetration depth compared to the monopolar capacitive RF. This is an advantage when we talk about skin aging and tissue laxity.

Indeed, the diathermy influences the **collagen fibers** that will become shorter, causing a **tensor effect** in a few sessions and will induce an action in the dermis with subsequent **production of new collagen** (neocollagenogenesis).

### BEFORE



### AFTER

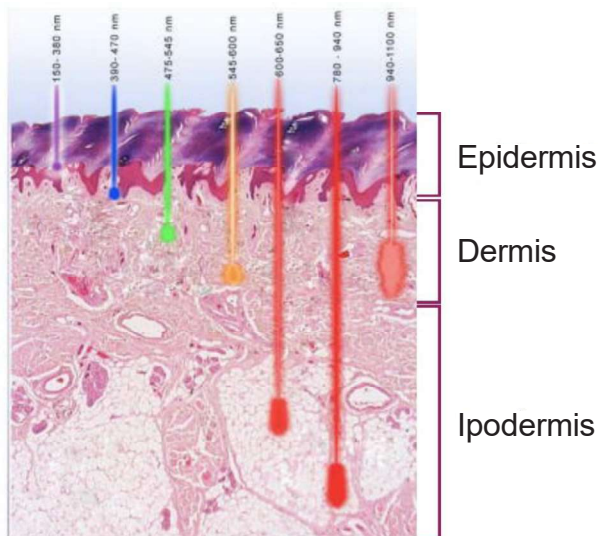


## Red LED

In physics, the visible spectrum is that part of the electromagnetic spectrum between yellow and brown, including all the colours perceivable to the human eye which give life to the phenomenon of light. The wavelength of the **visible light** varies **between 400 and 800 nm**.

The **colour** is the visual perception generated by the nerve signals sent by the retina photoreceptors to the brain, when they absorb electromagnetic radiation of determined wavelength in the so-called visible light spectrum.

Colour	Wavelength interval
RED	700-630 nm
ORANGE	630-590 nm
YELLOW	590-560 nm
GREEN	540-490 nm
BLUE	490-450 nm
VIOLET	450-400 nm



The **LED emission** (acronym for Light Emitting Diode) release **energy at low frequency without thermal effects**. The depth of light penetration increase with increasing wavelength. The penetration of short waves (420 nm) is limited to a rather superficial spread, while greater waves (600-800 nm) enable the light to penetrate deeper, stimulating the tissues of the concerned areas in a better way.

Rigenera<sup>3</sup> LED wavelength is **633 nm**: for this reason, our eye perceives a beam of red visible light, able to stimulate the oxygenation and the vascularization of the tissues.

## Softlaser

Laser is a system capable of emitting an amplified beam of light through the stimulated emission of **electromagnetic radiation** (*Light Amplification by Stimulated Emission of Radiation*). It is characterized by features which are not to be found in any other electromagnetic radiation:

- **Monochromaticity:** the laser has a single wavelength and therefore a single vibration frequency and a single colour, characterized by the active means which produce it;
- **Coherence:** all the emitted photons vibrate in accordance;
- **Directionality:** the radiation comes out of the laser in a single direction and it spreads with a defined angle of divergence;
- **Brightness:** it represents the power emitted per unit area. Any other device could reach such a high intensity even in a space of few microns.

The characteristics of the laser radiations determine the effects on the treated tissues:

- **Frequency:** it defines the power of the laser and also the capability of penetrating in the tissue. A high frequency corresponds to a better penetration of energy;
- **Pulse duration:** the emission of the laser beam may take place in two ways:
  - continuous: the radiations are emitted by the laser without pauses between the pulses;
  - pulsed: blinking action;
- **Average power (Ap):** it is a variable that depends on the size, the duration and the pulse frequency;
- **Peak power:** it represents the maximum power achievable by a single laser pulse;
- **Irradiation dose** (energy density): the most important parameter for low-power laser. The irradiation dose represents the amount of energy absorbed by the tissue.

## Vacuum

Also called **endodermic massage**, vacuum is a technology with both medical and aesthetic purposes. Similar to Chinese cupping, it uses a vacuuming action (principle of suction) of the interested area to **facilitate veno-lymphatic circulation** and to **reduce skin imperfections, cellulite signs and localized adiposity**.

The dynamic endostimulation is actually a mechanical massage which, as well as favouring the oxygenation of microcirculation, acts also on the drainage of the interstitial fluids.

Vacuum works in two phases:

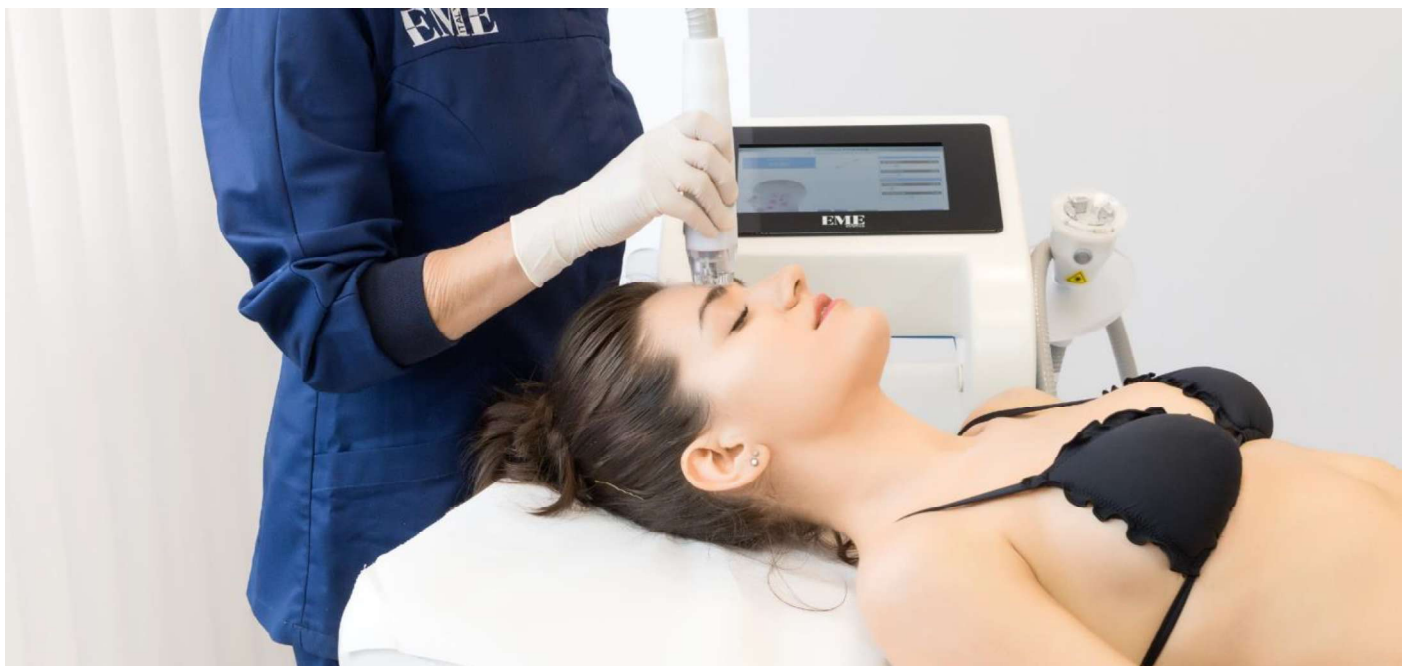
- **Suction phase** (negative phase): it causes an oxygen flow in the interstitial spaces with the consequent increase of cellular energetic fuel (ATP).
- **Release phase** (positive phase): consequent re-oxygenation and circulatory reactivation.

# Biological effects

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The combined action of the technologies just described has significant effects on the treated area, starting with the improvement of the microcirculation, the production of collagen and the synthesis of elastin. In particular:

- The heat spread in the dermis by **radiofrequency**, directed by TPE Control System in a targeted and electronically controlled area, stimulates the activity of fibroblasts to synthesize new collagen and elastin, thus allowing a deep cellular renewal and an immediate lifting effect. Moreover, radiofrequency contributes to considerably improve the microcirculation, favoring the edemas and the tissue swelling reduction.
- The **photobiomodulation**, thanks to the power of the **LED** athermic light, stimulates the cell metabolism, inducing the dermis and the subdermis to increase collagen and elastin production. Photobiomodulation also provides two useful additional effects: the antioxidant effect that counteracts the production of free radicals (responsible for the aging process) and the anti-inflammatory effect, which reduces those tissues alteration processes that cause cellulite. Finally, LED stimulates the vascularization and so the oxygenation of the treated tissues.
- The **softlaser** has a biostimulant effect, contributing to the improving of metabolic and cell respiration processes. The softlaser stimulates the connective tissue and the microcirculation with a considerable improvement on capillaries of face and body. The activation of microcirculation reduces water retention, eliminates the toxins and helps the smoothing of wrinkles.
- The **vacuum massage** (vacuum pressure) provides a gentle suction of the skin tissue which reactivates the microcirculation, promoting blood and lymphatic circulation. Vacuum stimulates the connective tissue and activates chemical and structural changes, through an endogenous action to obtain a local and exogenous action on tissues and circulation. This causes a draining effect and a reshaping of the body volumes.



# Where it acts on and effects

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Rigenera<sup>3</sup> acts on the tissues with effects of:

- Production of new collagen and elastin (lifting effect)
- Cell renewal
- Edema reduction
- Microcirculation improvement
- Tissues oxygenation
- Biostimulating effect
- Connective tissue stimulation
- Tissue regeneration
- Fibroblasts proliferation
- Enzymatic photo-activation
- Improvement of metabolic and cell respiration processes
- Cell ATP activation
- Veno-lymphatic re-activation
- Draining action
- Volumes shaping

Rigenera<sup>3</sup> effectively acts on the following face and body blemishes:

- Skin laxity
- Cellulite (stages I-III)
- Localized fat
- Stretch marks
- Wrinkles
- Acne scars
- Water retention
- Edema
- Lymphoedema

The treatment can be done in any time of the year, without any particular precautions related to the impairment of the treatment.



# The two probes

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Rigenera<sup>3</sup> two probes, specifically designed to optimize the synergy between the four technologies, allow the treated tissue to have multiple effects in a single treatment.

## Face probe

Its small size (diameter 3 cm) allows a perfect and pleasant treatment of visage, neck and décolleté. The Rigenera<sup>3</sup> face probe takes advantage of the benefits of radiofrequency, vacuum, softlaser and LED red light for the treatment of **wrinkles**, **skin laxity** and **small imperfections**.



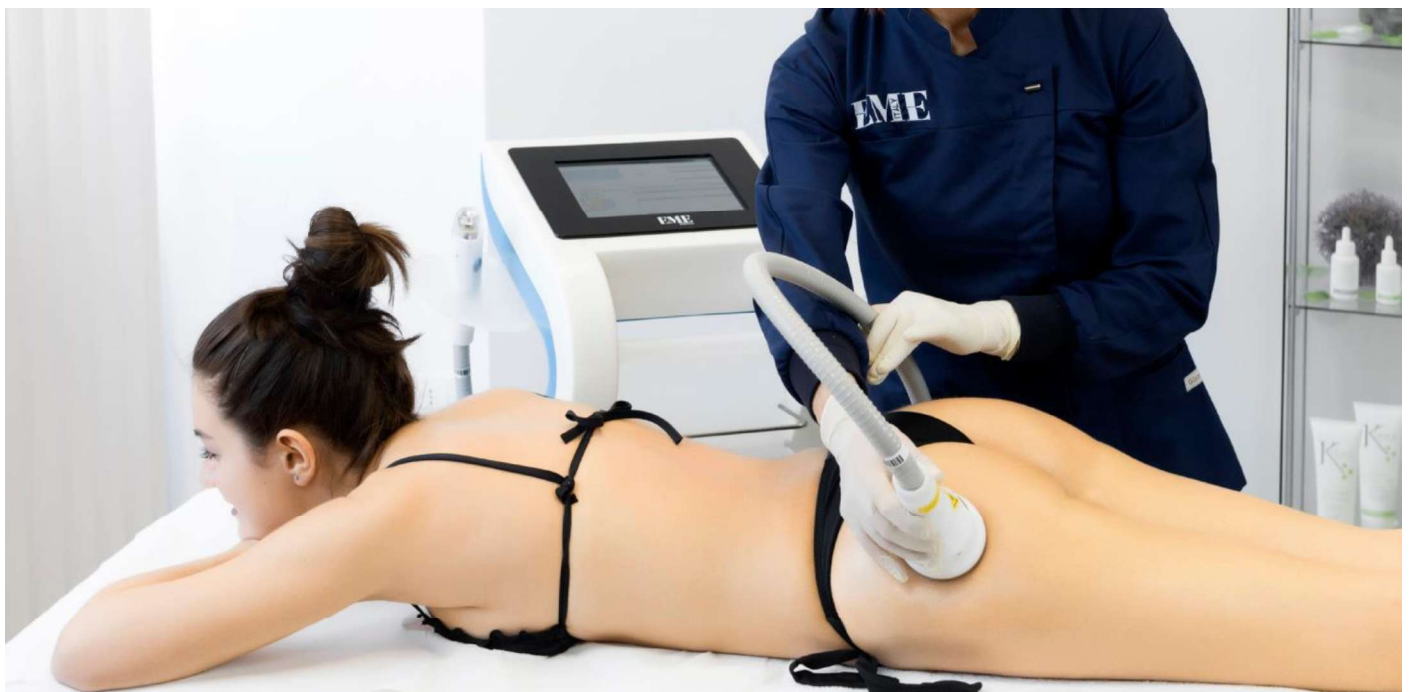
Face probe



Body probe

## Body probe

Its ergonomic and lightweight handpiece is specifically designed to operate on **cellulite**, **body contouring** and **localized swelling**. The Rigenera<sup>3</sup> body probe allows sweet and localized treatments, through the remodeling action of the radiofrequency, vacuum, softlaser and LED red light.



# General rules of application

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In case of **body treatment**, to facilitate the tissue oxygenation, it is advisable to execute a **complete scrub** a few days before the treatment with Rigenera<sup>3</sup>.

In case of **face treatments**, it is advisable to execute a **face cleansing** treatment and two **skin hydration** treatments, without using abrasive products a few days before the treatment with Rigenera<sup>3</sup>.

The **duration of the treatment** varies depending on the area to be treated, to which it must be added the time dedicated to the skin preparation before the treatment.

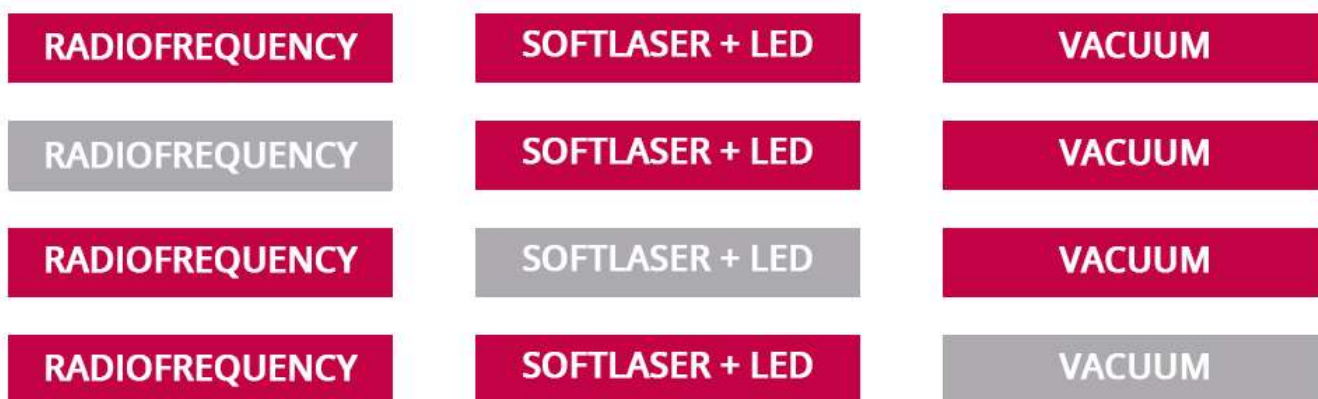
In general, for face treatments the duration is about 20-25 minutes, while for body treatments the duration extends up to 30-40 minutes.

After the treatment the patient can go back immediately to his normal daily activities. The patient might experience a slight redness which will disappear in a few hours.

The results appear from the first treatment. The first effects are immediate and have a progressive trend in the following weeks.

Rigenera<sup>3</sup> can work in **combined mode**, by activating simultaneously the technologies inserted in the device, or in **stand-alone mode**, by using a single technology at a time.

In case of combined mode work, the possible combinations are:



To carry out a treatment with Rigenera<sup>3</sup>, it is possible to use the **guided procedure**, thanks to preset protocols, or the **free procedure**: in both cases, the operator can modify the treatment parameters according to the area to be treated.

Rigenera<sup>3</sup> has a new **high-resolution software developed in 3D**, thanks to which it is possible to associate each pre-set treatment with short tutorial videos, that show the right movements to be performed for each treatment on various areas of the body and face.

# Advantages

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Rigenera<sup>3</sup> treats cellulite reducing the orange peel skin, it reshapes the body, it reactivates tissue metabolism - increasing microcirculation and oxygenation -, it tones up the tissues fighting skin laxity and it gives a lifting effect to face and décolleté from the first session.

In particular, **multipolar radiofrequency**, in synergy with **vacuum massage**, leads to the heating of subcutaneous tissue and causes a denaturation of the collagen fibres and a stimulation of fibroblasts activity; fibrosis ties, skin and fat layer are manipulated for an effective elimination of toxins, improving also blood perfusion and increasing venous flow.

**LED** and **softlaser** provide energy to the tissue, triggering the photobiostimulation process and the enzymatic photoactivation as a result.

With this combined usage, it is possible to obtain great results, with subsequent elimination of waste and decrease of volumes and circumferences.

## Case study

### Patient data

Sex: F

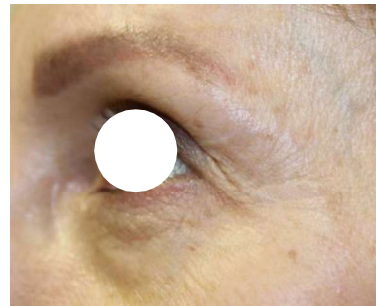
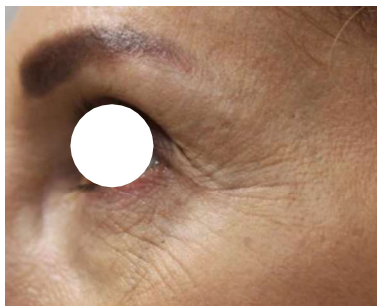
Treated areas: Face

Age: 47 years old

Protocol: free procedure

BEFORE

AFTER



# Before and after

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Before



After 2 treatments



Before



After 4 treatments

# Contraindications

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The treatment with Rigenera<sup>3</sup> is contraindicated in case of:

- Pregnancy
- Patients with Pace maker
- Prosthesis, metal or piercing in the area to be treated
- Use of vaso constrictive drugs
- Decompensated diabetes
- Varicose veins
- Capillary fragility or teleangectasia
- Autoimmune diseases
- Scleroderma

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