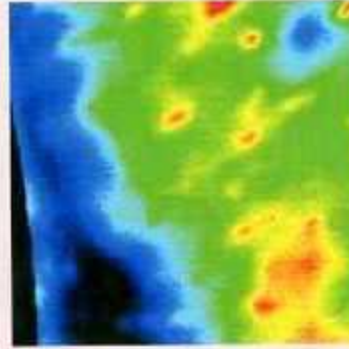
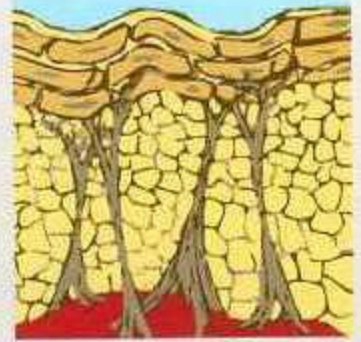
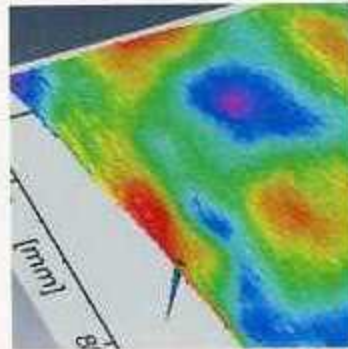


# CELLULITE

Pathophysiology and Treatment

**Second Edition**



**informa**  
healthcare

Edited by  
**Mitchel P. Goldman**  
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## **Biodermogenesi®**

This new Italian method is aimed to care for the alterations of the skin structure characterised by fibrosis and reduction of the microcirculation (Fig. 20.4).

This new methodology presents four phases of treatment. In the first phase a very superficial mechanical peeling is done to stimulate a mechanical activation of the micro-circulation of the skin, with the second phase using electric power to bring nutrition to the tissue and cells using the active ingredients as precursors of elastic and collagen. In the third phase, by the magnetic field, we bring the blood moderately to the surface and we contemporaneously favour a cellular mitosis, particularly to the fibrose tissues. In the fourth phase we activate a lymphatic drainage to reabsorb toxins and water produced with the driven mitosis, at the same time we restore the normal pH and hydro-lipid film of the skin.

The third phase of this treatment is, with no doubt, the most important one. The situation created from the continuous and repetitive ionic migration, guaranteed by the higher activity driven from sodium and potassium, realises a good cellular nutrition and a toxin elimination. Thanks to the attrition generated by the moving ions and to the better blood flux, with consequential increasing of the oxygenation of the treated area, we can improve the tissular temperature of 2–3 degrees centigrade favoring tissue regeneration by an increase of the cellular mitosis by 300%, thanks also to the flux of blood and oxygen.



Figure 20.4 This instrument contains two probes for use of magnetic fields.

This instrument produces energy with a variable and constant intensity of frequency, measuring through the feedback, the quantity of energy that can be actually efficacious.

This exclusive stimulation interacts with the sodium and potassium pumping, which are real biological vehicles able to transport inside the cellular membrane all precursors for intracutaneous nutrition. This synergy permits the derma to expand, encouraging a progressive renovation of the capillary calibre (Fig. 20.5).

Clinical studies and biopsies enable us to see the change of the skin structure about extracellular matrix and collagen tissue. We can see also an interesting increase of reticular layer demonstrating a new metabolism of the skin thanks to the better microcirculation [16,17] (Figs. 20.6 and 20.7).



Figure 20.5 Two probes provide magnetic fields to increase temperature and microcirculation.

The regenerative process of the Biodermogenesi™ is determined with the production of collagen and elastic fibers in order to permit a stability of the obtained result. The elastic collagen starts to take its specific action inside the skin which gives the correct support that permits the blood supply of capillary and reactivates the fibroblast (Figs. 20.8 and 20.9).

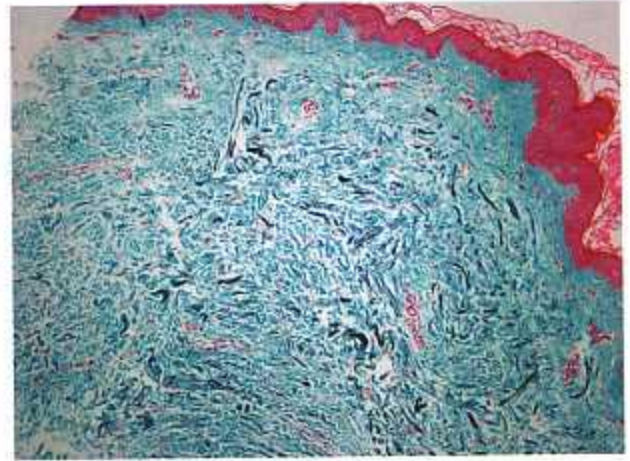
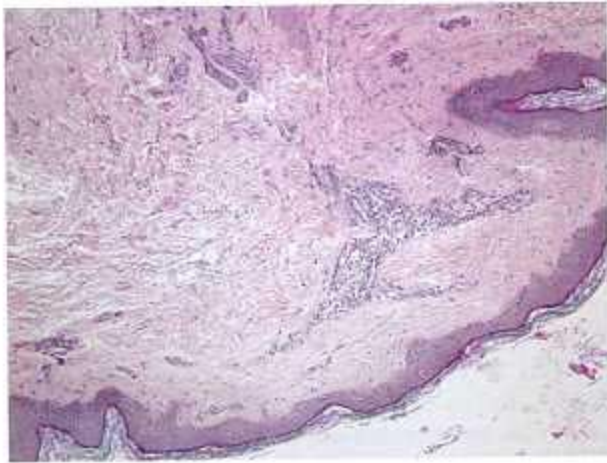
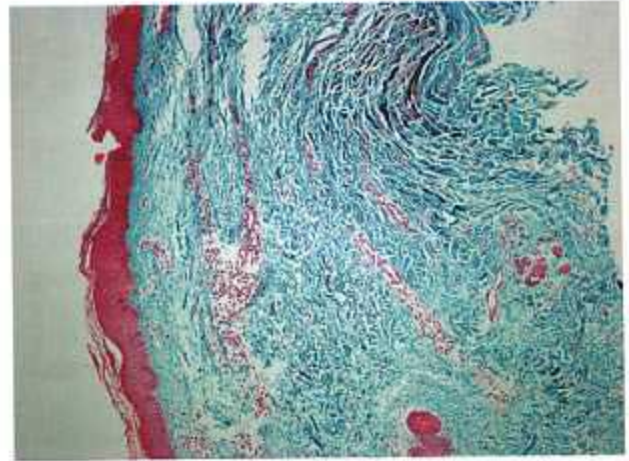
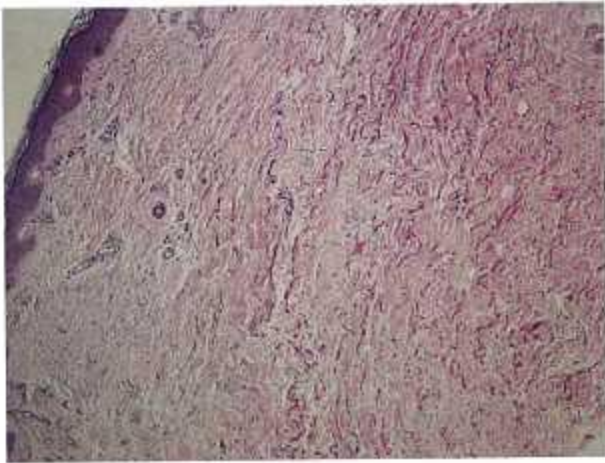
The reactivation of cell production, a superior vascularisation and restart of the lymphatic circulation system are able to guarantee a superior hydration of the tissue that has a much more compact and turgid look. Using this strategy in the difficult area, as an internal face of the thigh of a young girl with stretch marks and cellulitis, we can have a real improvement of the visibility of the red marks with reduction of the scars and the orange peel skin at the same time.

Biodermogenesi is a revolutionary method for cellulitis because it uses a sophisticated device emitting radiofrequencies and magnetic fields together, providing us with the possibility of reducing the cellulitic nodules without causing damage to the vascular structure, muscles, bones and internal organs. The adipose cellulites which are effected by this treatment deflate with liberating lipids and triglycerides which then will be eliminated physiologically from the organism, but above all liberate the energy.

Here is the innovation: this energy is used from the other handful of magnetic fields which is used at the same moment and has the capacity to restore the tissue, avoiding breakdown and treating the orange peel skin.

Each Biodermogenesi session is about 40 minutes for 10-20 cycles of a treatment (Fig. 20.10).

The new method takes the advantage of uniting the magnetic fields and shock waves in a way to induce a progressive reduction of the adipose tissue and progressive repair of the tissue with the



*Figures 20.6-7* These biopsies, before and after, show the improvement of the skin with fibrose cellulite and stretch marks only using the Biodermogenesi, we can see the increase of reticular fibers after treatments.

*Figures 20.8-9* These biopsies, before and after, show the improvement of the same are with the reduction of pericapillar flogosis, an improvement of reticular dermal layer and regularisation of the collagen.



*Figure 20.10* The application of Biodermogenesi.

cellulite. For the first time a method of work is studied that on the same device is reacting on two levels contemporaneously using the energies that are compatible biologically, first fighting against adiposity for reduction then transforming part of the same adipose tissue in to an energy which is necessary for the repair of the skin with the cellulite.

The utilisation of this method will become a must in the treatment of all kinds of cellulite, for different reasons classified in four clinical groups, each of them needs a different personalised treatment.

### Dermoelectroporation and Biodermogenesisi

We cannot have miracles, and this integrated protocol does not substitute liposculpture but it can be a good integration of the surgical moment and an interesting solution for non-surgical patients.

The experience of using the two combined therapies gave very interesting results on more than 100 treated patients, 30 patients done with the single handful confirmed the positive results especially those who followed a complete combined treatment.

There are several stages in attaining this end:

1. Traction of the strings, lymphatic drainage and vascularization performed with Endermologie®.
2. Skin smoothing performed by very superficial microdermabrasion with corundum powder crystals (Ultrapeel Transderm® by Mattioli Engineering).
3. Electric and pharmacological stimulation, using the dermoelectroporation treatment with Transderm®.
4. After that we can apply a session of Biodermogenesisi (by Expo Italia®) to improve the cellular activity and adipose metabolism using magnetic field.

The treatment is usually performed once or twice a week for 10–15 times, and then a maintenance treatment every 21 days.

Certainly, DermoElectroPoration and Biodermogenesisi are not the panacea for cellulite but it is an interesting integrated and non-invasive treatment, as a valid weapon for the treatment of the adipose and fibrose cellulite in the difficult areas, as posterior area of the thigh, buttock and for painful cellulite [22–24].

Surely, however, it represents a new frontier in the knowledge of the physiopathology and in the treatment of that great world of the "interstitial matrix" and it certainly represents an open window in the future.

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