

Mezoforte® Multi Laser

Multifunctional device

Synergetic methods of intaking active ingredients





Inspiration

“My respect for thoughtful cosmeticians and the years I have spent in aesthetic dermatology inspire me to think about newer and newer therapeutic devices which make the treatments performed by the professionals safer and more efficient.



For this reason, I have been studying the results of electrophysiological and dermato-pharmacological research, consulting with our engineers so that our company could put the latest developments on the table of beauticians as soon as possible.

It seemed obvious that the successful solutions of intaking active ingredients in the last fifteen years of the Dr Derm Equipment®, combined with the latest methods, should embody in one single multifunctional device.

Now a blend, alloying our most sophisticated technologies and most popular methods have been completed. It is not simply a collection. It is real synergy.

*Gábor Varju MD
The founder and owner of Dr Derm Equipment*

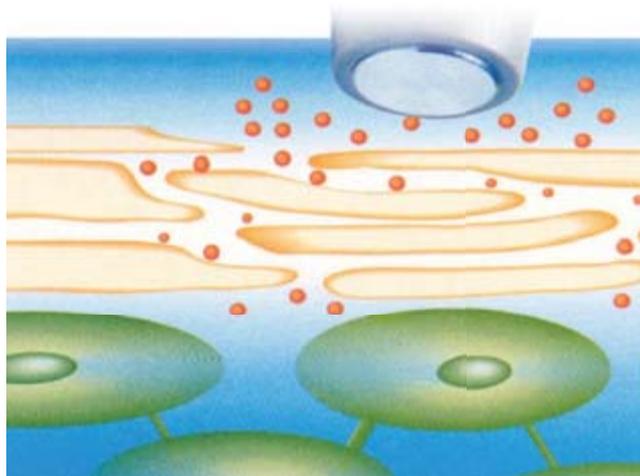
Intaking of active ingredients by ultrasound

Since 1994, Dr Derm Equipment® has introduced several novelties in the fields of electrocosmetics, and within that, the intaking of active ingredients.

It is an imperishable merit of the Company that over a thousand cosmetic businesses in Hungary have obtained at least one of the sonoderm® ultrasound devices equipped with the most up-to-date technical achievements which does not only guarantee the ultrasound doses but, owing to the innovative CDM® contact checking automatics, it also indicates if the treatment material is not suitable for ultrasonic treatment.

During the ultrasonic treatment, the bonds which fasten the cells of the horny layer loosen up, and, in addition, other physicochemical effects of the ultrasound also facilitate the penetration of the active ingredient.

The modulated ultrasound waves used by Dr Derm® are able to prevent the epidermis from excessive heating, thus the treatment is not accompanied by any unpleasant sensation.

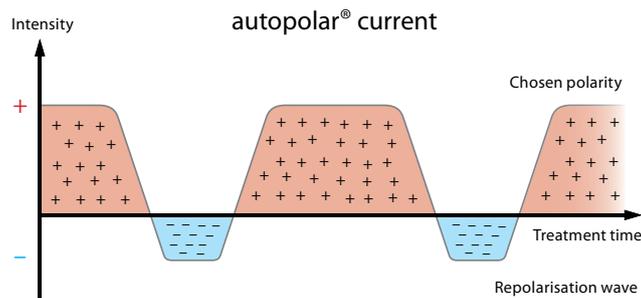


Iontophoresis – in a different way

The charging of the skin upon the effect of electricity, and thus the ion shift reducing the efficiency of iontophoresis, is inhibited by autopolar® automatics, another innovation of DrDerm®, which is now mentioned in the textbooks of electrocosmetics.

The method, which has seemed to be more comfortable and effective compared to traditional treatment by galvanic current is now regarded as the best solution as far as water soluble, ionically dissociating active ingredients are concerned.

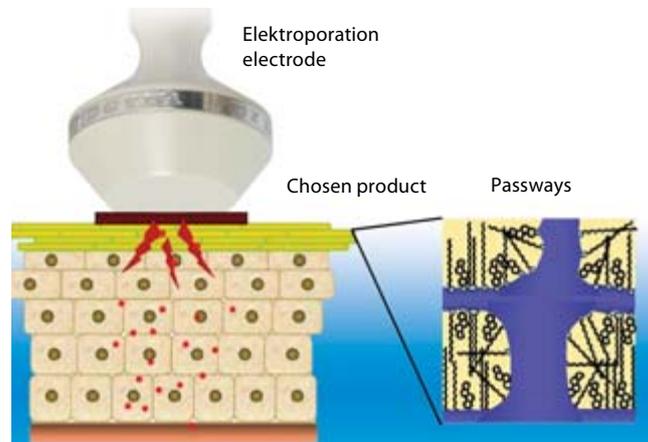
A modified direct current type is used during the treatment, the polarity of which is altered for a short time at regular intervals, thus restoring the shifted ionic balance.



Owing to the autopolar® current form, all side effects of the galvanic current traditionally used for iontophoresis (reddening of the skin, itching, unpleasant perception of the current, pH shift, and ionic shift which reduces the penetration of active ingredients) can be avoided.

Electroporation

Electroporation was first used in medical praxis, primarily in the field of research of active ingredients. The method, also known as needleless mesotherapy, also appeared in the cosmetic businesses later on. According to forecasts of Dr Derm Equipment®, the method will reform the electrocosmetics of the 21st century as did the ultrasound in the middle of the 1990s. All devices in the Mezoforte® product family introduced by Dr Derm Equipment® in 2008 offer the opportunity of needleless mesotherapy treatment based on electroporation.



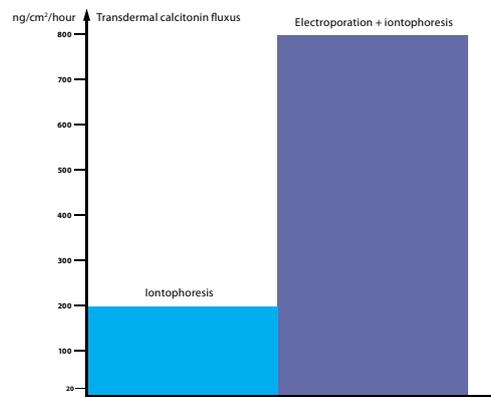
The static charging of the lipid barrier, which occurs upon the effect of electromagnetics, results in the formation of real channels for the active ingredients. Having thus overcome the resistance of the protective layer of the epidermis, now we can intake larger molecules than before, while the depth of penetration also increases.

Electroporation + iontophoresis

A study into the possible synergetic effect of iontophoresis and electroporation established that the use of electrophoresis can multiply the efficiency of iontophoresis.

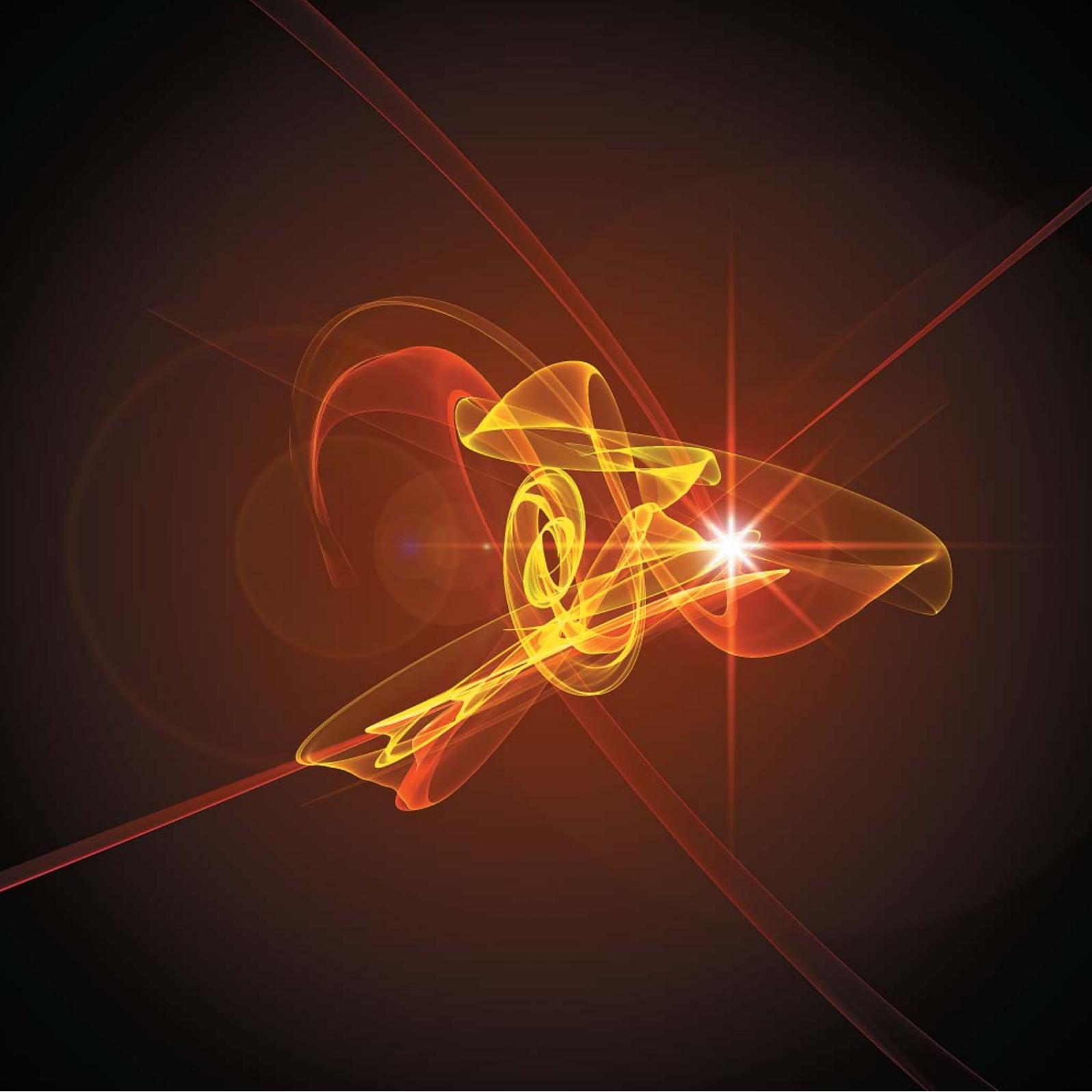
Studies using LHRH hormone proved that the electroporation current impulse given prior to the iontophoresis treatment increased the quantity of the substance intaken via iontophoresis by 5-10 times.

As an effect of electroporation, the galvanic resistance of the skin reduces, as well as the size-selectivity of the barrier, and thus larger molecules can be conveyed into deeper layers of the skin, using iontophoresis with lower amperage.



The transdermal intake of calcitonin has also been studied. It was established that the combination of electroporation and iontophoresis is four times more efficient than iontophoresis used on its own. Presumably, iontophoresis can take in the active ingredient easier through the channels formed newly during the use of the combined method.

References: Synergistic Effect of Enhancers for Transdermal Drug Delivery (Mitragotri et al., Pharmaceutical Research Vol.17, No.11.)



Soft laser

It was half a century ago that the favourable effects of low-output lasers on the human organism was discovered in Hungary by Prof. Mester. Soft also known as 'cold' laser has proved its qualities in numerous areas from dermatological wound treatments through dental and gynaecological applications to laser acupuncture. The renewal cycle of the cells shortens as an effect of the coherent light beam. This results in faster replacement of damaged cell groups or cell layers, be it either a lesion caused by a skin disease or a skin injury (mechanically or chemically peeled skin surface) caused during a cosmetic treatment. The "laser-ultrasonic handpiece" introduced by Dr Derm in 2005 is excellent for the fast regeneration of the skin surface injured during the microdermabrasion treatment.

The high quantity of energy conveyed by the laser evokes an increase in the ATP level. The increase of the energy-storing blend of the cell increases the energy reserves of the treated tissue, and thus the energy-consuming processes of cell renewal and protection may work unobstructed.

The procession of recovery, epithelium formation from day to day visibly accelerates even in wound surfaces which proved to be non-reacting, therapy-resistant areas before.

The oedema- and inflammation-reducing effects manifest in the disappearing of skin tightness and decreasing of redness.

The endogenic pain-relieving effect does not only improve the sensation of comfort but also supports the psychological factors of wound healing (through the increase of the endorphin level).

Radiofrequency treatment

The radiofrequency treating handpiece of Dr Derm® conveys the energy into the skin free of pain, and heats the dermis and subcutis evenly, while the skin surface is heated to a minor extent only. The heat generated due to the natural tissue resistance increases the consumption of oxygen inside the cells, and facilitates the operation of fibroblasts in the long run.

A phenomenon called “shrinking” occurs in the area of the elastic and collagen fibres, which results in a clearly visible tightening. This is the explanation of the result of the radiofrequency treatment which is immediately visible for the clients as well.

Owing to the bipolar design, the treatment does not affect the fatty tissue of the face that provides the cushion support to the skin. The slimming effect of the (mono- or) unipolar devices on the fatty tissue, which causes a volume loss of the face, is unknown in connection with the radiofrequency facial treatments of Dr Derm®.

An innovative solution is the continuously controlled temperature of the surface of treating handpiece, owing to which the device controls the radiofrequency output moment to moment. The Computerized Temperature Control of Radiofrequency (CTC^{RF}) protects the horny layer from overheating, thus it is basically different from those devices that cannot control the temperature.

Cryotherapy

Following the radiofrequency treatment of the face, the cooling effect mediated by the CryoTyte^{RF}® treating handpiece blocks the superfluous lateral and inward spreading of the residual heat in the heated tissues.

Certain neuroimmunological effects of the CryoTyte^{RF}® handpiece such as reducing the irritability of free nerve endings, elevating the pain threshold, and immediate liberating of endorphins offer useful advantages (reducing of itching and pain) to the cosmetic praxis as well.

The CryoTyte^{RF}® handpiece reduces the reddening of the skin, and restores the increased metabolic activity (caused by the thermal effects of radiofrequency) in the superficial layers of the skin.



Mezoforte® Multi Laser

In addition to electroporation, which produces real pathways for the active ingredients, the Mezoforte® Multi Laser device offers the opportunity to apply the ultrasound, iontophoresis, the soft laser, the bipolar radiofrequency, and cryotherapy.

Owing to the innovative design of the new *iMeso*® treating handpiece, electroporation and iontophoresis can be performed together.

The combined usage of the most recent methods of intaking of active ingredients surpasses the possibilities offered by simpler devices which provide one technology only. The wider range of active ingredients required by the skin, really gets into deeper layers of the skin, according to the diagnosis and treatment plan established by the professional.

The laser output energy below 1000 mW, which can be applied by cosmeticians as well, are excellent means of biological cell stimulation. Through the replenishing of the energy stores, and owing to accelerated metabolism, it copes with the shortage states of the skin faster.

The skin tightening effect of bipolar radiofrequency is immediately perceivable for the patient, as it offers both eye-catching and long-term results. The sparing heating of the deep layers has a beneficial effect on collagen production.

Cryotherapy does not only reduce erythema and increases the sensation of comfort. Its cell metabolism regulating and neuroimmunological effects make it really special.

The user-friendly controls of the device, the pre-programmed parameters and the treatment plans developed by our trainers help you to make profit without difficulty from tomorrow already!



Technical data

Mezoforte® Multi *Laser*

Supply voltage: 230 V, 50/60 Hz
Operation temperature: +10 °C – +35 °C
Dimensions: 380 x 340 x 180 mm
Weight: 8 kg

Handpieces:

iMeso®

Technology: electroporation + iontophoresis
with autopolar® current form
Patient protection: iontosoft automatics
Diameter: Ø 35 mm

Ultrasound

Technology: piezoelectric crystal
Patient protection: CDM® automatics
Diameter: Ø 20 mm
Operation frequency: ≈1 MHz
Output: max. 1 W/cm²

Laser

Technology: LASER LED
Patient protection: CDM® automatics
Diameter: Ø 35 mm
Wavelength: 685 nm, 852 nm
Output: <1000 mW

RF face

Technology: bipolar radiofrequency
Patient protection: CTC^{RF} automatics
Diameter: Ø 20 mm
Operation frequency: 0,8 MHz
Treating surface: ceramic

CryoTyte^{RF}®

Technology: ventilated Peltier
Diameter: Ø 32 mm

CE 1011

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