

D.E.P. System

mattioli engineering

DEP (DermoElectroPoration® System) is the new Non Invasive, Stand alone powered drug-delivery system carrying DermoElectroporation® Technology to deliver Ionic drug solution into the body for medical purposes. As result of more than five years researches, Mattioli DermoElectroporation®, technology is consolidated to be an incredible procedure that allows the transdermal delivery of whatever substance operators want, which are otherwise not absorbed into the skin because of the typology and dimension of their own molecules. DermoElectroporation® infact, increases the skin's permeability just using some skin's water based channels **opened by a particular controlled current delivered to the patient and allowing the substances to absobed till hypodermis and muscle membranes.**

The system has been FDA approved for the *"local administration of ionic drug solutions into the body for medical purposes and can be used as an alternative to injections"*.

DEP SYSTEM IS MADE OF THE FOLLOWING DEVICES:

- Power supply and control base
- DEP Transdermal delivery handpiece with
- Super Precision Liquid Dispenser - Super PLD.

Macromolecules (such as Hyaluronic Acid) previously not transdermally deliverable by traditional lonthophoresis are now successfully deliverable due to the new DermoElectroporation® Technology.

DEP SYSTEM FEATURES:

- Homogeneous drug delivered on the selected area
- Real time control on the amount of drug to delivered
- Real time patient's skin impedance measurement for successful drug delivery
- Drug administration in a timely manner to avoid waste of product with 100% protection against external agents
- No Electrolysis effect – No drug PH modification
- No need of Pre-charged compounds / Carrying Gels / specific products or particular preparations

DEP System ensures speed of action, easier regulation of either current delivery and vibration and monitors skin impedance on real time to give users the final results they expect. The new revolutionary handpiece allows users to see and manage at best the delivery with no waste of product and getting optimal results.

Operators will enjoy the accuracy provided by the **DEP System** Handpiece for any skin condition and for any length of treatment.

Patients will enjoy treatments with **DEP System** due to the very high comfortable sessions. Vibration feature makes electrical pulses delivery perception to decrease significantly and the handpice won't allow undesired spilling of product.



Easy to use.

FDA cleared as alternative to injections.

New Internationally Patented proprietary DermoElectroporation® Technology.

Non invasive.

Current delivery perception protected.

Control on homogeneous drug delivery.

100% drug protection against external agents.

Real time skin impedance measurement feature.

Real time transdermal delivery monitoring.

Control on either amount of drug to be delivered and time of treatment.

Capability of Transdermal Delivery of ionic drug solution of macromolecules (greater than 800.000 Dalton!).

Users don't need to change their sexisting protocols.

Some applications

- Hyperhidrosys
- Skin Rejuvenation treatments
- Wrinkles treatments
- Pre laser treatments
- Pre and post plastic surgery sessions
- Skin Whitening treatments
- Steroids applications
- Aesthetic applications
- Replacing injections for Mesotherapy applications and many others

Some deliverable drugs

- Type A Botulinum Toxine
- Phosphatidylcoline
- Hyaluronic Acid
- Aminophylline
- Grow Factors
- Amino Acids
- L-Carnitine
- Lidocaine
- Heparine
- Collagen
- Vitamins
- Steroids
- Elastine
- and many others



Benefit to patients

- Astonishing results
- Comfortable treatment sessions
- No irritations, burnings or inflammations for return electrode placement
- No trauma from injections

DATA SHEET

D.E.P. System

TECHNICAL SPECIFICATIONS

POWER SUPPLY: 9 V DC, 1A max, external

AVERAGE PULSE CURRENT:

+/-1 mA, 2 mA, 3 mA, 4 mA, 5 mA, user selectable, $\pm$ 20%

LOAD IMPEDANCE: 0 -15 KOhm

PULSE FREQUENCY: 2200 Hz

BURST TIME: 10 msec.

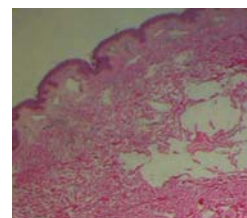
BURST FREQUENCY: 50 Hz.



Before



After



1.700.000 dalton
Hyaluronic acid delivery
through the dermis
to hypodermis using
Transderm[®] Ionto System
(B&A and biopsy
courtesy of Dr. Jaggy Rao,
MD, Univ. of Edmonton,
Alberta, Canada)



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a new science
in skin care[®]

Dermaelectroporation[®]

DERMOELECTROPORATION[®] is a new named and patented proprietary technology of Mattioli Engineering Labs of Florence, Italy. As result of more than five years researches, Mattioli DERMOELECTROPORATION[®], technology is consolidated to be an incredible procedure that allows the transdermal delivery of whatever substance operators want, which are otherwise not absorbed into the skin because of the typology and dimension of their own molecules. DERMOELECTROPORATION[®] in fact, increases the skin's permeability just using some skin's water based channels **opened by a particular controlled current delivered to the patient and allowing the substances to be absorbed till hypodermis and muscle membranes.** DERMOELECTROPORATION[®] allows ionic drug solutions to penetrate down till Hypodermis and it is faster than traditional Iontophoresis. With DERMOELECTROPORATION[®] micro and macro-molecules (greater than 800 Kdalton in size, such as Hyaluronic, Vitamins, Amino acids, Heparin, Antinflammatories etc) are safely delivered into the body without either modification of the ionic drug solutions pH and Electrolysis effect of the ionic solution itself. This was not possible with traditional Iontophoresis systems before.

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