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Clinical Practice Development Program

Presentation of Products and Clinical Training

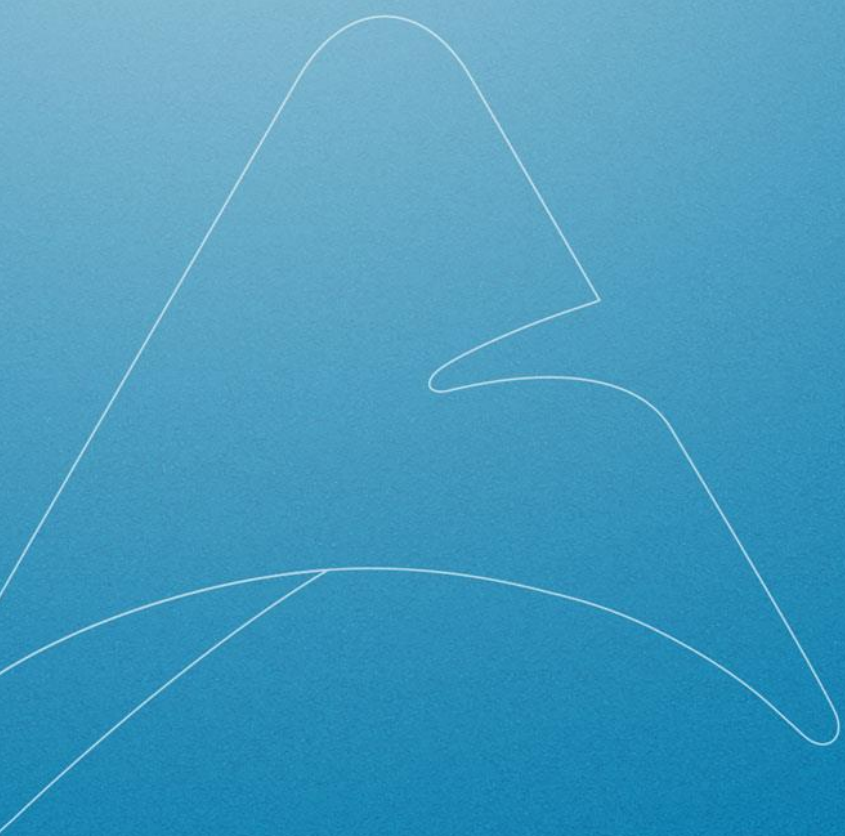
prepared and revised by Antonio Olivatto and Giovana Milani; SEP 2018
ETHEREA-MX_DualMode_Apresentacao_Produto_e_Treinamento_rev5



ethereum^{MX}



ethereum^{MX}

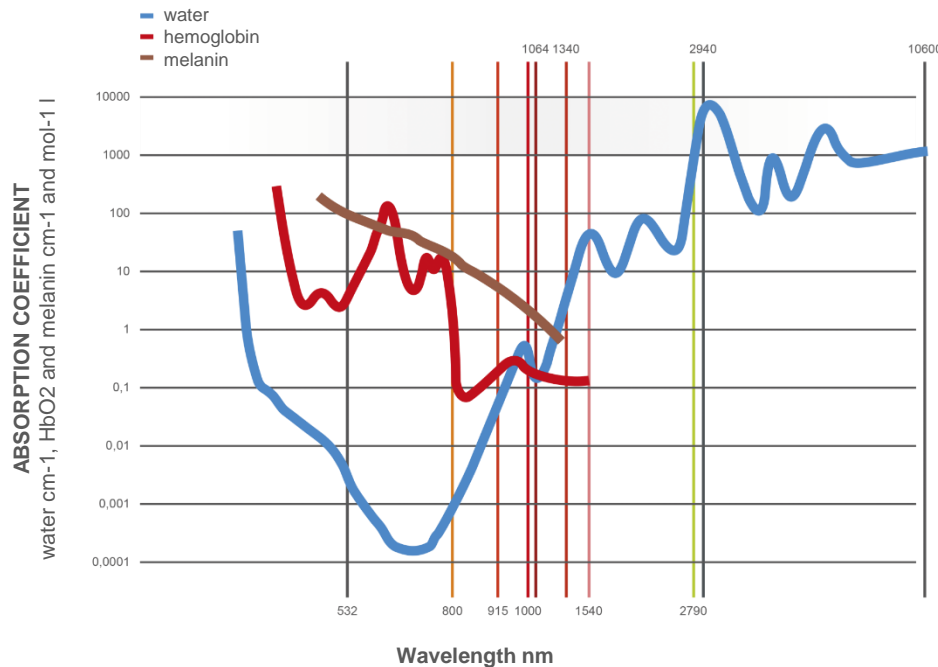


on LASERs and light: **science and technology**

LASER Er:YAG 2,940 nm

target chromophore and absorption curve

DUALMODE



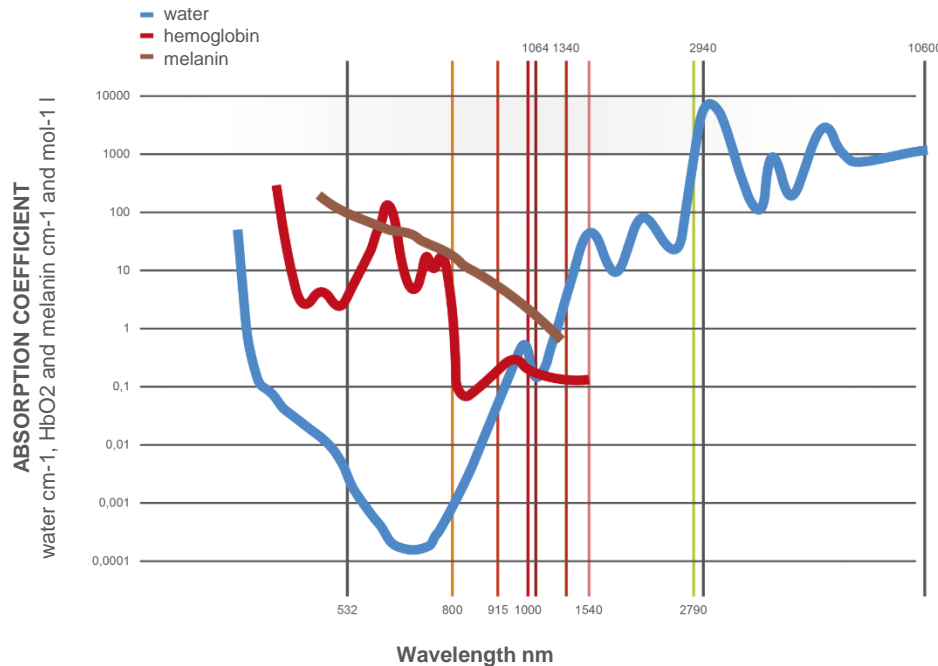
- technology that revolutionized the dermatology field, introduced in 2004 by Mainstein et al *
- works with tissue vaporization (ablation)
- there are 3 wavelengths among the ablative fractional lasers;
 - **2,790 nm** solid-state LASER, Er: YSGG (erbium-doped:yttrium-scandium-gallium-garnet)
 - **2,940 nm** solid state laser Er:YAG (erbium-doped:yttrium-aluminium-garnet)
 - **10,600 nm**: gas LASER, CO₂

*Manstein et al. FRACTIONAL PHOTOTHERMOLYSIS: A NEW CONCEPT FOR CUTANEOUS REMODELING USING MICROSCOPIC PATTERNS OF THERMAL INJURY. *Lasers Surg Med* 2004;34:426-38.

LASER Er:YAG 2,940 nm

target chromophore and absorption curve

DUALMODE



- ratio of **target chromophore and absorption curve** as a function of **wavelength**;
- high affinity for **H₂O**, which induces a **naturally ablative** (vaporization) effect in the tissue;
- Er:YAG features 10 times greater water absorption when compared to the CO₂ LASER;

LASER Er:YAG 2,940 nm

ablation, coagulation and ablation-coagulation

DUALMODE

ABLATION	COAGULATION
complete removal of the epithelial layer through superficial vaporization effect	inflammatory effect in the region, tending to reach deeper layers of tissue
occurs due to the high affinity of the LASER for the water found in the tissue	occurs due to the low affinity of the LASER for the water found in the tissue

LASER Er:YAG 2,940 nm

DUALMODE

ablation, coagulation and ablation-coagulation

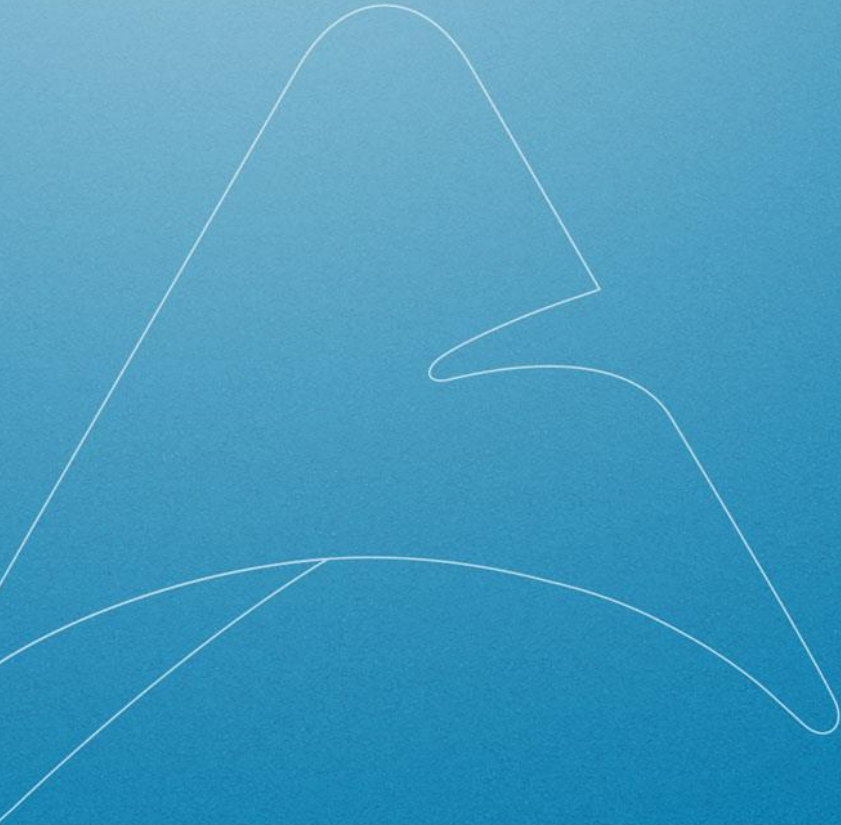
Comparative	ABLATIVE	NON-ABLATIVE
target chromophore	H2O	H2O
chromophore absorption	higher	lower
direct effect	vaporization	coagulation
response time	48-72 hours	24 hours
general advantages	lasting results clear improvement high level of patient satisfaction lower number of sessions	satisfactory treatment extra-face treatment safety reduced erythema downtime higher number of recommendations higher versatility

LASER Er:YAG 2,940 nm

ablation, coagulation and ablation-coagulation

DUALMODE

PROS	CONS
lower number of sessions compared to non-ablative	longer relative recovery time
significant and continued results	prolonged erythema and greater care during the post-treatment
strongly recommended for drug delivery	higher risk of PIH



ETHEREA-MX[®] DualMode[®]: features and technology

ETHEREA-MX[®] DualMode[®]

DUALMODE



- ablative LASER 2,940 nm, Er:YAG;
- works with short and long pulses as well as double pulses (DualMode[®]) to provide more versatility
- spots with automatic recognition
- square applicator – greater uniformity;
- can be associated with various technologies

ETHEREA-MX[®] DualMode[®]

technical characteristics

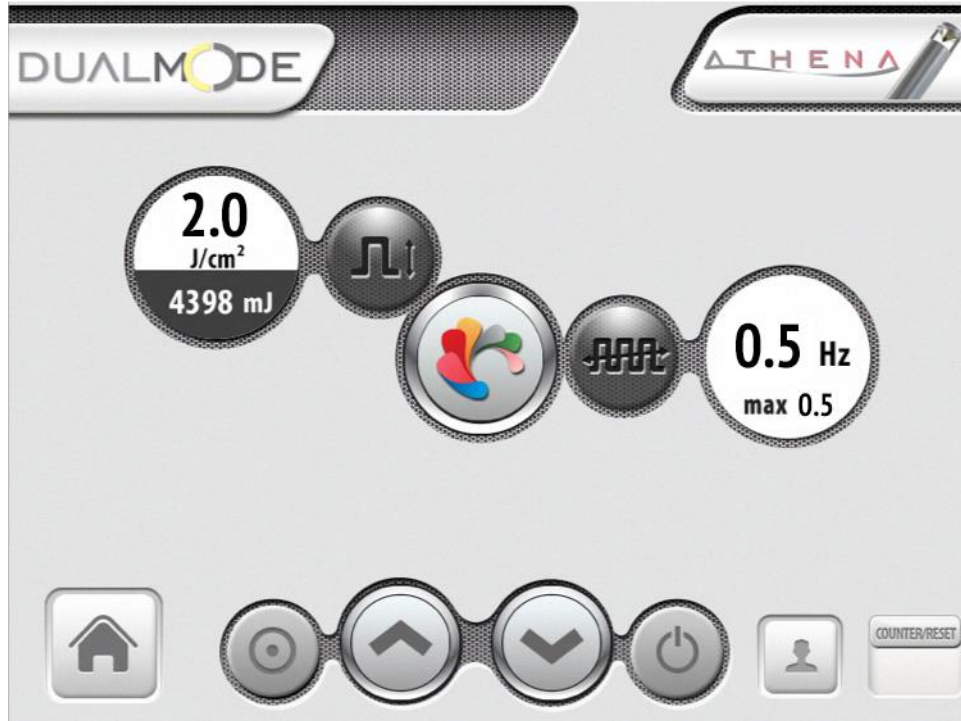
DUALMODE

	DualMode [®]
wavelength	Er:YAG 2,940 nm
pulse time	300 µs at 5 ms 400 ms in smooth pulse
operation frequency	up to 5 Hz
maximum energy	up to 60 mJ/mtz
tips	Ø 8 mm and 100/400 mtz/cm ² Ø 6 mm collimated InLift, intra-oral and lip treatment
optional	Ø 2.5 mm collimated ATHENA 90+ ATHENA 360
	with integrated fume extractor coupler and adapter

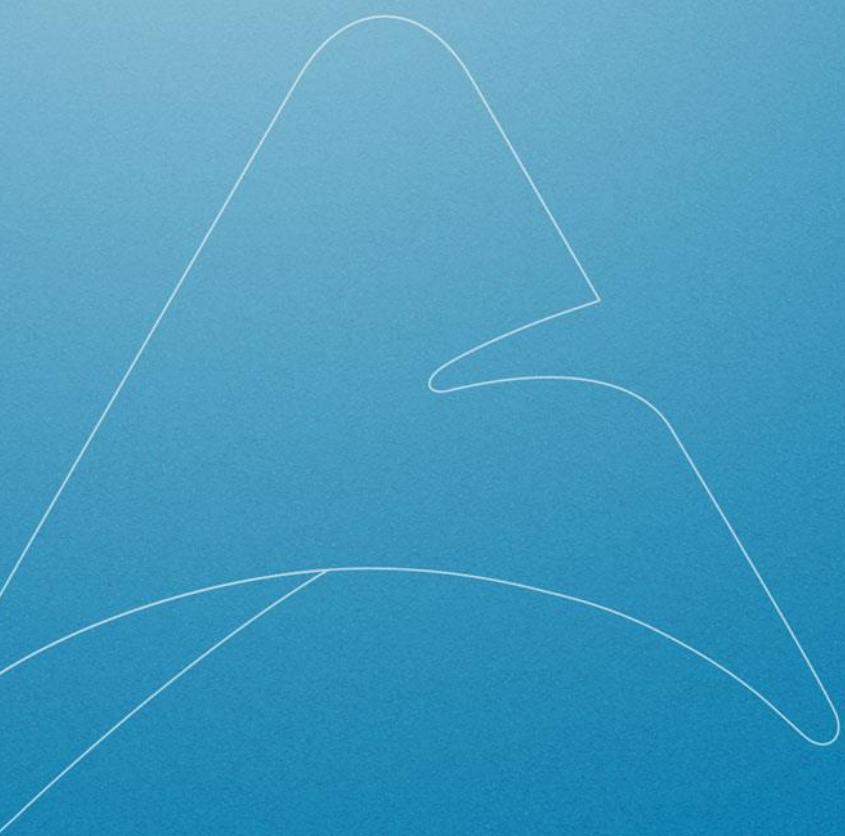
ETHEREA-MX[®] DualMode[®]

parameterization of interface and usability

DUALMODE



- **energy:** up to 60 mJ/mtz, referring to the energy delivered in the treatment area;
- **pulse time:** 0.3 to 5 ms, with single or double pulse (DualMode[®]), or 400 ms for ATHENA and inLift (smooth mode);
- **frequency:** up to 5 Hz;
- **spot size:** fractional or collimated, depending on the recommendation and purpose of the treatment;



ETHEREA-MX[®] DualMode[®]: care and maintenance

ETHEREA-MX[®] DualMode[®]

preventive maintenance and special care

DUALMODE



- **cleaning, disinfection of spot applicators:** apply isopropyl alcohol (preferably) using cotton swabs and/or gauze on the lenses and spacers;
- spacers can be washed with soap and water and/or enzymatic cleaner;
- **inLift** applicator: can be autoclaved or washed with soap and water or enzymatic cleaner
- **clean after each application;**
- **assembly care: 100 mtz/cm² spot lens;**
- pro rata warranty on the tip: 500,000 shots;
- **transport with care, as misalignment could result in ineffective treatment;**

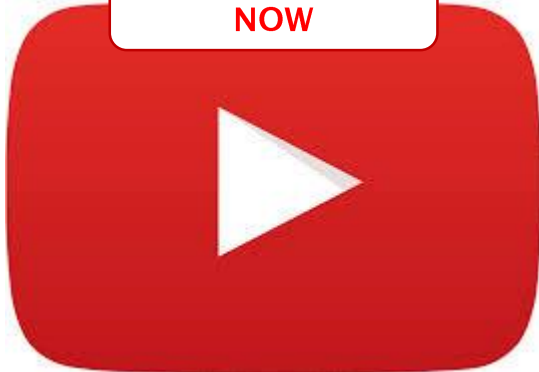
ETHEREA-MX[®] DualMode[®]

preventive maintenance and special care

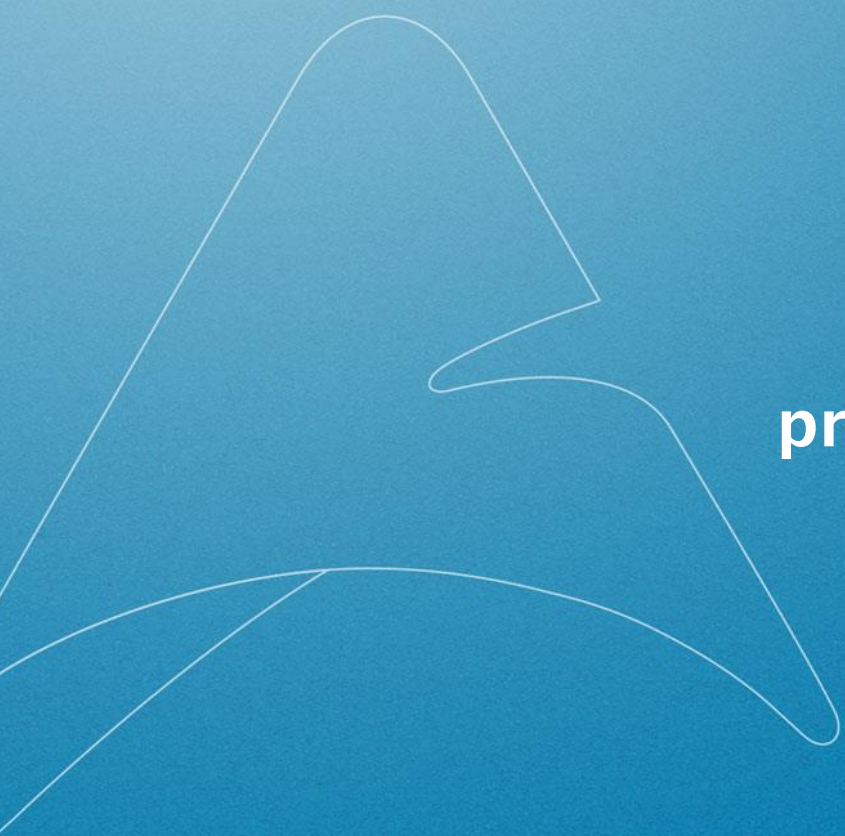
DUALMODE



WATCH IT
NOW



- **learn more about the maintenance procedures for ETHEREA-MX on our YouTube channel;**



**ETHEREA-MX[®] DualMode[®]:
practice and clinical treatment**



RECOMMENDATIONS

- **ablative rejuvenation**, stretch marks, acne scars, surgical scars (older or hypertrophic);
- **LASER peel**: pigmentary lesions, keratoses, acrochordons, syringomas
- drug delivery;
- intra-oral and lip treatment;
- association with other treatments or technologies;

LASER Er:YAG 2,940 nm

ablation, coagulation and ablation-coagulation

DUALMODE

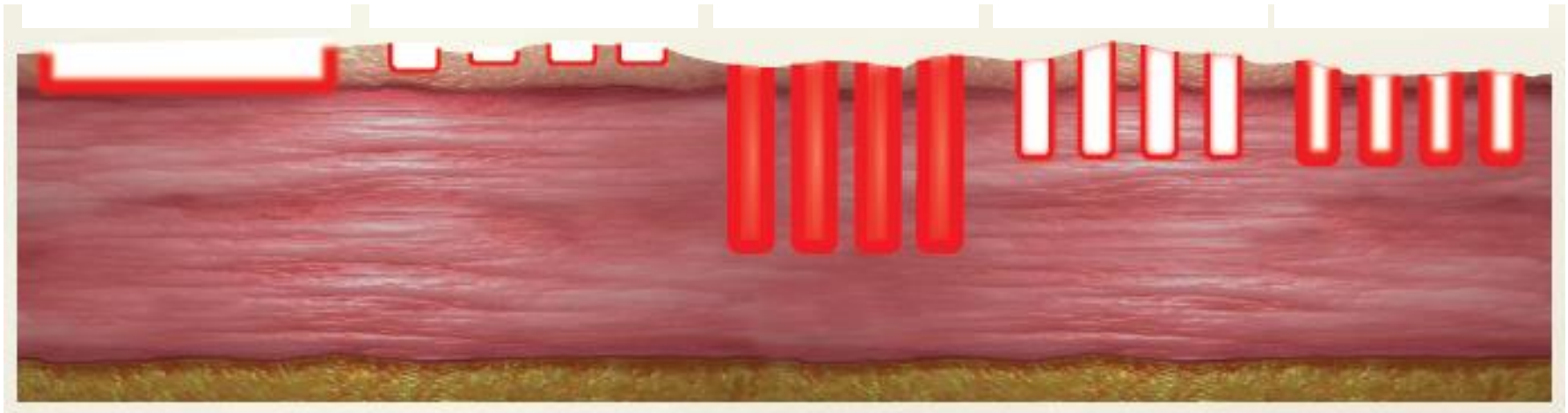
Ablative Skin Resurfacing
(CO₂, Er:YAG 2,940 nm)
10-200 µm

Fractional Ablative
Superficial Skin
Resurfacing
(CO₂, Er:YAG 2,940 nm)
10-70 µm

Nonablative
Fractional Skin
Resurfacing
600-1,000 µm

Fractional Ablative
Skin Resurfacing
100-300 µm

DualMode® Fractional
Ablative/Coagulative
Skin Resurfacing
(CO₂-like)
100-300 µm



- two types of Er:YAG LASER – **LASER peel**, with purely ablative shots (single-moded LASERs), and **double pulse** LASERs, with ablative and combined coagulative shots (dual-moded LASERs);
- **DualMode® technology**: ablative and coagulative pulse in a single shot, simulating the coagulative effect inherent to CO₂ LASERs;

DualMode®: Clinical Guide

fractional ablative resurfacing

DUALMODE

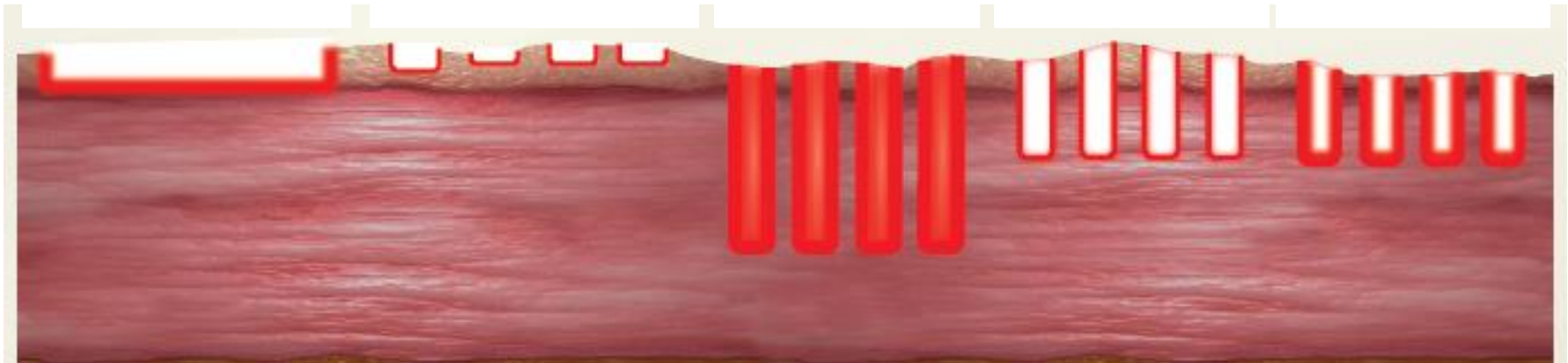
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Ablative/Coagulative
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(CO₂-like)
100-300 µm



SINGLE MODE:
pure ablation
(LASER peel), with
300 to 500 µs
pulse time

pure
COAGULATION,
with non-ablative
fractional LASER;

SINGLE MODE:
coagulation (CO₂-
like), with pulse
time starting at 1
ms;

DUAL MODE:
dual pulse, with
ablation and
coagulation
effect combined
in the same shot;

DualMode®: Clinical Guide

fractional ablative resurfacing

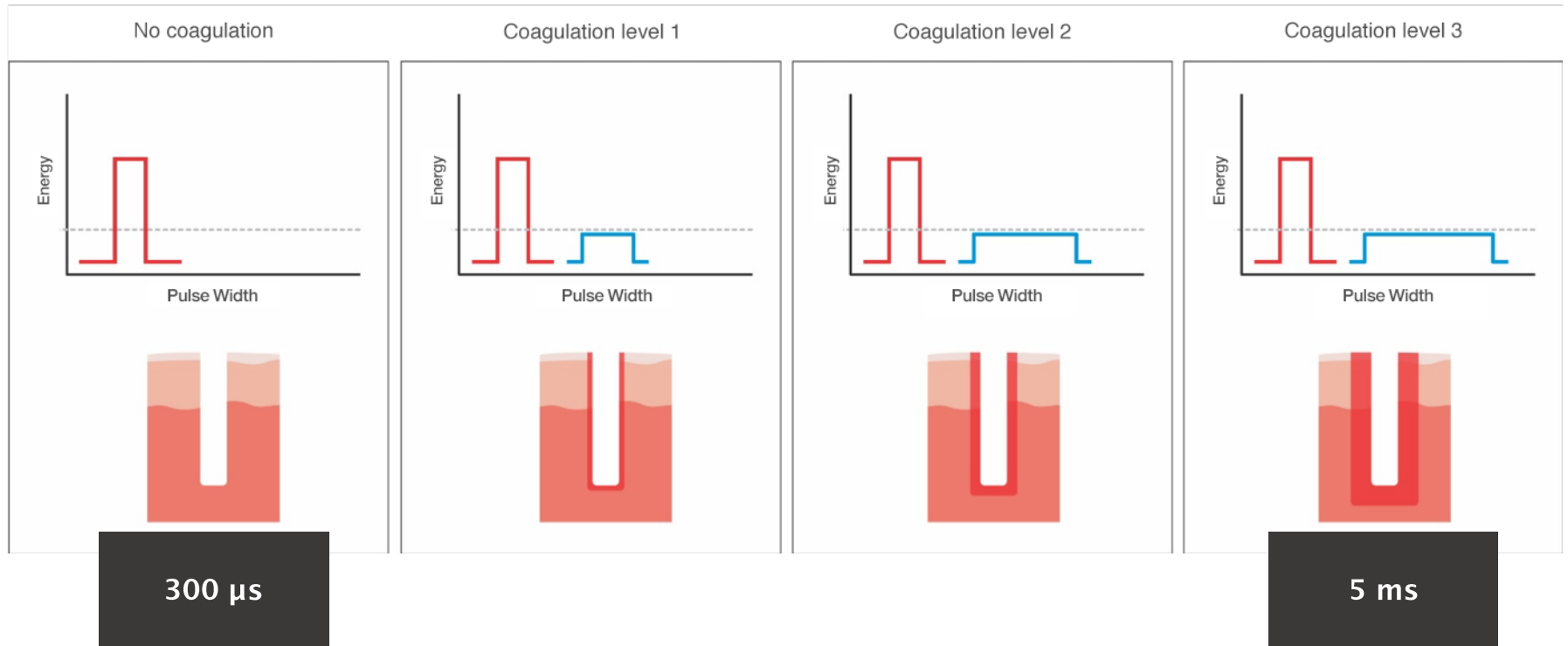
DUALMODE

pulse time 300–500 μ s	pulse time 1–5 ms
purely ablative effect	deeper than the previous one
also known as LASER peel	recommended for light rejuvenation
recovery time: from 1 to 2 days	recovery time: from 2 to 4 days
most frequently used for drug delivery	take into account the RTD

DualMode®: Clinical Guide

fractional ablative resurfacing

DUALMODE

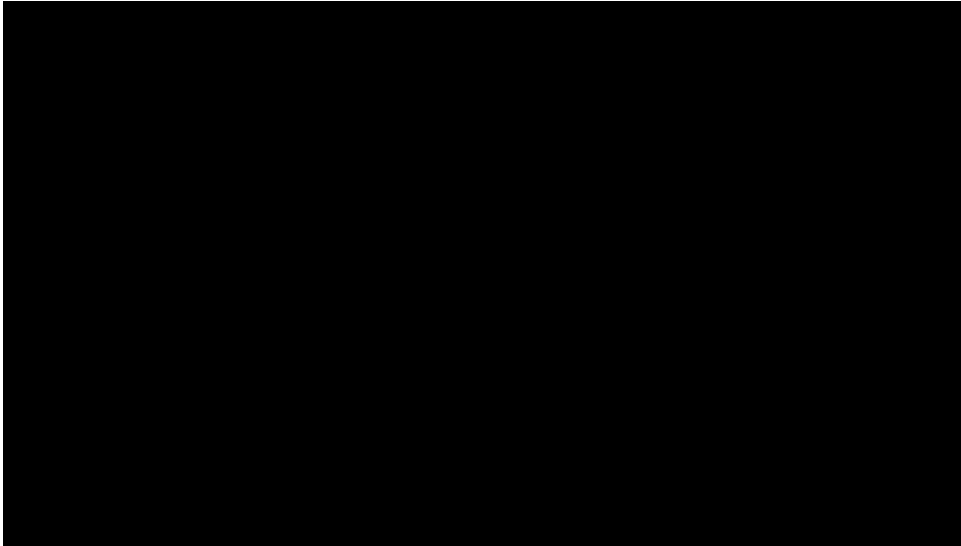


RTD: RESIDUAL THERMAL DAMAGE;
in Portuguese: DANO TÉRMICO RESIDUAL

DualMode®: Clinical Guide

fractional ablative resurfacing

DUALMODE



- use **LASER peel** to take advantage of the damaged tissue and increase the selective permeability of active mediums, drug delivery;
- different possible combinations of active mediums available on the market;
- can be associated with other technologies, such as: **IPL-Sq** for pigmentary lesions and **ACROMA-QS** for tattoos

DualMode®: Clinical Guide

fractional ablative resurfacing

DUALMODE

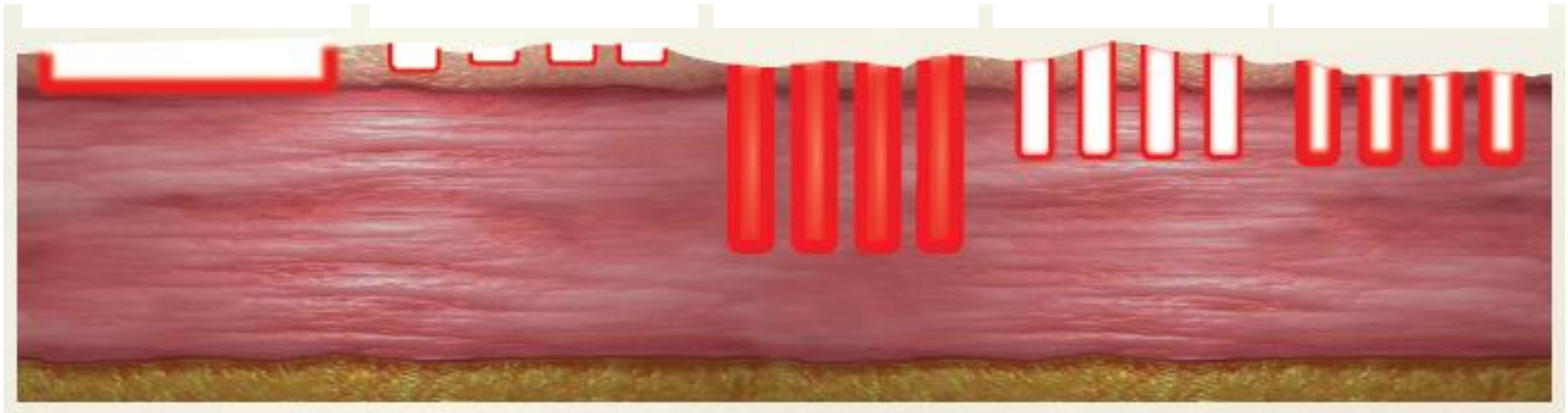
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Ablative/Coagulative
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100-300 µm



DUALMODE

- **ablative** shot (short pulse), followed by another **coagulative** shot (long pulse);
- **lower risk of hyperchromia** than conventional stacking, **more aggressive and deeper**
- recovery time: **3 to 7 days**, depending on the recommendation and desired aggression

RTD: RESIDUAL THERMAL DAMAGE;
in Portuguese: DANO TÉRMICO RESIUDAL

DualMode®: Clinical Guide

fractional ablative resurfacing

DUALMODE

energy mJ/mtz	the higher it is the more aggressive
fluence mJ/cm²	the higher it is the more aggressive
number of passes	the higher it is the more aggressive
pulse time <500 μs	purely ablative effect
pulse time <1 ms	coagulative effect
double pulse, DualMode	first, ablative pulse followed by coagulative pulse

*the longer the pulse time, the greater the coagulative effect at the shot

**DUALMODE pulse is more aggressive than the single shot

ETHEREA-MX[®] DualMode[®]

DUALMODE

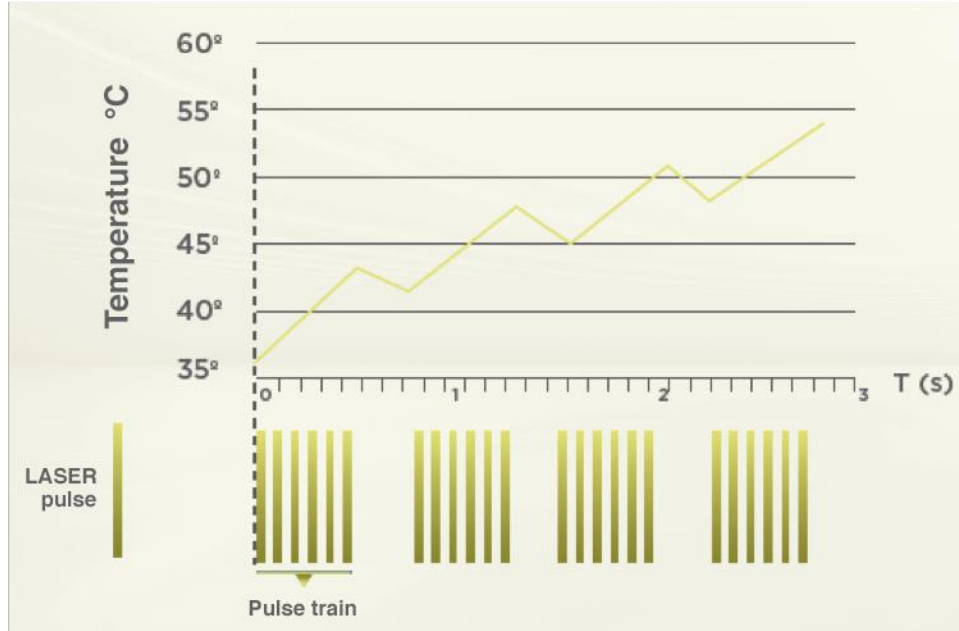


- **interval between sessions:** monthly or every 2 months; depends on the work mode;
- **number of sessions:** 3 to 5;
- **pre-treatment:** prophylaxis for herpes, if needed;
- **topical anesthetic:** thoroughly remove prior to application;
- **special care during post treatment:**
 - drug delivery can be performed;
 - assess the need for LED in the post-immediate;
 - at home: iced chamomile tea compresses, Bepantol[®] or Cicaplast[®] Balm;
 - sunscreen: avoid for 24 hours (no color) and 48 hours (with color);
 - caution with makeup;

DualMode[®]: Clinical Guide

inLift: treatment with smooth pulse

DUALMODE

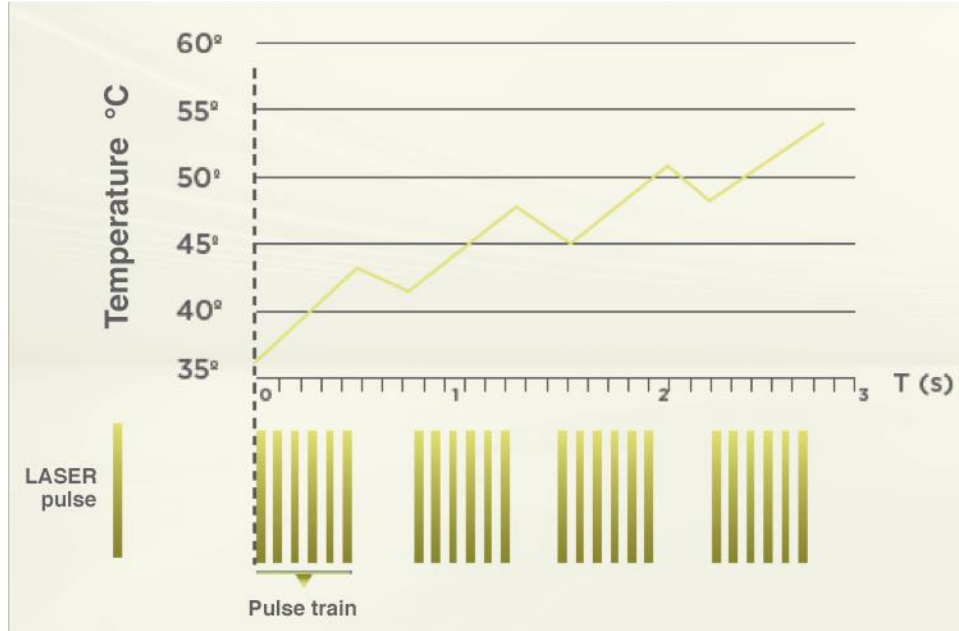


- works with pulse train as **smooth pulse**: a sequence of 8 shots (on/off), **totaling 400 ms**;
- painless, smaller ablative effect and no downtime or the need for specific care during post-treatment;

DualMode®: Clinical Guide

inLift: treatment with smooth pulse

DUALMODE



- for **LASER lifting and fill effect** in the nasolabial region;
- recommended for **mild to moderate aging and flaccidity**;
- also used as complementation to the ATHENA treatment (external area, for tightening);
- Important: careful when placing the fractionator

DualMode®: Clinical Guide

inLift: treatment with smooth pulse

DUALMODE



- with fractionator;
- on average, energy ranging from 30-45 mJ;
- ~100-150 shots in the jugal region and ~100 shots in the nasogenian sulcus;
- depends on the overall objective of the treatment and the region where the results should be focused;

kindly provided by: Moysés da Costa Lemos, MD, MSc
Dermatologist; São Carlos/SP, Brazil. Brazil



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