Laser Rejuvenation & Skin Resurfacing

FIDELIS Long-Pulsed Erbium Laser
Historically, 2 available modalities

Erbium 2940nm ablates the top 25-30 microns of epidermis. CO\textsubscript{2} ablates up to 120 microns causing significant ablation and the need for wound management.
Advantages:
- Successful and significant wrinkle reduction
- Easier to administer + less side effects than chemical peels

Disadvantages:
- Patient downtime 2 - 3 weeks
- Anesthesia required and painful post-op recovery
- Threat of hypo/hyper-pigmentation, 6 – 36 mos
- Wound management - 2 weeks
- Erythema, 2 weeks – 10 months
- High Infection Risk
FIDELIS
Long-Pulsed Erbium YAG Laser

A laser skin resurfacing tool ideally positioned between minimally effective non-ablative lasers and highly aggressive CO₂ lasers.
2940 nm wavelength provides for:

- Treatment wrinkles and fine lines
- Elimination of sun spots and benign lesions
- Reduction of acne scarring
- Minimal patient down time
- No wound management
- Effective treatment of all skin types
- Use on neck, chest and hands
- Full photofacial rejuvenation and collagen stimulation
Why Long-Pulsed?

Minimal ablation with thermal effect

**First generation Er:YAG**

With standard pulses, the ablation is too fast for the heat to be transferred into the tissue.

**FIDELIS Er:YAG**

With Fidelis **long pulses**, the ablation is slowed down, allowing the heat to reach deeper skin layers.
Pulse Stacking Technique*


Fidelis allows emission of a series of pulses resulting in temperature enhancement inside the skin without significant increase in surface ablation.

*developed by Beckman Institute and Fotona
**FIDELIS VSP Technology**

VSP – Variable square pulse denotes a power supply technology to provide an ideal rectangular pulse with variable pulse-width.

VSP technology allows for a wide range of tissue effects ranging from superficial coagulation for photo-rejuvenation, to full ablation for skin resurfacing.

![Graph showing different pulse widths and laser instant powers](image)
Why VSP?

If the pulse duration is fixed, increase of energy is automatically followed by the increase of pulse instant power (Peak Power). The peak power values below the ablation threshold can be achieved only at energies far too low to effect the tissue. By stretching the pulse duration, the peak powers below the ablation threshold can be achieved also at higher energies. Such combination of laser parameters allows the user to perform minimally ablative skin rejuvenation.

If pure ablation is the desired end effect, simply switch to shorter pulse width. Peak power will automatically increase to the value above the ablation threshold.
FIDELIS

a choice of four treatment modes

VSP - very short pulse
SP  - short pulse
LP  - long pulse
VLP - very long pulse

Variable pulsewidth allows for increasing levels of ablation according to patient needs
FIDELIS Long-Pulsed Er:YAG

Safely eliminates fine lines around the eyes

Courtesy of Dr. Edward Zimmerman
FIDELIS Long-Pulsed Er:YAG

Minimizes fine smokers’ wrinkles (one week post-treatment)
FIDELIS Long-Pulsed Er:YAG

Reduces acne scarring

Safe on all skin types

Courtesy of Dr. Edward Zimmerman

Courtesy of Dr. Gerald Goldberg
FIDELIS Long-Pulsed Er:YAG

Only technology proven safe on neck

Upper Neck 3 Months Post-Treatment

Minimizes pigmentation

Courtesy of Dr. Gerald Goldberg
FIDELIS Long-Pulsed Er:YAG

Just One Treatment Provides Significant and Lasting Results

Increase power to ablate raised lesions and skin tags

Courtesy of Dr. Edward Zimmerman
FIDELIS Long-Pulsed Er:YAG

One week post-treatment

Dr. Keys Keel, Laguna CA