50 years of Fotona laser innovations

Fotona
choose perfection

Overview of Dermatology, Aesthetics and Surgery program

New Dynamis

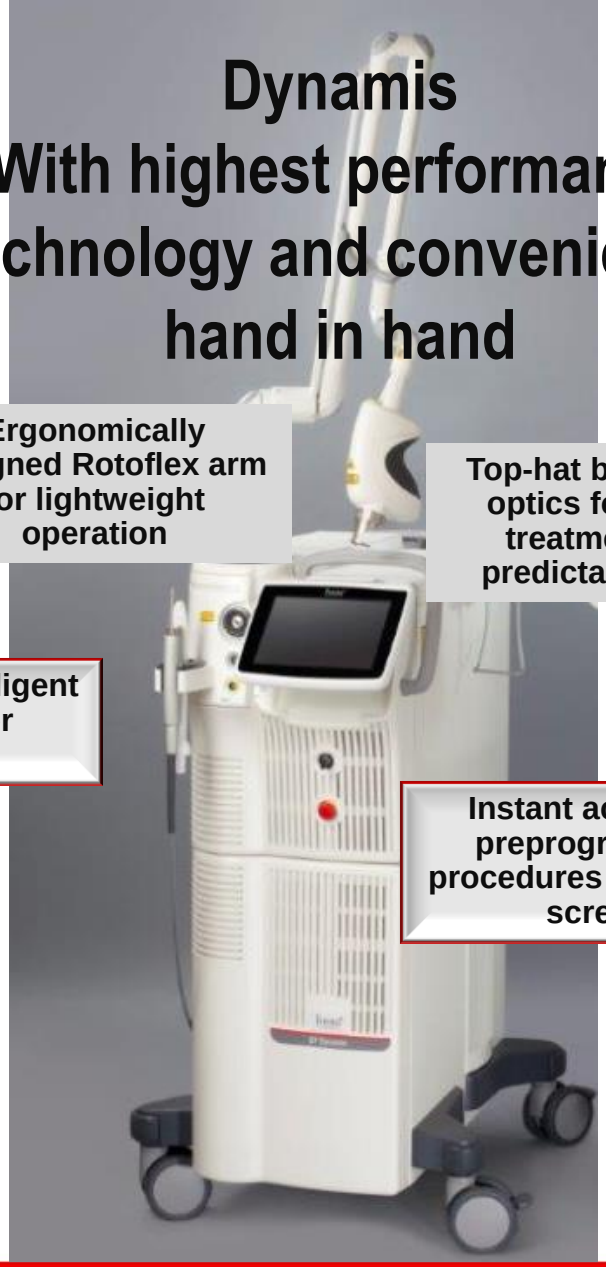
Please read the Legal Notes carefully before using this presentation. For internal use ony

New Dynamis

Multi-Application Laser system

Fotona
choose perfection

Dynamis
With highest performance technology and convenience hand in hand



Ergonomically designed Rotoflex arm for lightweight operation

Top-hat beam profile optics for uniform treatments with predictable results

Twin monitor EFC laser energy control to ensure the precision of laser output

Dual laser wavelength technology for expanded range of treatments

Intuitive and intelligent graphical user interface

Instant access to preprogrammed procedures via a large screen

Proprietary VSP power supply engineering provides widest range of treatment modes

Wireless footswitch for easy access

The widest offering of handpieces and scanners for the greatest versatility

11 The International Fotona Weekend

50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

11 THE INTERNATIONAL FOTONA WEEKEND

20 Compatible Handpieces,
3 Surgical Sets, Gyno Sets

2 Lasers (Er:YAG, Nd:YAG)

3 Compatible Scanners

VSP Adjustable pulse durations,
SMOOTH mode
Super-long PIANO mode

Ablation / Coagulation Indicator

4 Scanning, 6 Turbo modes

Intelligent user interface

Houndreds of Pre-set Application Memories

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

2 Lasers (Er:YAG, Nd:YAG)

The heart of the Dynamis laser systems is two lasers with complementary wavelengths:

Nd:YAG with the most homogeneous penetration for effective deep thermal treatments.

Er:YAG with the highest absorption for ablative and non-ablative superficial treatments.

Nd:YAG

- **Deepest Penetration**
- **Safe for all skin types**
- **High Reliability**
- **Extreme Versatility**

Er:YAG

- **Highest absorption**
- **The most efficient ablation**
- **VSP to control Ablation / Coagulation Ratio**

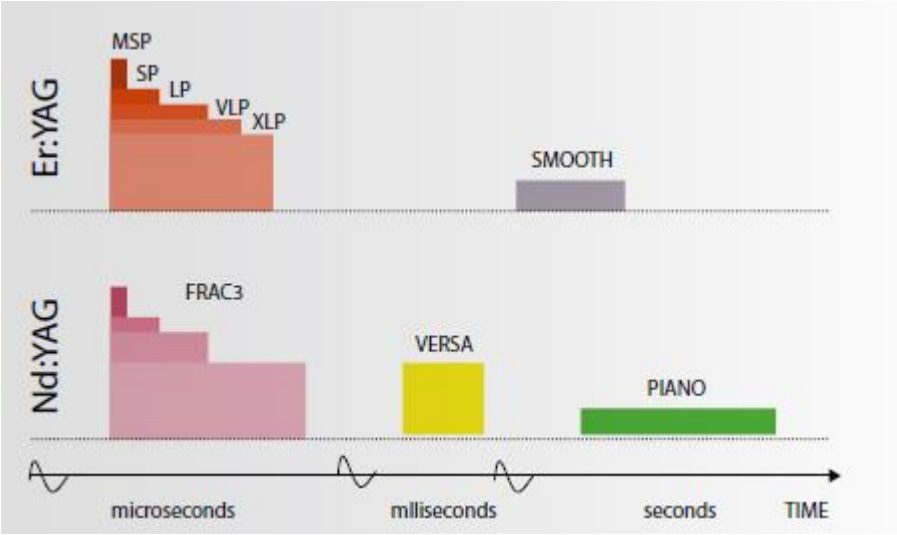
VSP (Variable Square Pulse) technology

- enables unprecedented range of treatment modes, from extremely short, microsecond pulses for intense targeting of selected targets to very long, sub-second to greater-than-1-second pulses for gentler bulk tissue treatments

Special regimes:

SMOOTH

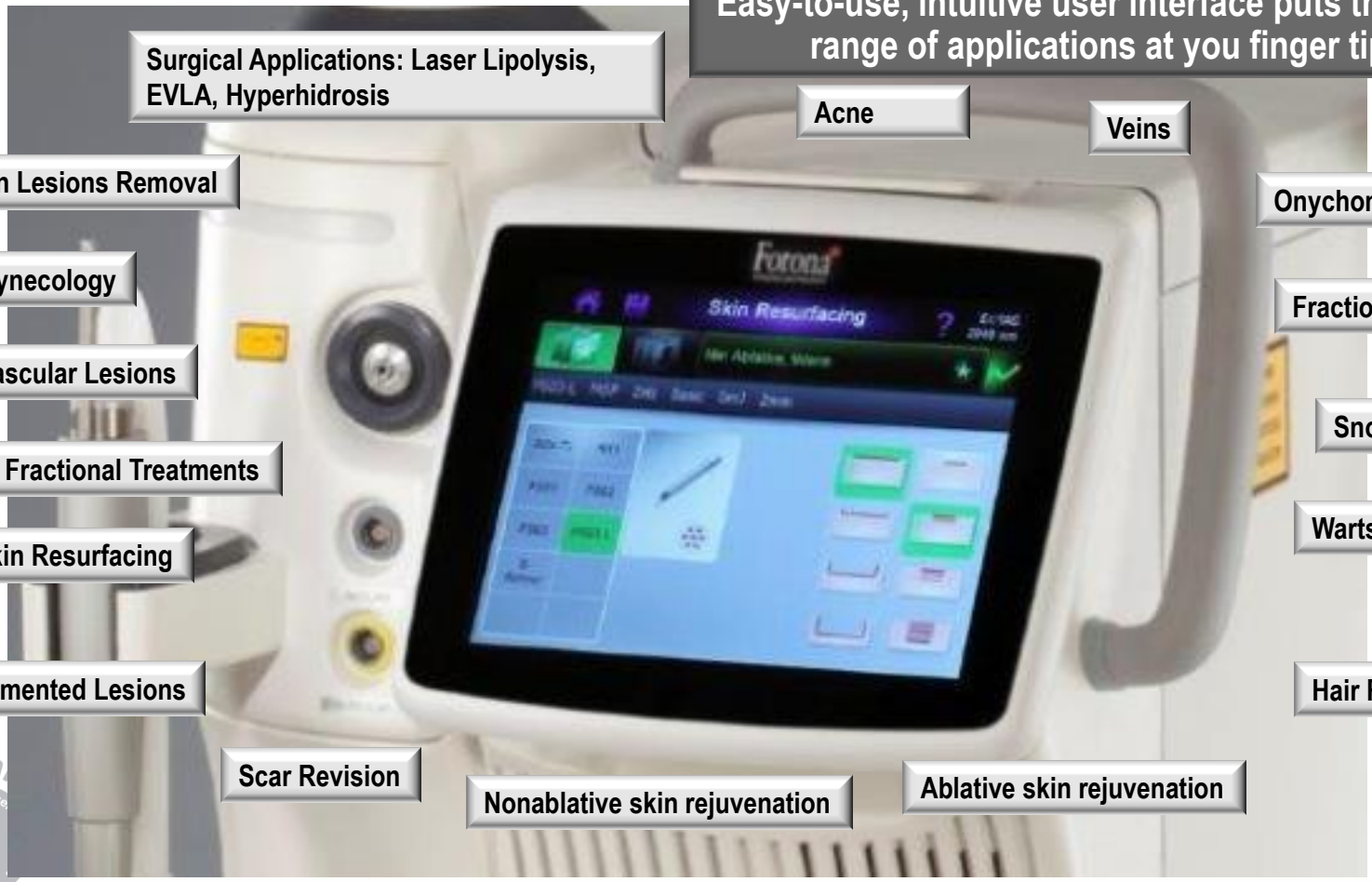
FRAC3®
VERSA
PIANO®



Fotona
choose perfection

Intuitive and intelligent graphical user interface

11 THE INTERNATIONAL FOTONA WEEKEND



Easy-to-use, intuitive user interface puts the whole range of applications at you finger tips

- Surgical Applications: Laser Lipolysis, EVLA, Hyperhidrosis
- Acne
- Veins
- Benign Lesions Removal
- Onychomycosis
- Gynecology
- Fractional treatments
- Vascular Lesions
- Snoring
- Full Beam & Fractional Treatments
- Warts
- Skin Resurfacing
- Pigmented Lesions
- Hair Removal
- Scar Revision
- Nonablative skin rejuvenation
- Ablative skin rejuvenation

50 years of Fotona lasers

One family, together

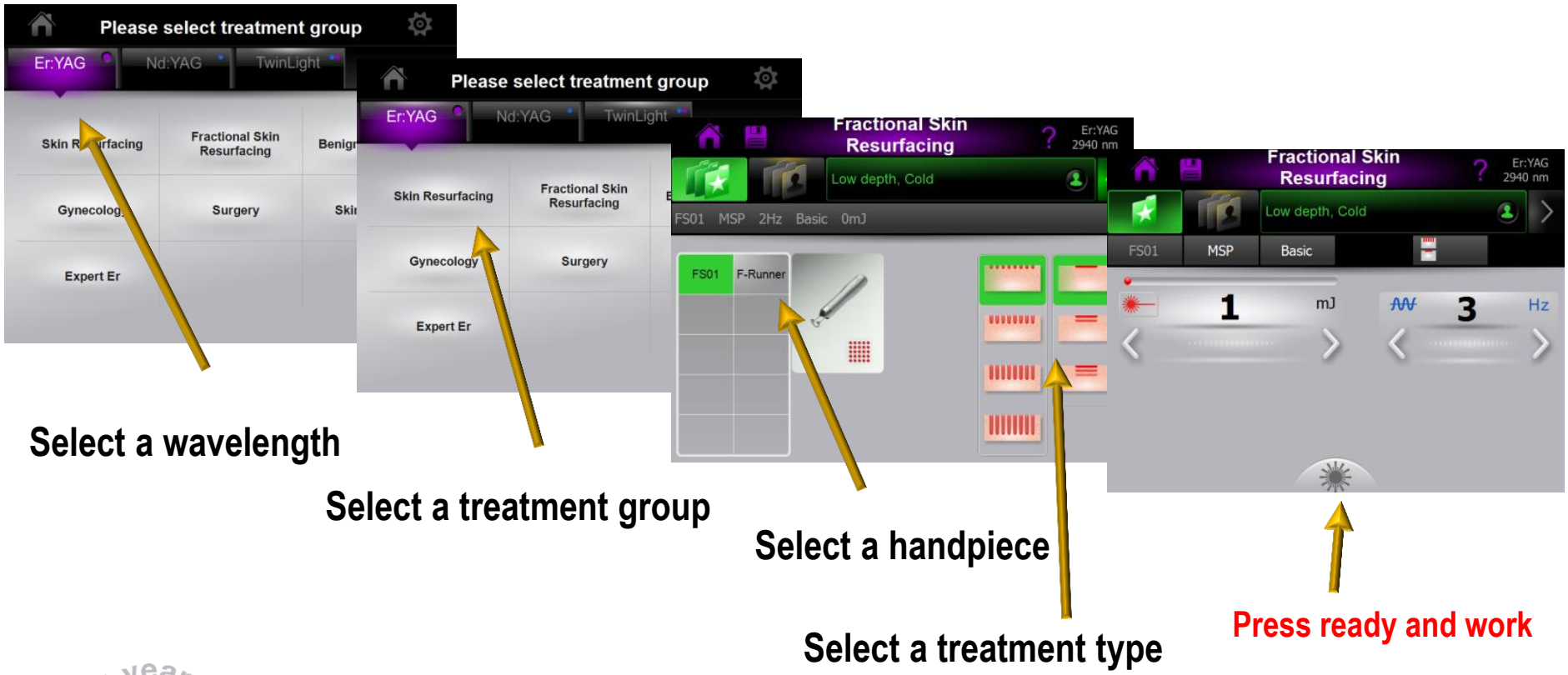
Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Easy to use with interactive touch screen

11 THE INTERNATIONAL FOTONA WEEKEND

4 clicks away from ultimate results



Select a wavelength

Select a treatment group

Select a handpiece

Select a treatment type

Press ready and work

50 years of Fotona laser innovations

The user interface intelligently guides you through the treatments

Hundreds of presets – My Fotona & Personal

Work with hundreds of Fotona factory presets

Or

Create My Fotona

Hundreds of presets – My Fotona & Personal

Personal application library with 100 memories for each application

Fotona
choose perfection

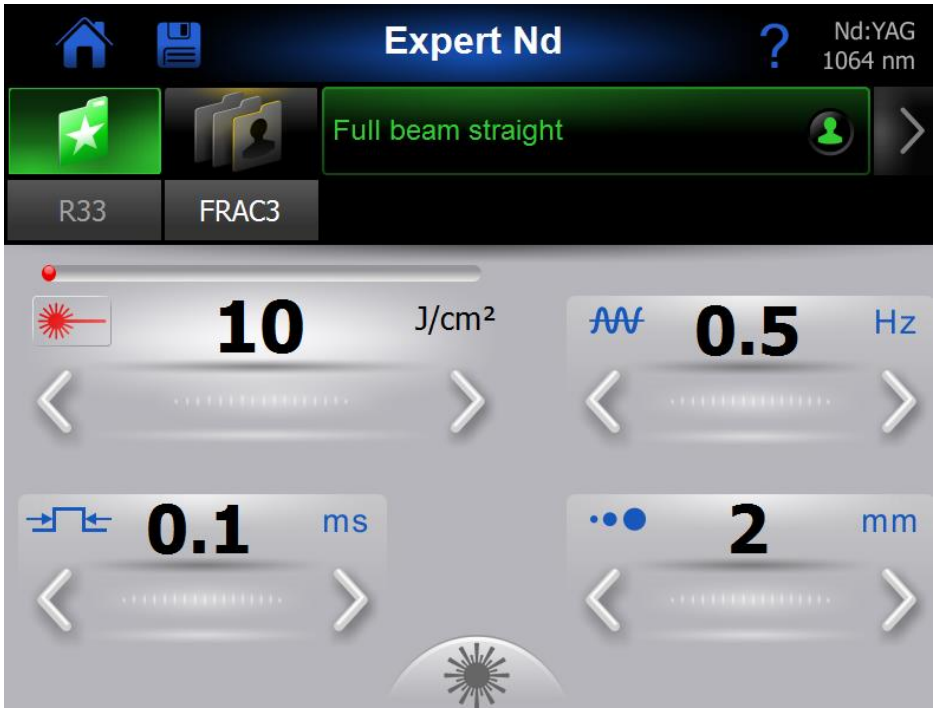
Expert mode

Expert Nd

Expert Er

11 The International Fotona Weekend

Use the expert menu



Fotona
choose perfection

Customize your possibilities with the Dynamis family

11th International Fotona Weekend

DYNAMIS / SPECTRO LINE

Model	SP Dynamis / SP Spectro		XS Dynamis	XP Dynamis / XP Spectro
Laser type	Er:YAG	Nd:YAG	Er:YAG	Nd:YAG
SP wavelength	2940 nm	1064 nm	2940 nm	1064 nm
Power	20 W	80 W / 35 W	20 W	80 W / 35 W
Energy	3 J	50 J	3J	50 J
Scanner	S22 (S-Runner)	S-11	S22 (S-Runner)	S-11
Modalities	MSP, SP, LP, VLP, XLP SMOOTH, TURBO	LP, FRAC3® QCW, PIANO	MSP, SP, LP, VLP, XLP SMOOTH, TURBO	LP, FRAC3® QCW, PIANO

	VERSA	FRAC3	PIANO	S-11 scanner	QCW	F-22 scanner	SMOOTH mode	Gynecology	Surgery
SP Dynamis	●	●	●	●	●	●	●	●	●
SP Spectro	●	●	●*	●	●*	●	●	●	●
XS Dynamis						●	●	●	
XP Spectro	●	●	●*	●	●*				●
XP Dynamis	●	●	●	●	●				●

* Optional with Spectro

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Customize your possibilities with the Dynamis family

11 THE INTERNATIONAL FOTONA WEEKEND

	Hair removal	Veins	Wrinkles	Skin rejuvenation	Benign lesion	Onychomycosis	Vascular lesions	Skin resurfacing	Fractional skin resurfacing	Scars	Active acne	Pigmented lesions	Warts	Gynecology	Snoring	Lypolysis, Hiperhydrosis	EVLA
SP Dynamis	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP Spectro	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
XS Dynamis			•	•	•			•	•	•		•	•	•	•		
XP Spectro	•	•	•	•		•	•				•		•			•	•
XP Dynamis	•	•	•	•		•	•				•		•			•	•

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Customize your possibilities with different handpieces

20 Compatible Handpieces

3 Compatible Scanners

Multiple Gyno Sets

3 Surgical Sets

Fotona
choose perfection

Customize your possibilities with different handpieces

11th International Fotona Weekend

Er:YAG

PS05-9GC	R09-3	PS03	F-Runner
PS05-9	R11	PS03-GA	PS05
R04-Ti	R11-GA	PS03-GC	R11-9GA
R08-Ti	R11-GC	PS03-A	R11-9GC
R09-2	PS01	FS01	PS05-9GA
R09-2G	PS02	S-Runner	

Nd:YAG

R33-T	Fiber 600
R34-T	Fiber 1000
R24-X	R27-600
R33	R27-1000
R34	R27-C
S11	

Fotona
choose perfection

Customize your possibilities with different handpieces

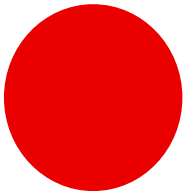
11th International Fotona Weekend

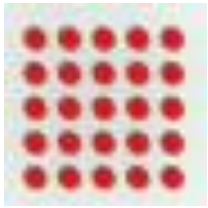
Fotona
choose perfection

Er:YAG handpieces

11th International Fotona Weekend

Er:YAG





Full-field

Patterned

Fractional

Fotona
choose perfection

Er:YAG handpieces

11 THE INTERNATIONAL FOTONA WEEKEND

R04-Ti 2-12mm

R11 2-7mm

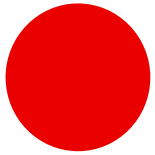
R08 0.45mm

R09-2G, 4,5 mm

Treatments:

Benign lesions
Skin resurfacing
Pigmented lesions
Surgery

Full field



Er:YAG handpieces

Patterned

- **Unique patterned handpieces**
- **Softer pixelated treatments**
- **Bigger pixels than in fractional HP**
- **Less invasive ablative procedures**
- **Special SMOOTH® mode modalities**

PS01 2-12mm **PS02** 2-12mm **PS03** 2-7mm **PS05** 2-7mm

Treatments:

Skin resurfacing
Pigmented lesions
Skin tightening
Straie
SMOOTH® mode

Fotona
choose perfection

Er:YAG handpieces

11 THE INTERNATIONAL FOTONA WEEKEND

PS01 2-12mm

PS02 2-12mm

PS03 2-7mm

PS05 2-7mm

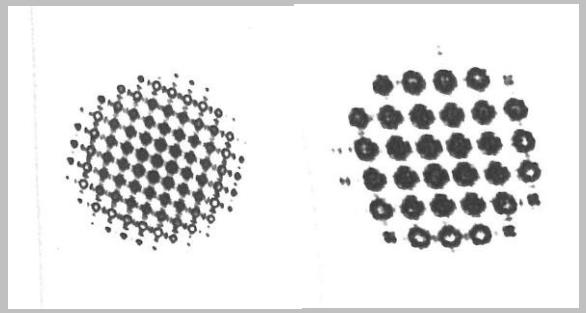
Treatments:

Skin resurfacing
Pigmented lesions
Skin tightening
Straie
SMOOTH® mode

Patterned

Er:YAG handpieces

PS01



Spot diameters: 7, 10, 12mm
Pixel size: 450 to 3000µm
Pixel number: 7 to 75

A *variable* handpiece that allows the pixel number, pixel size and spot size to be varied

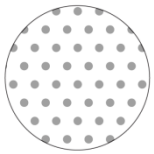
Fotona
choose perfection

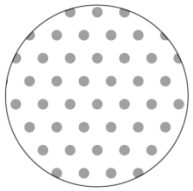
11 The International Fotona Weekend

PS02

Spot diameters: 3, 5, 7, 10, 12mm
(defined by different spacers)

Pixel size:
180µm (at 3mm spot)
270µm (at 5mm spot)
to 700µm (at 12mm spot)

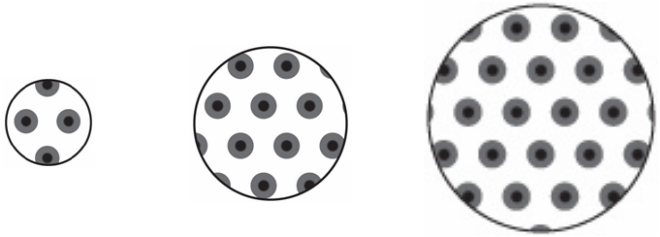




A *fixed* pixel-number handpiece independent of spot size

Er:YAG handpieces

PS03



Spot diameters: 2 to 7 mm

Pixel size: 850 µm

A *fixed* pixel-size handpiece independent of spot size

Fotona
choose perfection

11 THE INTERNATIONAL FOTONA WEEKEND

PS05

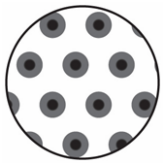
NEW

- Micro-lens array
- 5-7 mm
- Collimated parallel beamlets
- Pixel size 1 mm
- Number is increase with increased spot size
- Pixel fluence is adjusted instead of fluence of over-all spot

- Advantage: transformation of incoming beam to parallel beamlets yields much lower losses, higher energies, deeper penetration

For more intense, deeper patterned treatments:

Skin resurfacing
Pigmented lesions
Skin tightening
Scar revision

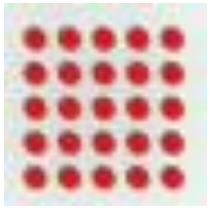


A *fixed* pixel-size handpiece independent of spot size

Fotona
choose perfection

Er:YAG handpieces

11 The International Fotona Weekend



Fractional

- **Intense, deep fractional treatments**
- **Small pixel technology, 250 µm**
- **Unrivalled accuracy and uniformity over large areas**
- **High speed**

FS01

F-Runner (F22)

Treatments:

Scar treatment (traumatic scars)
Acne scars
Fractional rejuvenation
Striae

Fotona
choose perfection

Er:YAG handpieces

11 THE INTERNATIONAL FOTONA WEEKEND

FS01

Fluence: from 2 J/cm2 to 44 J/cm2
Frequency range: from 2 Hz to 50 Hz
MicroSpotsize : 250 µm
µS Number 81 (9 x 9)
Coverage 5%
Stamp size: 9 mm x 9 mm
Pulse deposition: Basic, Turbo2, Turbo3, …, Turbo6,

Treatments:

Scar treatment (traumatic scars, surgery scars)
Acne scars
Fractional rejuvenation
Striae

Fractional

Fotona
choose perfection

Er:YAG Scanner

11 THE INTERNATIONAL FOTONA WEEKEND

F-Runner

Energy: from 3 mJ to 150 mJ
Frequency range : from 2 Hz to 50 Hz
Coverage range : 5%, 10%, 20%
Spotsize : 250 µm
Scan size: 12 mm x 14 mm (adjustable)
Scan pattern: Optimal, Natural
Pulse deposition: Basic, Turbo2, Turbo3, …, Turbo6
Autorepeat delay: 0.3s to 1.5s (0.1s step)

Treatments:

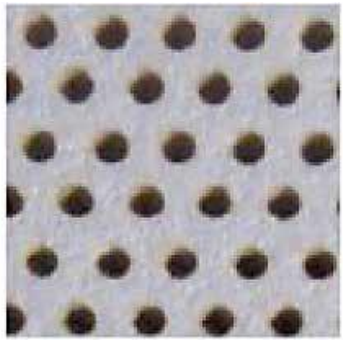
Scar treatment (traumatic scars)
Acne scars
Fractional rejuvenation
Striae

Fractional Scanner

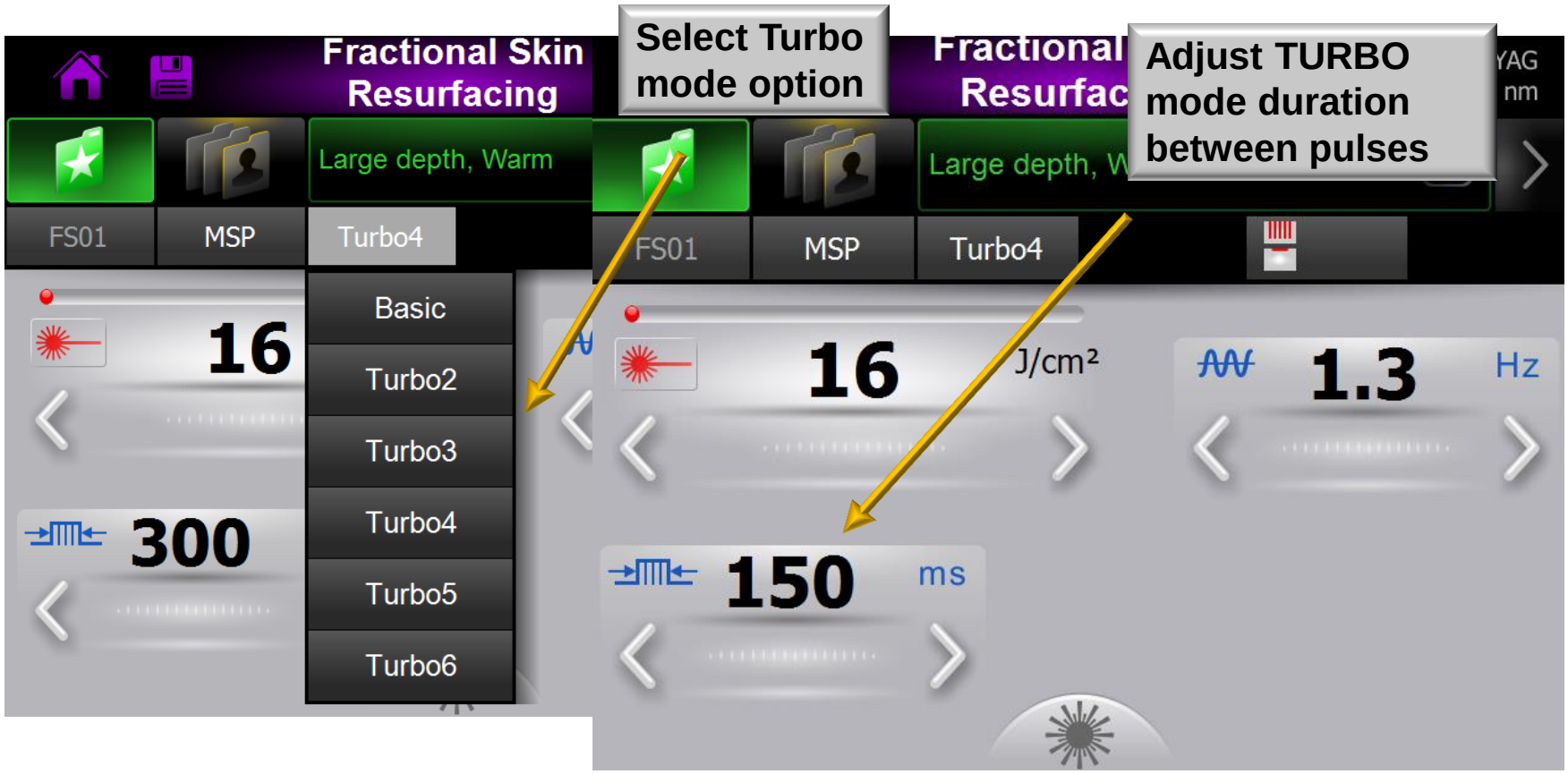
TURBO mode pulse duration

Unique technology feature which:

- sequences identical pulses within the same treatment spot on the skin
- enhancing ablation depth
- creating more accurate sharply defined micro-channels



New feature: Adjustable TURBO mode pulse duration



Er:YAG scanner

S-Runner

Energy: from 30 mJ to 3.000 mJ
Frequency range: from 2 Hz to 50 Hz
Overlap range: 0%, 13%, 20%, 30%
Spot size : 4 mm
Scan size: 40 mm x 40 mm (adjustable)
Scan pattern: OP (optimal), SE (sequential), PR (partial)
Pulse deposition: Basic, Turbo2, Turbo3, …, Turbo6, Scan2, Scan3, … Scan6
Autorepeat delay: 0.3s to 1.5s (0.1s step)

Treatments

Skin resurfacing
Pigmented lesions
Scars

Spot Scanner

Nd:YAG handpieces

R33, 2-10mm

R34, 15-20mm

R31, 2 -10 mm

Treatments R33:

Veins
Vascular lesions
Onychomycosis
Hair removal
Acne
Skin tightening

Treatments R34:

Hair removal
Skin tightening
PIANO

Fotona
choose perfection

Nd:YAG handpieces

11 The International Fotona Weekend

MatrixView™

NEW

Thermal detection system in a handpiece for enhanced safety and accuracy of treatments

R33-T, 2-10mm

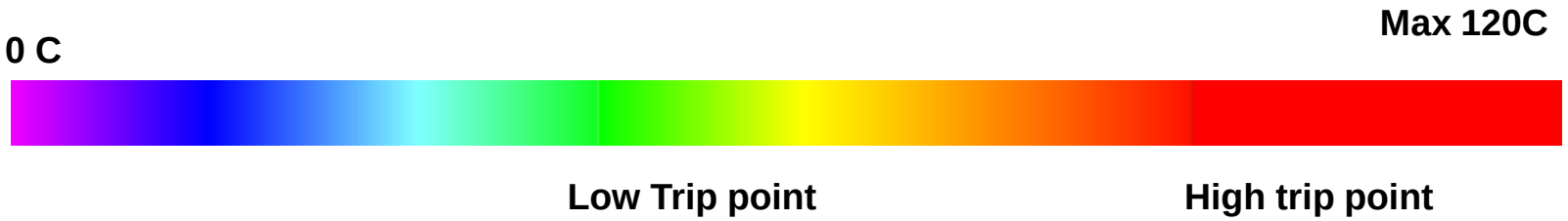
R34-T, 15-20mm

Nd:YAG handpieces

MatrixView™

- Color coded temperature displayed on the handpiece
- Temperatures displayed on the laser

- Low and high temperature trip points adjustable on laser system
- Audio warning when skin temperature exceeds the high temp trip point



Fotona
choose perfection

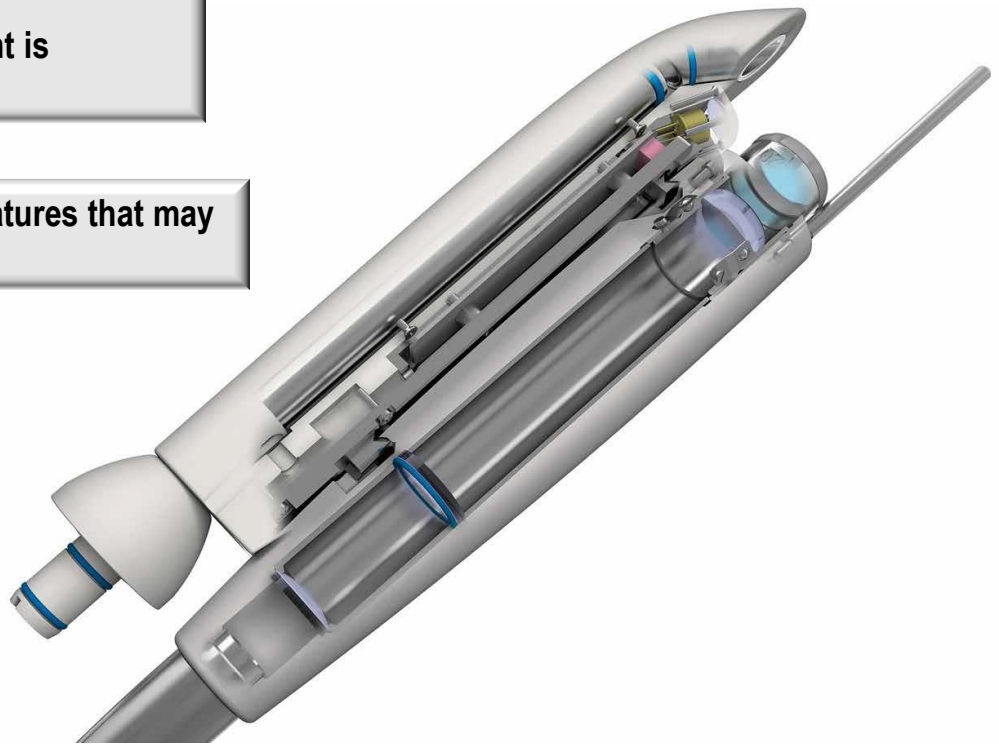
MatrixView™

11 The International Fotona Weekend

Non-contact skin temperature sensor features:

- **Special 'matrix' detector insensitive to HP position**
- **True temperature within laser spot during treatment is measured**

- **Helps user during treatment not to exceed temperatures that may damage the skin.**

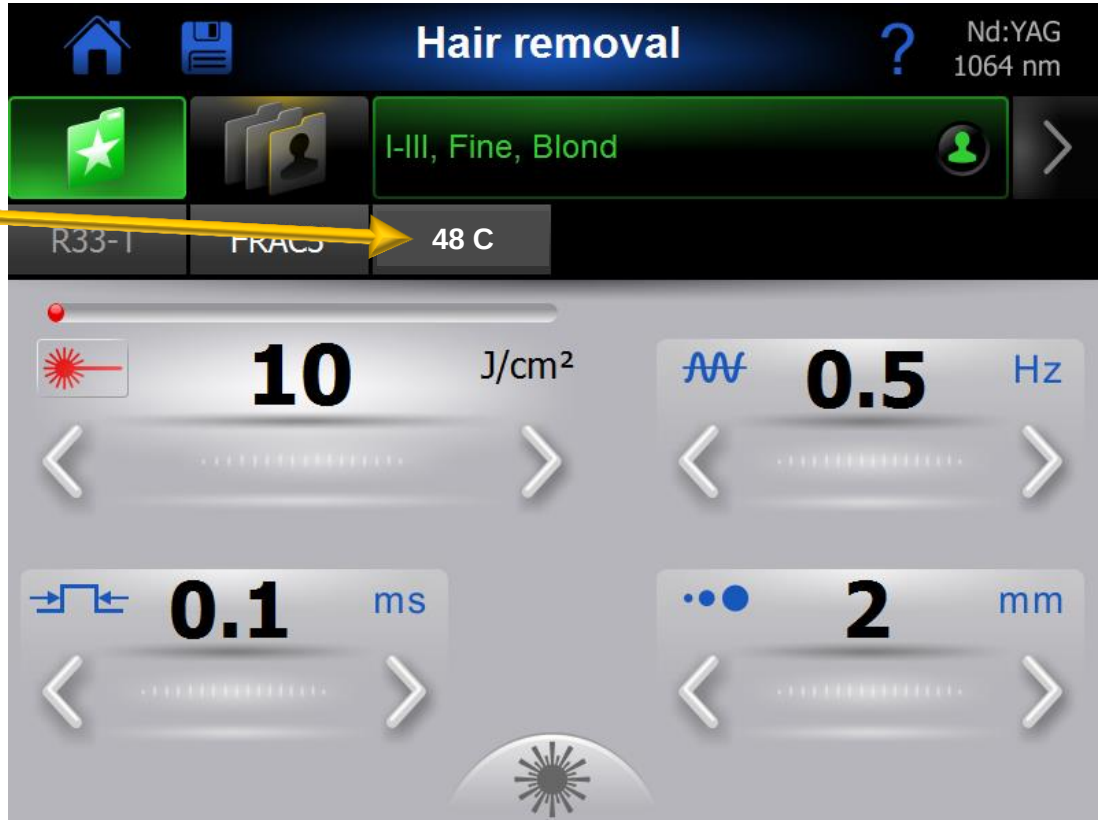


PIANO skin tightening
Onychomycosis
Veins
Hair removal

Nd:YAG handpieces

MatrixView™

- Temperature displayed on laser system screen when R33-T or R34-T handpiece selected



Fotona
choose perfection

Nd:YAG Scanner

11 The International Fotona Weekend

S-11

Pulse width: 0,1ms - 50 ms
Fluence: from 10 J/cm² to 600 J/cm²
Frequency range: from 0,5 Hz to 75 Hz
Overlap range: 13%, 20%, 30%
Spot sizes : 3, 6 and 9 mm
Scan size: 65 mm x 65 mm (adjustable)
Scan pattern: OP (optimal), SE (sequential), PR (partial)
Autorepeat delay: 0.3s to 1.5s (0.1s step)

Hair removal
Skin tightening

Fotona's scanners enable quick and accurate surface coverage, without leaving behind non-treated areas or generating unwanted overlapping

50 years of Fotona laser innovations

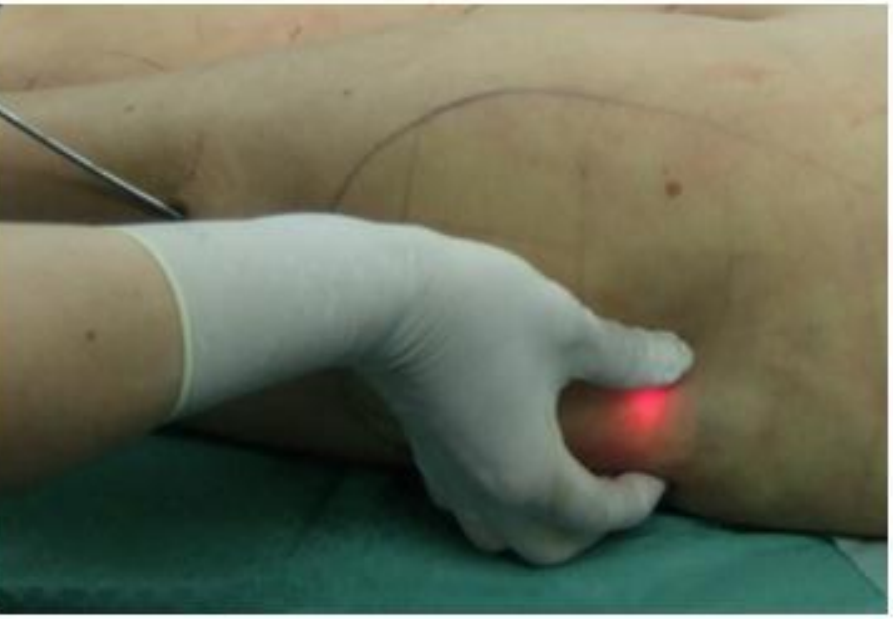
One family, together

Fotona
choose perfection

Nd:YAG hanpiece Surgery

11 The International Fotona Weekend

Laser Lipolysis Set R27



3 mm reusable cannulas

1.1 mm disposable cannulas

EndoVascular Surgical Set

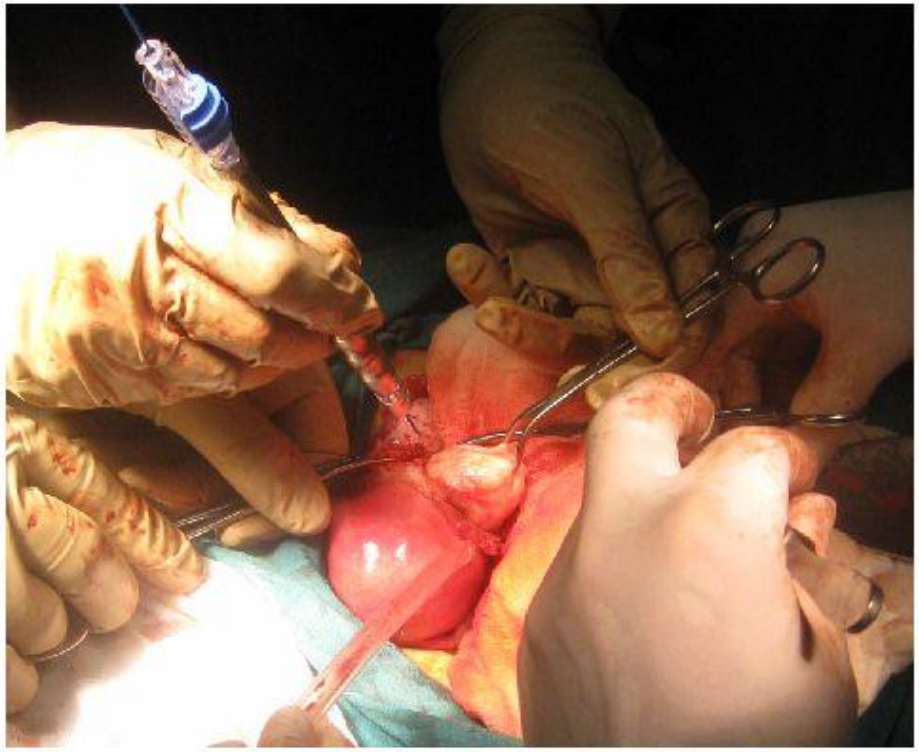
50 years of innovations

Fotona
choose perfection

Nd:YAG hanpiece Surgery

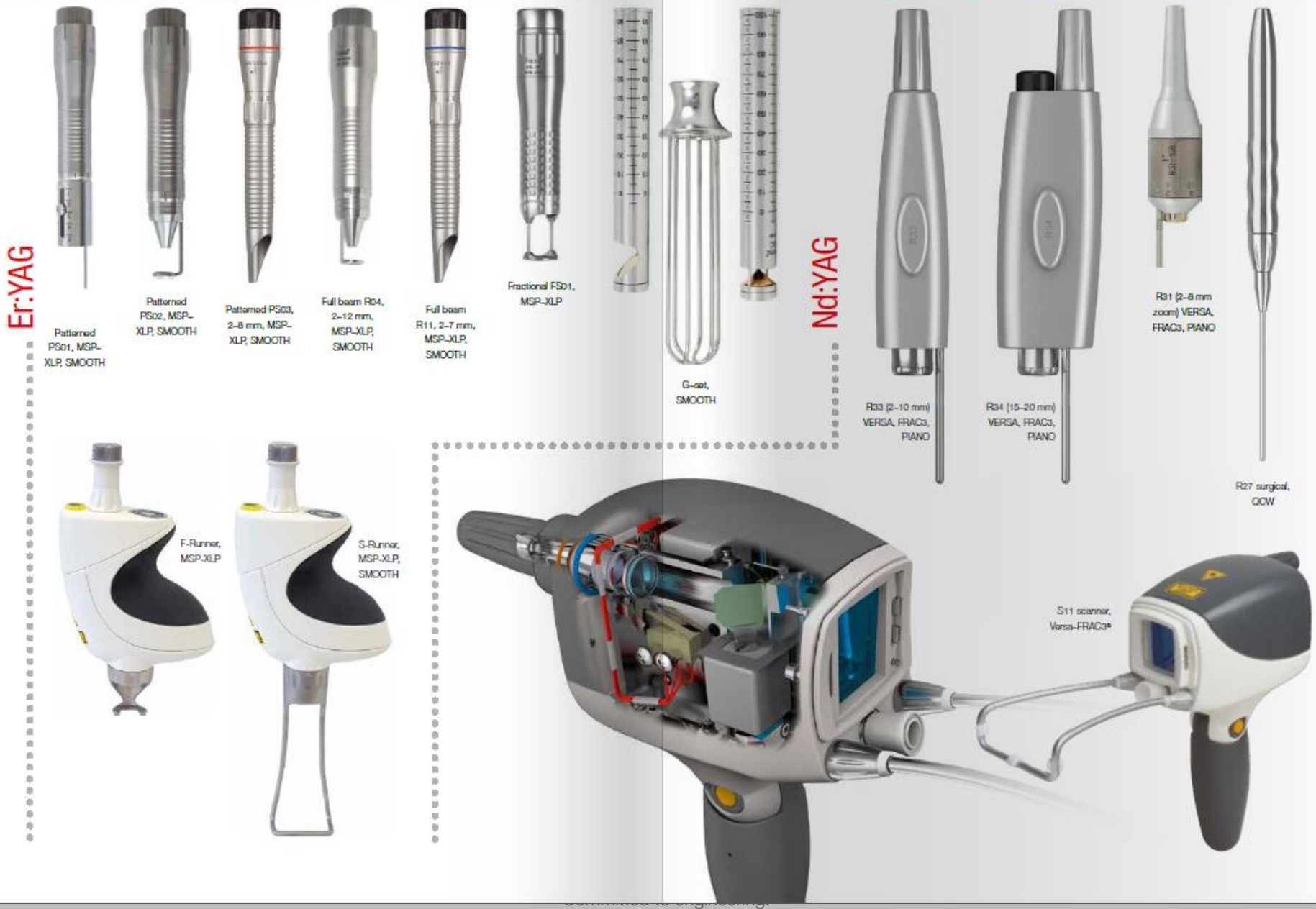
11 The International Fotona Weekend

R27 Surgical HP



50 years of Fotona laser innovations

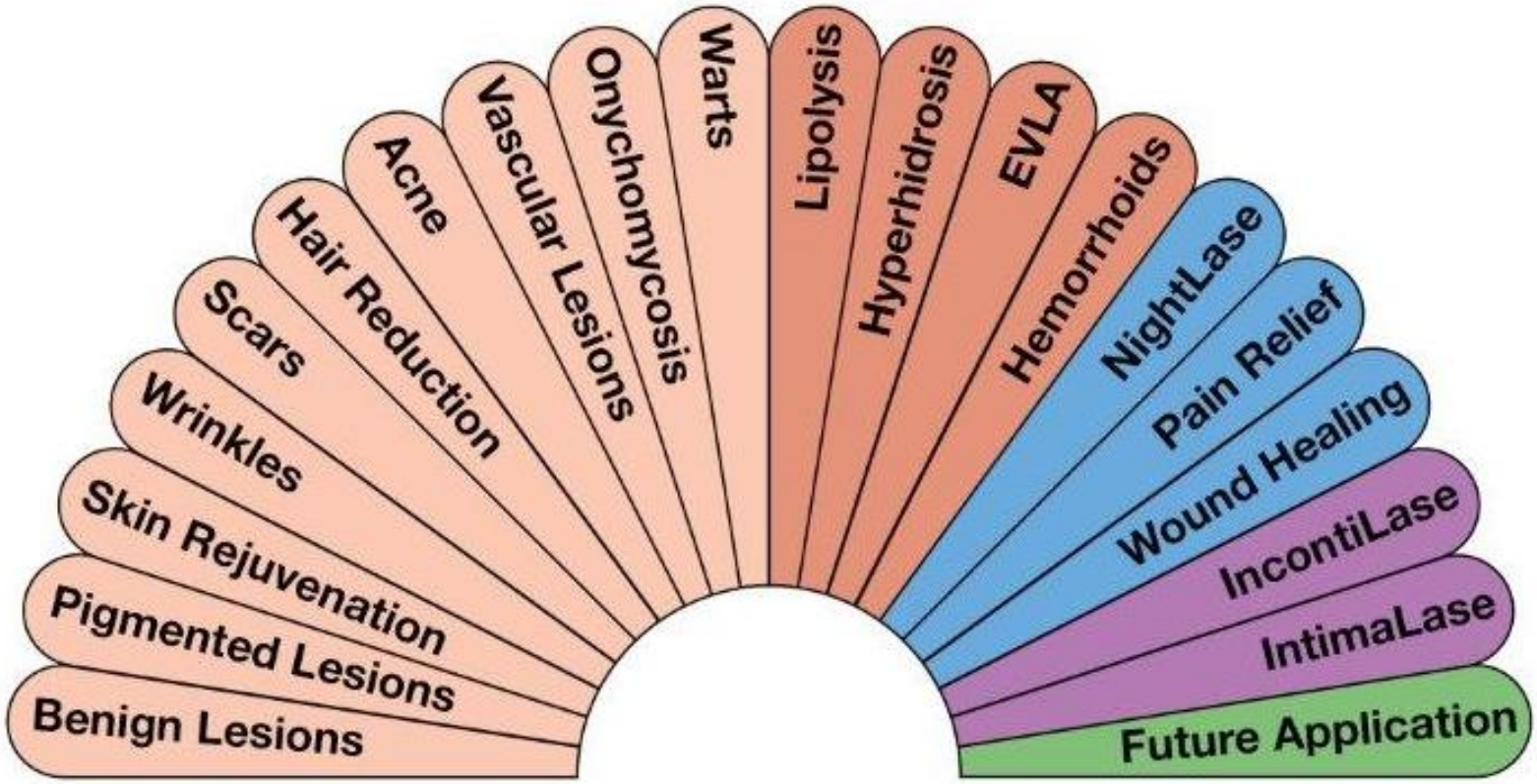
Focus on applications with impressive line of advanced accessories



Fotona
choose perfection

Dynamis
offering you the choice of
The widest range of applications

11th INTERNATIONAL FOTONA WEEKEND



50 years of Fotona laser innovations

One family, together

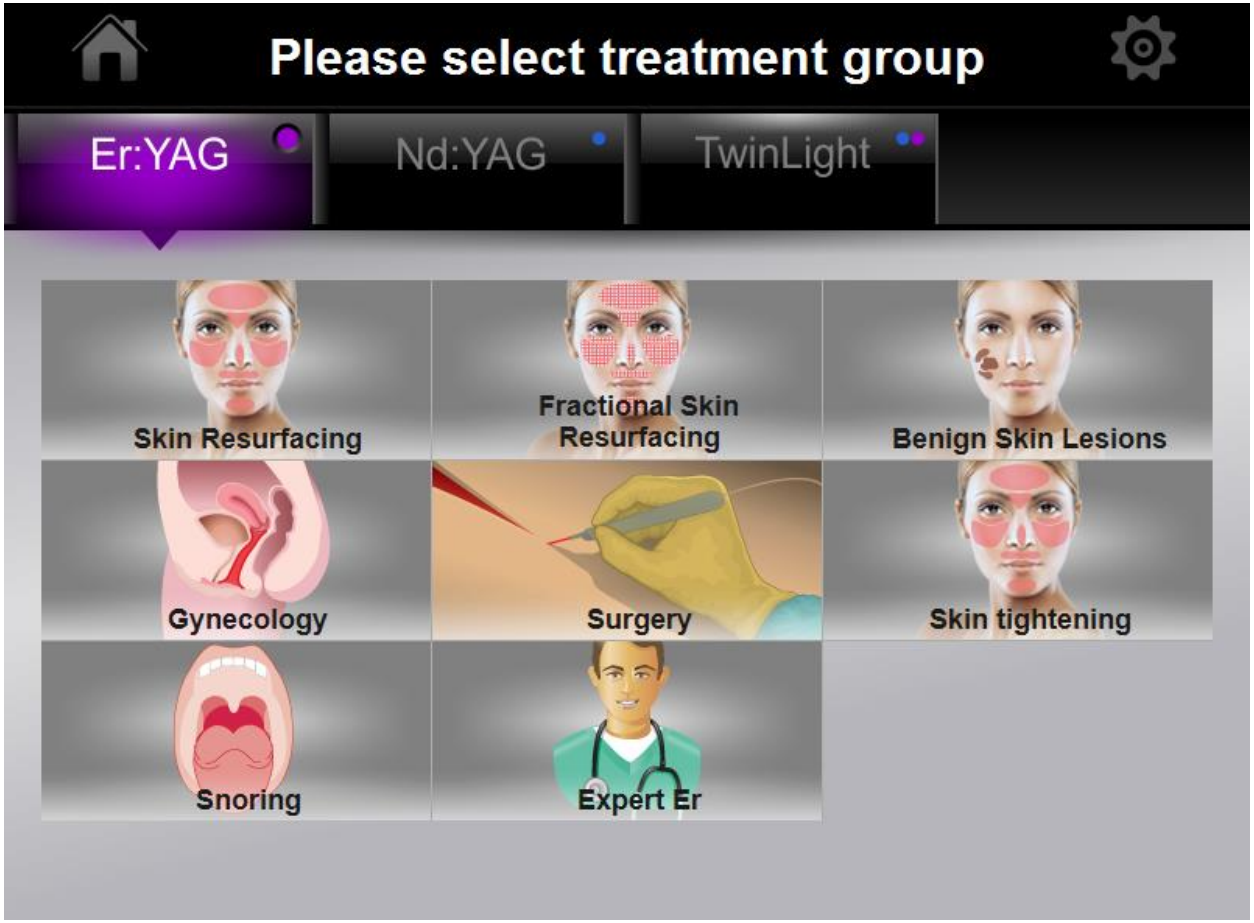
Fotona
choose perfection

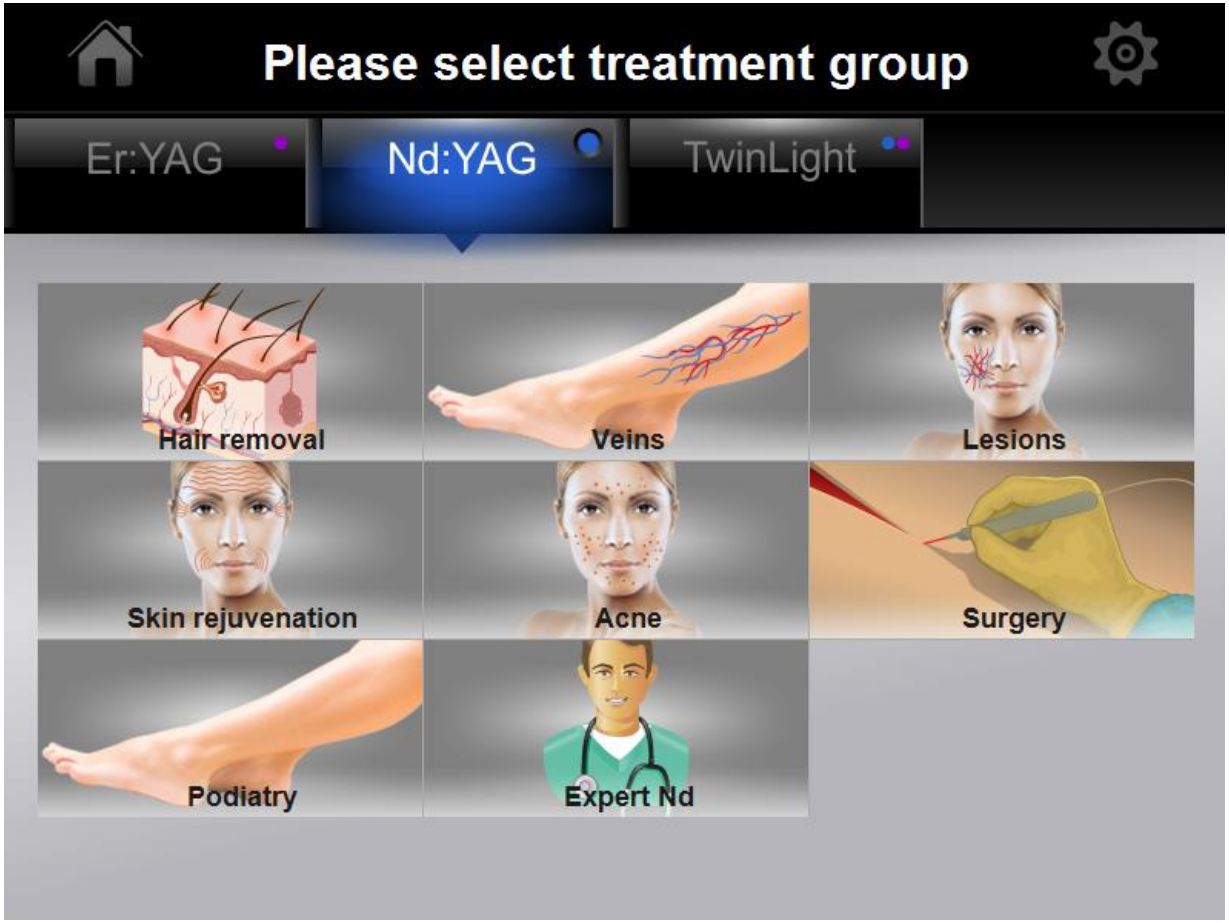
Dynamis
offering you the choice of
The widest range of applications

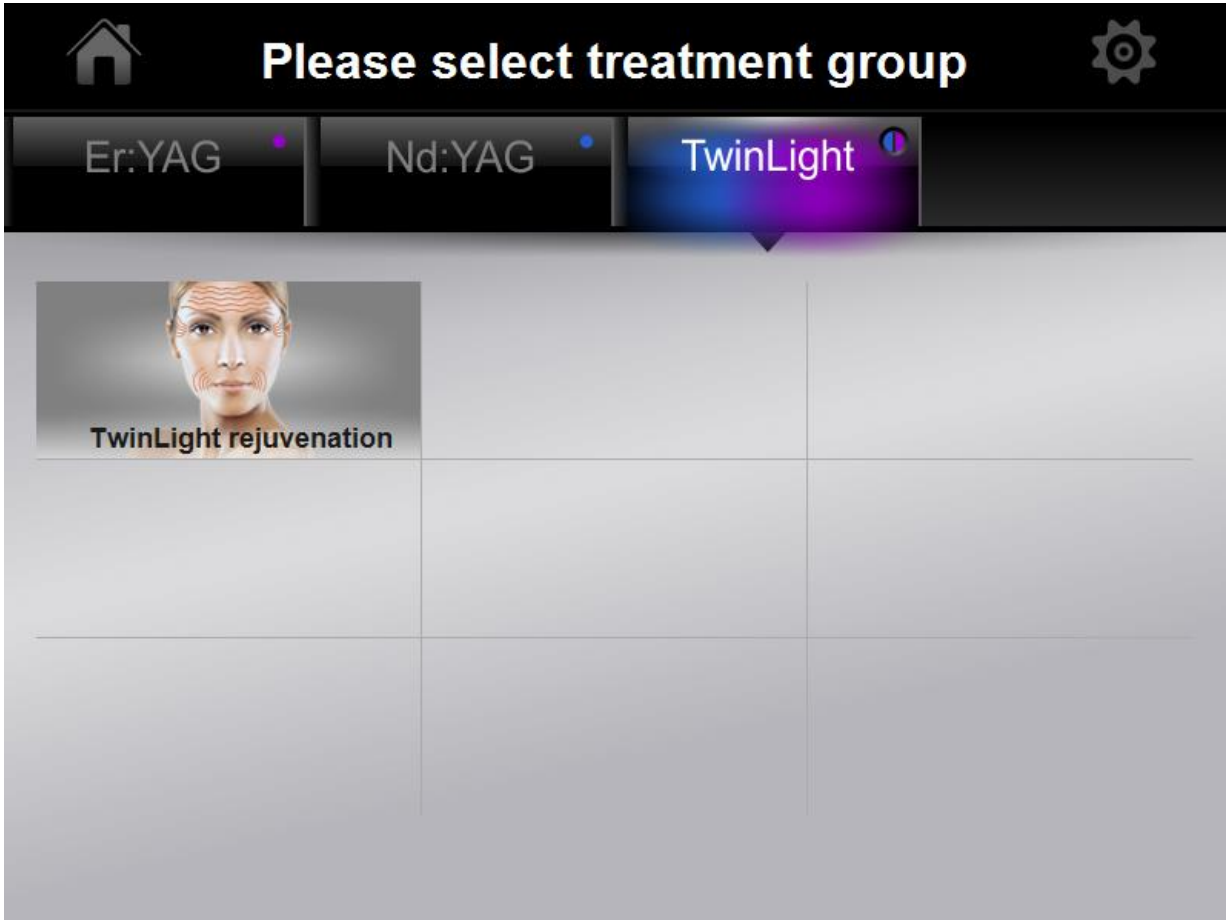
11 The International Fotona Weekend

Key applications:

Acne
Onychomycosis
Veins
Pigmented Lesions
Scar Revision
Skin Resurfacing
Nonablative skin rejuvenation
Ablative skin rejuvenation
Fractional treatments
Warts
Vascular Lesions
Full Beam & Fractional Treatments
Hair Removal
Gynecology
Snoring
Benign Lesions Removal
Surgical Aplications: Laser Lipolysis, EVLA, Hyperhidrosis


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Skin Resurfacing
Fractional Skin Resurfacing
Benign Skin Lesions
Gynecology
Surgery
Skin tightening
Snoring
Expert Er


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair removal
Veins
Lesions
Skin rejuvenation
Acne
Surgery
Podiatry
Expert Nd


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
TwinLight rejuvenation

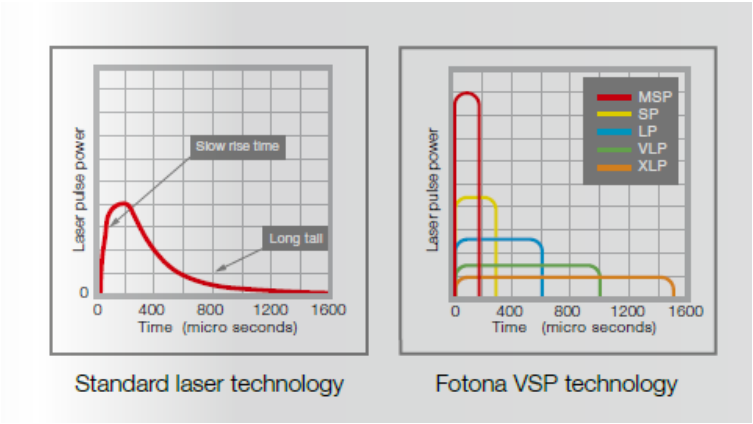
Fotona
choose perfection

Er:YAG

11 THE INTERNATIONAL FOTONA WEEKEND

Er:YAG laser utilizes an optimal wavelength that is absorbed within a few microns of tissue thus avoiding any damage to deeper-lying tissues.

VSP technology enables MSP to XLP pulses in order to precisely balance the removal of epidermis and thermal effects on collagen.

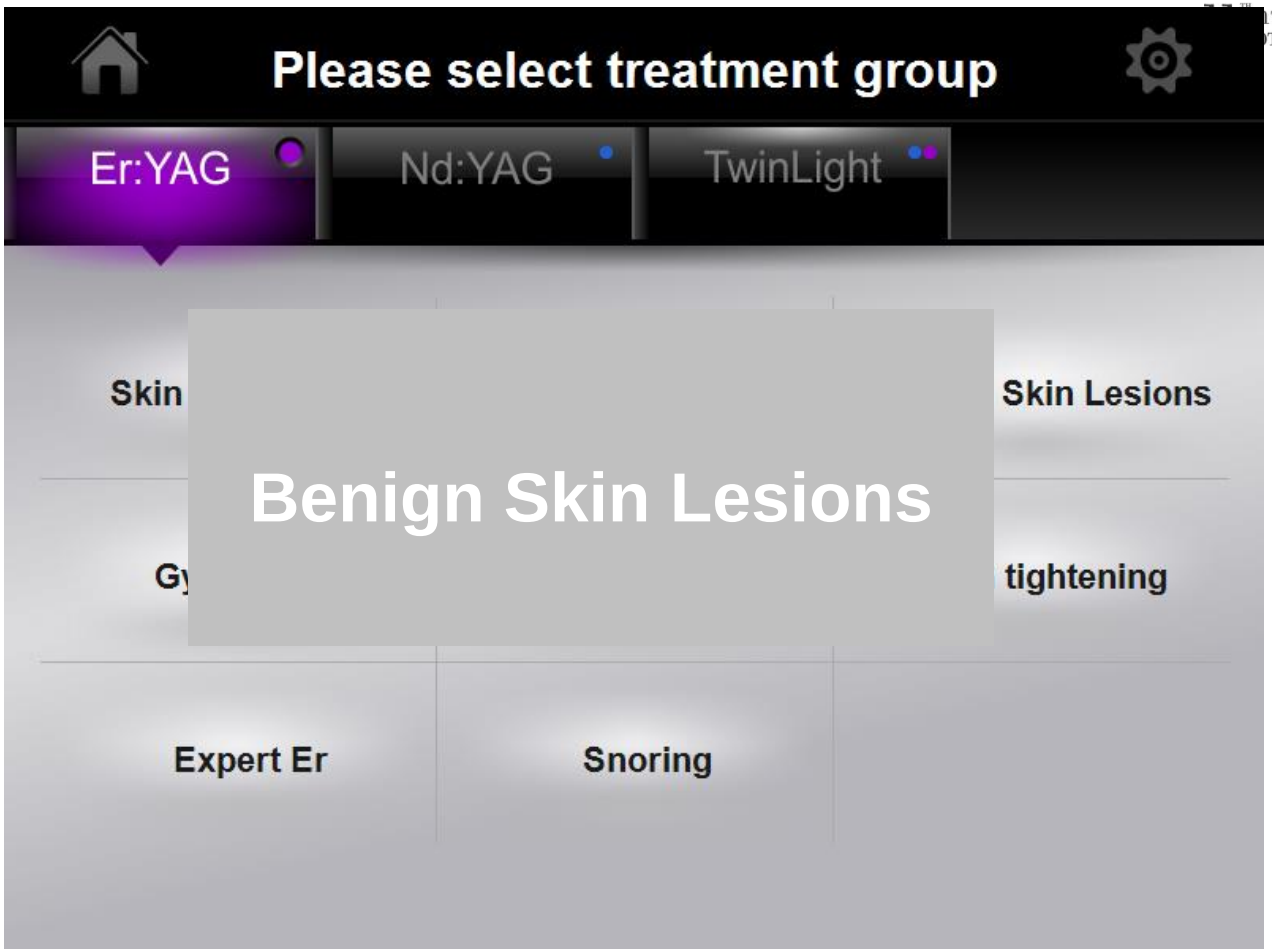


Standard laser technology | Fotona VSP technology

- From light-cold to deep-warm peels
- Fractional treatments
- SMOOTH mode

- Superior absorption
- Most efficient ablation
- VSP to control Ablation/Coagulation Ratio
- From mild-cold to deep-hot ablation
- Full beam and fractional ablations
- Special TURBO mode

Fotona
choose perfection



Benign Skin Lesions

Benign Skin Lesions

Ablative Er:YAG removal of benign lesions

Er:YAG

(Courtesy of S. Saracoglu, Turkey)

Benign Skin Lesions

Ablative Er:YAG removal of benign lesions

Er:YAG

(Courtesy of O. Matyunin, Russia)

Before

30 days after

Benign Skin Lesions

Ablative Er:YAG removal of benign lesions

(Courtesy of O. Matyunin, Russia)

Before

30 days after

Fotona
choose perfection

Ablative Er:YAG removal of benign lesions

11 The International Fotona Weekend

Er:YAG

(Courtesy of J Kozarev)

Before

2 weeks after Er:YAG laser resurfacing

10 months after Er:YAG laser resurfacing

New case report in LA&HA journal 2014

Journal of the Laser and Health Academy
Vol. 2014, No.1; www.laserandhealth.com

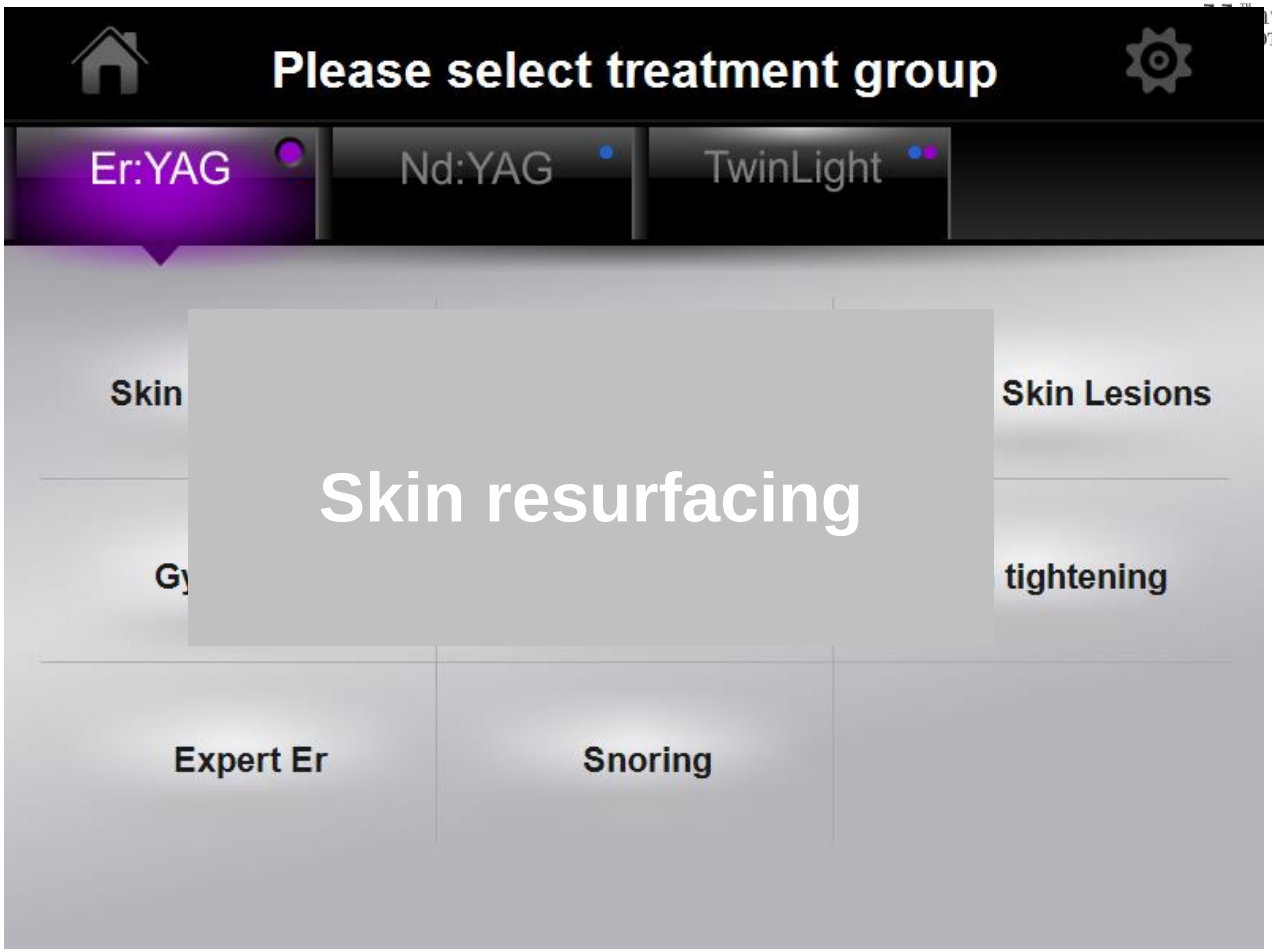
CASE REPORT

Erbium:YAG Laser Resurfacing Treatment of Linear Verrucous Epidermal Nevus

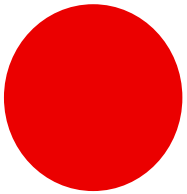
Jasmine Kozarev

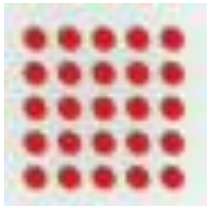
Dermamedica Dr.Kozarev, Sremska Mitrovica, Serbia

Fotona
choose perfection



Skin resurfacing





Full-field

Pattened

Fractional

Skin resurfacing

Er:YAG

- **Non-pigmented Skin Resurfacing**
  - Wrinkles
    (moderate to severe rhytides)
  - Scars
    (acne scars, surgical scars, traumatic scars, burn scars)
  - Stretch marks

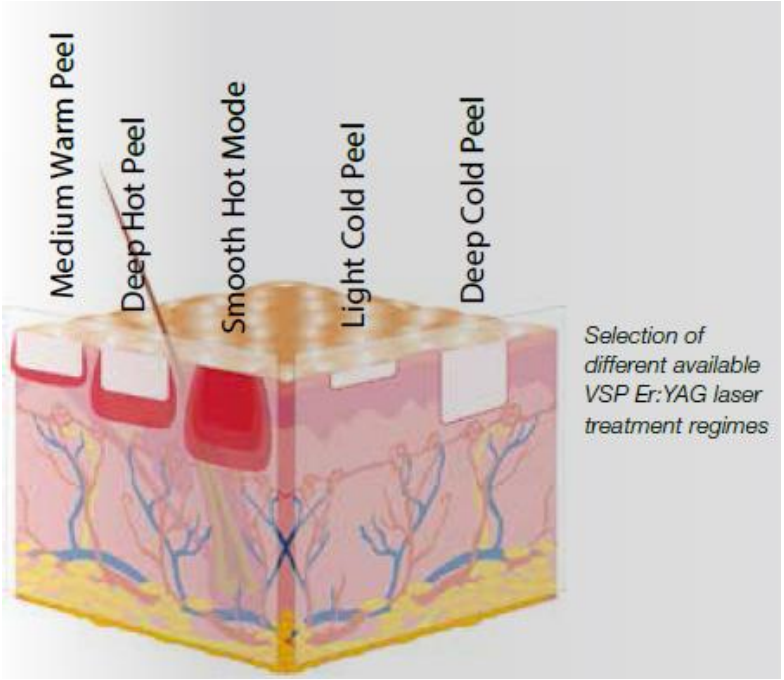
- **Pigmentation**
  - Photoaged (photodamaged) skin
    (freckles, age spots, vascular lesions, skin texture…)
  - Hyperpigmentations
    (Post-Inflamatory Hyperpigmentation - PIH, Melasma, Dyshromia)

Fotona
choose perfection

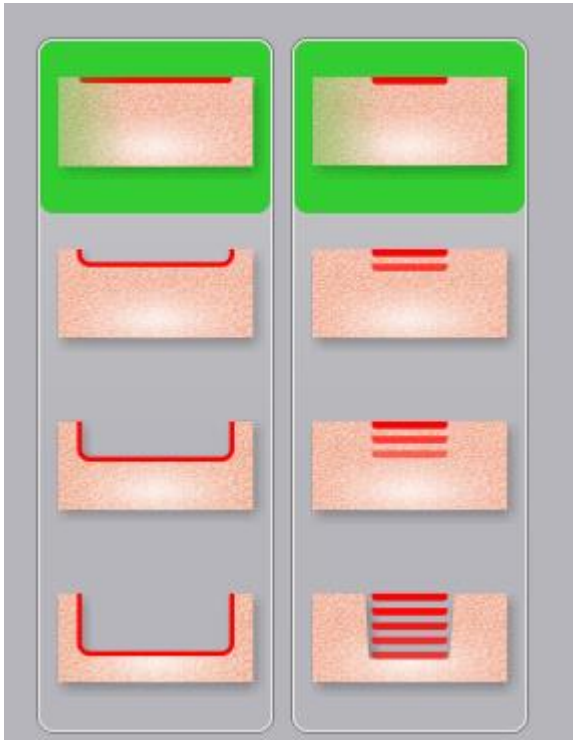
Skin resurfacing

11th International Fotona Weekend

Er:YAG



Selection of different available VSP Er:YAG laser treatment regimes



50 years of Fotona laser innovations

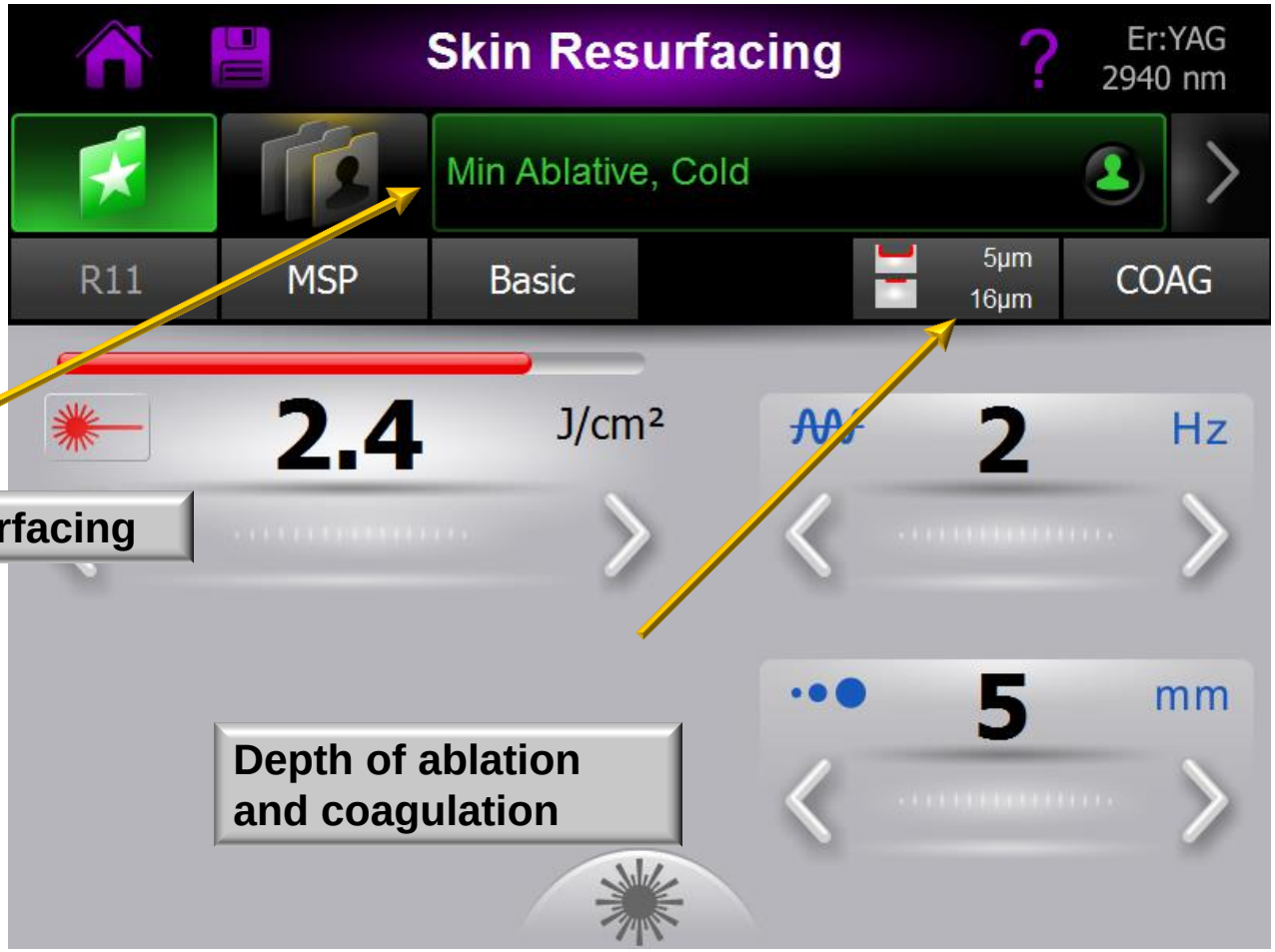
One family, together

Skin resurfacing

Er:YAG

16 preset temperature and depth combinations

From min ablative cold to deep hot



Er:YAG

Type of resurfacing

Depth of ablation and coagulation

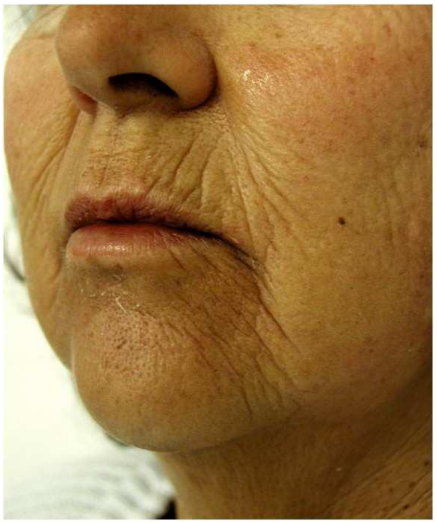
Skin resurfacing

Peri-Oral full-field resurfacing

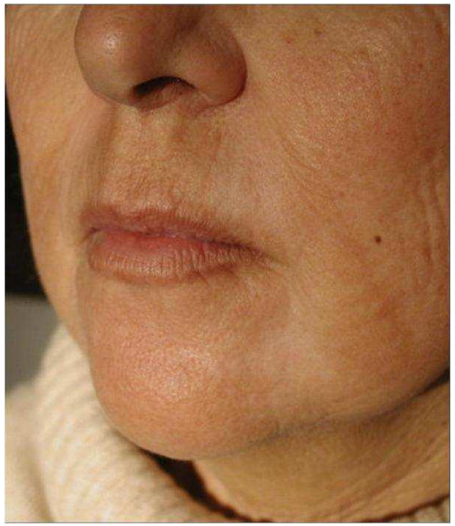
Fotona
choose perfection

11 The International Fotona Weekend

Er:YAG



Before



60 Days After

(Courtesy of dr. Paciolla)

Before

40 Days After

(Courtesy of dr. Ivano Luppino)

50 years of Fotona laser innovations

One family, together

Skin resurfacing

Peri-ocular full-field resurfacing

Er:YAG

(Courtesy of dr. Paciolla)

Before

60 Days After

Skin resurfacing

Acne and acne scars full-field resurfacing

Courtesy of R. Sult, USA

Er:YAG

Before

After 8 Weeks

1st pass: VSP 140 mJ, 5 mm R11 handpiece.
followed by 2 passes SP 1300 mJ, 5 mm

Application of BLT anesthetic cream for 20 minutes
No reccurrence in 6 months after 1 treatment

Skin resurfacing

Fotona
choose perfection

11 The International Fotona Weekend

Er:YAG

Acne Scars Resurfacing

(Courtesy of dr. Luppino)

Before

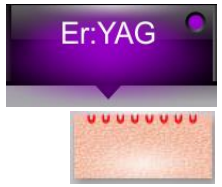
90 Days After

Fotona
choose perfection

Patterned Skin resurfacing

11 The International Fotona Weekend

Skin texture improvement with patterned treatment (Lentigo Senilis)



(Courtesy of dr. L. Volovec)

Before

During the treatment

1 week after 1 treatment

One family, together

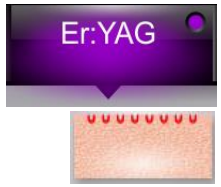
Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Patterned Skin resurfacing

11 THE INTERNATIONAL FOTONA WEEKEND

Light Patterned Peel



(Courtesy of dr. C.Pidal)

Antes

Post-Op Inmediato

Post-Op 60 Días

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Patterned Skin resurfacing

Fotona
choose perfection

11 The International Fotona Weekend

Acne Scars with Patterned Ablative Er:YAG

Er:YAG

Courtesy of Dr. O.Matyunin

Patterned Skin resurfacing

Er:YAG

Study: Comparison of multiple fractional/patterned Er:YAG vs. single full-beam treatment

- Conclusion: Multiple sessions of fractional/patterned laser have comparable effects to a single session of ablative Er:YAG laser on dermal collagen but ablative laser has a greater effect on elastic tissue and epidermis.

Fractional versus ablative erbium:yttrium-aluminum-garnet laser resurfacing for facial rejuvenation: An objective evaluation

Moetaz El-Domyati, MD,[a] Talal Abd-El-Raheem, MD,[b] Hossam Abdel-Wahab, MD,[a] Walid Medhat, MD,[a] Wael Hosam, MD,[a] Hasan El-Fakahany, MD,[a] and Mustafa Al Anwer, MSc[a]
Al-Minya and Al-Fayoum, Egypt

New article in Journal of American Academy of dermatology, 2013 by Dr. El-Domyati from Egypt

Patterned Skin resurfacing

Patterned resurfacing

Er:YAG

Study: Comparison of multiple fractional/patterned Er:YAG vs. single full-beam treatment

New article in Journal of American Academy of dermatology, 2013 by Dr. El-Domyati from Egypt

- Increase collagen deposition, neocollagenesis and epidermal thickness

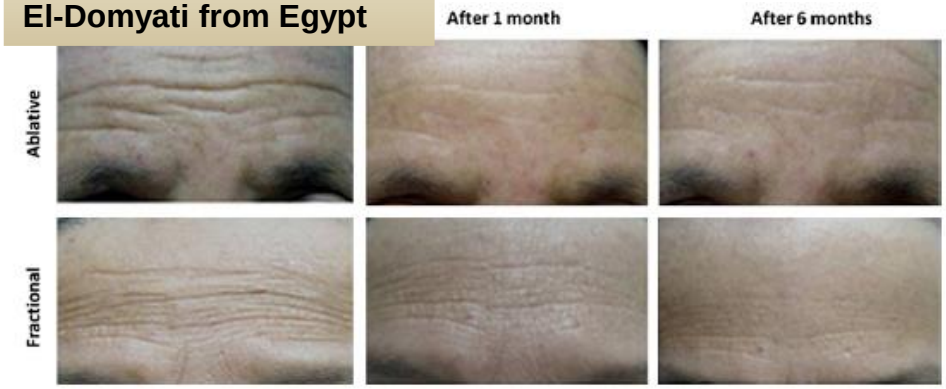


Fig 1. Clinical evaluation of volunteers. Representative photographs showing comparable improvement after ablative and fractional erbium:yttrium-aluminum-garnet 2940-nm laser resurfacing.

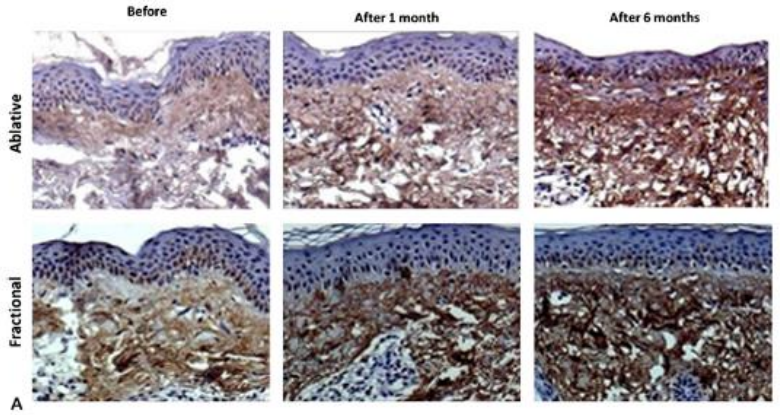


Fig 3. Increase in collagen I (A) and collagen III (B) concentration after laser resurfacing in both groups. (Immunohistochemistry; original magnifications: 3200.)

Patterned Skin resurfacing

Fotona
choose perfection

11th International Fotona Weekend

Er:YAG

Traumatic Scars full-beam and patterned resurfacing

R11 and PS02

Courtesy of Dr. Matyunin

before

6 months after

Skin resurfacing

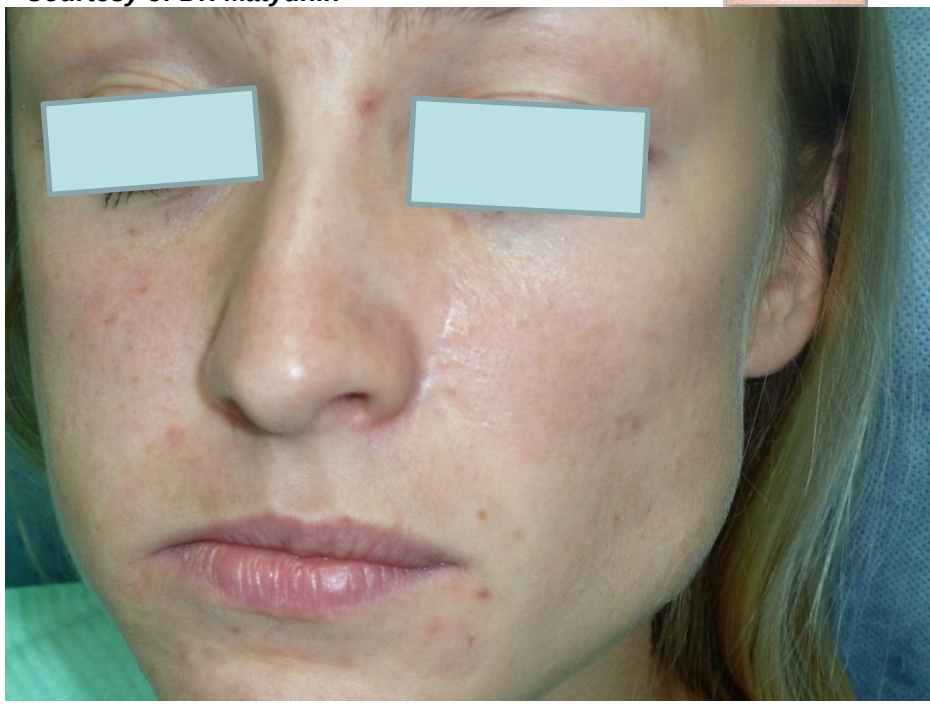
Fotona
choose perfection

Er:YAG

Traumatic Scars full-beam and patterned resurfacing

R11 and PS02

Courtesy of Dr. Matyunin



before

10 months after

50 years of Fotona laser innovations

One family, together

Skin resurfacing

Fotona
choose perfection

11 The International Fotona Weekend

Er:YAG

Traumatic Scars full-beam and patterned resurfacing

R11 and PS02

Courtesy of Dr. Matyunin

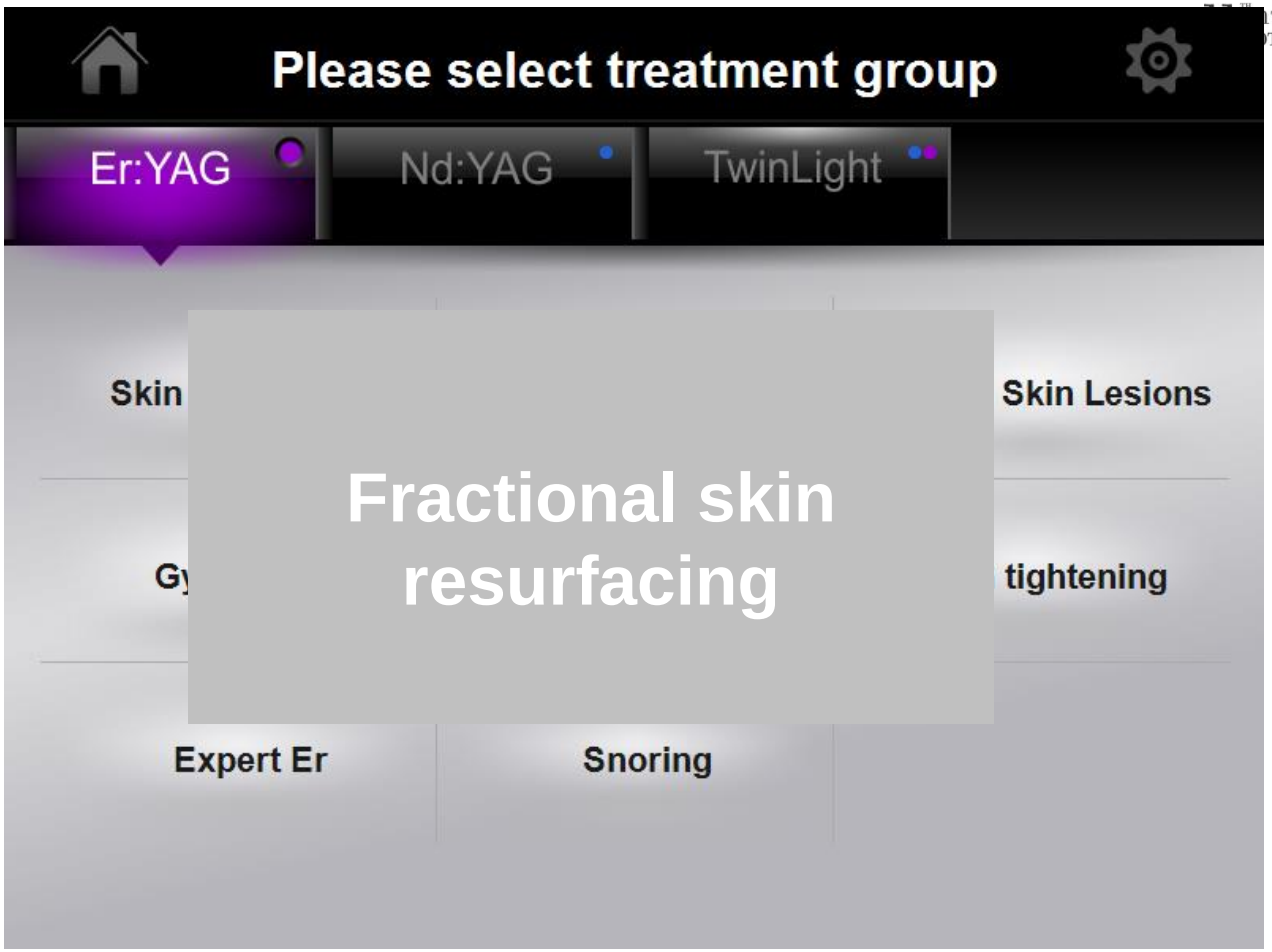
before

2 years after

One family, together

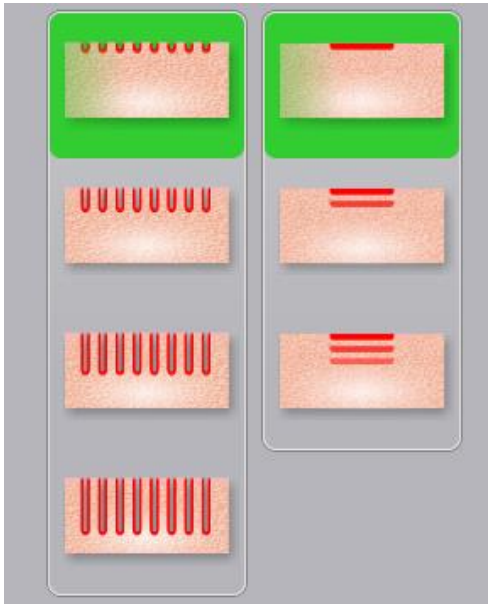
Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

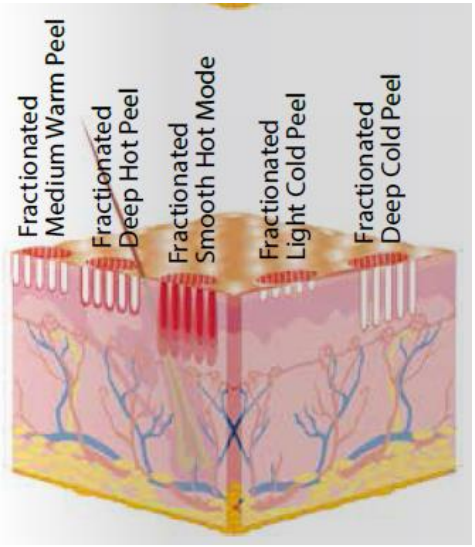


Fractional Skin resurfacing

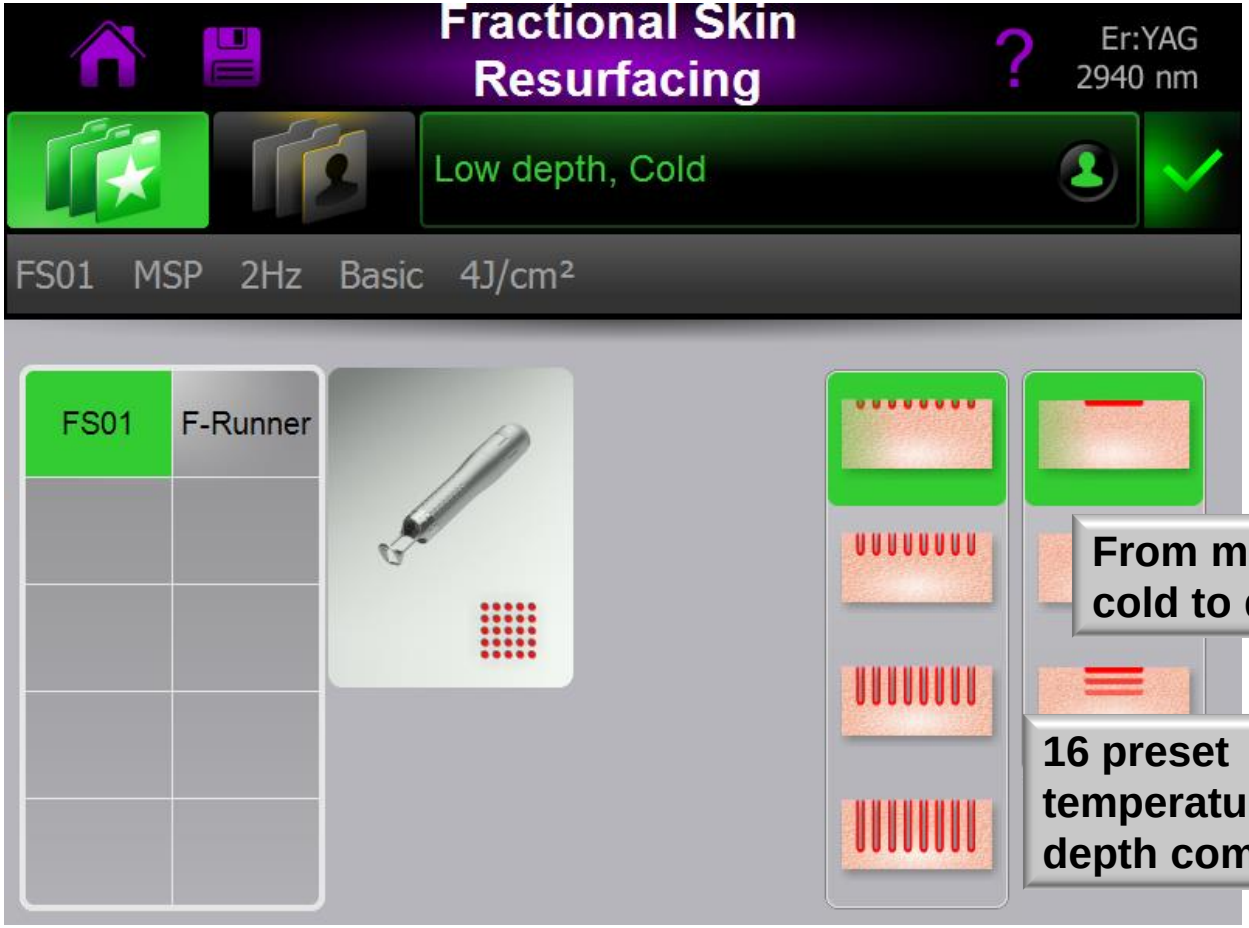
- Accelerates Recovery
- Enhances wound healing
- Superior for scar healing



An array of microscopic wounds on the skin surface that are rapidly reepithelialized by the surrounding, undamaged tissue, sparing the epidermis in the untreated areas



Fractional Skin resurfacing



From min ablative cold to deep hot

16 preset temperature and depth combinations

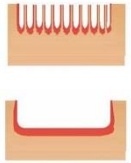
Fractional Skin resurfacing

Applications:

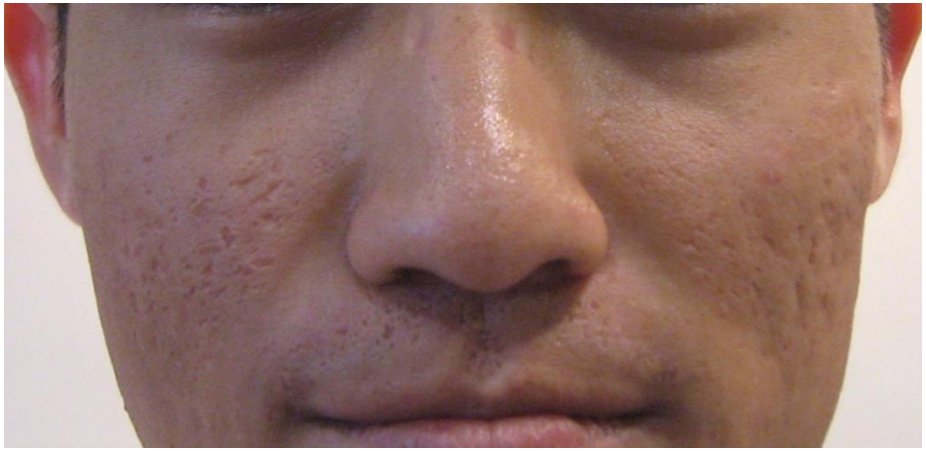
- Fractional skin resurfacing for treating sun damaged, aging skin, possibly with acquired pigmented lesions (like lentigo seniles)
- Treatment of fine lines and milder wrinkles
- Scar revision
- Striae treatment
- Drug delivery enhancement
- Combined Er:YAG+Qs for pigments and tattoos

Fractional Skin resurfacing

Fractional resurfacing treatment



Deep F-22 fractional + S-22 full-beam light peel



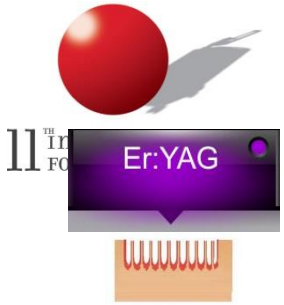
Courtesy of Dr. L. Marini

Before

6 months
After one tx

Fotona
choose perfection

Fractional Skin resurfacing



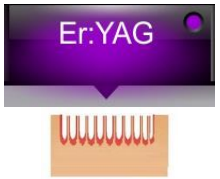
Test of Downtime at 35 µm ablation depth

Parameters used: pixel size: 250 µm, pixel energy: 10 mJ, coverage 5%, LP

Before **Immediately After** **2 Days After**

Erytherma was fully resolved after two days.

Fractional Skin resurfacing



Journal of the Laser and Health Academy
Vol. 2014, No.1; www.laserandhealth.com

Clinical and Histological Evaluation of Er:YAG Ablative Fractional Skin Resurfacing

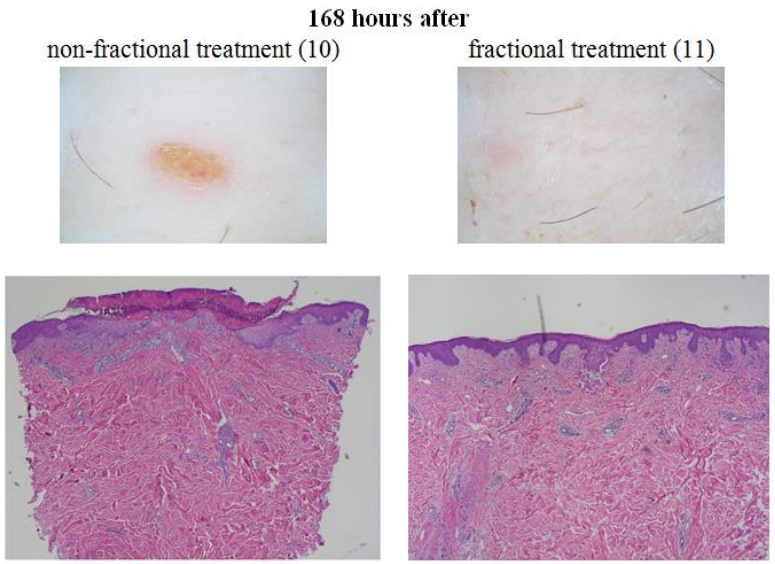
Borut Žgavec, Neža Stopajnik
Dermatology Borut Žgavec, Škofja Loka, Slovenia

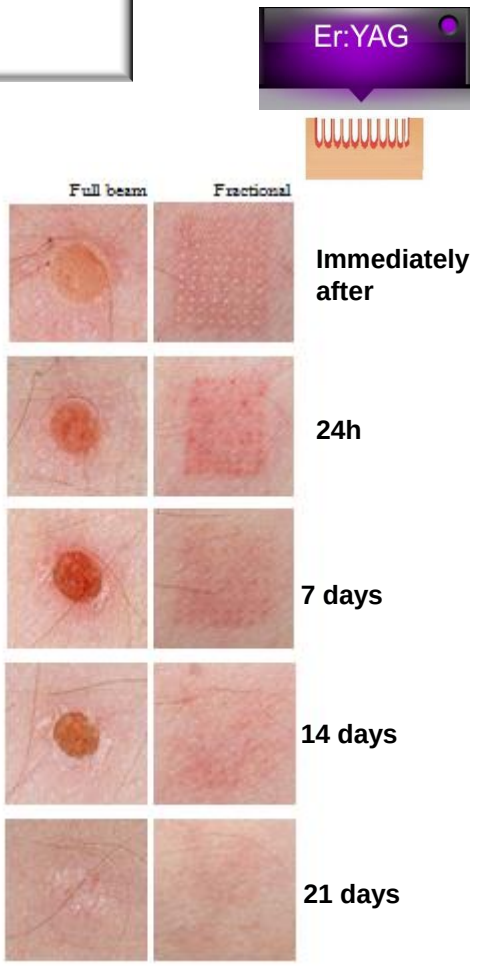
New article in LA&HA journal 2014

Fractional Skin resurfacing

Study: clinical and histological comparison of fractional vs full-beam Er:YAG

- A study of clinical and histological comparison of the healing process after fractional and non-fractional Er:YAG
- Results demonstrate that the wound healing process after Er:YAG fractional treatment is significantly shorter when compared to full beam ablative treatment, and is resulting also in milder side effects.





New article in LA&HA journal 2014, B.Zgavec

Fractional Skin resurfacing

FS01 scar treatment

Clinical Bulletin 13/06_1

Yana Targonskaya, MD, specialized in dermatology, after finishing medical school in Russia. Targonskaya passed the proficiency examination and specialist exam in dermatovenerology at the Dermatological Clinic of University Medical Centre Ljubljana. She has gained experience and knowledge in the field of aesthetic medicine in UK, France, Italy and Austria.

Clinical Bulletin
J. LAHA, Vol. 2013, No. 2, p. 802.

Combined Er:YAG Laser Acne Scar-Revision Treatment

Yana Targonskaya

Parameters:

Laser source:	Er:YAG, 2940 nm		
Treatment:	1-3		4
Pulse duration:	SP	SP	SP
Fluence:	7 J/cm²	28-56 J/cm²	70 J/cm²
Frequency:	3-4 Hz		
Handpiece:	R-11, 3 mm spot size	FS-01	FS-01
Density / coverage:		5 %	5 %

Treatment procedure:

22-year-old patient, previously treated with isotretinoin for a year came in for scar revision treatment. He did not have any acute acne at the time of the first treatment.

Before the treatment, a thick layer of 5% emulsion lidocaine/prilocaine preparation was applied to the treatment area for 30 minutes, covered with occlusion dressing.

Four treatments were performed. We started the treatment with R-11 handpiece, with 3 mm full spot size at 7 J/cm2, up to 4 Hz repetition rate, ablating only the edges of the scars. We continued with fractional FS-01 handpiece at 56 J/cm², up to 2 Hz, Turbo 4, 5% coverage, SP, treating both already ablated surfaces as well as the bigger pits.

Remaining affected area was then treated with 42 J/cm², Turbo 3, up to 2 Hz. Outer edges of the scarred area were finished with 28 J/cm², Turbo 2, 1 Hz.

In 2 following treatments we kept smoothing remaining edges of the pits, while increasing the parameters each time, where the last treatment had the highest parameters of 70 J/cm², Turbo 5, 2 Hz, 5% coverage, SP.

Before scar-revision treatment

After 4 treatments

Laser&Health ACADEMY

Published by the Laser and Health Academy. All rights reserved. © 2013

Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.

Er:YAG

Clinical bulletin in LA&HA journal 2013

Fractional Skin resurfacing

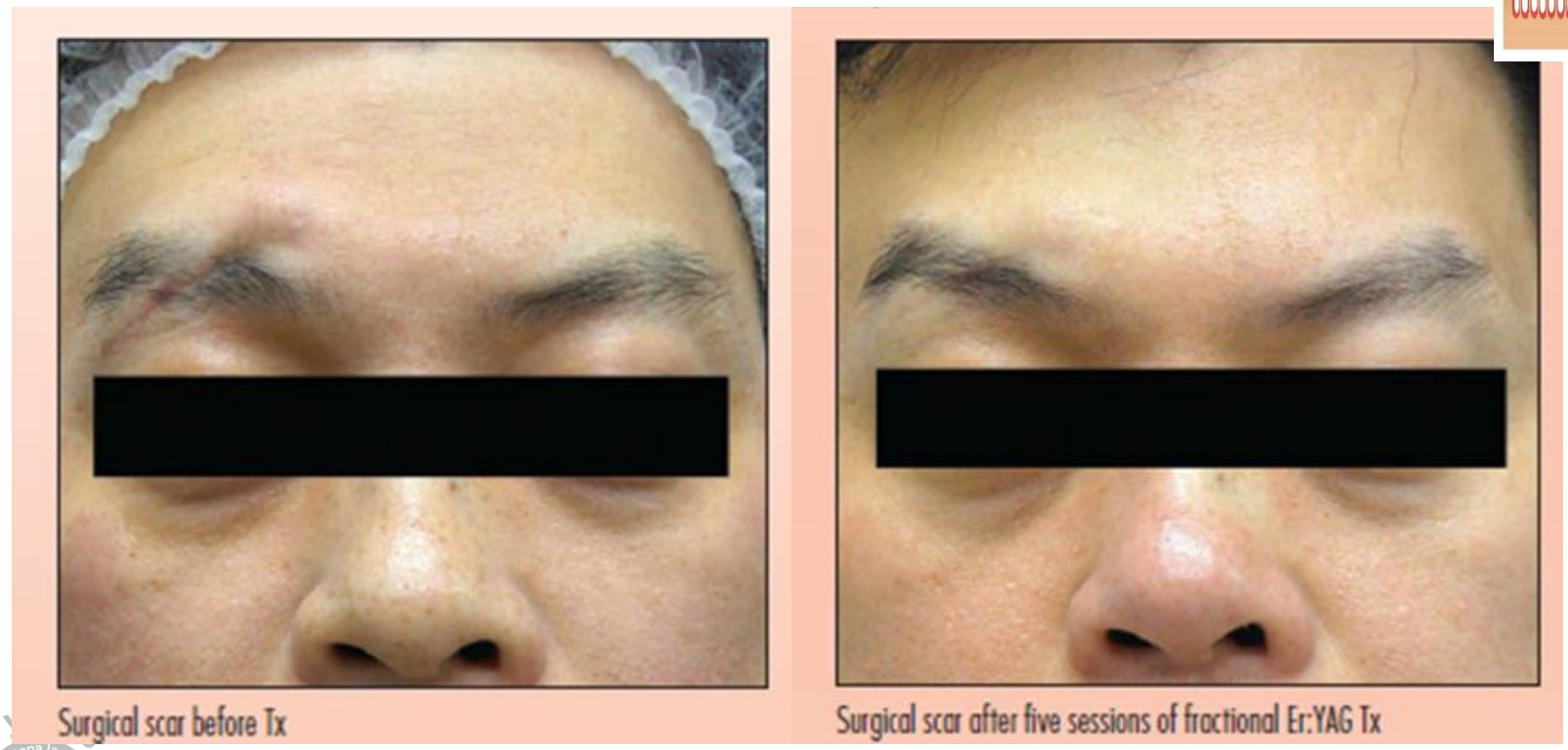
Fotona
choose perfection

Traumatic Scars with Fractional Ablative Er:YAG

The International Fotona Weekend

Er:YAG

F-22 scar treatment



Courtesy of Dr. Au, Hong Kong

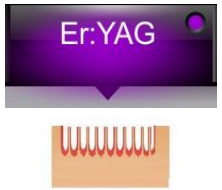
A

Fractional Skin resurfacing

Traumatic Scars with Fractional Ablative Er:YAG

F-22 and PS02 scar revision

Courtesy of Dr. Omparkash, India



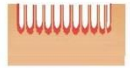
Fractional Skin resurfacing

Fotona
choose perfection

Acne Scars with Fractional Ablative Er:YAG

The International Fotona Weekend

Er:YAG



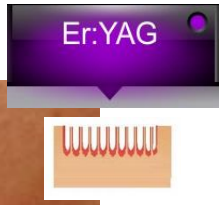
Dr. J.Kozarev
Multimodal Er:YAG Fractional Photothermolysis in Dermatology
LECTURE on
LA&HA Symposium 2014

Dr. M. Taylor: Acne scars with fractional ErYAG + subcision
LECTURE on
LA&HA Symposium 2014

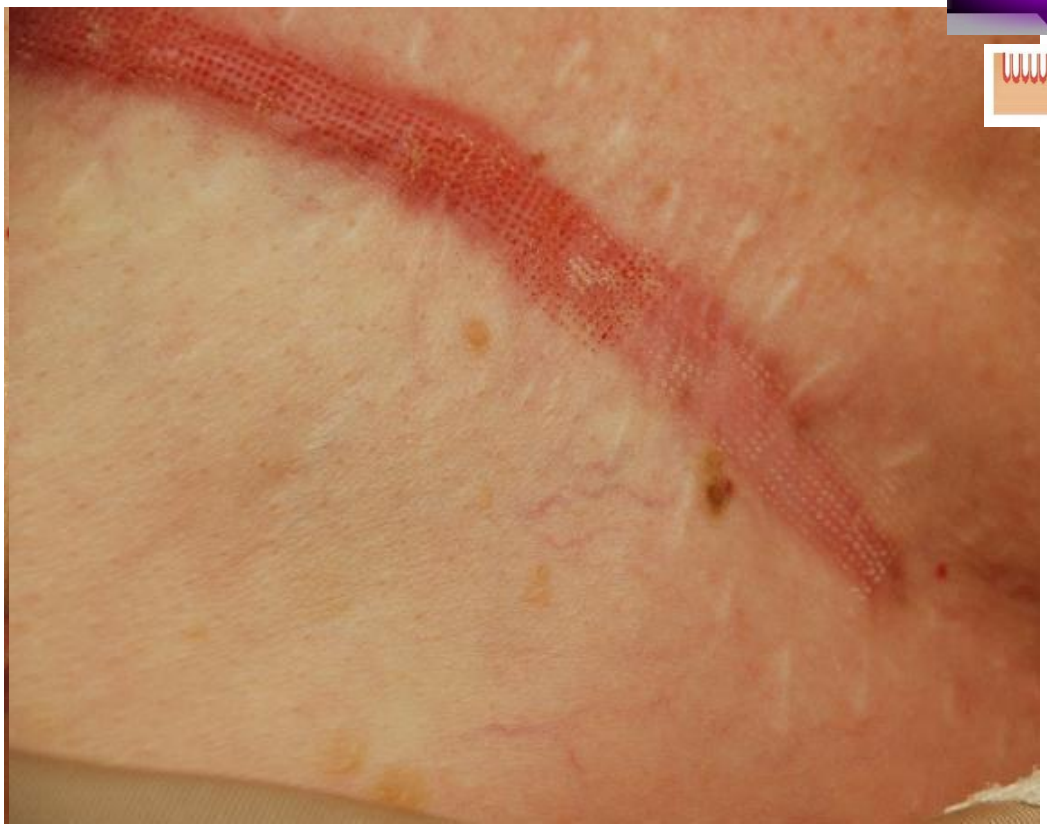
Fractional Skin resurfacing

Traumatic Scars with Fractional Ablative Er:YAG

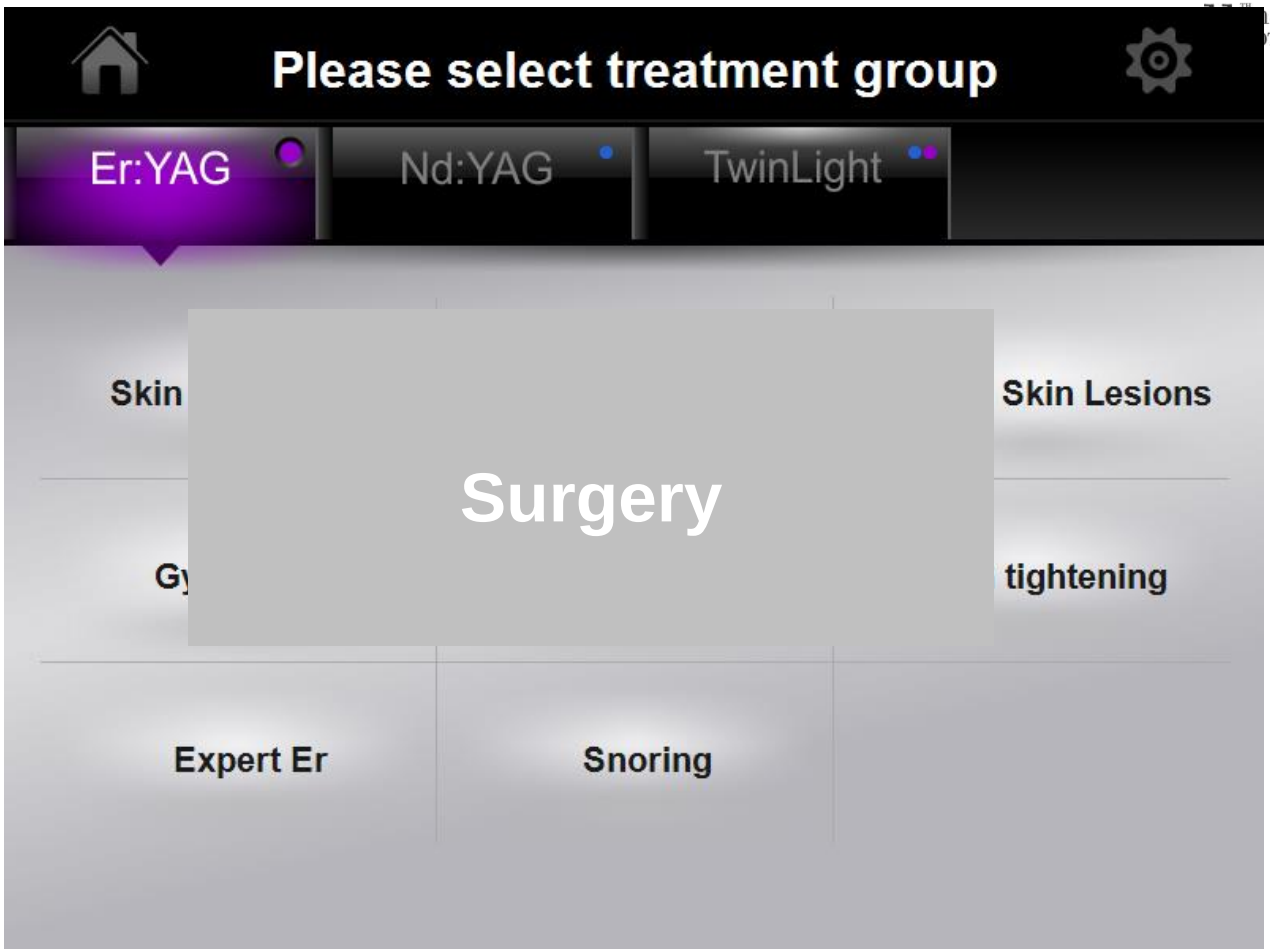
F-22 scar treatment



- Re-establishment of functionality
- Scar revision for relaxation of the tissue and elimination of pulling sensastion

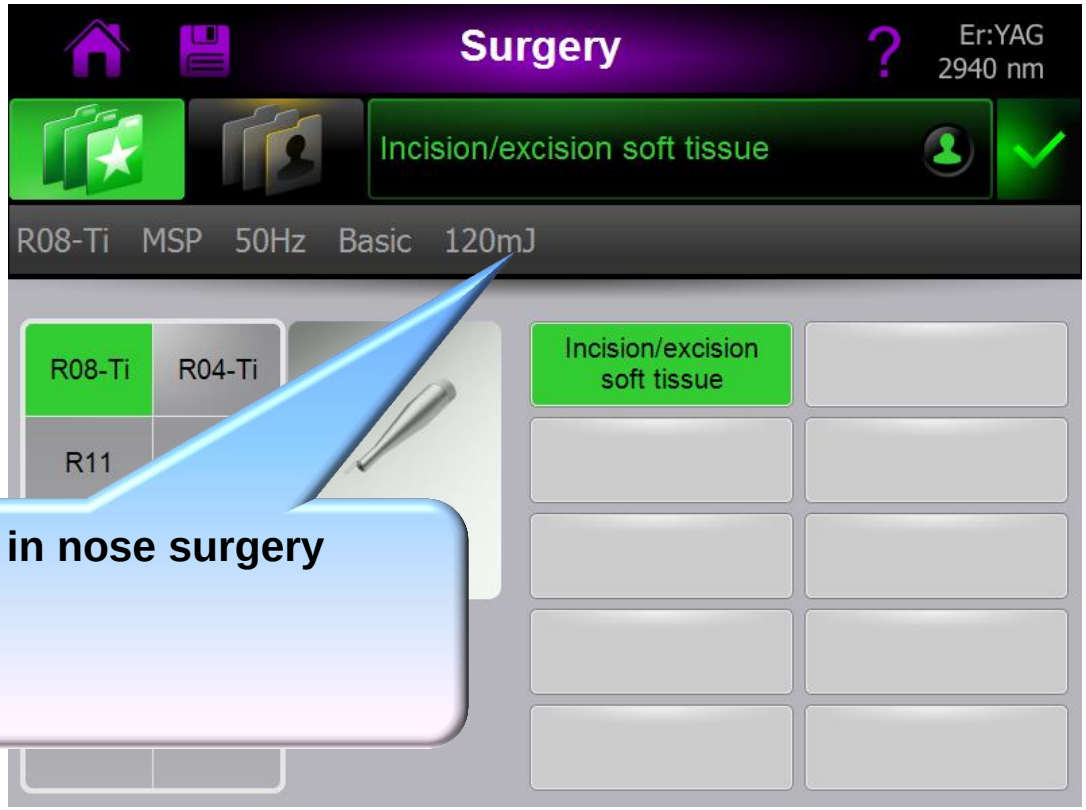


Fotona
choose perfection



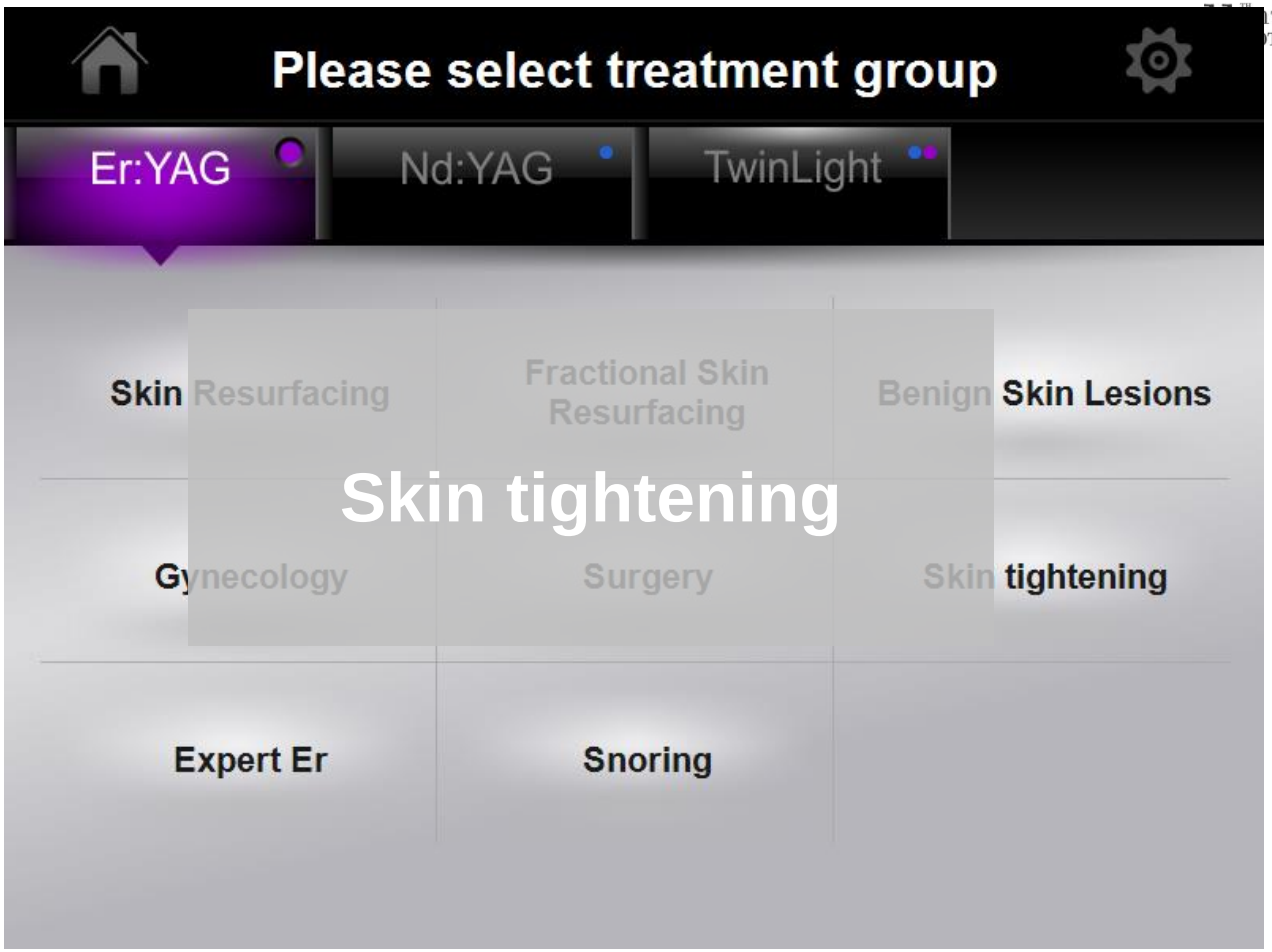
50 years of Fotona laser innovations

Er:YAG Full-Field Applications
Surgery



Dr. S. Koltaj: Er:YAG in nose surgery (Rhinophyma)
LECTURE on
LA&HA Symposium 2014

Fotona
choose perfection



50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Skin tightening

11th International Fotona Weekend

Er:YAG

50 years of Fotona laser innovations

Fotona
choose perfection

SMOOTH® mode

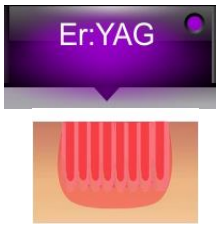
11 The International Fotona Weekend

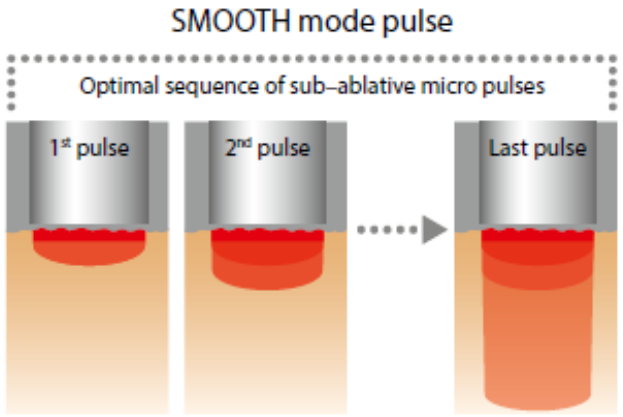
What is SMOOTH® mode?

- Optimal sequence of sub-ablative micro pulses
- SMOOTH mode treats the skin in a non-ablative manner with precisely controlled temperature deposition.
- The optical energy is delivered in a unique subsecond long pulse sequence which prevents temperature build-up at the surface
- Achieves homogeneous heating within several hundred micrometers of the tissue.

What SMOOTH® mode does?

- SMOOTH mode enables non-ablative laser skin remodeling
- Controlled induction of thermal injury of the collagen while preserving the epidermis.
- In addition to an immediate effect resulting in the shrinkage of collagen fibers, the initiation of neo-collagenesis occurs causing the generation of new collagen.
- The effects result in an overall improvement of laxity and elasticity in the treated tissue.





Thermal non-ablative treatment without any bleeding risk or damages to deeper-lying tissues

50 of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Skin tightening with SMOOTH® mode

11 The International Fotona Weekend

Striae and skin flaccidity with SMOOTH® mode

Er:YAG

Courtesy of Dr.C.Pidal

Before

After third monthly treatment

Fotona
choose perfection

Skin tightening with SMOOTH® mode

11 The International Fotona Weekend

Skin flaccidity in arms with SMOOTH® mode

Er:YAG

Courtesy of Dr.C.Pidal

before

After 1 session

Fotona
choose perfection

Skin tightening with SMOOTH mode

11 The International Fotona Weekend

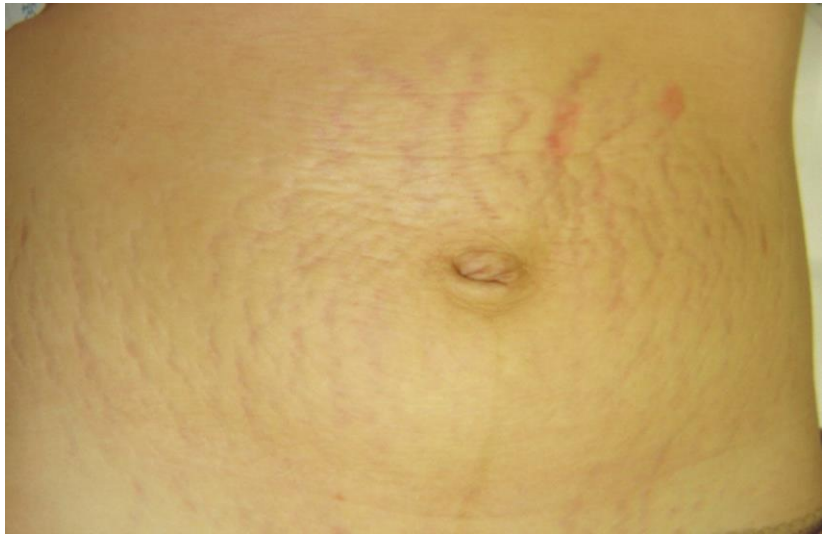
R. Gansel
Smooth mode for facial rejuvenation
LECTURE on
LA&HA Symposium 2014

Skin tightening with SMOOTH® mode

Striae: Patterned Ablative Er:YAG + SMOOTH®

Er:YAG

(Courtesy of dr. C.Pidal)

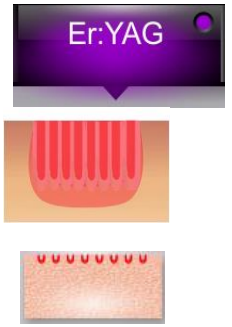


Before

1 week after 1 treatment

Skin tightening with SMOOTH® mode

Striae: Patterned Ablative Er:YAG + SMOOTH®



Patient treated using SP & SMOOTH mode of Er:YAG laser showed 51-75% improvement of skin texture.

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2013, No.1; www.laserandhealth.com

Courtesy of Dr. Wanitphakdeedecha, Thailand

Treatment of Striae Distensae with Variable Square Pulse Erbium:YAG Laser Resurfacing in Patients with Skin Phototype III - IV

Rungsima Wanitphakdeedecha
Department of Dermatology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Article in LA&HA journal 2013

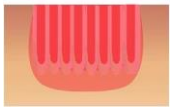
Fotona
choose perfection

Skin tightening with SMOOTH® mode

11 THE INTERNATIONAL FOTONA WEEKEND

Intraoral tightening with SMOOTH® mode

Er:YAG



ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2013, No.2; www.laserandhealth.com

Tightening of Facial Skin Using Intraoral 2940 nm Er:YAG SMOOTH Mode

Adrian Gaspar[1], Gustavo Alfaro Gasti[2]
1 Prima Piel Clinic of Aesthetics, Antiaging and Gynecology, Mendoza, Argentina
2 Rejuvemed Clinic of Plastic Surgery, Aesthetic Medicine and Gynecology, Santiago de Chile, Chi

Case report in LA&HA journal 2013

ABSTRACT

Facial skin rejuvenation has long been the most highly desired aesthetic procedure. The demand for no-downtime procedures in skin rejuvenation has guided researchers to develop newer non-invasive procedures based on thermal effects that result in collagen remodeling.

The purpose of this prospective pilot study was to assess the effectiveness and safety of intraoral treatment

Ablative laser skin resurfacing
lasers such as CO_2 or Er:YAG
considered the gold standard for
Er:YAG lasers produce less residu
and hence less total depth of tissue necrosis, with faster healing and less down time in comparison with CO_2 lasers [1]. However, ablative laser treatments have become less popular due to prolonged downtime and an increased risk of complications with long-lasting side effects [2].

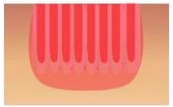
Fotona
choose perfection

Skin tightening with SMOOTH® mode

11 The International Fotona Weekend

Intraoral tightening with SMOOTH® mode

Er:YAG



Courtesy of dr. Gaspar

Intraoral treatment of perioral wrinkles with Er:YAG in non-ablative mode resulting in a significant diminishing of the nasolabial furrow.

Fotona
choose perfection

Skin tightening with SMOOTH® mode

11 The International Fotona Weekend

Er:YAG

Intraoral tightening with SMOOTH® mode

Courtesy of dr. Gaspar

Dr. A. Gaspar
Intraoral tightening of nasolabial folds
LECTURE on
LA&HA Symposium 2014

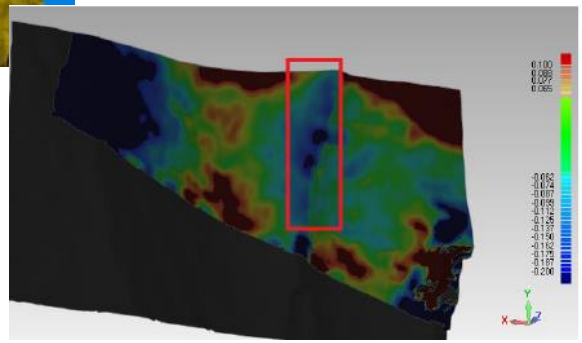
Skin tightening with SMOOTH® mode

Intraoral tightening with SMOOTH® mode

Areas analysed

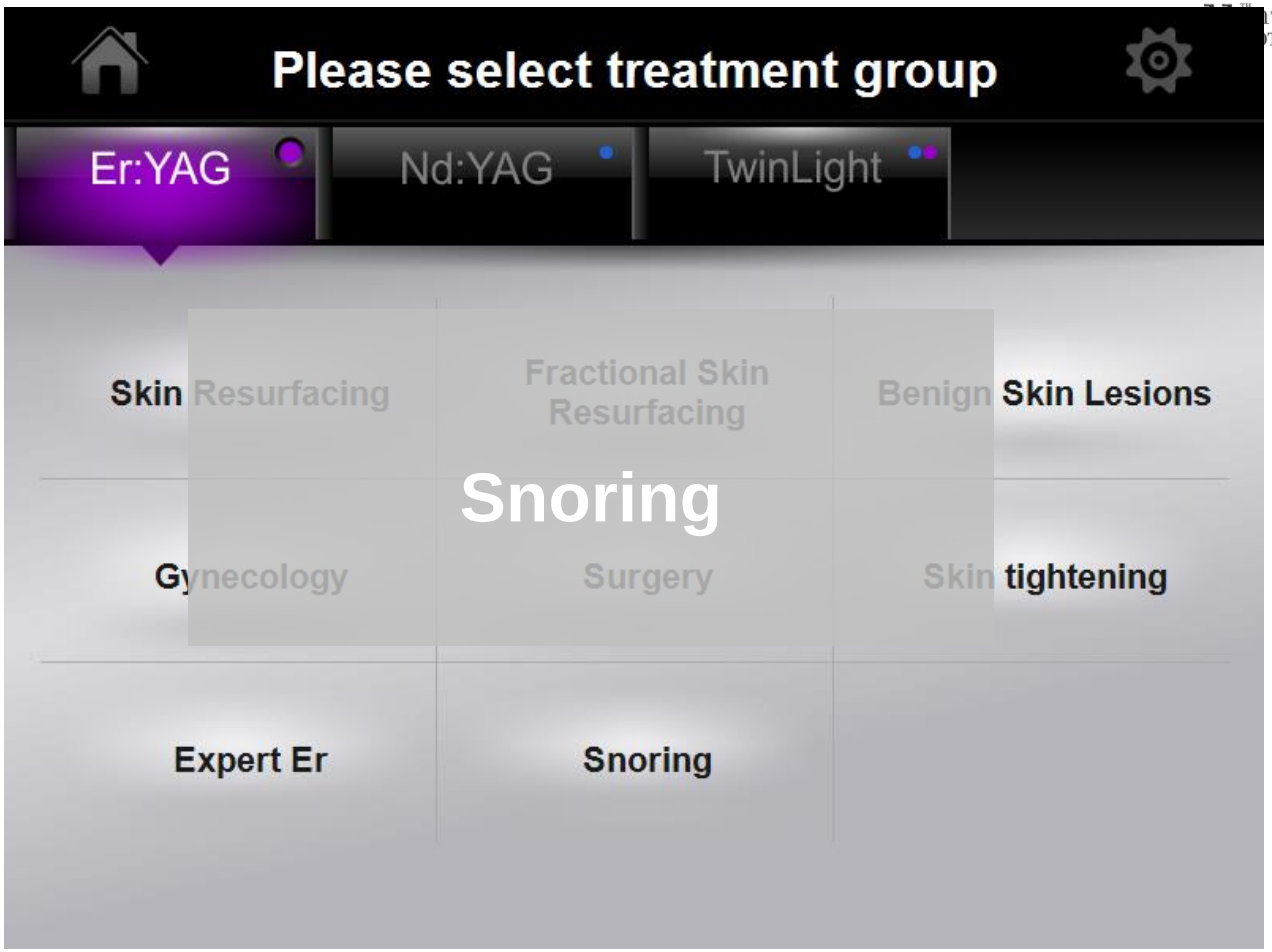
Before After

Reconstruction of the treated surface of the skin



Change in skin relief after the treatment

The use of **PROFILER** measurement equipment for the analysis of the change in the nasolabial fold before and after intaoral SMOOTH mode

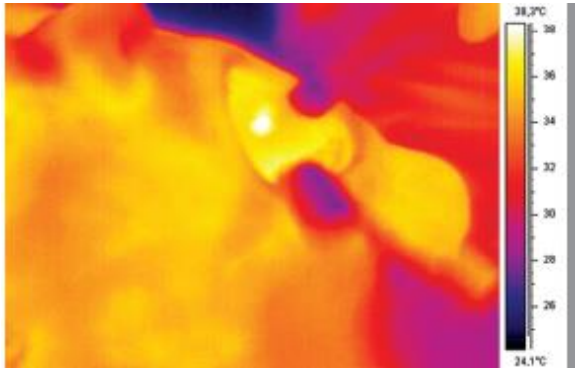

Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Skin Resurfacing
Fractional Skin Resurfacing
Benign Skin Lesions
Snoring
Gynecology
Surgery
Skin tightening
Expert Er
Snoring

Fotona
choose perfection

11 THE INTERNATIONAL FOTONA WEEKEND
Er:YAG

NightLase™

- Non-invasive
- Increases the quality of a patient's sleep
- Extremely easy for any doctor or dentist to perform
- Lessens the effects of snoring and sleep apnea
- No anesthesia – no needles
- No pre- or post-op pain
- Three 10 minute sessions over 2 months
- Immediate results from 1st day (70 – 100% reduction)
- During NightLase treatment laser light heats the tissue, causing tightening of the tissue which leads to an attenuation of the sound of the patients snoring and a lessening of the effects of sleep apnea



Snoring

Dr. Krysztof Miracki's study on 57 patients showed very good results, 80% responded well.

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2013, No.1; www.laserandhealth.com

Nonsurgical Minimally Invasive Er:YAG Laser Snoring Treatment

Krysztof Miracki[1], Zdenko Vizintin[2]
[1]Snoremed Clinic, Warsaw, Poland
[2]Fotona, Ljubljana, Slovenia

ORIGINAL ARTICLE in LA&HA Journal 2013

ABST[illegible]T

[illegible]rt describes a one year clinical experience [illegible]e NightLase™ laser treatment on patients [illegible]and other SDB symptoms. The NightLase [illegible] based on a minimally invasive photo-[illegible]ect using Er:YAG laser light on oral mucosa.

found that 46% of Polish males and 25% of females are habitual snorers [5].

There are several factors which could contribute to snoring, among them nasal congestion, the anatomy of the patient's mouth, obesity, sedatives and drug use as well as smoking and alcohol consumption.

Fotona
choose perfection

Snoring

11 THE INTERNATIONAL FOTONA WEEKEND
Er:YAG

- 75 patients with different degrees of snoring and obstructive sleep apnea
- The outcome of the treatment was very beneficial for the patients
- The success rate after three treatments was 90%.
- More than 80% of the patients also reported that they breathed much easier, being more alert and focused.

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2013, No. 2; www.laserandhealth.com

Er:YAG Laser Treatment of Sleep-Disordered Breathing

Katarina Svahnström
General Dentistry Clinic, Uppsala, Sweden

ORIGINAL ARTICLE in LA&HA Journal 2013

50 years of Fotona laser innovations

One family, together

Fotona
choose perfection

Snoring

11 THE INTERNATIONAL FOTONA WEEKEND

Er:YAG

Dr. D. Dovšak;
Snoring, pilot study with polygraph
LECTURE on
LA&HA Symposium 2014

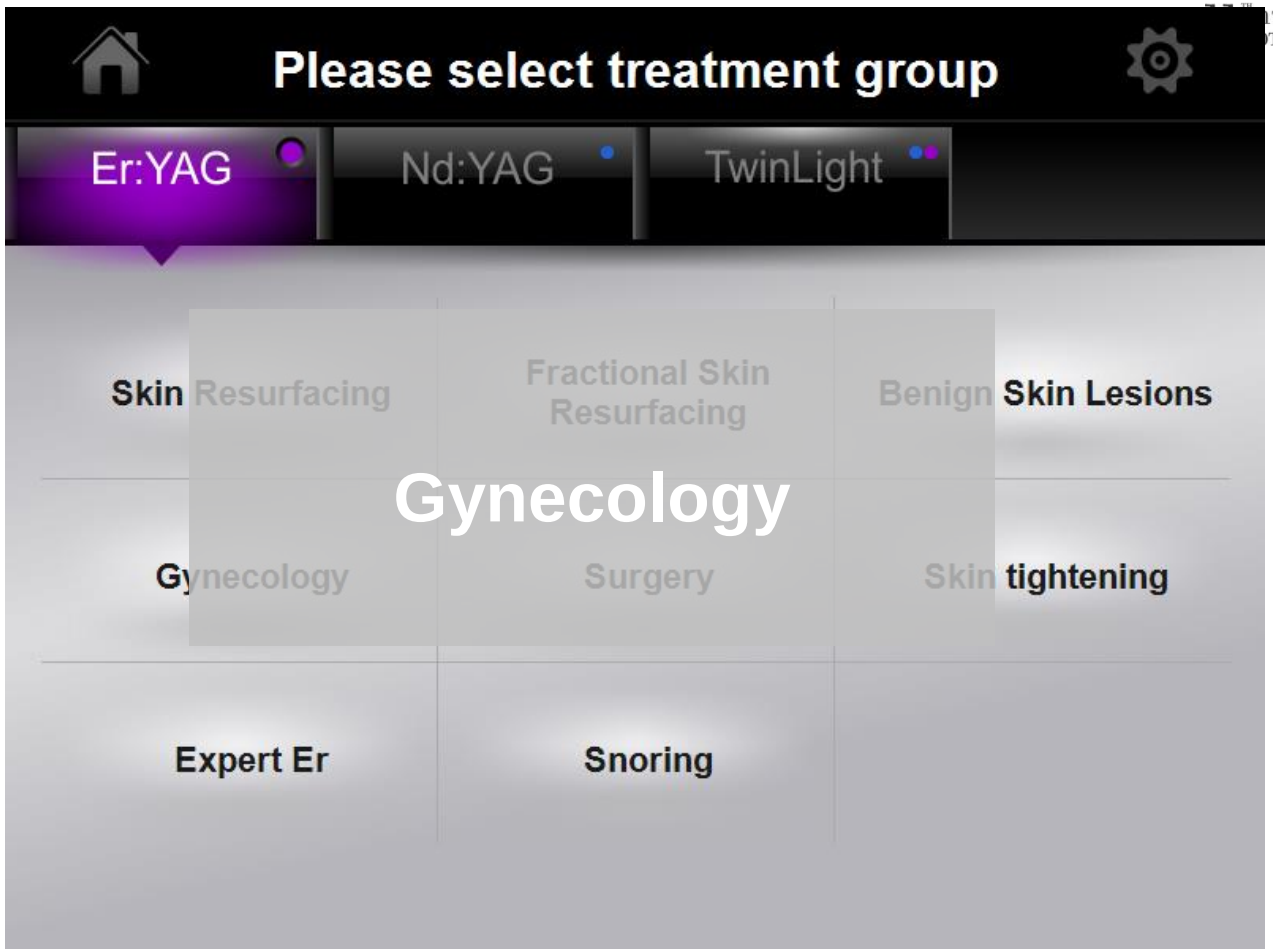
Dr. Lin;
Chinese experience with NightLase
LECTURE on
LA&HA Symposium 2014

50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection



Gynecology

50 years of Fotona laser innovations

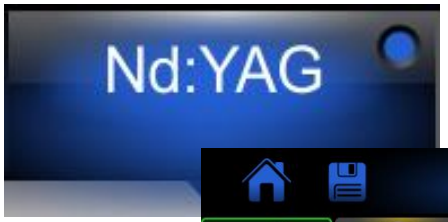
One family, together

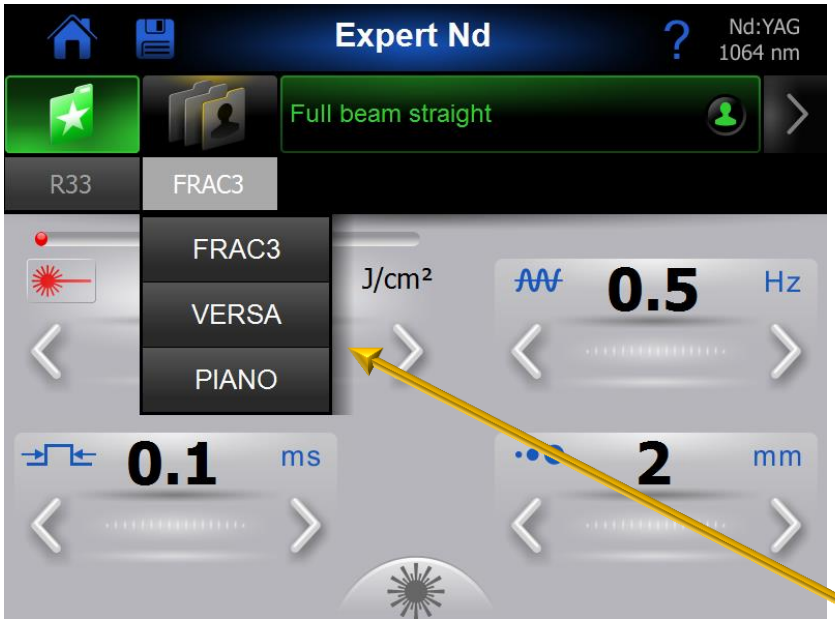
Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

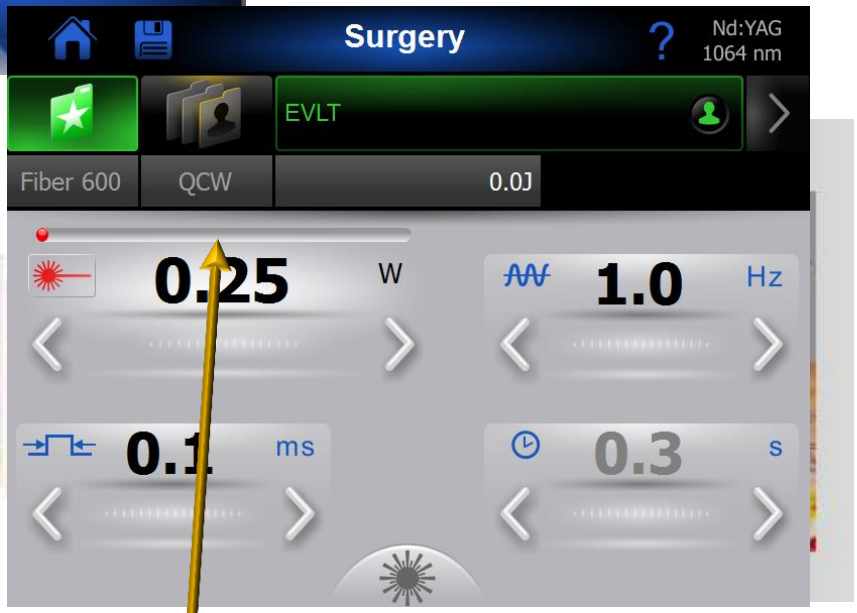
Er:YAG
Nd:YAG
Hair ren
ns
Skin rejuvenation
Acne
Surgery
Podiatry
Expert Nd

Fotona
choose perfection

11 The International Fotona Weekend

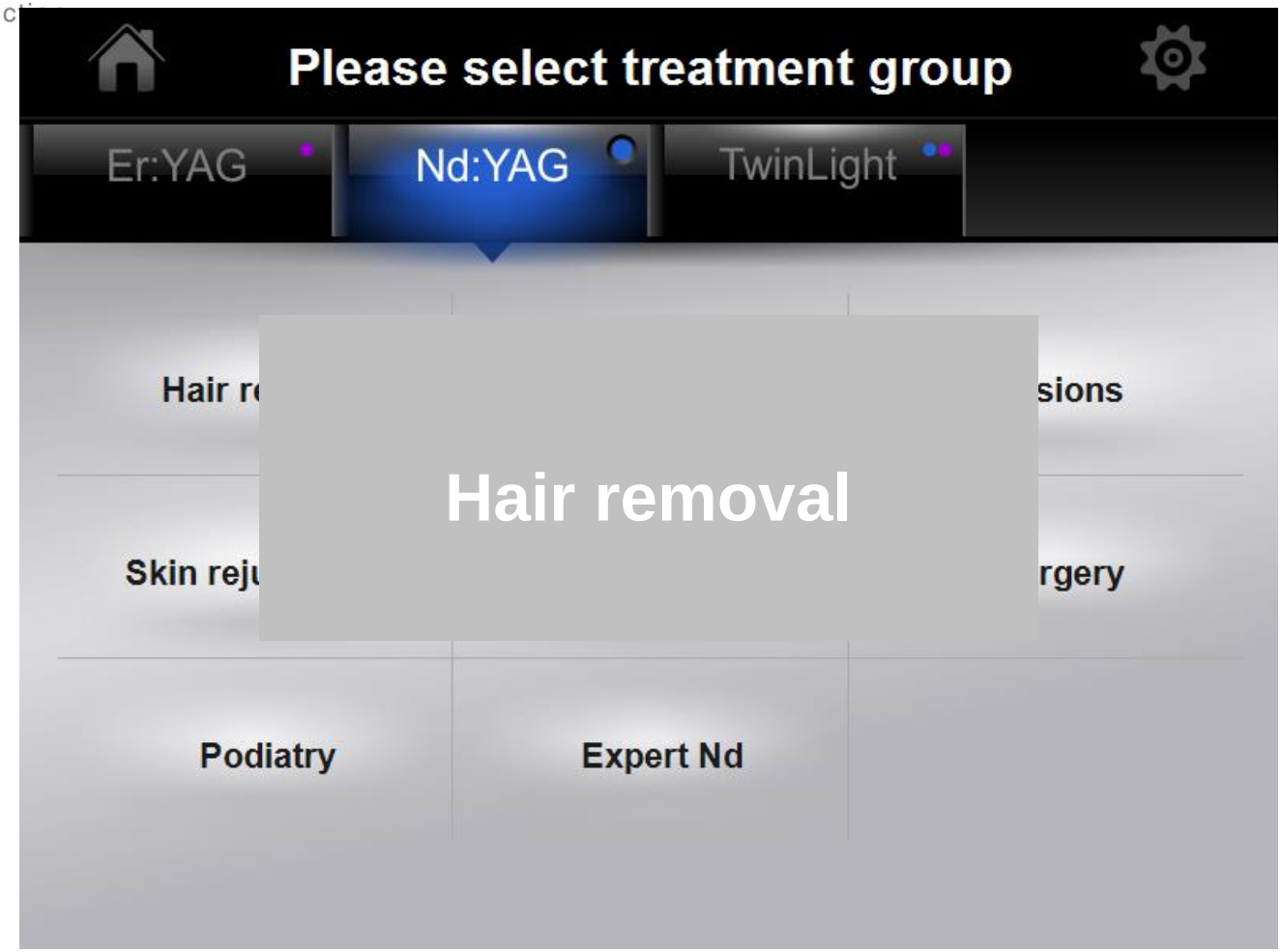






- **Ultra Deep Penetration**
- **Safer For all skin types**
- **High Reliability**

- FRAC3®
- Versa
- PIANO®
- QCW


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair r
sions
Skin reju
rgery
Podiatry
Expert Nd
Hair removal

Fotona
choose perfection

FRAC3® hair removal
New paradigm

11 The International Fotona Weekend

New paradigm:

Hair Removal with

OLD

~~**Long Pulse**~~

NEW

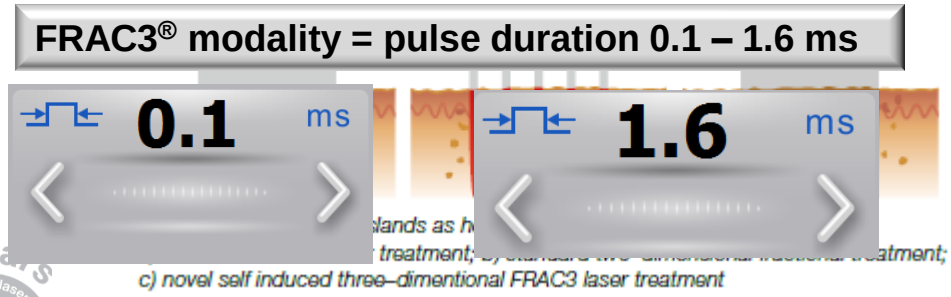
Frac3 Short Pulse √

Fotona
choose perfection

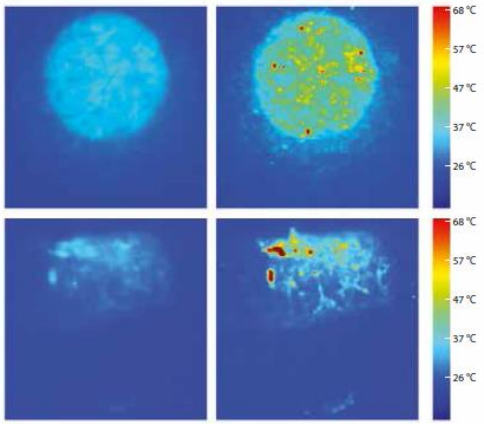
11th International Fotona Weekend

FRAC3® – Super short pulses for 3D self induced effect

- Self-induced, non-ablative, 3-D fractional modality for skin treatments.
- FRAC3 utilizes short pulse duration and high peak power to produce a 3-D fractional pattern in the epidermis and dermis, with damage islands that are predominantly located at the sites of targeted skin imperfections.



c) novel self induced three–dimentional FRAC3 laser treatment



50 years of Fotona laser innovations

One family, together

Beyond Customery HR Paradigm

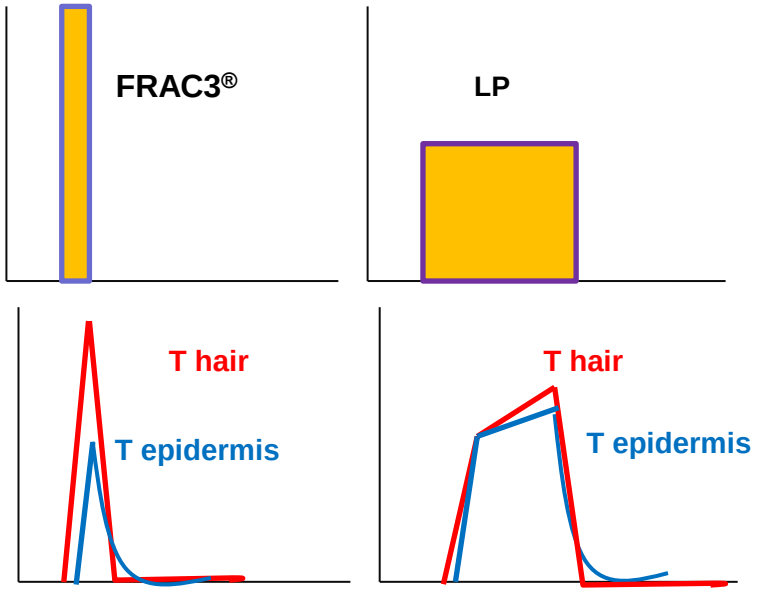
Which new facts caused the change in our point of view?

- FRAC3 studies through which we came to a deeper understanding of laser – tissue interaction in HR application
- New research shows that skin TRT is not in a range up to 10 ms but might be up to 100 ms [1].
- New research shows that hair TRT is in a range up to 10 ms

1. Majaron B, Nelson JS (2009) Laser treatment of port wine stains. Jozef Stefan Institute, Ljubljana. http://complex.ijs.si/ publications_PDF/Biosystem/Laser_PWS_Majaron_Nelson_2009.pdf

New research shows that hair TRT is typically shorter than 10 ms

- New research shows that epi. TRT is not in a range up to 10 ms but might be up to 100 ms.
- Hair TRT is typically shorter than 10 ms
- Hair follicles get heated much more at shorter pulse durations
- Epidermal peak temperature is independent of the pulse duration



FRAC3®
- **not as aggressive for epidermis as LP**
- **more efficient for HR**

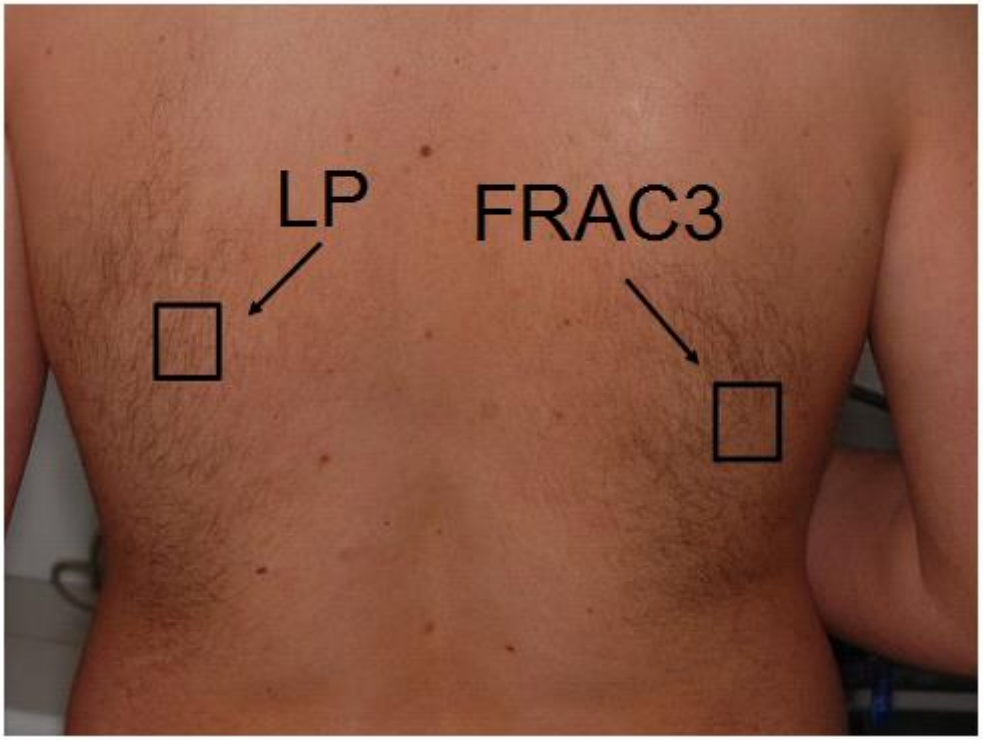
FRAC3® hair removal

Nd:YAG

Split back study:

LP side:
25 msec, 50 J/cm²

FRAC3® side:
1.6 msec, 50 J/cm2



FRAC3® hair removal

FRAC3 Nd:YAG Hair Removal

Split back study:

LP is very efficient

but

FRAC3® is even better

FRAC3® hair removal

Split ARMPIT study:

LP is very efficient

but

FRAC3 ® is even better

Nd:YAG

FRAC3® hair removal

FRAC3 Nd:YAG Hair Removal

Nd:YAG

Split ARM study:

LP is very efficient

but

FRAC3® is even better

Before treatment

46 days after treatment

81 days after treatment

122 days after treatment

Fotona
choose perfection

FRAC3® hair removal

11 The International Fotona Weekend

Nd:YAG

N. Rigaloff: Hair Removal with short pulses
LECTURE on
LA&HA Symposium 2014

50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

FRAC3® hair removal

Figure 3: Reduction of hair as well as reduced hair thickness was observed after the fourth session of the treatment.

Figure 5: Nearly complete hair removal was observed after 2 sessions, 3 month after the start of the treatment.

Nd:YAG

Before

After

New article in LAHA journal 2013

Courtesy of dr. Abhijit Desai

Fotona
choose perfection

11 The International Fotona weekend

Avalanche FRAC3® hair removal

Nd:YAG

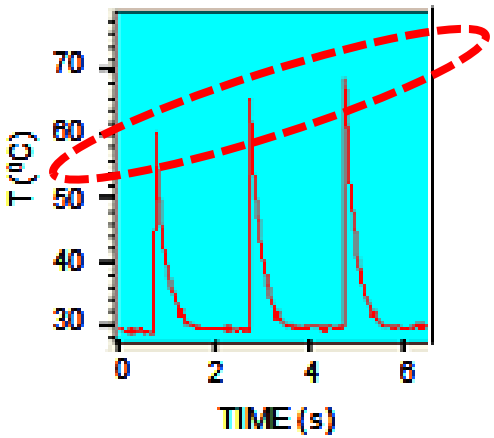
LP Nd:YAG Hair Removal → FRAC3 ® Hair Removal → **Avalanche FRAC3 Hair Removal**

50 years of Fotona laser innovations

One family, together

Avalanche FRAC3® hair removal

Nd:YAG



The Avalanche effect is observed when fluences reach the avalanche threshold level. The temperature of hair with each pulse increases even though the fluence stays the same or reduces.

Based on the phenomena where the absorption of laser light in hair is increasingly enhanced following each successively delivered FRAC3® laser pulse.

Avalanche FRAC3® hair removal

Nd:YAG

Characteristics:

- **Lower fluence**
- **Bigger spot size**
- **Multiple passes with pause**
- **Patient comfort increased**

Before

After 3 Avalance Frac3 treatments

Fotona
choose perfection

ational
weekend

Avalanche FRAC3® hair removal

***Why Avalanche FRAC3®* Nd:YAG hair removal:**

- improves the efficacy of current hair removal procedures
- reduces patient discomfort, and in most cases eliminates the need for skin cooling
- also works for lighter hair

For patients from the Middle East, in particular, the new "avalanche" *FRAC3®* Nd:YAG laser hair-removal protocol provides effective yet completely pain-free hair removal without external cooling.

Avalanche FRAC3® rair removal

ISSN 1855-9913

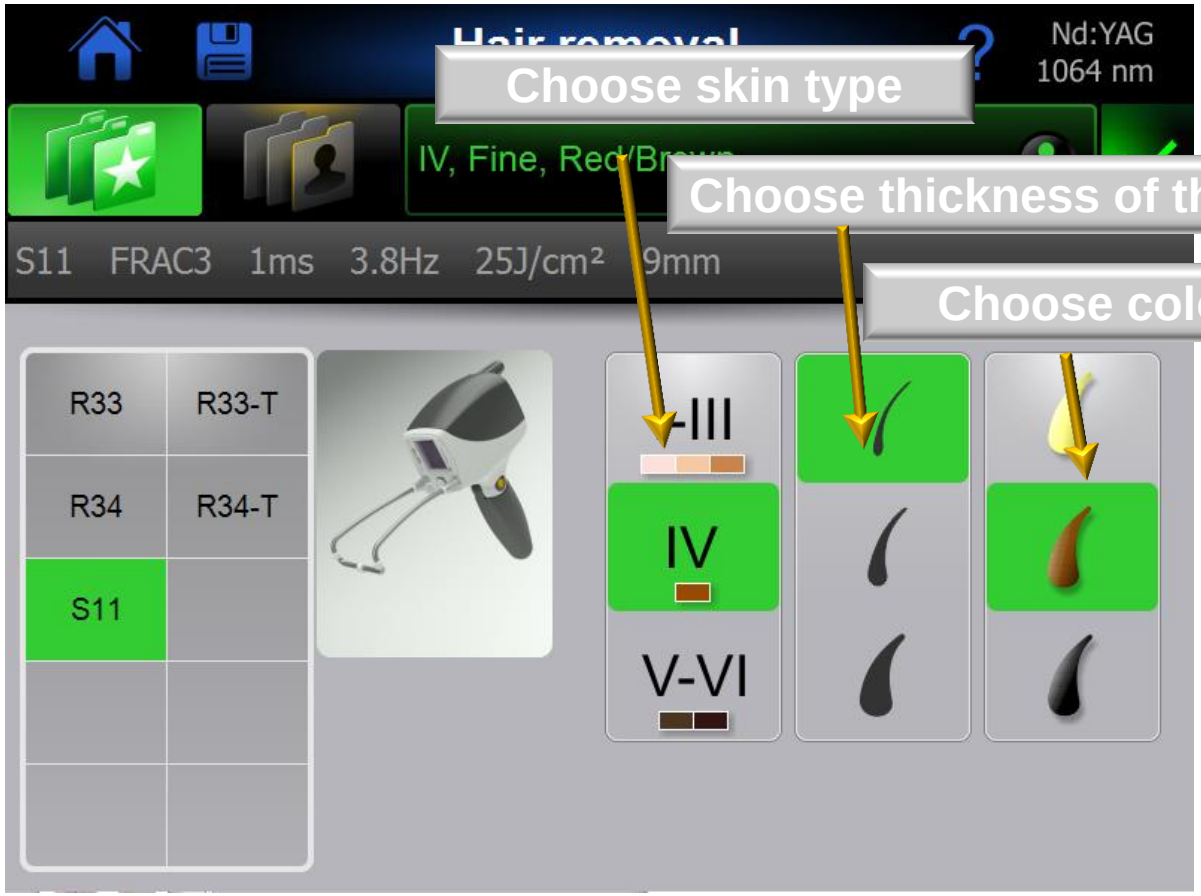
Journal of the Laser and Health Academy
Vol. 2013, No.1; www.laserandhealth.com

Avalanche FRAC3® Nd:YAG Laser Hair Removal

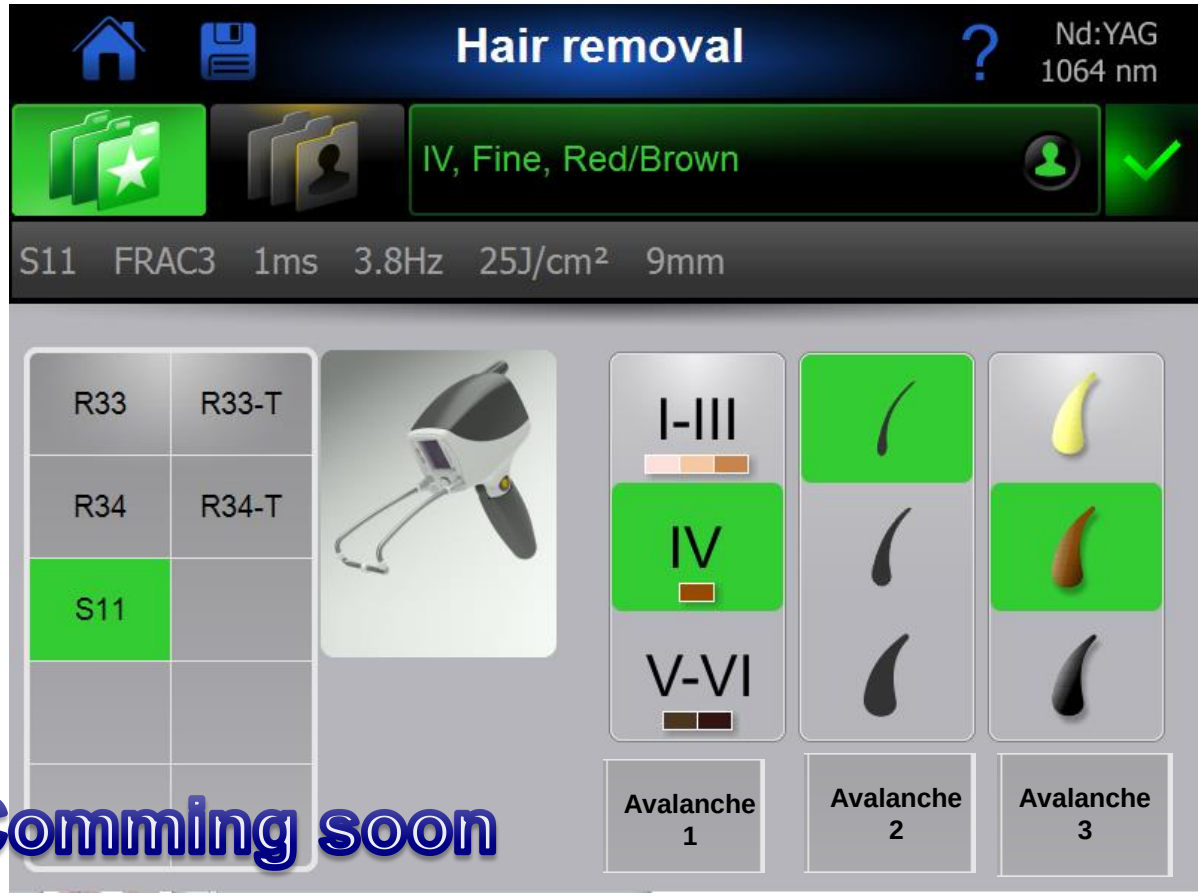
Abdelhakim Eltarky[1], Marko Kazic[2], Matjaz Lukac[2]
[1] Egypt Dream Inc., Laser Research Dept., Cairo, Egypt
[2] Fotona d.d., Stegne 7, Ljubljana, Slovenia

Original article in LA&HA journal 2013

Hair removal



Hair removal



Nd:YAG

Comming soon

Skin rejuvenation

FRAC3 rejuvenation

Fotona
choose perfection

Skin rejuvenation

FRAC3 ® rejuvenation

11 INTERNATIONAL FOTONA WEEKEND

ISSN 1855-9913

Journal of the Laser and Health
Vol. 2012, No.1; www.laserandh

Nd:YAG

CASE REPORT
Clinical experience with FRAC3 Non-ablative Skin Tightening

Reinhard W. Gansel[1]
[1]*Laser Medizin Zentrum Rhein-Ruhr, Essen, Germany*

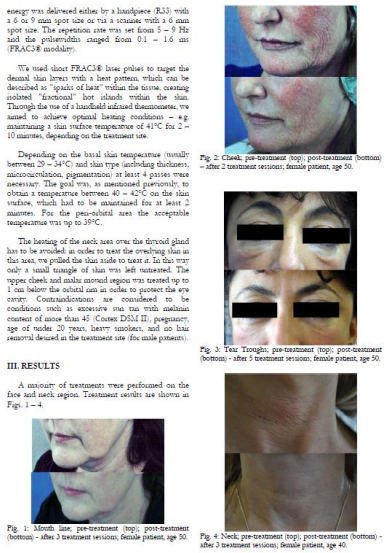
ABSTRACT

The goal of sk tightening can be achieved by various methods ch, among others, include chemical peels, radiofr cy therapy and laser therapy. The l potential side effects of these etween "groups" of methods as e method group, depending on used. A method which would combine efficacy with no-downtime and minimize the chance of unwanted side effects is highly desirable. A

repeated often.

Next was the develo downtime" procedures, radiofrequency devices, IP Essentially, these method skin (and also adjacent Efficacy varies between studies comparing a radic pulsed Nd:YAG showed of the Nd:YAG laser ther

Case report in LA&HA journal 2012



Maša Goršič, IFW 2012, 17.5.2012.

Skin rejuvenation

FRAC3 ® rejuvenation

Nd:YAG

Courtesy of Dr. Gansel

- FRAC3 does cause bulk heating along with the specific fractionated heating of imperfections
- A 3-D fractional micro-damage pattern within the skin is formed
- Dermal layers are targeted
- The result is a "rejuvenated" skin tissue due to new collagen and elastic fiber formation.

before

After 12 months

Fotona
choose perfection

Skin rejuvenation

FRAC3 ® rejuvenation

11 The International Fotona Weekend

Nd:YAG

Courtesy of Dr. Gansel

Mouth line: pre-treatment (top); post-treatment (bottom) - after 3 treatment sessions;

Neck: pre-treatment (top); post-treatment (bottom) - after 3 treatment sessions;

Fotona
choose perfection

Skin rejuvenation

11 THE INTERNATIONAL FOTONA WEEKEND

Nd:YAG

FRAC3 ® rejuvenation

FRAC3 Treatment Improves
Non-Ablative Skin Tightening and Rejuvenation

Reinhard Gansel, M.D.
Laser Medizin Zentrum Rhein-Ruhr
Essen, Germany

"The results we achieved with other devices were disappointing, but using the FRAC3, we can now truly achieve a good effect in skin tightening."

40 year old female before Tx

40 year old female after three FRAC3 Tx sessions
Photos courtesy of Reinhard Gansel, M.D.

By Ilya Petrou, M.D., Contributing Editor

Skin rejuvenation treatments have improved with Fotona's newest addition to the SP Dynamis Laser System – the FRAC3®. FRAC3 represents a new age in non-ablative fractional skin rejuvenation and anti-aging treatments, enabling enhanced results in skin tightening, hair removal and vascular lesions.

Powered by an Nd:YAG laser, the FRAC3 method utilizes an extremely short pulse duration and high peak power density. These Nd:YAG pulses, also called FRAC3 pulses, produce a three-dimensional, fractional pattern in the epidermis and dermis, seeking out and heating small, age-related skin imperfections and inhomogeneities of less than 50 µm in size throughout the targeted field. This innovative treatment pattern spares surrounding healthy tissues, resulting in faster collagen and elastic fiber formation, and healing times compared to conventional non-ablative rejuvenation treatments.

According to Reinhard Gansel, M.D., at the Laser Medizin Zentrum Rhein-Ruhr (Essen, Germany), "Using long pulses results in a volumetric or bulk heating of the tissue. With this method a lot of energy is getting lost to depth. In contrast, the shorter FRAC3 pulses allow for specific heating of imperfections within the dermis."

Thermal skin images and ultra-structural analyses show an increase in overall collagen fiber diameter in the papillary dermis, consistent with new collagen formation, as well as improvements in erythema, pore size, skin texture and tone, summarily improving the overall quality of the skin.

Dr. Gansel recently headed a clinical trial in which the FRAC3 method was used to perform over 300 skin tightening treatment sessions on over 100 patients. The majority of treatments were performed on the face and neck region while other areas included the abdomen and upper arms. Study results showed that satisfaction rates of good to excellent were reported by over 90% of the patients.

"In my experience, good indications for the FRAC3 include skin tightening on the face, décolleté, backs of the hands, thighs and upper arms," Dr. Gansel shared. "The FRAC3 can also effectively treat soft cellulite and flaccid skin around the legs and buttocks."

Dr. Gansel noted that patients with moderate-to-severe sun damaged skin are also ideal candidates for FRAC3 therapy. "This patient population may also have facial telangiectases and rosacea, all of which can be simultaneously addressed with this treatment, resulting in good clearance."

Depending on the severity of symptoms, Dr. Gansel said a typical protocol with the FRAC3 therapy is one treatment spaced two weeks apart for a total of three to four treatments, with maintenance performed one to two times annually.

"Multiple treatments with the FRAC3 will result in an adaptive response of the targeted skin," Dr. Gansel pointed out. "The ensuing training of the tissue will result in the skin producing even more collagen after repetition of treatments."

An additional positive side effect of FRAC3 treatment is hair removal at the targeted site. While female patients can benefit from this effect, Dr. Gansel stressed that clinicians must keep this in mind when treating male patients in facial areas.

"The results we achieved with other devices were disappointing, but using the FRAC3, we can now truly achieve a good effect in skin tightening," Dr. Gansel concluded.

EDITORIAL in The European Aesthetic Guide Autumn 2012

50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Skin rejuvenation
Nd:YAG
1064 nm
PIANO tightening Low
R33 FRAC3 0.1ms 0.0Hz 0J/cm² 2mm
R33
R34
tightening
High
FRAC3 rejuvenation
High
PIANO tightening
Low
PIANO tightening

Nd:YAG

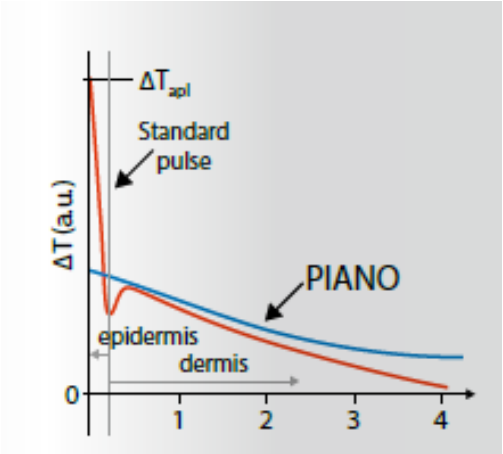
Skin rejuvenation
Nd:YAG
1064 nm
PIANO tightening Low
R34
FRAC3
FRAC3
VERSA
PIANO
J/cm²
0.5
Hz
1
ms
15
mm

Skin rejuvenation

PIANO ® tightening

Nd:YAG

- Super-long Nd:YAG pulse durations in the seconds regime
- Thermal tissue stimulation (T 40 - 42°C)
- Mild homogeneous photothermal treatments to stimulate collagen synthesis
- Bulk heating of the dermis while sparing the epidermis from unnecessary damage



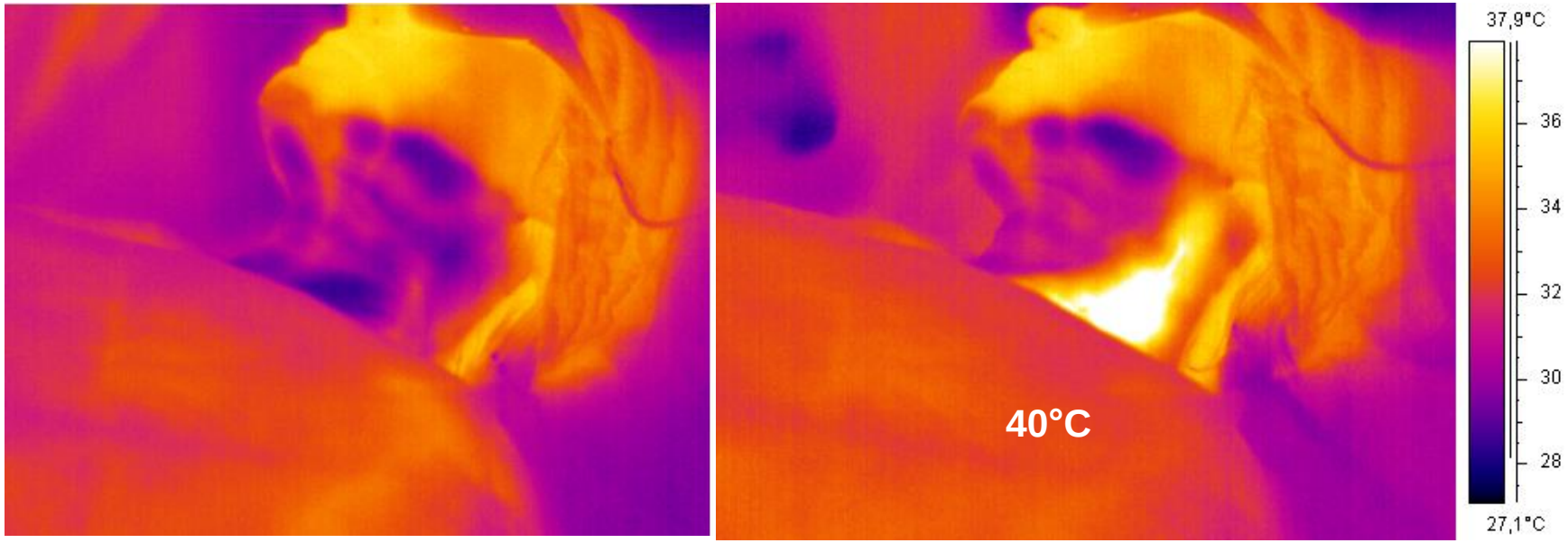
Fotona
choose perfection

Skin rejuvenation

PIANO® tightening

11th International Fotona Weekend

Nd:YAG



Temperature increase immediately after a single PIANO pass

50 years of pioneering innovations

PIANO – Super Long (seconds) Pulse Nd:YAG skin rejuvenation

Skin rejuvenation

PIANO® tightening

Nd:YAG

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2012, No. 1; www.laserandhealth.com

Photo-Thermal Hormetic Rejuvenation with 1064 nm Nd:YAG PIANO Pulse Laser

Leonardo Marini, Andreas Alexiou
Skin Doctors' Center, Trieste, Italy

ABSTRACT

The purpose of this prospective pilot study was to assess the effectiveness, safety, and tolerability of a

part of their anti-aging preventive strategy.

Our data confirmed that PIANO super-long laser pulses are safe and effective and could be considered

ORIGINAL ARTICLE in LA&HA Journal 2012

50 years of Fotona laser innovations

Skin rejuvenation

Nd:YAG

PIANO® tightening

Mark B. Taylor, M.D. is a world-renowned dermatologist and cosmetic laser surgeon who has been in practice for over thirty years. He has been a leader in the field of cosmetic laser surgery, pioneering and teaching many new laser techniques to over 4,000 doctors world-wide.
He received his medical degree from the University of Utah and is board-certified in dermatology through the American Board of Dermatology. He is a member of the American Society for Laser Medicine and Surgery as well as many other professional organizations.

Bulletin
A, Vol. 2013, No. 2, p. 203.

PIANO Mode Nd:YAG Laser Skin Tightening

Mark B. Taylor, MD

Parameters:

Laser source:	Nd:YAG, 1064 nm
Pulse duration:	PIANO
Fluence:	110 J/cm²
Frequency:	20 Hz
Handpiece:	R-34
Spot size:	20 mm

Treatment procedure:

Nd:YAG is the deepest penetrating wavelength, and when it is applied using PIANO mode, skin-specific heat diffusion processes allow the deeper layers of thick dermal tissue to quickly heat to the desired temperatures, while sparing the epidermis from overheating. This case presents an ideal patient for this skin tightening treatment. In her mid 40's with mild-to-moderate laxity in the cheeks and upper neck and manifesting an early appearance of jowls.

The skin-tightening treatment was performed using the SP Dynamis laser (1064 nm wavelength) in PIANO mode, with a 4.4 second pulse, 20 mm spot size, and fluence of 110 J/cm2, continuously monitoring the temperature with an infrared thermometer. The laser was applied in a zigzag pattern, first vertically and then horizontally over the cheek, the upper neck and then the lower neck on one side, and then the same treatment on the other side. It can be performed without anesthesia, but typically patients are given a topical cream of 7% lidocaine and 7% prilocaine. Once the cream has been on the skin for 30 minutes, it is wiped off and the treatment begins.

While some improvement can be seen after a single treatment, I recommend most patients receive three to five treatments, spaced one month apart, with maintenance treatments performed one to two times per year.

Laser&Health ACADEMY

Published by the Laser and Health Academy. All rights reserved. © 2013

Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.

Before treatment

Immediately after second treatment

New Clinical bulletin in LA&HA journal 2013

50 years of Fotona laser innovations

One family, together

Skin rejuvenation

PIANO® tightening

Nd:YAG

Dr. Mark Taylor reports about his excellent experiences with PIANO

**EDITORIAL in
The European Aesthetic
Guide
Spring 2013**

Fotona's PIANO Mode
Improves Skin Tightening Results

Mark B. Taylor, M.D.
President and CEO
Gateway Aesthetic Institute and Laser Center, PC
Salt Lake City, UT, USA

"In my opinion, the PIANO mode is the most efficient and remains one of my favorite skin tightening methods."

Jowl and neck before Tx

Jowl and neck after Fotona PIANO Mode (Nd:YAG and Er:YAG) Tx
Photos courtesy of Mark B. Taylor, M.D.

By Ilya Petrou, M.D., Contributing Editor

Using the revolutionary PIANO mode, from Fotona (Ljubljana, Slovenia), physicians can now more effectively and efficiently induce a controlled homogenous bulk heating of targeted tissue. According to users, this latest aesthetic laser breakthrough results in improved skin tightening outcomes.

Mark B. Taylor, M.D., president and CEO of Gateway Aesthetic Institute and Laser Center, PC in Salt Lake City, Utah, U.S., has been testing and perfecting the PIANO mode for almost two years. "I find it to be ideal in patients with mild to moderate skin laxity on the face and neck, as well as for skin tightening on the trunk and extremities. In my experience, this laser is the fastest and most efficient method of heating and tightening skin on the market today," he reported.

The state-of-the-art Nd:YAG laser featured in Fotona's laser platforms has proven to be a very effective non-ablative tool for the treatment of numerous cosmetic indications ranging from skin rejuvenation to hair reduction and acne, as well as vascular treatments. Now Fotona is raising the bar with the PIANO mode, a new Nd:YAG bulk heating approach based on super-long pulse durations (0.3 to 60 seconds) that are longer than the thermal relaxation time of the epidermis and other skin structures such as hair follicles or blood vessels. Since PIANO mode does not cause high initial temperature peaks in the epidermis, it safely reaches deeper lying skin tissues.

In Dr. Taylor's opinion, "the Piano Mode on Fotona's Dynamis Laser is amazing because it can quickly and almost painlessly raise the skin temperature to 42° - 45° C over the entire cheek, and maintain that temperature as long as desired to stimulate skin tightening."

Treatments using the PIANO mode are considered ideal for aesthetic indications requiring a deeper dermal heating, for example, patients with mild to moderate skin laxity. PIANO's ultra-long pulse mode enables deeply penetrating bulk heating of the dermis, while simultaneously keeping the epidermis safe and comfortable. Homogenous bulk heating of the deeper dermis results in collagen remodeling and subsequent neocollagenesis, while the superficial epidermis is spared from thermal damage.

Dr. Taylor has performed many split-face treatments comparing this laser to other tightening devices. "In my opinion, the PIANO mode is the most efficient and remains one of my favorite skin tightening methods. Moreover, there are no disposables, which is a major advantage for clinicians and patients," he said.

A typical protocol using the PIANO mode ranges from three to five treatments in one-month intervals; however, according to Dr. Taylor, "fast-track" treatments performed one week apart could expedite aesthetic improvements. In order to maintain the outcomes achieved, one to two maintenance treatments can be performed every year.

Dr. Taylor explained that the protocol is extremely well tolerated, and because the PIANO mode is very efficient and virtually painless, in order to avoid overheating the skin, one must frequently check the skin's temperature with an IR thermometer as it starts to blush from the laser heating.

"The PIANO mode on the Fotona Dynamis Laser is an extremely safe, efficacious and affordable method for skin tightening that is as effective as any other technology on the market today," Dr. Taylor added.

2 THE European Aesthetic Guide Spring 2013 www.mlnews.com

50 years of Fotona laser innovations

One family, together

Skin rejuvenation

PIANO® tightening

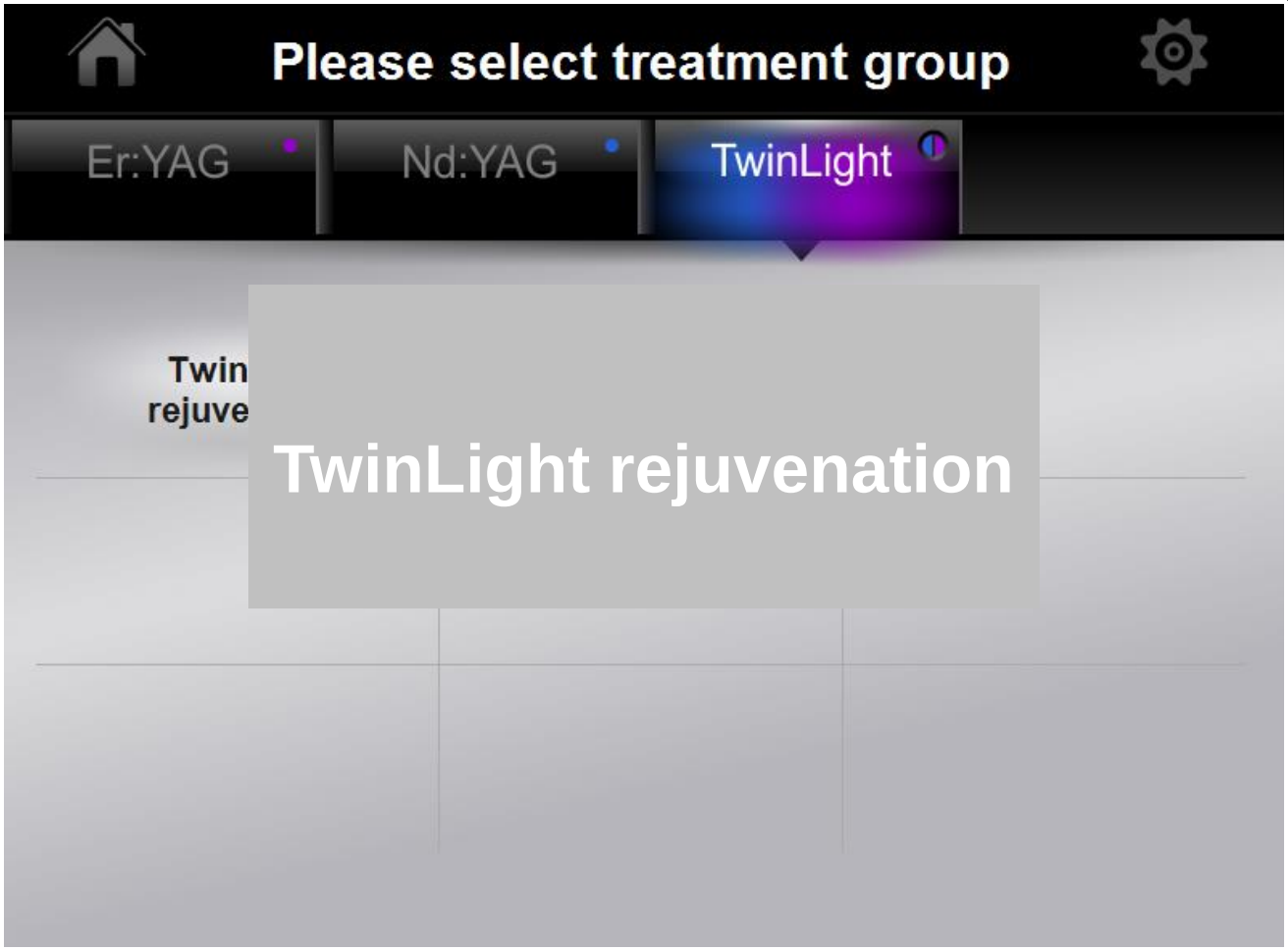
Nd:YAG

Dr. Mark Taylor reports about his excellent experiences with PIANO

Courtesy of dr. Taylor

Before **Immediately after PIANO**

Dr. M. Taylor,
PIANO tightening
LECTURE at
LA&HA Symposium 2014


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Twin
rejuve
TwinLight rejuvenation

TwinLight
TwinLight rejuvenation
Nd:YAG
1064 nm
Step 1 FRAC3 Rejuvenation
R33 FRAC3 0.1ms 0.0Hz 0J/cm² 2mm
R33
R33-T
R34
R34-T
S11
Step 1 FRAC3 Rejuvenation
Step 2 VERSA Rejuvenation
Step 3 Fractional skin resurfacing
Step 4 Full beam skin resurfacing

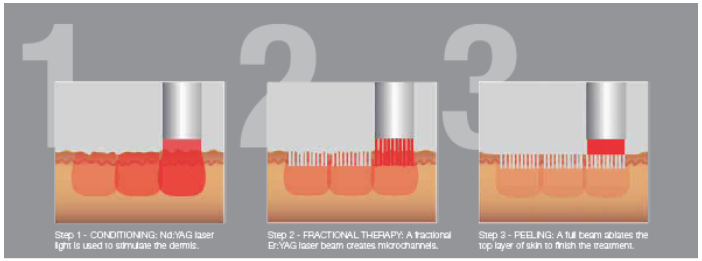
s

Fotona
choose perfection

TwinLight® rejuvenation

11th International Fotona Weekend

TwinLight



What is TwinLight™ Fractional Rejuvenation?

TwinLight Fractional Rejuvenation is a simple 3-step procedure optimized to significantly improve skin smoothness and give it a fresher, healthier look. It is a gentler alternative for treating fine lines and wrinkles with minimal downtime and clean natural results. Using fractional light to rejuvenate the skin can produce an effect perfectly graded to your partner's expectations and offers a degree of control and efficacy with which to perfectly sculpt the skin. Treatments can extend from light touch ups to deep collagen remodeling, ideal for patients who want drastic rejuvenation effects, but are not inclined towards aggressive surgical or chemical alternatives.

How does TwinLight™ Fractional Rejuvenation work?

Past skin rejuvenation procedures treated large areas of the skin, whether it was aged or not. But with TwinLight Fractional Rejuvenation, the laser light precisely targets only areas of the skin where the skin ageing has occurred, leaving the surrounding healthy skin untouched. The heat from the laser energy also stimulates the production of new collagen in the dermis because the surrounding, untreated skin speeds the rejuvenation process. This treatment is suitable for all skin types and tones, with minimal patient downtime.
TwinLight Fractional Rejuvenation is performed in **three simple steps:**

Step 1 - CONDITIONING: An Nd:YAG beam is passed along the surface twice. The first pass provides a short stimulus to the skin, the second pass penetrates the tissue, causing deep FRAC3® heating and conditioning the skin for effective fractional treatment therapy.

Step 2 - FRACTIONAL THERAPY: Old, worn-out skin is ablated away by a fractional Er:YAG laser. The precise micro-ablated channels will be replaced with new, tighter and healthy tissue as the new skin forms.

Step 3 - PEELING: The skin is ablated with a light full Er:YAG beam which finishes the treatment and removes superficial imperfections.

Er:YAG and Nd:YAG wavelengths have complementary effects on the skin. The deep heating of the Nd:YAG beam helps rejuvenate and stimulate the skin while the Er:YAG helps the body form new tighter skin.
In addition the ability of Er:YAG lasers to resurface the skin with a variable amount of coagulation has long been recognized to enable a versatility of treatment styles which are impossible to achieve with any other skin rejuvenation technology.

Why is the SP Dynamis perfect for TwinLight™ Rejuvenation?

The SP Dynamis laser system combines two highly optimized lasers in one machine, a long-pulse Nd:YAG and an Er:YAG. The full range of treatments can be performed: from light touch-ups to deep, age-erasing optical peels.
The SP Dynamis gives you the power and flexibility that allows you to approach each clinical situation with confidence. Fotona's specially designed, innovative handpiece technology allows safe, precise, controlled and effective delivery of laser pulses to the treatment area. The handpieces have adjustable spotsizes and are made from advanced titanium technology maximizing durability and the benefits of being light-weight.

Advantages of TwinLight™ Fractional Rejuvenation for you and your patients

TwinLight Fractional Rejuvenation is easy for any practitioner to perform. The unique characteristics of two complementary laser wavelengths mean that you can have much more accurate and precise control over the treatment, especially how deep the laser penetrates the skin, in this way customizing treatments for each patient based on their needs and desires. Treating wide areas is simple: the SP Dynamis supports scanners for all of its modalities and provides enough power to quickly resurface large areas.

This minimally invasive treatment is suitable for all skin types and tones. An additional benefit for patients is that the recovery period is faster than with traditional treatments.

Getting started with TwinLight™ Fractional Rejuvenation

Success comes from a synergy between the experience and knowledge of the practitioner and the technical excellence of their equipment. Training in TwinLight Fractional Rejuvenation is provided through Fotona's partnership with LAHA or as part of one of the many comprehensive training programs provided by LAHA.

To learn more about TwinLight™ Fractional Rejuvenation and what the SP Dynamis can do for your practice contact Fotona at info@fotona.com today.

50 years of Fotona laser innovations

One family, together

Committed to engineering:

The Highest Performance, Best Made Laser Systems in the World

TwinLight® rejuvenation

TwinLight rejuvenation technique (Nd:YAG+Er:YA
Er:YAG resurfacing alone: a comparative study

TwinLight

Leonardo Marini
The Skin Doctors' Center, Via dei Bonomo 5/a, Trieste, Italy

ORIGINAL ARTICLE
in
LA&HA Journal 2011

SUMMARY

BACKGROUND

Photo-thermal ablative and non-ablative fractional resurfacing and remodeling have become extremely popular due to the lower rate of complications and side effects compared to conventional full-face procedures. Clinical results are nevertheless quite different and have prompted researchers to find new strategies to improve treatment outcomes. Sequential laser layering techniques have been successfully used in PWS and more recently in anti-aging procedures with good clinical results. Since temperature seems to play a key role in stimulating neo-collagen and extracellular matrix production when properly increased in different skin layers, in this study we wanted to examine clinical and histologic results after applying the TwinLight rejuvenation technique, a non-ablative, sequentially layered, 1064 nm Nd:YAG laser bulk heating, immediately followed by two passes of ablative 2940 nm Er:YAG laser in a fractional mode (55 subjects). The TwinLight results were compared with two passes of ablative 2940 nm Er:YAG laser in a fractional mode (45 subjects).

OBJECTIVE

Our purpose was to study the immediate and delayed

Group B n. 12). A blue marking identified the non-treated side. All specimens were placed in 10% buffered formaline and further processed histologically with conventional Hematoxylin Eosin stain by the same dermatopathology lab. Histologic sections were taken perpendicularly to the blue markings. Photomicrographs of each slide were taken at scanning magnification and 10X on the blue and non-blue sides. A histologic evaluation was blindly performed by a dermatopathologist. A self-evaluation post-op clinical diary was given to all subjects.

Fig. 1: 3mm BX punch

Fig. 2: HE D+90 C-A

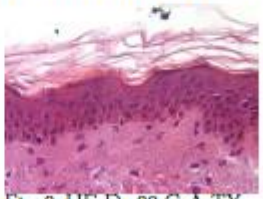


Fig. 3: HE D+30 C-A-TX

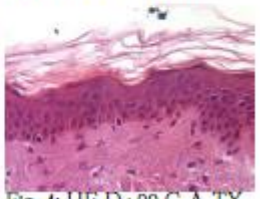


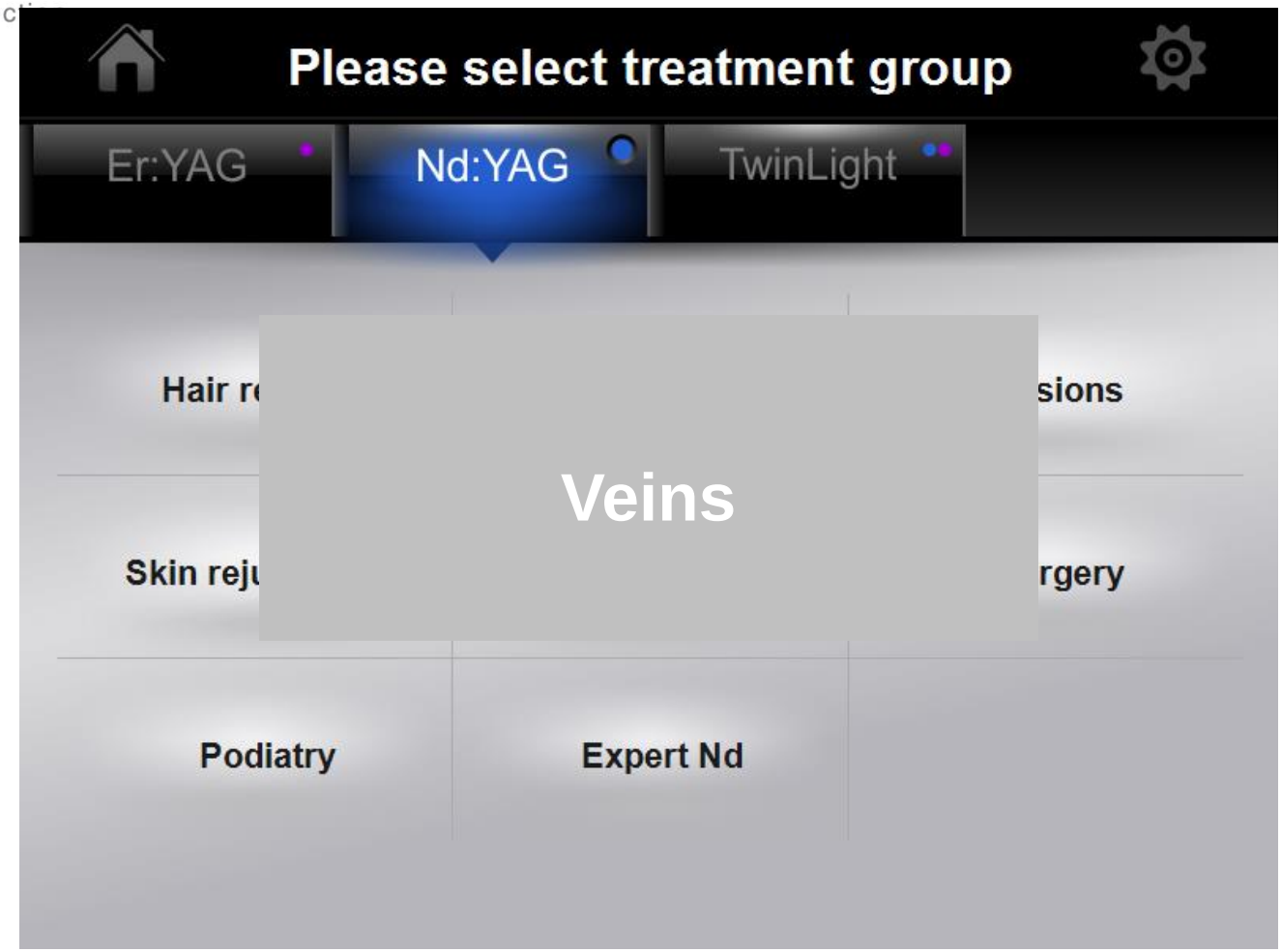
Fig. 4: HE D+90 C-A-TX

TwinLight® rejuvenation

	Parameters used:		
	1st Pass	2nd Pass	3rd and 4th Pass
Laser source	Nd:YAG 1064nm	Nd:YAG 1064nm	Er:YAG 2940nm
Hendpiece/scanner	S-11	S-11	PS02
Spotsize	3 mm	3 mm	7 mm
Scanning mode	OP	OP	/
Fluence	35 J/cm²	50 J/cm²	3.9 J/cm²
Pulse width	0.3 ms	35 ms	LP mode
Frequency	26 Hz	7 Hz	5 Hz

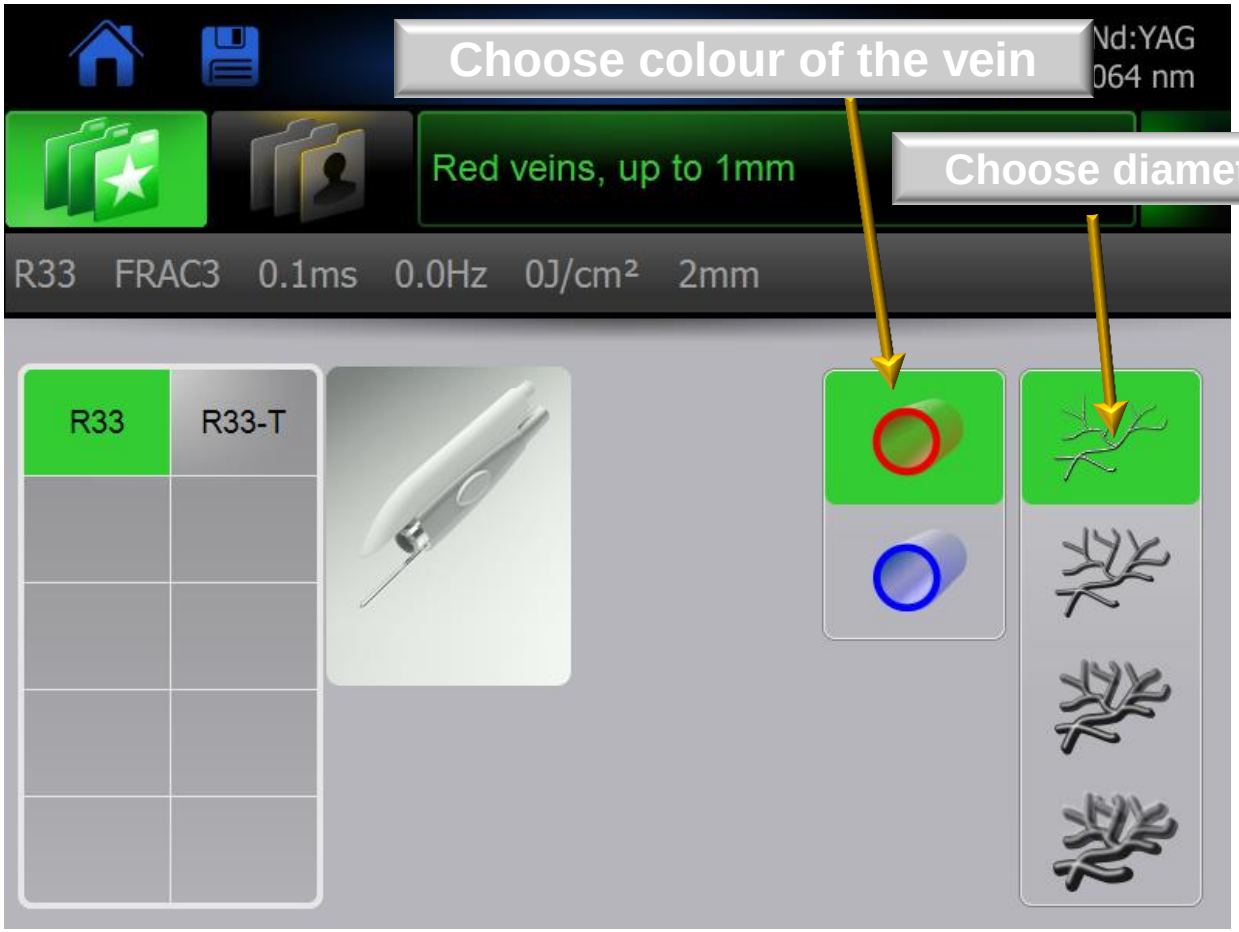
Immediately after | 5 days after | 30 days after

Dr. L. Marini,
Many faces of multiple laser layering in advanced combination treatment
LECTURE at
LA&HA Symposium 2014


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair r
sions
Skin reju
rgery
Podiatry
Expert Nd
Veins

Nd:YAG

Veins


Choose colour of the vein
Choose diameter of the vein
Nd:YAG
Red veins, up to 1mm
R33 FRAC3 0.1ms 0.0Hz 0J/cm² 2mm
R33
R33-T

Veins

Nd:YAG

Leg veins

Before

After

Courtesy of R. Sult

Veins

Large leg veins

Nd:YAG

Before

After

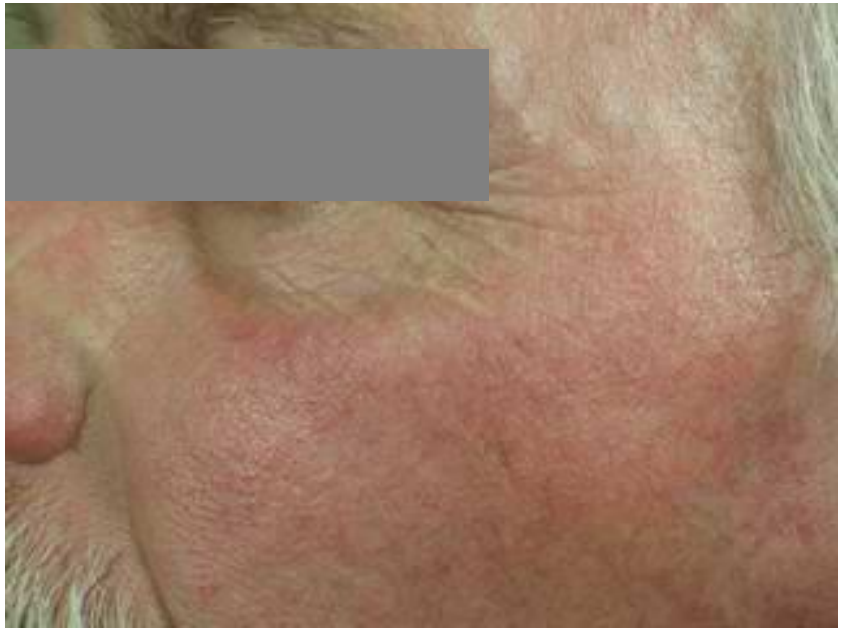
Courtesy of R. Sult

Veins

Teleangiectasia

Nd:YAG

Before



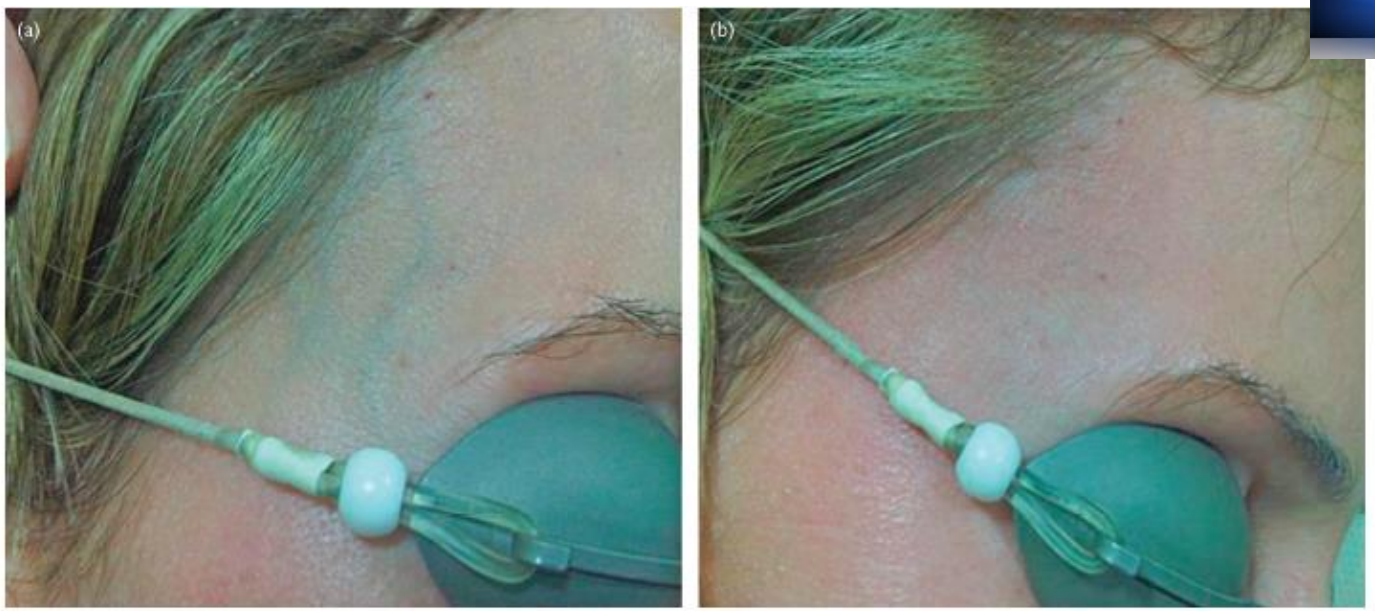
After

Courtesy of R. Sult

Veins

Facial Veins

Nd:YAG



(a) Before treatment and (b) 1 year after treatment.

A. Badawi: Nd:YAG 1064nm Laser Applications in Dermatology
LECTURE at
LA&HA Symposium 2014

Courtesy of A Badawi

New Clinical bulletin in LA&HA Journal 2014

Veins

MatrixView

Nd:YAG

EUREKA

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2012, No.1; www.laserandhealth.com

Control system for laser therapy of teleangiectasies

Nada Kecelj Leskovec[1], Katarina Bevec[1], Klemen Povšič[2], Matija Jezeršek[2]
[1]Dermatology Internal Centre, DIC Kecelj d.o.o., Domžale, Slovenia
[2] University of Ljubljana, Faculty of Mechanical Engineering, Ljubljana, Slovenia

ABSTRACT.

Background. When working parameters are set incorrectly, laser therapy has many undesired side effects. European research project iLUMEN is trying to develop an intelligent laser control system capable of determining optimal parameters of laser therapy during treatment. The rise of the skin temperature should be as short as possible, yet still long enough to destroy the target - the vein.

therapeutic methods.

Key words: laser therapy, work parameters, intelligent laser sources.

Article: J. LAHA, Vol. 2012, No.1; pp. 41-45.
Received: March 15, 2012; Accepted: April 26, 2012.

© Laser and Health Academy. All rights reserved.
Printed in Europe. www.laserandhealth.com

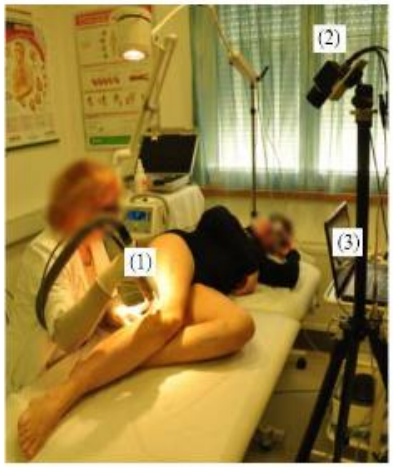
ORIGINAL ARTICLE in LA&HA Journal 2012

50 years of Fotona laser innovations

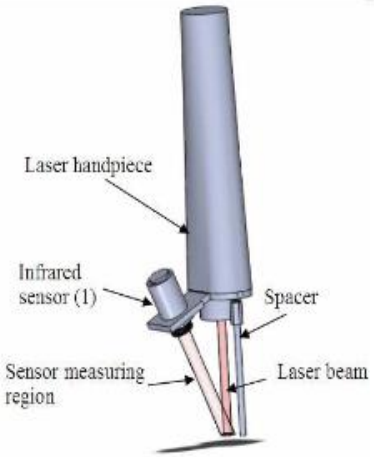
Veins

iLUMEN research project
To improve the effectiveness and reliability of laser treatment by introducing effective control systems

Nd:YAG



(a)

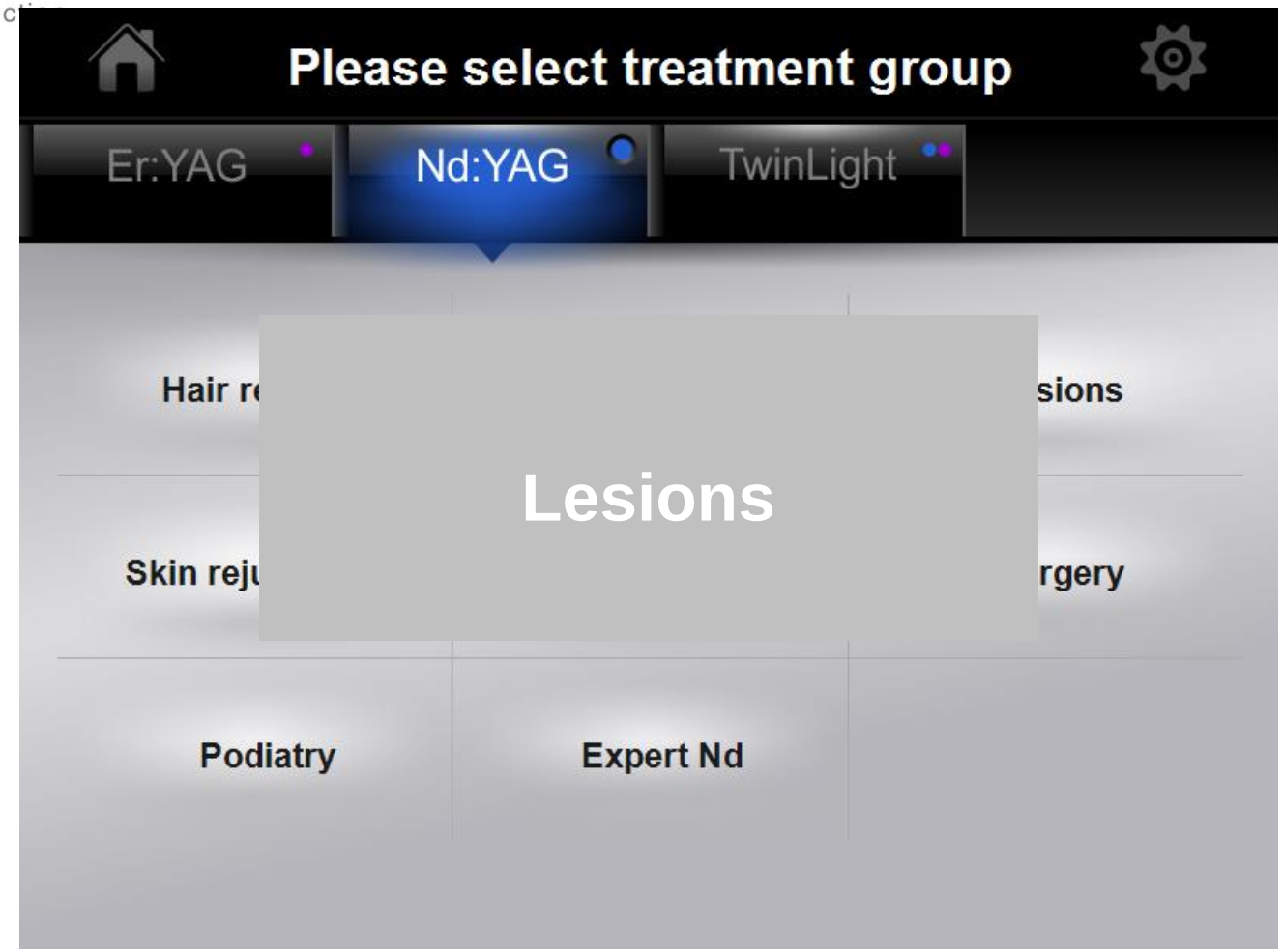


(b)

- **Easier adaptation of the working parameters during the laser treatment**
- **Higher degree of control over the work parameters**
- **More successful treatement**
- **Safer and less invasive treatment of varicose veins and venectasies with good clinical results and minimum side effects and complications**

R33-T R34-T MatrixView

The maximalaverage skin temperature during the therapy was below 60°C, which is the recommended value in available scientific literature

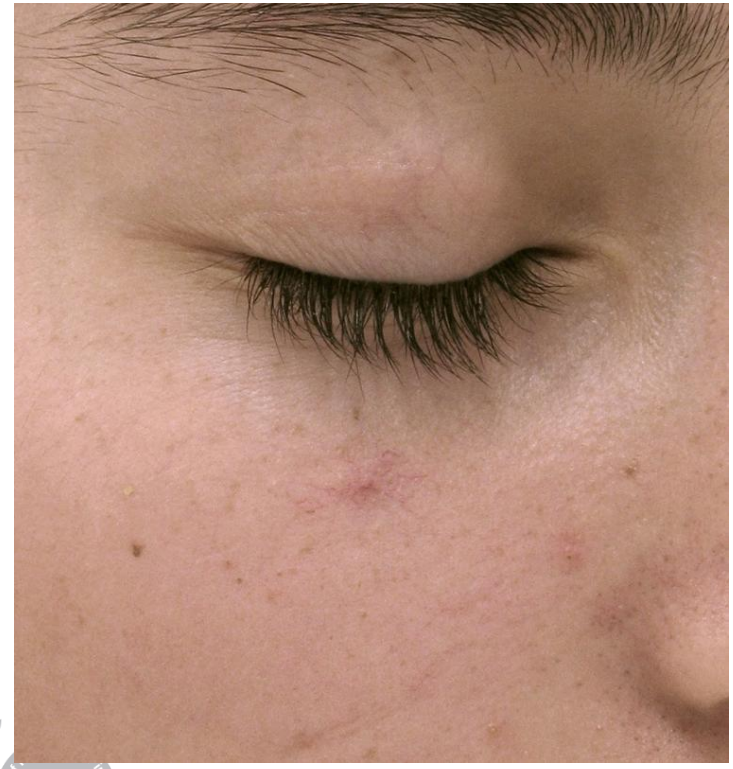

Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair r
sions
Lesions
Skin reju
rgery
Podiatry
Expert Nd

Nd:YAG

Vascular Lesions

Spider angioma

Nd:YAG



Before

30 Days After

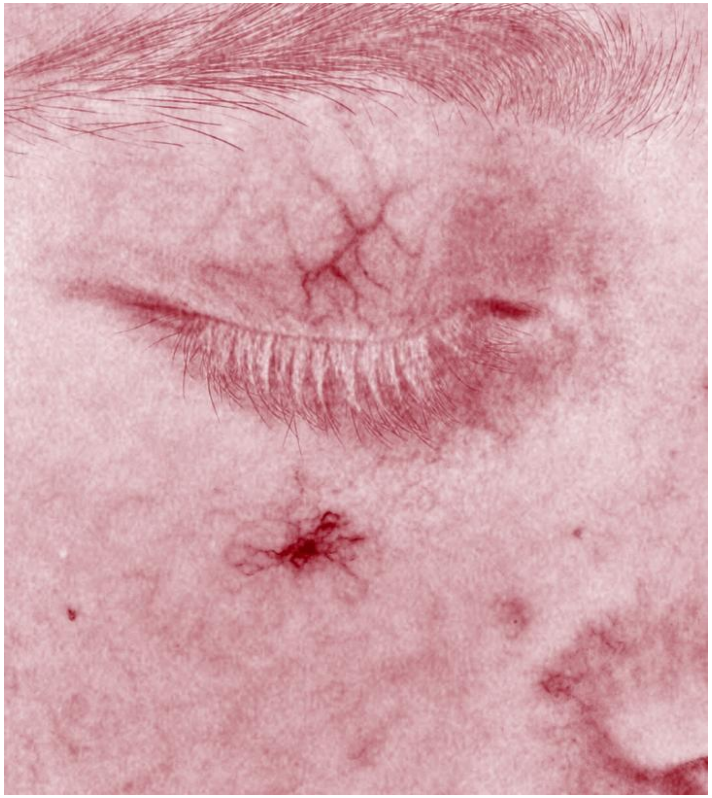
Fotona
choose perfection

Vascular Lesions

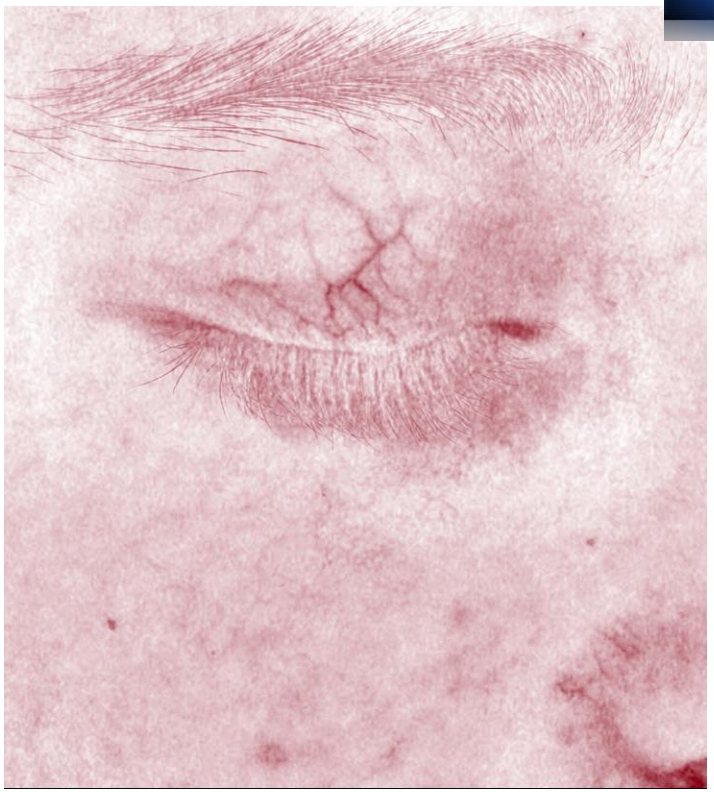
11 The International Fotona Weekend

Spider angioma

Nd:YAG



Before



30 Days After

Vascular Lesions

Venous lake

Nd:YAG

Before

After

Courtesy of R. Sult

Vascular Lesions

Rosacea

Nd:YAG

Courtesy of J. Kozarev

Rosacea

Nd:YAG

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2011, No. 1; www.laserandhealth.com

Use of Long Pulse Nd:YAG 1064nm Laser for Treatment of Rosacea Telangiectatica

Jasmina Kozarev
Dr. Kozarev Dermatology Laser Clinic, Vojvode Stepe bb, Sremska Mitrovica, Serbia

ORIGINAL ARTICLE in LA&HA Journal 2011

ABSTRACT

A clinical study was performed in which 23 female patients were treated with long pulse Nd:YAG laser light (DualisSP, Fotona, Slovenia) for rosacea teleangiectatica.

Patients were treated in one, two or three sessions, depending on facial telangiectasia clearance success. The time interval between sessions was 6 weeks. Treatment parameters were set according to the lupus. The flushing and telangiectasias of rosacea can be confused with some other rare disorders as well, including carcinoid syndrome, pheochromocytoma, and mastocytosis.

Many well documented factors result in vascular dilatation, damage and subsequent alterations to the connective tissues in a context of increased activity of reactive oxygen radicals. A chronic inflammatory reaction - with its accompanying flood of

Vascular Lesions

PWS

Nd:YAG

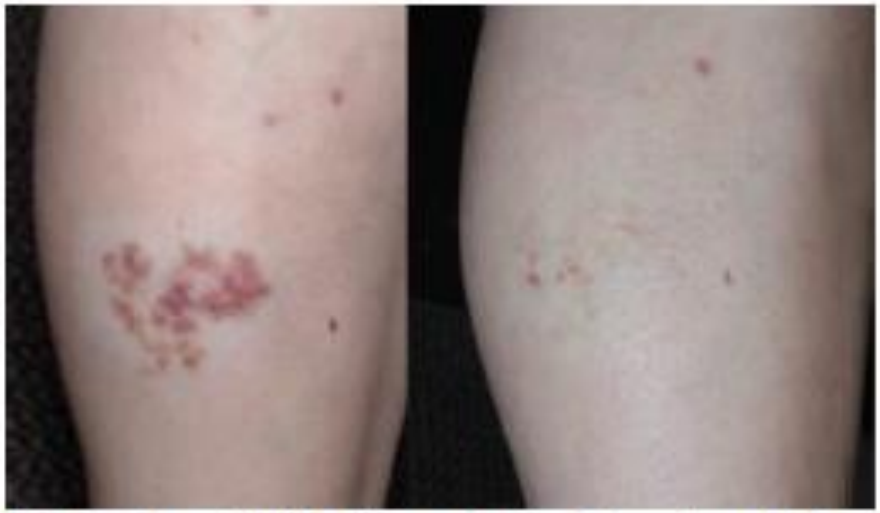
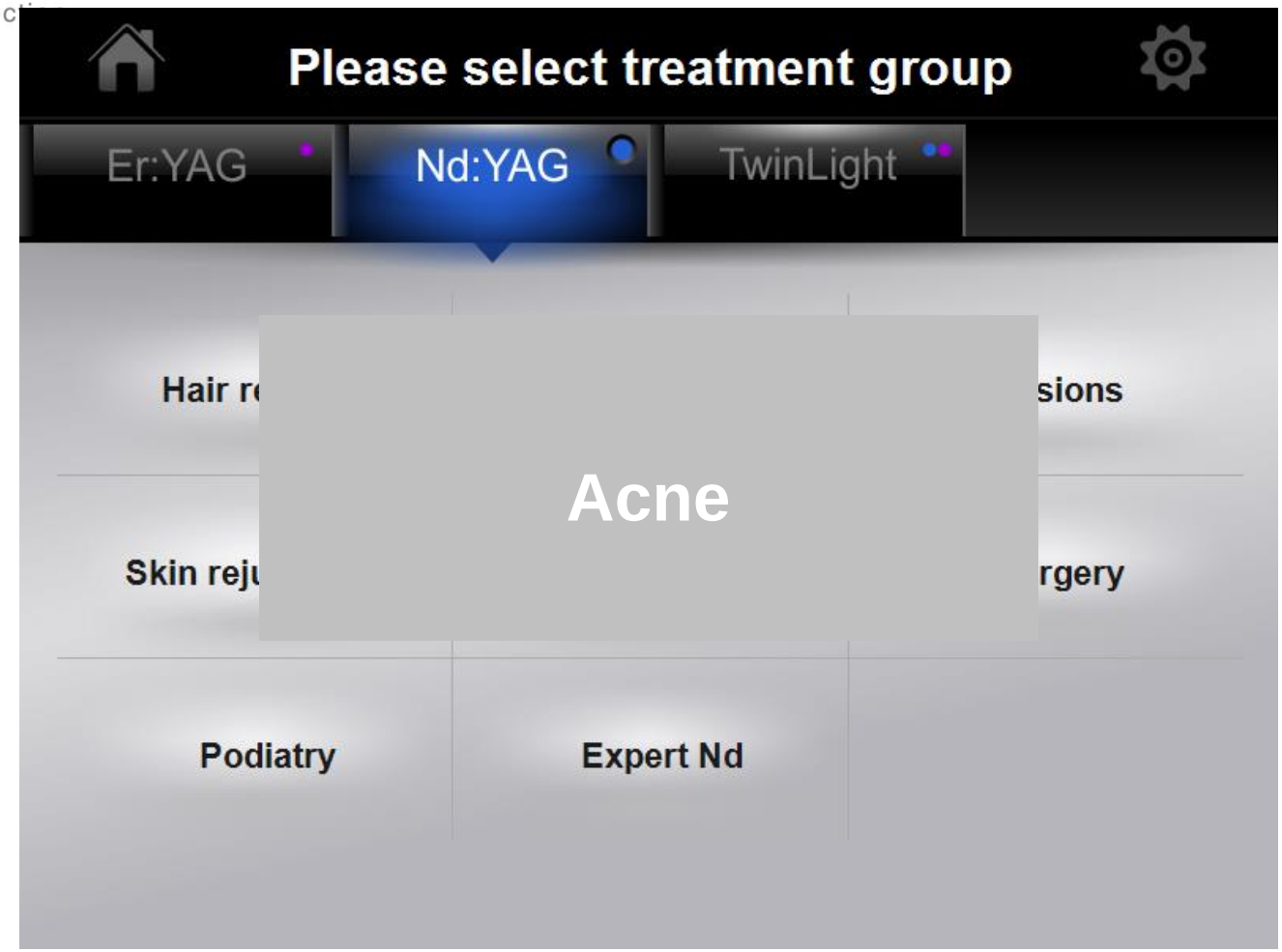


Fig 2: Resistant PWS before and after 8 sessions of fractional 1064 nm Nd:YAG

Courtesy of M. Taylor


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair r
sions
Skin reju
rgery
Podiatry
Expert Nd
Acne

Nd:YAG

Fotona
choose perfection

Acne

11 The International Fotona Weekend

Before

After

Nd:YAG

Courtesy of R. Sult

50 years of Fotona laser innovations

One family, together

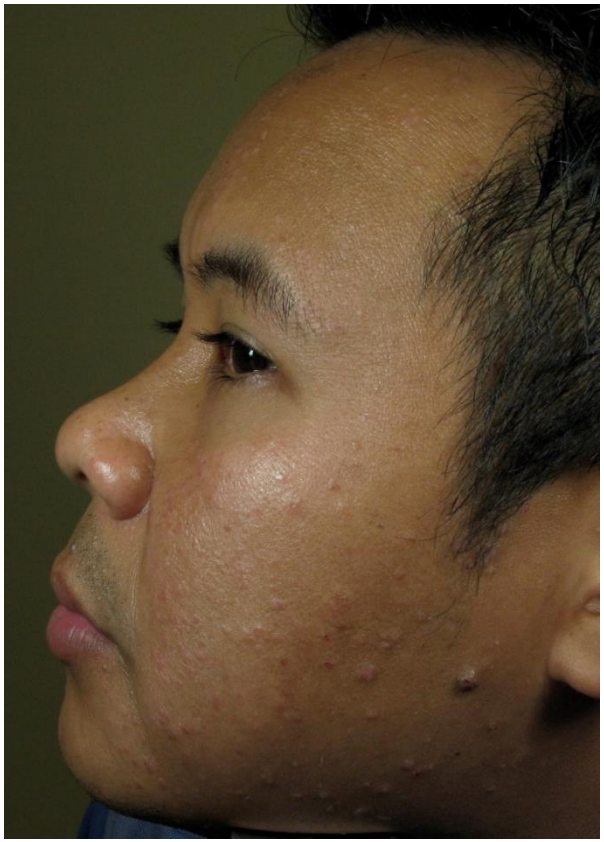
Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

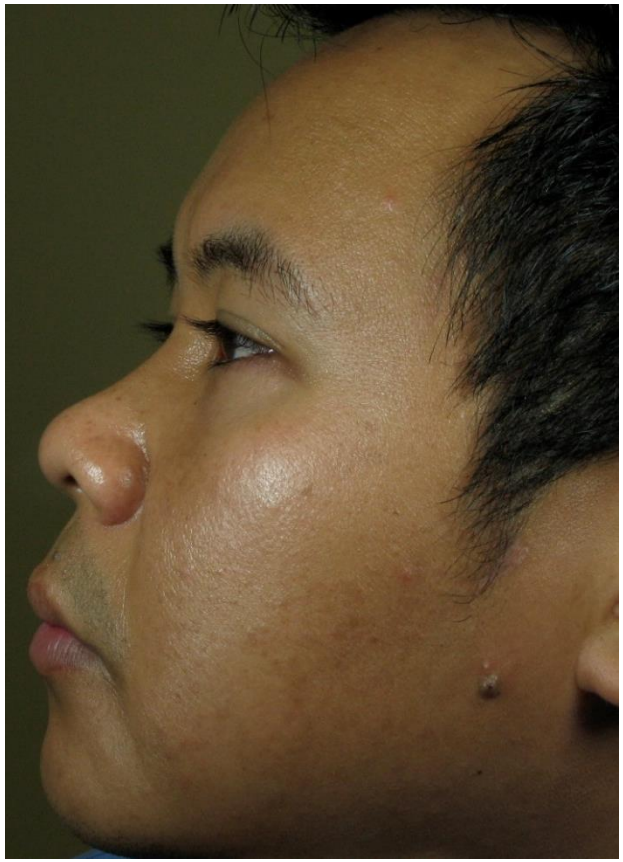
Fotona
choose perfection

Acne

11 The International Fotona Weekend

Nd:YAG





Courtesy of R. Sult, USA

Acne

Nd:YAG

Journal of the Laser and Health Academy
Vol. 2013, No.1; www.laserandhealth.com

CASE REPORT: Treatment of Acne Vulgaris with Long-Pulsed 1064 nm Nd:YAG Laser

Robin, Sult
[1]*Aesthetics, Inc, Willmar, MN 56201, USA*

New Case report in LA&HA journal 2014

Fotona
choose perfection

Acne

11 The International Fotona Weekend

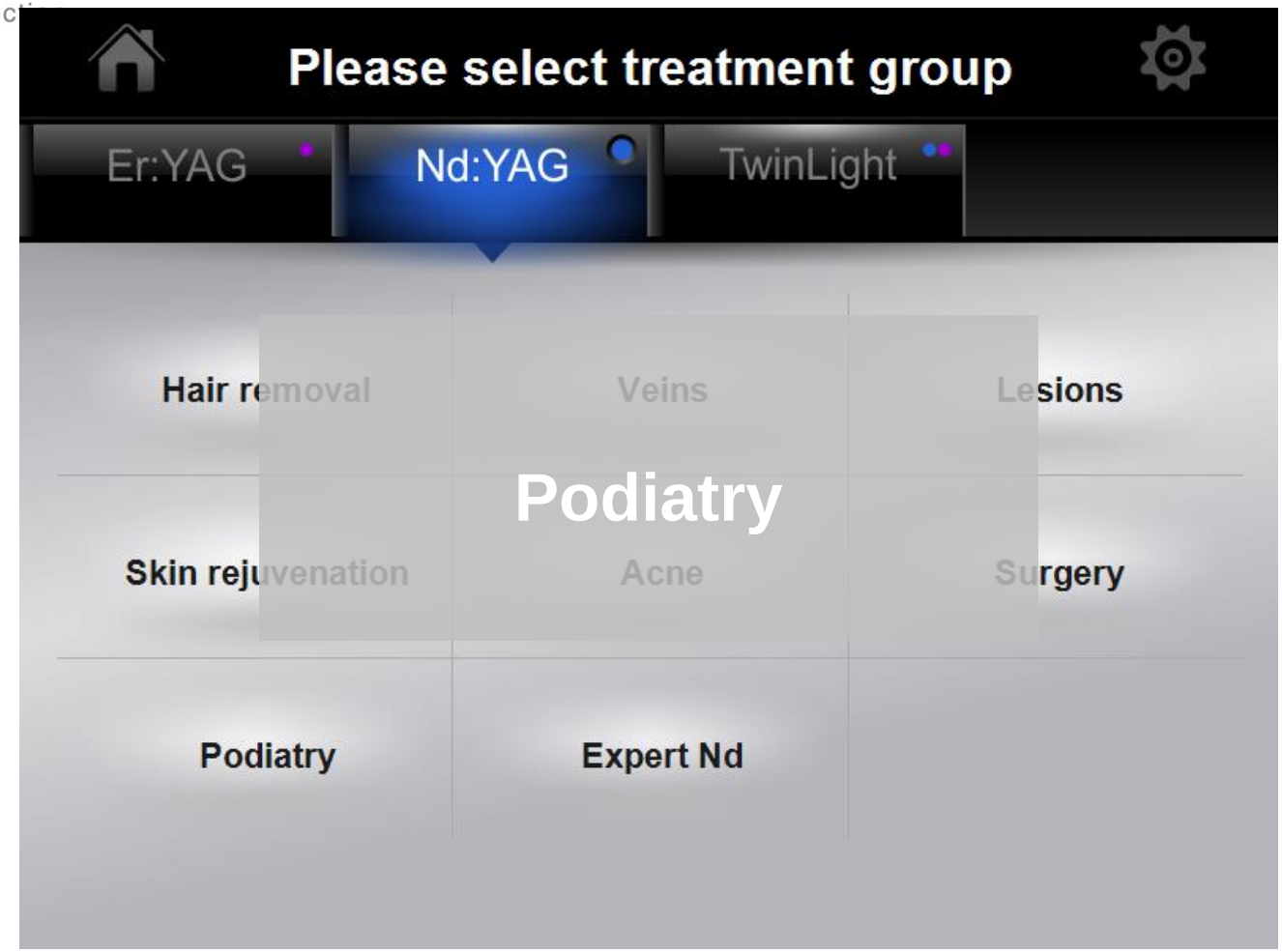
Nd:YAG

Before

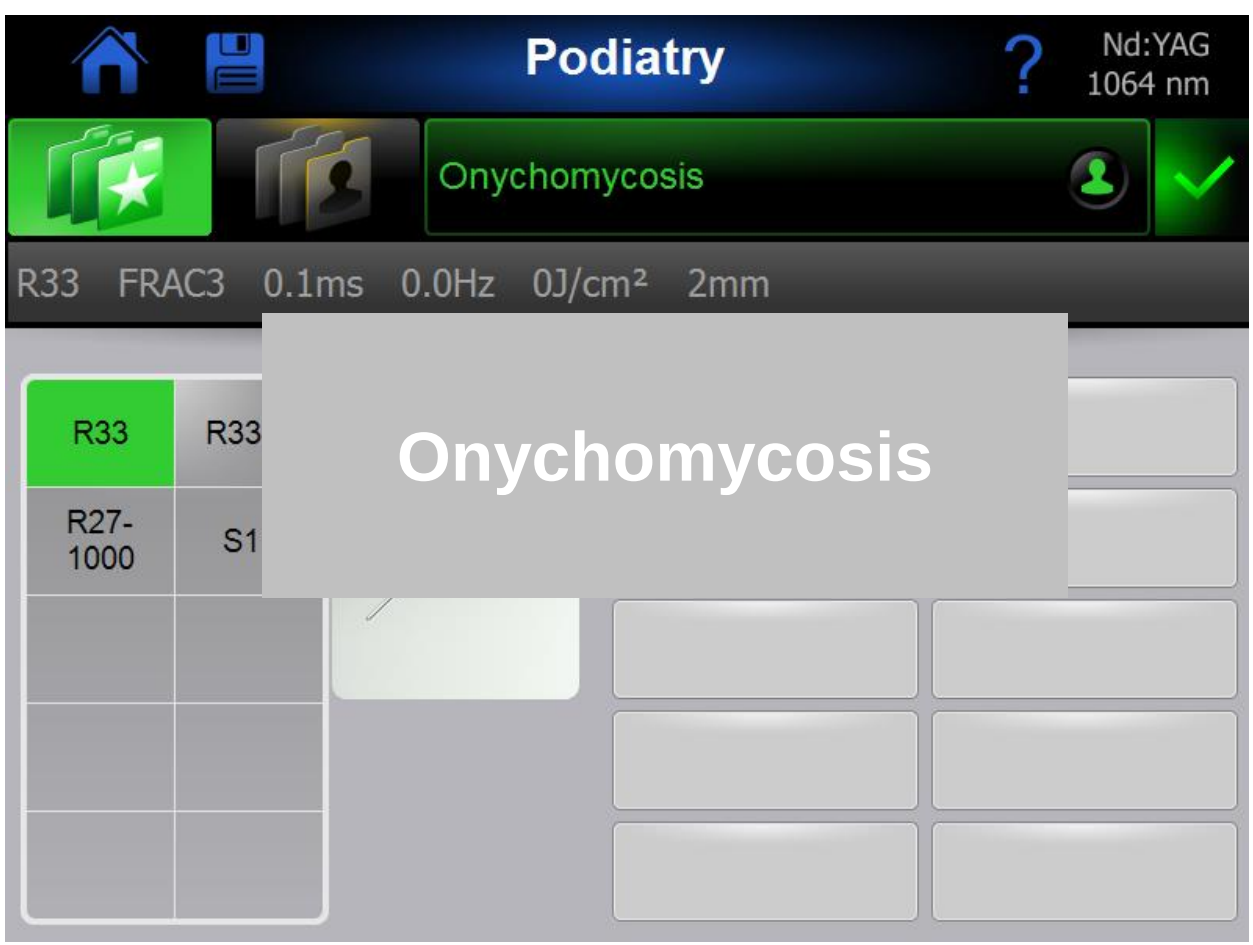
5.5 months after

Courtesy of: Dr. Radulaški,

Nada Diva Clinic, Belgrade, Serbia


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair removal
Veins
Lesions
Skin rejuvenation
Acne
Surgery
Podiatry
Expert Nd
Podiatry

Nd:YAG


Podiatry
Nd:YAG
1064 nm
Onychomycosis
R33 FRAC3 0.1ms 0.0Hz 0J/cm² 2mm
R33
R33
R27-
1000
S1
Onychomycosis

Nd:YAG

Podiatry

Onychomycosis

Nd:YAG

A very efficient method for treating all types of onychomycosis

Trichophyton mentagrophytes

Trichohyton rubrum

Candida sp

Aspergilus niger

Courtesy of dr. Kozarev

Podiatry

Onychomycosis

Nd:YAG

Journal of the Laser and Health Academy
Vol. 2013, No.1; www.laserandhealth.com

A Novel Method for the Treatment of Fungal Nail Disease with 1064 nm Nd:YAG

Yegor V. Kolodchenko,[1] Vasyl I. Baetul[1]
[1]Laser Dermatology Clinic "Kogerent", Kiev, Ukraine

© Laser and Health Academy. All rights reserved.
Printed in Europe. www.laserandhealth.com

ABSTRACT

A novel laser method for the treatment of fungal nail disease with 1064 nm Nd:YAG was clinically evaluated on a Ukrainian patient population. 108 patients exhibiting 312 infected nails were treated with 1064 nm Nd:YAG laser (SP Dynamis, Fotona, Slovenia) at a single clinical site over a period of two years (2010-2012). All patient were diagnosed with one of four types onychomycosis, caused by various fungi. Diagnoses were performed by laboratory testing of

I. INTRODUCTION

Onychomycosis is a common infection of the na affecting approximately 17% of the Ukrainia population aged 30-40 years, with a morbidity rate between 32-40% at 70 years of age [1]. It affects immunocompromised individuals, smokers and patients with peripheral vascular disease, and those with a history of trauma to the nail or a family history

Original article in LA&HA journal 2013

50 years of Fotona laser innovations

One family, together

Podiatry

Onychomycosis

Nd:YAG

Dr. Yegor Kolodchenko reports excellent results on 108 patients, 82% of which were cured.

Fig. 6: Patient B: before and after 9 months (T. Rubrum).

Fig. 7: Patient B: before and after 9 months (Candida spp.).

Fig. 9: Patient O: before and after 12 months (T. Rubrum).

Onychomycosis

Dr. Suzana Koltaj

LECTURE at
LA&HA Symposium 2013

Nd:YAG Laser Treatment of Onychomycosis

CASE1

Patients with severe chronical nail changes on all toenails infection lasting more than 30 years. Before laser treatment surgical removal of three nails were required.

Before:

After the treatment:

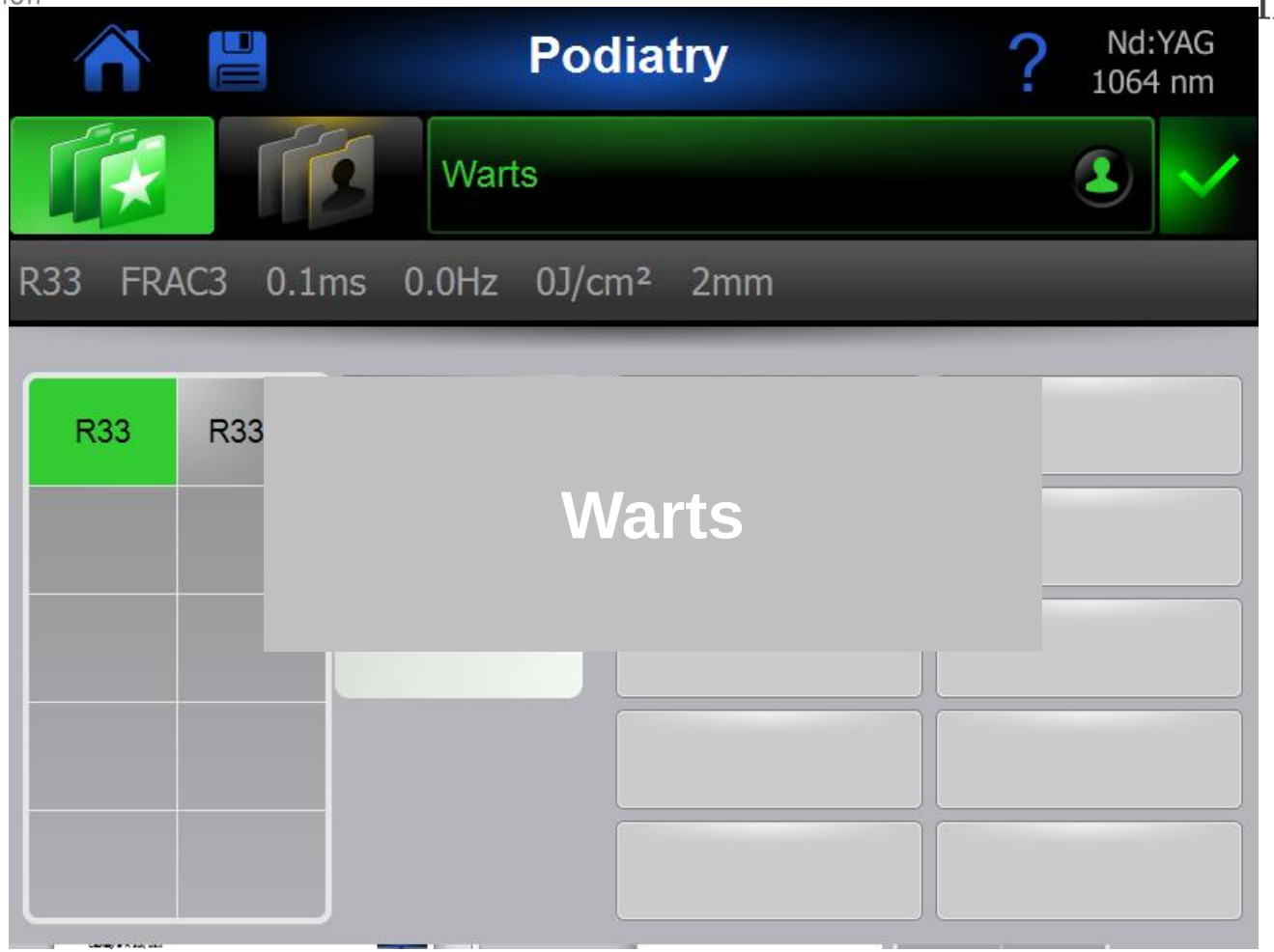
LP Nd:YAG Skin Fungal Infection

Courtesy of dr. Kozarev

Trichphyton rubrum
After 3 laser sessions

Trichphyton mentagrophytes
After 3 laser sessions

Trichphyton mentagrophytes
After 3 laser sessions


Podiatry
Nd:YAG
1064 nm
Warts
R33 FRAC3 0.1ms 0.0Hz 0J/cm² 2mm
R33
R33
Warts

Nd:YAG

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2012, No.1; www.laserandhealth.com

CASE REPORT

Treatment of warts with 1064 nm Nd:YAG

Katja Semprimoznik[1], Robin Sult[2], Masa Gorsic[3]

[1] Primamed Clinic, Slovenske Konjice, Slovenia
[2] Laser Aesthetics, Willmar, MN 56201, USA
[3] Laser and Health Academy, Ljubljana, Slovenia

ORIGINAL ARTICLE
in
LA&HA Journal 2012

ABSTRACT

Cuta[illegible] warts are benign epidermal proli[illegible]ons caused by human papillomavirus i[illegible]on. Among the available medical and destructive [illegible]apeutic options for cutaneous warts, none is [illegible]ly effective or virucidal. Laser light was [illegible]ly shown to be effective in treatment of warts. [illegible]dies have used 585-nm pulsed dye lasers with blood vessels as the target tissue. Nd:YAG [illegible]n laser was also previously shown to be [illegible]e for wart clearance.

Common warts are most often seen on the hands and present as skin-colored papules with a rough "verrucous" surface. Flat warts are most often seen on the backs of the hands and on the legs. They appear as slightly elevated, small plaques that are skin-colored or light brown. Plantar warts grow on the soles of the feet. They look like hard, thick patches of skin with dark specks. Genital warts are found on and around male and female genitals (3).

Among the available medical and destructive therapeutic options for cutaneous warts, none is uniformly effective or virucidal. Aims of the treatments

Podiatry

Warts

Courtesy of R. Sult, USA

Before **2 Days After** **30 Days After**

Fluence: 240 J/cm^2, pulse duration 14 msec, spot size 4-6 mm (R33)

Podiatry

Warts

Nd:YAG

Case No.2: NdYAG treatement of Warts

Courtesy of Dr. Katja Semprimožnik

Before | After Tx 2 | 4 monthsAfter last Tx

Warts

Nd:YAG

Lower fluences, stacking of pulses

Courtesy of Dr. A Badawi

Nd:YAG 4 mm, 30 msec, 80 J/cm^2 stacking pulses till grayish coloration is achieved

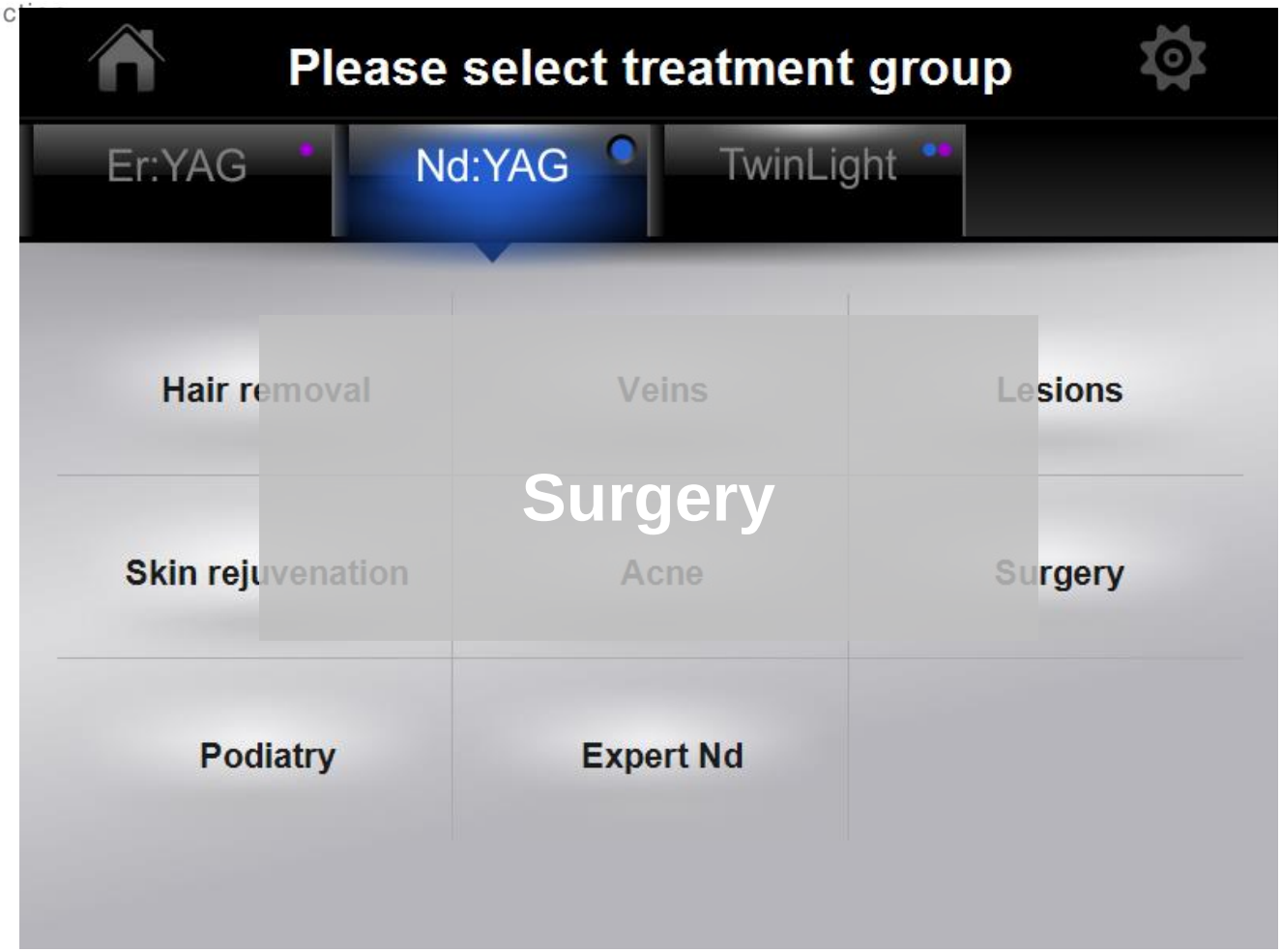
New Case Report in LA&HA Journal 2014

Podiatry

Warts

Combination of Er:YAG and Nd:YAG for even more effective clearance of warts

Dr. A. Maletic: Laser treatment of Warts
LECTURE on
LA&HA Symposium 2014


Please select treatment group
Er:YAG
Nd:YAG
TwinLight
Hair removal
Veins
Lesions
Skin rejuvenation
Acne
Surgery
Podiatry
Expert Nd
Surgery

Nd:YAG

Fotona
choose perfection

11th International Fotona Weekend

EVLA

Fotona
choose perfection

EVLA

11 THE INTERNATIONAL FOTONA WEEKEND

Nd:YAG

- 45-minute outpatient procedure
- Lower risk of complications
- No hospitalization required
- No general anesthetic required
- Shorter recovery time
- Minimal patient discomfort
- More than 98% initial success rate

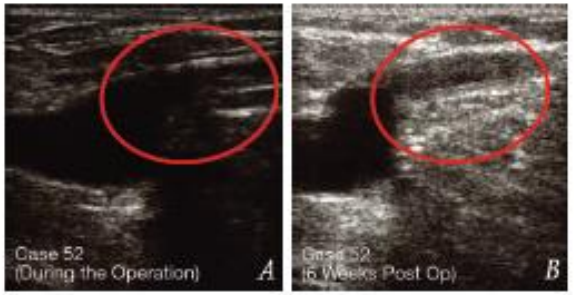


Fig. 2A: During operation - catheter with fiber visible in vein.
Fig. 2B: 6 weeks post-op - the vein has been completely occluded and is fully overgrown by surrounding tissue. (Courtesy of dr. Šikovec)

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

EVLA

Nd:YAG

Dr. Sikovec study on large sample (525 legs) showed excellent results and a very low recurrence rate

Original article in LA&HA Journal 2010

Journal of the Laser and Health Academy
Vol. 2010; No.1; www.laserandhealth.com

Saphenous Vein Occlusion by Endovenous Laser Ablation (EVLA) with a 1064 nm VSP Nd:YAG Laser

Andrej Šikovec
Avelana Vein Clinic, Otočec, Slovenia

ABSTRACT

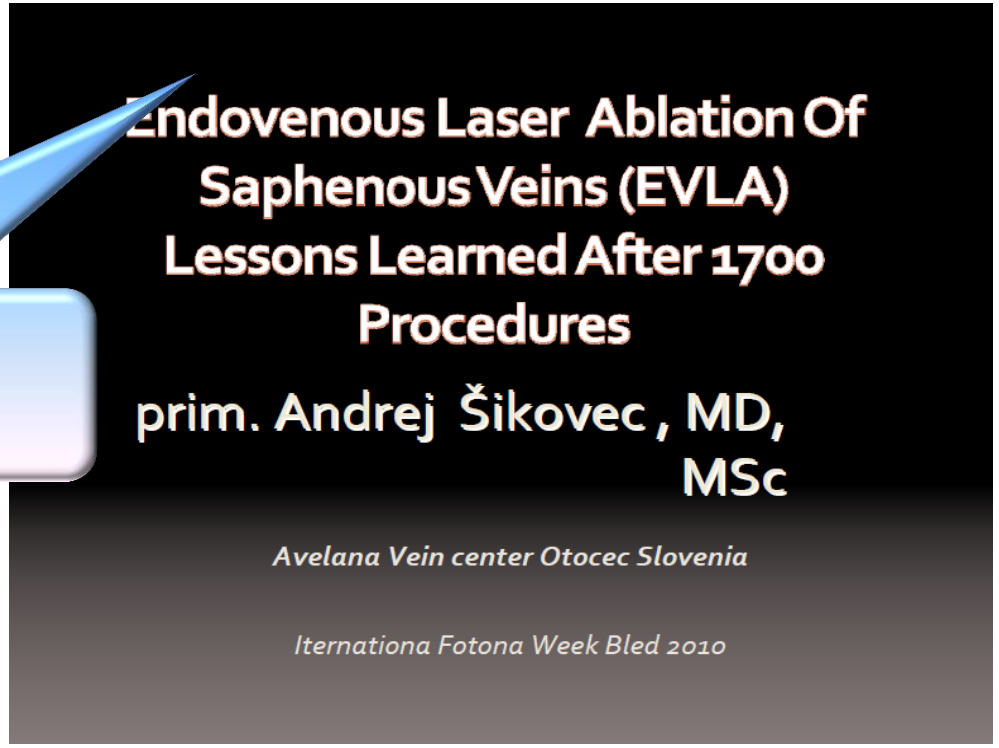
This paper presents a study in which **endovenous laser ablation** (EVLA) of saphenous veins with a VSP Nd:YAG laser system (Fotona, Ljubljana, Slovenija) was conducted on 525 legs. The study was held at a single clinical site (Avelana vein clinic) over a 2.5 year period. The first 102 legs underwent EVLA at 15W to 18W average power, supplied from Nd:YAG laser. In the remaining 423 legs EVLA was administered at an average power of 25W. After 1 year, 88.2% of the veins in the 15-18W treatment group remained occluded; in the 25W treatment group 98.5% of the veins remained occluded. Side effects accomplished by inserting an optical fiber just below the saphenofemoral junction (SFJ) through the great saphenous vein (GSV) and delivering laser energy through the fiber as it is withdrawn down the GSV. During fiber withdrawal the vein wall is irreversibly destroyed and the vein is occluded. A full procedure is presented below in the Surgical Protocol section. A similar procedure can be followed for the small saphenous vein (SSV), in which the tip of the fiber is positioned at the saphenopoliteal junction.

Other superficial veins and perforators of suitable length and diameter can also be treated.

50 years of Fotona laser innovations

EVLA

Šikovec: Long term experience with EVLA
LECTURE on
LA&HA Symposium 2014



Nd:YAG

Surgery
Select handpiece
R27-C
R27-1000
Laser Lipolysis
Hemostasis
Excision and incision

Fotona
choose perfection

Laser Lipolysis

11 THE INTERNATIONAL FOTONA WEEKEND

Nd:YAG

- Laser light energy is used to cause swelling and rupture of adipocytes.
- The fat can either be absorbed by the body or removed by the physician with the use of liposuction.
- While melting the fatty tissue the Nd:YAG laser also tightens the surrounding skin, preventing it from sagging after the fatty deposits have been removed.

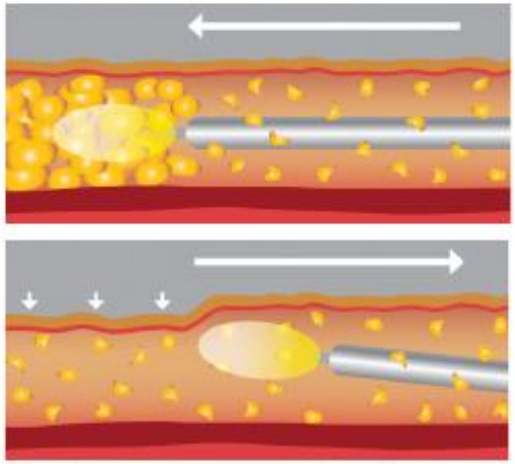


Fig. 2: Melting of fatty tissue and simultanious skin tightening.

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

Laser Lipolysis

11 THE INTERNATIONAL FOTONA WEEKEND

Nd:YAG

Overview of laser lipolysis with analysis of efficacy and safety

Fig. 22: Example of laser lipolysis results (Courtesy of Prof. Massoud)

Journal of the Laser and Health Ac
Vol. 2010, No.1; www.laserandheal

QCW Pulsed Nd:YAG 1064 nm Laser Lipolysis

Lukac[1], Zdenko Vizintin[2], Janez Zabkar[2], Samo Pirnat[3]
Josef Stefan, Department for Complex Matter, Jamova 39, Ljubljana, Slovenia
[2]Fotona d.d., Stegne 7, Ljubljana
[3]University of Ljubljana, Biotechnical Faculty, Ljubljana

ORIGINAL ARTICLE in LA&HA Journal 2012

...as to compare the Nd:YAG 1064 nm laser wavelength with other wavelengths used for laser lipolysis in terms of safety and efficacy. The wavelength dependence of laser

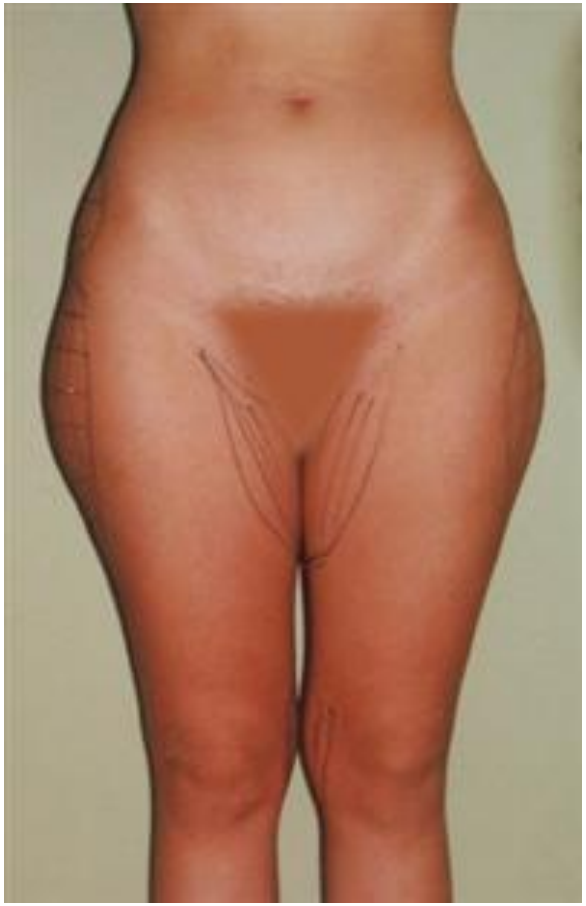
There are, however, several drawbacks associated with traditional liposuction [4]. These drawbacks include increased blood loss, ecchymoses, long recovery times, increased postoperative discomfort, skin laxity, pulmonary emboli, seromas and visceral

Fotona
choose perfection

Laser Lipolysis

11 The International Fotona Weekend

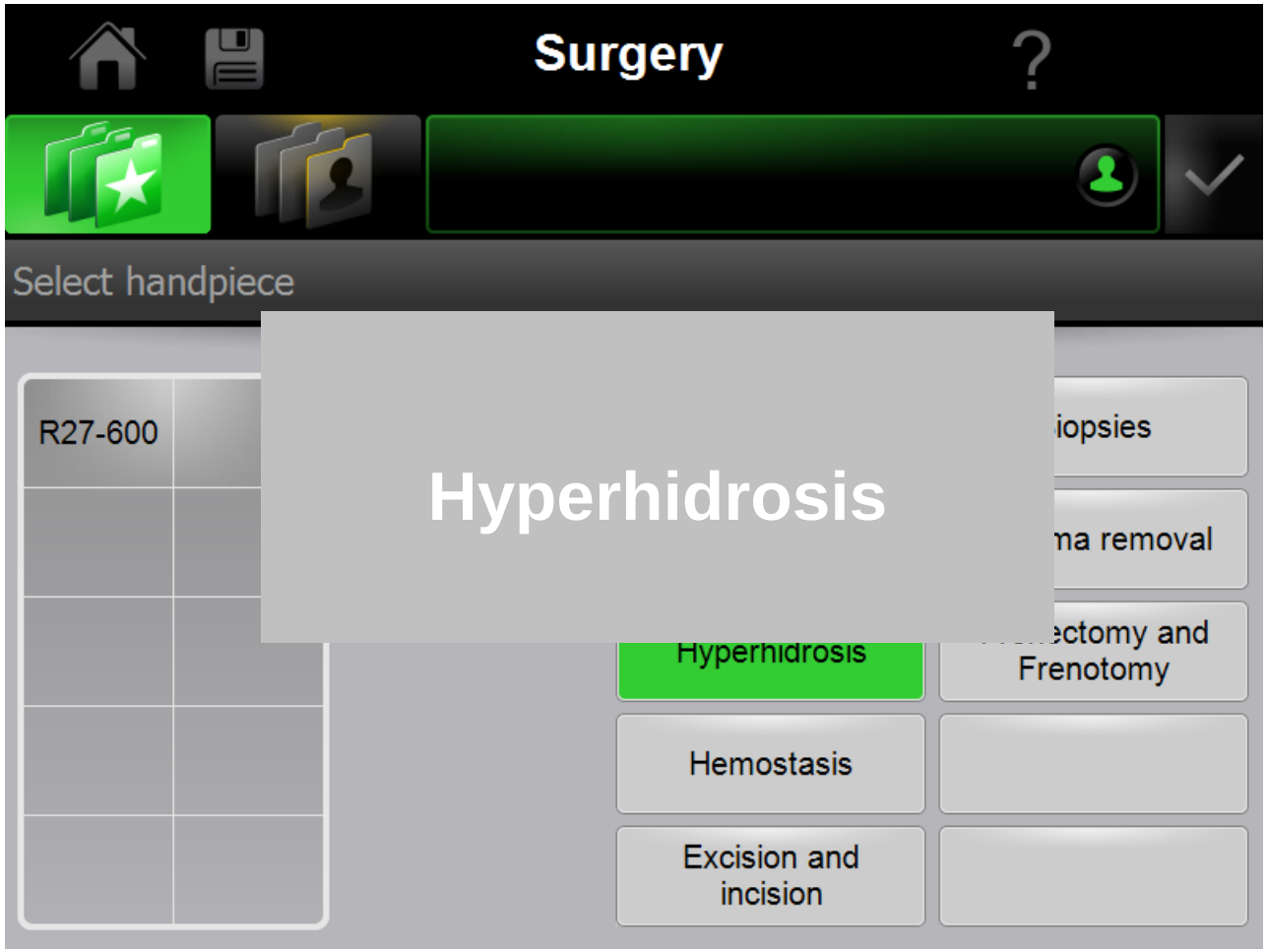
Nd:YAG



Courtesy of dr. Maletić

50 years of Fotona laser innovations

One family, together


Surgery
Nd:YAG
Select handpiece
R27-600
Hyperhidrosis
Hyperhidrosis
Hemostasis
Excision and incision
Frenotomy

Fotona
choose perfection

Hyperhidrosis

11 THE INTERNATIONAL FOTONA WEEKEND

Nd:YAG

- Laser light is used to permanently destroy axillary sweat glands by photoselectively heating sweat gland tissue without damaging any surrounding tissue.

Iodine-starch test before laser treatment

Iodine-starch test after 12 months

- **Bromhidrosis (body odor) laser treatment is becoming a popular application**

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Hyperhidrosis

Courtesy of dr. Maletić

Before

10 months After

Hyperhidrosis

Nd:YAG

Dr. Maletić study showed excellent results and high patient satisfaction

ORIGINAL ARTICLE in LA&HA Journal 2011

ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2011, No. 1; www.laserandhealth.com

Laser Assisted Reduction of Axillary Hyperhidrosis (LARAH) – evaluation of success up to 24 months after the treatment

Dusan Maletic,[1] Ana Maletic,[1] Zdenko Vizintin[2]
[1]Dr. Maletic Polyclinic, Trg Kralja Tomislava 1/1, Daruvar, Croatia
[2]Fotona d. d., Stegne 7, Ljubljana, Slovenia

ABSTRACT

The objective of this study was to evaluate the safety and efficacy (reduction of axillary sweating) up to 24 months after subdermal Nd:YAG laser treatment of Axillary Hyperhidrosis.

Method: A retrospective study was conducted on 32 patients (23 females and 9 males) who received subdermal 1064 nm NdYAG laser treatment of axillary hyperhidrosis on both axillas between May 2008 and November 2010. The majority of patients (27) received only one treatment while 5 patients came back for a second touch-up treatment. Laser energy of

© *Laser and Health Academy*. All rights reserved.
Printed in Europe. *www.laserandhealth.com*

I. INTRODUCTION

Hyperhidrosis in the armpit region is a very unpleasant condition for both men and women at all ages, especially during the summer. Numerous treatment modalities have been used in an attempt to treat axillary hyperhidrosis including topical and systemic medications and surgical methods. The most common method is the use of botulinum toxin to temporarily disable the sweat glands [7,8,9]. All of

50 years of Fotona laser innovations

Fotona
choose perfection

Most Versatile Multi-Application Laser Workstation

11 The International Fotona Weekend

Veins

Acne

Surgical Aplications: Laser Lipolysis, EVLA, Hyperhidrosis

Onychomycosis

Benign Lesions Removal

Fractional treatments

Gynecology

Snoring

Vascular Lesions

Warts

Full Beam & Fractional Treatments

Hair Removal

Skin Resurfacing

Ablative skin rejuvenation

Pigmented Lesions

Scar Revision

Nonablative skin rejuvenation

50 years of Fotona laser innovations

One family, together

Committed to engineering:

The Highest Performance, Best Made Laser Systems in the World

Fotona
choose perfection

11 THE INTERNATIONAL FOTONA WEEKEND

Thank you for your attention!

50 years of Fotona laser innovations

One family, together

Committed to engineering:
The Highest Performance, Best Made Laser Systems in the World

Legal Notes

The Content and Materials of this presentation are proprietary to Fotona or third parties and are protected by copyright laws. Permission is granted to Fotona distributors only for purpose of viewing, reading and retaining for reference.
FOTONA has used reasonable efforts in collecting, preparing and providing quality content and material, but does not warrant or guarantee the accuracy, completeness, adequacy or currentness of the information contained in this presentation. Users of content from this presentation do so at their own risk.
All Fotona medical lasers are CE marked and cleared for sale in the EU. For countries where specific national approvals or clearances are required (for example by the FDA in the United States), some of the products and/or applications have not been cleared yet. Similarly, local patents may limit usage for certain technologies and applications. Some of the applications mentioned in this document are non-labeled procedures and are still under clinical evaluation. Please check with Fotona or your national regulatory body to find out whether a specific product or application is available for sale and use in your country.