

ACROMA^{QS}



Presentation ACROMA-QS[®]

VYDENCE

CONTINUING MEDICAL EDUCATION PROGRAM

*Prepared by Clarissa Bravin, Renata Novais
reviewed and approved by Antonio Olivatto*

proprietary and confidential

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LASER ACADEMY **tv**



ETHEREA-MX[®] PLATFORM



LEADER IN THE WORLD'S SECOND-LARGEST AESTHETICS MARKET



- Maximum versatility;
- LASER and light technologies;
- 70+ treatment indications;
- LASER for all types of skin;
- Always with new technologies;
- Greater profitability and return;
- Compact design that is easy to transport;
- Reliable: second-generation platforms;
- Powerful and with proven results;
- Easily changeable handpieces, plug-and-play;
- Dual voltage, with no need for a voltage stabilizer;
- International standard, FDA approved;
- Sold in nearly 20 countries.

ProDeep®
Nd:YAP 1340 nm
For deep epidermal
nonablative fractional
LASER treatments.



GoSmooth®
Er:GLASS 1540 nm
Gold standard
technology for non-
ablative LASER skin
resurfacing.



LongPulse®
Nd:YAG 1064 nm
Nd:YAG LASER with
variable pulse modes.



ACROMA-QS®
Nd:YAG 1064/532 nm
Dual-wavelength
Fractional Q-switched
LASER with optional
fractional spot.



DualMode®
Er:YAG 2940 nm
Powerful, dual-effect
Er:YAG with improved
coagulation effect.



IPL-Sq®
Intense Pulsed Light
Square-Wave Pulse
Technology and all-in-
one available cut-off
filters.



ATHENA®
DualMode® Accessory
intimate LASER
treatment for women's
health and wellness.



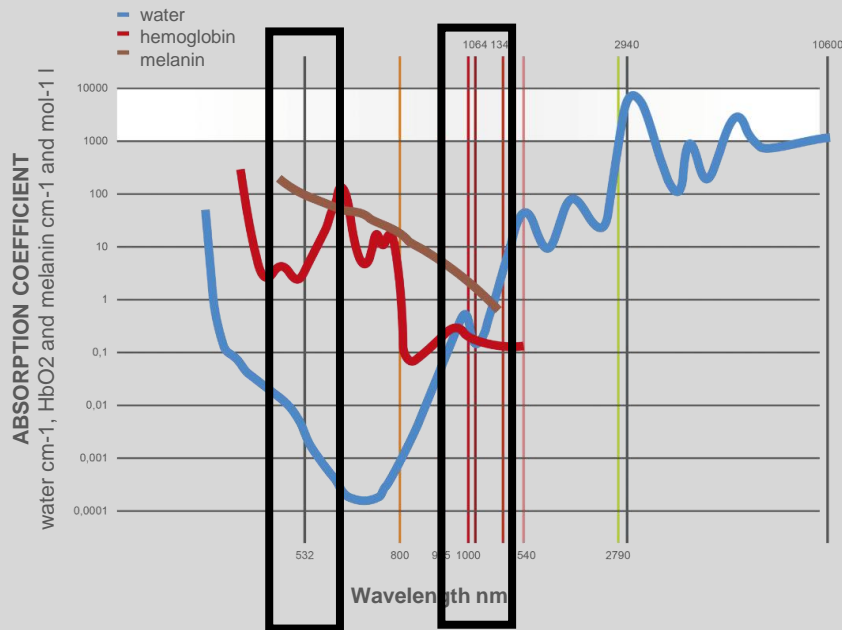
intenseIR®
Infrared Light
Hi-powered IR light
for skin tightening
of the body and face.



 etherea^{MX} | Z Y E

about LASERs and light: science and technology

TARGET CHROMOPHORE AND ABSORPTION CURVE



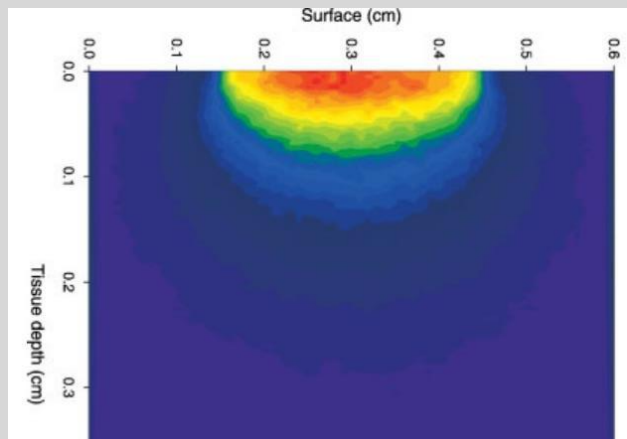
- Relationship of **target chromophore** and absorption curve as a function of **wavelength**;
- High affinity for **hbo** and **meta-hb**;
- **Greater penetration**, lower affinity for water vs. melanin;
- 532 nm: 1064 nm DUO, greater affinity for melanin.

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

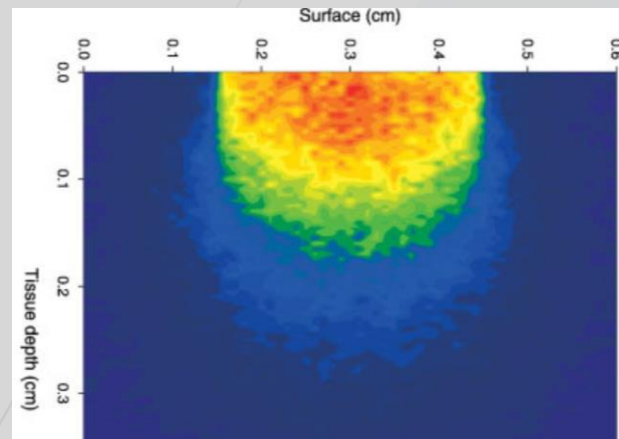
SCIENCE AND TECHNOLOGY

WAVELENGTH vs. DEPTH OF PENETRATION

Distribution of energy and effective penetration capacity of lasers with 532 nm and 1064 nm, with a 3 mm spot, in a Monte Carlo simulator.



532 nm



1064 nm

LASERs Surg Med. 2005 Feb;36(2):105-16. LASER TREATMENT OF LEG VEINS: PHYSICAL MECHANISMS AND THEORETICAL CONSIDERATIONS. Ross EV1, Domankevitz Y.

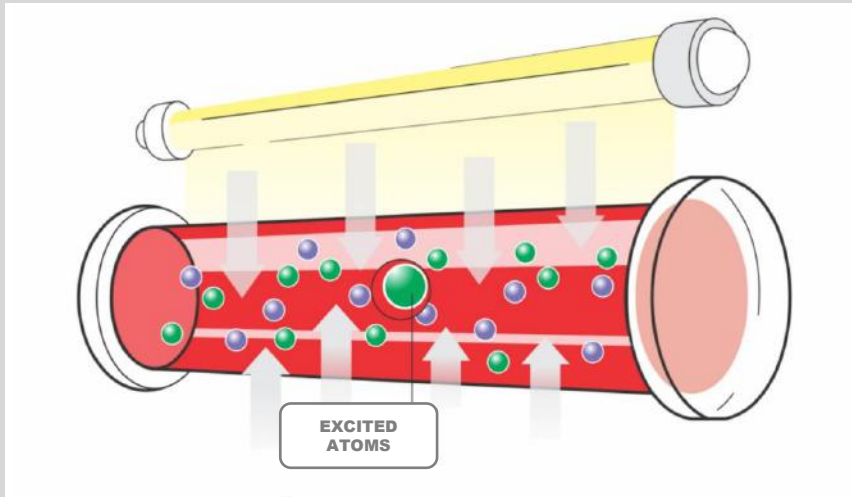
SCIENCE AND TECHNOLOGY



WAVELENGTH vs. DEPTH OF PENETRATION

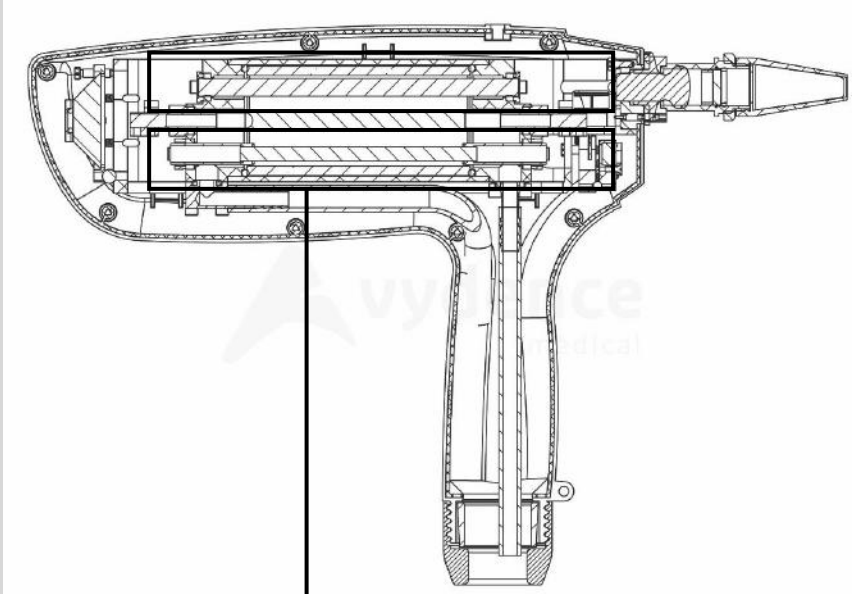
TYPE OF LASER	WAVELENGTH	ABSORPTION COEFFICIENT	PENETRATION DEPTH
DIODO	980 nm	0,0448 per mm	3200 μm
Nd:YAG	1064 nm	0,0177 per mm	81100 μm
Nd:YAG	1320 nm	0,2040 per mm	7000 μm
Nd:YAP	1340 nm	1,5900 per mm	3400 μm
DIODO	1450 nm	3,0400 per mm	470 μm
Er:GLASS	1540 nm	1,1800 per mm	1200 μm
Er:YAG	2940 nm	1220,0 per mm	1,20 μm
CO ₂	10.600 nm	84,400 per mm	17 μm

DEPTH OF PENETRATION AS A FUNCTION OF A LASER WAVELENGTH. Nelson et al. 2002



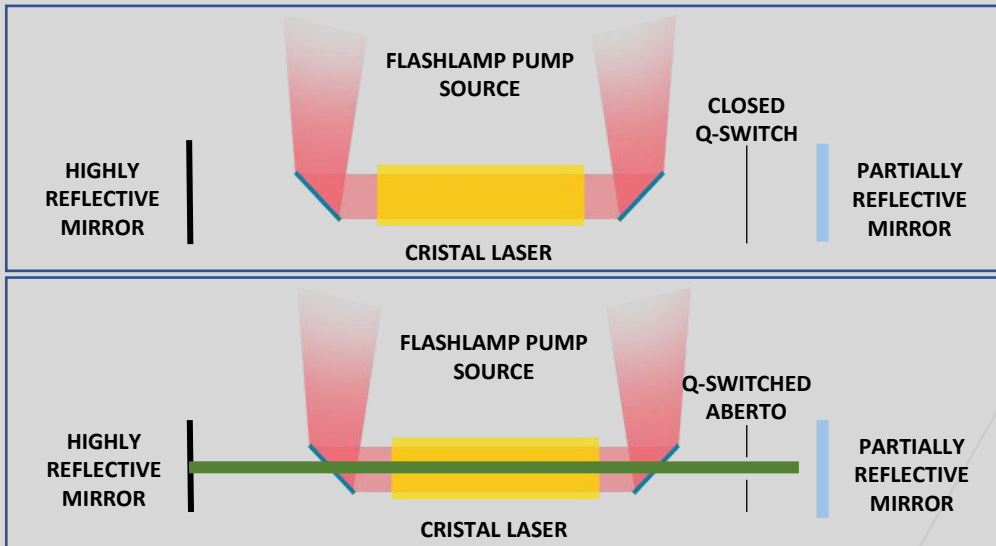
- Light source stimulates the ROD to produce the LASER;
- This light source is changed from time to time;
- Rubi, ALEX and Nd:YAG, for dedicated platforms;
- Dedicated lasers have greater energy generation as a function of space.

- The majority of lasers use only a **single ROD to generate the beam - less energy;**
- **ACROMA-QS: two RODs, for the generation and amplification of the energy of the being - better results.**



**Design of the double
ROD: LASER ROD
generator and LASER
ROD amplifier: more
energy per shot**

Q-SWITCHED



- Q: LASER generator gain factor;
- Q-switch: switch the gain to accumulate energy;
- Special crystal with electronic control inside the LASER to concentrate the energy and release it in a very rapid pulse.

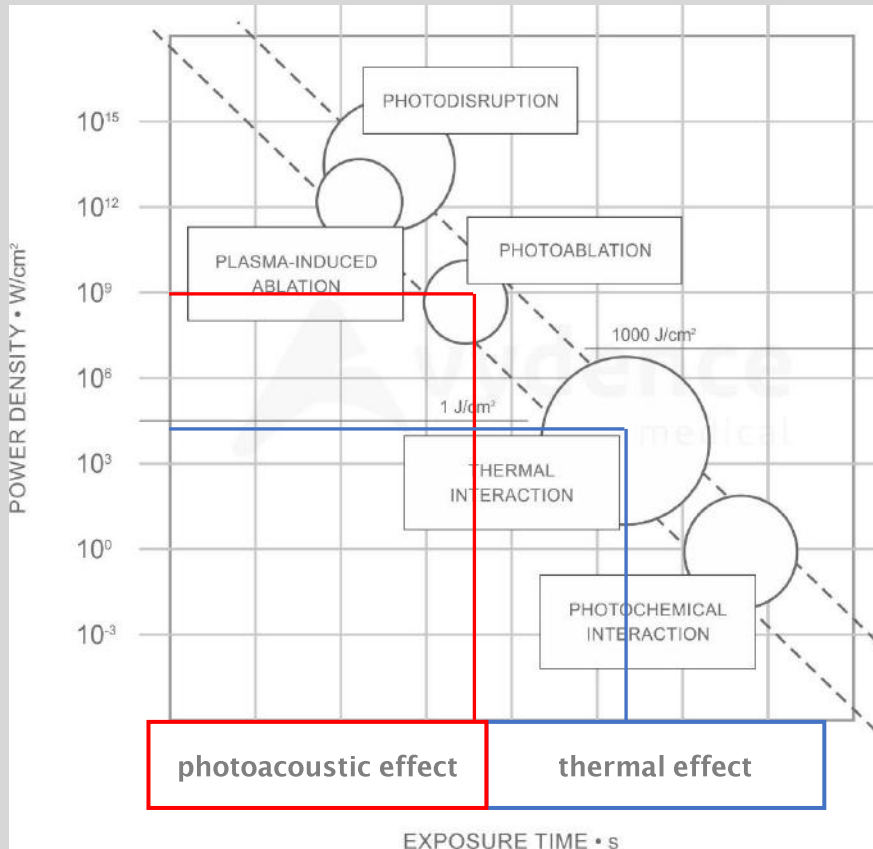
SCIENCE AND TECHNOLOGY



Q-SWITCHED

PULSE DURATION		TREATMENTS
 1 second		
1.000 milliseconds (ms)	Long pulse	Hair removal, vascular lesions
1.000.000 microseconds (μ s)	Micro pulses	Rejuvenation, onychomycosis
1.000.000.000 nanoseconds (ns)	Q-Switched	Tattoos, pigmentary lesions
1.000.000.000.000 picoseconds (ps)	Mode-locked	Tattoos, pigmentary lesions
1.000.000.000.000.000 femtoseconds (fs)		Ophthalmology

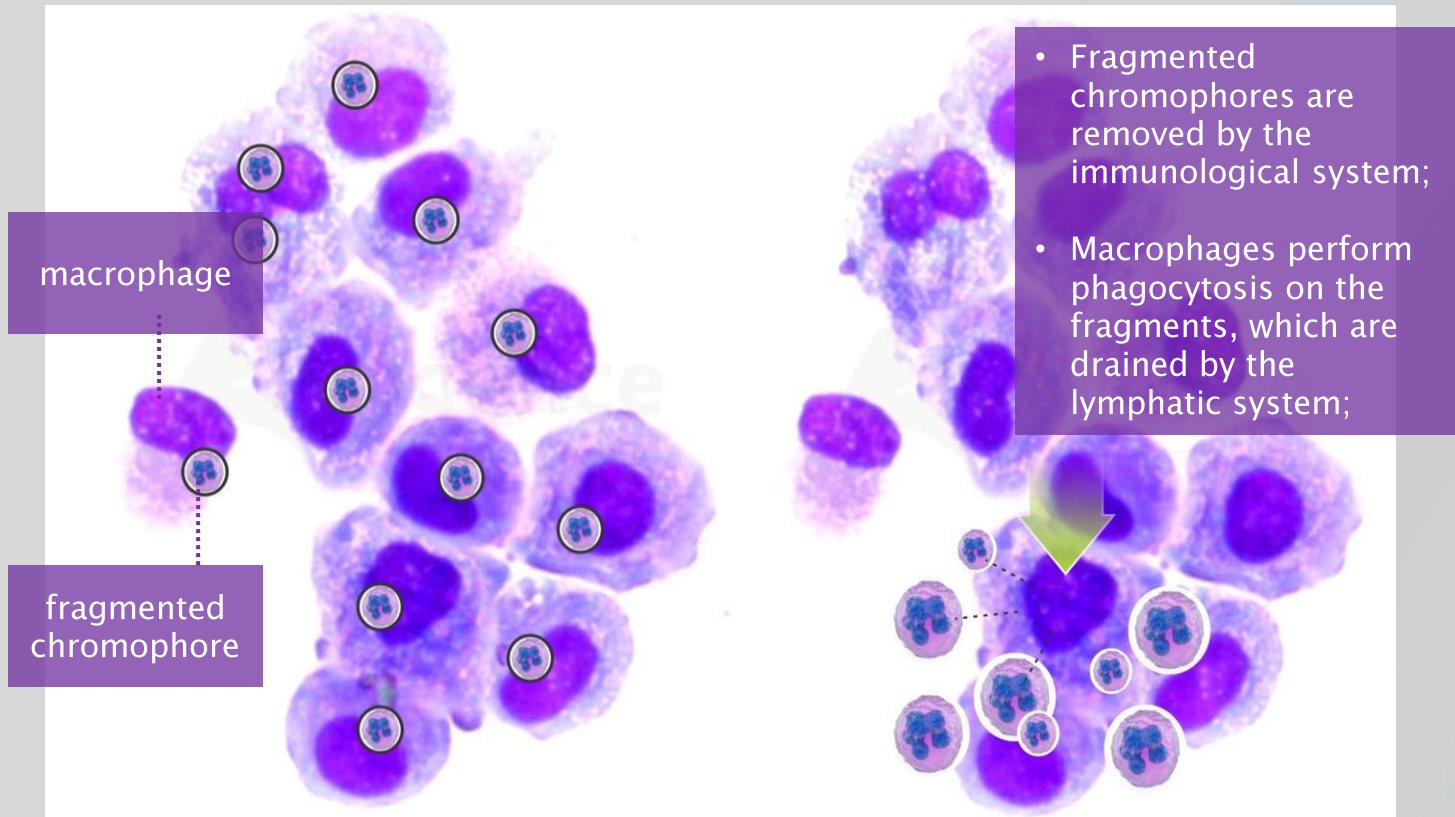
PHOTOACOUSTIC EFFECT



Photoacoustic effect:

Beam delivered with a very short pulse time, with minimal thermal interaction and greater mechanical interaction.

PHOTOACOUSTIC EFFECT

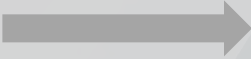


macrophage

fragmented chromophore

- Fragmented chromophores are removed by the immunological system;
- Macrophages perform phagocytosis on the fragments, which are drained by the lymphatic system;

Fragmentation of the particles by thermal + photoacoustic effect

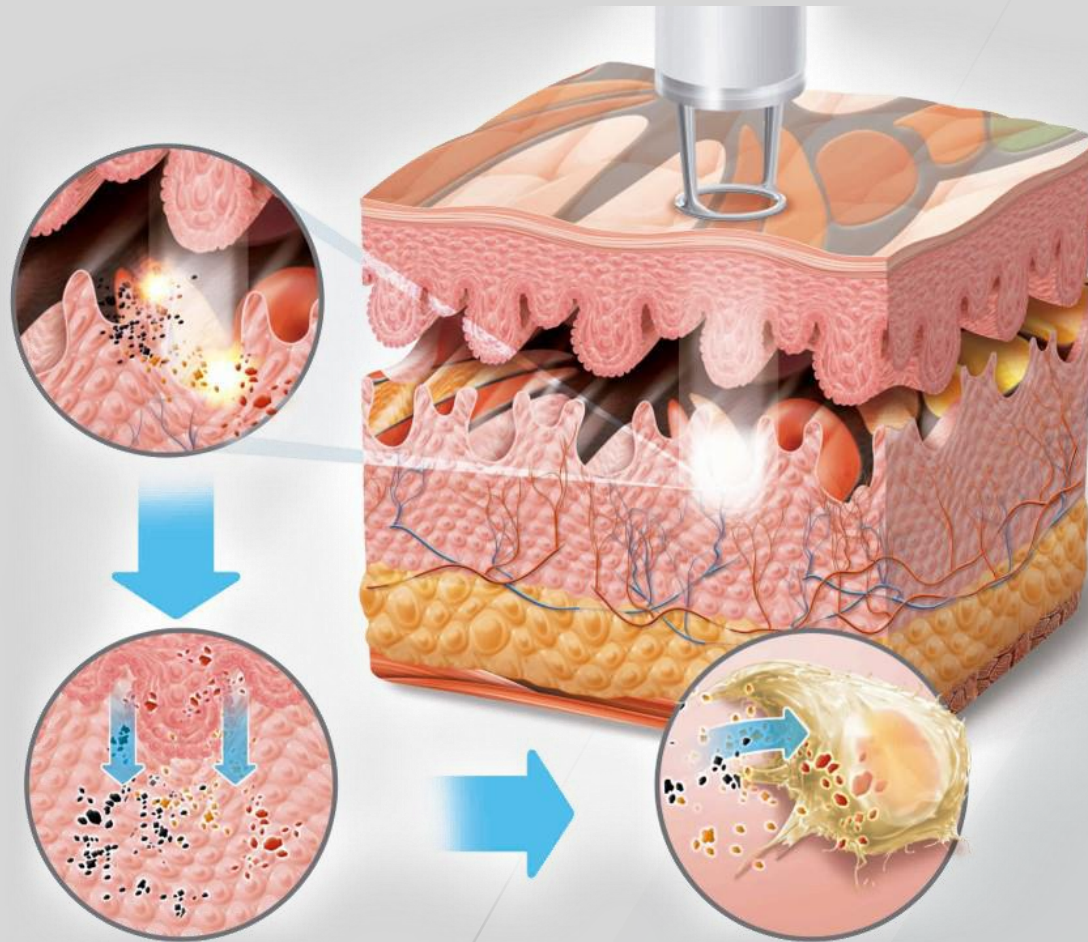


Phagocytosis

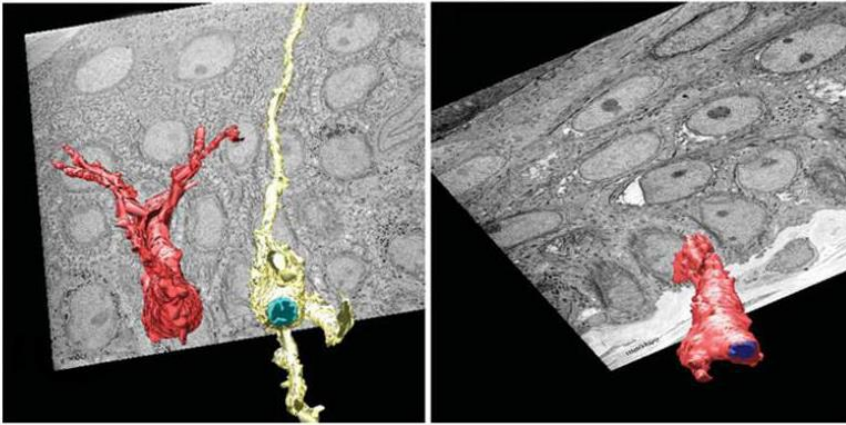
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PHOTOACOUSTIC EFFECT



PHOTOACOUSTIC EFFECT



SELECTIVE PHOTOTHERMOLYSIS

MELANOSOME: 1 micron
TRT: 0,5–1,0 us (1.000 ns)

Polla LL, Margolis RJ, Dover JS, Whitaker D, Murphy GF, Jacques SL, Anderson RR. MELANOSOMES ARE A PRIMARY TARGET OF Q-SWITCHED RUBY LASER IRRADIATION IN GUINEA PIG SKIN. *J Invest Dermatol* 1987;89:281-286.

JY Mun, IH Kim et al. A LOW FLUENCE Q-SWITCHED ND:YAG LASER MODIFIES THE 3D STRUCTURE OF MELANOCYTE AND ULTRASTRUCTURE OF MELANOSOME BY SUBCELLULAR SELECTIVE PHOTOTHERMOLYSIS. *Journal of Electron Microscopy*, 2011;60:11-18.

- Reduction of melanocyte dendricytes without causing any inflammatory reaction;
- Studies conducted show that pulses between 40 and 750 ns are able to selectively destroy the melanosomes;

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ACROMA-QS[®]:
features & technology

FEATURES & TECHNOLOGY

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TECHNICAL CHARACTERISTICS



	ACROMA-QS [®]
Wavelength	Nd:YAG 1.064 nm KTP 532 nm
Maximum energy	1.500 mJ
Pulse time	20 ns
Operating frequency	up to 5 Hz
Spots	1064 nm – 3 mm 1064 nm – 5 mm 1064 nm – 7 mm KTP 532 nm – 3 mm <u>OPTIONAL:</u> 1064 nm – 9 mm (Frac. 100 mtz/cm ²) KTP 532 nm – 5 mm

FEATURES & TECHNOLOGY

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TECHNICAL CHARACTERISTICS



- **Tattoo removal** with various colors and depths;
- **Various pigmentary lesions**, including Keratosis, Nevus of Ota and freckles;
- **LASER skin resurfacing**;
- The best therapeutic solution for **melasma**;

FEATURES & TECHNOLOGY

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SPOTS

1064 nm – 7 mm



- LASER skin resurfacing (LASER Toning and Black Peel)
- Melasma
- Freckles

1064 nm – 3 and 5 mm



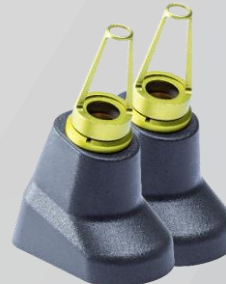
- Dark tattoos
- Dark pigmented lesions

1064 nm – 9 mm/ 100 mtz



- Perioral and periocular wrinkles

532 nm – 3 and 5 mm



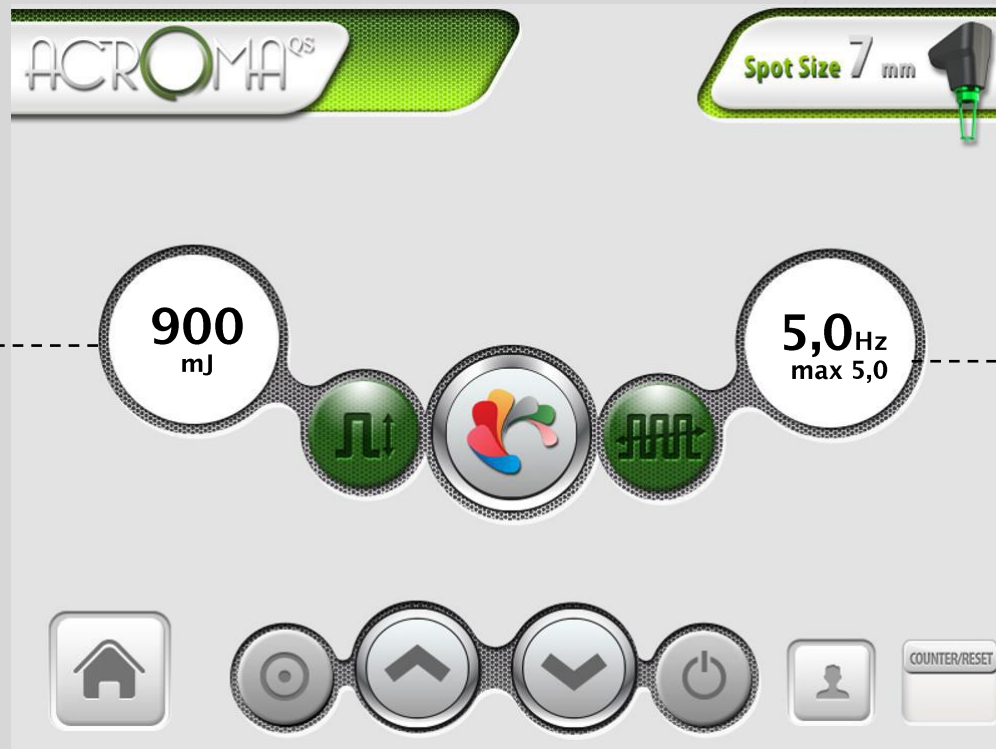
- Light tattoos
- Light pigmented lesions
- Keratosis
- Nevus of Ota

Acroma-QS[®]: interface and parameterization

INTERFACE AND PARAMETERIZATION

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INTERFACE – ETHEREA



automatic recognition of the handpiece and spot

energy delivered (mJ)

frequency or repetition rate between the shots

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ACROMA-QS[®]: practice and training

PRACTICE AND TRAINING

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QUICK REFERENCE GUIDE



PRACTICE AND TRAINING

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COLLIMATED SPOTS VS. FOCUSED SPOTS

COLLIMATED SPOT



7 mm

FOCUSED AND FRACTIONAL SPOT



3 and 5 mm
9 mm frac.

PRACTICE AND TRAINING

GRADUATION OF AGGRESSIVENESS

- Increase the energy progressively*:
600mJ – 900mJ – 1200mJ – 1500mJ
- Only advance to the next spot when you do not reach the desired endpoint.

*Depending on the treatment



Spot optional

! KTP 532 nm only for Fitzpatrick Scale skin types I-III

PRACTICE AND TRAINING



PARAMETERIZATION

SPOT	1064nm												532nm				
	7mm				5mm				3mm				3mm				
EN.	600	900	1200	1500	600	900	1200	1500	600	900	1200	1500	600	900	1200	1500	
INDICATION	B. PEEL																
	MELASMA																
	LASER TONING																
	FRECKLES																
	DARK PIGMENTED LESIONS																
	LIGHT PIGMENTED LESIONS/ KERATOSIS / NEVUS OF OTA																
	TATTOO REMOVAL																

PRACTICE AND TRAINING

CLINICAL GUIDE – TATTOO REMOVAL

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- Professional tattoos are a **challenge!**
- **PROBLEM: lots of side effects;**
- Different kinds of LASER: selective photothermolysis;
- **Main difficulties:** colors and depths, quality of the pigments (pure, ferrous); number of sessions necessary can vary;
- **Patient's expectations** in relation to the results obtained and treatment time/sessions.

LASER	PARAMETERS	BLACK AND DARK BLUE	GREEN AND LIGHT BLUE	RED AND ORANGE
PULSED DYE	510 nm 300 ns	-	-	+++
ND:YAG DUO	532 nm 10-40 ns	+++	-	+++
QS RUBI	694 nm 25-50ns	+++	++	-
QS ALEX	755 nm 50-100ns	+++	+++	-
QS ND:YAG	1.064 nm 10-40 ns	+++	-	-

PRACTICE AND TRAINING

CLINICAL GUIDE – TATTOO REMOVAL



USAGE PARAMETERS

Spots and Fluence:	1064nm – 5 and 3 mm KTP 532nm – 5 and 3 mm Follow graduated aggressiveness to maintain the progress of the treatment and avoid side effects.
End Point:	Frost (ideal, but not restricted)
Siberian Use:	Yes
Passes:	1
Sessions:	6 to 15
Minimum interval:	30 days*

* Depends on healing.

PRACTICE AND TRAINING

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CLINICAL GUIDE – TATTOO REMOVAL



Courtesy of **Andranik Bedrossian, MD.** Curitiba, PR. Brazil

ADVERSE EFFECTS

- Atrophy, hypertrophic scarring and keloids;
- Blisters, arising from burns from overlapping or excess energy/pigment in the target area;
- Dyschromia, darkening of the pigment (principally with red and white ink);

PRACTICE AND TRAINING



CLINICAL GUIDE – TATTOO REMOVAL

CONTRAINDICATIONS	PRETREATMENT	POSTTREATMENT
<ul style="list-style-type: none">▪ Pay attention to skin type and patients with tans!	<ul style="list-style-type: none">▪ Don't pass over again▪ Don't do stacking. <p>Painful procedure: apply local anesthetic and use SIBERIAN-FIT® when possible.</p>	<ul style="list-style-type: none">▪ Healing preparations,▪ Topical antibiotics, if necessary;▪ Avoid exposing the area to the sun.

PRACTICE AND TRAINING

CLINICAL GUIDE – DARK PIGMENTED LESIONS



USAGE PARAMETERS

Spots:	1064nm – 5 mm 1064nm – 3 mm
Fluence:	600 to 1200 mJ
End Point:	Erythema and scab formation.
SIBERIAN-FIT® use:	Optional
Passes:	1 to 2
Sessions:	4 to 6
Interval:	30 days

PRACTICE AND TRAINING



CLINICAL GUIDE – LIGHT PIGMENTED LESIONS, KERATOSIS AND NEVUS OF OTA



USAGE PARAMETERS

Spots:	1064nm – 3 mm KTP 532nm – 5 mm KTP 532nm – 3 mm
Fluence:	600 to 1200 mJ
End Point:	Erythema and scab formation.
Siberian use:	Optional
Passes:	1 to 3
Sessions:	1 to 3
Spots:	600 to 1200 mJ

PRACTICE AND TRAINING



CLINICAL GUIDE – FRECKLES



USAGE PARAMETERS

Spots:	Dark lesions: 1064nm - 7mm Light lesions: 1064nm - 5mm
Fluence:	600 to 1500 mJ
End Point:	Light erythema
SIBERIAN-FIT® use:	Optional
Passes:	1 to 8
Sessions:	4 to 8
Interval:	15 to 20 days

PRACTICE AND TRAINING

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CLINICAL GUIDE – LASER SKIN RESURFACING (LASER TONING)



- Procedure very popular in Asia;
- Maximum safety and no downtime;
- No restrictions on skin type or whether the skin is tanned.

Indicated for:

Minimizing pores

Comedones

Oily skin

Texture and tone

Fine wrinkles

PRACTICE AND TRAINING

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CLINICAL GUIDE – LASER SKIN RESURFACING (LASER TONING)



USAGE PARAMETERS

Spots:	1064 nm – 7 mm
Fluence:	600 to 1200 mj
End Point:	Light erythema
Siberian use:	No
Passes:	6 to 8
Sessions:	4 to 6
Interval:	30 days

PRACTICE AND TRAINING

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CLINICAL GUIDE – LASER SKIN RESURFACING (BLACK PEEL)



- Use of a paste composed of graphite and mineral oil;
- For higher levels of energy;
- Procedure currently being done again;
- Be careful with the lens: use a small amount of paste, wrap the spot in plastic film, apply the treatment without touching the skin and always clean it after use. **Dirt in the cavity can irreversibly damage the equipment!**

PRACTICE AND TRAINING



CLINICAL GUIDE – LASER SKIN RESURFACING (BLACK PEEL)



USAGE PARAMETERS

Spots:	1064nm – 7 mm
Fluence:	600 to 900 mj
End Point:	None
Siberian use:	No
Passes:	1 to 2
Sessions:	4 to 6
Interval:	30 days

PRACTICE AND TRAINING

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CLINICAL GUIDE – MELASMA



courtesy of Dr. Valéria Campos, Jundiaí, SP, Brazil



courtesy of Dr. Osterno Potenciano, Palmas, TO, Brazil

USAGE PARAMETERS

Spots:	1064nm – 7 mm
Fluence:	600 to 900 mJ
End Point:	Light erythema
Siberian use:	If necessary
Passes:	1 to 3
Sessions:	8 to 12
Interval:	4 weekly sessions 4 sessions every 15 days 4 monthly sessions (maintenance)

PRACTICE AND TRAINING



CLINICAL GUIDE – LASER SKIN RESURFACING AND PIGMENTED LESIONS

CONTRAINDICATIONS	PRETREATMENT	POSTTREATMENT
<ul style="list-style-type: none">Do not use 532nm KTP on Fitzgerald scale skin types IV, V or VI.	<ul style="list-style-type: none">For this procedure, the skin must be clean and dry.Hair can break or lighten with Acroma.Protect the eyebrows with white micropore and avoid applying it very close to the beard and scalp	<ul style="list-style-type: none">Post-procedure: do not apply topical corticoid after the rejuvenation treatment. For other indications, use if necessary.

PRACTICE AND TRAINING

CLINICAL GUIDE – LASER Gemini+[®]

LASER Gemini+[®]: a combination of two identical wavelengths and active media, but with different pulse times, for personalized effects;

Nd:YAG q-switched, 1.064 nm
for spots and melanoses, cutaneous
clearing in general
photomechanical effect only

Nd:YAG short-pulsed, 1.064 nm
for toning, reduction of flushing,
closing pores
thermal effect only

- Combination in the same treatment session;
- Sessions monthly or every 15 days;
- From 6 to 8 treatment sessions for broadened results;
- No downtime and no restrictions on skin tone or tan.

PRACTICE AND TRAINING

MY PRACTICE VYDENCE



The MyPractice is a continued medical education program proposed by VYDENCE® to the doctors that use our products and technologies may share their experiences in a practical and quick way.



» My Practice Online



Acroma-QS[®]: care and preventative maintenance

CARE AND MAINTENANCE

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CARE AND PREVENTATIVE MAINTENANCE



- Clean after of each application;
- Pro rata guarantee of the handpiece: 1 million shots;
- Damage from falls or misuse (usage not in accordance with the recommendations) is not covered;
- Careful during transportation, misalignment can result in ineffective treatment;
- Send the handpiece to technical support after reaching the recommended number of shots.
- Cleaning and disinfection of the applicator spots: use isopropyl alcohol (preferentially) with cotton swabs and/or gauze on the lenses and spacers;
- Spacers can be washed with soap and water and/or enzymatic detergent or sanitized with 70% alcohol.

CARE AND MAINTENANCE

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CARE AND PREVENTATIVE MAINTENANCE



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Learn more about maintenance procedures on our channel

vydence  **LASER ACADEMY** 

- Use only deionized water;
- Replace all the water in the reservoir annually;
- Change the ionizing filter annually;
- Annual inspection of the platform and handpieces.

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medical

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Thank you

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