CURAS

Advanced Q-switched Nd:YAG

CLINICAL GUIDE

Cryomed Aesthetics

ilooda

SYSTEM OVERVIEW

Specification

Laser Source	Q-Switched Nd:YAG
Wavelength	1064nm / 532nm
Operating Mode	Q 1064 / PTP 1064 / Q 532 / FR 1064 / M 1064 / A 1064
Pulse Energy	Max.1300mJ(Q 1064) / Max.1600mJ(PTP 1064) / Max.400mJ(Q 532) / Max.3500mJ(FR 1064) / Max.2100mJ(M 1064) / Max.300mJ(A 1064)
Energy Calibration	Auto & Manual Calibration
Cooling System	Closed cycle water to air heat exchanger
Pulse Width	5ns~20ns(Q 1064) / 5ns~20ns(PTP 1064) / 5ns~20ns(Q 532) 300us(FR 1064) / 100ns(M 1064) / 200~300us(A 1064)
Spot Size	2~10mm(Zoom handpiece) / 7X7mm(81 fractional pixel)(Fractional handpiece) / 8mm(Colimated handpiece)
Pulse Frequency	1 - 15 Hz(Q 1064, PTP 1064, FR 1064, Q 532, M 1064), 30 Hz(A 1064)
Input Power	220 - 230 VAC, 50/60 Hz
Dimensions	355(W)mm X 672(D) mm X 979(H)mm
Weight	84kg

CuRAS HANDPIECES

Basic 3 Types

Zoom Handpiece

Adjustable from 2 to 10mm with 1mm step

Main Usage ;

Mode - *Q 1064, Q 532, PTP 1064, FR 1064, M 1064, A 1064*

Collimated Handpiece

8mm fixed collimated handpiece for soft peeling

Main Usage ;

Mode - *Q 1064, Q 532, PTP 1064, FR 1064, M 1064, A 1064*

Fractional Handpiece

81fractional dots in 7x7mm

Main Usage ;

Mode - FR 1064

CuRAS HANDPIECES

Dye Handpc

585 Dye Handpiece

Pulse Energy: **Max. 200mJ**

Repetition rate: **1-2Hz**

Spot size: **2mm**

Mode – Q585

650 Dye Handpiece

Pulse Energy: **Max. 160mJ**

Repetition rate: **1-2Hz**

Spot size: **2mm**

Mode – Q650

MLA HANDPIECE

MLA Handpiece	35mm	25mm	15mm
Adjustable from 2 to 10mm with 1mm step	L35 (35mm / Φ0.5) guide tip Fluence L35 is 12.0 J/㎠		L15(15mm / Φ0.4) guide tip Fluence (J/㎠) L15 is 16.9 J/㎠

Main Usage ;

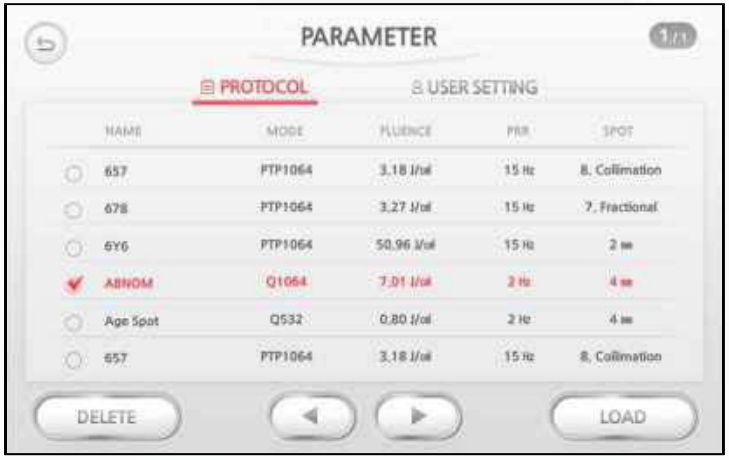
Mode - *Q 1064, Q 532, PTP 1064, FR 1064, M 1064, A 1064*

Advantages

Auto-detected spot size and hand pi eces

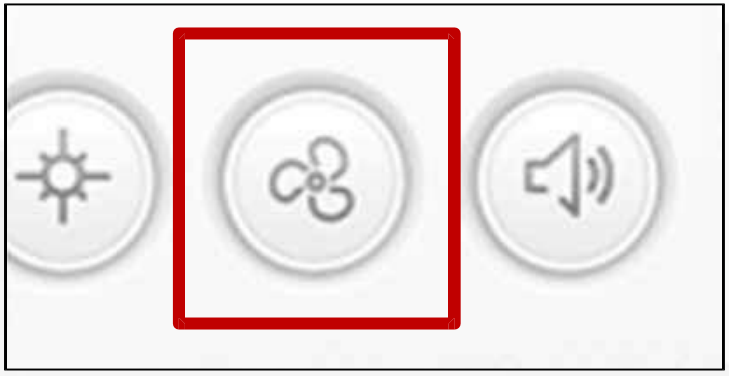
Changing the type of the hand pieces and the spot size are automatically detected in the GUI to prevent any unexpected excessive fluence.

Advantages



Preset Protocols

CuRAS provide 21 useful treatment parameters that is mostly used by ilooda key opinion leaders around the world.

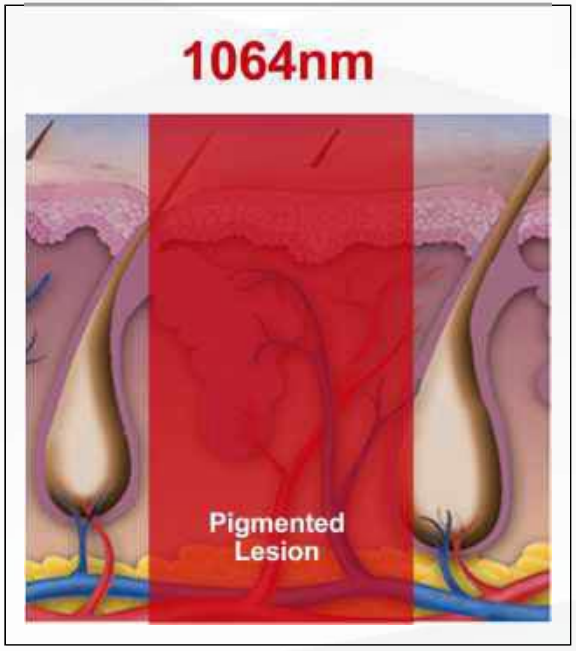


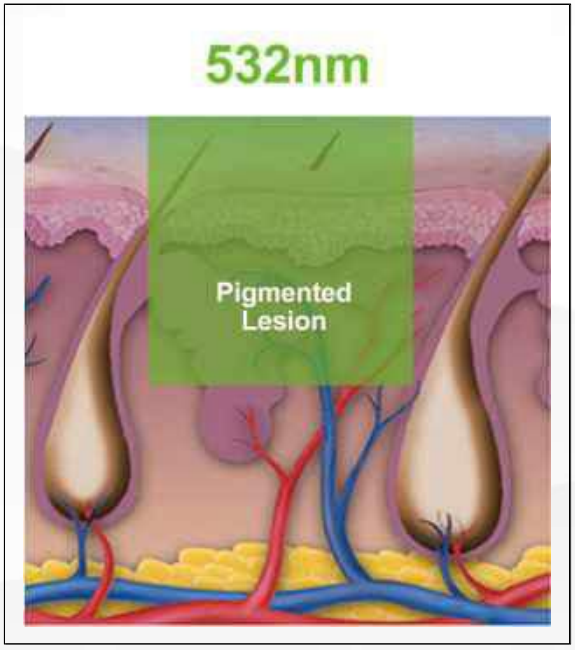
Air flow function

All CuRAS hand pieces come with special air flow function in order to protect the lens from dust during the treatment.

MODE OF OPERATION

Indications





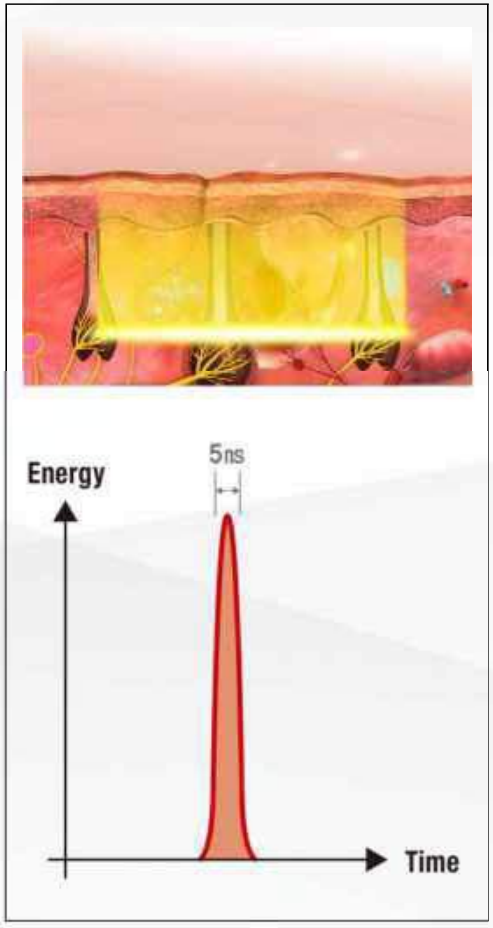
Indications & Benefit of Q-switched Nd:YAG Laser

- Tatto Removal
- Pigmented Lesion
- Melasma
- Carbon Peel
- Hair Bleaching
- Onychomycosis
- Skin Rejuvenation

Various Pulse Types

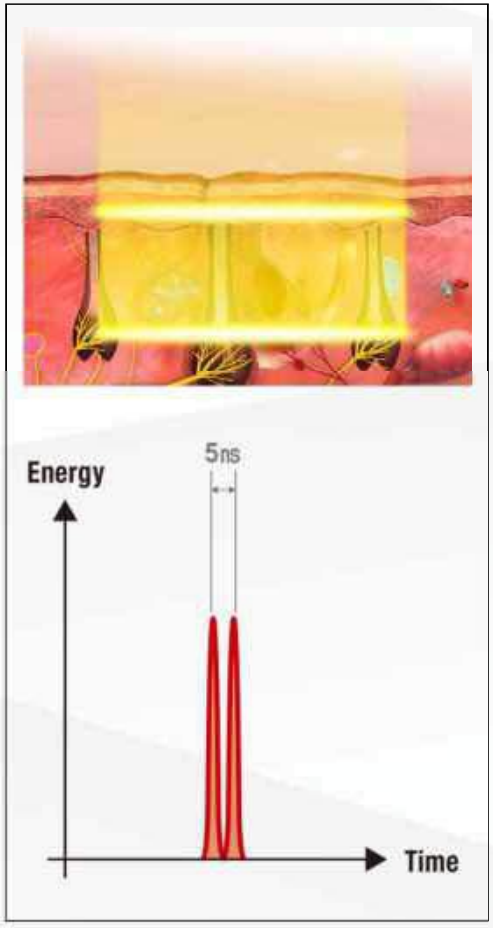
Single Pulse

Conventional single pulse gives high peak power in short duration



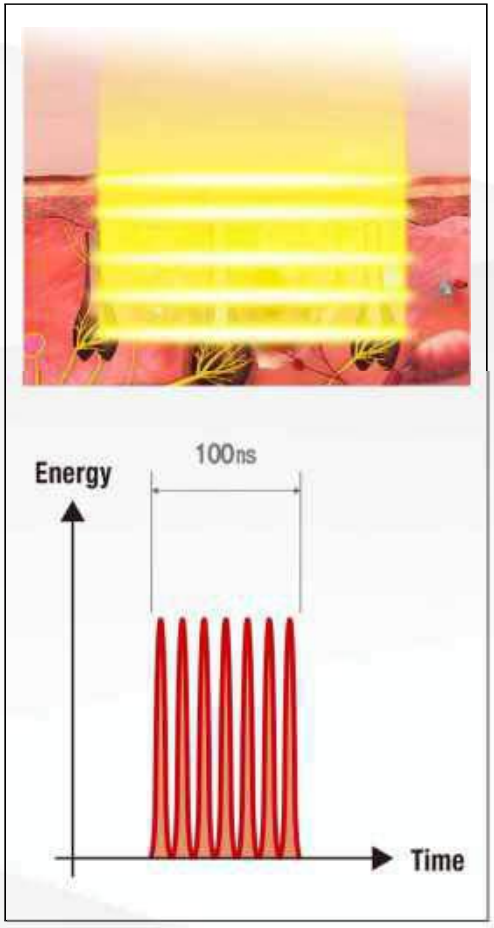
PTP Pulse

Two consecutive pulses making the pulse lower in peak power creating subtle thermal injury



Multi Pulse

Multi-pulse enables giving much powerful peak power up to 7 sup-pulses in 100ns for dark skin type



CuRAS PREMIUM MODE

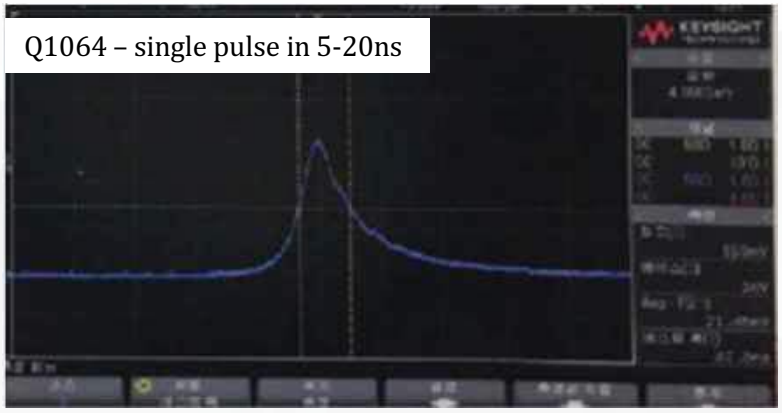
Comparison Chart

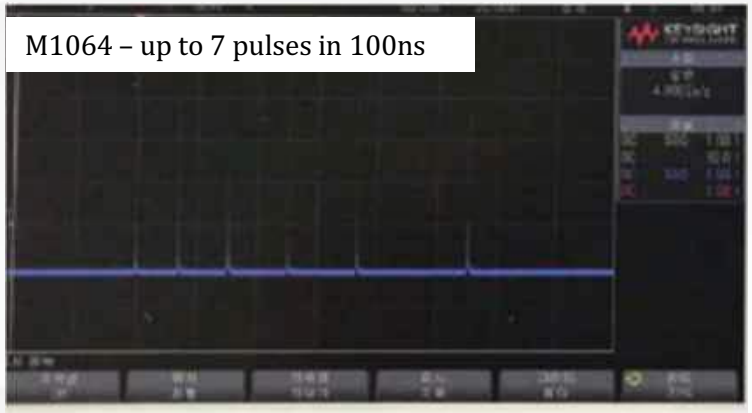
Q1064
Dermal Pigment
Single pulse for pigment
shattering ie PIH, Birthmarks, Tattoo Ink

PTP 1064
Aging
Higher energy availability delivered in double pulse (half energy per pulse)
for more bulk heating ie Wrinkles, Pores and on low energy for sensitive skin

M 1064
Melasma
Multi pulse 7 subpulses in 100ns
Heating for vascular melasma for downregulation of VEGF

	Q 1064	PTP 1064	M 1064
Max power	1.3J	1.6J	2.1J
Duration	5~20ns	5~20ns	100ns
Pulse type	Single	Twin	Multi
Benefit	High power	Sensitive skin	Dark skin





M1064 makes multi-pulses up to 7 sup-pulses within a longer duration of 100ns than conventional Q-switched Nd;YAG

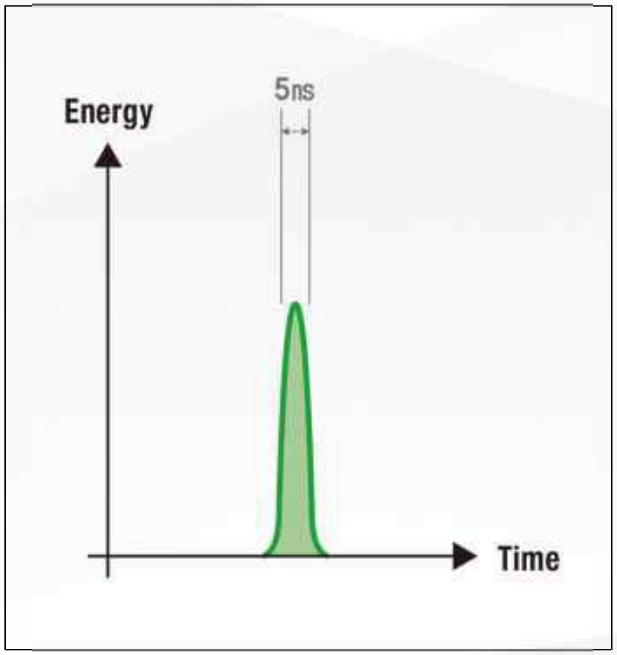
Benefit of Multi-Pulse

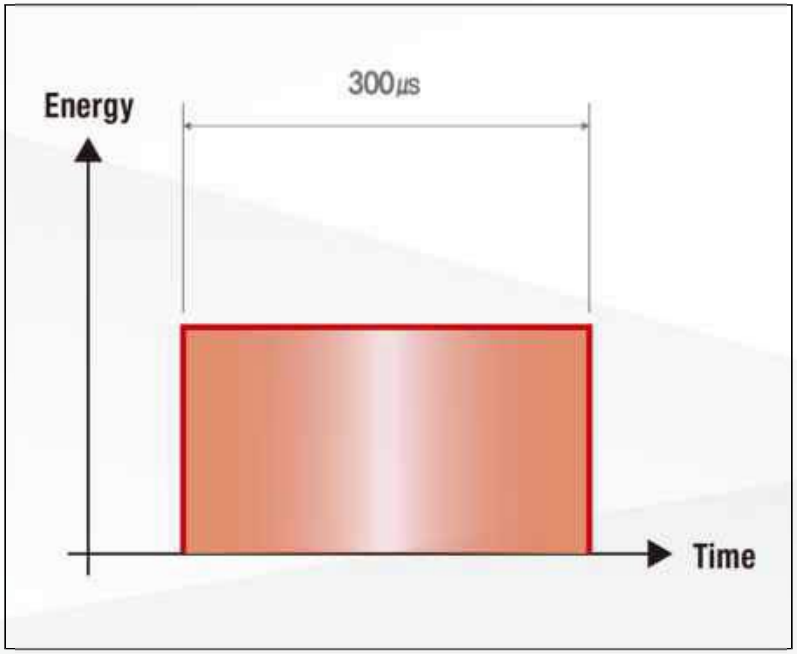
While **PTP1064** can use **60% more power** than conventional single pulse, **M1064** will allow the practitioner to use much higher peak power **almost 150% more than conventional single pulse** to treat **the melasma more safely with lower risk of PIH or hyper pigmentation.**

Mode	Q1064	PTP1064	M1064
Power	600mj	1J	1.5J
Flunce	1.5J	2.5J	4J
Spot Size	7	7	7

CuRAS PREMIUM MODE

Q532 | FR1064





Q 532

CuRAS Q 532nm penetration depth area is optimal to treat superficial (epidermis area). Give high power of 400mj in a short duration of 5~20ns

INDICATION

- Pigmentation
- Red Tattoos

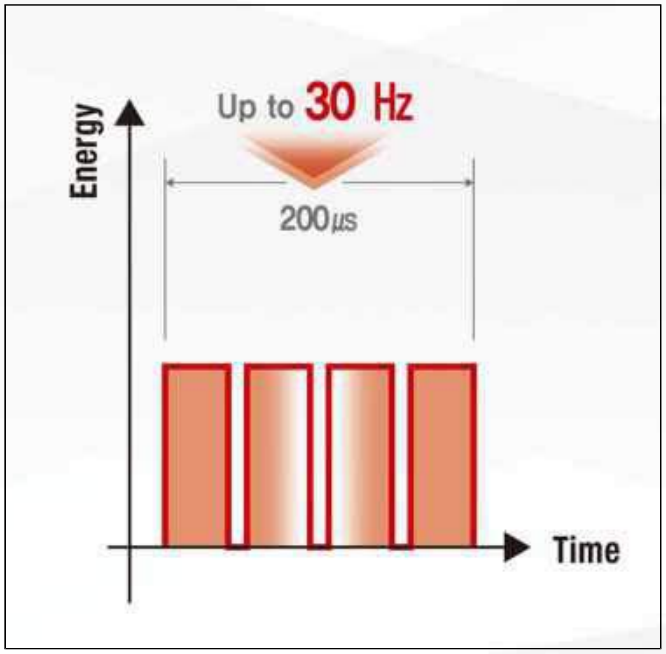
FR 1064

FR1064 is a Long Pulse mode with high thermal energy up to 300mj with a speed of 30hz that stimulate fibroblast in dermal layer to induce collagen production

INDICATION

- Soft Peel
- Acne
- Large Pores
- Skin Whitening

EXCLUSIVE A1064



INDICATION

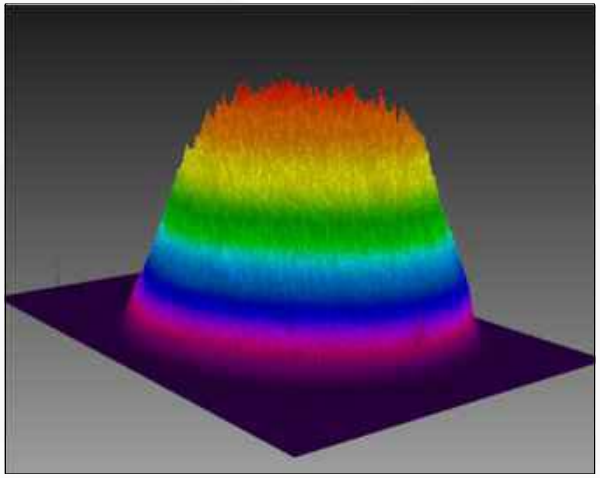
- Effective to treat onychomycosis acne
- Long duration, Fast up to 30Hz

A1064

CuRAS exclusive A 1064 mode delivers high thermal energy up to 300mj in order to treat onychomycosis and Active Acne lesions.

Concept : Long duration of 200us combined with fast transmission of 30HZ for accumulation of high thermal energy to damage the fungal inside the toe / sebaceous gland while protection to the surrounding skin.

Advantages



Top Hat

CuRAS provides a top hat beam profile allowing it to give a uniform power during the whole treatment area.

High frequency (15HZ)

CuRAS fast treatment of 15hz allow to finish the treatment faster covering big areas in a fast time.

- CuRAS toning treatment time : 3 minutes
- Competitors toning treatment time : 5 minutes

PROTOCOLS

CuRAS Treatment Guide

Before operating the CuRAS, you must be well acquainted with the **User Manual** and this Treatment Guide.

This guide is intended to present a more effective way for users to perform procedures including general details such as identification of patients' medical history, information for accurate diagnosis of the lesion, points to be aware of before the laser procedure, appropriate treatment according to a lesion, selection of treatment variables, and treatment after care.

The first thing to consider in benign pigmented lesions is to make an accurate diagnosis before procedure to select the appropriate parameters to reduce side effects whilst obtaining satisfactory therapeutic effect. Each patient is unique, and results may vary.

The information provided herein is based on physician/customer feedback and recommendations, publications, and articles. Ultimately, each practitioner is responsible for evaluating the appropriateness of a laser treatment, determining the proper course of care, setting pre- and post-treatment care plans and expectations, and discussing any other relevant information. Please consult the Operator's Manual including clinical treatment guidelines for details about the use, maintenance, care, and operation of the system.

These parameters are indicative only and do not replace proper assessment and diagnosis, need for consultation, or need for test patch. They should be used in conjunction with the User Manual and parameter sheet.

Every person's skin reacts differently to the laser therefore a test spot is always necessary to determine which parameters are best for successful treatment. Repetition rate should be decreased for all users if this is more comfortable especially while familiarizing yourself

The following patients are contraindicated for treatment.

- Isotretinoin (i.e. Accutane) use in the 6 months
- Pregnancy / breast feeding
- Active skin disease or infection or untreated skin cancer in the treatment area
- Compromised immune system
- AIDS / HIV or hepatitis
- Impaired healing (e.g. keloid scar formers)
- Vitiligo (for soft peel only)
- Cosmetic ink (relative contraindication)
- History of Keloids (relative contraindication)
- Certain photosensitive medications
- History of gold therapy . Prior treatment with parenteral gold therapy (gold sodium thiomalate). If subsequently treated these patients may develop localized chrysiasis. Chrysiasis is a rare blue-gray or blue-green skin discoloration that occurs in sun-exposed sites of some patients who are on gold therapy. The skin discoloration can persist long term and be very traumatic to the patient. Gold salts are prescribed for some patients with rheumatoid or other arthritic conditions should be reviewed and possible treatment support package introduced.

Adverse Effects

- Scarring, keloid formation and indentation of the tissue
- Postoperative erythema, edema and pain
- Hypopigmentation or hyperpigmentation
- Infection, Fever, Delayed healing, Ulceration, Pain
- The same complications and risks that exist for conventional or traditional surgery also exist for laser surgery. These include, but are not limited to the following.
- Allergic reaction to medication, Arrhythmia

Precaution (before operation)

- Avoid excessive sun exposure for approximately one to two weeks prior to your treatment.
- Wear a broad-spectrum sunscreen of at least SPF 30 to protect your skin.
- If you are spray-tanned, please exfoliate to help remove the tanning product in the treatment area.
- Stop applying any “irritating” skin products at least one day prior to treatment.
- Female patients should not wear any makeup/mascara, lotions, powders or perfumes on or around the areas being treated.
- 1064nm - Always use caution in hair bearing areas as hair reduction may be noted in areas such as the beard. Male patients can shave the morning of their treatment but should not apply lotions or aftershave on or around the areas being treated.
- Ink allergies should be reviewed and possible treatment support package introduced.
- Immunocompromised medical conditions / medications for tattoo removal should be reviewed and possible treatment support package introduced.
- Do not treat any new tattoos for at least three months. Do not treat any tattoos that have been treated with any other source than a Q-switched laser for at least three months.
- Do not treat anyone that has a red tattoo that has not healed or is causing an allergic response such as itching.
- When treating, always begin treatment by using the lowest possible energy level. If more issue effect is desired, increase the energy level in small increments until the desired tissue effect is observed.

Patient Documentation Forms

Patient documentation is important to the success of any laser treatment. Consent forms document the process of accepting and confirming treatment and must be reviewed, understood and signed by the patient prior to treatment. These forms must review the topics discussed during consultation and acknowledge that the patient understands the procedure and that all questions have been answered.

Always review the ‘Aftercare Instructions’ and confirm that the patient will adhere to such instructions throughout their treatment course. Upon patient’s assessment, determine the need for medications or creams to be used pre treatment and/or throughout the treatment.

Treatment Records track treatment information used throughout the treatment course, such as fluence and pulse width settings, as well as number of pulses used.

Precaution during operation

- Please do 1~2 test shots before proceeding the treatment because there are different skin sensitiveness depending on the individual person.
- It is necessary to adjust the setting according to the skin reaction.
- with the device.
- Reactions- As with other laser treatments skin reactions and tissue response will indicate a satisfactory clinical end point. Whilst pin point bleeding, blistering and purpura are accepted post treatment reactions, it is not an intended response.
- Always perform a test patch when treating cosmetic tattooing
- Cosmetic tattoos are harder to treat, this application is recommended for advanced users only. Lips will tend to turn black after 1064nm / 532nm and will need to wait for next treatment to use 1064nm and take the black away.
- If tattoo becomes itchy (mostly red coloured tattoos) during treatment or straight after contact a plastic surgeon as it may need to be surgically removed.
- Treatment of cosmetic tattoo on the eyelids and eyebrows require protective metal eye shields which must be used in the eyes and must be fully occlusive (intra-ocular shields). It is important to use extreme caution when treating near the eyes.

After treatment

- Strong cooling is not recommended because it can cause PIH or inflammation.
- After laser treatment patients skin may be cooled in order to calm down the sunburn sensation and any redness.
- Some patients might experience some edema (swelling) for up to a couple of hours, if they have had an aggressive treatment.
- If the sunburned sensation continues after two hours, hydrocortisone 1% cream (or similar low potency cortisone) 2x / day for up to several days, as needed.
- After calming the skin a moisturizing sunscreen should be applied to the skin.
- Continue using a moisturizing sunscreen after the treatment.
- It is recommended that the patient not to exercise excessive workout or sweat such as sauna.
- Female patients can wear makeup immediately after their treatments and male patients may shave.

Test Spots

Test spots are recommended prior to treating pigmented lesions. The tissue response following the test spot and healing phase, approximately 2-6 weeks (depending on the type of pigmentation and condition), will help determine the fluence parameters necessary to effectively treat the lesion. Patients that present with freckles or other types of lentigines are usually treated at the initial session using a safe energy range for that specific lesion. Test spots should be administered in an inconspicuous location as possible. However, the test site should be given in the same general area of the lesion. The test spot may be performed at several different energy levels and may consist of single or multiple pulses. Multiple pulses should be delivered in a non-overlapping, but adjacent fashion. When assessing test sites, the lowest energy utilized to produce clearing should be used in subsequent treatments. Test sites that show evidence of hyperpigmentation may indicate stimulation of melanogenesis by the administration of sub-threshold fluences.

If no tissue response is noted, test spots should be repeated at higher fluence levels. Documenting test sites either with photos or anatomic forms is helpful during the evaluation phase. Anatomic forms are useful in recording the location of the test sites, and indicating the fluence used during treatment. Photos are very helpful in determining incremental fading between treatment sessions.

Photographs

Taking photographs to document all procedures done using the laser allows for assessment of treatment efficacy and assists in development of a clinical plan for subsequent treatments of persistent lesions, as is often the case in tattoo treatment.

Skin Cleaning

Prior to actual treatment, remove all makeup, lotions, deodorant or oil from the area to be treated.

Clean area to be treated thoroughly using a facial cleanser or mild soap and water and then wipe with alcohol. Allow area to dry before treating.

CRAS

- Collimated hand-piece : 8mm fixed collimated hand-piece.

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- 585 Dye hand-piece(Optional) : Spot size fixing to 2mm

- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

TREATMENT GUIDE

No	Name	Function
A	Home	Return to Main screen
B	AIMING	Setting the Aiming brightness
C	Air controller	Selection of air function
D	SOUND	Setting the sound volume
E	STANDBY/READY	Selection of Laser standby / ready
F	PRR(Hz)	Adjustment of spot size Pulse repetition frequency
G	Treatment modes	Selection of different treatment modes
H	Setting status	Displays the current fluence and output energy
I	Spot size	Adjustment of spot size
J	PRESET	Pre-saved values are loaded.
L	Up	Adjustment button for setting(Up)
M	Down	Adjustment button for setting(Down)
N	Total shot	Display shot count
K	SAVE	Save the set values

Configuration screen

Method of use

a. Select the parameter you want to change by pressing the field. The selected parameter will be visually marked(Red) . Use the setting keys up/down to make changes.

- Energy : 30mJ – 260mJ (Step : 10)
- Frequency : 1Hz - 15Hz (Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically recognized by the device and displayed.

- Spot size : 2mm, 5mm

c. Now, you can save the changed settings by pressing the button. You have the option to save the settings for a patient or for an indication. For doing this, press the key.

Configuration screen

Setting method

a. Select the parameter you want to change by pressing the field.

The selected parameter will be visually

marked . Use the setting keys up/down to

make changes.

- Energy : 100mJ - 1,300mJ (Step : 20)
- Frequency : 1Hz - 15Hz(Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically

recognized by the device and displayed.

- Spot size : 2mm - 10mm

c. Now, you can save the changed settings by pressing the button. You have the option to save the

settings for a patient or for an indication. For doing this,

press

the key.

Configuration screen

Setting method

a. Select the parameter you want to change by pressing the field.

The selected parameter will be visually

marked(Red) . Use the setting keys up/down

to make changes.

- Energy : 100mJ - 1,600mJ (Step : 50)
- Frequency : 1Hz - 15Hz (Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically

recognized by the device and displayed.

- Spot size : 2mm - 10mm

NOTE Max. PRR is 10Hz when energy is 1.35J or above in PTP1064 mode.

c. Now, you can save the changed settings by pressing the button. You have the option to save

the settings for a patient or for an indication. For doing this, press the key.

Configuration screen

Setting method

a. Select the parameter you want to change by pressing the field.

The selected parameter will be visually marked(Red) .

Use the setting keys up/down to make changes.

- Energy : 100mJ - 1,500mJ (Step : 50)

- Frequency : 1Hz - 15Hz (Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically recognized

by the device and displayed.

- Spot size : 2mm - 10mm

c. Now, you can save the changed settings by pressing the key. You have the option to save the

settings for a patient or for an indication. For doing this, press the key.

NOTE Max. PRR is 10Hz when energy is 2.5J or above in FR1064 mode

Configuration screen

Method of use

a. Select the parameter you want to change by pressing the field.

The selected parameter will be visually

marked(Red) . Use the setting keys up/down

to make changes.

- Energy : 100mJ - 400mJ (Step : 50)

- Frequency : 1Hz - 15Hz (Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically recognized by the

device and displayed.

- Spot size : 2mm - 10mm

c. Now, you can save the changed settings by pressing the button. You have the option to save the

settings for a patient or for an indication. For doing this, press the key.

Configuration screen

Method of use

a. Select the parameter you want to change by pressing the field.
The selected parameter will be visually
marked (Red) . Use the setting keys
up/down to make changes.
- Energy : 300mJ - 2,100mJ (Step : 300)
- Frequency : 1Hz - 15Hz(Step :1)

b. The spot size can be changed by changing the hand-pieces and is automatically recognized
by the device and displayed.
- Spot size : 2mm - 10mm

c. Now, you can save the changed settings by pressing the button. You have the option to save
the settings for a patient or for an indication. For doing this, press the key.

Configuration screen

Method of use

a. Select the parameter you want to change by pressing the field.
The selected parameter will be visually marked
(Red) . Use the setting keys up/down to make
changes.
- Energy : 100mJ - 300mJ (Step : 20)
- Frequency : 30Hz (Fixed)

b. The spot size can be changed by changing the hand-pieces and is automatically recognized by the
device and displayed.
- Spot size : 10mm (Fixed)

c. Now, you can save the changed settings by pressing the button. You have the option to save the
settings for a patient or for an indication. For doing this, press the key.

CRYS

CLINICAL GUIDE;
SPOT PIGMENT

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

- Lentigo with CuRAS

Lentigo is an epidermal lesion and requires treatment with 532nm wavelength. Aggressive and non- aggressive treatment methods exist for lentigo. Aggressive treatment has an advantage of immediate

pigment removal but may cause unwanted pigmentation or longer down time. Non-aggressive treatment has significantly lower risk of such side effects, but has the inconvenience of multiple procedures in order to achieve desired results.

Parameter

- Mode : Q532
- Spot size : 3mm
- Energy : 0.24-0.80J/cm^2
- PRR : 1~2Hz
- Procedure interval : 4 weeks

- In order to reduce hyper-pigmentation often found in epidermal pigment lesion treatments, use of proper energy level and close attention to post-treatment care are necessary.
- Proper level of energy can be assumed when whitening that assembles light frosting appears immediately following laser radiation.
- Sun block and whitening cream must be used on patients after procedure.

- Seborrheic Keratosis with CuRAS

Seborrheic Keratosis is a wart-like benign tumor in brown or dark brown color. It is a skin lesion often found in face or body after mid-life. Seborrheic Keratosis often causes epidermis to thicken.

If Seborrheic keratosis is not protruded and epidermis shallow, treating with CuRAS is possible, but if epidermis is thicker than usual, use of ablative laser like CO2Laser OR Er:YAG Laser is recommended. Remove epidermis of the target lesion with an ablative laser and use CuRAS 4 weeks later to selectively remove unwanted pigments.

Parameter

- Mode : Q532
- Spot size : 4mm
- Energy : 0.28-0.88J/cm^2
- PRR : 1~2Hz
- Procedure interval : 4 weeks

- Hyper-pigmentation may appear when performing preemptive treatment with CO2 or Er:YAG. In this case, laser toning and whitening ointment prescription are recommended before proceeding with CuRAS procedure.

- Freckle with CuRAS

Freckle, commonly believed to be prepotency of autosome, is less than 5 to 6mm in diameter and its circular or oval shape has indistinct boundaries. Because Freckles mostly exist in the epidermal layer,

treating Freckles require 532nm wavelength. Immediate effect is observed in most cases, but post- treatment care is necessary to prevent possibility of recurrence.

Parameter

- Mode : Q532
- Spot size : 3mm
- Energy : 0.42-0.85J/cm^2
- PRR : 1~2Hz
- Procedure interval : 4 weeks

- Treating Freckles with IPL is partially effective and combination procedure with IPL and CuRAS is recommended.
- Treat with IPL 2 to 3 weeks prior to using CuRAS.
- As Freckles are often found in lighter skin tones, perform test procedure with low energy and a spot size larger than the target lesion.
- Ideal parameter is found when whitening is observed only in the lesion and the surrounding skin cells are not affected.

- Café au lait with CuRAS

Cafe au lait is a phenomenon in which number of melanin pigments is increased without proliferation of

melanin cells. While the shape of this particular lesion is often random, appearance of Cafe au lait is observed in two groups : circle or oval with definite boundaries and saw tooth with zigzag-like borders. Color of the lesion is uniform in coffee color, but sometimes is spotted within the boundary of the lesion. Because Cafe au lait mostly exists in the epidermal layer, treating Cafe au lait requires 532nm wavelength. A scab is formed 2 to 3 days after procedure and 7 to 10 days after, the scab will naturally fall off. Some redness will be observed one to 2 months after a scab falls off. Repeat treatment if remaining pigment is found on the skin surface.

Parameter

- Mode : Q532
- Spot size : 3mm
- Energy : 0.28-0.99J/cm^2
- PRR : 1~2Hz
- Procedure interval : 8~12 weeks

- Effectiveness of Cafe au lait treatment varies depending on the type of the target lesion.
- Normally when boundary is saw-toothed, when size of the lesion is small, when the lesion is a group of small pigment pieces, and when the lesion is visibly darker than skin tone, probability of treatment effectiveness is higher.
- In other cases, pigment may turn darker after the redness period and therefore, partial test procedure is recommended before committing to a particular treatment parameter.

CRAS

CLINICAL GUIDE; REJUVENATION

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

- Toning with CuRAS

CuRAS Laser Toning is a new concept laser treatment for hard-to-cure lesions (ex : Melasma, PIH, Nevus of Ota) and acne-related lesions with 1,064nm wavelength of Q-Switched Nd:YAG. Compared to more conventional treatment methods, CuRAS Laser Toning delivers higher energy to wider target area in
shorter time, allowing it to selectively destroy target pigments and melanin cells located deep in dermis without damaging skin cells and skin surface.

Parameter
- Mode : PTP1064
- Spot size : 8~100mm
- Energy : 0.76-1.56J/cm^2
- PRR : 7~10Hz
- Procedure interval : 1~2weeks

- FreeRunning with CuRAS

FR1064 mode is a new technique in which NAR of long-pulsed Nd:YAG is integrated into Q-switched Nd:YAG, with longer pulse duration (300us) than Q-switch (5ns), that delivers longer laser radiation than thermal relaxation time(TRT) of melanin and hemoglobin, resulting in heating of dermis and faster regeneration of collagen.

Parameter
- Mode : FR1064
- Spot size : 8-4mm
- Energy : 6.97-0.10/Jcm^2
- PRR : 8-10Hz
- Procedure interval : 2~3weeks

CuRAS

CLINICAL GUIDE; TATTOO REMOVAL

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- 585 Dye hand-piece(Optional) : Spot size fixing to 2mm

- Tattoo removal with CuRAS

Tattoo Ink can be categorized as post-injury, accidental tattoo and artificial tattoo of both professional and amateur job. Tattoo ink pigments exist in cytoplasm such as keratinocyte, fibroblast, macrophage and

mast cell. Adjust energy level appropriately so whitening is observed after laser treatment but no bleeding or blisters take place. Use large spot sizes to allow laser to penetrate deeper. Usually first pass gives off the best effect and better results are possible if tattoo ink is embedded in multiple layers or has less pigments. Newly done tattoos are easier to remove.

Parameter
- Mode : Q1064
- Spot size : 10mm-8mm
- Energy : 1.02J/cm^2
- PRR : 1~3Hz
- Procedure interval : 8~12weeks

- Whitening cream and sun block lotion are recommended because some pigmentation and inflammation may occur post treatment.
- Sometimes lesions turn reddish black after laser radiation.
- That is because the particular tattoo ink contains iron oxide.
- Such case is more difficult to treat and parameter test is highly recommended.
- Sometimes pinpoints can occur. This may require energy control.
- If skin reaction is severe, stop treatment. (Ex : bleeding, blister)
- Prescribe antibiotics and antibiotic ointment after treatment.

Figure1. For example Frosting (Tattoo removal)

※ **What is frosting(Whitening)…?**

When treating with 532nm, most lesions turn white like frosting. Such phenomenon is called whitening. Whitening occurs because tiny air bubbles are formed in cells and they scatter light sources. Whitening

disappears only several minutes following occurrence.

- Observed faint Whitening after laser radiation as found in photo below.
- Color in pigment area returns to normal after several minutes and erythema / edema should be observed only around lesion area.
- Appropriateness of energy level can be presumed according to Whitening reaction.
- If the frosting occurs at 1064nm treatment, energy regulation is required. (Excluding tattoo removal)

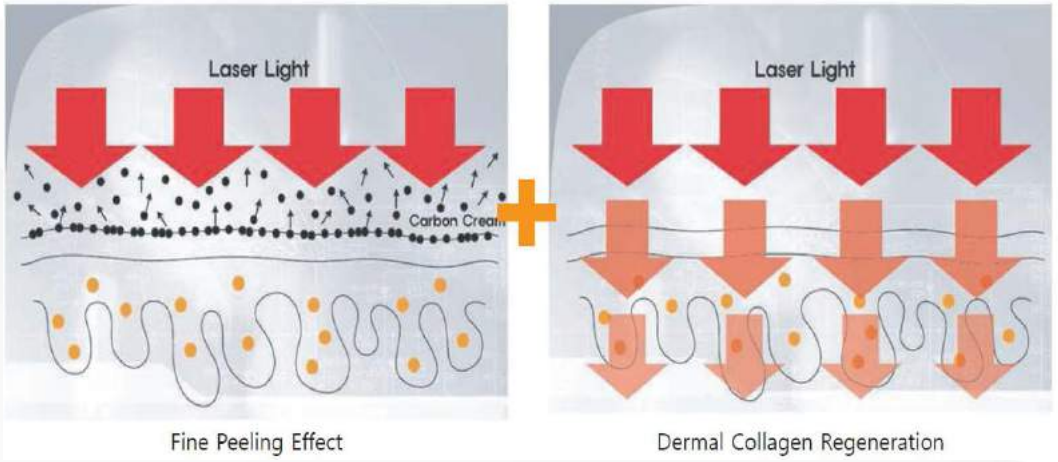
CLINICAL GUIDE; CARBON INFUSION

- Collimated hand-piece : 8mm fixed collimated hand-piece.

● Soft Peeling with CuRAS

What is Soft Peel ?

Soft Peel is technique in which very fine carbon particles are applied onto skin and exploded by laser heat energy, creating peeling effects as well as pore reduction and skin tone improvement by heating of dermis. Soft Peel also delivers skin tightening effect due to laser application to dermal layer.



Soft Peel Parameter

・Spot Size : 8mm (Collimated Handpiece)
Adjust beam size according to size of target lesion. ・Fluence : 1.0~2.0J/ ㎠
Test with low energy and increase energy according to degree of pain in patient. ・Frequency : 5~10Hz

・Procedure Interval
After 2~4 weeks (3~5 sessions) perform maintenance therapy every 2~3 months ・End Point : Until no carbon cream is left on patient's face.

Step 1. Q1064 Mode

・Set the device to Soft Peel mode and shoot laser with 30-50% overlap.
- MODE : Q1,064nm
- FLUENCE : 1.2~2.5J/ ㎠ (CuRAS Save Date Name : Soft Peel -> 1.07J/Cm^2)
- FREQUENCY : 5~10Hz
- SPOT SIZE : 8mm

・Carbon explosion from laser radiation generates smoke. Use smoke evacuator.

※Caution : Always make sure patient wears protection goggles and laser treatment room is equipped with a warning sign in laser treatment room.

Step2. FR1064 Mode

・After carbon has been completely exploded, set the device to FR mode and focus on delicate areas (nose, cheek bones, mouth, fine wrinkles around eyes).

・End Point: dark erythema is observed and patient feels strong heat.
- MODE : FR MODE (Free Running Mode)
- FLUENCE : 10~15J/ ㎠ (CuRAS Save Date Name : Genesisl -> 8.76J/Cm^2)
- FREQUENCY : 7~10Hz
- SPOT SIZE : 3~4mm (Zoom Handpiece)

・Use hand piece about 0.5~1cm off skin surface.

※Caution : When performing FR mode, do not use cool pack or wash with cold water until dermal temperature returns to normal.

CLINICAL GUIDE; MELASMA

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

- Melasma is very sensitive to external factors such as ultraviolet and laser light, so choosing the right energy level is very important.
- In repetition, low energy is more effective than one high energy session and can prevent side effects.
- Pay close attention to the uniform distribution of energy throughout the lesion.
- If a certain amount of energy is concentrated at a certain point, side effects such as partial bleaching can occur.
- CuRAS in M1064 mode delivers energy smoothly and is effective and reduces side effects.
- The endpoint is suitable for mild erythema.
- If a frost occurs, treatment should be discontinued and low energy should be used.

- Toning with CuRAS

CuRAS Laser Toning is a new concept laser treatment for hard-to-cure lesions (ex : Melasma, PIH, Nevus of Ota) and acne-related lesions with 1,064nm wavelength of Q-Switched Nd:YAG. Compared to more conventional treatment methods, CuRAS Laser Toning delivers higher energy to wider target area in shorter time, allowing it to selectively destroy target pigments and melanin cells located deep in dermis without damaging skin cells and skin surface.

Parameter
- Mode : PTP1064
- Spot size : 8~100mm
- Energy : 0.76-1.56J/cm^2
- PRR : 7~10Hz
- Procedure interval : 1~2weeks

- Melasma with CuRAS

Melasma is a pigmentation in various sizes of brown or dark brown that appears often in light-exposed areas such as face. Melasma is more common in darker skin tones of Asians than in Caucasians and more
evident in women because of its relations to estrogens. Melanin cells, over expansion of melanin and dermal macrophage can be found in causes of Melasma. Melasma can be categorized as centrofacial, malar, and mandibular depending on its location. Melasma can be treated with special CuRAS Laser Toning. Long wavelength of 1,064nm is known to influence pigments and blood vessels deep in skin layers and improve Melasma.

Parameter
- Mode : M1064
- Spot size : 7mm
- Energy : 2.34-3.12J/cm^2
- PRR : 7~10Hz
- Procedure interval : 1~2weeks

CRYS

CLINICAL GUIDE; ONYCHOMYCHOSIS

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

- Onychomycosis with CuRAS

A 1064 mode is designed for onychomycosis treatment. 30Hz of short laser is radiated in 1 seconds with 50ms interval and it provide enough thermal effect to heat toe fungi with cooling time for protecting toe nails.

Parameter

- Mode : A1064
- Spot size : 2~3mm
- Energy : 2.83-6.38J/cm^2
- PRR : 30Hz
- Procedure interval : 4weeks

CuRAS

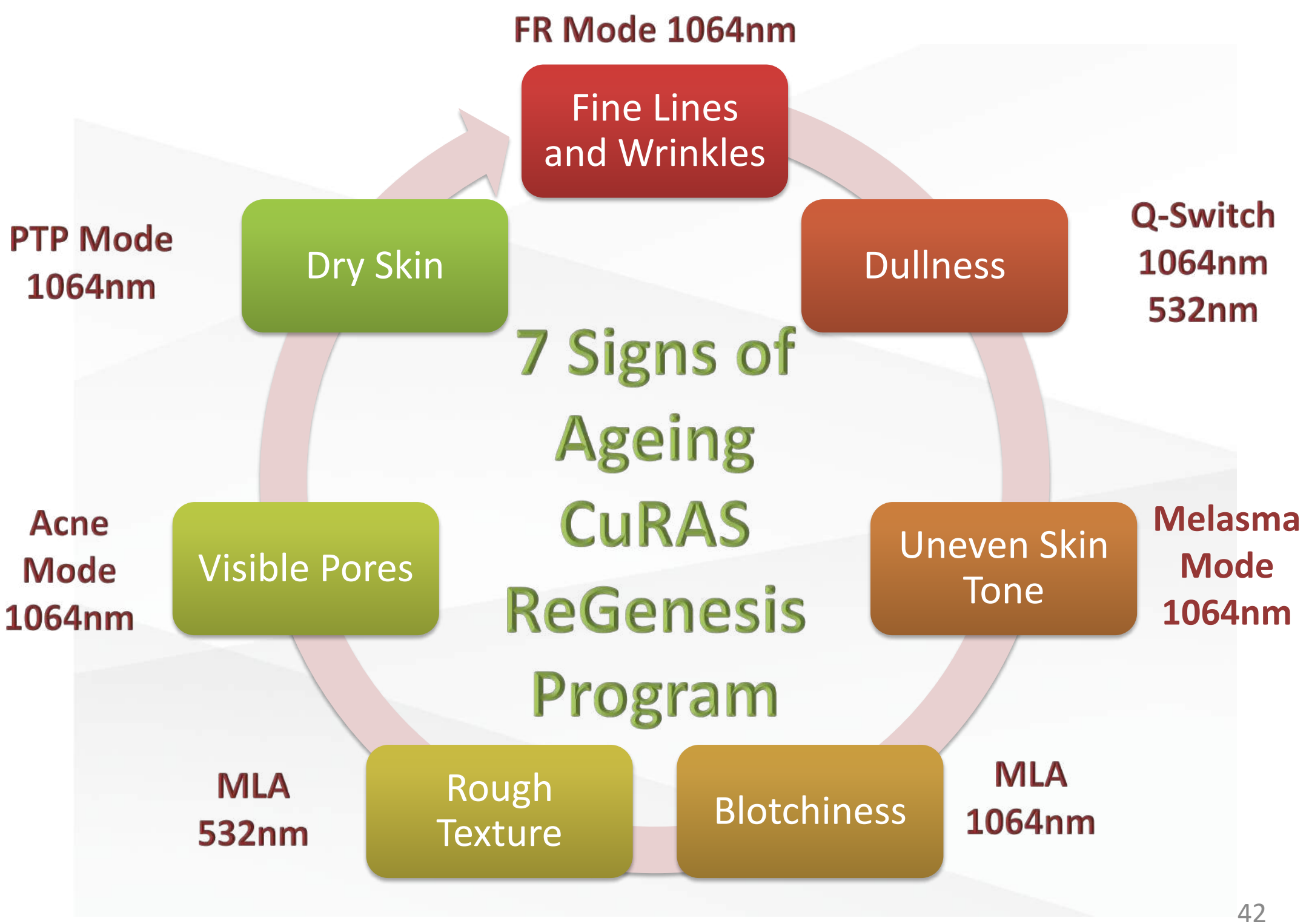
- Collimated hand-piece : 8mm fixed collimated hand-piece.

- Zoom hand-piece : Adjustable from 2 to 10mm with 1mm step

- 585 Dye hand-piece(Optional) : Spot size fixing to 2mm

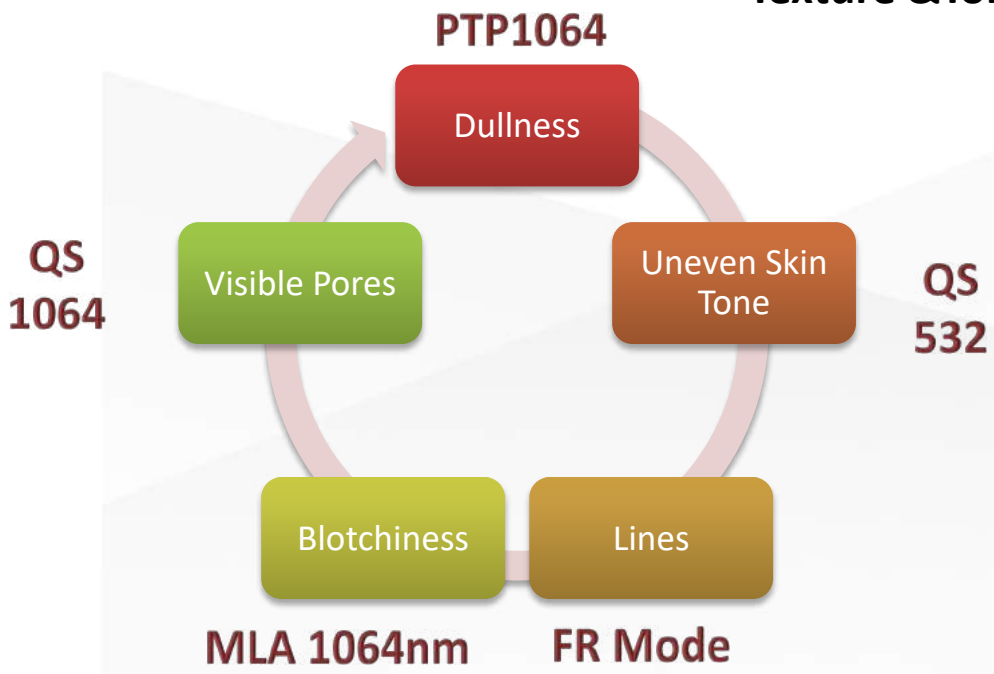
- Fractional hand-piece : 81 fractional dots in 7x7mm(Main Usage : FR 1064 mode)

CLINICAL GUIDE;
CuRAS ReGENESIS


FR Mode 1064nm
Fine Lines and Wrinkles
Dullness
Q-Switch 1064nm 532nm
Melasma Mode 1064nm
MLA 1064nm
Blotchiness
Rough Texture
MLA 532nm
Visible Pores
Acne Mode 1064nm
Dry Skin
PTP Mode 1064nm
7 Signs of Ageing CuRAS ReGenesis Program

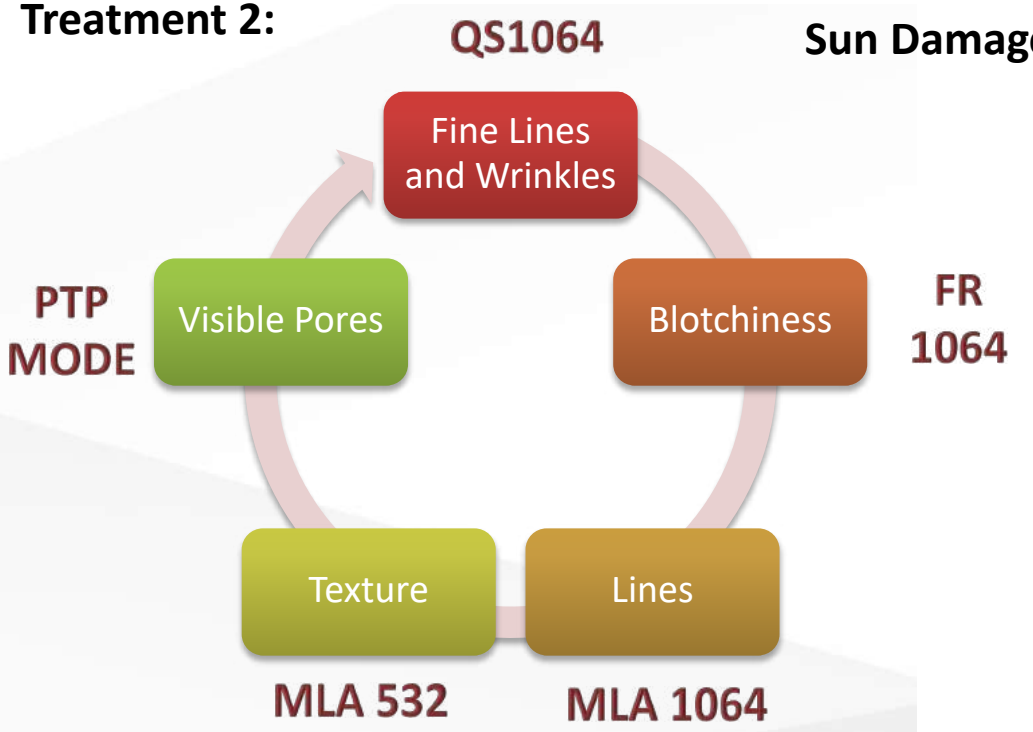
Treatment 1:

ReGENESIS Level 1
Texture &Tone



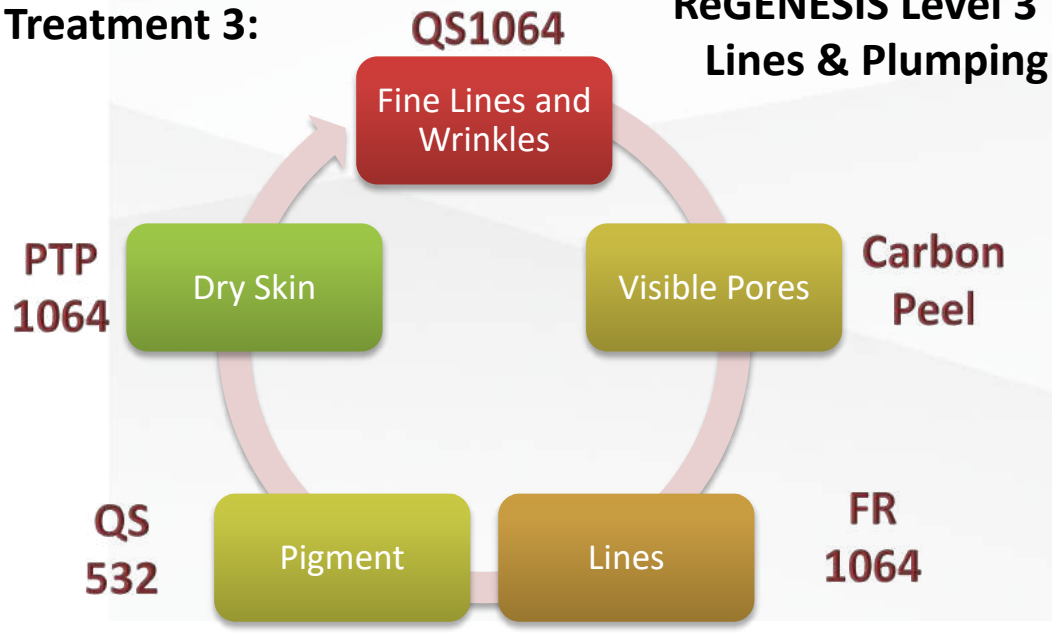
Treatment 2:

ReGENESIS Level 2
Sun Damage



Treatment 3:

ReGENESIS Level 3
Lines & Plumping



Treatment 4:

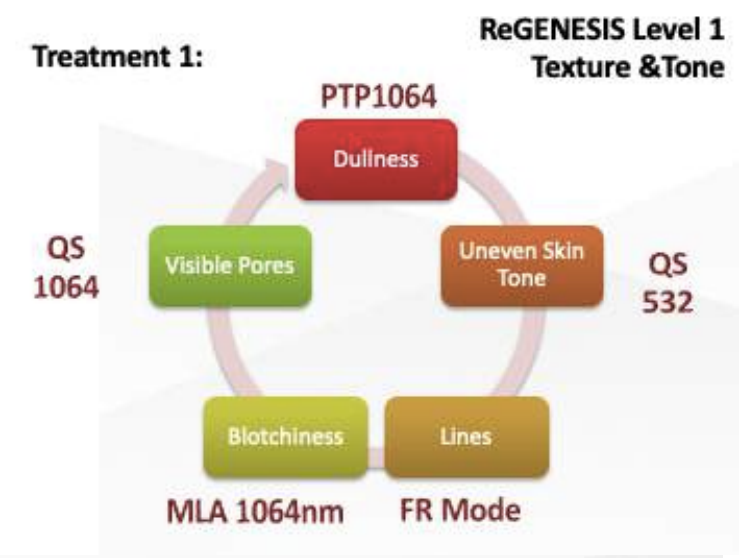
ReGENESIS Level 4
Dryness & Hydration

CuRAS ReGENESIS

Is a staged treatment program designed to target the 7 signs of ageing. 4 treatments Performed monthly targeted to address every aging concerns while offering synergistic treatment effects for maximum treatment results. Combining unique and specific technologies within each stage to address all the signs of aging in a targeted approach course of treatment. CuRAS ReGENSIS is the only treatment utilizing technology only available on the CuRAS Platform.
Utilizing 4 unique pulse modes only available to the CuRAS system

1) Q-Switch Pulse 532nm for Skin Type I-II 1064nm for Skin Type I-VI
2) Double pulse / PTP = Toning 1064nm Skin Type I-VI
2) Free Running Mode 300us = Genesis 1064nm Skin Type I-VI
3) M-Pulse 7 sub-pulses 100us = Pigmentation Pulse 1064nm Skin Type I-VI
4) MLA for pigmentation and collagen 532nm for Skin Type I-II 1064nm for Skin Type I-VI

CuRAS ReGENESIS 1 TREATMENT STEPS



Month 1; CuRAS ReGENESIS Level 1 Texture/Tone - Resurfacing

PTP -> 1064 -> FR -> MLA –> 532nm low dose laser peel –

Step 1: LED; IR SETTING

Step 2: (BLANKET) PTP – Cleans out the pores, prepares the skin by removing all dead skin cells, debris and make up in the pores for increased result of next pass.

Step 3: (LINES ONLY) 1064nm Toning on Lines Spot Treatment, Treating each line individually for intense plumping..

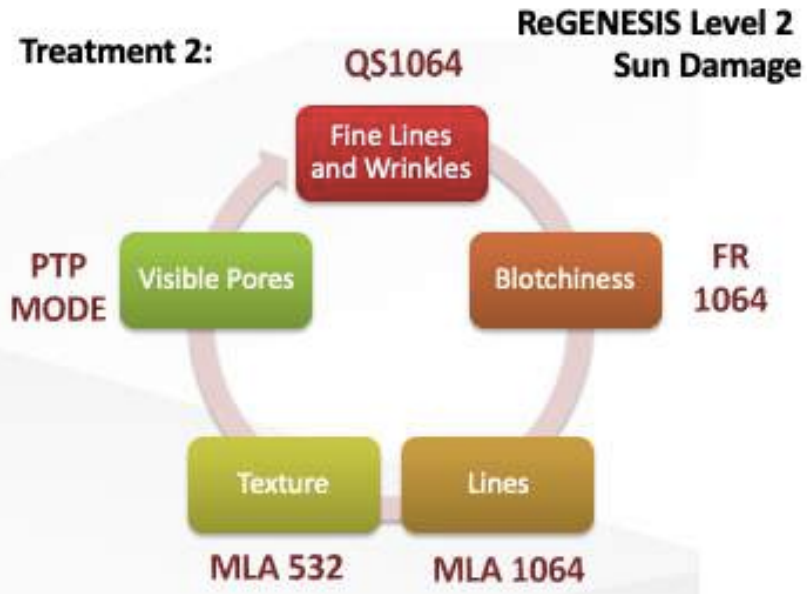
Step 4: (BLANKET) FR – Free Running Mode with longer pulse duration offers resolution for background redness and dyschromias of vascular nature as well as general plumping for collgenesis.

Step 5: (BLANKET) MLA 1064nm – MLA for higher intensity pulses to break up background dyschromia in the dermis

Step 6: (BLANKET) 532nm low dose laser peel to pick up on surface dyschromias and epidermal sum damage.

Step 7: POST TREATMENT MASK – HA YOUTH MASK FILLMED

CuRAS ReGENESIS 2 TREATMENT STEPS



Month 2; ReGENESIS Level 2 Sun Damage
PTP-> 1064nmQS-> MLA 1064nm>MLA 532nm

Step 1: LED; IR SETTING

Step 2: (BLANKET) PTP – Cleans out the pores, prepares the skin by removing all dead skin cells, debris and make up in the pores for increased result of next pass.

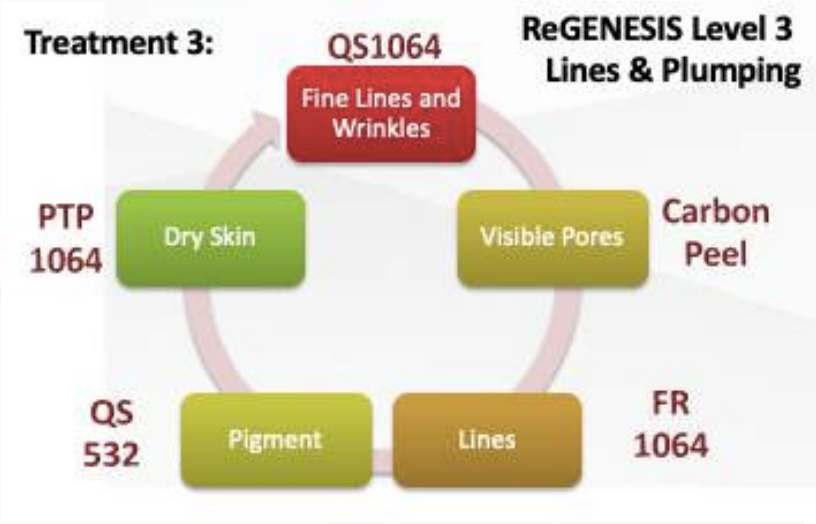
Step 3: (LINES ONLY) 1064nm Toning on Lines Spot Treatment, Treating each line individually for intense plumping.

Step 4: (BLANKET) MLA 1064nm– MLA for higher intensity pulses to break up background dyschromia in the dermis

Step 5: (BLANKET) MLA 532nm - MLA for higher intensity pulses to break up background dyschromia in the epidermis

Step 6: Step 7: POST TREATMENT MASK – HA YOUTH MASK FILLMED

CuRAS ReGENESIS 3 TREATMENT STEPS



Month 3; ReGENESIS Level 3 Lines and Plumping
PTP-> 1064nmQS-> carbon peel -> FR -> 532nm spot

Step 1: LED; IR SETTING

Step 2: (BLANKET) PTP – Cleans out the pores, prepares the skin by removing all dead skin cells, debris and make up in the pores for increased result of next pass.

Step 3: (LINES ONLY) 1064nm Toning on Lines Spot Treatment, Treating each line individually for intense plumping..

Step 4: (PORES ONLY) Apply Carbon lotion to Tzone and lateral cheeks.
3a First Pass low dose FR over Carbon – produce bulk heating in pore with added chromophore
3b Second pass q-switch mode to remove carbon – produce inflammatory effect via carbon exploding

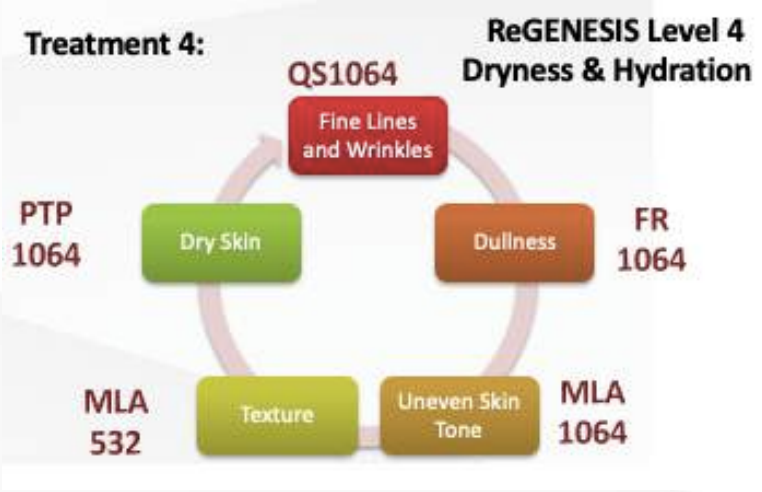
Step 5: (BLANKET) FR – Free Running Mode high dose with longer pulse duration offers resolution for added bulk heating for pore contraction without debis in the pore preventing it from blocking up again.

Step 6: (PIGMENT ONLY) 532nm spot treatment on individual pigmented lesions

Step 7: Step 7: POST TREATMENT MASK – HA YOUTH MASK FILLMED

CuRAS ReGENESIS 4 TREATMENT STEPS

Month 4; ReGENESIS Level 4 Dryness and Hydration
PTP-> 1064nmQS->Carbon peel -> MLA1064nm-> MLA 532nm



Step 1: LED; IR SETTING

Step 2: (BLANKET) PTP – Cleans out the pores, prepares the skin by removing all dead skin cells, debris and make up in the pores for increased result of next pass.

Step 3: (LINES ONLY) 1064nm Toning on Lines Spot Treatment, Treating each line individually for intense plumping..

Step 4: (PORES ONLY) Apply Carbon lotion to Tzone and lateral cheeks.
3a First Pass low dose FR over Carbon – produce bulk heating in pore with added chromophore
3b Second pass q-switch mode to remove carbon – produce inflammatory effect via carbon exploding

Step 5: (BLANKET) MLA 1064nm– MLA for higher intensity pulses to break up background dyschromia in the dermis

Step 6: (BLANKET) MLA 532nm - MLA for higher intensity pulses to break up background dyschromia in the epidermis

Step 7: Step 7: POST TREATMENT MASK – HA YOUTH MASK FILLMED

CLINICAL RESULTS

Benefit of M1064

- Investigators treated 20 patients with CuRAS' Q:switched Nd:YAG 1064
- Mode : M1064 , 1.5J, 7mm (fluence 4)

- Theoretically, the 100 ns pulse width has a longer duration," Dr. Veronica explained. "To achieve the same fluence as 5 ns, it will take 20 times longer. This means the 100 ns duration has a much lower peak power, which translates to less stimulation of melanocytes while still delivering enough damage to the melanin."

Figure 1

M1064 – Fluence: 4J l Spot size: 7mm

Figure 2

Q1064 – Fluence: 1.5J l Spot size: 7mm

While the figure 2 treated with Q1064 conventional mode (5ns) showed that the melasma got worsen, the figure 1 treated with M1064 multi-pulse mode (100ns) showed decreased melasma even slight lifting effect was noticed.

Global Key Doctor

Abraham Arimuko M.D.

Senior Dermato-Venereologist
Indonesian Central Army
Hospital Gatot Subroto
Jakarta, Indonesia

7mm Zoom Hand piece

Main Usage ; Mode – M1064

Repeition rate: 15Hz
Fluence: 4J/cm2
Interval: 1week
Others: 2 passes, no topical agent
Indiation: Melasma, Tightening

Befor tx

After 10 sessions

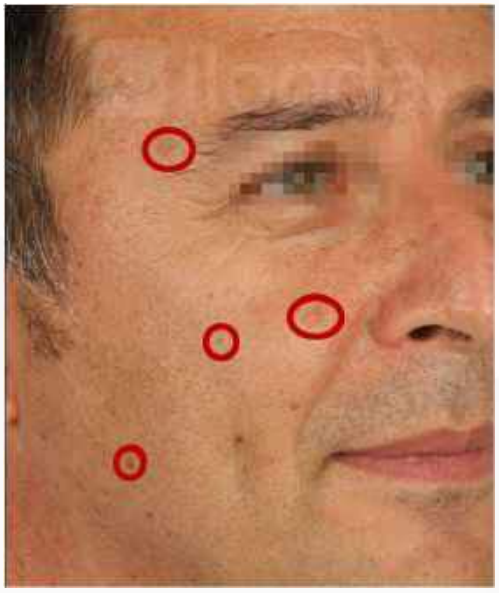
"Our initial trial on the difference of reaction from CuRAS expert mode M1064 shows promising results in terms of safety and efficacy for melasma in Southeast Asian patients."

Global Key Doctor

Professor Cemal Tahsin Gökhür Senyuva, M.D.

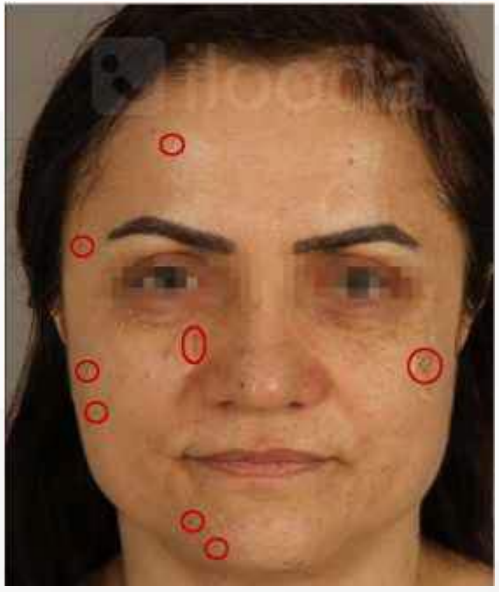
Owner
lstanbul Center
(Senyuva Soglik Hizmetleri)
lstanbul, Turkey

"This Q-switched Nd:YAG laser system provides an efficient treatment for age or solar related lentigines and pigmented lesions, as well as reduction of pores, while the 1064nm Nd:YAG laser can be used for pigmented dermal lesions, pore reduction and skin rejuvenation, the 1064 nm / 532 nm combination is an effective choice for solar lentingines."



Befor tx

10days after 1 session



Befor tx

4months after 1 session

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece

Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

After 1 session

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece

Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

After 3 sessions

After 8 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece
Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

Just after 1 sessions

After 8 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece

Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

After 5 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece

Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx | After 2 sessions | After 4 sessions | After 8 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece
Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

After 4 sessions

After 8 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece

Main Usage ; Mode – Q532 l Q1064

Indiation: Dermal & Epidermal Pigmentations
- Ephelides / Solar Lentigo
- Nevus of Ota
- Cafe –au-lait macules (CALMS)
- Tatttoo (black, red)

Befor tx

After 8 sessions

Global Key Doctor

Michael Naouri, M.D.

Dermatology and Laser Center
International Laser Skin Center
Nogent sur Marne and Paris, France

Zoom Hand piece & Collimated Hand piece

Main Usage ; Mode – Q532, Q1064 , Q650

Indiation: Tatttoo Removal (black, red, blue, green)

Befor tx

After 12 sessions