

LUTRONIC
Intelligent Care™

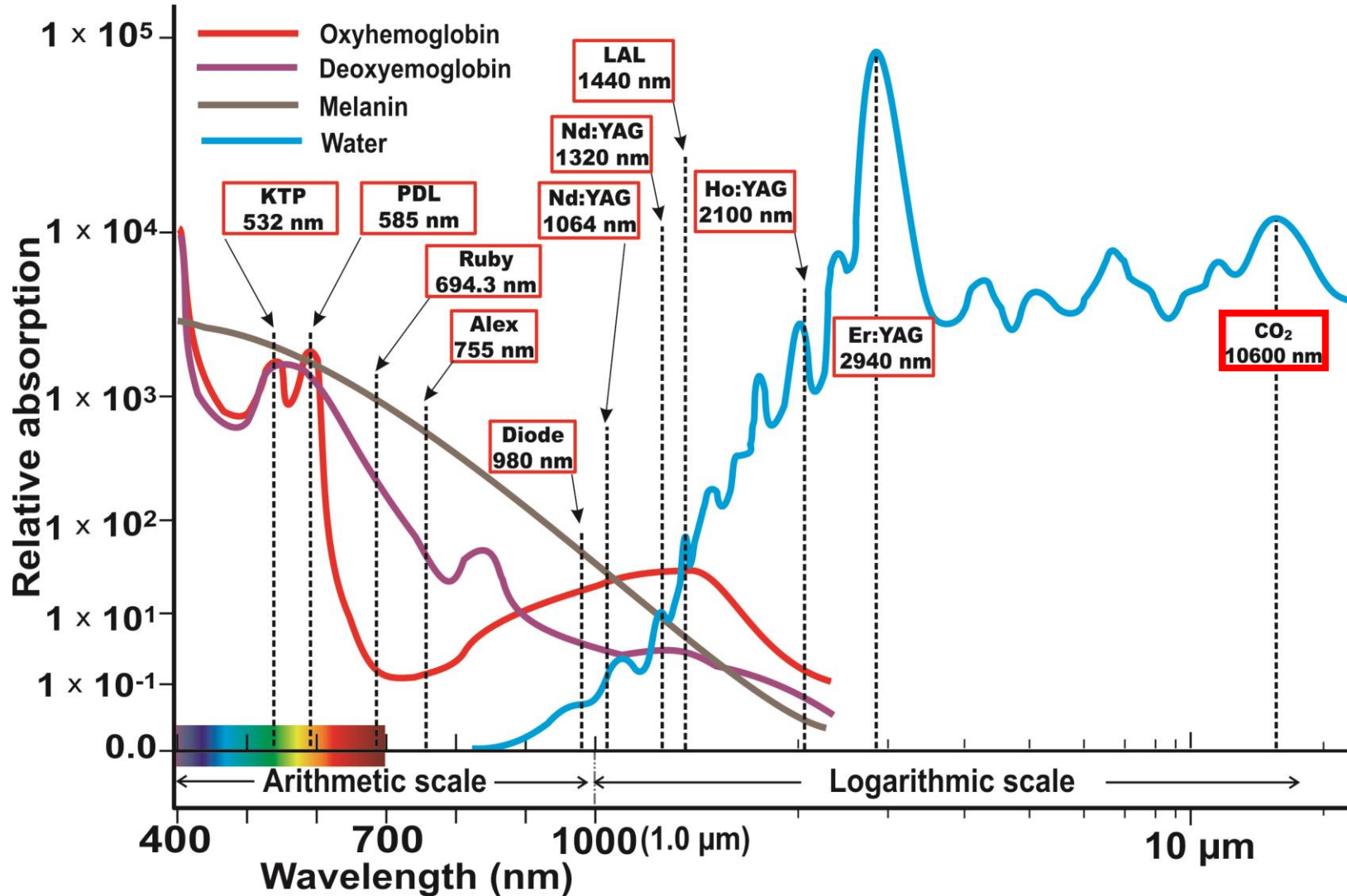
eCO2 Plus™

Uncovering Youth One Patient at a Time



Laser tissue interaction

Laser tissue absorption spectrum



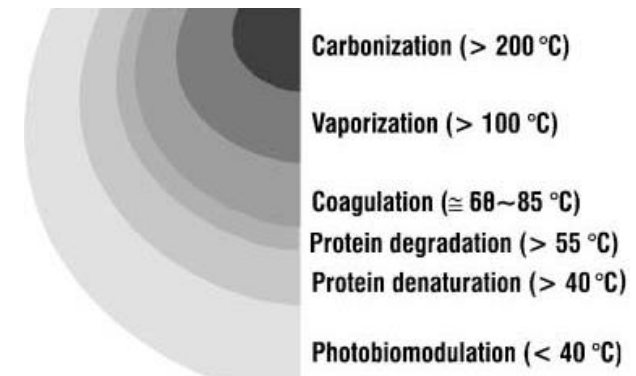
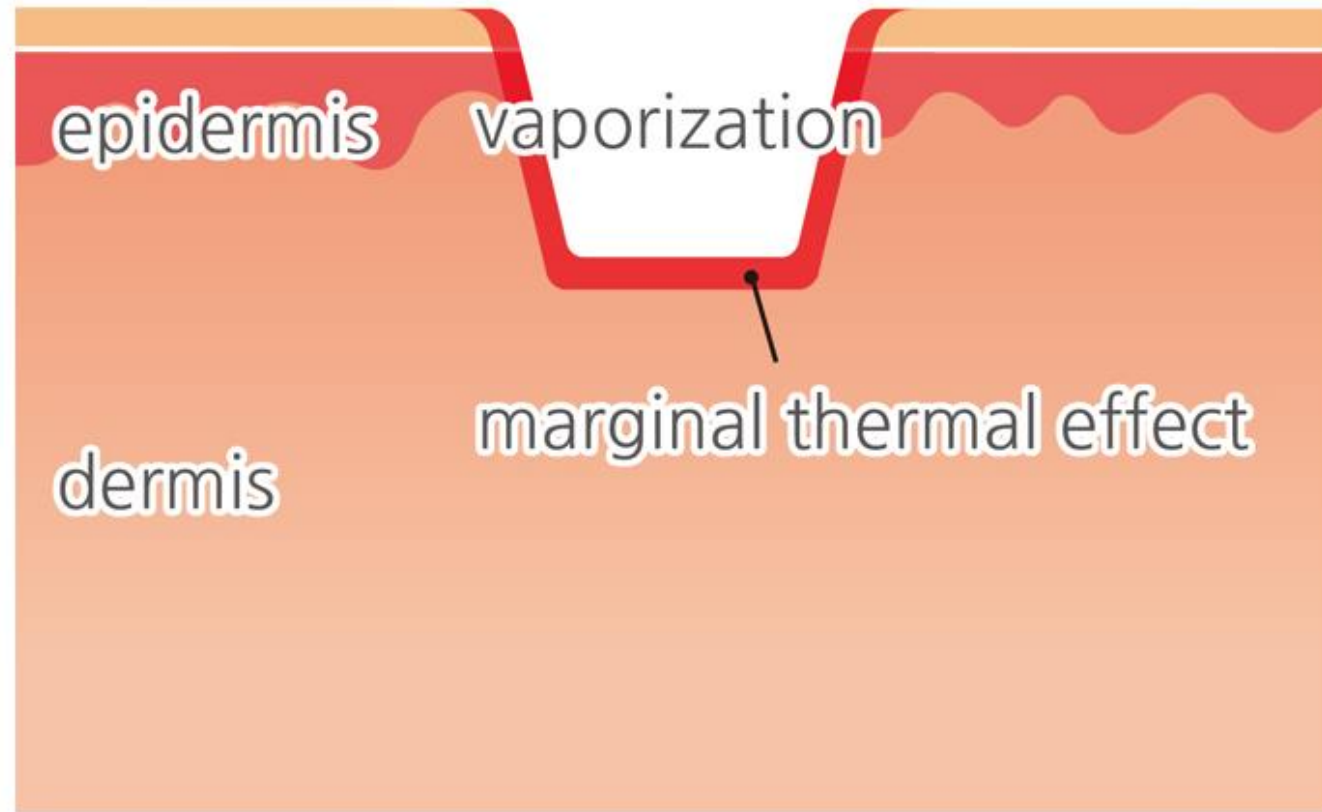
The CO₂ laser emits an invisible infrared beam at 10,600 nm, targeting both intracellular and extracellular water.

Laser tissue interaction

- When the eCO2 laser pulses in the millisecond domain, the water in skin (skin is 75-85% water) heats up to boiling point (100°C) extremely rapidly.
- The tissue is instantly vaporized producing plume and smoke. Residual heat, proportional to the pulse energy (mJ), spreads into the surrounding tissue.
- Immediate contraction occurs and epidermal pigment is removed by vaporization of the tissue.
- Ablation of tissue and deposition of residual thermal damage cause a natural healing response that stimulates new collagen growth to restructure and restore the dermis and epidermis to resemble new, undamaged skin.

Laser ablation

- The energy of the CO₂ laser is absorbed by water-containing tissue. It causes vaporization of the tissues.
- The surrounding tissue will be coagulated by thermal diffusion.

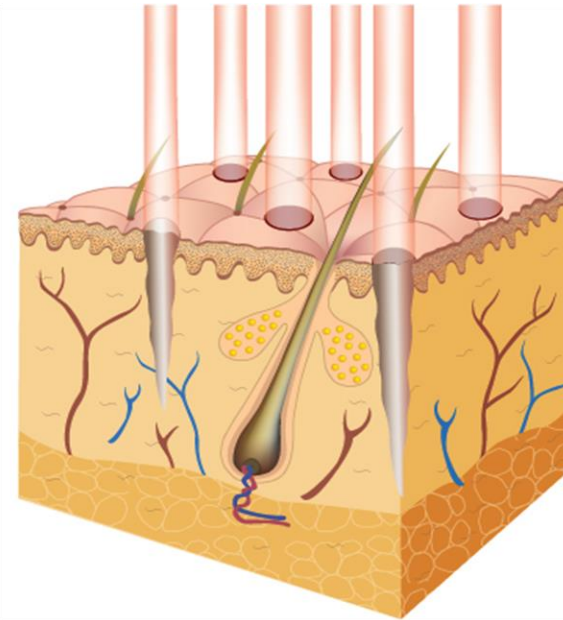


Source: Department of Medical & Scientific Affairs, Lutronic Corporation

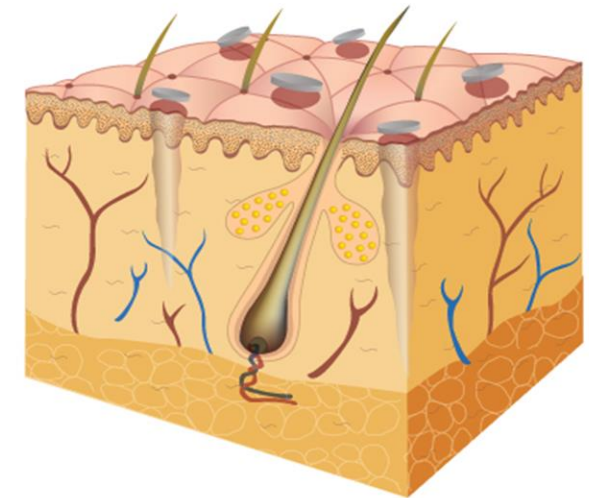
Fractional ablative laser

- With fractional CO₂ laser, the laser beam is fractionated into many small microbeams.
- The areas of the untreated skin between the beams are not lased and left intact that promotes a much more rapid recovery and healing with less risk of complications.
- The small areas treated by the fractional microbeams cause sufficient laser injury to promote new collagen production and resultant facial skin rejuvenation.

Source: Department of Medical & Scientific Affairs, Lutronic Corporation



Multiple CO₂ microscopic laser beams creates MACs (Micro Ablative Columns).

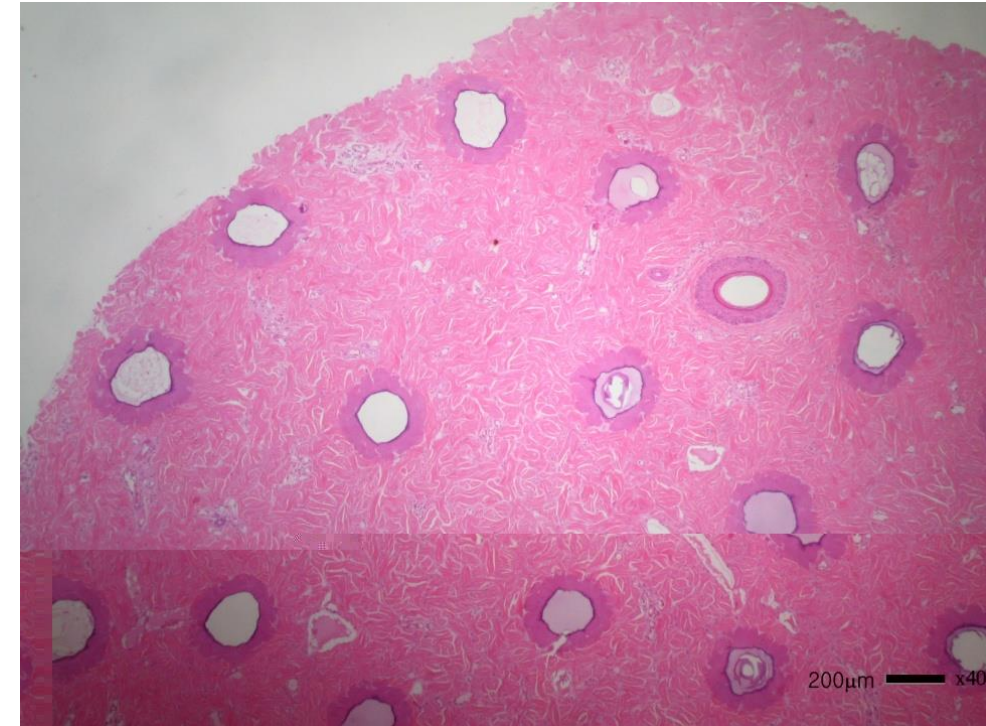


Re-epithelialization & Collagen Remodeling.

Fractional ablative laser

Horizontal cross section

- 1) Uniform Vaporization;
- 2) Even Energy Distribution;
- 3) Proportional thermal spread surrounding the ablated columns



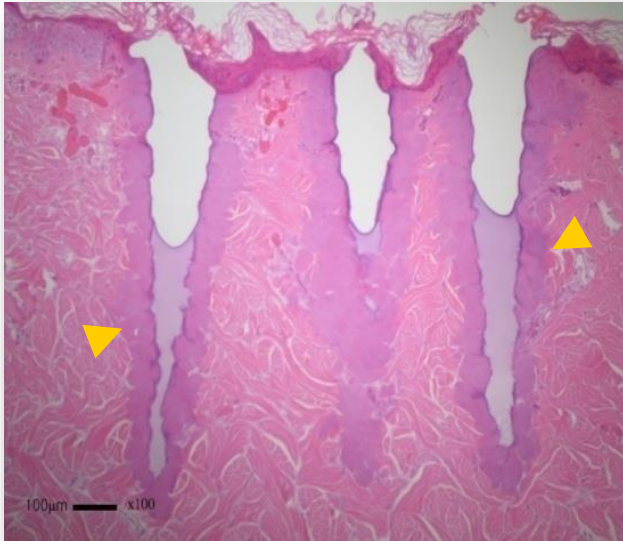
Pulse energy : 160 mJ

Density : 50 Spots/cm²

Source: Department of Dermatology, Kangbuk Samsung Medical Center, Korea

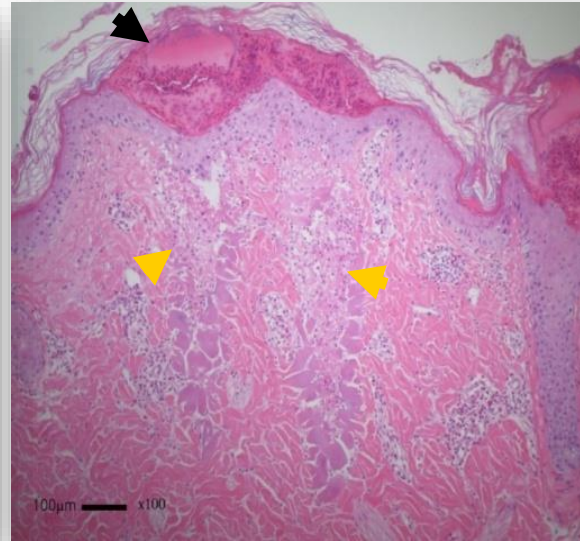
Wound healing process

Immediately After



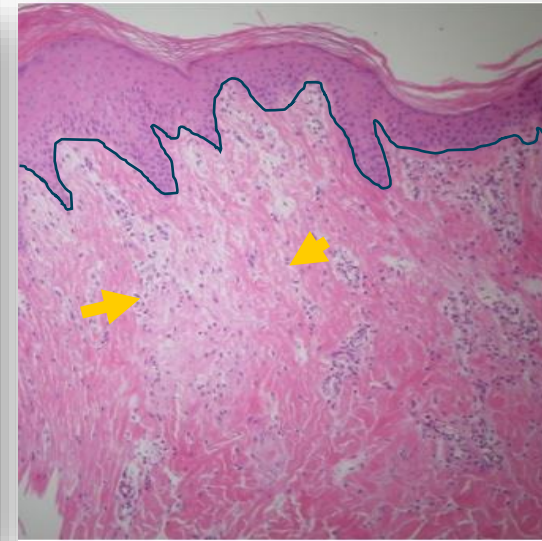
- Ablated epidermis
- Ablated column extends deep into the dermis.
- Uniform residual thermal damage in surrounding tissues

Post 2 days



- Volume collapse of ablated column for immediate contraction
- Re-epithelialization and remodeling for 3-6 months

Post 14 days

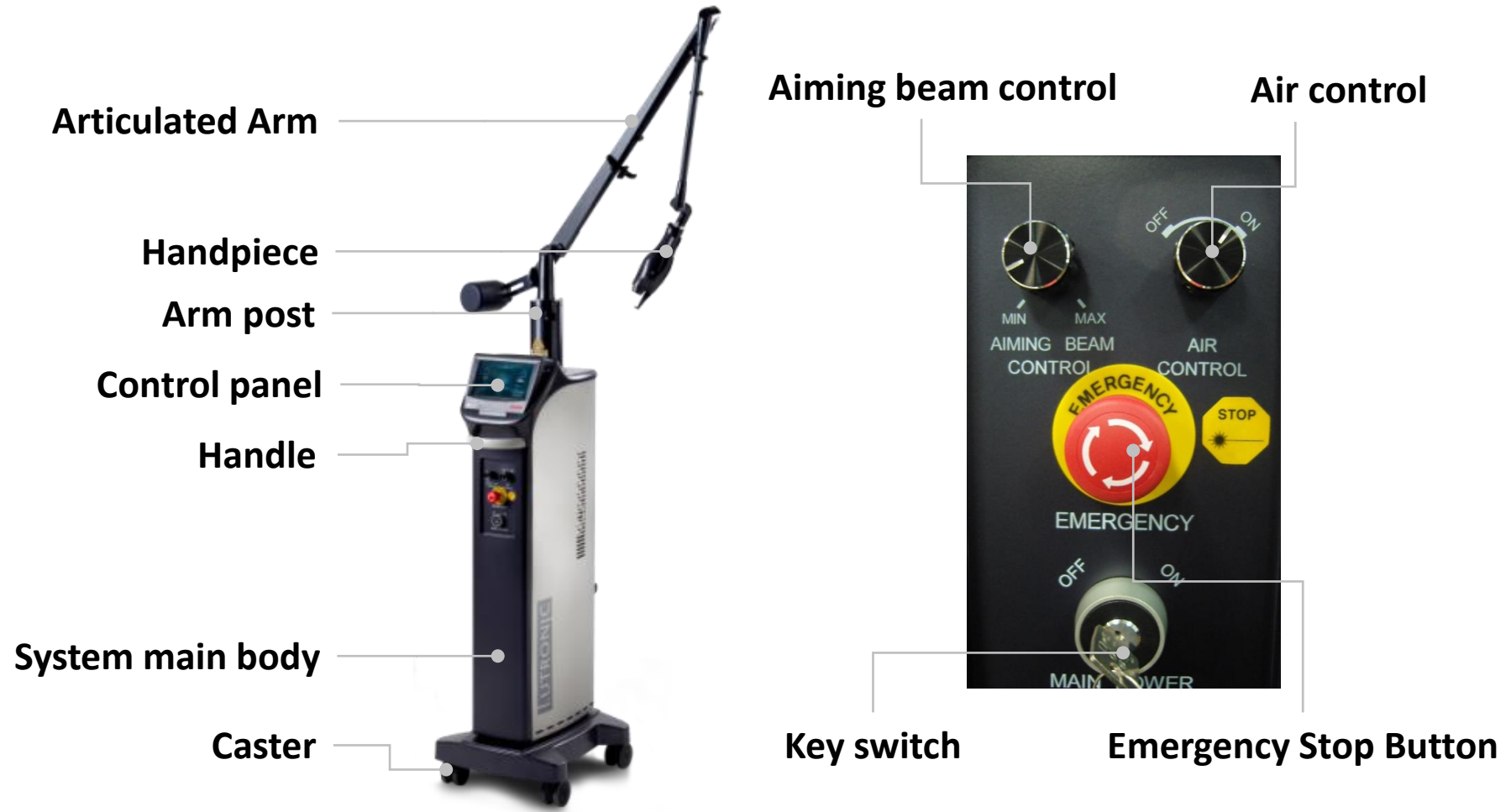


- No trace of necrotic debris.
- Epidermis has completely returned to normal state
- Ongoing collagen synthesis leading to remodeling

New eCO² system operations

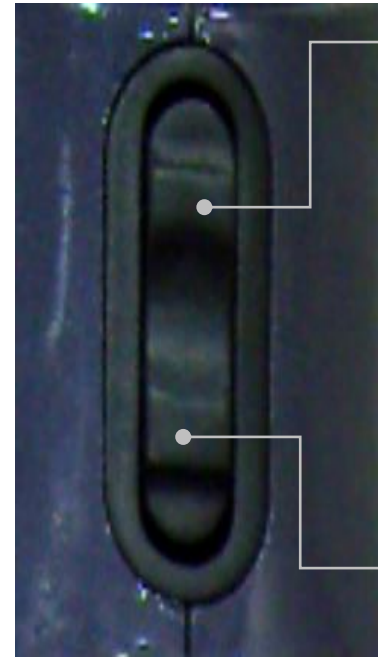
Handpiece for fractional mode

Components of new eco2tm



Handpiece for fractional mode

- Auto recognition
- Changeable tip



The upper button
adjusts scan type

The lower button
adjusts scan size

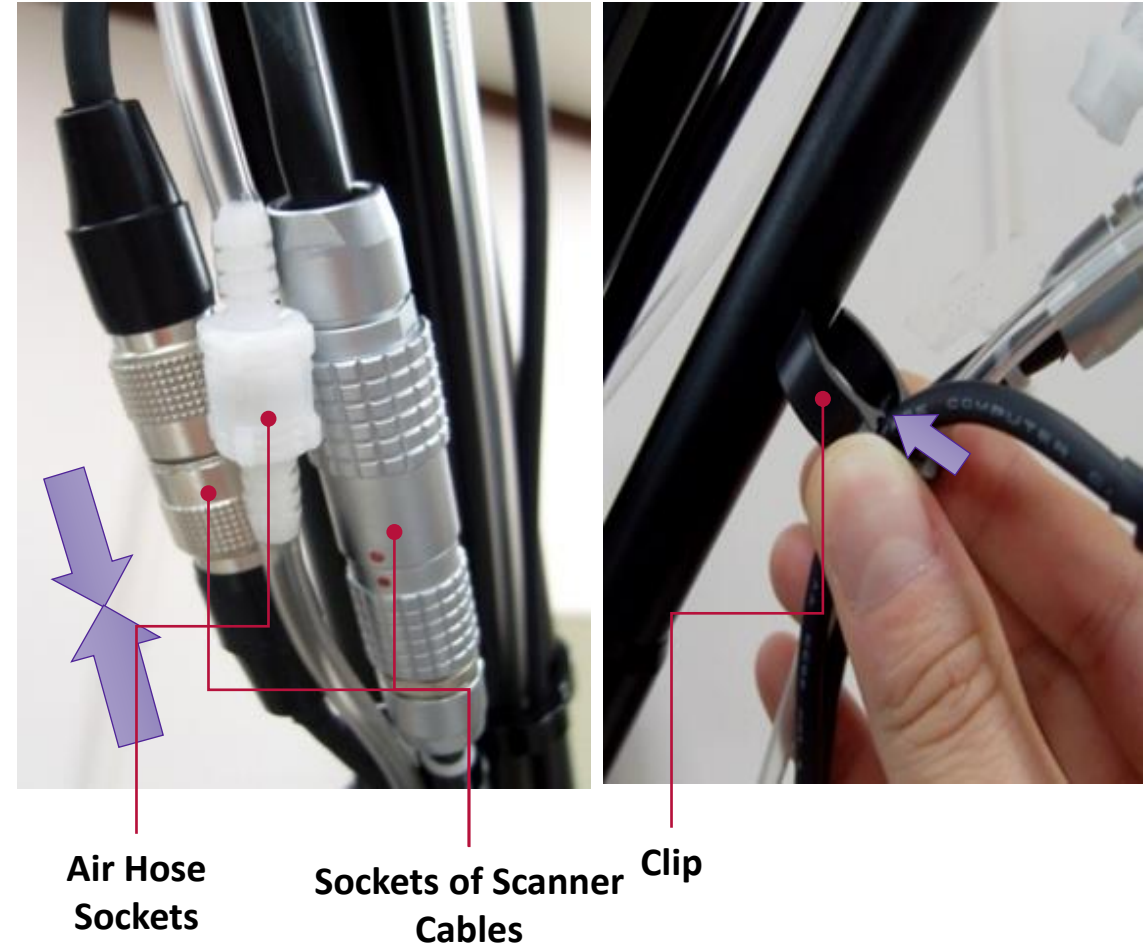
How to connect the handpiece

1. Connect the handpiece to the articulated arm by turning it clockwise.



How to connect the handpiece

2. Attach the flip to the articulated arm and insert the cables into the three sockets of the clip.
3. Connect the scanner cable and air hose sockets



How to connect the handpiece

4. Remove the protective cap from the handpiece
5. Insert the handpiece tip onto the bottom of the scanner handpiece
6. If the scanner handpiece is unused for a long period of time, replace the protective cap to protect the scanner handpiece.

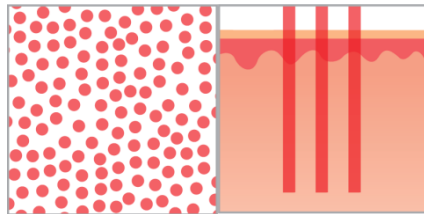


Vertical Insertion

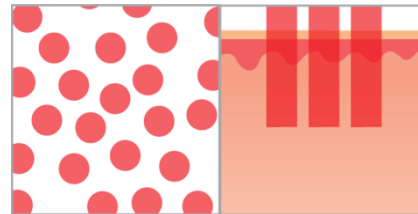
Tips for fractional mode



120 tip
Ultra micro spot



300 tip
Super micro spot



500 tip
Micro spot



Source: Department of Medical & Scientific Affairs, Lutronic Corporation

How to clean handpiece : fractional

1. Use a soft, lint-free, dry cloth. Soak it in alcohol and clean the entire area of the scanner handpiece, except the window.
2. When dust and debris are found on the lens of the scanner handpiece, blow them away with an air blower carefully so that the window is not damaged.
3. If the above steps do not eliminate all of the dust and debris, soak a cotton swab in alcohol 90% or higher and wipe the area thoroughly.
4. After cleaning, shine a light onto the tip and examine it.



Window

The handpiece and handpiece lens should be cleaned after each treatment to prevent particulate accumulation, which may affect the Accuracy and effectiveness of patient treatment.

How to clean handpiece : fractional

1. Use a soft, lint-free, dry cloth and soak it in alcohol or hospital grade disinfectant, do not submerge in any liquid.
2. If the above steps do not eliminate all of the dust and debris, then soak a cotton swab in 99% alcohol and wipe the area thoroughly.
3. After cleaning, shine a light onto the tip and examine it.
4. Store the tip in the provided case until its next use.



Graphic user interface : fractional

- Static mode on GUI screen

Multiple Pulse & Interval
The multiple or interval can be selected using by this button.

Pulse Energy
The pulse energy sets the energy level of each microbeam.

Pulse Width
Displays time on tissue of each laser pulse.

Scan Type
Scan type and scan size are displayed and can be changed with this button

Tip Type
Autosenses tip and displays spot size.

Standby / Ready
Standby - Parameters can be set, but laser energy cannot be emitted, even if the footswitch is depressed
Ready - laser energy can be emitted

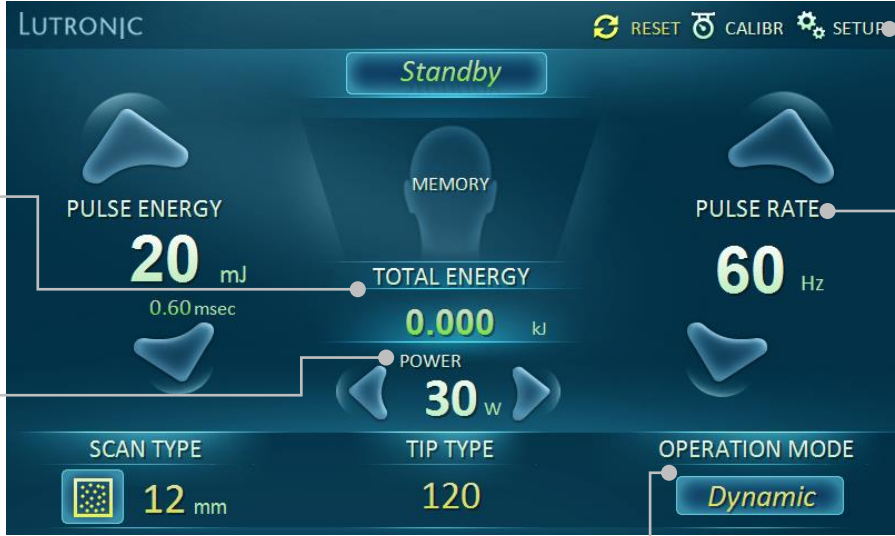
Density
Number of ablated columns per one square centimeter.

Coverage Percent
The percentage of ablated tissue.

Source: Research and Development Center, Lutronic Corporation

Graphic user interface

- Dynamic mode in Fractional mode



The screenshot shows the Lutronic eCO2 Plus GUI with the following parameters and descriptions:

- Total Energy:** The total energy accumulated during treatment. Displayed as 20 mJ (Pulse Energy) and 0.000 kJ (Total Energy).
- Power:** Sets the amount of wattage from 5W to 30W. At a higher peak power setting (30W), the pulse width becomes shorter, given the same pulse energy. Displayed as 30 W.
- Pulse Rate:** The number of pulses irradiated in 1 second. Displayed as 60 Hz.
- Operation Mode:** Displays operation mode; static or dynamic. Currently set to Dynamic.
- SCAN TYPE:** 12 mm.
- TIP TYPE:** 120.
- OPERATION MODE:** Dynamic.
- Setup:** A list of five actions: 1) Activate/deactivate the simulation mode. 2) Control the aiming beam brightness and volume. 3) Activate/deactivate optional skin sensor setting. 4) Change beam pattern (regular/random). 5) Enter service mode. (Service personnel only).

Source: Research and Development Center, Lutronic Corporation

New eCO² system operations

Handpiece for surgical mode

Optional surgical accessories

Multiple precision surgical handpieces allows for incisional, excisional or vaporization for your treatment needs.



Micro Handpiece (F50)

Beam size: 0.1 mm



Standard Handpiece (F100)

Beam size: 0.2 mm



Zoom Handpiece

Beam size: 0.2 ~ 1.0 mm

How to connect the handpiece : surgical

1. Remove the cap by turning it counterclockwise.
2. Connect the handpiece to the articulated arm by turning it clockwise.



How to connect the handpiece : surgical

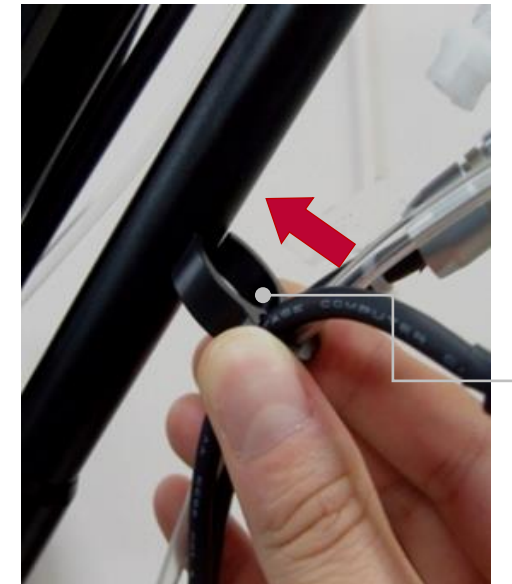
3. Attach the socket of select key to change GUI to surgical handpiece mode.
4. Connect the air hose socket to the connector.
5. Attach the clip to the articulated arm.



Sockets of handpiece cables

Air Hose Sockets

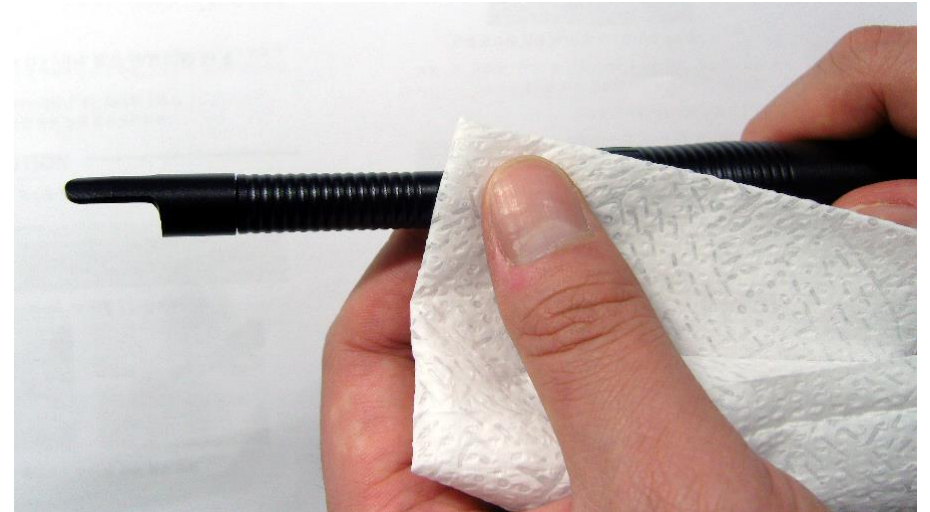
Sockets of select key



Clip

How to clean handpiece surgical

1. Remove the handpiece from the articulated arm and place a protective cap on the end of the arm to prevent foreign substance contamination.
2. Using a cotton gauze, dipped in Cidex (or similar hospital grade anti-viral, anti-bacterial, anti-fungal solution), wipe away any debris from the surfaces of the handpiece. Do not wipe the surface of the focusing lens.
3. After cleaning, store in the handpiece case in a safe place.



Do not adjust spot size during the operation

How to clean handpiece surgical

Cleaning the handpiece tip lens

1. Disassemble the handpiece and inspect the lens.
2. Remove the handpiece tip from the handpiece
3. Gently wipe away any debris using cotton gauze dipped in Cidex (or similar hospital grade anti-viral, anti-bacterial, anti-fungal solution).
4. When cleaning the handpiece lens, dip a cotton swab in 99% ethanol alcohol. Gently wipe any debris.
5. Check the tip and lens to make sure it is clean.


The handpiece and the handpiece lens should be cleaned after each treatment to prevent any debris accumulation, which may affect the accuracy and effectiveness of patient treatment.



Do not apply undue pressure on the handpiece lens during the cleaning process

Graphic user interface : surgical

- Continuous Wave mode in Surgical mode



The screenshot shows the LUTRONIC surgical device's graphical user interface. At the top, the brand name 'LUTRONIC' is displayed on the left, and 'RESET', 'CALIBR', and 'SETUP' icons are on the right. The main display area is divided into several sections: 'Standby' (top center), 'ON TIME' (left, showing '0.01 s'), 'MEMORY' (center, with a head icon), 'OFF TIME' (right), 'POWER' (center, showing '0.5_w'), 'SCAN TYPE' (bottom left, showing 'POINT'), 'NORMAL' (bottom center), and 'OPERATION MODE' (bottom right, showing 'CW'). The 'OPERATION MODE' section also includes a 'SINGLE' label. The interface uses a dark green color scheme with white and yellow text and icons.

Standby / Ready
Standby - Parameters can be set, but laser energy cannot be emitted, even if the footswitch is depressed
Ready - laser energy can be emitted

On Time
Adjust the emitting time of laser.

Scan Type
This value is fixed as point.

Power
Sets the amount of wattage from <1W to 30W.
At a higher peak power setting (30W), the pulse width becomes shorter, given the same pulse energy.

Reset
This button can only use in Fractional mode.

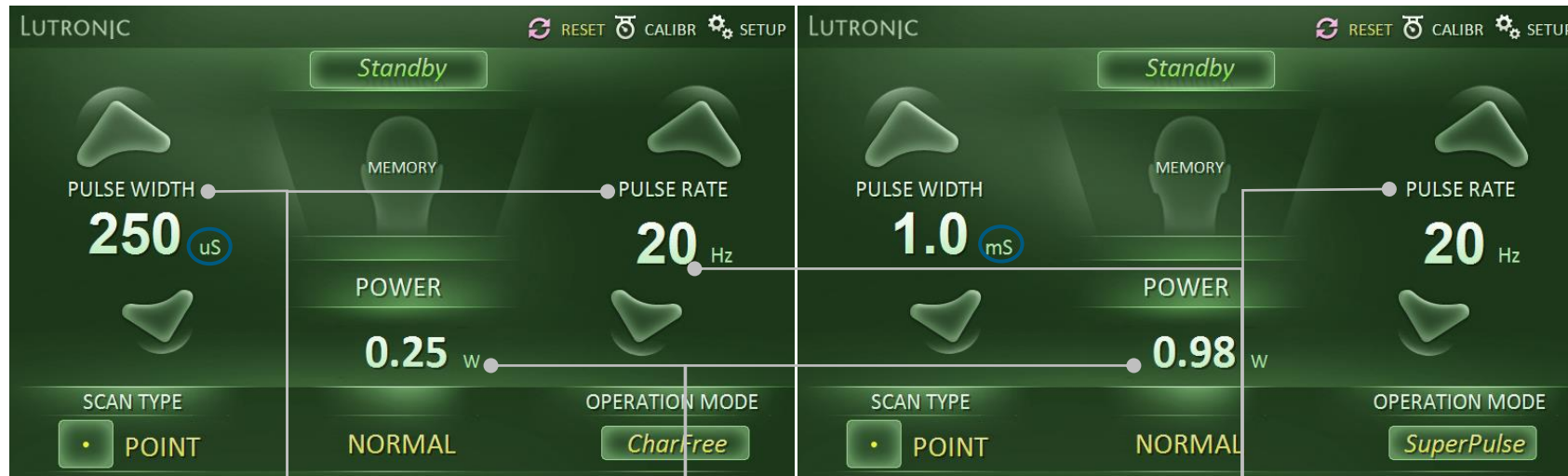
Off Time
Displays the interval of non-lasing time while laser is in use.

Operation Mode
Displays or changes the operation mode; CW, SuperPulse or CharFree

Source: Research and Development Center, Lutronic Corporation

Graphic user interface : surgical

- CharFree and SuperPulse modes



Pulse Width

Emitting time of each laser pulse. The unit of pulse width is microsecond in charfree mode. It is millisecond in superpulse.

Power

Energy quantity in per second. Power depends on "Pulse Width" and "Pulse Rate".

Pulse Rate

The number of pulses which are emitted per second.

Source: Research and Development Center, Lutronic Corporation

eCO² clinical protocols

Contraindications

- **Allergic response** to topical anesthetics, antibiotics, or other medications
- **History of pigmentary** disorders such as melasma, vitiligo, hyper- or hypo-pigmentation, abnormal wound healing
- **Open wound** or **active skin conditions** such as rash, acne or keloids.
- **History of herpes simplex** in the treated area, unless treatment is conducted with a prophylactic regimen.
- **Healing disorders** such as those caused by diabetes mellitus, connective tissue disease, radiation therapy, or chemotherapy
- **Photosensitive skin, excessively tanned** in areas to be treated, or unable or unlikely to follow post treatment instructions during course of treatment.
- **Cancerous or premalignant lesions**

Pre-Treatment

- Sun and UV lamp exposure should be avoided for one month prior to treatment.
- Patient should not be tanned.
- Remove all jewelry from the treatment area
- Clean treatment area, perform acetone or alcohol scrub
- 500mg ibuprofen 1 hour before the treatment
- Apply a topical anesthesia for 1h before the treatment:

Lidocaine base in hydrophobe base gel	100g
Licocaine base	23,0 g
Tetracaine Base	3,5 g
Tetracaine-HCL	3,5 g
hydrophobic base gel emulsifying DAC	70,0 g
Ethanol 96%	35,0 g

- Remove topical with micellar water and alcohol scrub
- Sanitize the area treated with an antiseptic solution and dry skin thoroughly
- Pull hair away from facial treatment area with damp headband
- Use an air-cooling system (Zimmer) during the treatment (optional)



eCO² clinical protocols

FRACTIONAL MODE

Treatment parameters

- Operation Mode :
 - The eCO2 system has two operation modes:
 - Static or stamping mode
 - Dynamic or “airbrushing” mode
- Static mode
 - Main operating mode **for full face**.
 - There are **Density** levels(spots/cm²) in the Static Mode.
 - Avoid unnecessary overlapping of previously scanned area.
- Dynamic mode
 - For **smoothen the borderline** for a more natural-look with feathering effect.
 - There are **Pulse rate(Hz)** in the dynamic mode.

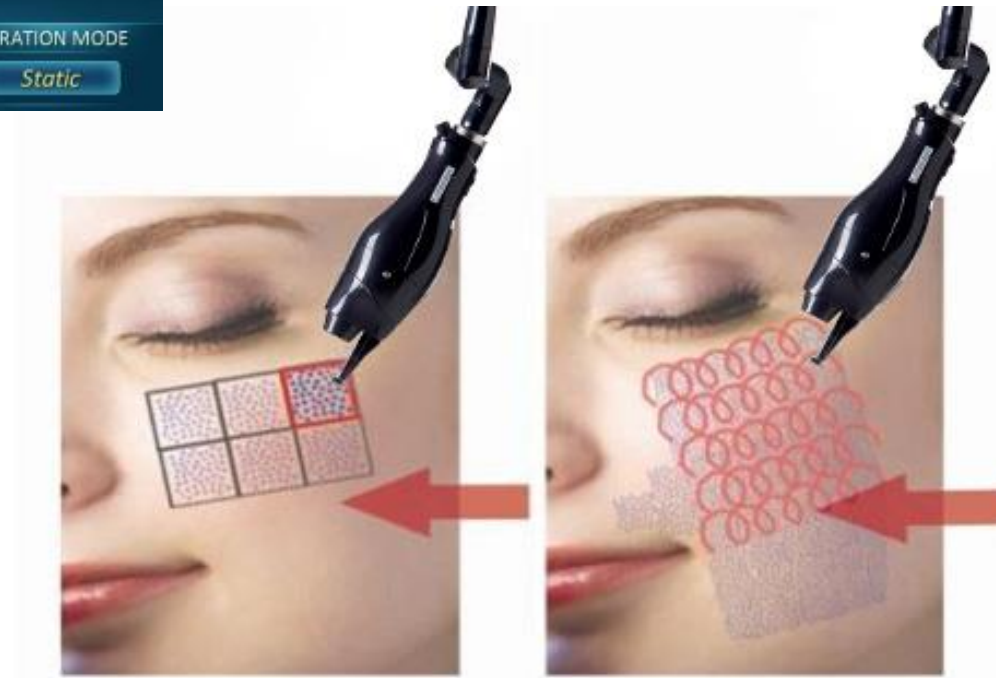
DUAL OPERATION MODE: STATIC & DYNAMIC



Static Mode



Dynamic Mode



Dual Operation Mode: Static & Dynamic

Combination of both Static and Dynamic mode brings more natural post-treatment outlook.

Other Systems



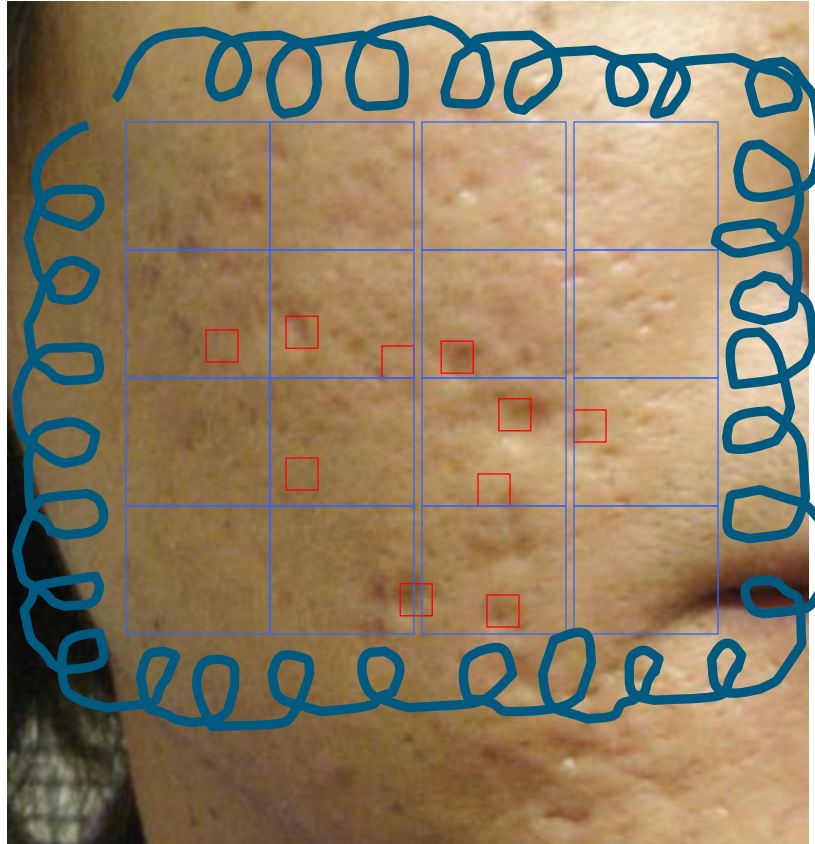
Stamping Only

eCO2™



Stamping + Dynamic

Ideal approach



Acne scar point:

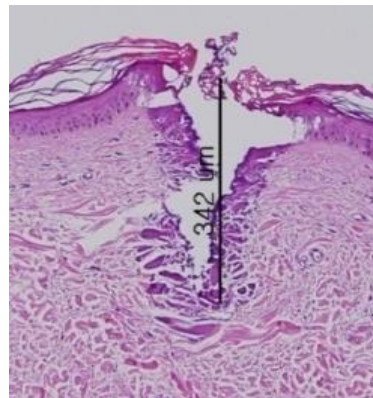
- 120 tip, 4*4 mm scan size
- >50 mJ (1 mm ablation depth)
- 100 spots/density x2 passes (<15% coverage)

- Surrounding skin or full face:
- 300 tip, 12*12 mm scan size
- < 30mJ (superficial ablation)
- 100 spots/density, 1 pass (>15% coverage)

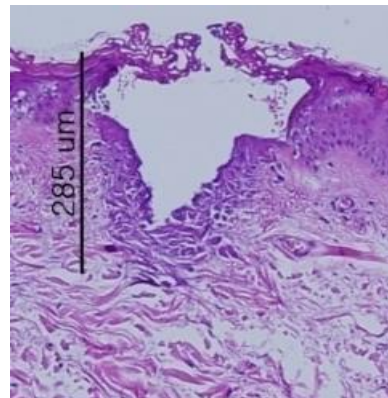
- Feathering (Blending)
- Dynamic mode
- <30 mJ, 60~80 Hz

Treatment parameters :

- Tip type
 - Tip type represents each **microbeam size**.
 - 120 μm tip for smaller, deeper MACs: used for scars, deep wrinkles, tightening
 - 300 μm tip for larger, more superficial MACs: used for superficial dyschromias and fine textural irregularities
 - 500 μm tip for superficial dyschromias
 - Display is automatically changed on the GUI screen when the handpiece tip is changed



120tip



300tip

MAC : Micro Ablative Column

Treatment parameters : tip type

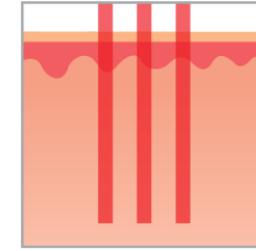
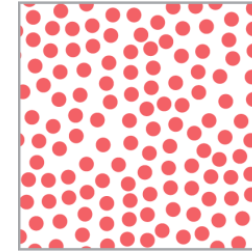
Product versatility and usability is greatly increased with three different spot sizes to address a broad range of clinical conditions and to customize treatments

- Auto recognition
- Quick changeable tips



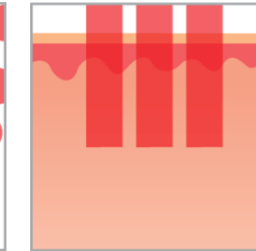
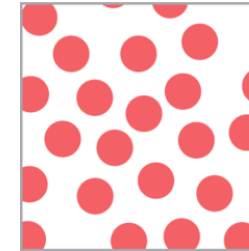
120 Tip

- Ultra micro spot
- 1-17% density
- Scars & Deep Wrinkles
- Tightening



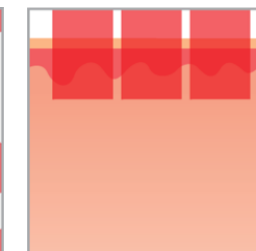
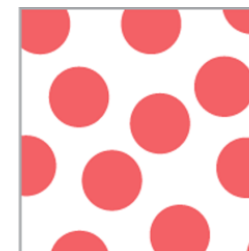
300 Tip

- Super micro spot
- 5-58% density
- Superficial dyschromias
- Fine textural irregularities



500 Tip

- Micro spot
- 20-130% density
- Superficial dyschromias



Treatment: parameters

- Pulse energy (mJ)
 - Pulse energy represents **energy quantity** of each microbeam.
 - Energy is adjusted using the up and down push buttons.
 - Pulse energy ranges from 2mJ to 240mJ.
- As the pulse energy goes high, the **width and depth** of each micro ablative column (MAC) increases
- Pigmentation lesions or fresh scars require low pulse energy setting.
- Acne scars or skin laxity require high energy levels.

Treatment : parameters

- Scan type
 - Scan shape and scan size can be set on the GUI or on the handpiece.
 - Scan shapes available in Static Mode : square, rectangle, circle or triangle.
 - Square/Circle/Triangle sizes available: 1, 2, 4, 8, 12, 16, 18mm
 - Rectangle sizes available: 18*5mm, 18*9mm, 18*12mm
 - Scan shapes available in Dynamic Mode : circle or square
 - Circle sizes available : Point, 4 , 8, 12, 16, 18



Scan types
in static mode



Scan types
in dynamic mode

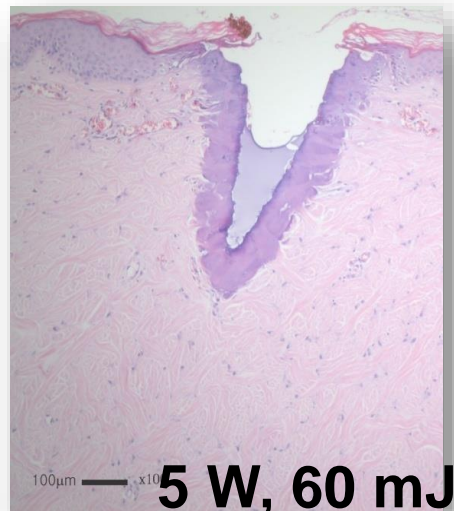
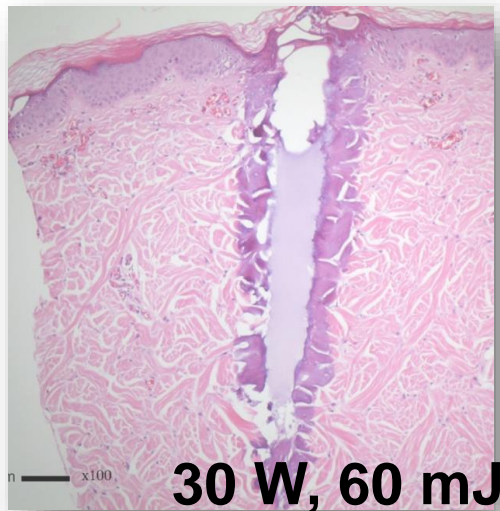
Treatment : parameters

- Density (spots/cm²) in Static mode
 - Density represents the number of spots per each square centimeter.
 - The coverage is automatically calculated when changing density.
- Pulse rate (Hz) in Dynamic mode
 - Pulse rate represents the number of pulses irradiated in 1 second.
 - The maximum pulse rate varies in accordance with the selected pulse energy.

Treatment : parameters

- Power

- Power ranges from 5W to 30W and typical power setting is 30W.
- At a higher peak power setting, the pulse width becomes shorter, given the same pulse energy.
- At a **low peak power**, the **penetration** depth gets **deeper** and **necrosis** layer gets **thinner**.



Energy (mJ) = Power (W) x Time (ms)

If E=60mJ & P=30W → Time = 2ms

If E=60mJ & P=5W → Time = 12ms

Treatment : parameters (static mode)

- Multiple pulse
 - It is possible to stack 2-5 pulses into the original Micro-ablative Column (MAC) using the multiple function for additional thermal coagulation and deeper penetration depths.
 - Option exists in the static mode only.
- Interval
 - If the foot switch is continuously depressed, the eCO2 Laser will automatically scan, “deliver laser energy”, at regular intervals.
 - It can be set at 0.5, 0.75, 1.0, 1.5, 2.0, 2.5 and 3.0 (sec)
 - Option exists in the static mode only.

Treatment parameters :

- Air Blower

- An air blower is built in the handpiece to prevent the window of the handpiece from collecting debris and potential damage by foreign substances.
- The force of the air blower can be controlled by the dial on the right side, on the front of the device.

- Aiming Beam

- The brightness of the aiming beam can be adjusted by the dial on the left side, on the front of the device.

Treatment : perform test shot

- It is recommended to use the wood stick for observing the ablation pattern. This will make sure the laser beam is in alignment with aiming beam.
- Perform a test spot in a non-conspicuous area of the treatment site to determine the appropriate treatment parameter. Then adjust parameter for each session according to the patient's skin reactions or pain.
- Performing test shot is very important as a safety precaution.

Treatment : techniques

- “Stamping” Technique
 - Keeping the handpiece perpendicular to the skin. Place the tip on the skin and fire the laser. The handpiece is then moved to next treatment area and placed against the skin again.
 - Normally recommended for precise treatment of scars and wrinkles.
- “Airbrush” Technique
 - Place perpendicular and as close as possible to the skin. Press the footswitch pedal and move the handpiece in a slow steady motion.
 - Efficiency will be compromised if tip is pulled away from skin or held at an improper angle.
 - Controlling the movement speed of the handpiece is most important. Moving too rapidly can cause missed treatment areas with a negative influence on the treatment outcome.
 - Generally recommended for quicker even treatment and blending.

Treatment : techniques

- Skin Sensor

- The scanner handpiece tip has a skin sensor that detects when it is in contact with the patient's skin.
- Click on the "SET UP" button to find the Skin Sensor controls.
- With "Skin Sensor Enabled", the tip must be in contact with the skin to enable firing of the laser.



My most commonly used protocol:

Sun damage, skin laxity, wrinkles, >50 years old

Skintype I-III :

- STATIC Mode , RANDOM mode , Skin Sensor ON
- Do the first pass **only on deep wrinkles** (periorbital area, upper lip/perioral area, cheeks deep wrinkles...) and/or scars with :
 - Tip 120µm
 - 12*12mm or 15*15mm on a large area, a rectangle to follow the wrinkle or 4*4mm for acne scars
 - 30W/ 100mJ / Density=100 spots per cm2 / Multiple=2 without overlap
- + Do a second pass without overlap **on full face** with :
 - tip 120µm
 - 15*15mm or 18*18mm
 - 30W / 100-160mJ/ Density=100-175 spots per cm2 (I start with 100mJ & 100Spots/cm2 for the first treatment)
- **On lower eyelids :**
 - Do 2 passes with tip 120µm / 8*8mm / 30W/ 80mJ/ Density=100 spots per cm2
 - + 1 pass with tip 300µm / 30W / 50mJ in Dynamic Mode
- Use the dynamic mode **on the edge of the treated areas :**
 - 300µm / 30W / 30mJ in Dynamic Mode

Fine lines, skin texture, pores:

<50 years old

Skintype I-III :

- STATIC Mode , RANDOM mode , Skin Sensor ON
- Do one pass on the full face :
 - Tip 120µm, 15*15mm or 18*18mm /20W/ 60mJ / Density=100 spots per cm2
- Do a second pass on pores, fine lines, pigmented lesions:
 - Tip 120µm, 12*12mm (or smaller) /20W/ 80mJ / Density=100-150 spots per cm2
- Use the dynamic mode **on the edge of the treated areas :**
 - 300µm / 30W / 30mJ in Dynamic Mode

Dyschromia:

Skintype I-III :

- On the Face and body
- STATIC Mode , RANDOM mode , Skin Sensor ON
- Do 2 passes at 300 μ m / 30W / 10mJ / 200-400spots/cm²
- Long downtime and healing process

Or

- On the face
- **STATIC Mode , RANDOM mode , Skin Sensor ON**
- **Do 1 pass at 120 μ m / 30W / 10mJ / 400spots/cm²**

eCO2Tone:

(Soft treatment as LaseMD/Ultra)

Skintype I-III : Pigment lightening

- On the Face and body
- DYNAMIC Mode
- Do 2 passes at 300 μ m / 18x18cm / 30W / 4-8mJ / 200Hz

Skintype I-III : Skin texture

- On the Face
- DYNAMIC Mode
- Do 2 passes at 300 μ m / 18x18cm / 5W / 4-8mJ / 200Hz

Post-surgery, burn scars:

Skintype I-III :

- STATIC Mode , RANDOM mode , Skin Sensor ON
- Tip 120 μ m
- 12*12mm or 15*15mm on a large area, a rectangle to follow the scars
- 30W/ 100mJ / Density=100-150 spots per cm² / Multiple=2 without overlap
- Use the dynamic mode **on the edge of the treated areas :**
 - 120or300 μ m / 30W / 30mJ in Dynamic Mode

Skintype IV & eCO2

- Aesthetic treatments :
 - Use 120 μ m Tip, 30W , <50spots/cm² , <50mJ, 1-2 passes
 - < 10% coverage
 - Apply a 1% hydrocortisone cream after the treatment for 5 days

Post treatment

- Immediately after
 - Burning sensation for 1-2 hours immediately after the treatment.
 - Apply sterile dressing on the face and vaporize termale water on them. If you have an air cooler (Zimmer) use it at level 5 to cool down the skin.
 - Or use ice pack enclose in a sterile covering.
 - Apply an ointment (Vaseline, cicaplast baume B5, Aquaphor)
 - Antiviral medication could be prescribed
 - Antibiotic cream may be prescribed at the discretion of the physician

PATIENT INSTRUCTIONS

- At home :
 - Wash with gentle cleanser. Dry the treated area gently, don't rub the area.
 - The patient may experience pinpoint bleeding. If this occurs, gently pat the area using a clean gauze pad to stop the bleeding.
 - Apply an ointment (Vaseline, cicaplast baume B5) three to five times a day until the crusts fall. It's important to keep the skin moisturized and hydrated after the treatment. This will promote healing as well as reducing the risk of infection.
 - Then for the next 3 weeks apply a healing cream (epithelial AH, cicabio...)
 - When the skin returns to the intact state, you may wash, apply mineral makeup and shave.
 - Avoid using alcohol-containing or harsh cosmetics at least for 2 weeks after the treatment.
 - Avoid vigorous activity, sauna, jacuzzi, swimming-pool, hot bath, for the first week post treatment or until initial healing has occurred.
 - Apply a sun protection (50+) for 3-4 months

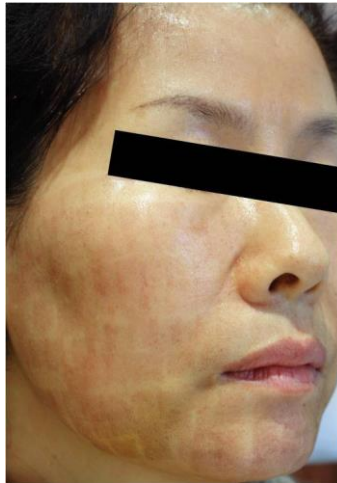
Expected sequelae and adverse events

- Heat, Pinpoint Bleeding and Serosanguinous Oozing may last several hours, diminishing with time.
- Erythema and Edema
 - Erythema with some « sunburn » symptoms will persist for 1 to 3 days post treatment, but this will completely disappear within 2 weeks. Sometimes a light erythema persists for several months.
- Bronzing and Flaking
 - On the day after treatment, the skin color will look a little darker. This phenomenon is due to the formation of intact epidermal debris that will peel off naturally. Although complete peeling varies depending on the skin type of the patient and the location of the skin lesion, generally it takes only 3 to 7 days to peel off completely.

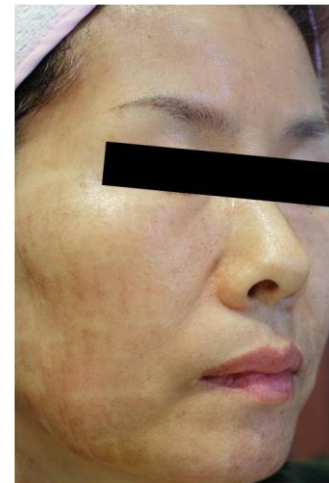
Post treatment



Immediately After



4 Days after Treatment



7 Days after Treatment



14 Days after Treatment



20 Days after Treatment



4 Weeks after Treatment

Courtesy of KT Hong, Korea

Post treatment : the day after the treatment



Advice:

- warm moist compresses to gently remove blood crusts
- Afterwards continue 2-3x a day Aquaphor

Patient could go to work at 4th day

eCO² clinical protocols

Surgical mode

Indications

Surgical handpiece allows for incisional, excisional or large spot ablation with Conventional Zoom Handpiece.



Zoom Handpiece

Beam size: 0.2 ~ 1.0 mm

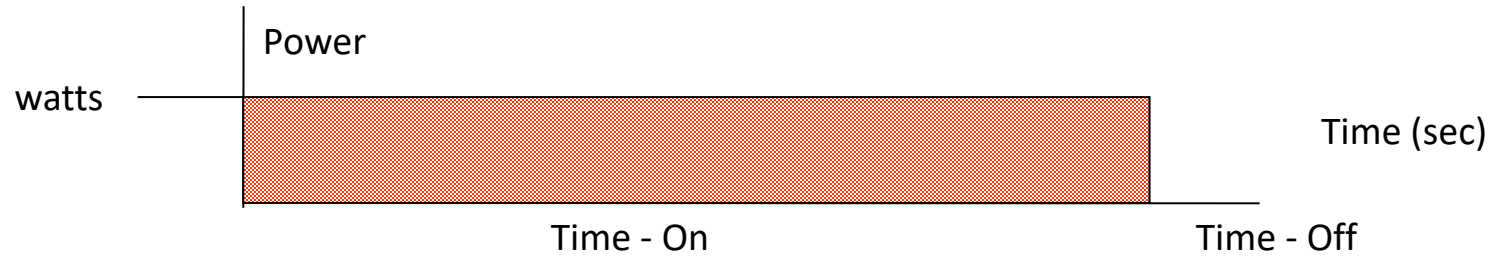
Key Indications:

- Warts
- Syringoma
- Seborheic Keratosis
- Actinic Keratosis
- Milium
- Xanthelasma

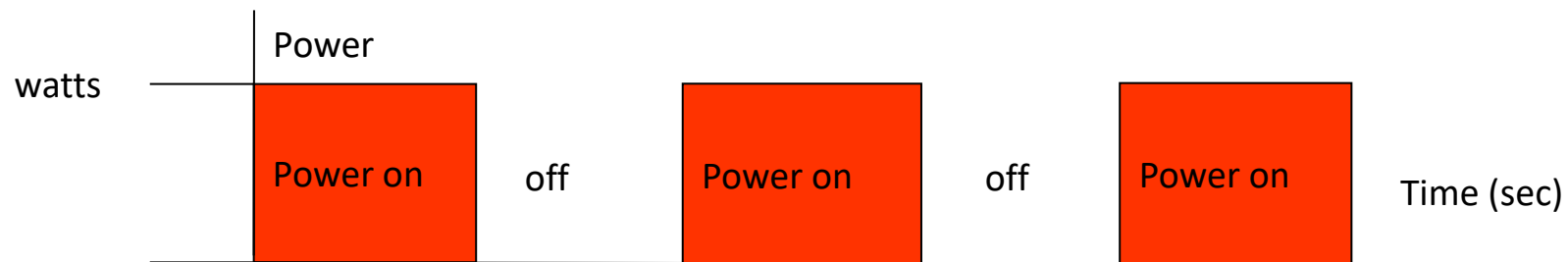


Surgical mode : operation modes

- **Continuous** wave mode

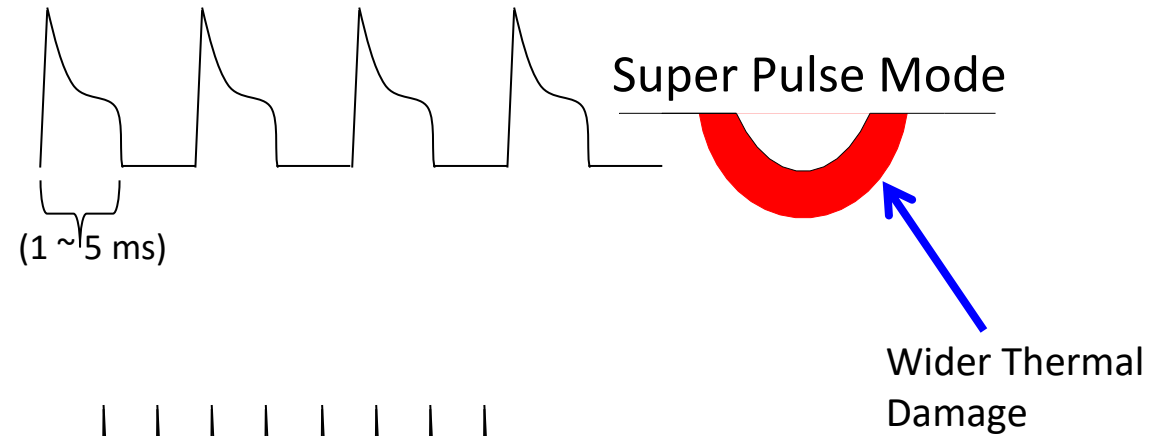


- Pulsed mode including **super pulse** and **char free** mode

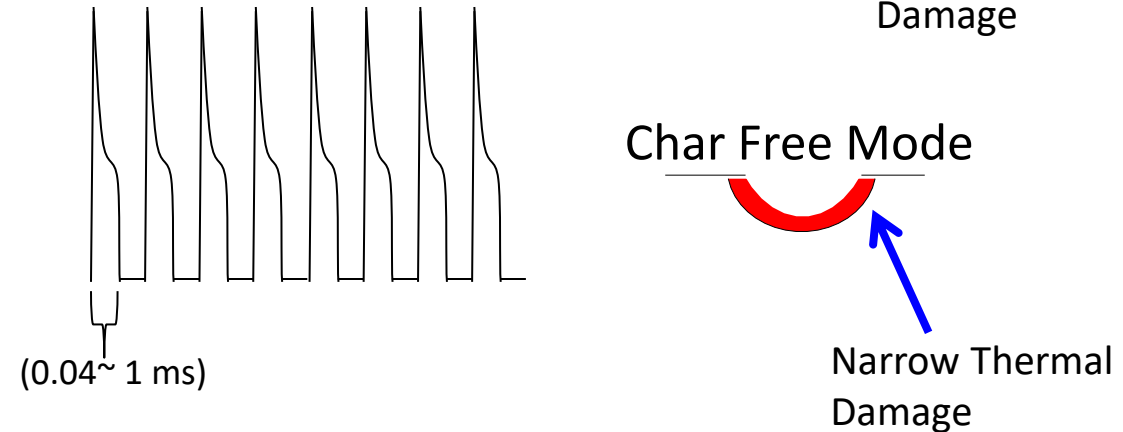


SURGICAL MODE : Operation Modes

Super-Pulse



Char-Free



Treatment parameters

- **Pulse width** in Charfree mode and Superpulse mode
 - Pulse width represents the emitting time of each laser pulse.
 - The unit of pulse width is microsecond(μs) in charfree mode. The unit of pulse width is millisecond(ms) in superpulse.
 - It is adjustable using the up and down push buttons on the left side of the GUI.
- **Pulse rate (Hz)** in Charfree mode and Superpulse mode
 - Pulse rate represents the number of pulses which are emitted per second.
 - It is adjustable using the up and down push buttons on the right side of the GUI.

Treatment settings

Indication	Mode	Frequency	Pulse Width
Seborrheic Keratosis Freckle/ Solar Lentigine Wart Syringoma Milia Corn Cystic Acne Pin Hole Therapy (Scar) Xanthelasma	Char Free	10-50Hz	600μs

Treatment settings

Indication	Mode	Power
General Surgery	Continuous Wave	7 ~
Phimosiectomy	Continuous Wave	7 ~
Anal Disease (Piles, Anal Fistula)	Continuous Wave	7 ~
Vaginal Plastic Surgery	Continuous Wave	7 ~

Treatment : techniques

- The tip of the handpiece should remain perpendicular to the skin's surface.
- Ensure that the handpiece tip is in contact with the skin. If the tip is held above the skin the beam will defocus. Defocused beams with shallow depth of penetration will result in unsatisfactory clinical outcomes.
- Place the handpiece tip on the skin of the treatment area, then step on the footswitch.
- Sufficient air cooling prior to, during, and post treatment helps reduce post-treatment side effects such as PIH.

TREATMENT: CLINICAL ENDPOINT

- Frosting, ablation, pinpoint bleeding, erythema



Courtesy of JS Kang, Korea

POST TREATMENT

- Apply sterile cotton sponge or cotton gauze with compression until the bleeding stops.
 - If the bleeding is profuse, pat the treatment area with a gauze dampened with epinephrine or a hydrogen peroxide solution on the treatment area.
- After hemostasis has been achieved apply antibiotic cream and Vaseline cream on the treated area every day.
- Apply dressing to protect the area and avoid infection until crusts have formed properly.
- Cooling with an ice pack or chilled air can provide relief to the treated area. Make sure to enclose the ice pack in sterile and dry gauze to prevent water from permeating the treated area

Clinical B/A photos



BEFORE



1 MONTH AFTER 1 TREATMENT

1st pass on full face: Tip 120, static mode, 100 mJ at 100 spots/cm²

2nd Pass on peri oral area and wrinkles of cheeks : Tip 120, static mode, multiple 2, 80 mJ at 100 spots/cm²

Dr Zena Gabriel, Dermatologist



BEFORE



1 MONTH AFTER 1 TREATMENT

1st pass on full face: Tip 120, static mode, 100 mJ at 100 spots/cm²

2nd Pass on peri oral area and wrinkles of cheeks : Tip 120, static mode, multiple 2, 80 mJ at 100 spots/cm²

Dr Zena Gabriel, Dermatologist, Newport Beach



BEFORE



1 MONTH AFTER 1 TREATMENT

1st pass on full face: Tip 120, static mode, 100 mJ at 100 spots/cm²

2nd Pass on peri oral area, wrinkles of cheeks, peri orbital area : Tip 120, static mode, multiple 2, 80 mJ at 100 spots/cm²

Dr Zena Gabriel, Dermatologist, Newport Beach



BEFORE



1 MONTH AFTER 1 TREATMENT

Tip 120, static mode, multiple 2, 80 mJ at 100 spots/cm²

Dr Zena Gabriel, Dermatologist, Newport Beach

INTERNAL USE ONLY



BEFORE



AFTER

Tip 120, static mode, 100 mJ at 100 spots/cm²

Dr Cathy Dierckxsens, Dermatologue, Bruxelles

WRINKLES & TIGHTENING

Before



After



*1st session: 140 mJ at 150 spots/cm²
2nd session: 100 mJ at 200 spots/cm²*

Wrinkles

Before



After



120 Tip, 240mJ , 1pass

Courtesy of JD Holcomb, MD, USA

PIGMENT & TEXTURE



90 days post one Tx, Static Mode: 6-8 mJ 400 spots/cm², 2 passes

Courtesy of MG Rubin, MD, USA

ACNE SCARS

Before



1 month After 1st Tx



Courtesy of J Rappaport, MD, USA

Static mode: 140 mJ at 100 Spots/cm², 2 passes

ACNE SCARS



Before Treatment



3 Days after Treatment



7 Days after Treatment



10 Days after Treatment

Static mode: 140mJ 50 spots/cm2 (1pass)

Dynamic mode: 140mJ 200Hz (Overlapping & Feathering effect)

MODERATE PUSTULAR ACNE VULGARIS

Before



2 months After 3rd Tx



6 months After 3rd Tx



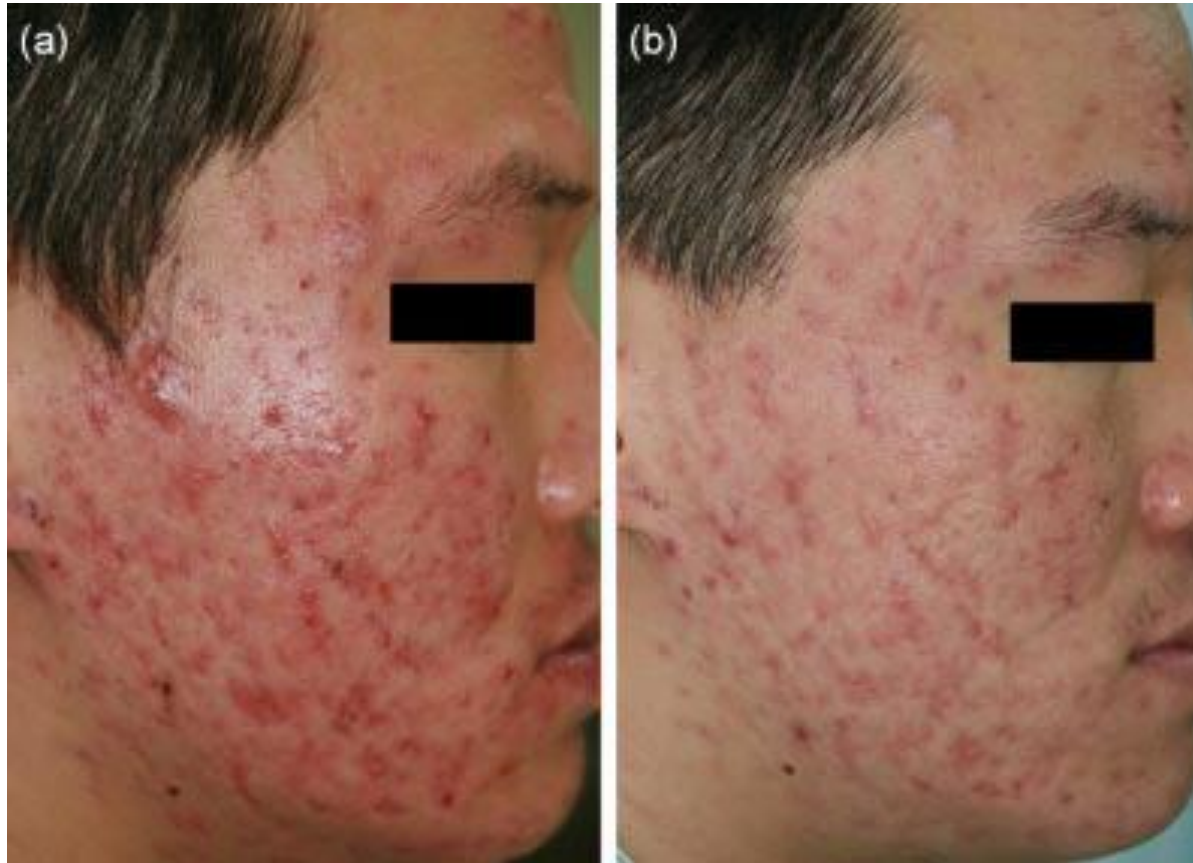
1 pass : Full Face (70 mJ, 100 spots/cm²)
2 pass : Over Cheek Area (50 mJ, 100 spots/cm²)

Courtesy of SB Cho, MD, PhD, South Korea

SEVERE PUSTULAR ACNE VULGARIS

Before

2 months After 3rd Tx



1 pass : Full Face (70 mJ, 100 spots/cm²)
2 pass : Over cheeks (50 mJ, 100 spots/cm²)

Courtesy of SB Cho, MD, PhD, South Korea

SURGICAL SCAR REVISION

Before



6 months After 3rd Tx



50 mJ, 100 spots/cm², static mode, 1 pass, 50% overlap

Courtesy of JY Jung, MD, PhD, South Korea

INTERNAL USE ONLY



Continuous Wave – 7-8W



BEFORE

AFTER 2 TREATMENTS

Dr Cathy Dierckxsens, Dermatologue, Bruxelles

WRINKLES

Before

After



Courtesy of JD Holcomb, MD, USA

PIGMENTATION

Baseline



28 Post Tx



PIGMENTATION & FINE LINES

Baseline



28 Post Tx



Hypertrophic Scar

Before Tx



9 months after Tx



*Courtesy of H Harker, MD, Colombia
eCO2 & Vascular Laser treatment*

BURN SCAR

Before



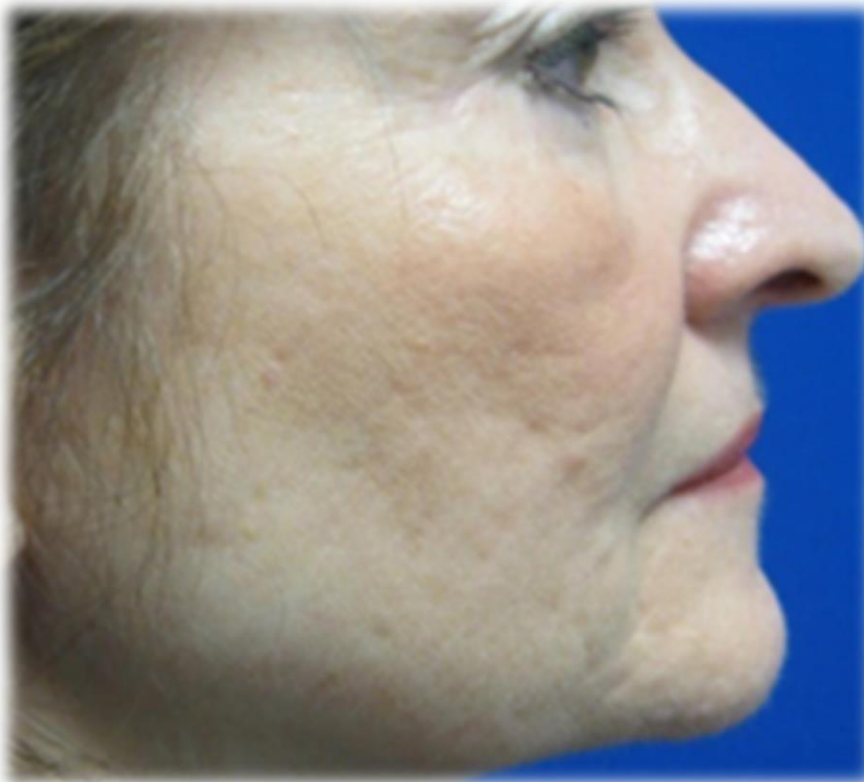
1 month After single Tx



Courtesy of Dra. Kateryn Pérez Willis

ACNE SCARS

Before



After



Courtesy of F Taghizadeh, MD, USA

Thank you for your attention



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