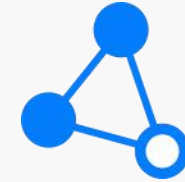


Renuva[®] Clinical Training

Wingderm Marketing Team



Principle of treatment
Introduction

- Selective photothermolysis
- Fractional photothermolysis
- Biological effects of the nonablative fractional 1550nm Laser



General Trouble shooting

- General Trouble shooting

Renuva® Clinical Training

Catalogue .



System overview

- Introduction of mechanical structure and connectors
- Operation / Setup interface
- Each treatment head introduction



Clinical operation

- Indication
- Pre-treatment
- Treatment (parameters, course setting, and handle selection)
- Post-Treatment
- Clinical Efficacy evaluation and reference



Maintenance

- Maintenance of the device

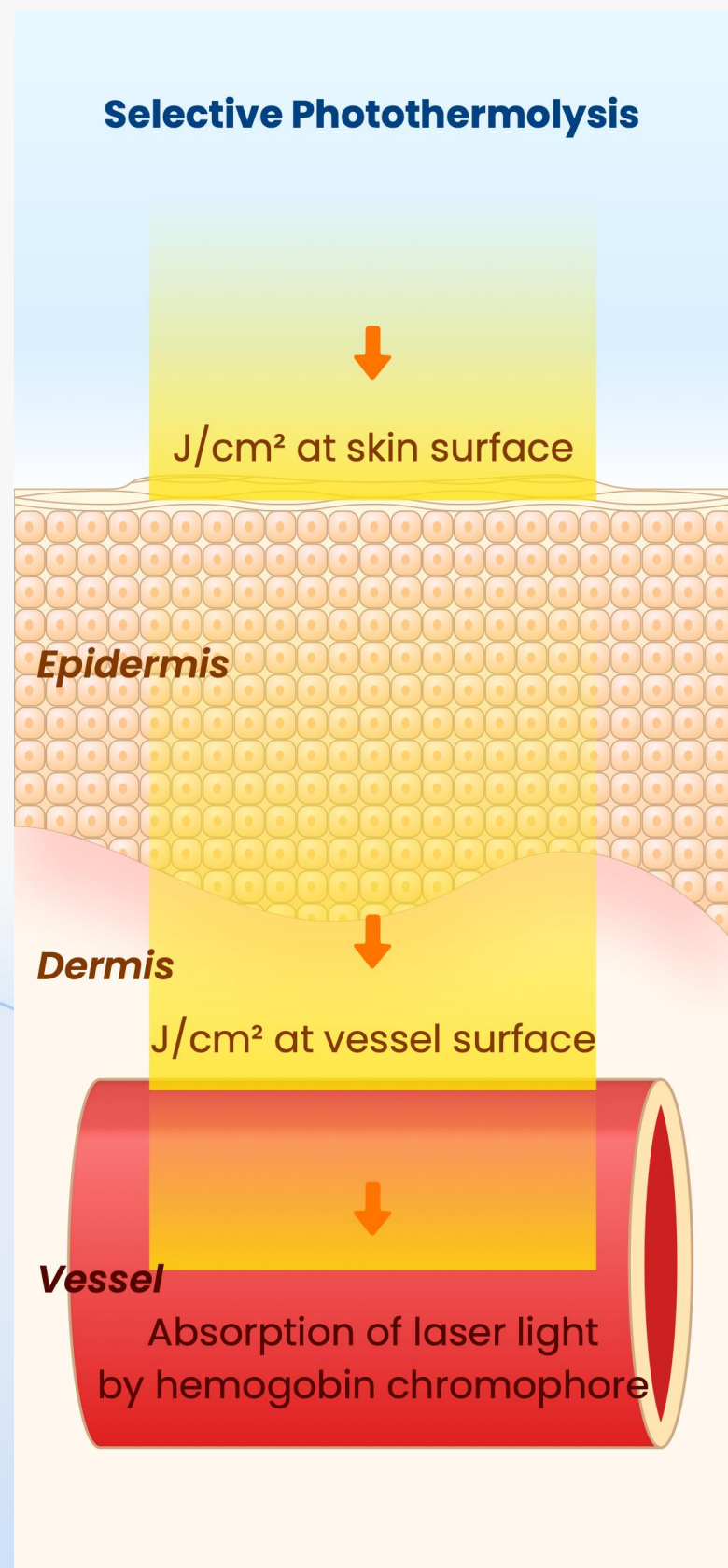
Principle of treatment Introduction .

- Selective photothermolysis
- Fractional photothermolysis
- Biological effects of the nonablative fractional 1550nm Laser

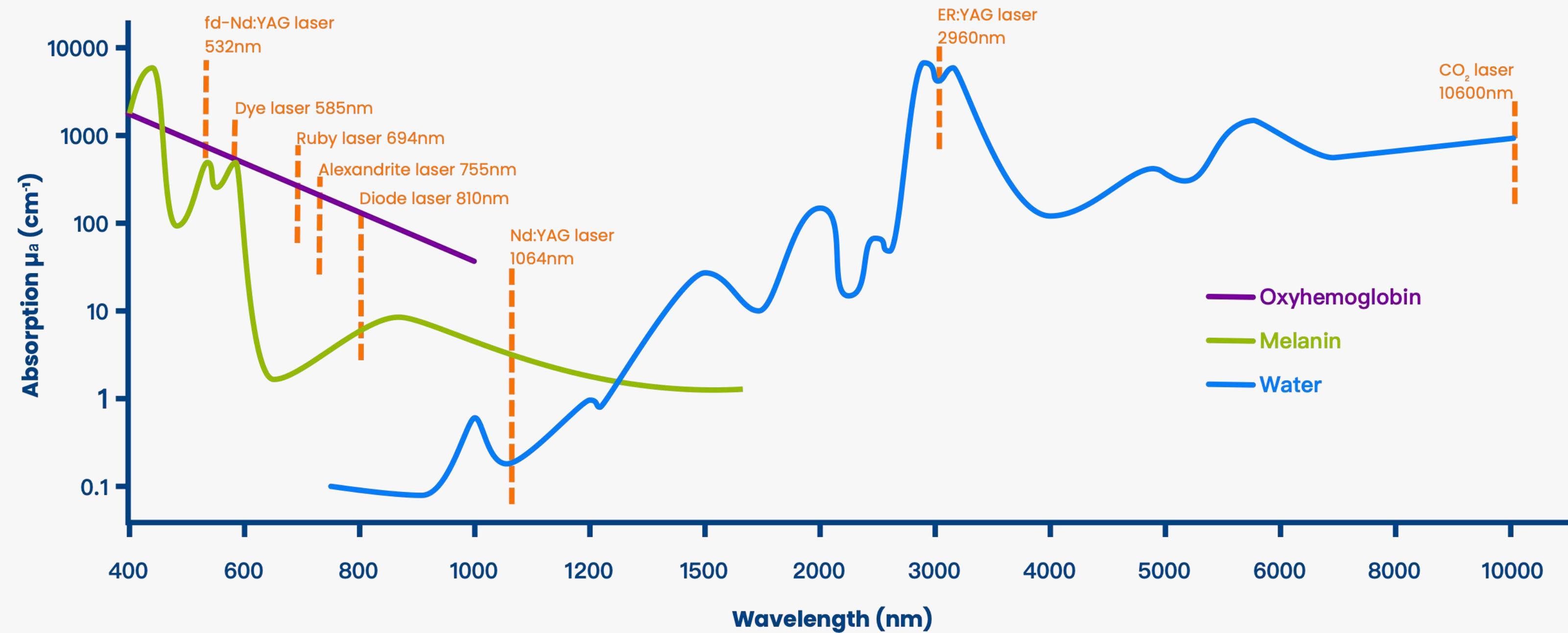
→ NEXT

Principle of treatment Introduction

Selective photothermolysis.



The different laser wavelengths match the adsorption spectra of different chromophores in skin



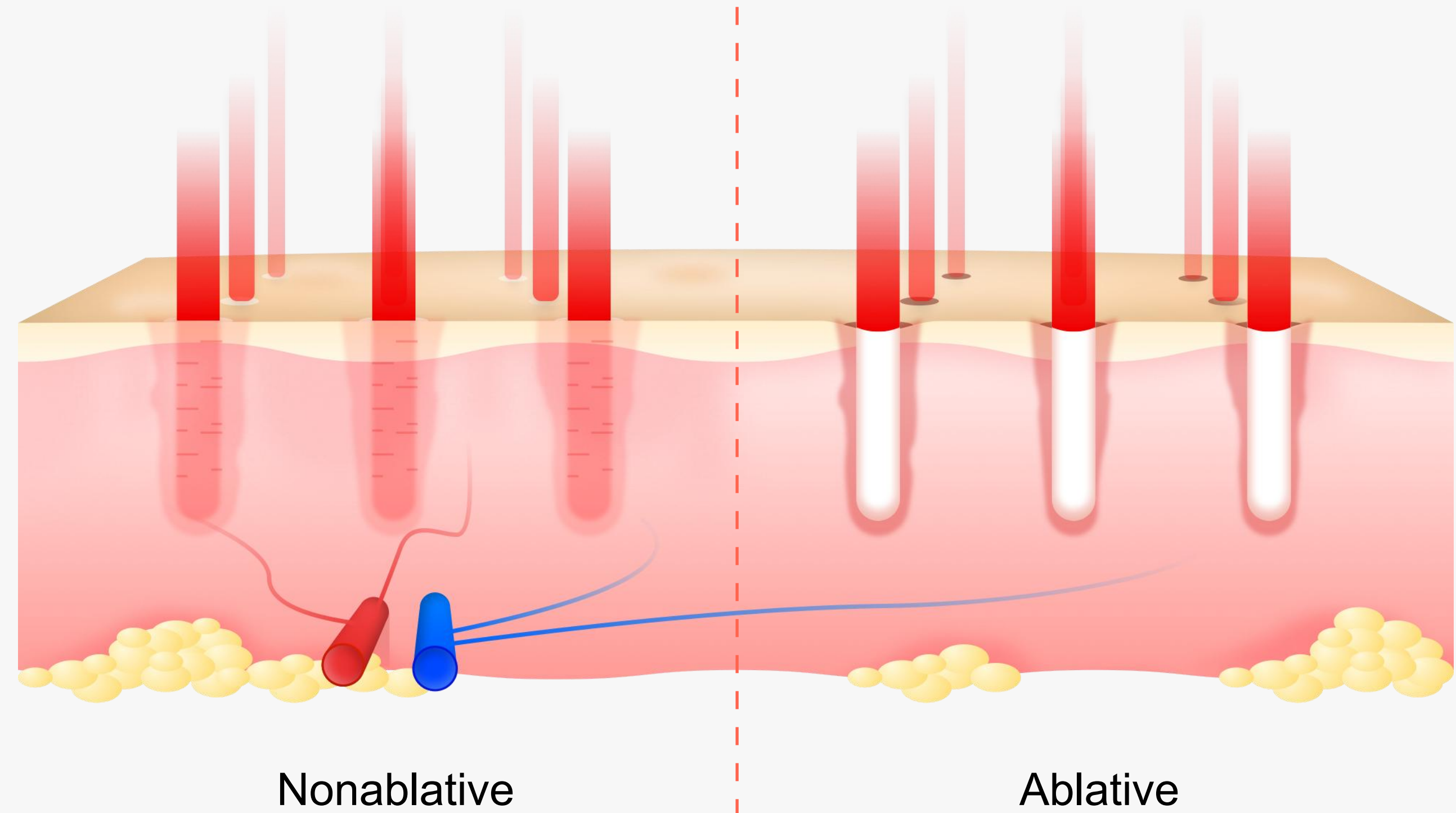
It is based on the concept of delivering sufficient energy to heat and destroy a target before it can cool by dissipating thermal energy to surrounding tissue, causing nonselective heating and tissue damage. This principle allows for laser energy to be deposited specifically at a target chromophore in such a manner that the tissue effect or thermal injury is spatially confined to the target chromophore. The laser pulse duration (T_p) thus largely controls the spatial confinement of the laser energy. The thermal relaxation time describes the rate at which a material dissipates absorbed thermal energy. Selecting a pulse duration equal to or less than the thermal relaxation time of the target is necessary to selectively heat the chromophore while avoiding collateral tissue damage. This delivery of laser energy using a specific wavelength and pulse duration to selectively create a spatially confined thermal injury is the operating principle for aesthetic lasers used for treating vascular lesions, pigmentation, tattoos, and hair.

Fractional photothermolysis .

Water is highly absorptive to the infrared laser, and the laser beam can penetrate into the dermis through the epidermis. In this process, the area irradiated by the laser beam becomes a microtherapeutic zone (MTZ). After laser treatment, due to water absorption of laser energy resulting in a certain degree of thermal damage, so the irradiation area will form the so-called columnar small epidermal thermal degeneration necrosis (MEND), or at a certain energy density, the laser penetrates the skin to form a real aperture.

Whether it is MEND formation or real aperture formation, this damage will start the body's programmed trauma healing process.

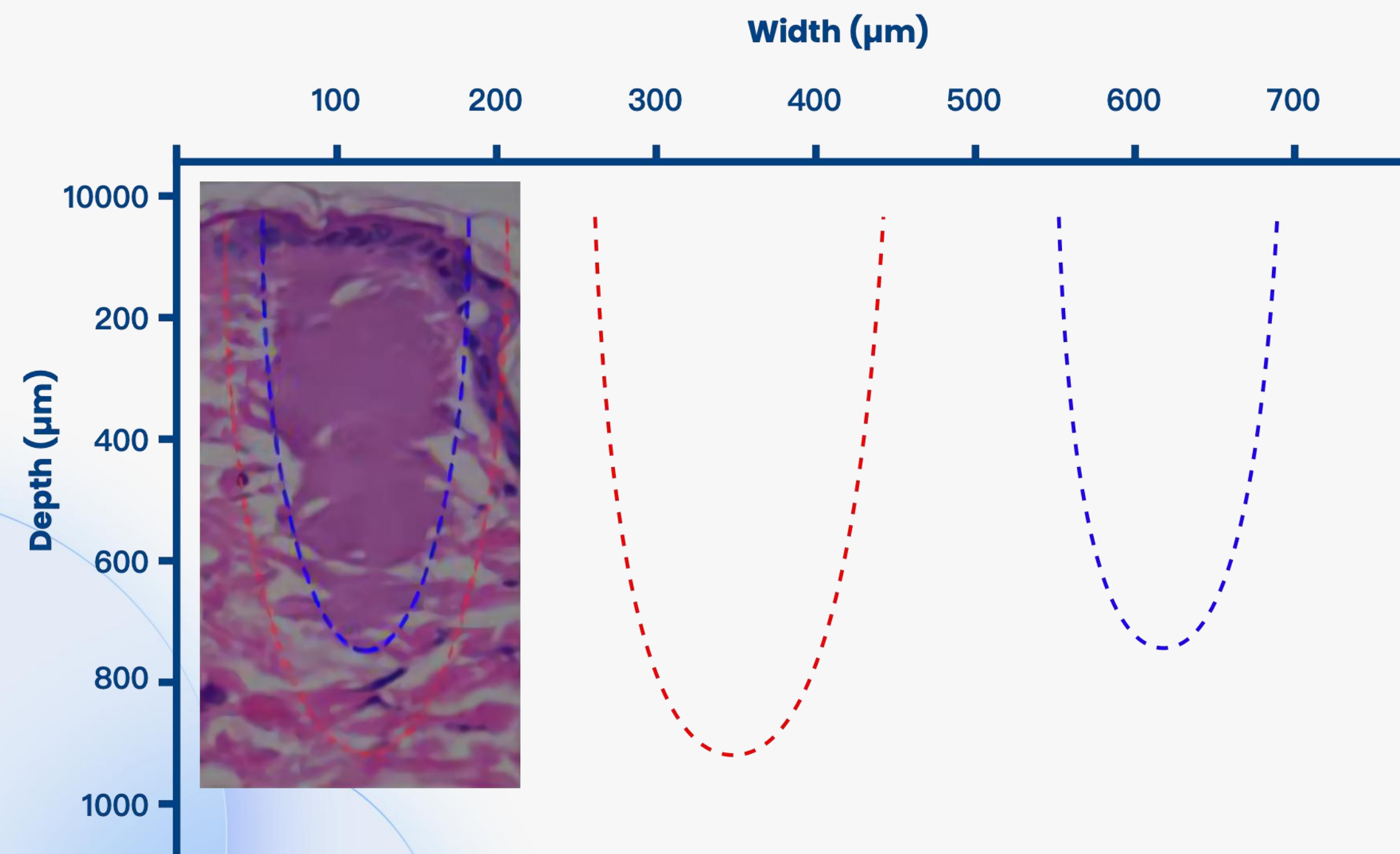
If this beam is arranged into a dot needle, then this dot-array thermal stimulation will evenly start the repair program of the skin and achieve the therapeutic purpose, which is the principle of focal photothermal action.



Principle of treatment Introduction

Biological effects of nonablative fractional 1550nm Laser .

- Thermal Damage (70mJ): Max 200µm ; Depth Max 1000µm
- Thermal Cooling (70mJ): Max 190µm ; Depth Max 900µm



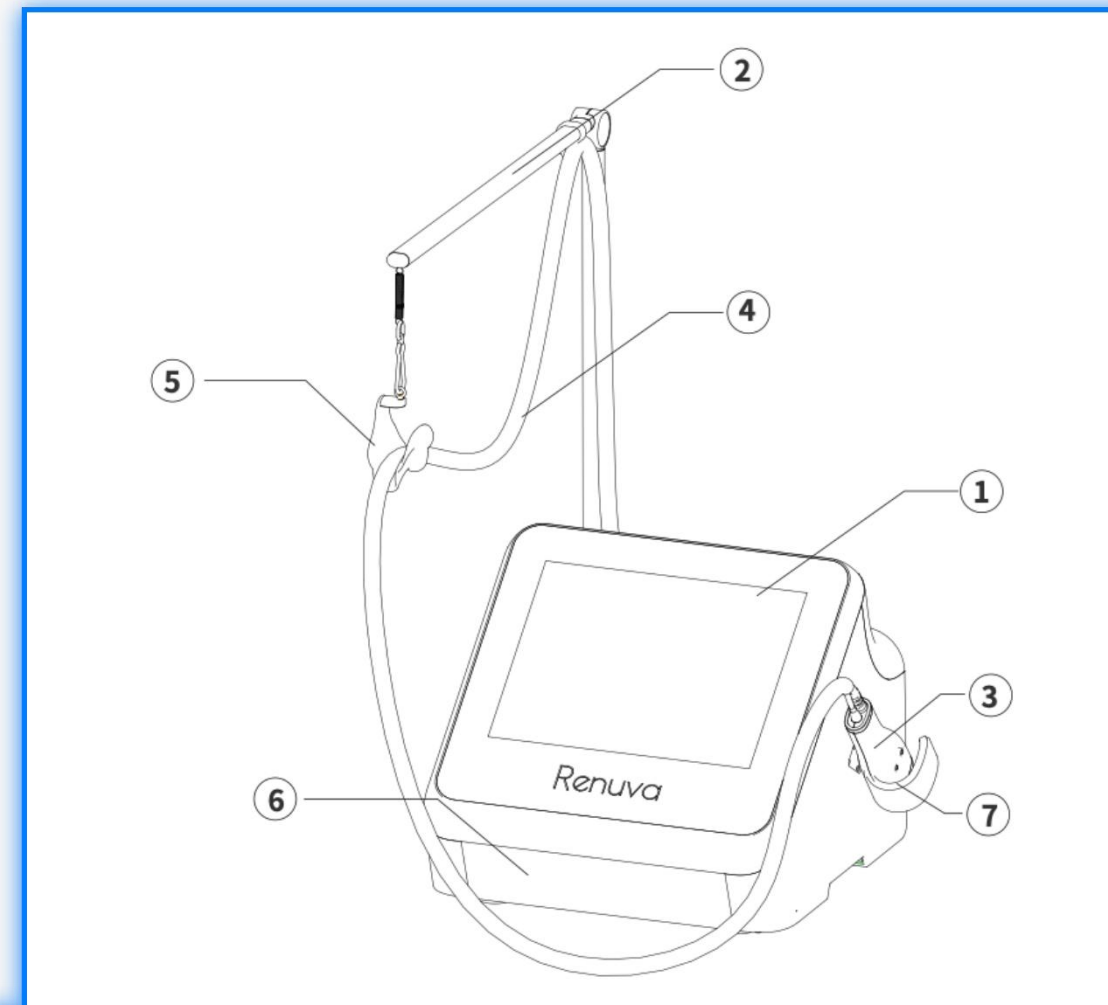
Group 1 irradiated with high energy of 70mJ			
HE staining illustrating			
Sample names	G1-A	G1-B	G1-C
Group 2 irradiated with high energy of 40mJ			
HE staining illustrating			
Sample names	G2-A	G2-B	G2-C
Group 3 irradiated with high energy of 20mJ			
HE staining illustrating			
Sample names	G3-A	G3-B	G3-C

System overview.

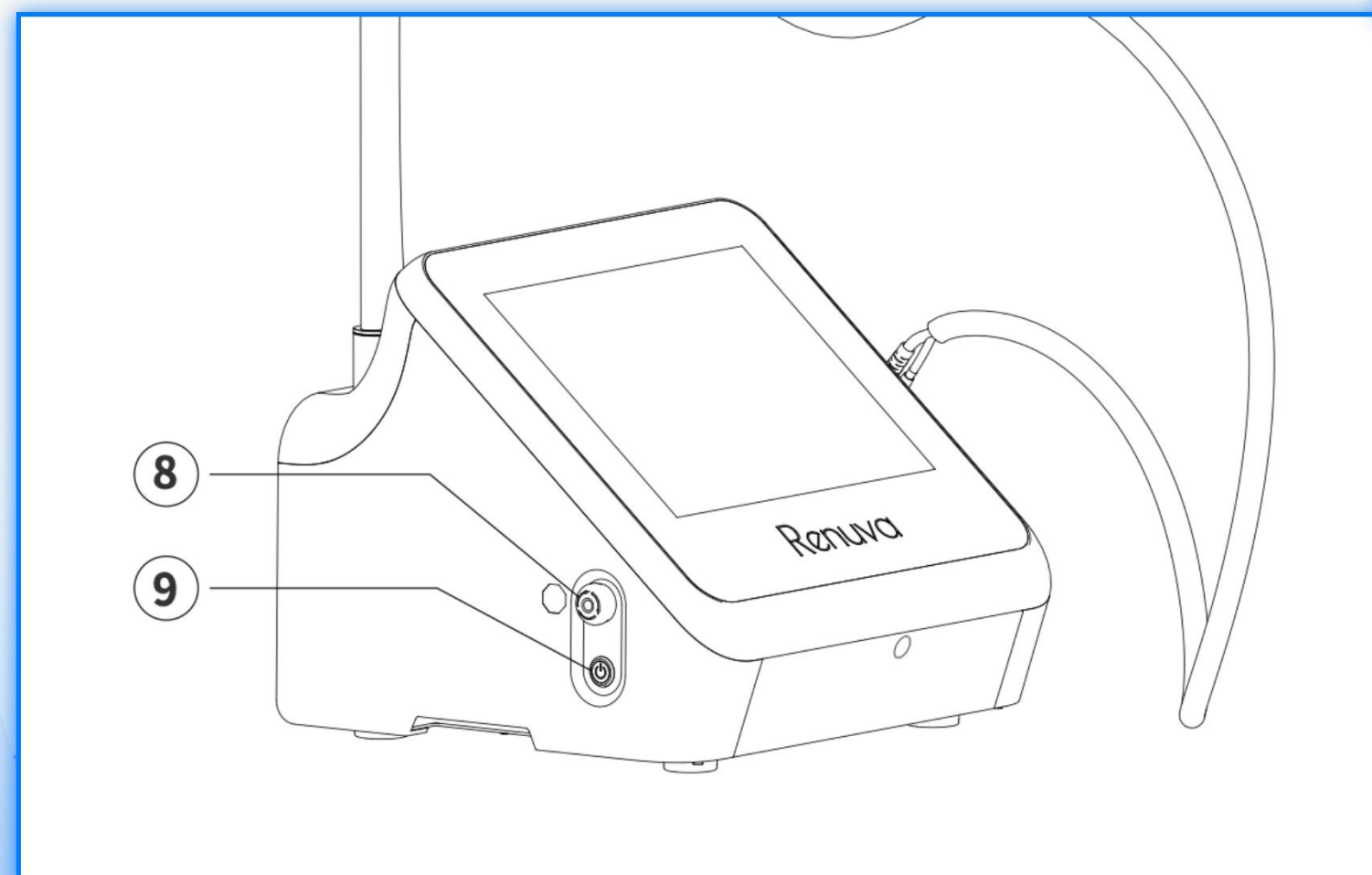
- Introduction of the structure and interface
- Installation
- Operation / Setup interface
- Each treatment head introduction



Introduction of mechanical structure and connectors.



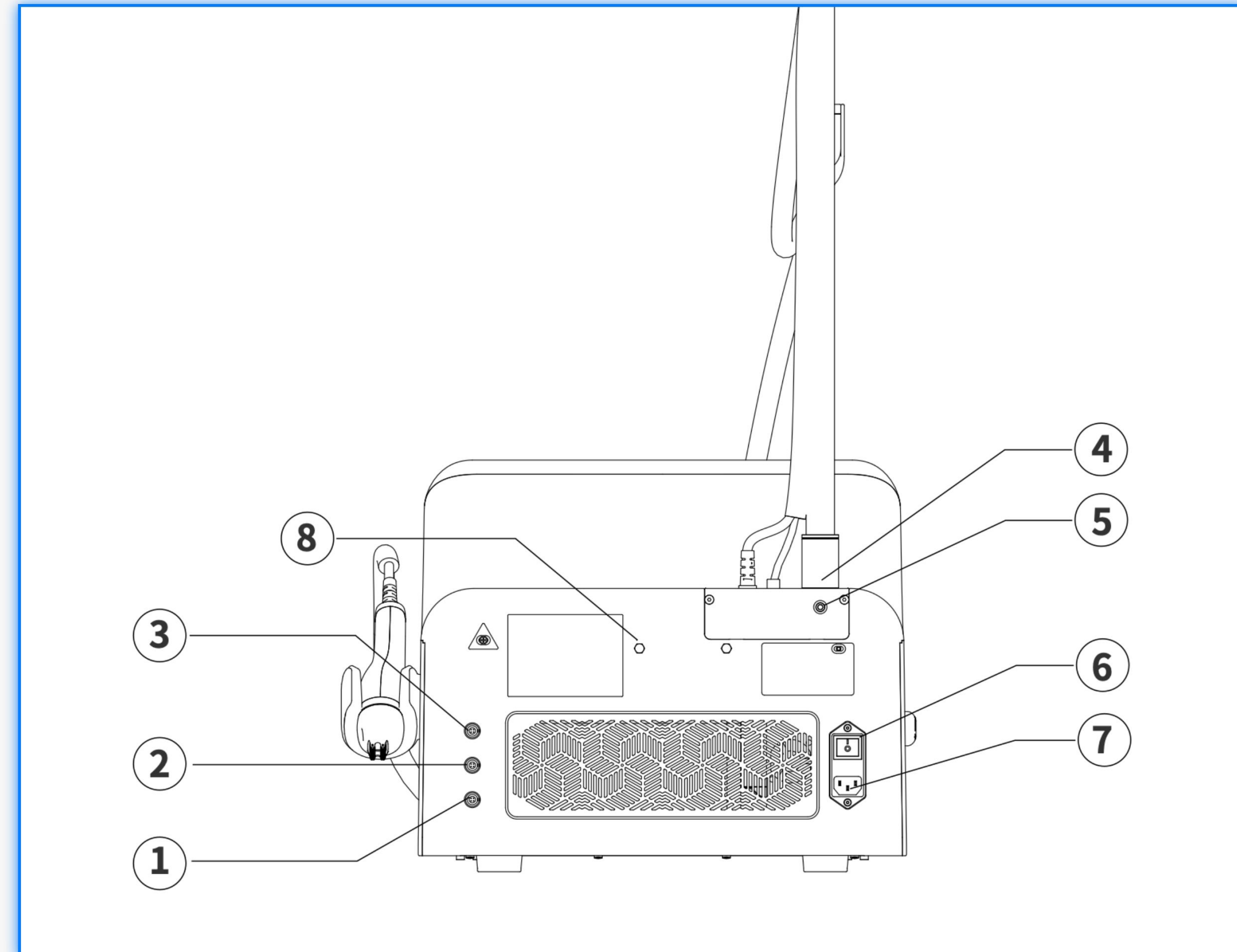
- ① 15inch touch screen: High-definition capacitive touch screen, with user-friendly UI design, can realize multi-parameter adjustment and storage.
- ② Handpiece cable bracket: Support handpiece cable, and can be rotated according to operation needs.
- ③ Handpiece: There is a high-speed pattern generator inside, and the applicator tips are changeable according to the applications.
- ④ Handpiece cable.
- ⑤ Hook.
- ⑥ Container: Press to open or close, store various types of applicator tips.
- ⑦ Handpiece holder: Hold the handpiece.



- ⑧ Emergency Stop: Under emergency, press this key to stop the laser output and cut off the power supply.
- ⑨ Power Switch: Control device power on or off.

Introduction of mechanical structure and connectors.

- ① CryoShot interface: Connect Cryoshot by it, the laser system can control Cryoshot automatically through this interface.
- ② Foot switch interface: Connect the foot switch.
- ③ Interlock interface: Connect the interlock switch of the laser room.
- ④ Handpiece umbilical bracket socket: Used to assemble handpiece umbilical bracket.
- ⑤ Handpiece umbilical bracket locking hole: Use the hexagon wrench to lock the handpiece umbilical bracket.
- ⑥ Power Inlet: Device power supply interface.
- ⑦ Power switch: “I” Power on, “O” Power off.
- ⑧ Foot switch hook: used to hang up the foot switch.





Accu Tip
Scanning area : 10mm×10mm



Effi Tip
Scanning area : 20mm×20mm



Grow Tip
Scanning area : 10mm×20mm



OST-15
Scanning width : 15mm



OST-7
Scanning width : 7mm

System overview

Each treatment head introduction.

Installation.

WINGDERM®

Renuva®
Quick Install Guide

CE

1 Take the host out of the box
Open the wooden box spring hook with a screwdriver, and remove the upper cover plate, the side board and the cotton lining on the cover.

Remove the middle pearl cotton packing and accessories.

Remove the handle-piece from the back of the main host and place it on the handle-piece holder.

WFA-01

Wingderm Electro-Optics Ltd.
☎ 010-62910812 🌐 <http://www.wingderm.com>

2 Install air duct support rod
Remove supporter from accessory box.

Put the supporter into the mounting hole, lock the screws with the hexagonal wrench, and fix the bracket.

Take out the pipe hook, hang it in the hook on the supporter, arrange the handle and hang the pipe on the supporter.

3 Place the treatment head of handle-piece
Press the central groove of the storage, open the storage box, and put the handle-piece treatment heads into the box.

Take out and insert the power cord, pedal and interlock, make the black power switch in the "I" state.

door interlock
pedal
the power cord
cooler system (optional)

Pay attention to the interlock and pedal plug red dot alignment with the machine red dot.

Release the emergency switch, press the metal power switch to start the machine.

emergency button
power switch

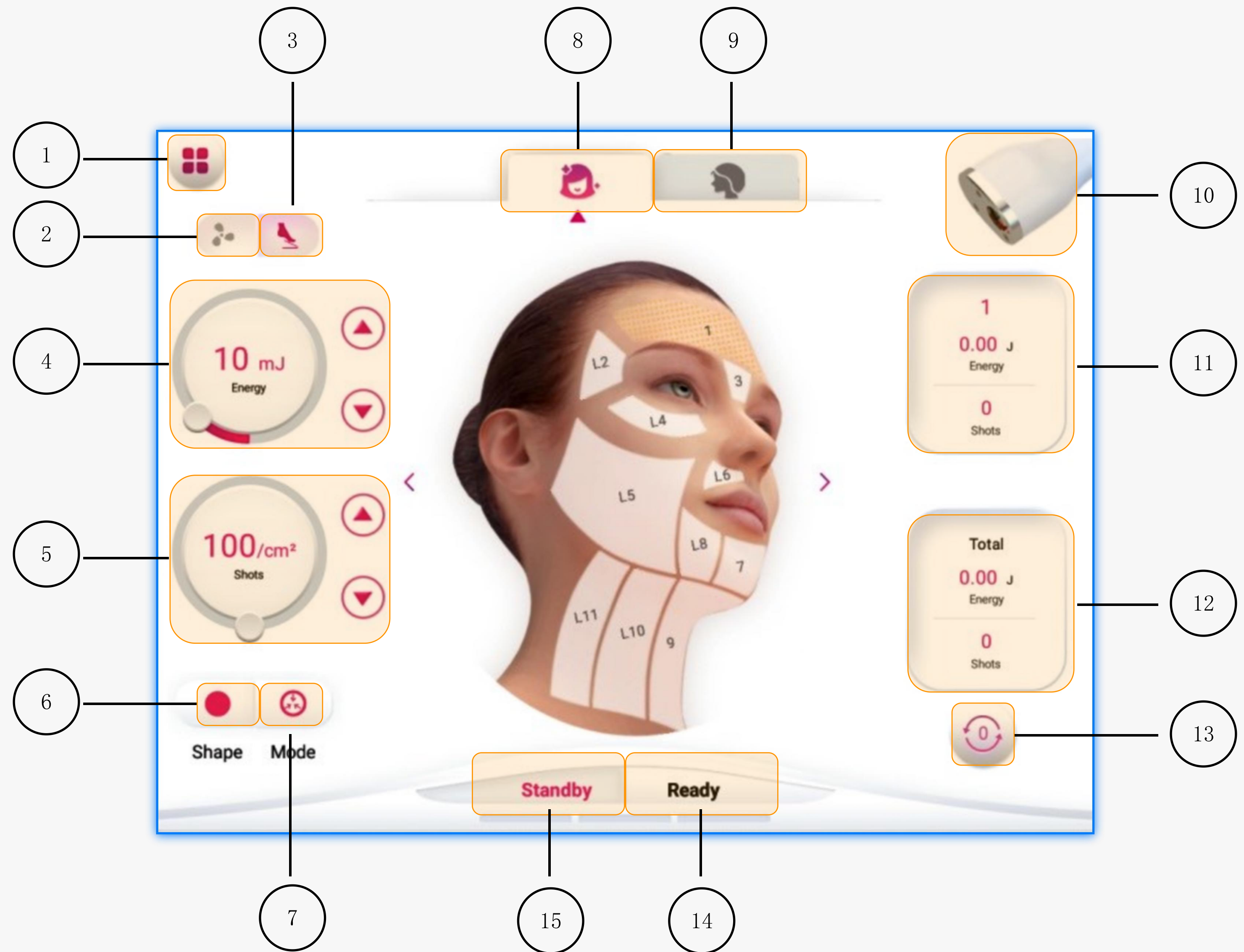
F130409 A0

Wingderm Electro-Optics Ltd.
☎ 010-62910812 🌐 <http://www.wingderm.com>

System overview

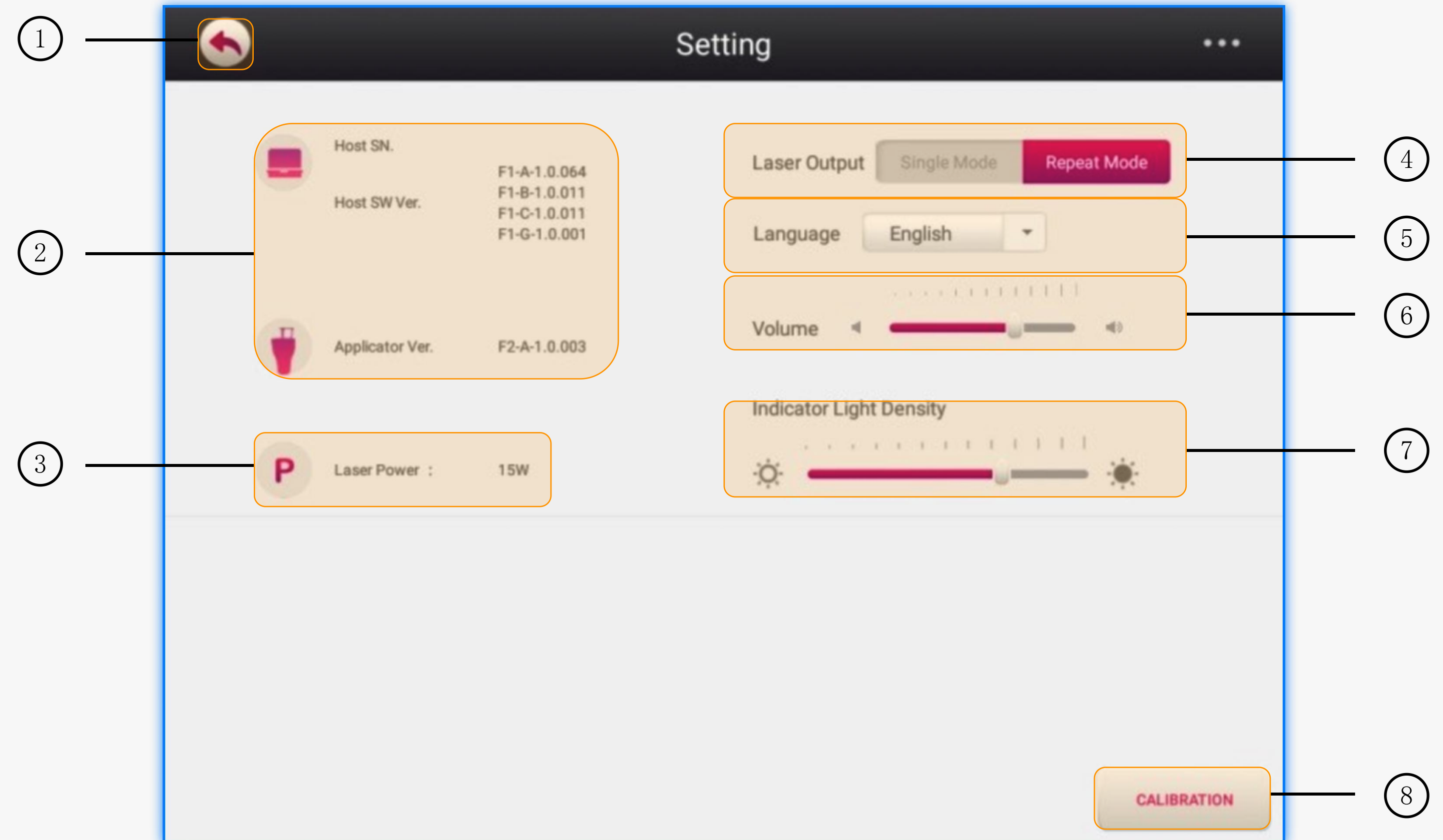
Operation / Setup interface.

- ① Menu
- ②③ CryoShot and pedal
- ④ Single pulse laser energy
- ⑤ Shots density
- ⑥ Treatment shape
- ⑦ Scan mode
- ⑧⑨ Face, scalp
- ⑩ Applicators
- ⑪ Part energy
- ⑫ Total energy
- ⑬ Clear
- ⑭⑮ Standby / Ready



Settings interface introduction.

- ① return to the operation interface
- ② display the SN and software version of the device
- ③ Laser power of the device
- ④ Laser output
- ⑤ Language
- ⑥ Volume
- ⑦ Indicator light density
- ⑧ Calibration



Clinical operation.

- Indication
- Pre-treatment
- Treatment (parameters, course setting, and handle selection)
- Post-Treatment
- Clinical Efficacy evaluation and reference

→ NEXT

Clinical operation

Indication.



Renuva® can be operated and used only by properly trained personnel. Including doctors, nurses, technicians and other professionals.

MDR:

Medical Non-ablative Fractional Laser Systems (Model: WFA-01) is indicated for treatment of melasma.

FDA:

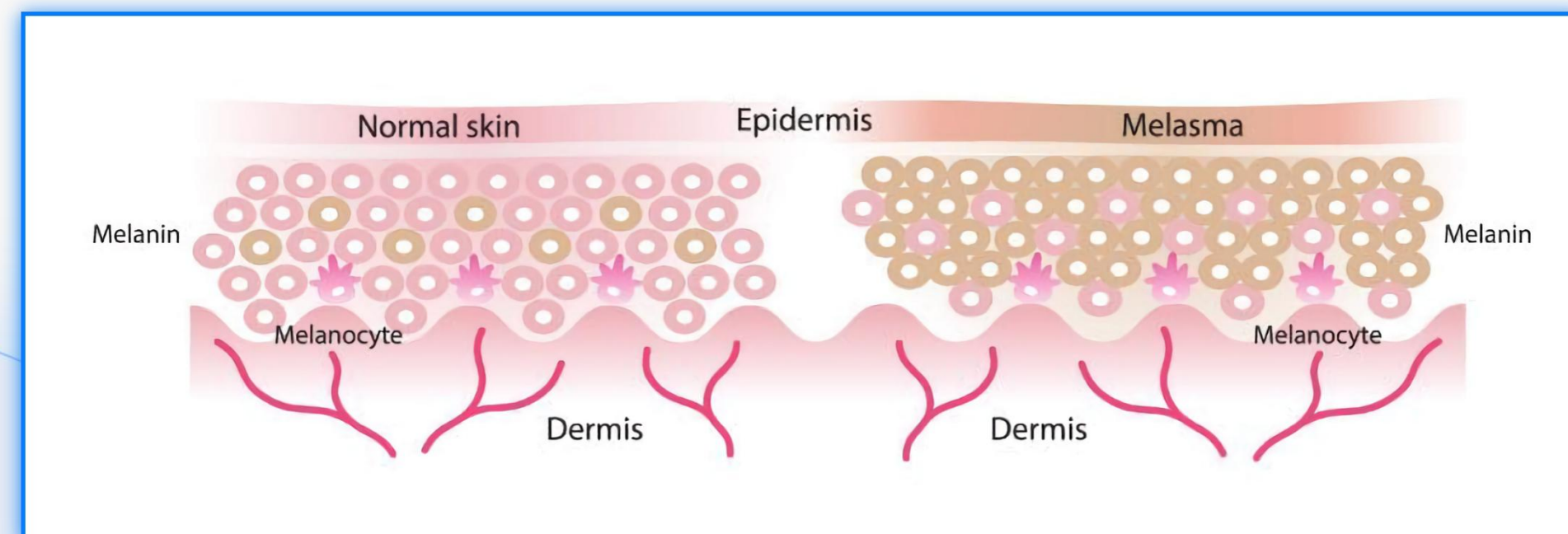
The Medical Non-ablative Fractional Laser Systems (Model: WFB-01) is intended for use in dermatological procedures requiring fractional skin resurfacing and coagulation of soft tissue.

CFDA:

The Medical Non-ablative Fractional Laser System is indicated for use in dermatological procedures requiring: Coagulation of soft tissue, Skin resurfacing procedures, Treatment of dyschromia such as, but not limited to melasma, Treatment of acne scars and surgical scars, Treatment of striae, Treatment of periorbital wrinkles

Clinical operation

Melasma Introduction



- Melasma is a common and well-described dermatological condition that primarily affects female patients.
- There is currently no definite etiology but multiple factors including ultraviolet radiation, hormonal alterations within the estrogen or progesterone pathways, genetic predisposition, and/or inflammation have all been implicated and recently reviewed.
- Melasma is classified by both location and depth of involvement. The three most common types of melasma are centrofacial, malar, and mandibular, which describe the patterns of facial involvement.
- Melasma can be further characterized by the depth of involvement, which is often assessed by Wood's lamp illumination and divided into three categories: epidermal, dermal, mixed.



Clinical operation

Clinical Efficacy and reference.

evaluation



FIG. 1 Typical case
Before treatment VS after 1 time treatment VS after 4 times treatment

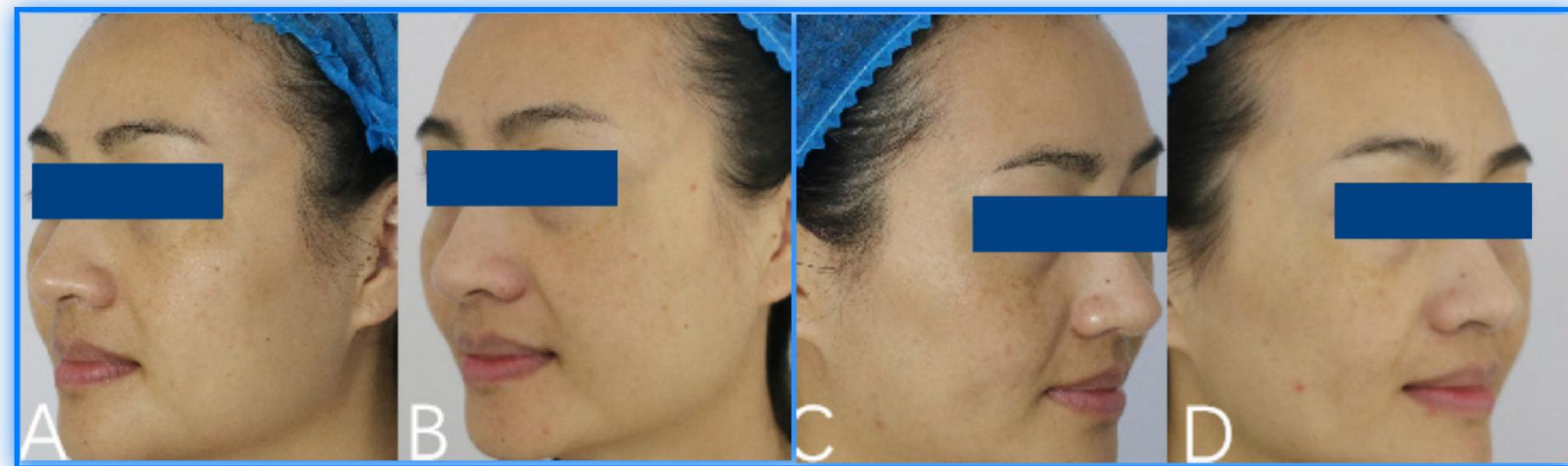


FIG. 2 Typical case 2: a 40-year-old female. Comparing the area and severity of melasma on the left side (A, B) and right side (C, D) before and after treatment, the patient's MASI score decreased from 18.5 to 6.5. MDR was 64.9%.

Melasma area and severity index, MASI was used .

MASI score = $0.3A(f)[D(f)+H(f)] + 0.3A(lm)[D(f)+H(f)] + 0.3A(rm)[D(f)+H(f)] + 0.1A(c)[D(c) + H(c)]$

A represents the area, with score values of 1~6, 1 < 10%, 2 = 10%~29%, 3 = 30%~49%, 4 = 50%~69%, 5 = 70%~89%, and 6 = 90%~100%


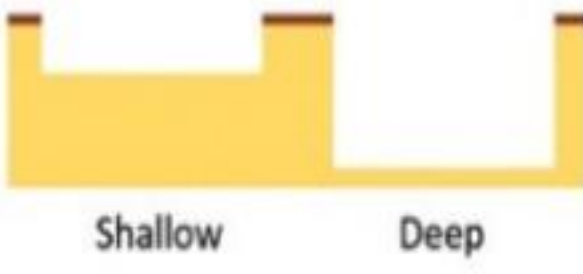

D and H indicate the depth of color and pigment dispersion, respectively, and the scoring criteria were as follows: 0 = no, 1 = mild, 2 = severe, 3 = significant, and 4 = severe.

The f indicates the forehead, lm indicates the left face, rm indicates the right face, c indicates the jaw, and the total area of 30%, 30%, 30%, 10%, respectively. Take "MASI score decline rate before and after treatment (Decline rate of MASI, MDR)" as the effectiveness index.

$MDR = (\text{pretreatment MASI score} - \text{post-treatment MASI score}) / \text{pre-treatment MASI score of 100\%}$

Effectiveness evaluation: Basic recovery: MDR 90%; significant effect: 60% MDR < 90%; general effect: 20% MDR < 60%; the effect is not obvious: MDR < 20%

Acne Scars.

	Acne Scars Subtype	Clinical Features
Classification of acne scars as their morphology adapted from	 <p>Rolling</p>	Rolling scars occur from dermal tethering of otherwise relatively normal appearing skin and are usually wider than 4 to 5 mm. Abnormal fibrous anchoring of the dermis to the subcutis leads to superficial shadowing and a rolling or undulating appearance to the overlying skin.
	 <p>Boxcar</p>	Boxcar scars are round and oval depressions with sharply demarcated vertical edges, similar to varicella scars. They are clinically wider at the surface than ice pick scars and do not taper to a point at the base. They may be shallow (0.1–0.5 mm) or deep (≥ 0.5 mm) and are most often 1.5 to 4.0 mm in diameter.
	 <p>Ice pick</p>	Pick scars are narrow (<2 mm), deep, sharply marginated epithelial tracts that extend vertically to the deep dermis or subcutaneous tissue.

Acne Scars.

	Level of disease		Clinical Features
Grades of Post Acne Scarring	1	Mild	Mild atrophy or hypertrophy scars that may not be obvious at social distances of 50cm or greater and may be covered adequately by makeup or the normal shadow of shaved beard hair in men or normal body hair if extra facial.
	2	Moderate	Moderate atrophic or hypertrophic scarring that is obvious at social distances of 50cm or greater and is not covered easily by makeup or the normal shadow of shaved beard hair in men or body hair if extra facial, but is still able to be flattened by manual stretching of the skin (if atrophic).
	3	Severe	Severe atrophic or hypertrophic scarring that is evident at social distances greater than 50cm and is not covered easily by makeup or the normal shadow of shaved beard hair in men or body hair if extra facial and is not able to be flattened by manual stretching of the skin.

Clinical operation

Other Treatment.

Dyshromia Treatment

- Pigmentation
- Acne Scars Treatment

Surgical Scar Treatment

- Atrophic
- Flat

Skin Treatment

- Skin Resurfacing
- Periorbital Wrinkles

Striae Treatment

- Rubra
- Alba

Hairloss Treatment

- Hairloss

Pre-treatment.

Contraindications

- Patients who have had prior problems with laser therapy should be carefully screened before treatment.
- Treatment should not be attempted on patients with the following conditions in the treatment area:
 - > Active infections
 - > Dysplastic nevi
 - > Significant concurrent skin conditions or any inflammatory skin conditions.
 - > Active cold sores, open lacerations or abrasions.
 - > Chronic or cutaneous viral, fungal or bacterial diseases.
 - > Exposure to sun in the 4-6 weeks pre-op, or artificial tanning in the past 2-3 weeks pre-op, remaining suntan, sunburn or artificially toned skin.
 - > Tattoos
 - > Permanent dental implants
- Treatment should not be attempted on patients with a history of skin cancer or pre-cancerous lesions on the treatment area.

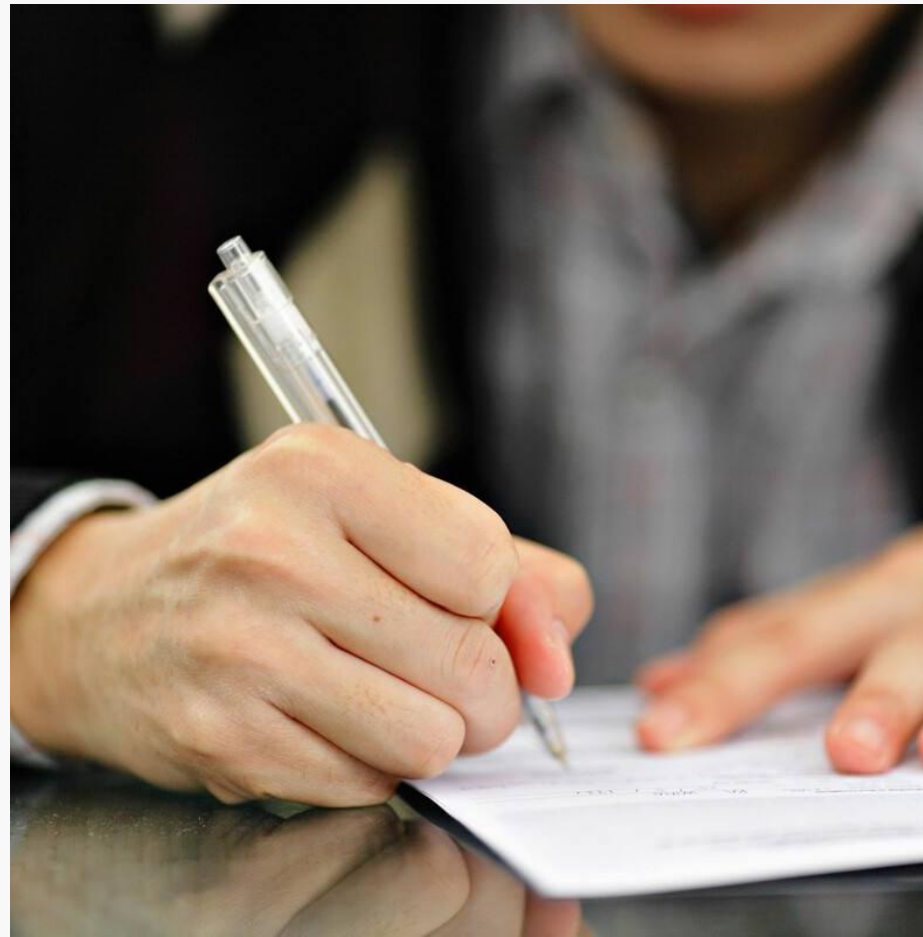
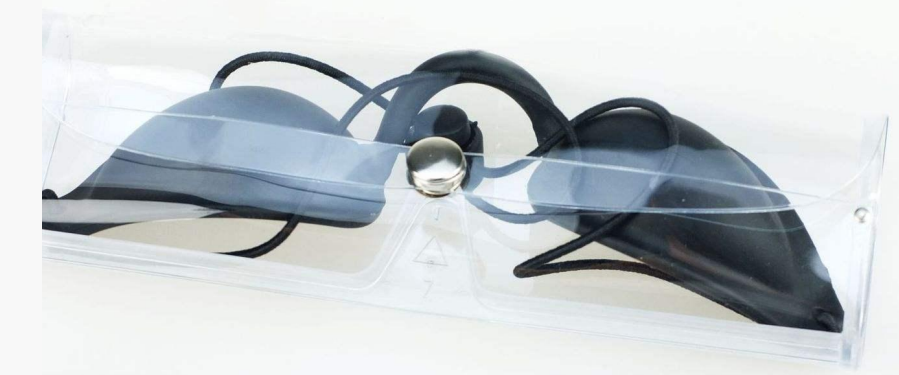
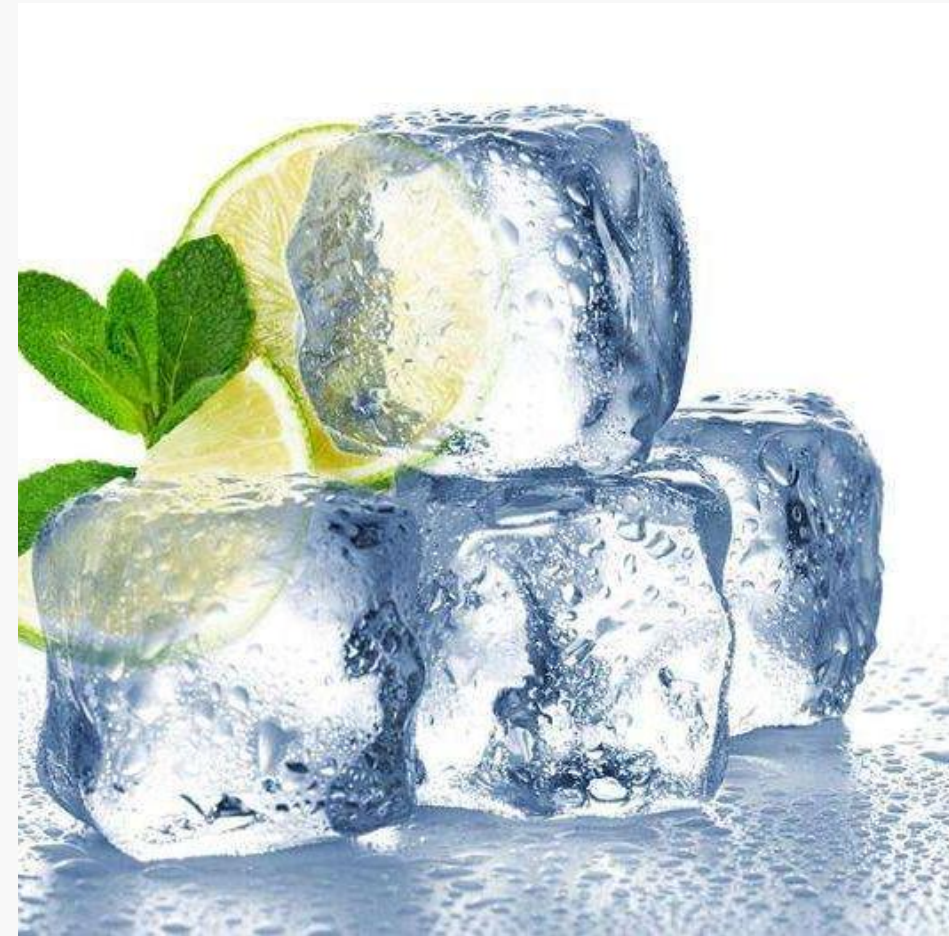
Cautions

- Patients with the following conditions should be treated with caution and per the physician's discretion.
- Medical history or presence of:
 - >Bleeding coagulopathies
 - >Concurrent inflammatory skin conditions (dermatitis, active acne, rosacea, etc.).
 - >Keloid scarring
 - >Herpes simplex; treatment can trigger a herpes outbreak; prophylactic antiviral therapy may be prescribed at the physician's discretion.
 - >Koebnerizing isomorphic diseases (vitiligo, psoriasis).
 - >Uncontrolled systemic diseases such as diabetes, epilepsy or congestive heart disease.
 - >Photosensitivity in general, or any sensitivity to the sun that causes a rash or an allergic reaction.
- Use or intake of:
 - >Oral Isotretinoin (such as Accutane) within six months of initial treatment (skin must regain its normal degree of moisture prior to treatment).
 - >Immunosuppressive diseases, including AIDS and HIV infection or use of immunosuppressive medications.
 - >Fillers or volumizers (within three months).
 - >Skin treatments such as chemical peel (especially phenol-based) or recent dermabrasion (within three months)
 - >Anticoagulants; avoid usage of anticoagulants prior to treatment, at the Physician's discretion.
 - >Photosensitive medications and/or herbal supplements, perfumes or cosmetics that may affect sensitivity to 1565nm laser wavelength.
- Following conditions:
 - >Damage to natural skin texture and/or very dry skin
 - >Post-inflammatory hyperpigmentation

Pre-treatment.

Tool Preparation :

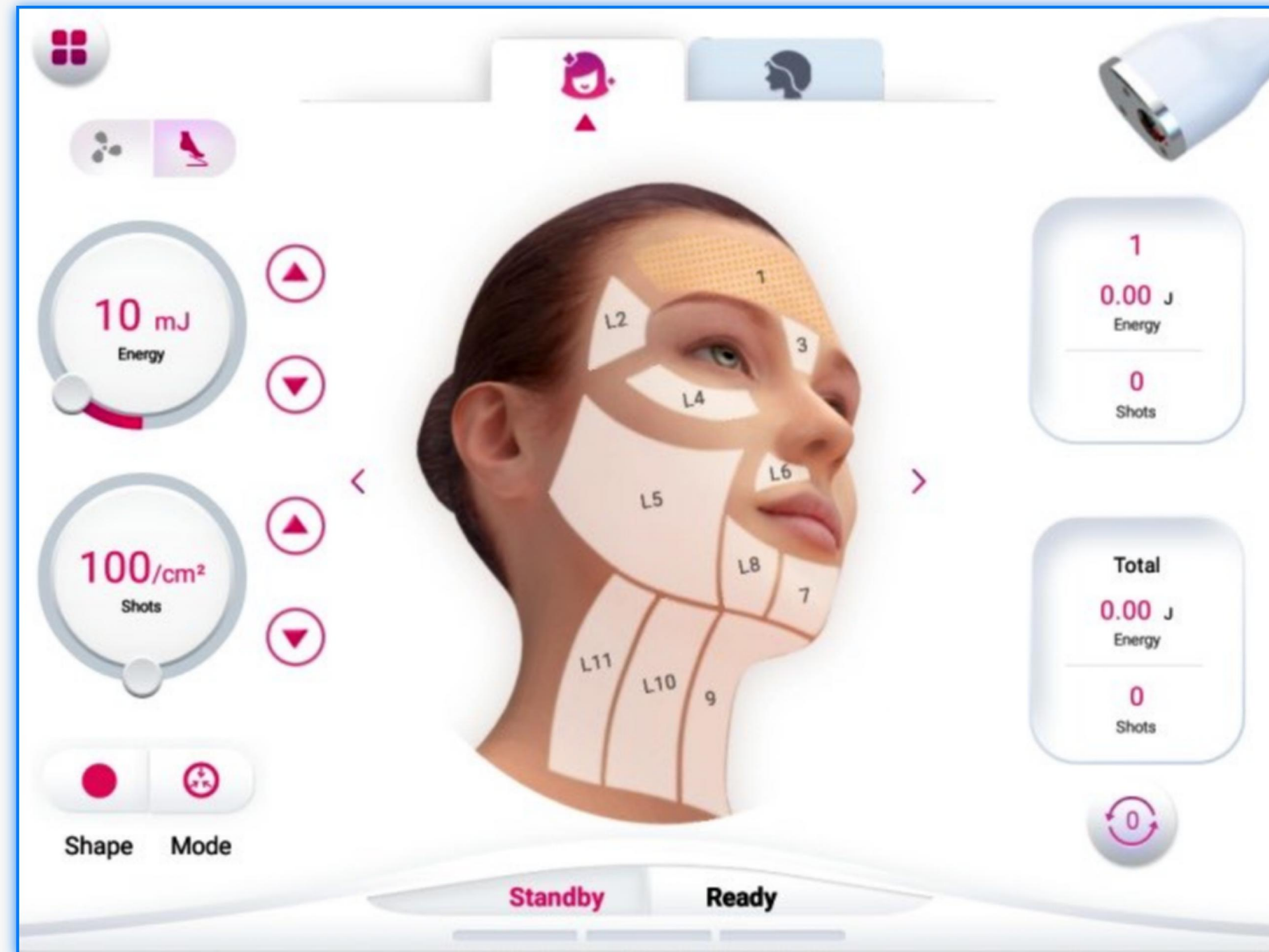
- The eye shield
- Anesthetic lidocaine
- Paper and pen to record parameter and
- Camera
- Mask
- Medical adhesive
- Ice pack
- ...



Pre-treatment.

Parameter definition :

- Energy (mJ) : Energy per pulse, max. 70mJ.
- Scanning density: max. 500 spots /cm²
- Scan modes: Sequential, Random, Scrambled scanning
- Scan shapes: Circle, triangle, Rectangle, Hexagon, Ellipse.
- Scan size: 20mm x 20mm



Clinical operation

Pre-treatment.

Treatment site preparation :

1. Remove hair by razorIt from the treatment site;
2. Clean skin, such as anesthetics to ensure clean, dry;
3. Medical adhesive covering nevus;
4. Skin test behind ear or under jaw;
5. Anesthetize with lidocaine for 30-40 minutes



Clinical operation

Treatment.

1. Select needed handpiece
2. Set the required parameters, including shape, area, scan mode, energy, spot density, and treatment site; The energy and light spot quantity of each site can be tracked through the selection of treatment sites; If follow-up is required, pay attention to zero clearance before treatment.
3. External cooling unit for skin cooling, Wingderm recommended Croyshot, it can automatically adjust the wind speed according to the set energy;
4. Click the Ready button in the treatment interface;
5. Allow no more than 10% of the laser repetition area during treatment;



Clinical operation

Treatment.

! One course includes 3-5 treatment, due to treatment areas a slightly different
 It determines whether to terminate the treatment based on the physician's opinion and patient's satisfaction with the effect

During laser treatment, the results are better if combined with some of the targeted melasma drugs (subject to the doctor's medication)

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm×20mm



Accu Tip

Scanning area:
10mm×10mm

*Please select the suitable graphic mode according to the actual indication area and shape

Disease	Skin type	Degree of depth	Energy 【mJ】	Density*
Melasma Treatment	I	Epidermis	25	450
		Intersection of dermis and epidermis	30	400
		Dermis	35	400
	II	Epidermis	25	450
		Intersection of dermis and epidermis	30	400
		Dermis	35	400
	III	Epidermis	20	450
		Intersection of dermis and epidermis	25	400
		Dermis	30	400
	IV	Epidermis	15	350
		Intersection of dermis and epidermis	20	300
		Dermis	25	300
	V	Epidermis	10	300
		Intersection of dermis and epidermis	15	250
		Dermis	20	250
	VI	Epidermis	10	250
		Intersection of dermis and epidermis	15	200
		Dermis	20	200

Clinical operation

Post-treatment adverse .

Possible side effects of treatment	The most common treatment side effects are
Discomfort	When pulse sed, some patients have different degrees of discomfort. Some describe it as tingling, while others compare it to a rubber-band elastic sensation. The burning / itching sensation may last for 1 hour after treatment. Most patients can tolerate this discomfort, but some patients may need local anesthesia, especially with the larger treatment surface.
Erythema	Erythema and edema (redness and swelling) are the most common side effects, occur immediately after laser treatment and usually relieve within 24 to 48 hours.
Damage to the normal skin texture	In rare cases, which take 5 to 10 days to heal. Small scattered hazel spots may appear for about 10 days. These spots can be easily covered by light makeup.
Changes in skin tone	The treatment area may change in skin color. Most cases of hyperpigmentation or hypopigmentation occur in patients with dark skin color, or with sun exposure in the treatment area before and after treatment. Pigmentation occurs even in some patients. This skin color change usually disappears from 3-6 months, but in rare cases, the pigment change (mainly hypopigmented) may last longer or be permanent. The choice of treatment parameters should be carefully considered, to reduce the post-inflammatory response, and to perform pre-treatment trial spots in an adequate time frame according to the skin type.
Scarring	The chance of scarring is very small, like a large, hyperplastic scar. In rare cases, abnormal, large, raised keloids may occur. Careful implementation of all post-treatment instructions as well as the exclusion of patients with a genetic scar tendency is important to reduce scar formation.
Excessive swelling	Especially in peripheral areas or additional facial areas (e. g., neck or chest and shoulder), transient swelling may occur in the skin immediately after treatment. The swelling usually resolves over hours to a maximum of 7 days.
Skin fragile	The skin in and around the treatment site may become vulnerable. If this happens, avoid makeup and do not rub this area, because this can cause peeling.
Fire burn	Very small chance of developing skin burns. To reduce the possibility of burns, it is most important to follow all treatment manipulation guidelines, especially for experimental spots.
	Trial sites were always performed in the expected treatment area of the first session.

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm×20mm



OST-15

Scanning width:
15mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Depth	Energy[mJ]	Density*
Pigmentation Treatment	I	Epidermal	30	350
	II	Epidermal	30	350
	III	Epidermal	30	300
	IV	Epidermal	25	250
	V	Epidermal	20	250
	VI	Epidermal	15	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



Accu Tip

Scanning area :
10mm × 10mm

*Match to the lesions' shape to set the parameter
“doughnut” is a special one which should set Shape
“Circle”, scan mode “Inward”, stop
laser shooting according to intention

Condition	Skin Type	Scar Type	Severity	Energy[mJ]	Density*
Acne Scars Treatment	I	Rolling	Mild	20	350
			Medium	30	350
			Severe	40	300
		Boxcar	Mild	25	350
			Medium	35	300
			Severe	45	300
		Icepick	Mild	35	300
			Medium	45	250
			Severe	50	200
	II	Rolling	Mild	20	350
			Medium	30	350
			Severe	40	300
Boxcar		Mild	25	350	
		Medium	35	300	
		Severe	45	300	
Icepick		Mild	35	300	
		Medium	45	250	
		Severe	50	200	

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



Accu Tip

Scanning area :
10mm × 10mm

*Match to the lesions' shape to set the parameter
“doughnut” is a special one which should set Shape
“Circle”, scan mode “Inward”, stop
laser shooting according to intention

Condition	Skin Type	Scar Type	Severity	Energy[mJ]	Density*
Acne Scars Treatment	III	Rolling	Mild	15	350
			Medium	25	350
			Severe	35	300
		Boxcar	Mild	20	350
			Medium	30	300
			Severe	40	300
		Icepick	Mild	30	300
			Medium	40	250
			Severe	45	200
	IV	Rolling	Mild	15	350
			Medium	25	350
			Severe	35	300
Boxcar		Mild	20	350	
		Medium	30	300	
		Severe	40	300	
Icepick		Mild	30	300	
		Medium	40	250	
		Severe	45	200	

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



Accu Tip

Scanning area :
10mm × 10mm

*Match to the lesions' shape to set the parameter
“doughnut” is a special one which should set Shape
“Circle”, scan mode “Inward”, stop laser shooting
according to intention

Condition	Skin Type	Scar Type	Severity	Energy[mJ]	Density*
Acne Scars Treatment	V	Rolling	Mild	15	300
			Medium	20	250
			Severe	25	200
		Boxcar	Mild	20	250
			Medium	25	200
			Severe	30	150
		Icepick	Mild	25	200
			Medium	30	150
			Severe	35	150
	VI	Rolling	Mild	20	250
			Medium	25	200
			Severe	20	150
Boxcar		Mild	25	200	
		Medium	30	150	
		Severe	25	150	
Icepick		Mild	30	150	
		Medium	35	150	
		Severe	20	150	

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



Accu Tip

Scanning area :
10mm × 10mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Surgical Scar Treatments: Atrophic	I	Mild	35	350
		Medium	40	350
		Severe	45	300
	II	Mild	35	350
		Medium	40	350
		Severe	45	300
	III	Mild	30	350
		Medium	35	350
		Severe	40	300
	IV	Mild	25	250
		Medium	30	200
		Severe	35	200
	V	Mild	20	250
		Medium	25	200
		Severe	30	200
	VI	Mild	15	200
		Medium	20	150
		Severe	25	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



Accu Tip

Scanning area :
10mm × 10mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Surgical Scar Treatments: Flat	I	Mild	35	350
		Medium	40	350
		Severe	45	300
	II	Mild	35	350
		Medium	40	350
		Severe	45	300
	III	Mild	30	350
		Medium	35	350
		Severe	40	300
	IV	Mild	25	350
		Medium	30	350
		Severe	35	300
	V	Mild	20	300
		Medium	25	300
		Severe	30	250
	VI	Mild	15	250
		Medium	20	200
		Severe	25	200

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



OST-15

Scanning width:
15mm



Accu Tip

Scanning area :
10mm × 10mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Skin Treatments: Skin Resurfacing	I	Mild	25	350
		Medium	35	350
		Severe	45	300
	II	Mild	25	350
		Medium	35	350
		Severe	45	300
	III	Mild	20	300
		Medium	30	300
		Severe	40	250
	IV	Mild	20	250
		Medium	25	250
		Severe	30	200
	V	Mild	20	250
		Medium	25	250
		Severe	30	200
	VI	Mild	15	200
		Medium	20	200
		Severe	25	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Accu Tip
Scanning area :
10mm × 10mm



OST-7
Scanning
width : 7mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Skin Treatments: Periorbital Wrinkles	I	Mild	30	350
		Medium	35	350
		Severe	40	300
	II	Mild	30	350
		Medium	35	350
		Severe	40	300
	III	Mild	30	300
		Medium	35	300
		Severe	40	250
	IV	Mild	25	250
		Medium	30	250
		Severe	35	200
	V	Mild	20	200
		Medium	25	150
		Severe	30	150
	VI	Mild	15	200
		Medium	20	150
		Severe	25	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



OST-15

Scanning width:
15mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Striae Treatments: Rubra	I	Mild	25	350
		Medium	30	300
		Severe	35	300
	II	Mild	25	350
		Medium	30	300
		Severe	35	300
	III	Mild	25	300
		Medium	30	250
		Severe	35	250
	IV	Mild	20	250
		Medium	25	200
		Severe	30	200
	V	Mild	15	200
		Medium	20	150
		Severe	25	150
	VI	Mild	15	150
		Medium	20	150
		Severe	25	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Effi Tip

Scanning area:
20mm × 20mm



OST-15

Scanning width:
15mm

*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Striae Treatments: Alba	I	Mild	30	350
		Medium	35	300
		Severe	40	250
	II	Mild	30	350
		Medium	35	300
		Severe	40	250
	III	Mild	30	300
		Medium	35	250
		Severe	40	200
	IV	Mild	25	250
		Medium	30	200
		Severe	35	150
	V	Mild	20	200
		Medium	25	150
		Severe	30	150
	VI	Mild	15	150
		Medium	20	150
		Severe	25	150

Clinical operation

Treatment Parameter recommendation

*Number of micro-beams per cm²

Suggested Treatment heads:



Grow Tip
Scanning area :
10mm × 20mm

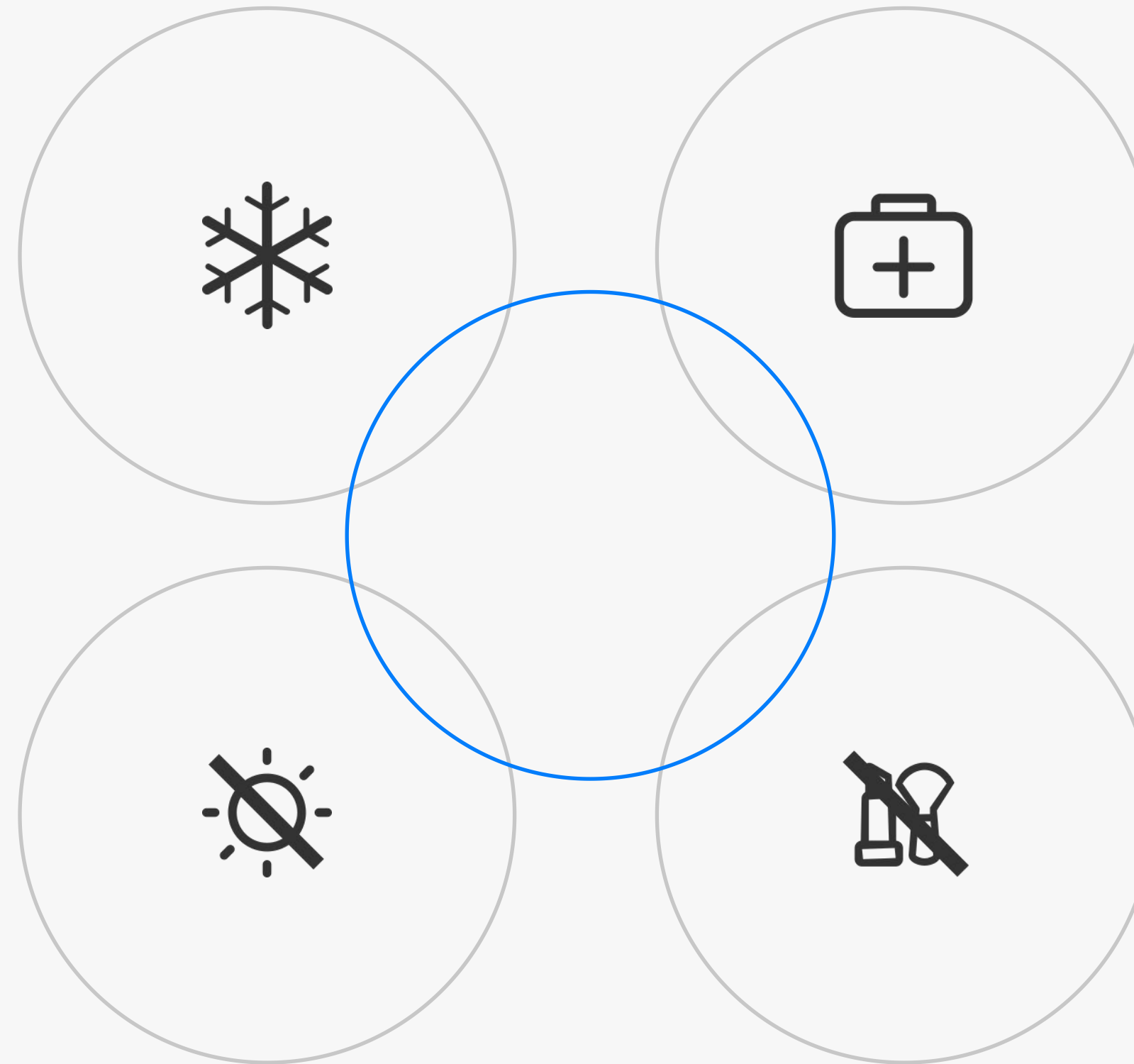
*Please select the suitable graphic mode according to the actual indication area and shape

Condition	Skin Type	Severity	Energy[mJ]	Density*
Hairloss	I	Mild	8	250
		Medium	9	200
		Severe	10	200
	II	Mild	8	250
		Medium	9	200
		Severe	10	200
	III	Mild	7	200
		Medium	8	150
		Severe	8	150
	IV	Mild	7	200
		Medium	8	150
		Severe	8	150
	V	Mild	5	150
		Medium	5	100
		Severe	6	100
	VI	Mild	5	150
		Medium	5	100
		Severe	6	100

Post-treatment.

Skin refrigeration

Cold packs should be applied immediately after treatment
Air cooler skin refrigeration if need



Prevent trauma

Prevent trauma to the treated area for the first four or five days following treatment: no hot bath, no aerobic exercise, massage, etc.

Avoid sunlight

Patients should use sunblock and protect the treated area from exposure to sunlight for at least one month following treatment.
Patients should use high factor (30–50 SPF) sun block and protect the treated area from exposure to sunlight for at least one month following treatment.

Avoid makeup

Advising against the use of makeup for four or five days following treatment.

Maintenance of the device.

- Maintenance of the device



Maintenance and inspection

Regular maintenance and inspection

It is very important to check the performance of the device on a regular basis to keep the device in the best working condition. The main inspection items are shown below:

Checking list	Frequency	Items
Power cord and power inlet	Once a week	
Footswitch, and connection socket	Once a week	No damage or connection problem
Front control panel and LCD touch screen	All times	No breakage, unnormal display or uncontrolled touch screen
Alignment	Once a Month	



Warning:
Any unauthorized maintenance, including spare parts replacement is prohibited.

Note:
If there is any problem inside the device, please contact Wingderm service department or authorized agent.

Cleaning the applicators

The part of the machine in contact with the patient body is the treatment tips. After each treatment, need to use absorbent cotton dipped in 75% medical alcohol to wipe clean;

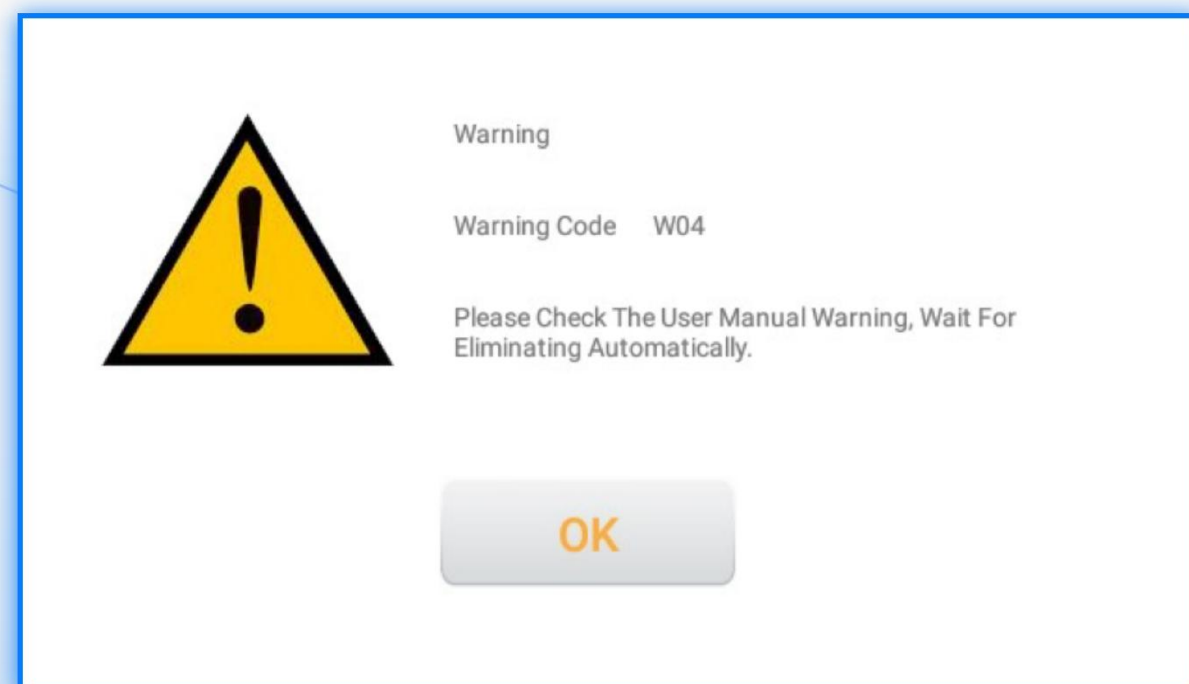
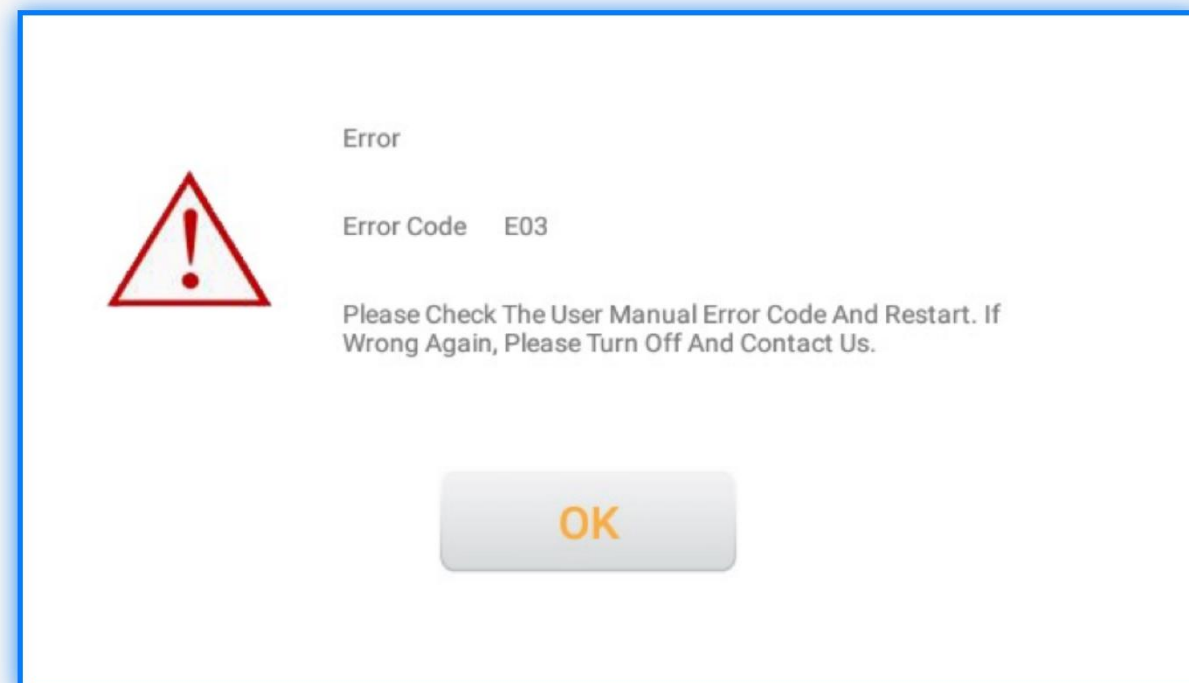
General Trouble shooting.

- General Trouble shooting



General Trouble shooting.

When the machine detects an abnormality, it will sound an alarm and display a pop-up window similar to the following:



Warnings and errors

If the machine fails, refer to the following table to find the cause of the failure, and take appropriate measures to eliminate the failure. More information, please contact Wingderm service department.

Level	No.	Reason	Solution
Warning	W04	The door interlock is not connected	Check if the door interlock switch is connected
	W05	Door interlock status	
Error	E00	Mainboard communication is abnormal	Contact Wingderm service department or refer to service manual
	E01	The galvanometer power supply is abnormal	
	E02	Laser power supply is abnormal	
	E03	Laser power is abnormal	
	E04	Red light is abnormal	
Error	E05	Laser PWM is abnormal	Release Emergency Stop
	E06	Emergency Stop Button is abnormal	
Error	E07	Galvanometer abnormal	Contact Wingderm service department or refer to service manual
	E08	Monitor Communication abnormal	
	E09	Handpiece Communication is abnormal	
	E10	ChillerCommunication is abnormal	

General Trouble shooting

There are solutions about failure phenomenon.

Failure phenomenon	Causes and troubleshooting
Nothing is displayed when the machine is powered on	Please check if the machine is not connected to the correct power source? Check whether the power cord is plugged into the power outlet and whether the power switch is in the "I" position? Is the emergency stop switch is pressed on?
Foot switch failure	The foot switch is not connected
The laser does not fall on the aiming light spot	The laser optical path offset, please check the laser optical path
When the foot switch is pressed on, there is no laser emission	The foot switch connection is not good The machine is not in the ready state (please check whether the "Ready" button is pressed)

Renuva® Clinical Training

Thank you for
watching.