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Clinical application training of fusion cold and hot plasma instrument

Safe operation, treatment head analysis, and technical comparison

Reporter: Guan Qingying

2025.6

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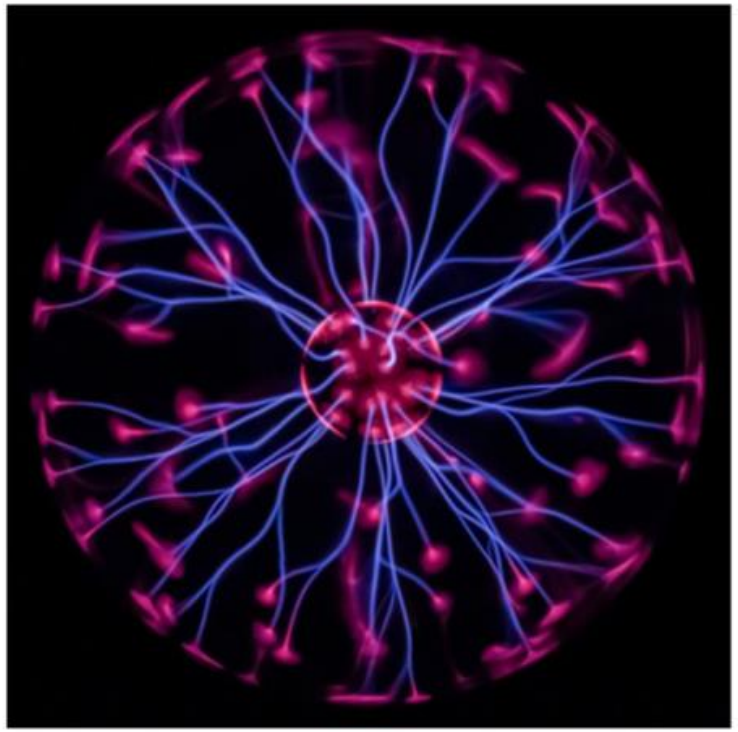


PART 01

Introduction to Plasma and Equipment Fundamentals

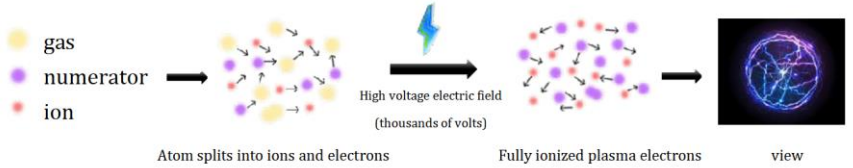

What is Plasma?

1.1The material form of plasma

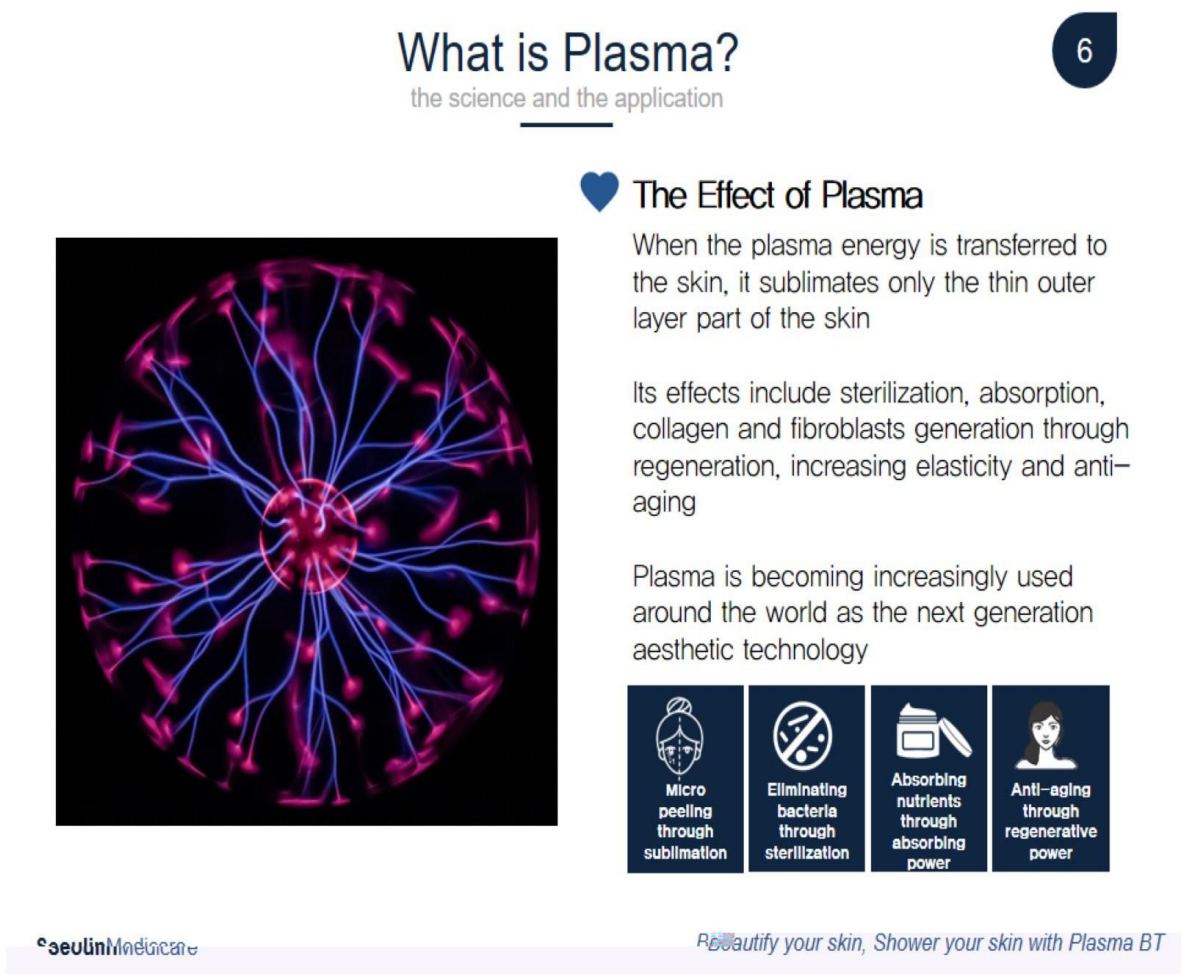
1、Definition: The fourth state of matter, composed of high-energy electrons, ions, and neutral particles, is produced by ionizing gas through a high-voltage electric field.

Plasma is the fourth state of matter, coexisting with the three states of matter: solid, liquid, and gas. Cold plasma is generated by low-temperature ionized gas molecules (in this case argon gas), forming high-energy ions and electrons. When plasma is applied to skin care procedures, it helps to clean the skin surface, kill bacteria, and stimulate skin cell regeneration, making it safe for the skin without causing damage.

Natural phenomena such as lightning and aurora are representative phenomena of plasma



- **The ionization generated by the application of energy free electrons to gas materials will change the gas state.**
- **The energy applied at this time includes various types such as heat, AC, DC, RF, etc。**
- **In the case of plasma, direct current is used as the energy source**



Disinfection: By using specific energy to destroy the structure of bacteria and other microorganisms, it achieves the effect of cleaning the skin.

Promoting absorption: may alter the surface structure of the skin and enhance the penetration efficiency of subsequent skincare ingredients.

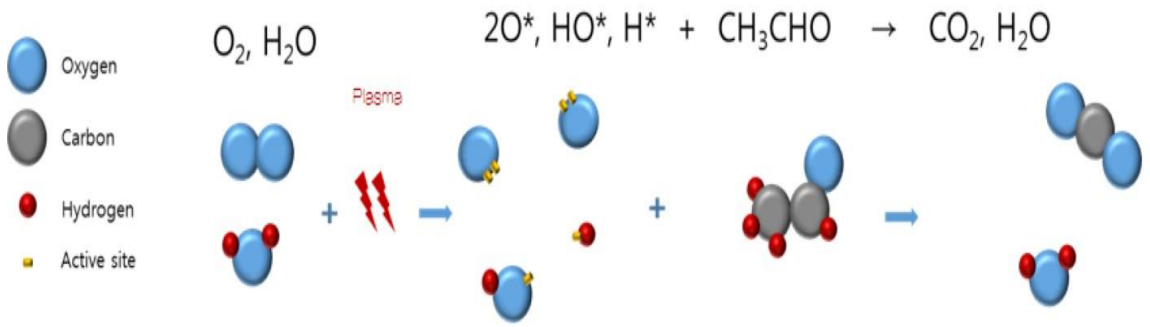
Increase collagen and fiber cells: Stimulate the skin's own repair mechanism, promote collagen and fiber cell proliferation, and improve skin elasticity and texture.

Anti aging: help reduce wrinkles and delay skin aging signs through the above cell level repair and regeneration.

What is Plasma?

the science and the application

Sterilization Mechanism by Plasma Radicals (e.g.: CH_3CHO)



01 Exerting high atmospheric pressure

Exerting high heat or pressure in atmosphere creates plasma radicals with broken molecular structure

02 Radicals trying to stabilize

The plasma radicals in broken molecular structure are in unstable state, and work to stabilize by combining with bacterial molecules

03 Sterilization

The plasma radicals combined with bacterial molecules break the bacterial molecules and turn them into molecules such as carbon dioxide and water, thereby causing effective sterilization effect

1.Apply high-energy atmospheric pressure

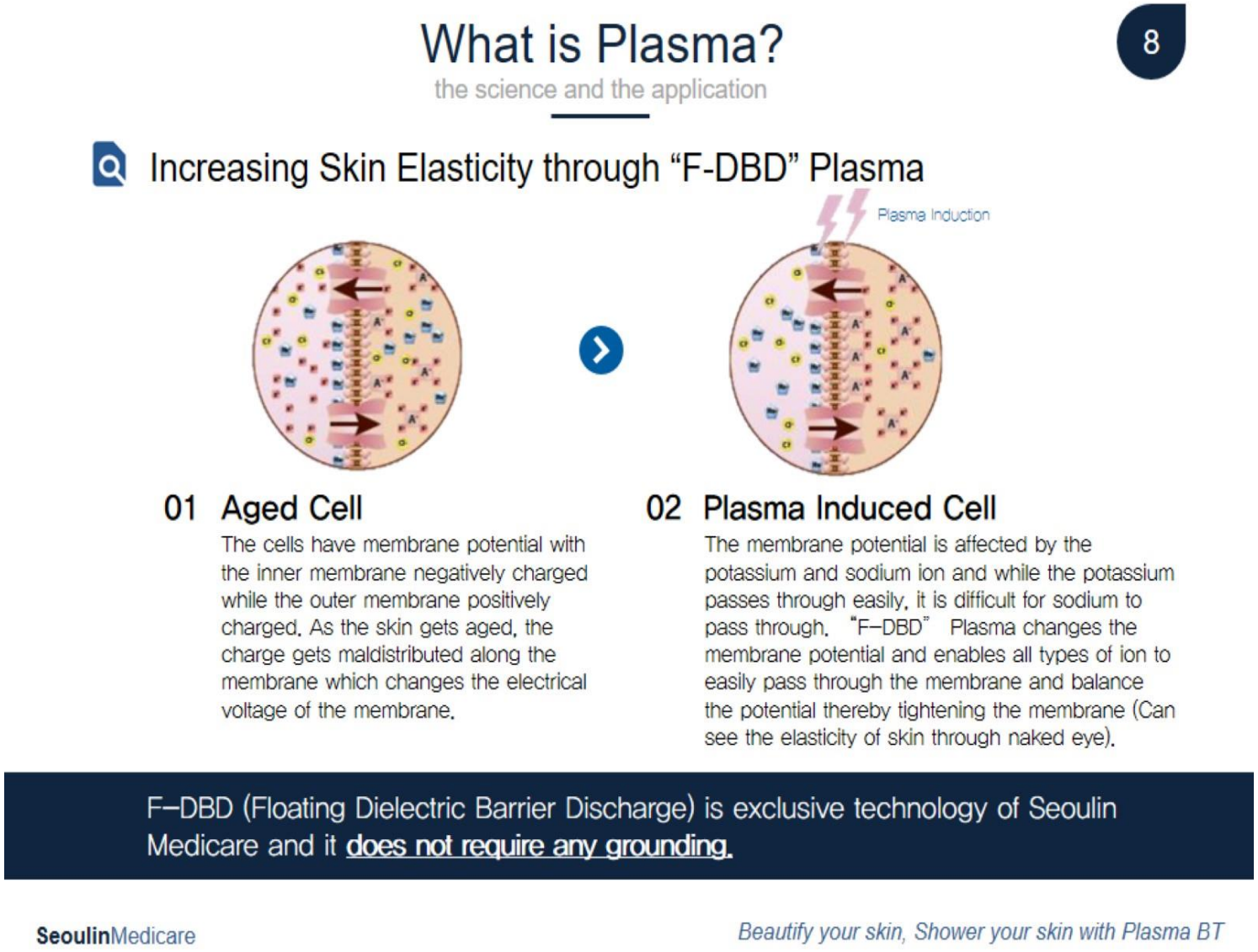
Applying high-energy heat or pressure in the atmosphere to generate plasma that breaks down molecules.

2.Stable functional group

The plasma groups in the broken molecular structure are in an unstable state and exert a stabilizing effect by binding with bacterial molecules.

3.sterilize

Plasma groups combine with bacterial molecules, destroying them and converting them into substances such as carbon dioxide and water, thereby producing effective bactericidal effects.



4. Aging cells

Cells have a membrane potential, with the inner membrane carrying a negative charge and the outer membrane carrying a positive charge. As the skin ages, the uneven distribution of charges changes the voltage of the cell membrane.

5. Plasma stimulation of cells

The membrane potential is influenced by potassium and sodium ions, with potassium ions easily passing through the cell membrane and sodium ions having difficulty passing through. F-DBD plasma can change the membrane potential, making it easier for various ions to pass through the cell membrane and balance the potential, thereby tightening the cell membrane (visible improvement in skin elasticity).

1.2Basic Equipment Information

1.3.1 Equipment Core Composition

▶component:

Host, gas storage cylinder (99.9% medical argon or 99.99% medical helium)

Treatment handle, 11 types of treatment heads

▶Technical parameters:

Power supply: AC 110-220V, power ≤ 100W

▶Depth of action:

Cold plasma 0.1-0.5mm, hot plasma 0.5-1.5mm

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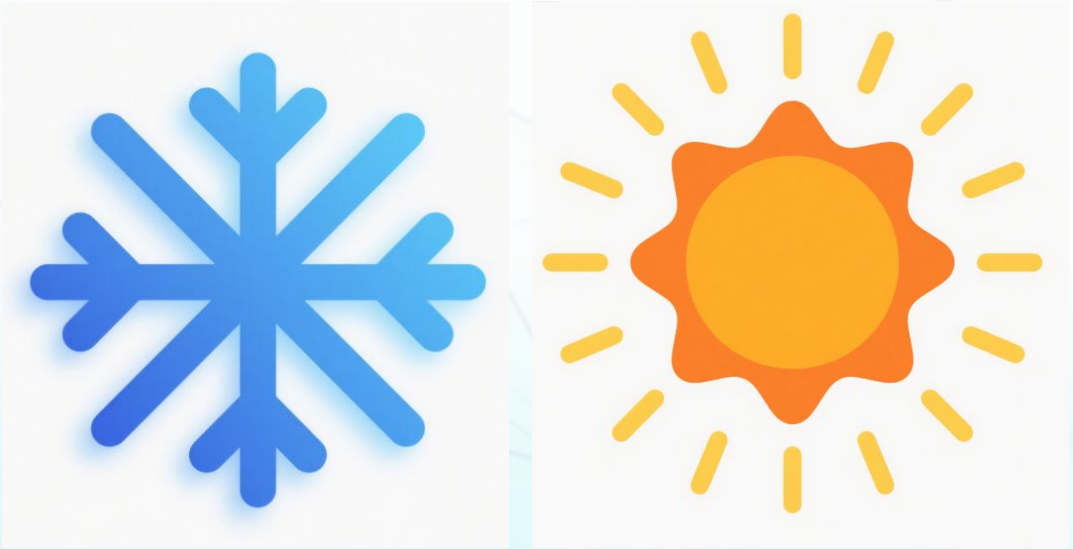


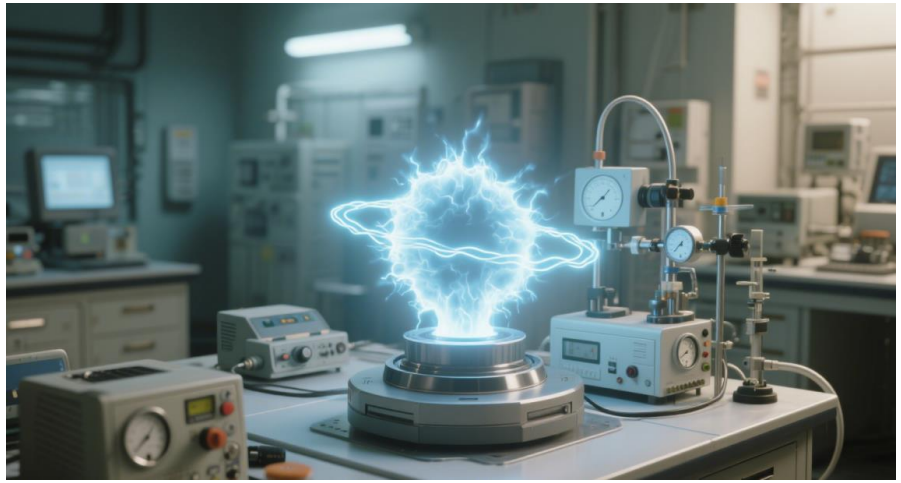
PART 02

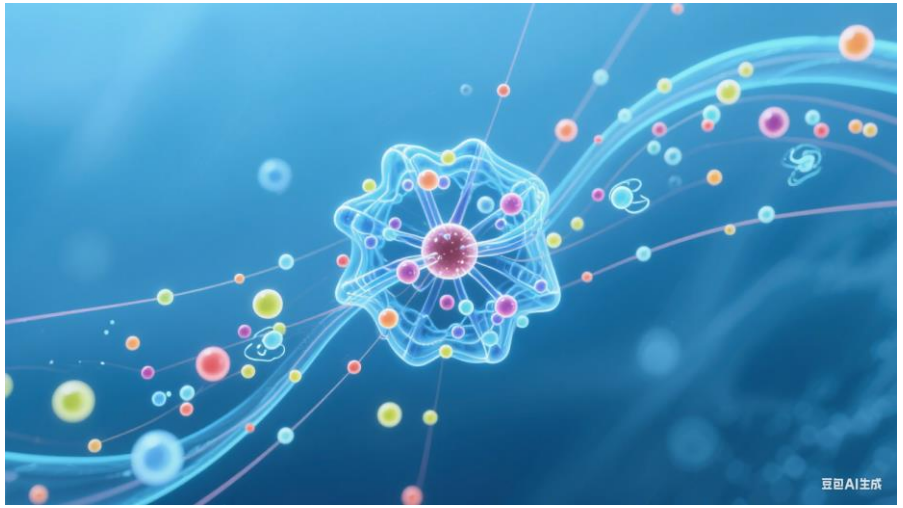
The difference between cold plasma and hot plasma

2.1Plasma classification

Plasma is classified into hot plasma and cold plasma based on the relative temperature of ion Ti and electron Te.

- Thermal plasma, also known as thermal equilibrium plasma, is in a high-temperature state. In nature, electrons and heavy particles are in thermodynamic equilibrium。
- During the low-temperature plasma discharge process, although the electron temperature is very high, the temperature of heavy particles is very low, and the entire system presents a low-temperature state, so it is called a cold plasma or non-equilibrium plasma.



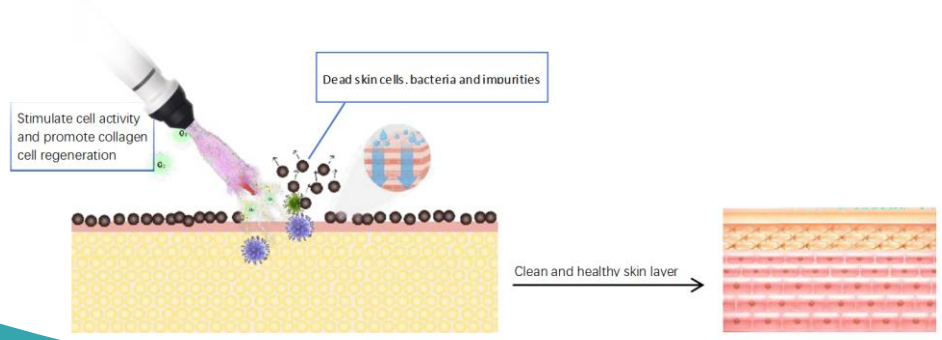


2.2 Differences between Cold Plasma and Hot Plasma

▶ Cold plasma (CAP): electron temperature 2-5 eV, heavy particle temperature ≤ 40 ℃, non-equilibrium state. This plasma produces active particles, including ions, electrons, and free radicals, suitable for sensitive skin repair, helps eliminate bacteria and viruses, and gently promotes skin cell regeneration without causing harm.

▶ Working principle: Unlike hot plasma, cold plasma does not utilize high temperatures to act on the skin. On the contrary, high-energy electrons in cold plasma stimulate chemical reactions, producing free radicals that can kill bacteria, clean the skin, and promote wound healing.

▶ Sensitive muscle repair: Reactive oxygen species (ROS) kill bacteria, regulate cellular redox status, and promote barrier protein synthesis.



▶ Thermal plasma: High temperature equilibrium state, temperature>70 ℃, even up to thousands of degrees Celsius, also known as high-temperature plasma, is a form commonly used in industrial processes for plasma, but has recently been applied in the field of aesthetics. Commonly used for strong impact on the skin surface to improve deep skin structure and for deep anti-aging.

▶ Working principle: The working principle of hot plasma is to use high temperature to evaporate the skin layer. This process stimulates skin regeneration, promotes the production of collagen and elastin, which are important components for maintaining skin firmness and elasticity.

▶ Anti aging mechanism: Hot plasma induces collagen degeneration, while cold plasma activates fibroblast regeneration.

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PART 03

Safety operation standards and taboo management

3.1Device disabled group

absolute contraindication

- Absolute contraindications include local metal foreign bodies, proximity to pacemakers, and severe liver and kidney failure;
- Pregnant women, infants, individuals with unstable blood pressure and extremely weak constitution;
- The use of fusion plasma in these situations may lead to serious complications Or equipment malfunction.

Use with caution for individuals

- Patients with metal implants, malignant tumors, vascular embolism, skin infectious diseases, and HPV positivity in the body;
- People who suffer from sleep deprivation, jet lag, drunkenness, and excessive fatigue;
- Skin color type IV or above (hot plasma is prohibited);
- These groups of people need to be particularly cautious when using fusion plasma devices,Avoid potential risks.

3.1 Device Disabled Groups

Do not use this device if you are using any of the following medications

●I am currently receiving skin care containing alpha hydroxy acids (AHA), beta hydroxy acids (BHA), retinoic acid, and azelaic acid, or have received such care in the past week.

●Have used isotretinoin (such as Accutane) or any form of retinoic acid (such as Roaccutane) in the past 6 months, which increases the risk of skin scratches, ulcers, and irritation.

●I am currently taking anticoagulants (including a large amount of aspirin) and should stop taking them for at least one week before each nursing session.

●We are currently using painkillers that reduce skin sensitivity to heat.

●I am taking medication that suppresses the immune system.

若皮肤状态存在以下情况时，请勿使用本设备

●The skin is in a state of irritation (redness or damage), sunburn, recent tanning, or severe tanning.

●If the skin belongs to type IV or higher (rarely or never sunburned, with darker skin tone), do not use hot plasma care. In this case, the risk of skin reactions such as hyperpigmentation, hypopigmentation, severe redness, or burns is extremely high. Before using this device, please refer to the following skin tone chart to confirm if the skin type is suitable.

Note: The above contraindications are not exhaustive. If you are unsure whether you can use this device, it is recommended that you consult your doctor.

3.2 Basic safety precautions

Human injury enhancement

●The operator should carefully read the product manual before using the equipment, and it is strictly prohibited for untrained non professionals to operate the equipment. In case of accidents, the main power switch should be turned off.

●Do not perform magnetic resonance imaging, surgical procedures, or defibrillation (especially cardiac shock) on the user during operation.

●Pregnant women, infants, and people who cannot express their feelings should not use this device.

●Individuals with high or unstable blood pressure should use this device with caution.

●During the treatment process, patients are advised not to perform maintenance or upkeep on the equipment or its components

Damaged device prompt

●There is a high-voltage energy storage capacitor inside the equipment. It is strictly prohibited for the equipment to be exposed to water, rain, or moisture. During use, it should be kept away from the water pool and a dehumidifier should be installed in the treatment room. It cannot be used outdoors. Once the equipment is invaded by water, it should be placed in a dry place and the company or its authorized agent should be notified for testing and handling.

●The treatment head that generates plasma has high voltage discharge, so flammable and explosive materials are not allowed around, and it cannot be used in an environment with oxygen mixed anesthesia gas or nitric oxide gas. Once a fire occurs and is extinguished, the company or its authorized agent should be notified for testing and handling.

●If there is obvious damage to the equipment or components, they should be immediately stopped from use and the supplier should be contacted for repair as soon as possible.

●Before using the device, verify that the power supply voltage matches the voltage value of the device.

●Choose a clean, stable, and flat surface, do not place it in a vibrating area, use a grounded socket with an automatic circuit breaker, and to avoid the risk of electric shock, this equipment must be connected to a power grid with protective grounding.

●Do not place the device in places where it is difficult to unplug the power plug.

●To ensure the safe termination of equipment operation by the operator, please turn off the main power switch or unplug the power plug.

3.3 Precautions for Operation

●Before operation, remove the metal jewelry items worn by the beauty seeker;

●Operators are required to wear disposable medical gloves and disinfect them to prevent intraoperative infections;

●Surgery near the eye area. Attention: When providing care, it is necessary to keep a safe distance from the patient's eyes. When using a pointed tip, inform the user to avoid frequent blinking and to prevent sharp probes from damaging healthy tissues. Avoid the danger of sharp probes damaging the skin! Before and after each use, the contact end must be cleaned and disinfected;

●Clean the skin: Before use, thoroughly clean the facial skin to remove dirt, oil, and makeup residue, to prevent these substances from affecting the effectiveness of the instrument or clogging pores during use, which can cause skin problems;

●Read the instruction manual: Read the product manual in detail to understand the functions, usage methods, scope of application, contraindications, and precautions of the instrument, familiarize yourself with the operation process and characteristics of the instrument, and ensure correct use;

●Whole parameters: According to the skin condition and tolerance level, gradually adjust the appropriate output power, frequency and other parameters from a lower energy level according to the instructions in the manual. Do not use too much energy at the beginning to avoid damage to the skin.

●Clean the skin: Before use, thoroughly clean the facial skin to remove dirt, oil, and makeup residue, to prevent these substances from affecting the effectiveness of the instrument or clogging pores during use, which can cause skin problems.

●Read the instruction manual: Read the product manual in detail to understand the functions, usage methods, scope of application, contraindications, and precautions of the instrument, familiarize yourself with the operation process and characteristics of the instrument, and ensure correct use.

●Adjust parameters: According to the skin condition and tolerance level, follow the instructions in the manual to gradually adjust the appropriate output power, frequency, and other parameters from a lower energy level. Do not use too much energy at the beginning to avoid damage to the skin.

●Maintain correct posture and distance: When using, keep the beauty device at an appropriate distance from the skin, usually around 1-2 centimeters, and move it on the face according to the correct operating technique to avoid staying in the same area for too long. Usually, stay in each area for 3-5 seconds to prevent excessive stimulation of the local skin..

●Avoid contact with sensitive areas: Avoid using cold plasma beauty devices on sensitive areas such as lips and nostrils, as their skin is fragile and susceptible to injury.

Avoid contact with sensitive areas: Avoid using cold plasma beauty devices on sensitive areas such as lips and nostrils, as their skin is fragile and susceptible to injury.

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PART 04

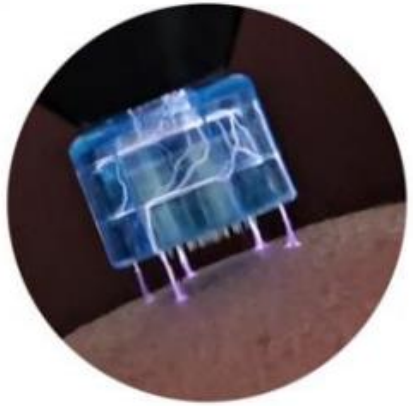
Complete analysis of clinical application of therapeutic head

Anti aging specialized treatment head

Rolling Plasma needle

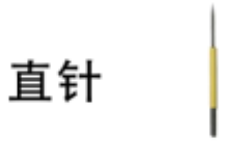
It is used for pockmarks, scars, rough skin, signs of aging (wrinkles, looseness), and skin renewal obstacles. When touching the skin at an angle of 45 °, stay for 3-5 seconds at each point, evenly spaced, and apply horizontally and vertically, avoiding multiple repetitions. It is used in combination with freeze-dried powder solution and essential oil to improve the effect. After the operation, it is cold applied for 15 minutes to relieve the burning sensation. Use a medical moisturizing facial mask twice a day. Avoid sauna and vigorous exercise for one week. Cooperate with essential oils to enhance the effect

Up-down plasma needle



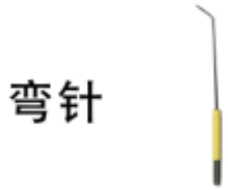
The innovative fusion of dot matrix microneedles and cold plasma technology is achieved through the use of pneumatic straight needles. During nursing, the lattice needles activated by cold plasma form a precise microchannel matrix on the surface of the skin. On the one hand, the synergistic effect of lattice physical stimulation and cold plasma energy targets the activation of deep skin collagen and elastic fiber regeneration. By significantly increasing the content of these core structural proteins, it efficiently smooths wrinkles, enhances firmness, and restores youthful, elastic, and radiant skin. On the other hand, cold plasma rapidly reaches deep tissues through microchannels, strongly promoting the metabolism and renewal of epidermal cells, accelerating the peeling of aging keratin, and guiding the tight and orderly arrangement of new cells.

Straight needle/Curved needle



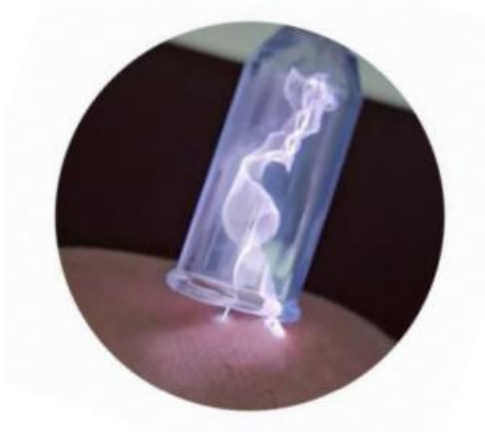
It is commonly used around the face to treat skin problems with wrinkles around the smile line and jawline. It can treat almost any part of the body. It is commonly used around the face to treat sagging skin problems with wrinkles around the smile line and jawline,

- **Raise the face, eyebrows, and neck.**
- **Improve acne scars, scars, postoperative scars, and stretch marks.**
- **Improve eyelid rejuvenation, fine lines, and tighten sagging skin.**
- **Treat various skin blemishes, pigmentation, moles, freckles, warts, skin growths, and fibroids**



Sensitive muscle specific treatment head

Hyper plasma



Hyper plasma is a well-designed, gentle, and safe cold plasma applicator that provides innovative solutions for multi effect skin care. Its core mechanism of action is to activate the biosynthesis of collagen and elastin in the skin, thereby significantly reducing fine lines, improving skin texture, and greatly enhancing the skin's absorption efficiency of skincare products. By precisely stimulating the production of collagen and elastin in relaxed areas, this device can effectively tighten the skin and reshape its elasticity.

Nozzle

The nozzle cold plasma applicator is an innovative skin care device that builds a cutting-edge multifunctional skin care system. It focuses on skin infection intervention and problem skin repair and healing. When the application is working, it can accurately release targeted ion energy, stabilize the skin surface microenvironment, and demonstrate significant care effects on vitiligo, acne (active period), and other skin infections. The ion beam it sprays has strong antibacterial properties, which can effectively reduce inflammation, inhibit the spread of infection, and strongly promote the healing and regeneration mechanism of the skin itself.

Beauty pla

Beauty PLA uses advanced high-frequency voltage technology to generate plasma by applying high frequency and high voltage in the atmosphere. Transporting stable plasma to the tip of the probe, through stimulation and biochemical processes, stabilizes internal and skin treatment mechanisms, has anti-inflammatory and antibacterial effects, soothes and relieves itching, regulates oil secretion, and other issues.

Scalp Treatment Head

Hyper plasma

As a professional cold plasma scalp care application, Hyper plasma's core mechanism is to effectively increase the permeability of the scalp stratum corneum by releasing cold plasma, significantly improving the penetration and absorption efficiency of subsequent care products. This process can deeply activate scalp hair follicle cells that are in a dormant or sub healthy state, reshape the healthy ecology of the scalp microenvironment, and have significant advantages in promoting hair growth and preventing hair loss, demonstrating good potential for improving various hair loss problems.

Eye circumference treatment head

Diamond plasma

Diamond plasma: Specially designed to improve skin elasticity and firmness, it is an ideal tool for treating sagging skin, enhancing firmness, and restoring skin vitality, providing a smooth and youthful appearance.
It can be used to lift and tighten the neck, eyelids, cheeks, and other areas for treatment.

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PART 05

Standardized operating procedures and parameters

preoperative preparation

Skin assessment

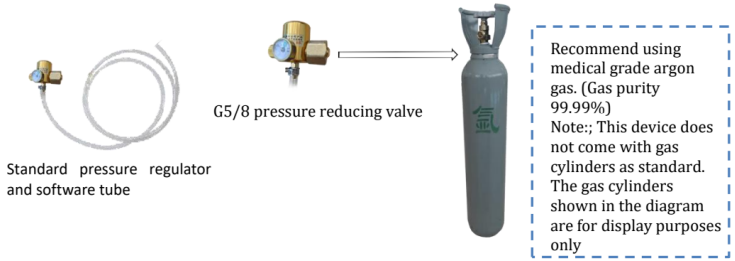
Preoperative testing of skin TEWL value (transcutaneous water loss) and melanin index is required. Patients with a melanin index greater than 160 are prohibited from using hot mode to avoid the risk of pigmentation.

Equipment calibration

Note: The above contraindications are not exhaustive. If you are unsure whether you can use this device, it is recommended that you consult your doctor.

Equipment calibration

Verify the gas pressure (0.2-0.3MPa) and handle distance to ensure the normal operation of the equipment. Check the power connection and



Example of operating parameters

Sensitive muscle redness

Use a U-shaped ion head with 3-4 levels of energy, and hold each part for 3-5 seconds, twice a week for a total of 4 times. Daily wiping of repair factors after surgery

Mandibular line
eye circumference laxity

Use plasma straight needle/curved needle, energy level 3-6, action time 1.5 seconds/point, with an interval of 4 weeks. Keep the wound dry after operation, and use silicone gel to fade the scar or erythromycin ointment to repair the wound

Acne pit

Use an air roller needle with 3-5 levels of energy, hold for 3-5 seconds at each point, once a week for a total of 6 times. Cold compress for 15 minutes after operation, use medical moisturizing facial mask twice a day.

Postoperative precautions

01

Burning sensation in the nursing area

A burning sensation may occur in the postoperative care area, which is a normal phenomenon. It is necessary to wipe the repair factor daily, avoid strong light exposure, and avoid spicy food.

02

Postoperative recovery period management

During the postoperative recovery period, it is important to pay attention to skin moisturizing and sun protection. Avoid sauna and vigorous exercise for one week, supplement with vitamin C (500mg/d) to promote skin repair.

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PART 06

The differences and advantages and disadvantages of Fusion plasma compared to RF and laser

Comparison Table of Fusion Cold and Hot Plasma, Radio Frequency, and Laser Technologies

Comparing dimensions	Fusion cold and hot plasma technology	Radio Frequency (RF) Technology	laser technology
mechanism	-Cold plasma: High energy electrons produce reactive oxygen species (ROS) and nitrogen species (RNS), damaging bacterial DNA and regulating cellular metabolism - Hot plasma: High temperature ionized gas, stimulating collagen denaturation and remodeling	High frequency electromagnetic waves generate resistance heat, heating collagen fibers in the dermis layer, inducing contraction and regeneration	Selective photothermal effect: Specific wavelengths of light are absorbed by pigments/hemoglobin, resulting in thermal or photolytic effects
forms of energy	Ionized gas (cold/hot plasma)	Electromagnetic waves (frequency typically 0.3-10MHz)	Monochromatic light (such as 1064nm, 532nm, and other wavelengths)
temperature control	Cold mode: ≤ 40 ° C (non thermal effect) Hot mode: ≤ 100 ° at 1mm tip	The temperature of the dermis layer can reach 55-65 ℃ (the epidermis needs cooling protection)	Local temperature can reach several hundred ℃ (depending on wavelength and pulse width)
depth of interaction	-Cold plasma: 0.1-0.5mm (epidermis and superficial dermis) - Hot plasma: 0.5-1.5mm (deep dermis)	0.5-3mm (depending on RF type, such as microneedle RF deeper)	0.1-5mm (adjustable according to wavelength, such as CO_2 laser reaching deep dermis)
Core indications	-Cold plasma: sensitive muscle repair, acne, superficial scars, inflammation management - Hot plasma: deep wrinkles, stretch marks, skin growths	Skin sagging, wrinkles, stretch marks, mild scars	Pigmented diseases (such as freckles, tattoos), hair removal, vascular disorders, deep scars
advantage	-Cold mode: non thermal damage, suitable for sensitive muscles and inflamed skin - Hot mode: combines collagen stimulation and tissue remodeling, with adjustable depth of action - broad-spectrum antibacterial and anti-inflammatory, promoting wound healing	-Non exfoliative, minimal epidermal damage - uniform energy distribution, suitable for large-area treatment - can be combined with microneedles to enhance penetration	-Strong targeting ability, significant effect on pigment/vascular problems - ablative lasers (such as CO_2) have outstanding therapeutic effects on deep scars
disadvantage	-Improper operation in hot mode poses a risk of thermal damage - the treatment head needs to be cleaned frequently to maintain the efficiency of active particles	-High pain level (requiring external anesthesia) - Dark skin (Fitzpatrick type IV-VI) poses a risk of burns	-Long recovery period of ablative laser (5-10 days) - risk of pigmentation (especially Asian skin color) - need to avoid strong light exposure
safety design	-Triple protection: temperature overload power-off, gas flow monitoring, operation timeout standby - no need for skin cooling in cold mode	-Usually equipped with a skin cooling system (such as sapphire contact heads)	-Strictly match wavelength and skin color to avoid photothermal damage
Core parameters of equipment	-Power supply: AC 110-220V, power ≤ 100W - Gas: Medical grade argon gas (purity 99.99%)	-Power: 10-100W (adjustable by mode) - Frequency: 0.5-1MHz	-Energy density: 5-100J/cm ² - Pulse width: nanosecond to millisecond range

Comparison table of clinical applications of fusion cold and hot plasma, radiofrequency, laser and sensitive muscle repair, anti-aging

Comparing dimensions	Fusion cold and hot plasma technology	RF technology	laser technology
mechanism	Low temperature plasma generates reactive oxygen species and helium oxygen particles, which are anti-inflammatory, promote barrier repair, and collagen regeneration.	High frequency electromagnetic waves heat the dermis layer, stimulate collagen contraction and regeneration, and improve relaxation.	The photothermal effect selectively acts on target tissues (pigments, blood vessels), stimulating collagen regeneration.
effectiveness	-Quickly relieve redness and burning, increase barrier repair rate by 63% - gently stimulate collagen, improve fine lines and mild relaxation	-Significantly improve skin firmness, increase collagen density by 30% -50% - better than plasma in improving deep wrinkles	-Precise improvement of vascular problems (red blood streaks, acne erythema) - ablative laser has a significant effect on moderate to severe relaxation
safety	-Non invasive, no thermal injury, suitable for acute sensitive period with few side effects (transient erythema incidence<5%)	-Multi pole radiofrequency combined with epidermal cooling reduces the risk of burns - metal implant sites and acute inflammation are prohibited	-Low energy lasers (such as 1064nm) have high safety - exfoliative lasers (such as CO_2) pose a risk of scarring and color fading
recovery period	No downtime, normal skincare can be achieved after treatment	Mild redness and swelling for 1-2 days, not affecting daily activities	-Non exfoliative: redness and swelling for 1-3 days - exfoliative: scabbing period for 7-10 days, requiring work stoppage for 1-2 weeks
For the crowd	-Acute sensitive period, inflammatory sensitive muscle (with acne erythema) - suitable population for repair after phototherapy	-Sensitive muscles with relaxation and mild facial sagging during stable period	-Sensitive skin with red blood streaks and dull color after inflammation - non exfoliative suitable for mild skin improvement, exfoliative suitable for moderate to severe anti-aging
Number of treatments/maintenance period	3-6 sessions per course, maintained for 6-12 months, requiring regular consolidation	3-5 sessions per course, maintained for 1-2 years, 1-2 maintenance sessions per year	-Non exfoliative: 3-5 times, with an interval of 3-4 weeks - exfoliative: 1-2 times, with an interval of 3-6 months, maintained for 2-3 years
cost	Medium to high, priced between 2000-4000 yuan per order, requiring cooperation in repairing the product	Medium, priced between 1500-3000 yuan per use, with significant differences in the effectiveness of household instruments	High, single stripping cost 3000-8000 yuan, high cost of complication management
Typical drawbacks	-Mild anti-aging effect, limited improvement in deep wrinkles - requires professional operation to avoid excessive ionization	-Prohibited during sensitive and active periods, improper energy may cause thermal damage - long-term overuse may lead to fat dissolution	-Long recovery period for peeling, high risk of dark skin color darkening - strict sun protection is needed to prevent anti blackening

Clinical combination therapy 1+1>2

1.Priority of sensitive muscle repair:

●Acute sensitive period: fusion cold and hot plasma or low-energy laser (such as 1064nm IPL) is preferred.
●Stable period: RF (multipole mode) or non ablative laser combined with barrier repair products.

2.Anti aging needs selection:

●Mild relaxation: fusion cold and hot plasma or multipole radiofrequency;
●Moderate to severe relaxation: Monopolar radiofrequency or ablative laser (skin tolerance needs to be evaluated).

3. Combination therapy strategy:

●2-4 weeks after plasma repair of the barrier, radiofrequency can be combined to strengthen and tighten it; Repair dressings (such as ceramide containing products) should be used immediately after laser treatment.

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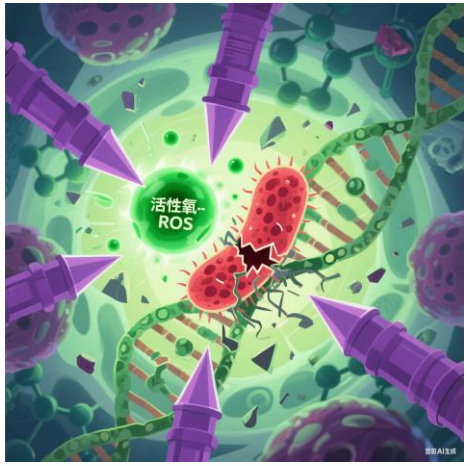
PART 07

The role and application scenarios of plasma in medical aesthetics

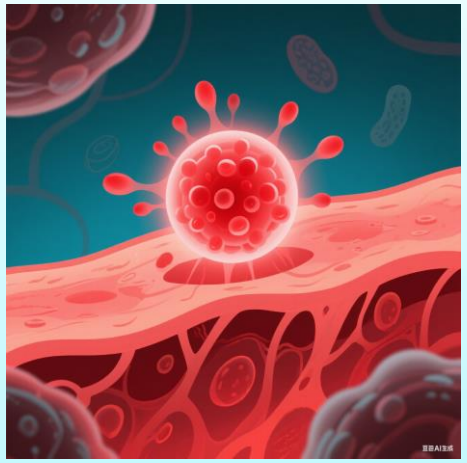
Triple mechanism of cold plasma repair for sensitive muscles

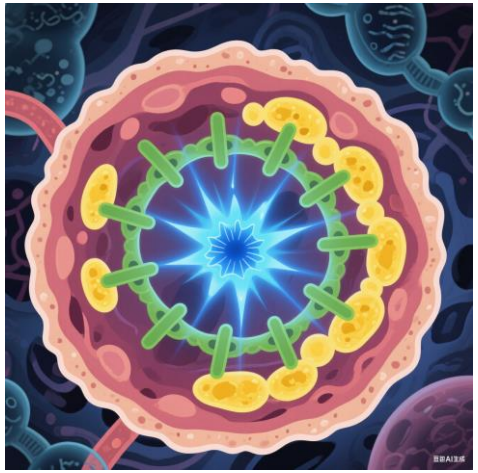
1. Antibacterial and bactericidal: Reactive oxygen species (ROS) and nitrogen species (RNS) destroy the DNA and protein structures of microorganisms such as Propionibacterium acnes.
2. Barrier repair: Regulate the redox state of cells and promote the synthesis of tight junction proteins (such as Claudin-1) in the stratum corneum.
3. Inflammation suppression: Reduce the release of pro-inflammatory factors (such as TNF - α), alleviate skin redness and burning sensation。

4. Cold plasma generation conditions:
Gas: Medical grade argon gas (purity ⩾ 99.99%), rapidly discharged and ionized through high-voltage electrodes.
Energy control: electron density ⩾ $1.0 \times 10^{12}/cm^3$, ensuring sufficient concentration of active particles for sterilization and repair.



The green reactive oxygen species (ROS) and purple nitrogen species (RNS) generated by fusion plasma are attacking the red Propionibacterium acnes, causing the DNA and protein structures of Propionibacterium acnes to begin to disintegrate





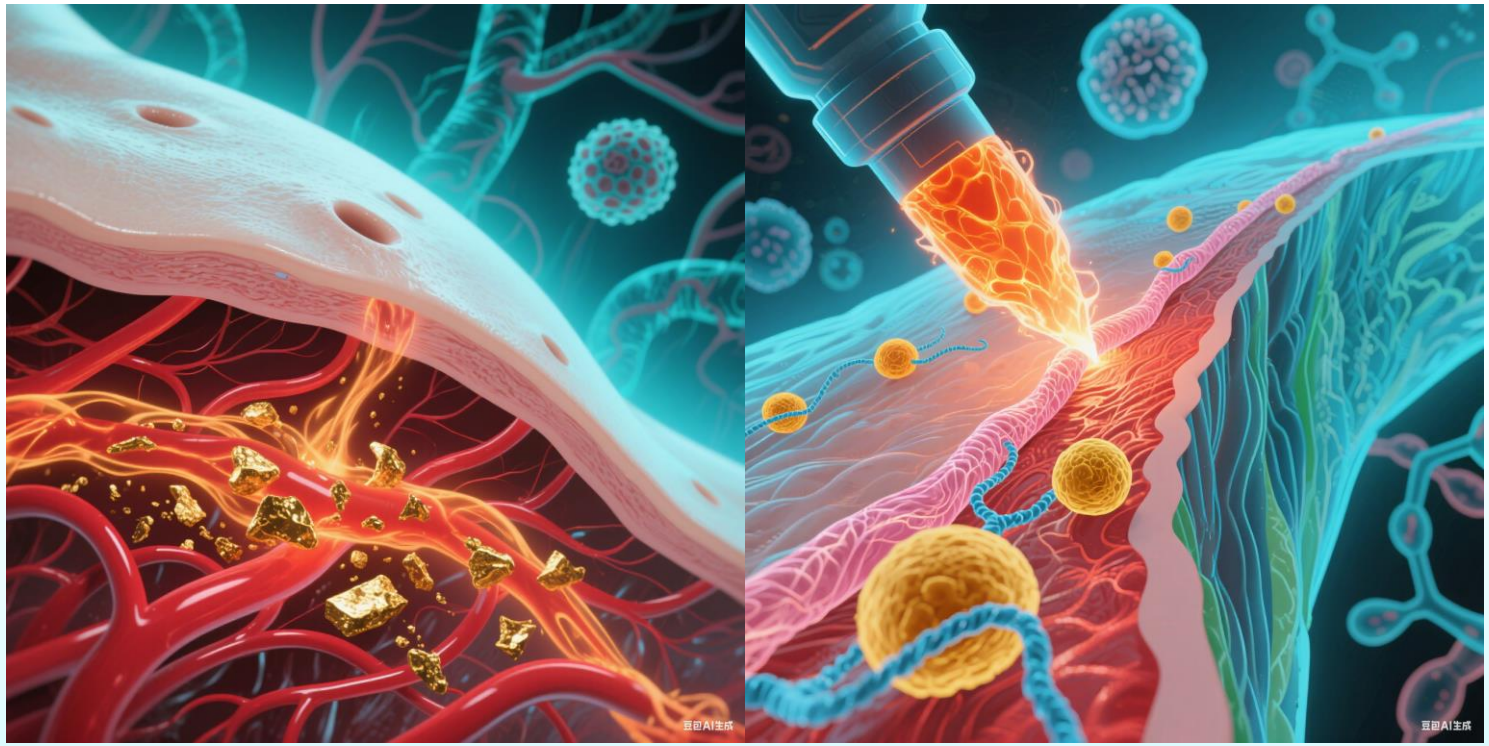
Fusion plasma reduces the release of pro-inflammatory cytokines (such as TNF - α) from cells that originally released a large amount, resulting in a significant decrease in the number of red pro-inflammatory cytokines. The redness and burning sensation of the skin (represented by a red halo) are also gradually reduced.

Under the action of fusion plasma, the redox state inside the cell is regulated, resulting in a blue regulatory signal, while a yellow substance promotes the synthesis of the green tight junction protein (Claudin-1) in the stratum corneum.

Biological effects of thermal plasma anti-aging

1. Inducing the contraction of collagen fibers in the dermis through high temperature, stimulating fibroblasts to synthesize new collagen, and improving wrinkle depth.
2. Promote angiogenesis and local blood circulation, accelerate the elimination of metabolic waste, and enhance skin elasticity.

3. Thermal plasma safety threshold: The temperature at 1mm of the needle tip should be ⩽ 100 ℃ to avoid exceeding the skin's tolerance limit (the threshold for dermal injury is about 60 ℃)

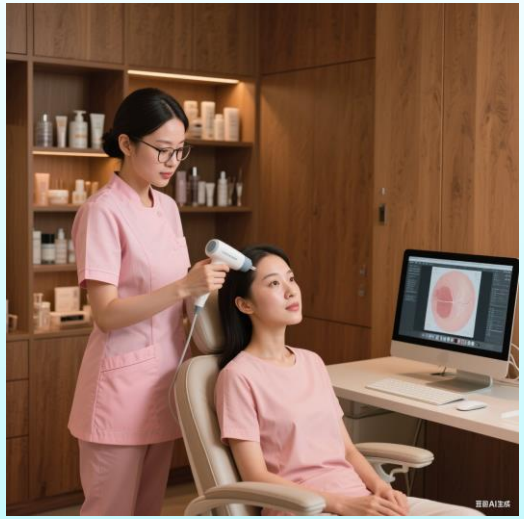


Application scenarios of fusion plasma

Medical beauty institutions

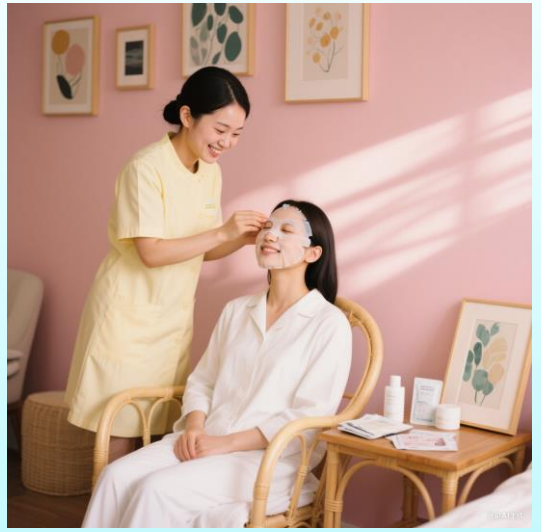
Life Beauty Salon

Image Design Studio



Scalp Overflow Care Center

Sumi Nails



Skin Management Club Center

Fusion plasma therapy case

Tightening eyelids

Skin rejuvenation and wrinkle reduction

Anti inflammation and acne removal

wound healing

2025

LaserTell®
Sharing better MediCare

PART 0

Core Tips and Emergency Contact

Maintenance

Maintenance of work handle and probe

Wipe the probe with a damp tissue and disinfect it with 75% alcohol after use. Regularly check the handle connection to ensure there is no looseness or damage.

Host maintenance

Clean the host with a dry cloth every week to prevent liquid from entering. Check the power cord and interface to ensure there is no aging or damage.

Fault handling

01

Check the power connection and replace the fuse. Ensure that the socket is grounded and the voltage matches.

No display when turned on

02

Check the temperature threshold and reinstall the handle. Ensure that the handle is securely connected to the host without any looseness.

Handle has no output

03

Immediately dry the equipment and contact the manufacturer for testing. Prevent water from entering the equipment and causing short circuits or damage to the circuit.

Equipment water ingress

Core prompt

operating principle

The operation must follow the principle of "low-energy starting and individualized adjustment", and non professionals are strictly prohibited from operating. Ensure the safety of patients and operators.

Warranty and after-sales service

The equipment is covered by a one-year warranty and the accessories are covered by a three-month warranty. Unauthorized disassembly and assembly will result in the loss of warranty eligibility. Urgently contact the manufacturer's after-sales service hotline to ensure timely troubleshooting.

Emergency contact

Manufacturer's after-sales service hotline

Customer Service Hotline:

Online Service

Official website:

After sales service address:

You are our pursuit! If you have any suggestions or opinions, please feel free to give feedback at any time. We will wholeheartedly improve to your satisfaction!