

Clinical Guide--CO2 Fractional Laser

Vaginal Therapy



Model: CF-30



Model: L300

Content

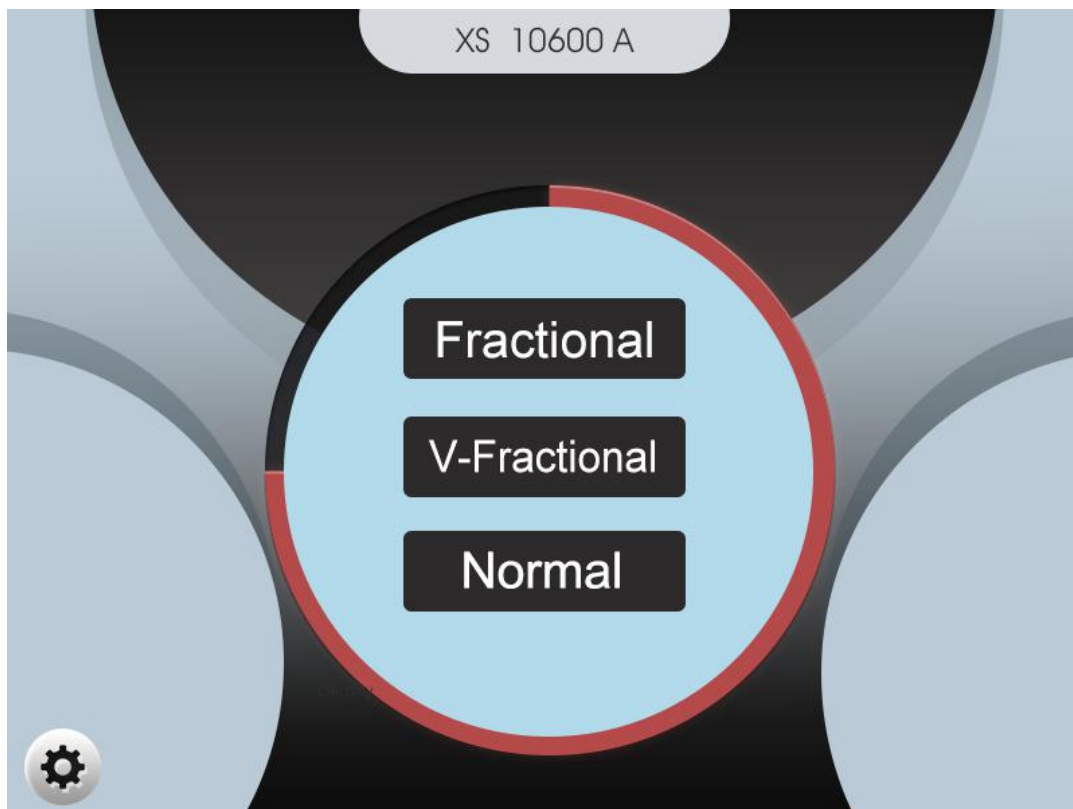
Chapter 1 Application.....	1
Chapter 2 Software Operation.....	1
Chapter 3 Introduction to the treatment head.....	5
Chapter 4 Preparations before Treatment.....	10
Chapter 5 Treatment.....	16
Chapter 6 Post-operative Care.....	18
Chapter 7 Suggestions for treatment parameters.....	19

Chapter 1 Application

- ◆ Vulvar atrophy
- ◆ Labia Majora Tightening
- ◆ Improvement of vulva color
- ◆ Color improvement
- ◆ Vaginal dryness
- ◆ Vaginal health (sensitivity, lubrication improvement)
- ◆ Vaginal Tightening
- ◆ Stress Urinary Incontinence (SUI)
- ◆ Mild uterine prolapse

Chapter 2 Software Operation

Turn on, and select the V-Fractional mode

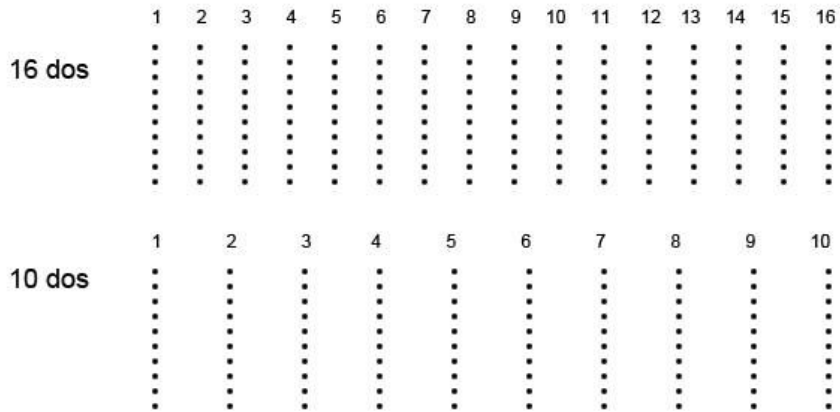


Enter the V-Fractional mode and adjust the interface treatment parameters



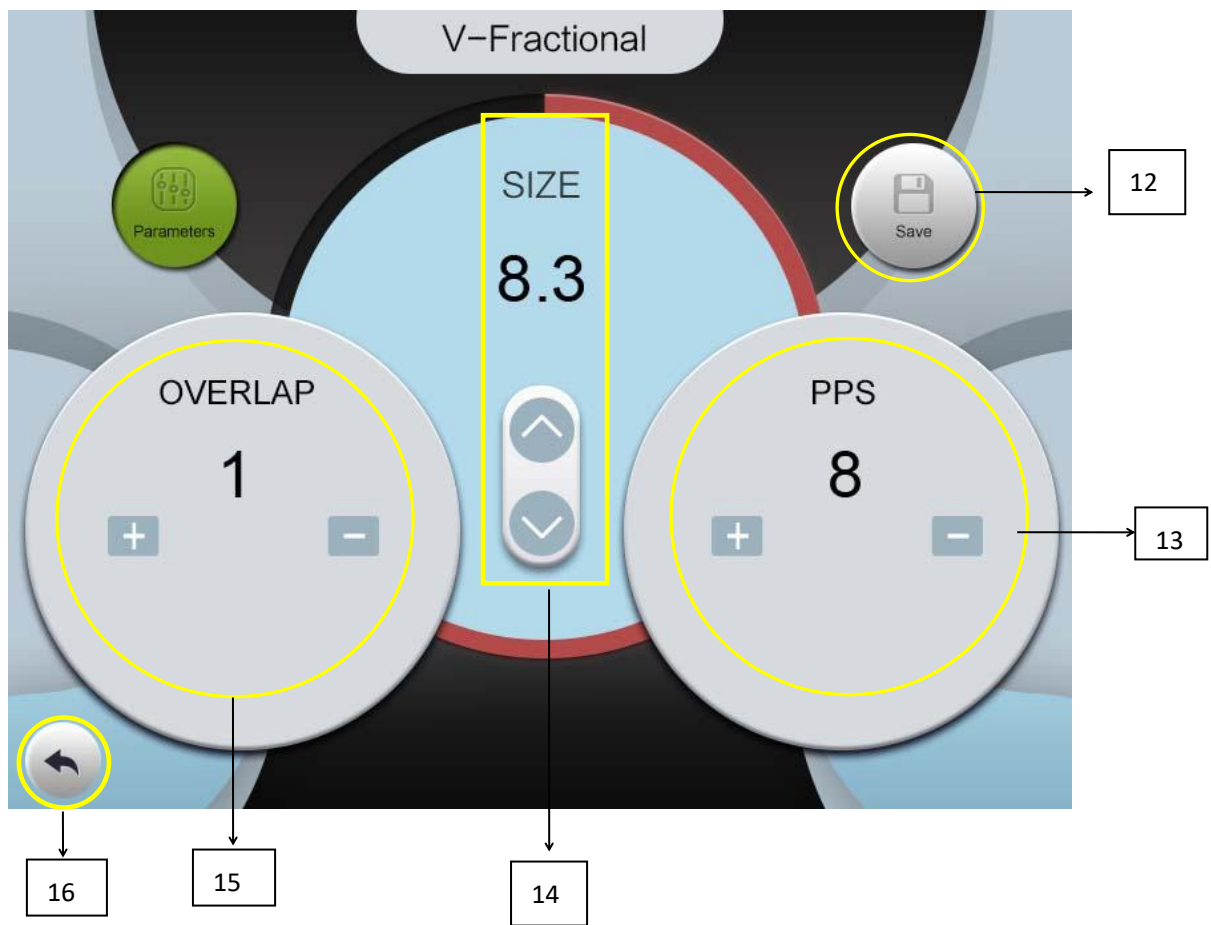
- 1) Parameter saving: click 1,2 or 3, select the required treatment parameters, and click the Save button. The next time you click 1,2, or 3 again, the treatment parameters you saved are displayed.
- 2) Laser power selection, operated by arrows, the parameters range from 1W-40W, the higher the values, the higher the energy. Suggest to start with a small age of energy.
- 3) Pulse width regulation: under the constant power, the greater the pulse width, the greater the energy. Operating by clicking on the plus and minus numbers, the parameter range is 1ms to 10m
- 4) Return to the previous page
- 5) Single and continuous selection area: Single time (Single) option is a pedal, played only once under the specified parameters. Continuous (continue) option means stepping foot and continuing to light after 1 second interval under the specified parameters.
- 6) Red indicator lamp brightness adjustment: operate by clicking the plus and minus sign, parameter range 1 to 30.
- 7) Order and disorder: in private mode, there are two ways to hit the light, one is a sequential (order) light hit, one is a disordered (disorder) light hit
- 8) Standby and preparation: Standby / preparation. Non-working stay standby, during preparation, switch to preparation.
- 9) Number of hits: for each emission of energy, the number of points within any ring. The regulatory range is 4 – 100. The more points, the denser the points on each lap, and the more concentrated

the energy is. The following below shows 16 and 10 dots



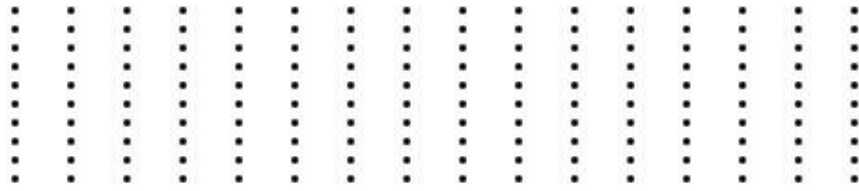
10) Red indicator light switch (at 635nm wavelength)

11) Parameters: enter the private mode submenu and adjust the base parameters.



12) Save: Save the current setting parameters

13) PPS: The total number of circles or layers of the laser emission points range from bottom to top, with the adjustment range of 1 to 10 laps / layer



PPS is 10



PPS is 5

14) Graphic size: Adjust the size of the laser emission graphics, ranging from 2mm to 10mm

15) Overlap: Laser emission number of replicates per lap / layer, adjustment range from 1 to 10 times.

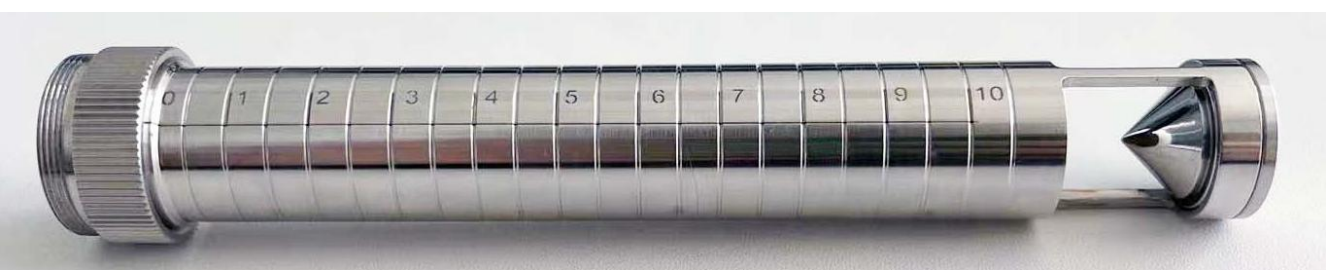
16) Return to the previous page

Chapter 3 Introduction to the treatment head

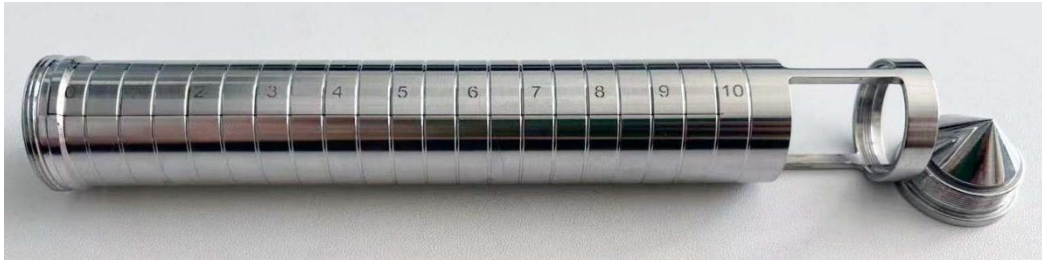
	<p><u>A</u> Cone head</p>
	<p><u>B</u> Inclined head</p>
	<p><u>C</u> A nod head</p>
	<p><u>D</u> Two nods head</p>

3.1 A Cone head

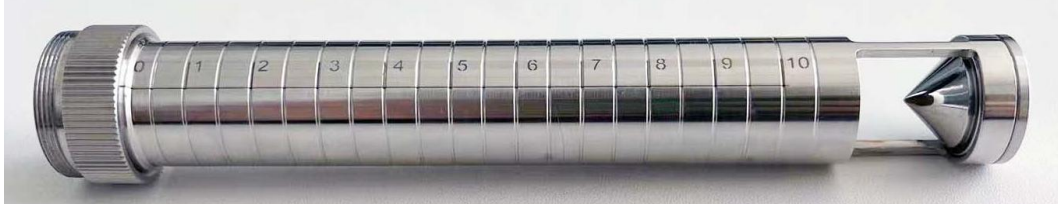
【Application】 : Mainly used to treat VRS: Vaginal Relaxation Syndrome)



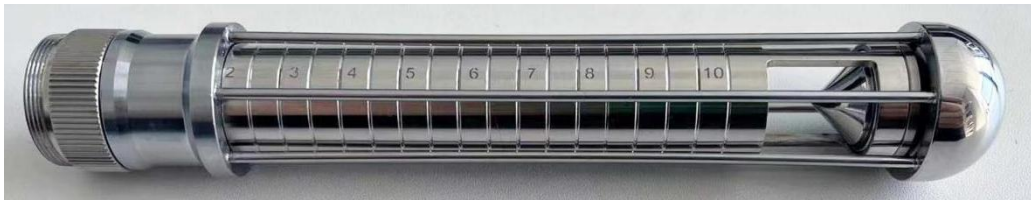
【 Install 】 : Link the cone head and the inner sleeve, and then link the coat tube when ready for treatment



Take out the cone head and the inner sleeve

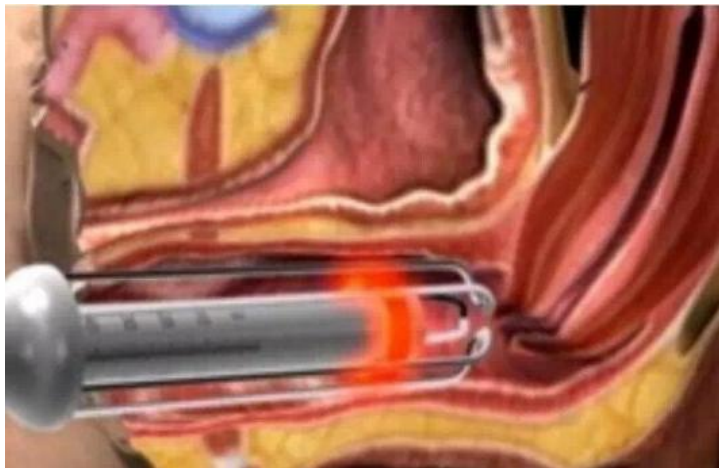


Link the cone head and the inner sleeve



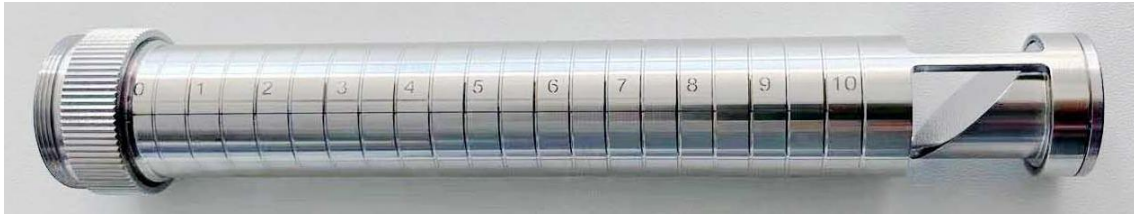
Link to the coat tube during treatment

【 Operate 】 :The cone head light is circular 360-degree full emission, without the operator to manually rotate the handle,simply press the handle back at the scale. Check the following figure about treatment



3.2 B Inclined head

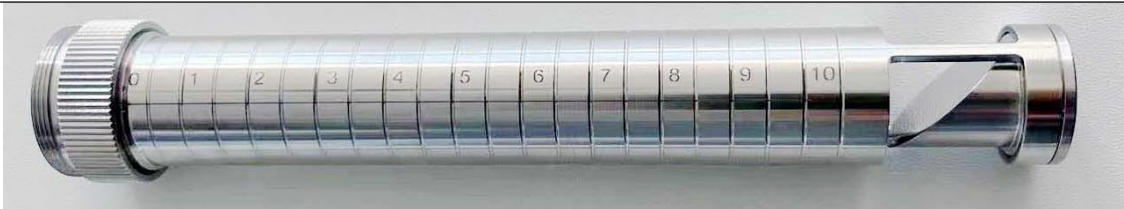
【Application】 : To treat stress urinary incontinence and vaginal dryness.



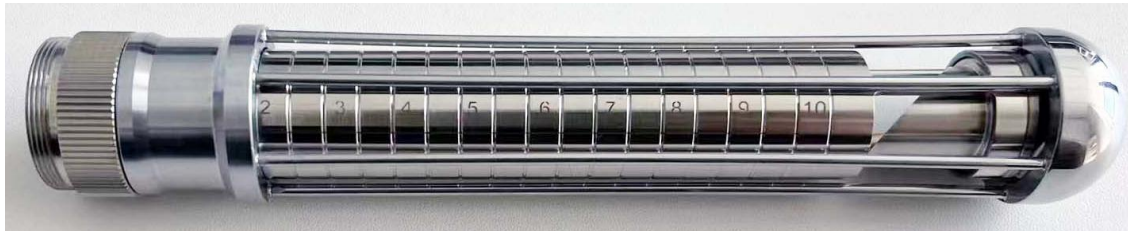
【Install】 : Link the inclined head and inner sleeve and the coat tube when ready for treatment



Take out the inclined head and inner casing

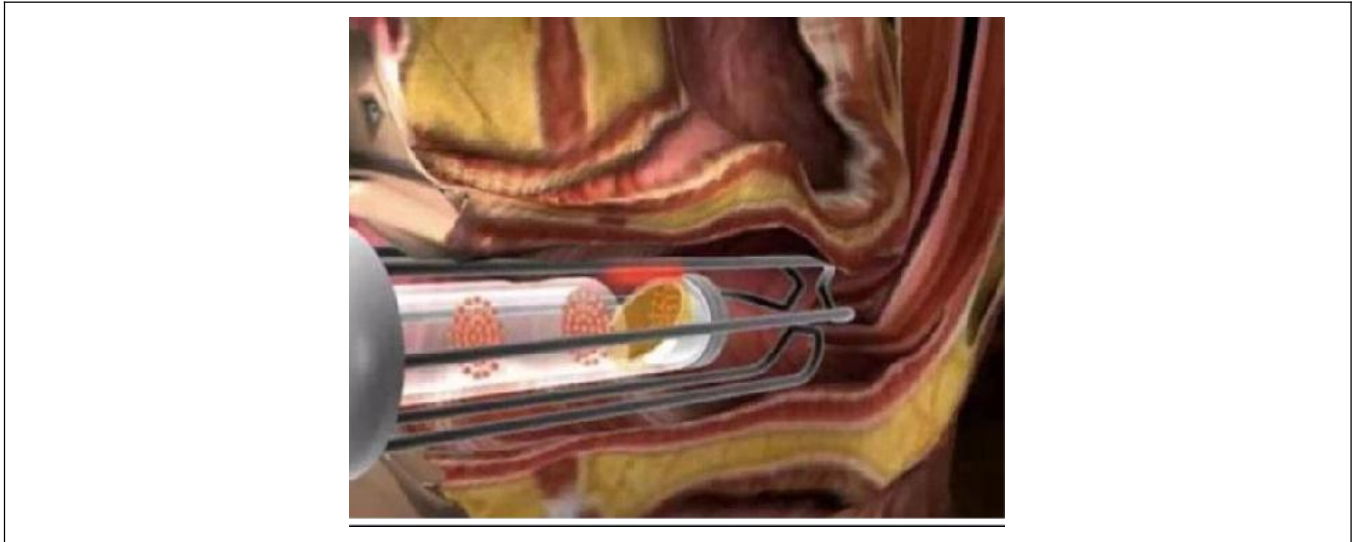


Link inclined head and inner sleeve



Link to the coat tube when start treatment

【Operate】 : The light out of the inclined head is a mirror semi-emission, and during treatment, the inclined head is turned up and put into the vagina, The laser emits once and retreats from the handle once, Treatment of this handle for vaginal relaxation requires manual rotation of the handle clockwise, So it is generally not recommended for vaginal relaxation. The following figure is during treatment:



3.3 CA nod head

【Application】 : Used after vaginal tightening surgery, Enhanced treatment of the vaginal mouth and small labia.



【Install】 : Take off the front end of the fractional head (left below), install the nod head on it (right below)

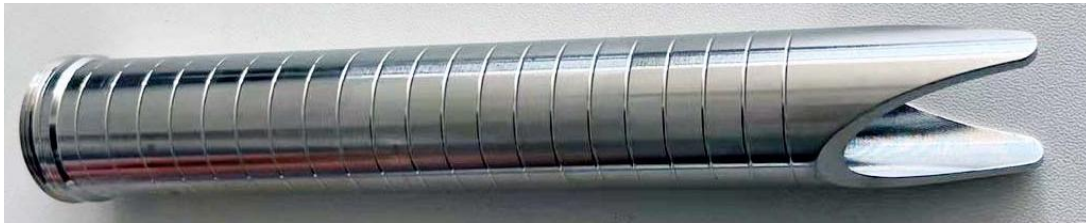


【Operate】 A single point of the handle head supports the treatment site, And maintain the handle perpendicular to the treatment site, Treatment can then be started.



3.4 D Two nods head

【Application】 : Use to treat the vulva with atrophy, Improve the vulva color (from black to red).



【Install】 : Take off the front end of the fractional head (left below), install the two nods head on it (right below)



【 Operate 】 Two points of the handle head are required to support the treatment site, And keep the handle perpendicular to the treatment site, and then the treatment can start.



Chapter 4 Preparations before Treatment

4.1 Contraindication

- ❖ A pacemaker, or a defibrillator, is installed;
- ❖ The treatment area had either metal or other implants;
- ❖ Has had or is suffering from skin cancer, and any other cancer;
- ❖ There are severe concurrent conditions, such as heart rhythm disorders;
- ❖ Any thyroid lesions or functional abnormalities;
- ❖ Having diseases that destroy the immune system, such as AIDS, or taking drugs that destroy their immunity;
- ❖ The patient had a history of disease stimulated by heat, such as herpes simplex in the treatment area, which could be treated with a prophylactic regimen alone;
- ❖ Endocrine disorders, such as hyperglycemia
- ❖ The treatment area has any of the following symptoms: sores, psoriasis, eczema, and skin rash;
- ❖ There has been skin disease, scarring tumors, abnormal wound healing, and abnormally dry and fragile skin;
- ❖ A history of bleeding coagulation, or the use of anticoagulants;
- ❖ Any surgical procedures have been performed in the treatment area within the past 3 months, or before complete recovery from the surgery;
- ❖ Pregnancy, lactation, 3-6 months after delivery, and during the recovery of normal hormones;
- ❖ There are serious gynecological diseases, such as cervical cancer, vaginal cancer, polyps, etc;
- ❖ Half a year after induced abortion;
- ❖ The reproductive system is in the inflammatory period, such as pelvic inflammation, cervicitis, vaginitis, endometritis, etc;
- ❖ Patients with STDs: such as condyloma sharp sharp, syphilis, genital herpes, gonorrhea, etc;

4.2 Patient selection:

Good efficacy depends not only on the operator's parameter setting and treatment level, but also is

closely related to the conditions of the patient itself. On the premise of excluding contraindications, the patient's age, physical condition, sebaceous gland density, degree of photodamage, the tendency to form scar growth, pigmentation and decline after inflammation should also be considered. Due to the original dark skin color of the vulva, the effect of the patient's skin type may not be very different on the treatment. However, it should be noted that the deeper the skin pigment here, the proportionately increased risk of pigment change, and the greater the patient's tendency to develop pigmentation or depigmentation!

4.3 Possible adverse reactions:

CO2 Complications of private laser vulva skin surface reconstruction treatment were largely similar to CO2 Fractional scanning, But it is often limited, The odds of serious complications are still very low. Intravaginal treatment generally has no serious side reactions. Do a good job of nursing care after treatment.

4.4 Survival skin reconstruction:

◆ Spiloplaxia (100%) :

Almost all patients will develop Spiloplaxia immediately after treatment, This is a normal inflammatory process after skin injury, and generally lasts from hours to dozens of hours. The operator needs to judge whether the degree of Spiloplaxia is normal according to his own experience.

If the laser treatment area Spiloplaxia is aggravated, it may be an allergy or an infection! The cause of allergy may be that the patient has an allergic reaction to postoperative topical substances (symptomatic treatment at this time), which reminds the operator must pay attention to ask the patient's allergy history when using postoperative drugs. It is not sure that it can not use, only cold compress as postoperative treatment. The cause of the infection may be the postoperative topical non-sterile products, here the operators need to pay attention to ensure that the dressing used after surgery is medical sterile products, otherwise it can not be used, only cold compress as postoperative treatment! Secondly, you should pay attention to keep your underwear clean after surgery. After the Spiloplaxia subside, the general scab will appear. This is a normal procedure after the CO2 lattice operation. Do a good job of postoperative care work can be done.

◆ Pain (100%) :

A strong sense of pain. It is recommended to apply the surface anesthetic ointment package for 30-50 minutes before treatment. Take it down before surgery. In general, an injection anesthetic is not used.

◆ Hydroncu (82%) :

Almost immediately after the surgery, the skin is bloated, depending on the parameters used and the patient himself. It usually lasts for several hours. Cold compress, air cooling, the use of soothing products and other ways will let the edema to get a certain degree of relief

◆ Xerosis cutis (82%) :

The main target material of the CO2 laser laser is water molecules, So the treatment consumes a lot of water in the skin. Patients will consciously after surgery, the skin is very dry and tight, which is a normal phenomenon.

◆ Pigmentation after the inflammation (PIH) :

It is more prevalent in darker skin types. Therefore, the operator needs to inform it of this possibility

before surgery. Pigmentation often occurs after the erythema has subsided. The first point of treatment is prevention! Do not be exposed to the sun after surgery, and avoid the light before the scab falls off. If the color is heavy, try preparations such as hydroquinone cream.

◆ Depigmentation :

Pigmentation loss is a delayed response to CO₂ laser skin surface reconstruction, often occurring between 4 - 12 months after skin surface reconstruction. The incidence is low.

◆ Cicatrization :

Scarring appears after Spiloplaxia, mostly proliferative scar. The incidence is low.

◆ Infect :

Bacterial and fungal infections are uncommon.

However, it should be reminded that the operator must have a strict concept of aseptic, otherwise any link of bacterial infection may cause serious consequences!

4.5 Intravaginal treatment:

After the operation may be pain, redness, white blood and other conditions, for the normal reaction. Generally, it can return to normal within a few days.

Preparation before treatment

1. The patient is first judged about some basic physical condition, asked about the medical history, excluded contraindications, and ensured that it is available for treatment.
2. Record the basic patient information, including the physical condition, etc.
3. Skin preparation: more pussy hair. Eval treatment requires a clean removal of the hair.
4. Preoperative photography: vulva treatment can be taken with a camera. For Intravaginal treatment, the images were recorded using a colposcopy. The Angle of each photo, indoor light, camera exposure, etc., should be fixed as far as possible, and to ensure that the photo is clear. This can maximum avoid the photo error and does not affect the efficacy comparison..
5. Valvular therapy: During vulva treatment, thoroughly clean the skin with cleaning products. For intra-vaginal treatment, consider using a disposable vaginal rinser as appropriate. The treatment area was rinsed with saline for 2 to 3 min, and after washing, the treatment site was dried with sterile gauze; Anesthesia is generally not necessary, but if the patient is more sensitive, you can apply the surface anesthetic ointment on the surface of the treatment area for more than 30 minutes, and then wipe the anesthetic ointment with gauze, Flush again with saline and dry the treatment area or site with sterile gauze; After completion, wipe the treatment site without repetition with alcohol cotton, and dry it naturally to start the treatment.
6. Vaginal treatment: Cleaning and disinfection of the vagina before intravaginal treatment can effectively remove bacteria and secretions in the vagina, Provide safety guarantee for surgical implementation and reduce the chance of intraoperative and postoperative infection. Patients are generally required not to have vaginal inflammation in the acute phase.

Commonused disinfection methods:

- ❖ Iodine volt cotton ball: Hemostatic clamp can be used. Disinfection the vaginal wall, cervix, vaginal mouth and vestibulum. They was then dried with sterile dried cotton balls.
- ❖ Potassium permanganate lavage fluid : The vagina was exposed with a disposable colposcope, The anterior vaginal wall, fornix and cervix were washed with 500 to 1000 m l of 41 to 43 degrees, and after lavage, the internal vaginal involvement fluid was wiped with sterile small gauze.
- ❖ Ozone sterilization and clean Yin cleaning treatment instrument : Connect the disposable catheter, gently insert the catheter into the vagina to turn around, so that the ozone fog can fully contact the vaginal wall, for about 10 minutes at a time, the disposable catheter can be discarded after disinfection.

Anesthesia in the vagina:

Generally speaking, anesthesia is no need in the vagina, because the energy will not be high, but if the patient is pain-sensitive, anesthesia can be considered as appropriate.

Anesthesia method:

0.1% Lidocaine Gauze: Take a sterile gauze, wet it fully with 0.1% lidocaine, then fill it in the vagina, and remove it after 5 to 10 minutes. Hemagen is not recommended for intravaginal treatment.

7. This instrument on the skin when the more obvious pain, others may consciously pain persistent, more intense. However, given the small vulva area and the treatment time will not be very long, it is recommended not to use surface anesthetic cream.

8. Cleaning and disinfection of the handles:

Because the handle is non-disposable, it needs to be repeated multiple times, At the same time, CO2 laser treatment is an exfoliative and invasive treatment, Therefore, before and after each use, the opponent handle should be strictly cleaned and sterilized, in order to prevent the risk of cross-infection.

Methods and Steps: Remove all parts of the handle, flush with flow and wash the parts if possible, In particular, there are cracks or other parts prone to dirt accumulation and the cavity wall; These components were then adequately soaked in a disinfection solution for 30 min; Take out the handle parts, rinse the inner and outer walls of each part with pure water; use non-silk skim cotton drying device, pay attention not to wipe back and forth, gently press the water on the drying device; Then wipe each part of the appliance with alcohol cotton and wait for it to dry naturally.

9. The operator will install the handle on the machine. Ensure that each part of the handle is clean

and tightly connected. Cleaning of the front-end reflectors

Inner sleeve	
Outer sleeve	

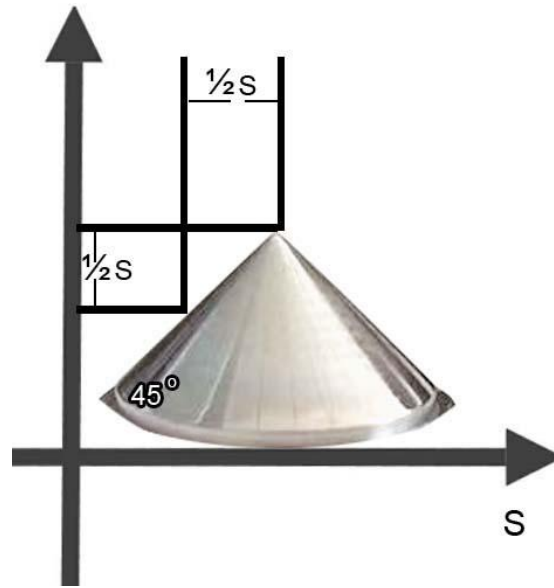
10. The patient was taken in the supine position, and the operator took the seated position. If the patient has applied a surface anesthetic before surgery, the anesthetic should be removed first, followed by subsequent disinfection. If not, the skin was wiped clean with a saline cotton ball, and then the vulva was disinfected with a new clean cotton ball. When intravaginal treatment, you need to disinfect the vagina, vaginal mouth, vestibulum.
11. Open the machine, select the treatment function on the interface, and enter the operation interface. Adjust the interface for treatment parameters
12. The operator wears the protective goggles. Wear good disposable medical gloves. Prevent the operator's hands from polluting the patient's skin.

The figure Size is diameter and adjustment range from 2mm to 10mm. The adjustment method is as follows

A Cone head (Treatment of vagina)

The cone treatment head is ribbon emission: a light light, reflected by a mirror to produce a wide circular treatment area. Set the value of Size based on the scale (from 0-10cm) on the handle.

Recommended settings: The Size value is twice the length of the handle for each outward movement. That is, if Size is set at 10mm, the width of the ring is 5mm, the operator moves 5mm outward handle 5 m m for each treatment.



Size is 2-10mm and $1/2 S$ is the radius of the circle. Bottom angle 45° , reflected onto the vaginal wall is $1/2 S$.

Note: During the operation, move the handle outside in strict accordance with the scale. This can avoid some places of treatment twice, some places are missed. So as to achieve the purpose of accurate treatment of all the vaginal walls.

B Inclined head (Treatment of vagina)

The operator needs to determine the length of need to retreat after each light according to the set Size. If the S value is set to 10mm, the operator needs to withdraw the handle by 10mm.

C A nod head (Treatment of vulva)

Generally used in the outer vaginal mouth, the area is very small, so Size's parameters can use 5-6mm

D Two nods head (Treatment of vulva)

A larger figure can be set according on the actual situation to reduce the duration of one treatment

Note: The machine parameters used should be recorded for each treatment, so that the operator can evaluate the rationality and effectiveness of developing the treatment plan for the patient, and adjust the treatment parameters at any time.

Chapter 5 Treatment

5.1 Skin test

Set the parameters according to the recommended parameters. A skin test was then performed in the proposed treatment area, or "trial treatment", to wait a few minutes to see if the skin response was normal. If the skin reaction is serious, the parameters should be adjusted in time according to the actual situation.

In general, a mild spilloplaxia, edema is a normal phenomenon.

If the patient is very sensitive to pain, it is recommended to apply epidermal anesthesia ointment before surgery to slightly lower the treatment parameters.

5.2 Method of operation:

The treatment of the vagina:

- 1) Gently send the tube into the vagina first, play the role of expanding the vagina, but also can play the role of positioning.
- 2) The cone treatment head / oblique treatment head was slowly guided into the vagina according to the indications to be treated.
- 3) Based on the pre-set figure, press the scale on the handle.
- 4) The number of light outs depends on the back length.
- 5) After treatment, the handle is cleaned, sterilized at high temperature, and stored in a fixed position for next use.

Treatment of vulva:

- 1) During the vulva treatment operation, the long axis of the 2 external handles should be perpendicular to the skin surface, slightly placed on the skin, and be in contact with the skin. It should be noted here that the two external handles require disinfection in direct contact with the skin (alcohol cotton balls can be used).
- 2) Each time the handle forward distance is not too much, we need to ensure that there is a small overlap between the "seal" and the "seal" of the treatment head, to avoid the skin being missed. Once there is a skin omission, it may cause the skin color difference after surgery. It is evident by the dark-skinned population.
- 3) When treatment, the operator can assist with another hand, flattening folds on the skin, such as severe atrophy. To facilitate the full laser effect to produce a good treatment effect.
- 4) For different indications, the operator can judge whether the secondary intensive treatment is needed according to the actual situation. That is, whether an immediate another treatment is needed. This situation is generally more seen in severe vulva atrophy.
- 5) The general treatment time is about 30 minutes. The specific treatment indication, area size and number of treatment are determined.
- 6) Immediately after treatment, spilloplaxia and mild edema will occur in the treatment area.
- 7) At this time, you need to apply a cold compress in time. To reduce the further aggravation of

oedema, to reduce the degree of spiloplaxia. In general, cold compress is required for at least 1-2 hours, so that the prognosis will be significantly better than not cold compress, and the patient's pain will be greatly reduced.

5.3 Course setting

- (1) Skin reconstruction: generally treatment every 2-3 months, a course of 2-3 times; it should be noted that intensive treatment, the probability of color and color will be greatly increased. So the minimum treatment interval should not be less than 2 months. Give the skin full time to self-repair and rebuild.
- (2) Private health: Generally, treatment every 1 month, a course of 1-2;
- (3) Gynecological disease : Treatment is usually performed every 1 month, with a course of 2-4 sessions;

Note:

The treatment effect varies from person to person, and it is related to the patient's age, physical condition, severity of skin problems, use parameters and other factors.

For those who have no significant improvement after one treatment, immediate adjustment of treatment parameters, an appropriate increase in the number of treatments, or extending the treatment cycle can be considered.

Chapter 6 Post-operative Care

Outreach treatment:

- 1) After treatment, the treated site will generally produce spiloplaxia and slight edema. At this time, it is necessary to timely pass the physical cooling method, such as cold compress, to cool the epidermis, to reduce the pain and degree of edema. The cold water bag can be wrapped with sterile gauze and applied to the treatment site. At least for about 1 hour or so.
- 2) If you want to use soothing products or external drugs, be careful to avoid allergic reactions to patients, and require sterile products. It is recommended to spray growth factors, medical repair fluid, etc
- 3) In general, scabs will form within 24 hours after surgery. After the scab, the patient needs to protect the scab skin. Do not let the treated site be stained with water within 3-7 days after the operation, do not scratch with your hands, let the scab skin fall off naturally, which is conducive to the skin self-repair, in order to obtain a better treatment effect.
- 4) Before the scab skin falls off, the patient needs to let the treatment site avoid the sunlight. After a week after the operation, the scab skin naturally falls off within a month, the treatment site still needs to avoid light, strictly do a good job of sunscreen.

Intravaginal treatment:

- (1) Sex is required to be banned for 72 hours after each treatment.
- (2) Swimming was not allowed for one week of treatment.
- (3) If the vaginal secretions after treatment occasionally have blood silk, belongs to the normal condition. Do not worry too much, generally can recover naturally.
- (4) It is not recommended to use the vulva lotion and other items to clean the vagina and the vulva.
- (5) Patients should change their underwear frequently to ensure private parts clean hygiene.
- (6) After 48 hours, half a month, a month after treatment, the operator can ask the patient to visit. Fill in the assessment Q & A to evaluate the treatment effectiveness.

Chapter 7 Suggestions for treatment parameters

- ✓ This recommended parameter is our safe and effective parameters based on a large number of clinical trials.For reference only..
- ✓ The numbers in parentheses in the Energy column are the recommended parameters for the first treatment.For the operator's reference.
- ✓ In the actual use of the machine, the operator needs to flexibly adjust the parameters according to the patient tolerance, number of treatment and the actual situation of the disease.
- ✓ For indications with a slightly longer treatment cycle, the operator needs to determine the parameters used for the next treatment according to the patient's recovery and efficacy after each treatment.In general, with the number of treatment, the patient tolerance will increase, and the parameters can be appropriately increased in order to achieve good effect.

Symptom	Power (w)	Pulse width (ms)	Dot NO.	Size (mm)	Overlap	PPS	
Atrophy of vulva	10-15	6-7	15-30	5-6	3-4	5-7	Treatment are all single, not continuous
vaginal mouth tightening	12-20	5-6	15-20	4-5	3-4	5-7	
Outreach color improvement	12-20	5-6	10-20	4-5	3-4	5-7	
Dry vagina	15-20	6-7	20-30	8-10	5-6	7-10	
Vaginal health care	15-20	6-7	20-30	8-10	5-6	7-10	
Vaginal tightening	20-30	7-8	20-30	8-10	5-6	8-10	
Intensive treatment of the vaginal mouth after vaginal tightening surgery	10-15	6-7	15-30	5-6	3-4	5-7	
Stress incontinence	20-30	8-10	20-30	8-10	5-6	8-10	
Mild uterine prolapse	20-30	8-10	20-30	8-10	6-8	8-10	

