

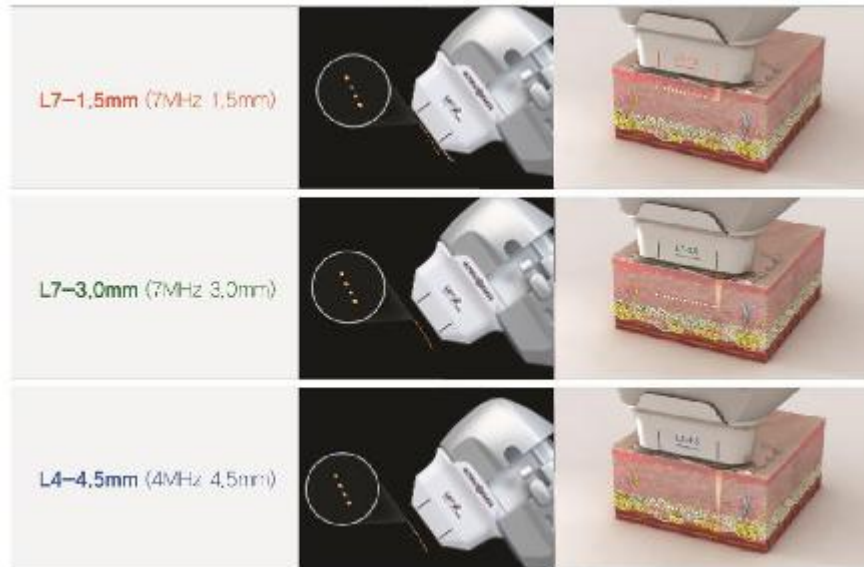
# 7D Focused Ultrasound Manual



# What is 7D Focused Ultrasound?

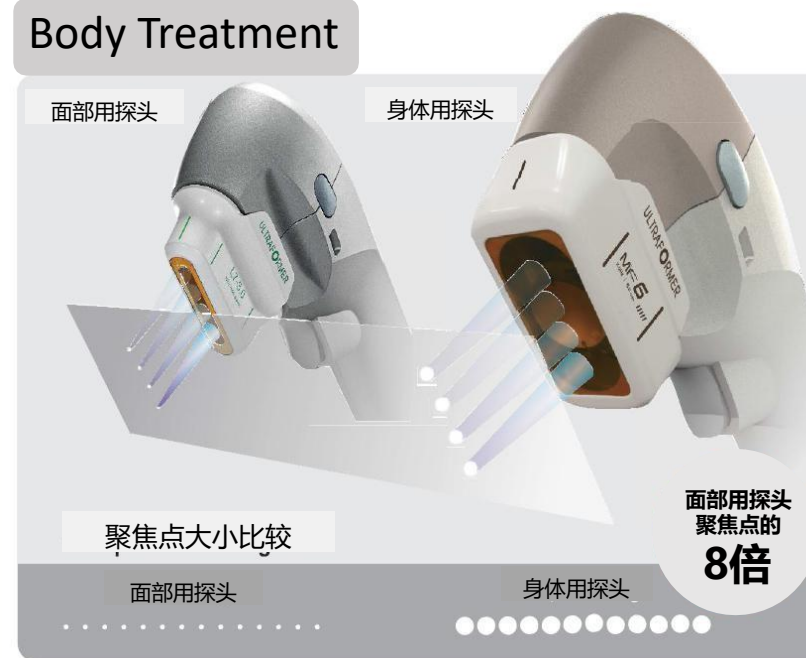
MMFU(Macro & Micro Focused Ultrasound) : "Macro & Micro High Intensity Focused Ultrasound System" Non-Surgical Treatment Of Face Lifting, Body Firming And Body Contouring System!

## Face Treatment



-Highly focused points for precise facial treatment

## Body Treatment



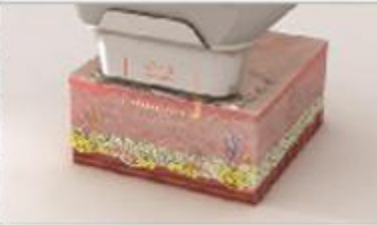
- With the same focus energy, a larger focus point can effectively reduce the treatment time for body parts

# What is 7D Focused Ultrasound ?

MMFU(Macro & Micro Focused Ultrasound) : "Macro & Micro High Intensity Focused Ultrasound System" Non-Surgical Treatment Of Face Lifting, Body Firming And Body Contouring System!



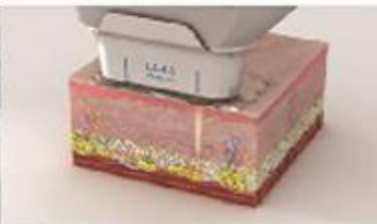
L7-1.5mm (7MHz 1.5mm)



L7-3.0mm (7MHz 3.0mm)



L4-4.5mm (4MHz 4.5mm)



# What is 7D Focused Ultrasound?



MMFU(Macro & Micro Focused Ultrasound) : "Macro & Micro High Intensity Focused Ultrasound System" Non-Surgical Treatment Of Face Lifting, Body Firming And Body Contouring System!

Eyes Treatment

MF2 Newest Eyes Cartridge 5.5Mhz 2.0mm



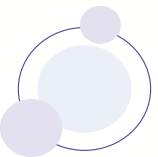
Face Cartridges

Eyes Cartridges



5.5Mhz 2.0mm Eyes Cartridges. The world's first research and development application

★ Unique ultra-thin probe Clexis patented technology ★



# What is 7D Focused Ultrasound?

MMFU(Macro & Micro Focused Ultrasound) : "Macro & Micro High Intensity Focused Ultrasound System" Non-Surgical Treatment Of Face Lifting, Body Firming And Body Contouring System!



6mm Body Cartridge

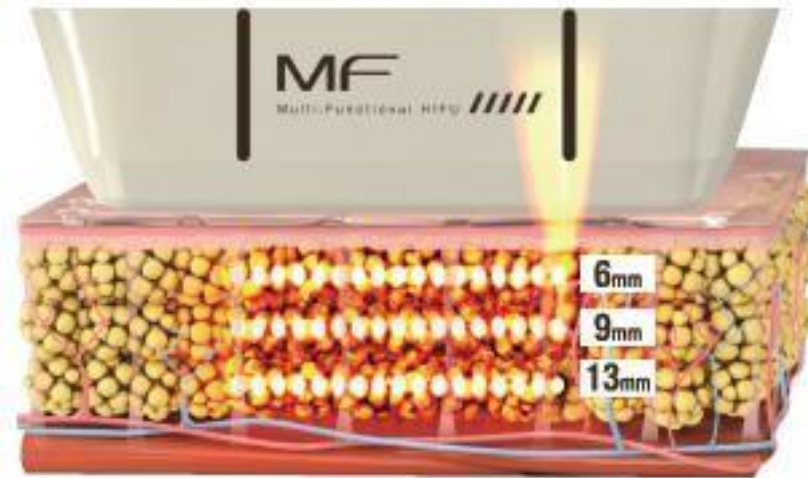


9mm Body Cartridge



13mm Body Cartridge

## Body Cartridge

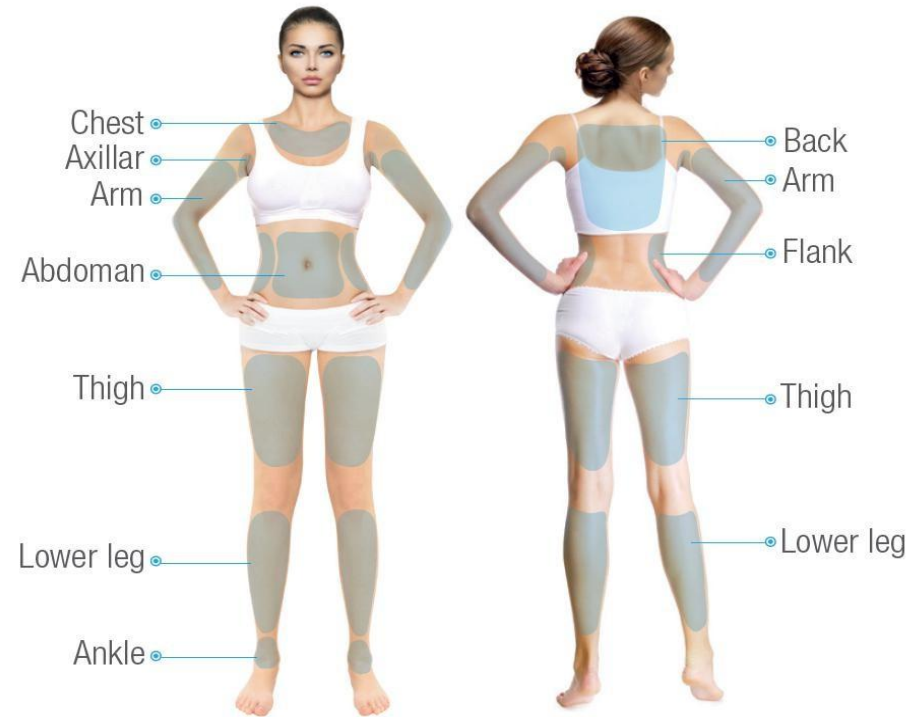


# Clinical Application

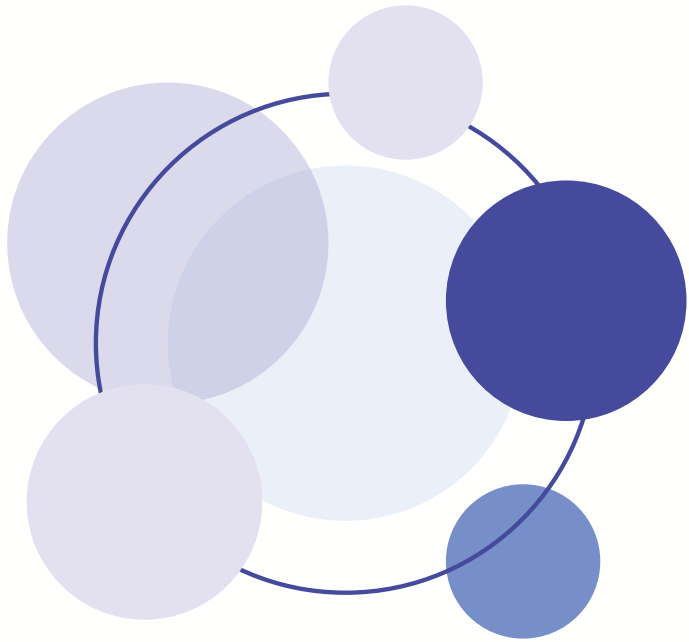
## Face Treatment



## Body Treatment







# **7D Focused Ultrasound**

## **Equipment installation guidelines**



# Equipment intall—All Accessories



Machine



Cartridges\*7



Handle\*2



Power Supply



Accessories rack \*3



# Equipment—handle Holder install (1/2)

Involving instrument Accessories :  
holder\*3、screws\*7、

installation steps:

1. Find the 2 screw holes on the left side of the host;
2. Align the accessory rack with the holes and tighten the screws (2 on each side);
3. Install the accessory rack on the right completely;
3. Precautions
4. If you do not disassemble the display screen when moving the instrument, please check whether the screws are tightened before and after moving the instrument to prevent the display from falling to the ground due to loose screws .



## Instrument installation-mounting accessory rack(2/2)

---

Involving instrument Accessories :  
holder\*3、 screws\*7、

installation steps:

1. Find the 2 screw holes of the power supply hole of the host;
2. Align the accessory rack with the holes and tighten the screws;
3. The accessory rack can be installed completely;
4. Precautions:
5. If you do not disassemble the display screen when moving the instrument, please check whether the screws are tightened before and after moving the instrument to prevent the display from falling to the ground due to loose screws



## Instrument installation-installation handle

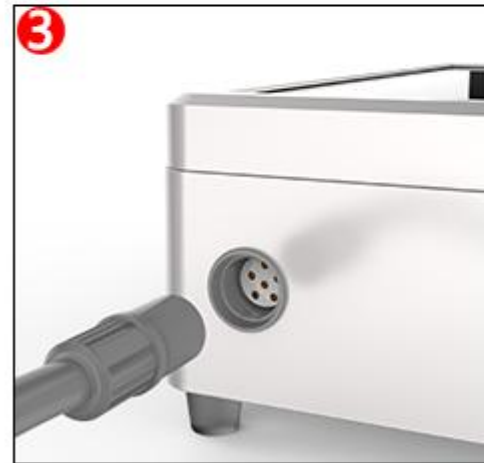
---

Involving instrument parts:

host, handle \*2

installation steps:

1. Put the handle properly into the handle bracket first, and do not force the handle part directly into the buckle position when placing it, otherwise it may cause stress fracture;
2. 2. Make sure the handle is placed properly;
3. 3. Find the handle interface on the back side of the host;
4. 4. Align the white arrow on the handle interface with the interface, and gently connect the wire to the interface;
5. Precautions: When placing the handle, first insert the connecting wire into the buckle first, and then insert the handle down, do not directly press the handle into the buckle position; Pay attention to the direction of the interface when connecting the handle, do not use brute force when the plug is not smooth, please check whether the direction is correct;



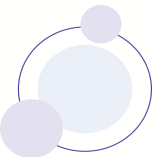
# Instrument installation-power on

---

involving instrument components:  
Host, power cord,

installation steps:

1. Plug the power cord into the host;
2. 2. Insert the power cord into the plug or plug-in board with grounding function;
3. 3. Turn on the main power switch of the host;
4. 4. Just turn on the host;



## Instrument installation-installation of the probe

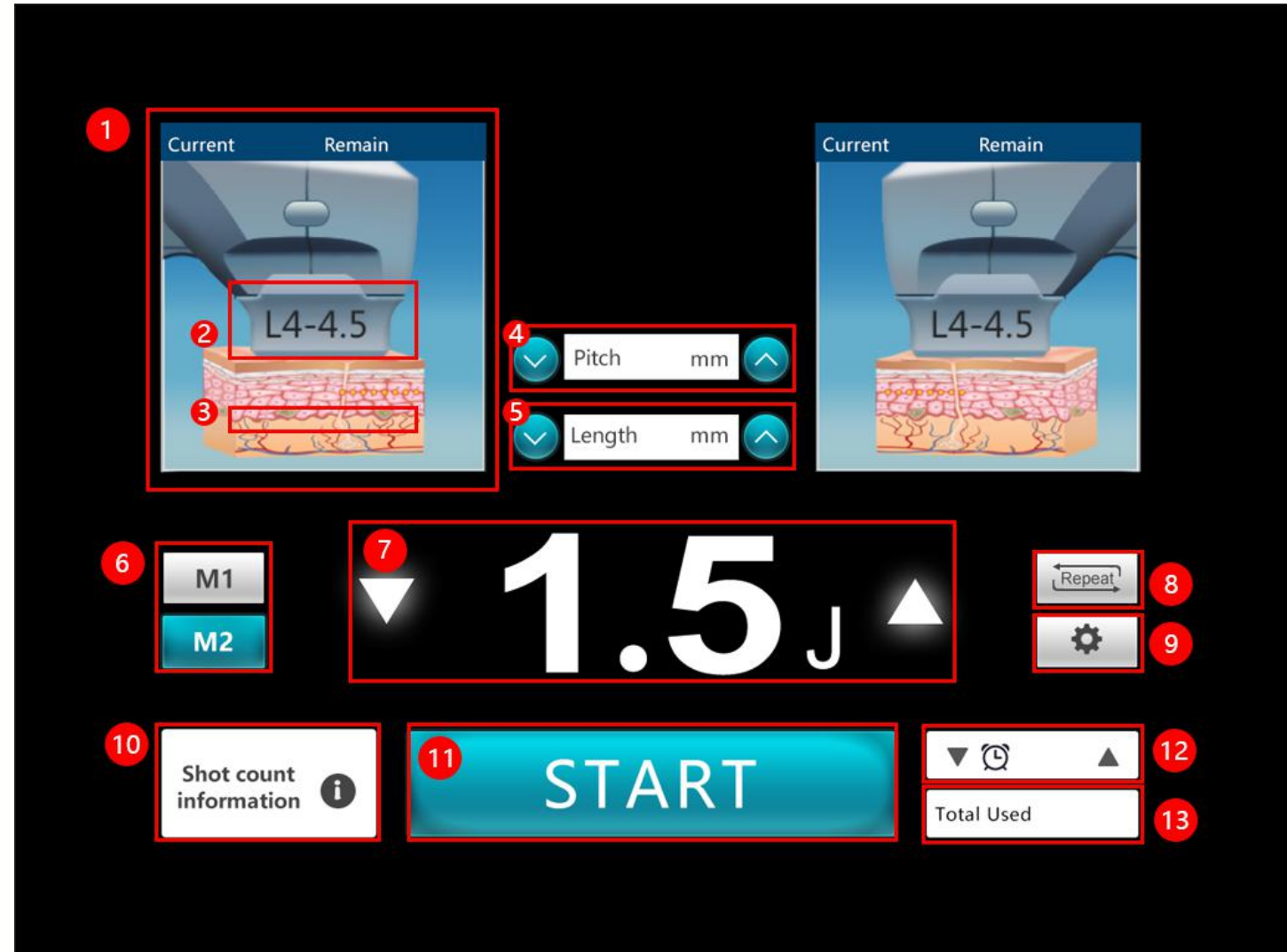
1. Take out the probe and lift off the protective film to ensure that the probe interface is dry and free of foreign matter;
2. Align the probe interface with the handle, and the protrusions on the probe correspond to the groove of the handle;
3. Gently insert the probe horizontally into the handle, and the installation is complete when you hear a "click";
4. When replacing or removing the probe, press the safety lock on the side of the handle and gently pull out the probe horizontally.



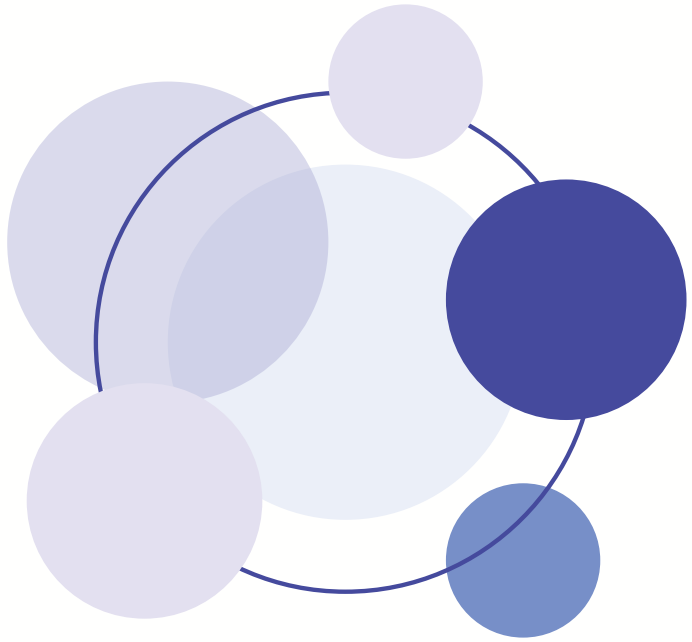


# Introduction to the main interface of the instrument

1. Current used number of posts. Remain The remaining number of posts.
2. Information of installed probe
3. The depth, wavelength, and distance of the installed probe are displayed (display only)
4. Set the distance between thermal condensation points.
5. Set the energy length (5mm-25mm, the minimum adjustment interval is 5mm.)
6. M1, M2 save parameters. (Long press for 3 seconds to save.)
7. Energy regulation.
8. Repeat is continuous transmission mode  
Single is single transmission mode
9. Settings
10. Send number information
11. System status "standby" and "start"
12. Set the limit of the number of transmissions and beep
13. the total number of sent







# **7D Focused Ultrasound Instrument operation process**



# Operating procedures



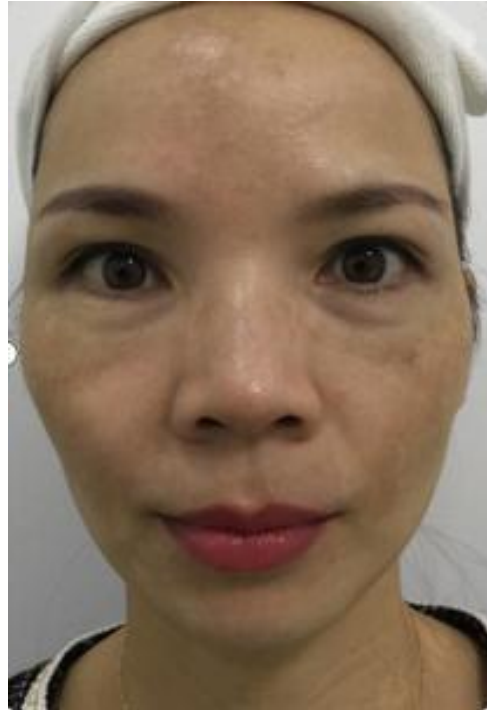
## Face-to-face analysis

---

Find a few photos of the frontal face or select a few models on the spot, and conduct an interactive analysis with the students.



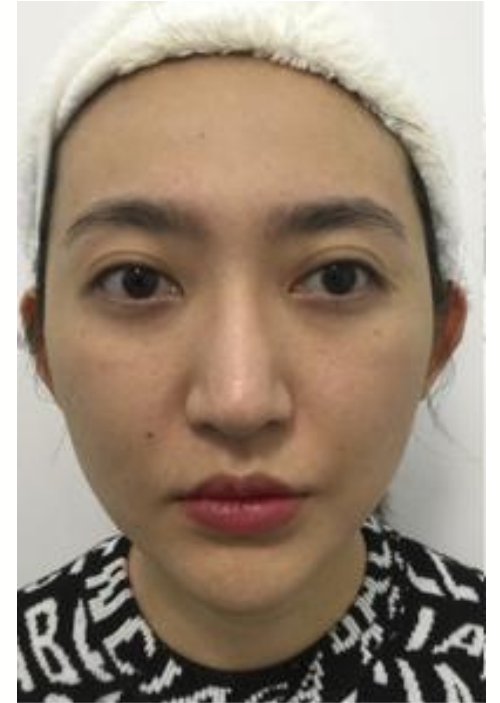
Relaxed state



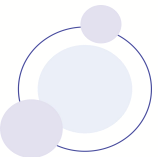
Depressed state



Fullness

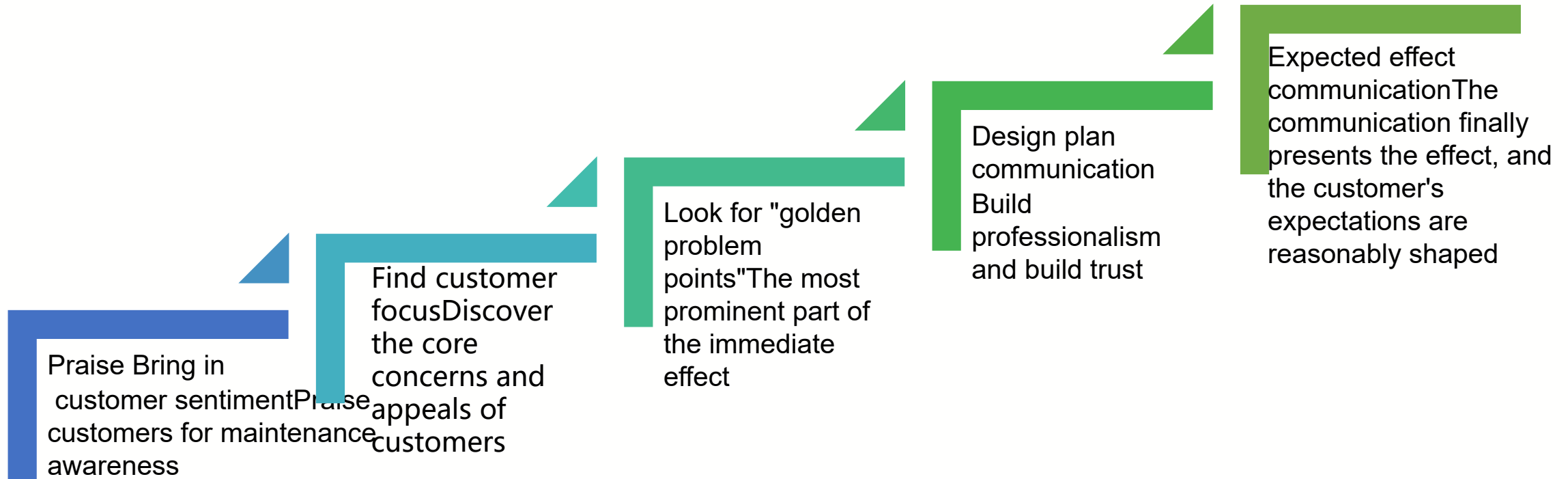


Youthful

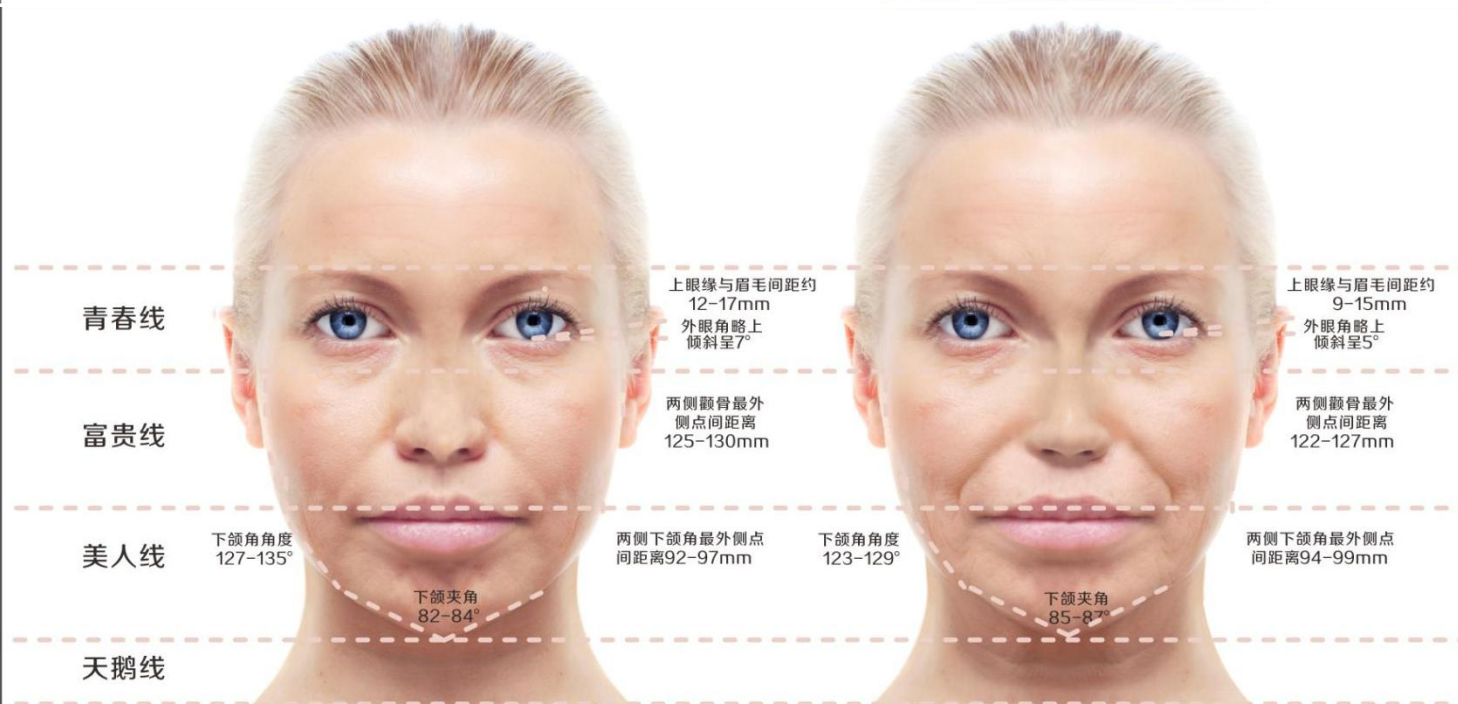


# Five Steps of Facial Clinic Analysis

---



# The fourth line of green spring of face analysis



# Identify customer problems: one look, two touches, three pushes

---

---

1. Neck lines
2. Relaxation
3. Fat accumulation on the side of the neck



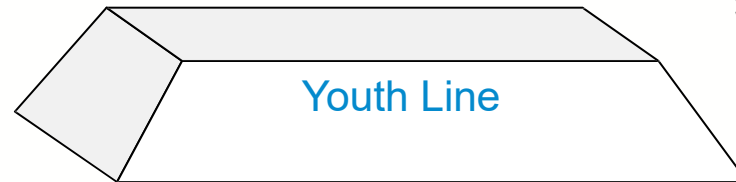
1. Puppet pattern on the corners of the mouth, too
2. The jaw line is not clear
3. Double chin



1. Relaxation
2. Apple muscle sagging
3. Sunken cheeks
4. Facial curves are not smooth



1. Drooping eyebrows
2. European-style eyes
3. Fine lines on the lower eyelid



4. Crow's feet
5. Relaxation
6. Eye bags



## Two main tasks of the operation process

---

---

(一) Present the best results with heart  
Operation is careful and meticulous, refuses to model  
Pay attention to customer needs and feelings  
Pursue the maximum effect under the premise of ensuring safety

(二) Use professionalism to win customer recognition  
Let customers feel the professionalism of the instrument  
Let customers feel the professionalism and dedication of the operator  
Obtain the recognition and trust of customers

## Two sub-tasks in the operation process

---

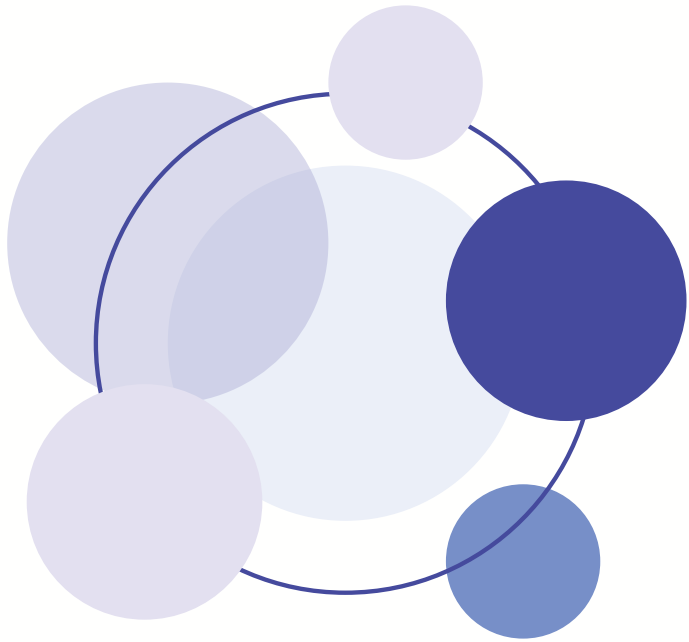
---

### (一) Customer Expectation

Management Explain the mechanism of collagen regeneration  
A vision that portrays long-term results  
Give customers positive incentives

### (二) Customer Concept

Guidance Guide customers to the concept of long-term maintenance  
Guide to increase and upgrade orders for other parts of the same product  
Pave the way for maintenance, household, and health projects



# **7D Focused Ultrasound Instrument practice**





## Materials to be prepared before operation

---

---

---

Line drawing pen, fat measuring ruler and line drawing ruler

---

Ultrasonic gel, gel bowl and scraper  
Cleansing basin, water, soft cleansing towels, cotton pads, cotton swabs, paper towels

---

Disinfection Alcohol

---

Disposable pad towel and headgear

---

Disposable surgical gloves and masks

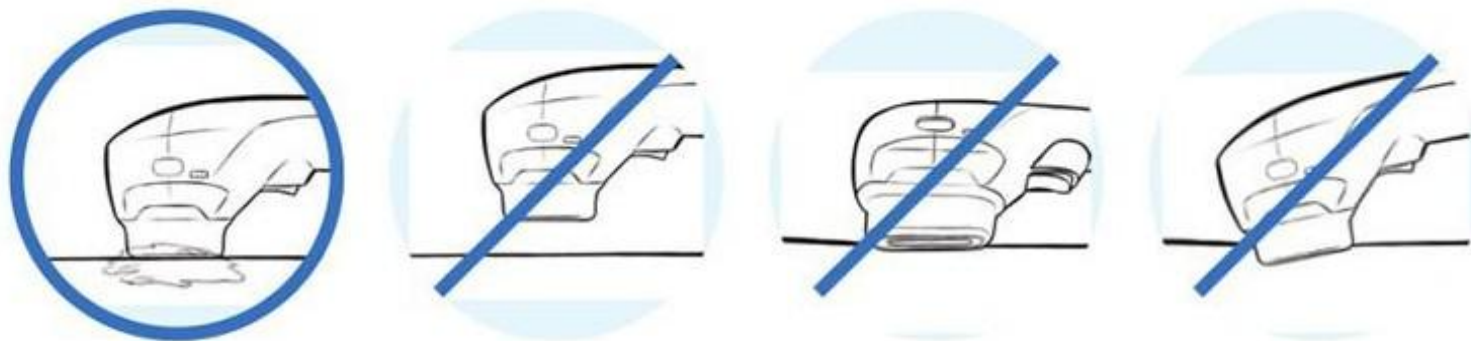



## Operation first note

---

---

The probe must be flat!



 在探头和皮肤表面没有完全适当接触的情况下，请勿输出能量。  
在护理区域未涂抹超声凝胶的情况下，请勿输出能量。

# Other operating matters needing attention

---

## ○ 禁忌症

ULTRAFORMER III 禁止用于以下患者：

- 怀孕或哺乳时
- 护理区开放性伤口或损伤
- 护理区出现严重或囊性痤疮
- 护理区有金属支架/电气植入物
- 生物可吸收机械植入物
- 任何类型的皮肤感染
- 出血性疾病或功能障碍

## ○ 病患注意事项

以下病患者，需注意并确认护理的适当性：

- 抗凝治疗
- 由自身免疫性疾病、皮肤癌和单纯疱疹引起的皮肤病
- 糖尿病或癫痫
- 严重的皮肤病
- 剥脱手术或心脏病
- 过敏症或增生性疤痕
- 止血功能障碍

## ○ 操作注意事项

为避免护理过程中的风险，需注意以下事项：

- 未完成经授权的CLASSYS代表的培训，不得使用ULTRAFORMER III。
- 为防止未经授权使用设备，应确保仅限经过培训和认证的人员使用。
- 为避免护理过程中可能造成的伤害，请勿在患者眼睛附近操作使用ULTRAFORMER III。
- 避免对甲状腺、甲状腺软骨和气管进行护理。
- 避免直接对乳房组织和主要血管进行护理。
- 如果出现任何故障或不良事件，立即停止护理程序。
- 在使用ULTRAFORMER III护理之前，务必记得在护理区涂抹适量的超声凝胶。
- 输出能量前，检查探头是否正确地完全贴在皮肤上。

## ○ 系统安全注意事项

为确保系统安全和正确维护ULTRAFORMER III，需注意以下事项：

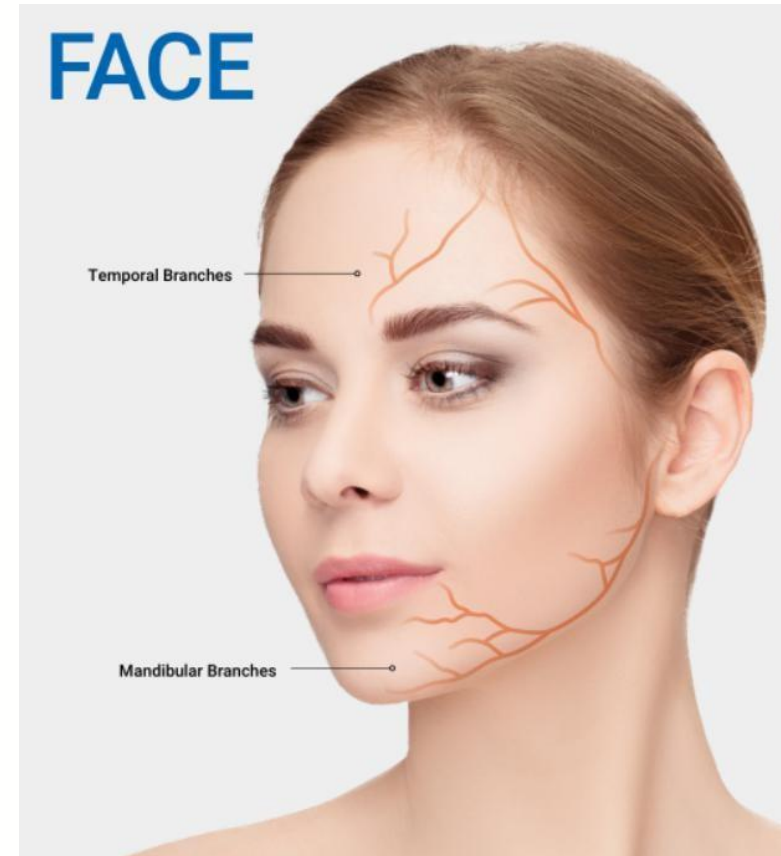
- 为避免电击危险，使用前务必检查探头、手具和电源线。
- 不要使用已经损坏或正在泄漏液体的电源线或探头。
- 不要拆卸ULTRAFORMER III主机的盖子或手具，因为不允许对该设备进行修改。
- ULTRAFORMER III并不包含用户可维修的组件。如果系统需要维修，请联系当地经销商或CLASSYS代表。
- 不要斜靠在设备上，也不要对设备造成物理外部冲击，因为这可能导致永久性系统损坏。
- 不要在周围区域使用带有麻醉气体或易燃材料的设备。



## Precautions for face and neck care

---

- Do not treat the bone area and nerve area;
- Do not directly enter the orbit, breast, clavicle, supraorbital, temporal or mandibular nerveLine operation
- When taking care of the facial area, please treat on one side first, and then on the otherSide care
- Do not operate continuously on the same part;
- Avoid performing operations on specific parts that may cause tingling of the patient;After repeating the operation, check the skin reaction and the patient's sensitivity level. According to the patient
- The patient's tolerance level to continue treatment or reduce parameters;Ensure that the number of hairs is always evenly distributed over the marked treatment area;When dealing with multiple layers, please proceed in the following order from dark to light: For example:4.5mm 3.0mm 2.0mm 1.5mm



Nerve areas to avoid: Inferior border nerve, temporal facial nerve, supraorbital nerve

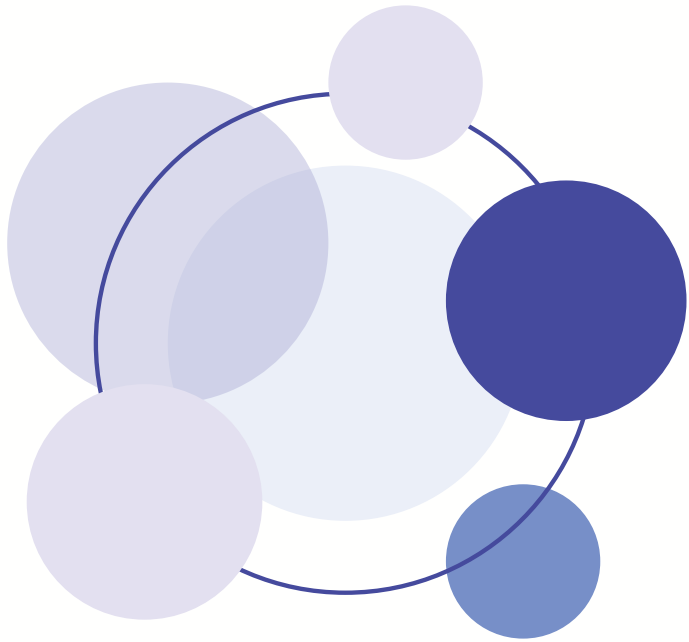
# Practical skills-line drawing

---

---

## Why draw lines?

1. Mark the taboo area: nerve area, bone margin, orbit, belly button, buttocks, breast tissue, thyroid, etc. It is strictly forbidden to operate in the position; the drawing lines of the taboo parts should be drawn in the surgical posture to prevent displacement;
2. Mark the areas that need to be improved: such as beeping meat, eye bags, ordinance lines, etc., draw lines when standing or sitting;
3. Prevent overlap or omission during the operation;
4. Increase the sense of ritual and professionalism of the operation;



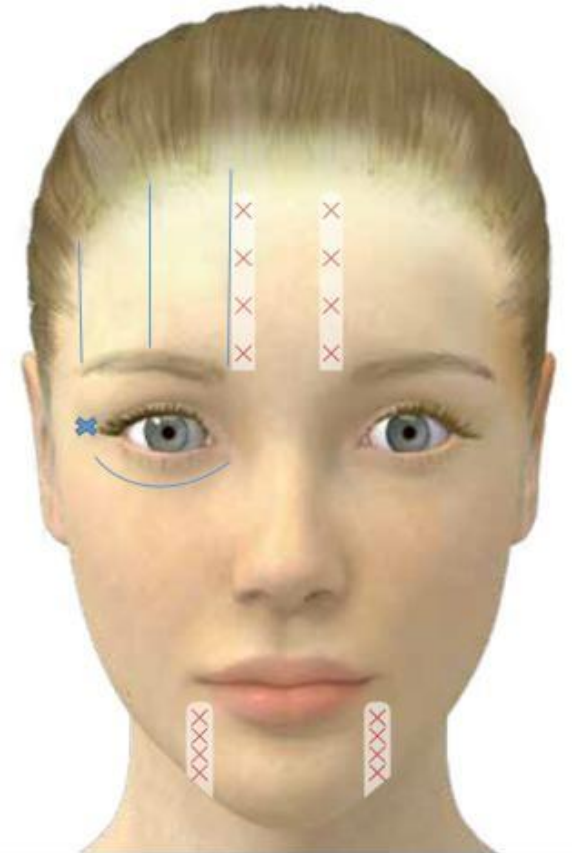
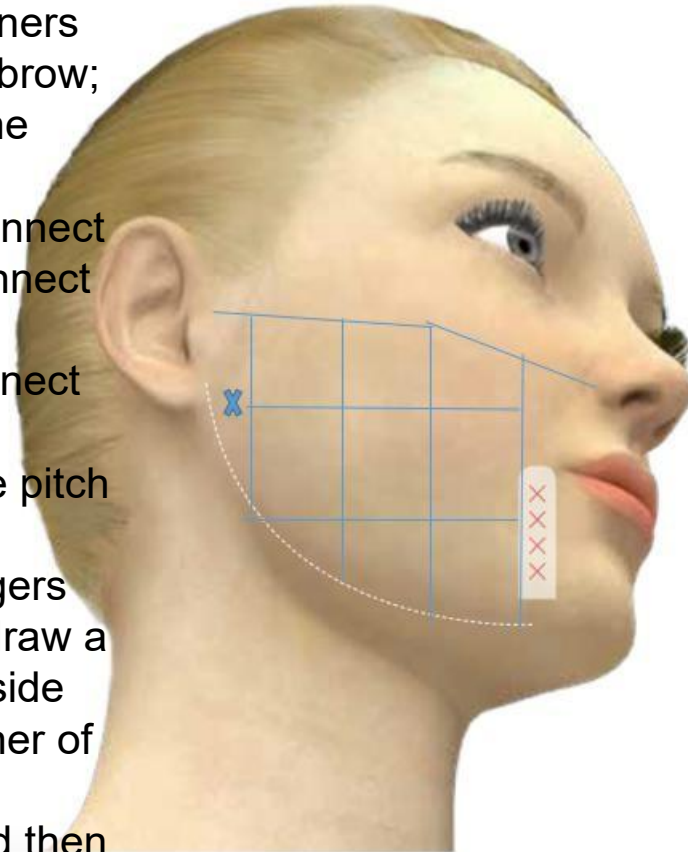
# **7D Focused Ultrasound**

## **Instrument practice (face + neck)**



## Face line drawing

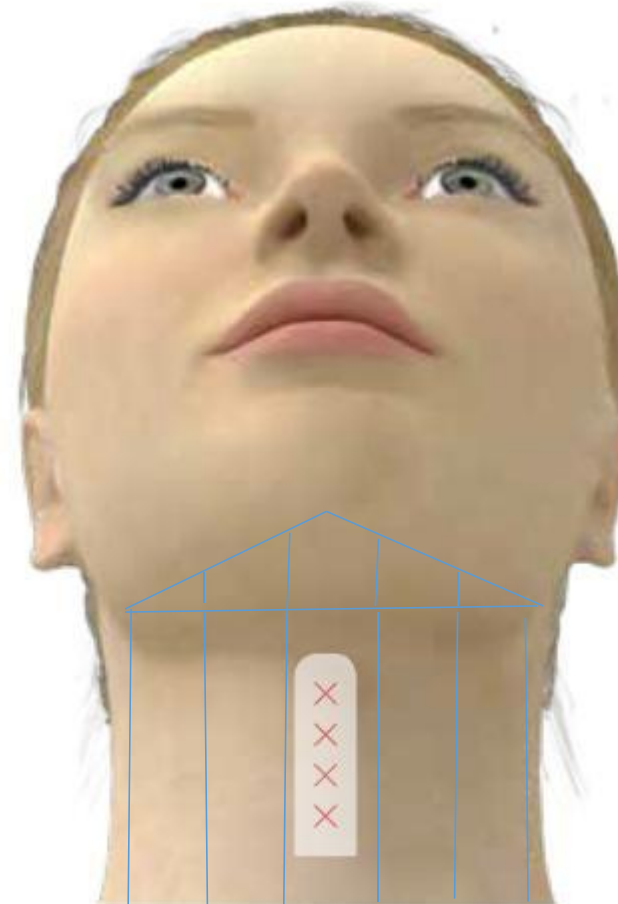
1. Mark the taboo area: one finger next to the mouth, one finger next to the ears, sunken temples, corners of the eyes, and one finger on both sides of the brow;
2. Find the position of the jaw line and draw a line along the edge of the jaw line;
3. Find the highest point of the apple muscle, connect the nose wing to the apple muscle, and then connect the apple muscle to the ear;
3. Avoid the corners of the mouth by 1-2cm, connect vertically
4. Operate the pitch with the probe, translate the pitch point, and connect;
5. When drawing a line on the eye, use your fingers to trace out the position of the eye socket, and draw a line along the eye socket. Do not operate the inside of the eye socket. Hit the "X" position at the corner of the eye, do not operate;
6. Start with the taboo area on the forehead, and then move it outward to draw a line.



## Neck line drawing

---

1. Connect the mandible line along the mandible, and then find the mandible near the throat and connect it.
2. First find out the position of the throat of the neck, mark the contraindication area, and then draw a line in translation, the same on the opposite side.



# Overview of face and neck care

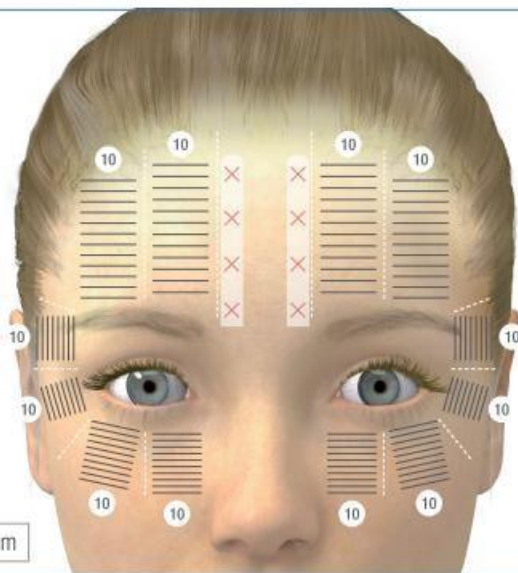
1011





# Clinical application

## 前额和眼眶周围

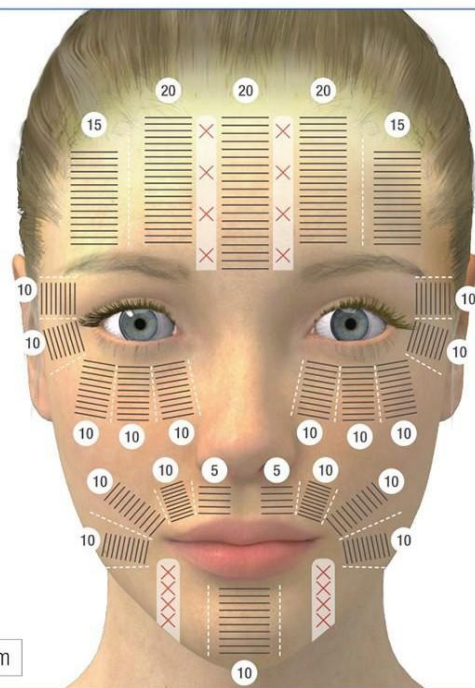


探头	能量	点间距	叠加	发数
● 1.5mm	0.1-0.2J	1.0-1.5mm	1	120

- 不要直接对眶上或颞神经区域进行护理。
- 由于探头前端与眼眶周围和前额很难牢固完全敷贴，因此请将点间距调整在10mm到15mm之间后护理。
- 在护理眶周区域时，让患者闭上眼睛。
- 当靠近眉线护理时，将探头前端向前额方向紧紧拉动后输出能量，以减轻痛感。
- 对于叠加1次的护理过程，请按照以上指南中的设计方案进行。

# Clinical application

## ○ 细纹和深层皱纹

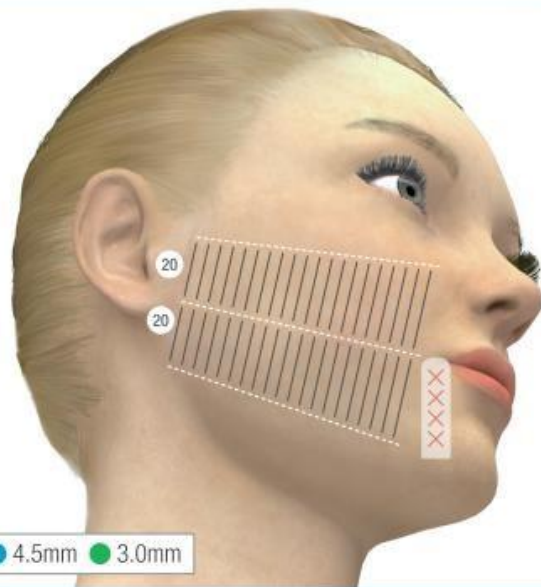
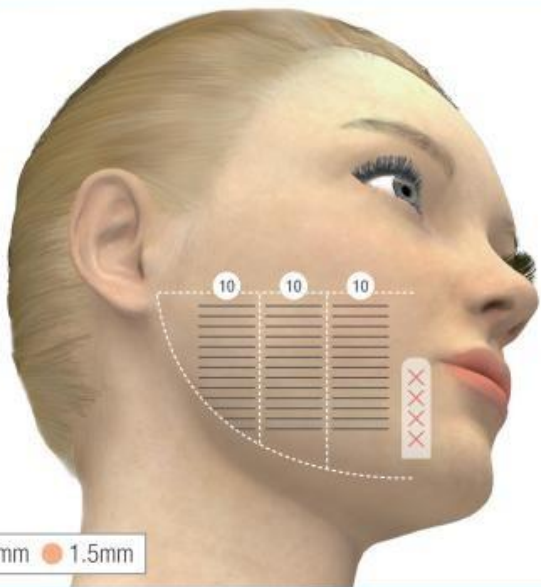


区域	探头	能量	点间距	叠加	发数
额头					90
眼部周围	● 2.0mm	0.1-0.2J	1.4-1.5mm	1	100
嘴部周围					80

- 不要直接对眶上或颞神经区域进行护理。
- 由于探头前端与眼眶周围区和前额很难牢固完全敷贴，因此请将点间距调整在10mm到15mm之间后护理。
- 在护理眶周区域时，让患者闭上眼睛。
- 当靠近眉线护理时，将探头前端向前额方向紧紧拉动后输出能量，以减轻痛感。
- 对于叠加一次的护理过程，请按照以上指南中的设计方案进行。

# Clinical application

## 脸颊

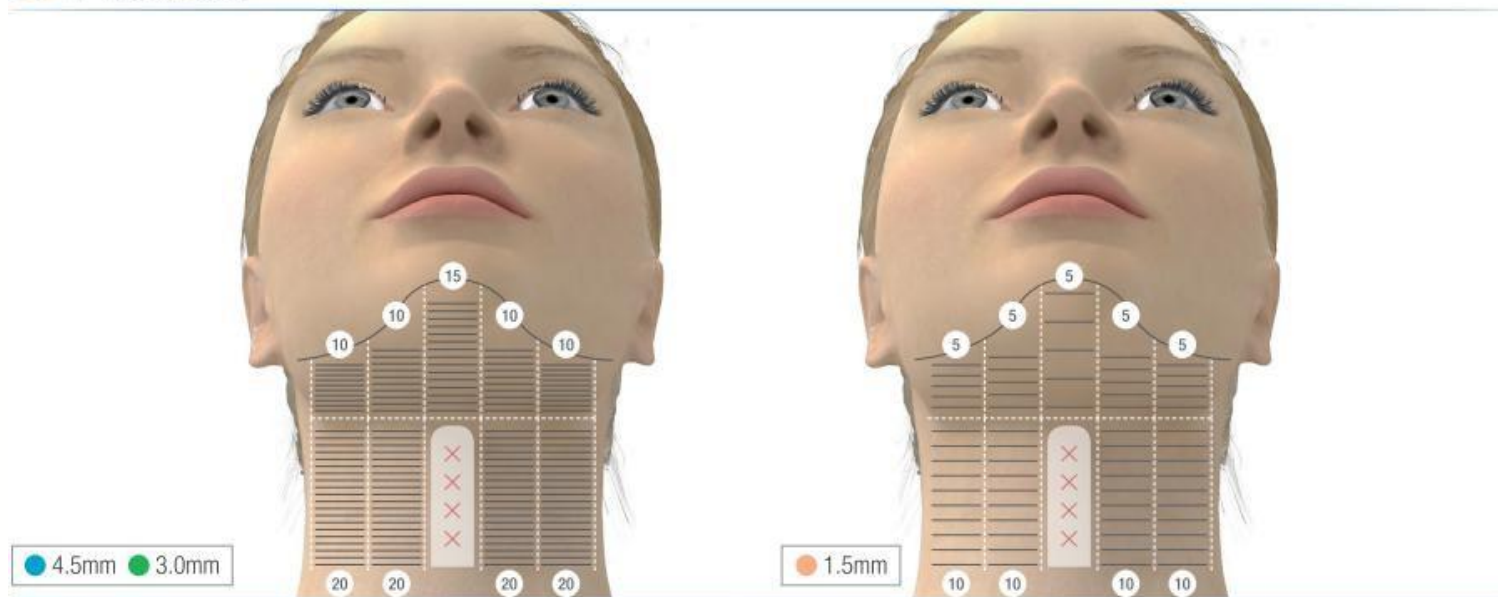


探头	能量	点间距	叠加	发数
● 4.5mm	0.6-0.9J	1.0-1.5mm	2	70/70
● 3.0mm	0.3-0.6J	1.0-1.5mm	2	70/70
● 1.5mm	0.1-0.2J	1.0-1.5mm	1	30/30

- 不要直接对下颌边缘神经区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加2次的护理过程，建议复合水平和垂直式护理手法进行护理。
- 对于叠加1次的护理过程，按照指示应用处理模式。

# Clinical application

## 下颏与颈部



探头	能量	点间距	叠加	发数
● 4.5mm	0.5-0.8J	1.0-1.5mm	1	135
● 3.0mm	0.3-0.5J	1.0-1.5mm	1	135
● 1.5mm	0.1-0.2J	1.0-1.5mm	1	65

- 不要直接对下颌边缘神经区域进行护理。
- 不要在颈部施加过大的压力，以防止护理过程中出现不适。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加1次的护理过程，按照指示应用处理模式。

## MF2 new application program

---

# THE WONDERS OF MF2

The 2.0mm or “MF2” Cartridge of the ULTRAFORMER III is designed to significantly reduce fine lines and wrinkles on the patient’s forehead and around the eyes and mouth. When making firm contact with skin, this surprisingly thin transducer can target the narrow regions and contours of the face, a feature that is too special to emulate.

### FOCAL POINTS

---

The sensitive and shallow regions around the forehead, eyes, and mouth are treatable with ease due to the narrow focus and precision supported by MF2.





# ULTRAFORMER III – MF 2 论文

## Effect of High-Intensity Focused Ultrasound on Eyebrow Lifting in Asians

Won Jong Oh, Hyun Jung Kwon, Sun Young Choi<sup>1</sup>, Kwang Ho Yoo<sup>2</sup>, Ktui Young Park, Beom Joon Kim

Department of Dermatology, Chung-Ang University College of Medicine, <sup>1</sup>Department of Dermatology, Inje University Seoul Paik Hospital, Inje University College of Medicine, Seoul, <sup>2</sup>Department of Dermatology, Catholic Kwandong University International St. Mary's Hospital, Incheon, Korea

Dear Editor:

As skin aging progresses, the elasticity of the skin decreases and facial wrinkles are commonly seen. Various treatment modalities have been applied to treat wrinkles, yet patients are seeking more effective non-invasive methods with lower risk and minimal downtime. High-intensity focused ultrasound (HIFU) technology, originally used in cancer treatment to destroy cancer cells has emerged as an effective, non-surgical, tissue-tightening procedure<sup>1</sup>. There are several reported results for face, neck, and body tightening with the HIFU device. However, there are few clinical trials that objectively present the efficacy and safety of application of HIFU to the forehead in Asian people. A total of 30 Asian patients (25 females and 5 males) were enrolled in the study. Study approval was granted by the Chung-Ang University Hospital Institutional Review Boards (C2013149[1109]). We received the patient's consent form about publishing all photographic materials. All patients were treated with HIFU device (Ultraformer; Classys Inc., Seoul, Korea) with a 7-MHz, 3-mm transducer to the forehead. Local anesthetic was applied to the target region. Depending on the width of the forehead, the HIFU device was applied along 9 to 11 vertical lines (Fig. 1). Each line consisted of 10 shots at an interval of about 5 mm. After

application of ultrasound transmission gel, the HIFU probe was accurately placed with equal pressure to connect to the skin surface. Ultrasound imaging functionality was used to check whether the probe acoustically connected to the skin tissue for treatment and whether the depth of focus was geometrically on the reticular dermis at an intermediate depth. For treatment, 90~110 shots of ultrasound exposure were applied along the lines, and irradiation was performed for 2 seconds or more per ultrasonic pulse. Ultrasonic exposure in the forehead region took about 5 to 10 minutes in total.

Before treatment, 4 weeks, and 12 weeks after treatment, standardized photographs of front and side views, rating scale values of pain, adverse events, physical findings, and patient satisfaction were recorded. We measured average eyebrow height (AEH) and maximum eyebrow height

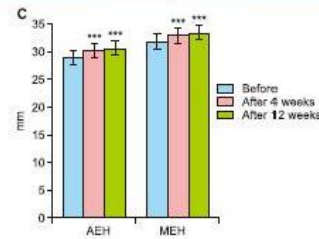
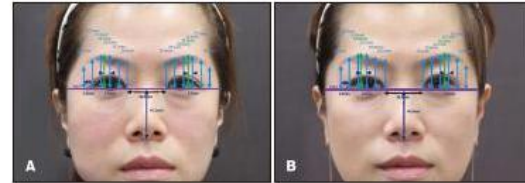


Fig. 2. Frontal view of a representative patient before (A) and 12 weeks after treatment (B). Note that superimposed lines and numbers are used to objectively measure brow position. Mean AEH and MEH (C) pre-treatment and 4 and 12 weeks post-treatment. AEH: average eyebrow height, MEH: maximum eyebrow height. \*\*\*Significant differences,  $p < 0.0001$  vs. before by paired *t*-test.

(MEH) of the patients. Both medial canthi were connected on images of the facial region seen from the front. On the medial canthi connection line, five points were assigned incrementally at intervals of 8 mm from the inside of the eye and the distance to the top of the eyebrow from each point was measured. The calculated average of the measured values was taken as the AEH, and the maximum distance from the medial canthi connection to the eyebrow was taken as the MEH (Fig. 2). Patients also rated their pain according to a visual analog scale (VAS). All adverse events, including local ones in the facial region, were included in a safety evaluation, and were recorded in the case report form and abnormalities were evaluated.

After application of the HIFU device, mean values of AEH and MEH significantly and progressively increased at 4 weeks and 12 weeks post-treatment compared with 0 weeks ( $p < 0.0001$ ). Mean AEH immediately after treatment (visit 1), at week 4 (visit 2) and week 12 (visit 3) were  $29.08 \pm 3.17$  mm,  $30.22 \pm 3.24$  mm and  $30.64 \pm 3.28$  mm, respectively. The difference in mean AEH from baseline was  $1.14 \pm 0.29$  mm at week 4 (visit 2-visit 1) and  $1.56 \pm 0.30$  mm at week 12 (visit 3-visit 1); both changes were significant ( $p < 0.0001$ ) (Fig. 2). Mean MEH immediately after treatment (visit 1), at week 4 (visit 2) and week 12 (visit 3) were  $31.98 \pm 3.40$  mm,  $33.04 \pm 3.49$  mm and  $33.46 \pm 3.50$  mm, respectively. The difference in the mean MEH from baseline was  $1.06 \pm 0.34$  mm at week 4 (visit 2-visit 1;  $p < 0.0001$ ), and

$1.48 \pm 0.36$  mm at week 12 (visit 3-visit 1;  $p < 0.0001$ ) (Fig. 2). Immediately after treatment the mean VAS score for pain was  $7.57 \pm 1.59$ , but no pain was reported at weeks 4 and 12. No permanent adverse effects were observed during the follow-up period.

Skin tightening by delivery of nonablative energy offers the promise of reduction of wrinkles and sagging with minimal downtime and no serious adverse events<sup>2</sup>. Collagen is the primary protein in the dermis, together with subcutaneous fat septae and the superficial musculoaponeurotic system (SMAS). Ultrasound energy has specific characteristics that may increase its suitability for skin tightening. First, it is widely believed that energy delivery to the deeper subcutaneous layers of the face, or even the SMAS, is most effective in inducing skin tightening<sup>3</sup>. Furthermore, to the extent that this delivery can be divorced from secondary scatter and absorption in the epidermis and dermis, the risk of inadvertent cutaneous injury can be reduced. Besides ionizing radiation, ultrasound is the only type of inductible energy that can be delivered arbitrarily deeply into tissue in a selective manner<sup>4</sup>.

Quantification of improved skin elasticity after treatment in a purely objective manner would be of great benefit for skin tightening procedures. As there is a limitation in scientific objectivity for subjective visual assessment from photographic documentation, eyebrow height was assessed using a standard measurement technique<sup>5,6</sup>. In this

study, to ensure uniform assessment of change in eyebrow elevation, we used AEH and MEH.

Several studies have reported that HIFU resulted in an improvement of facial laxity. Alam et al.<sup>7</sup> have reported that a single ultrasound treatment of the forehead produced average brow height elevation of 1.7 to 1.9 mm. Suh et al.<sup>8</sup> have showed that 61.5% of eyebrows were lifted by at least 0.5 mm at 6 months. Compared with results of the above studies, our study demonstrated significant improvement of forehead skin laxity. In conclusion, we suggest that HIFU would be useful for lax eyelid conditions such as ptosis, as it had a positive effect on eyebrow lifting in Asian people. Future studies could use intense ultrasound probes focused deeper into the tissue to achieve greater tightening efficacy. Higher resolution diagnostic ultrasound imaging would provide better intraoperative visualization of the facial tissue layers, thus facilitating precise treatment and giving better results for skin laxity. Further studies are planned in the field of skin tightening, wrinkle improvement, and skin lifting on other sites of the face.

### CONFLICTS OF INTEREST

The authors have nothing to disclose.

### ORCID

Won Jong Oh, <https://orcid.org/0000-0001-5201-7849>  
Hyun Jung Kwon, <https://orcid.org/0000-0001-8376-2358>  
Sun Young Choi, <https://orcid.org/0000-0003-0248-7708>

Kwang Ho Yoo, <https://orcid.org/0000-0002-0137-6849>  
Ktui Young Park, <https://orcid.org/0000-0001-5965-1754>  
Beom Joon Kim, <https://orcid.org/0000-0003-2320-7621>

### REFERENCES

- Laubach HJ, Makin IR, Barthe PG, Slayton MH, Manstein D. Intense focused ultrasound: evaluation of a new treatment modality for precise microcoagulation within the skin. *Dermatol Surg* 2008;34:727-734.
- Alam M, White LE, Martin N, Witherspoon J, Yoo S, West DP. Ultrasound tightening of facial and neck skin: a randomized prospective cohort study. *J Am Acad Dermatol* 2010;62:262-269.
- Han-Shai Y, Bodner SR, Egozy-Golan D, Lindenbaum ES, Ben-Zohar O, Mitz V, et al. Mechanical properties and microstructure of the superficial musculoaponeurotic system. *Plast Reconstr Surg* 1996;98:59-70; discussion 71-73.
- Suh DH, Oh YJ, Lee SJ, Rho JH, Song KY, Kim NJ, et al. A intense-focused ultrasound tightening for the treatment of infraorbital laxity. *J Cosmet Laser Ther* 2012;14:290-295.
- Fitzpatrick R, Ceronemus R, Goldberg D, Kaminer M, Kilmer S, Ruiz-Esparza J. Multicenter study of noninvasive radiofrequency for periorbital tissue tightening. *Lasers Surg Med* 2003;33:232-242.
- Nahm WK, Su TT, Rotunda AM, Moy RL. Objective changes in brow position, superior palpebral crease, peak angle of the eyebrow, and jowl surface area after volumetric radiofrequency treatments to half of the face. *Dermatol Surg* 2004;30:922-928; discussion 928.

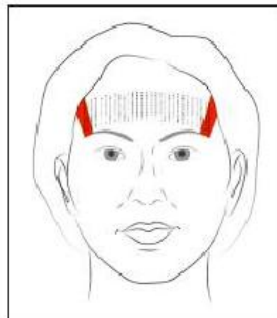
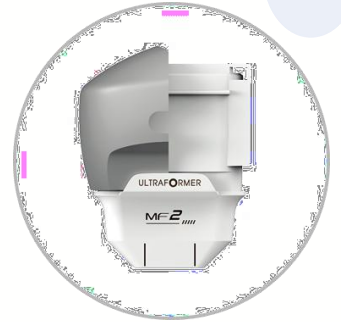


Fig. 1. Diagram showing proper distribution of line placement in the treatment region. Danger zones over the relative locations of the temporal branch of trigeminal nerves are highlighted in red.

Received August 4, 2017, Revised February 1, 2018, Accepted for publication February 28, 2018

Corresponding author: Beom Joon Kim, Department of Dermatology, Chung-Ang University Hospital, 103 Heukseok-ro, Dongjak-gu, Seoul 06973, Korea. Tel: 82-2-6299-1535, Fax: 82-2-623-1049, E-mail: beomjoon@cau.ac.kr  
ORCID: <https://orcid.org/0000-0003-2320-7621>

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Copyright © The Korean Dermatological Association and The Korean Society for Investigative Dermatology

MF2 new application program

---

MF2 Application\_ Forehead, eye bags, eye wrinkles



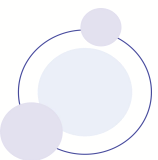
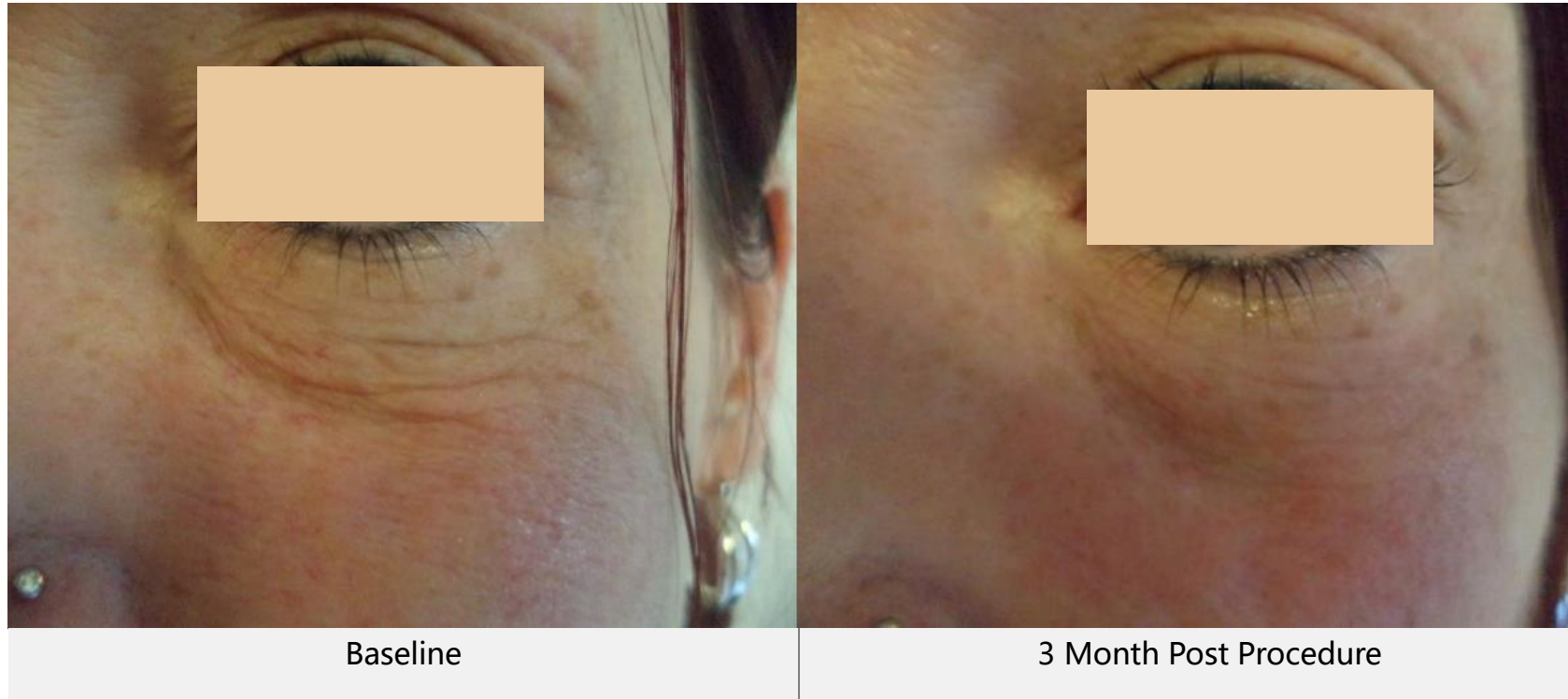


# MF2 new application program

---

---

## MF2 Application\_ Eye Bag





## MF2 new application program

---

---

### MF2 Application\_ Eyebrow Lifting



Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2 J	1.0-1.5mm	80	2

## MF2 new application program

---

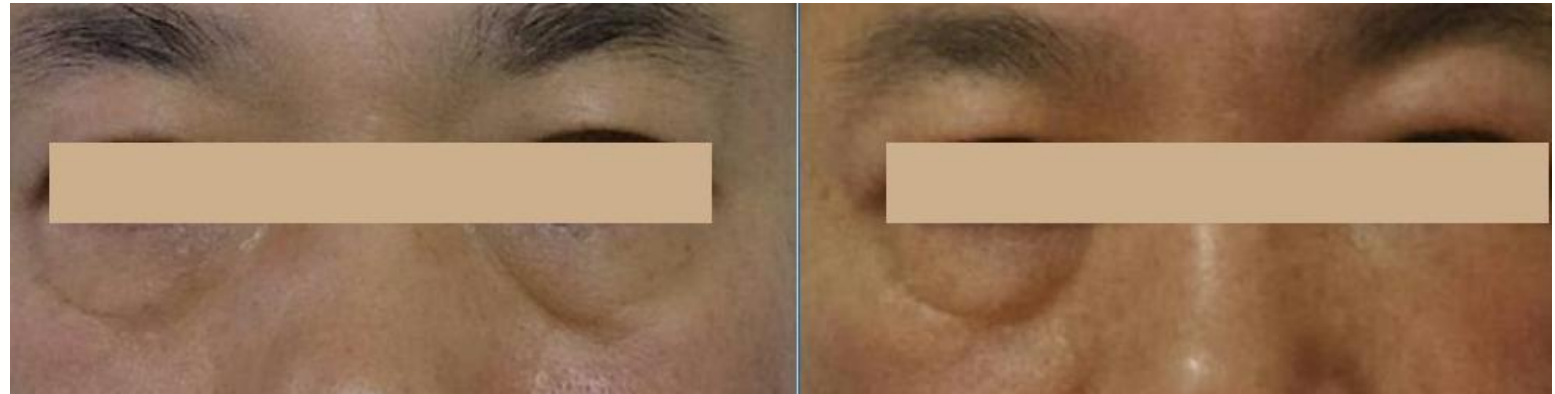
### MF2 Application\_ Lower orbital



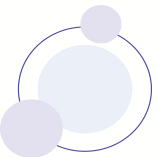
Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2 J	1.0-1.5mm	80	2

# MF2 new application program

## MF2 Application\_ Eye Bag



Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2 J	1.0-1.5mm	80	2





## MF2 new application program

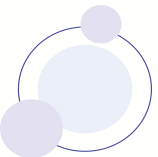
### MF2 Application\_ Law Pattern



Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2 J	1.0-1.5mm	80	2

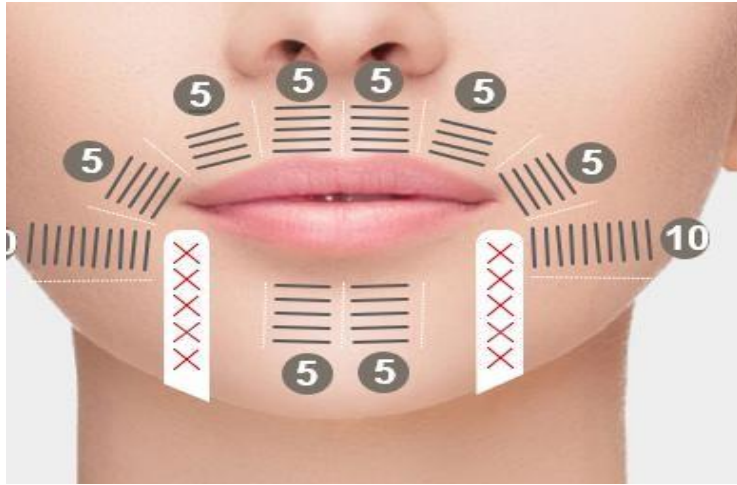
0.2-  
0.3

10  
0

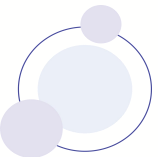


## MF2 new application program

### MF2 application\_ around the mouth

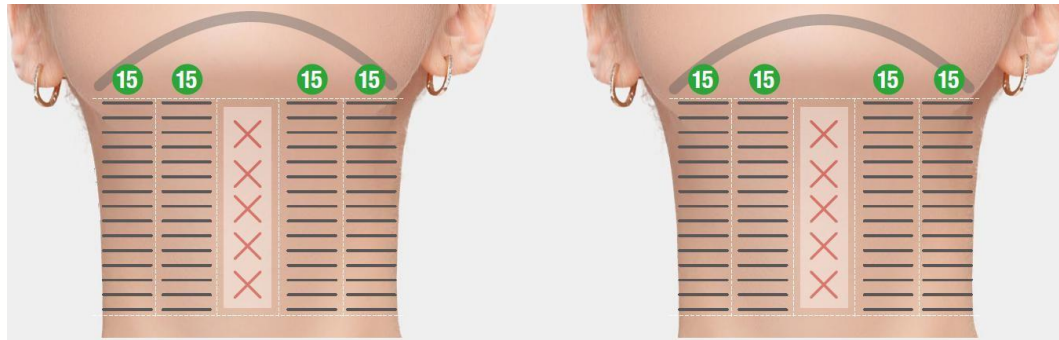


Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2 J	1.0-1.5mm	80	2



# MF2 new application program

## MF2 Application\_ Neck



Cartridge	Energy	Pitch	Total	Passes
● 3mm	0.4-0.5J	1.0-1.5mm	120	2

Cartridge	Energy	Pitch	Total	Passes
● 2mm	0.1-0.2J	1.0-1.5mm	120	2

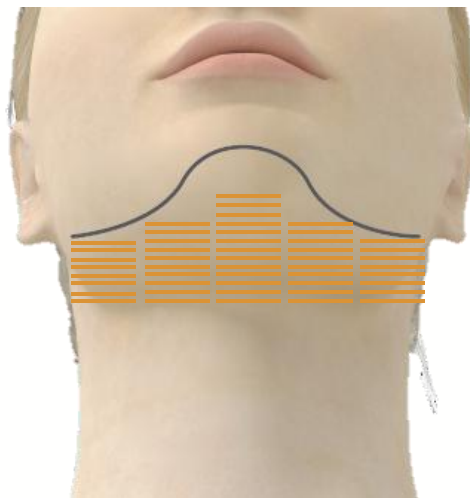


Baseline

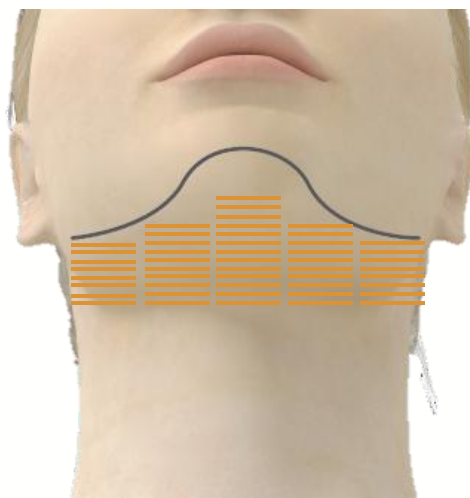
3 Month Post Procedure

# MF6 new application program

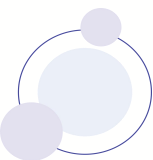
## MF6 Application\_ Double Chin



6m  
m                      **0.8 – 1.0**  
                                 **J**  
                                 100~150  
                                 发



4.5m  
m                      **0.6 – 0.8**  
                                 **J**  
                                 100~150  
                                 发





# MF6 new application program

---

## MF6 Application\_ Double Chin



Baseline

Immediately Post Procedure

6 Months Post Procedure

# MF6 new application program

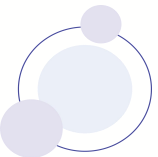
---

MF6 Application\_ Double Chin



Baseline

3 Month Post Procedure

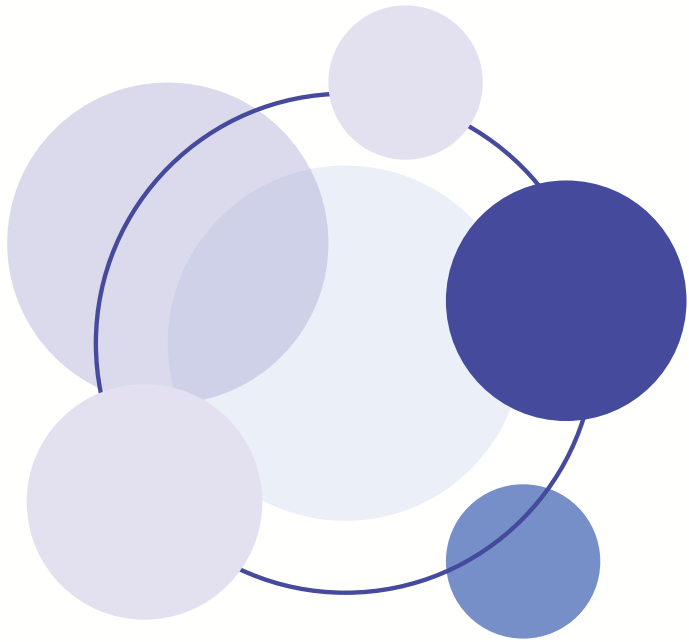


## MF6 new application program

---

### MF6 Application\_ Double Chin





# **7D Focused Ultrasound**

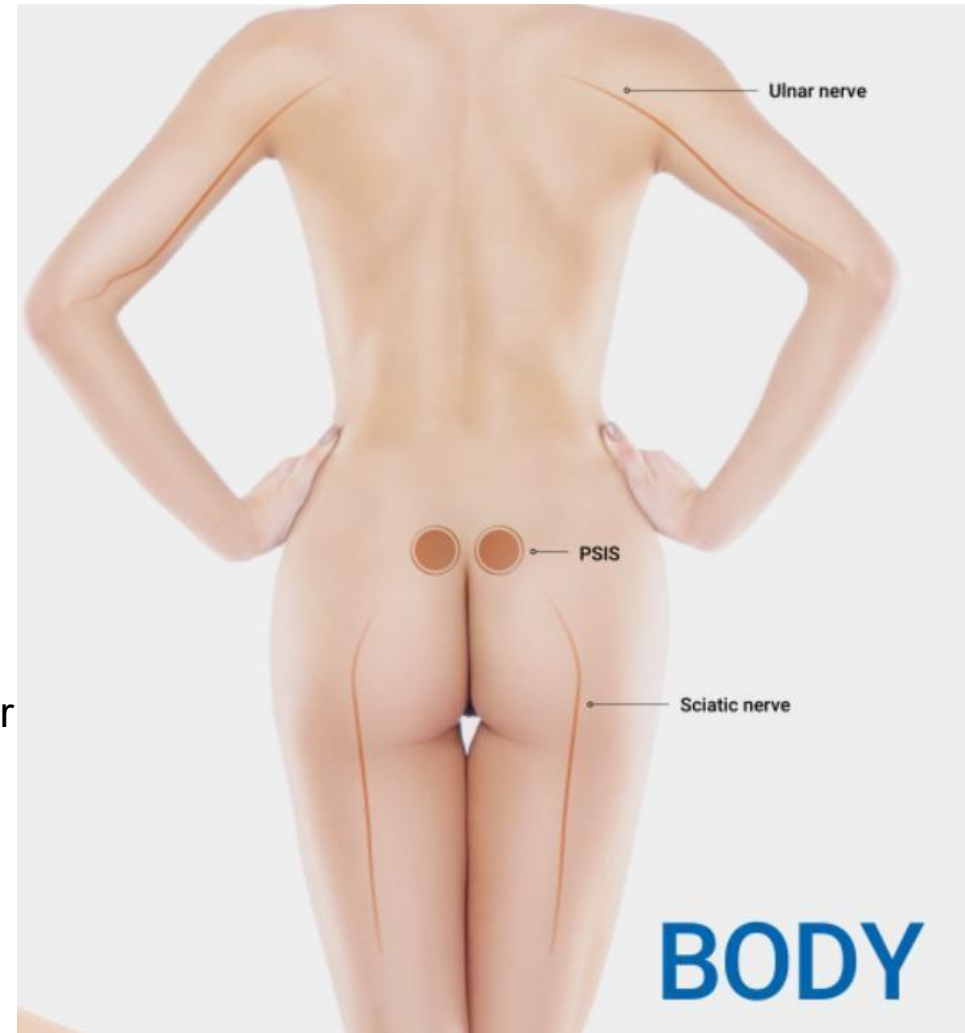
## **Instrument practice (body)**



## Body care precautions

---

Do not operate on the bone area and nerve area;  
Do not directly manipulate the belly button, posterior superior spine (PSIS), pelvis, ulna or sciatic nerve;  
When caring for body parts, please perform treatment on one side first, and then perform operations on the other side;  
Avoid performing operations on specific parts that may cause tingling of the patient;  
After stacking, pay attention to check the skin reaction and the patient's sensitivity level. Continue treatment or reduce parameters according to the patient's tolerance level;  
Ensure that the number of hairs is always evenly distributed over the marked treatment area;  
The patient must select the appropriate probe based on the results of the fat caliper measurement at the site to be operated:  
MF6: 12 mm MF9: 18 mm MF13: 26 mm



Neural areas to avoid:  
Umbilical cord, superior posterior spine (PSIS), pelvic nerve, ulnar nerve, sciatic nerve



## Body line drawing-abdomen

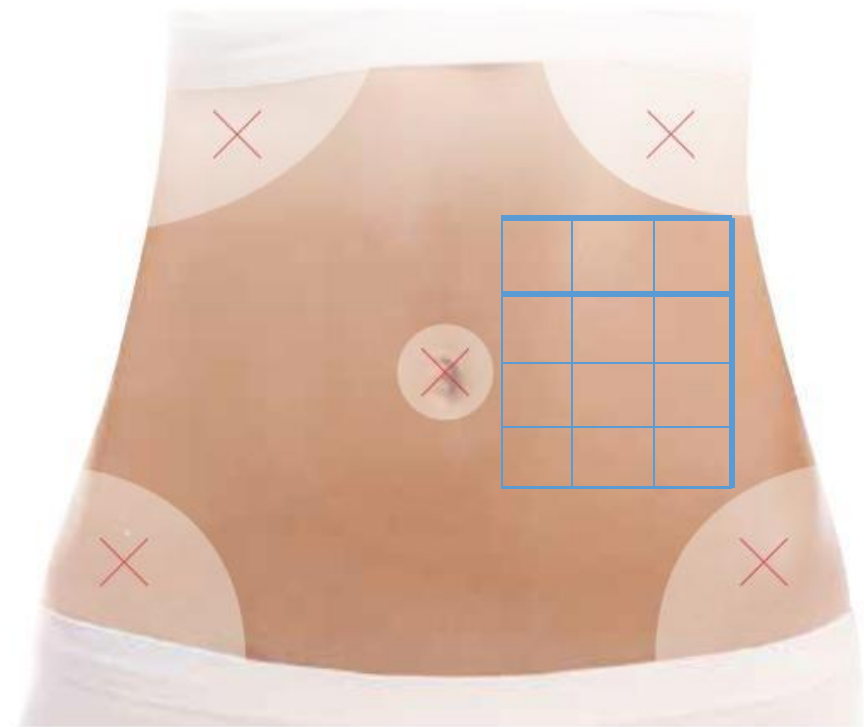
---

---

1. Mark the taboo area first, with 2 fingers on the upper and lower sides of the umbilicus, and the lower edge of the ribs

Draw lines along the edges of the ribs. Draw a line along the edge of the ilium.

2. Draw a line ruler on the abdomen and connect the lines according to the position of the points, as shown in the figure.



## Body line drawing-thigh

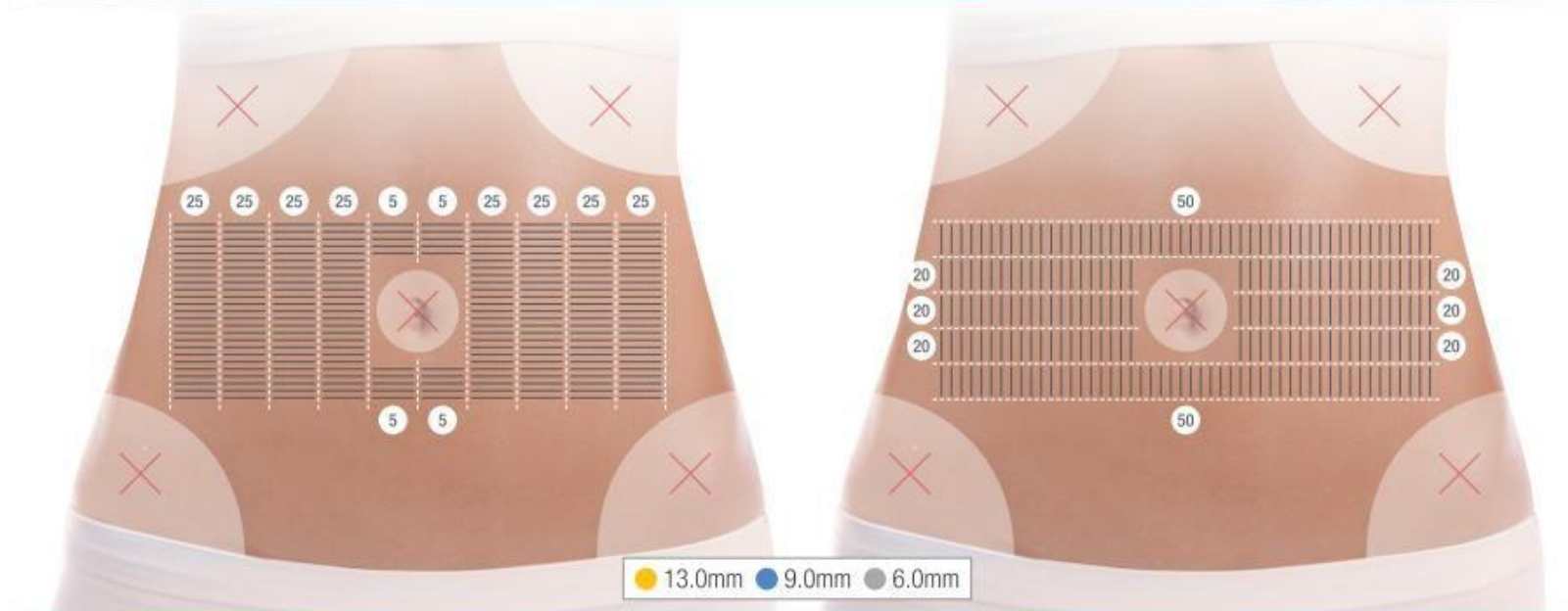
1. Find out the nerve location and mark the contraindication area.
2. Use the body to draw a line ruler, mark the position of the points and connect them, the opposite side is the same.





# Clinical application

## 腹部

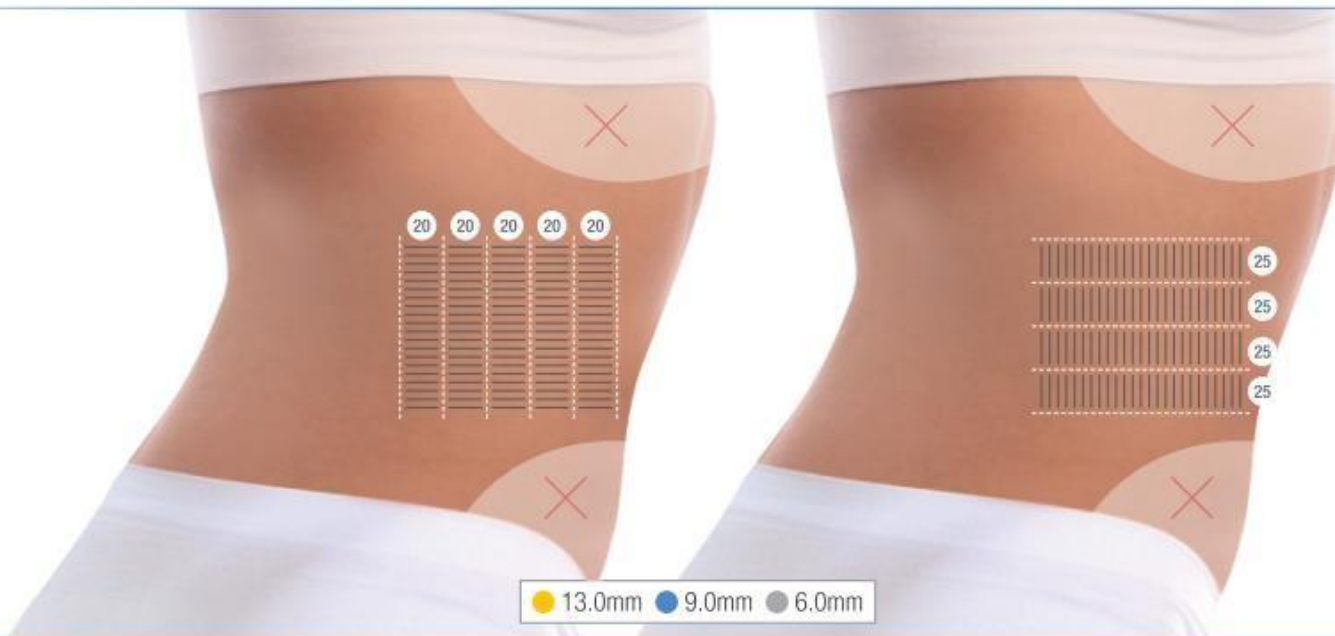


探头	能量	点间距	叠加	发数
● 13.0mm	1.5-2.2J	1.0-1.5mm	3	660
● 9.0mm	1.5-2.5J	1.0-1.5mm	3	660
● 6.0mm	1.5-2.2J	1.0-1.5mm	3	660

- 不要直接对肚脐、肋骨或骨盆区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加3次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。当然也可以选择水平或垂直任意一种手法进行2次叠加护理。

# Clinical application

## 腹侧

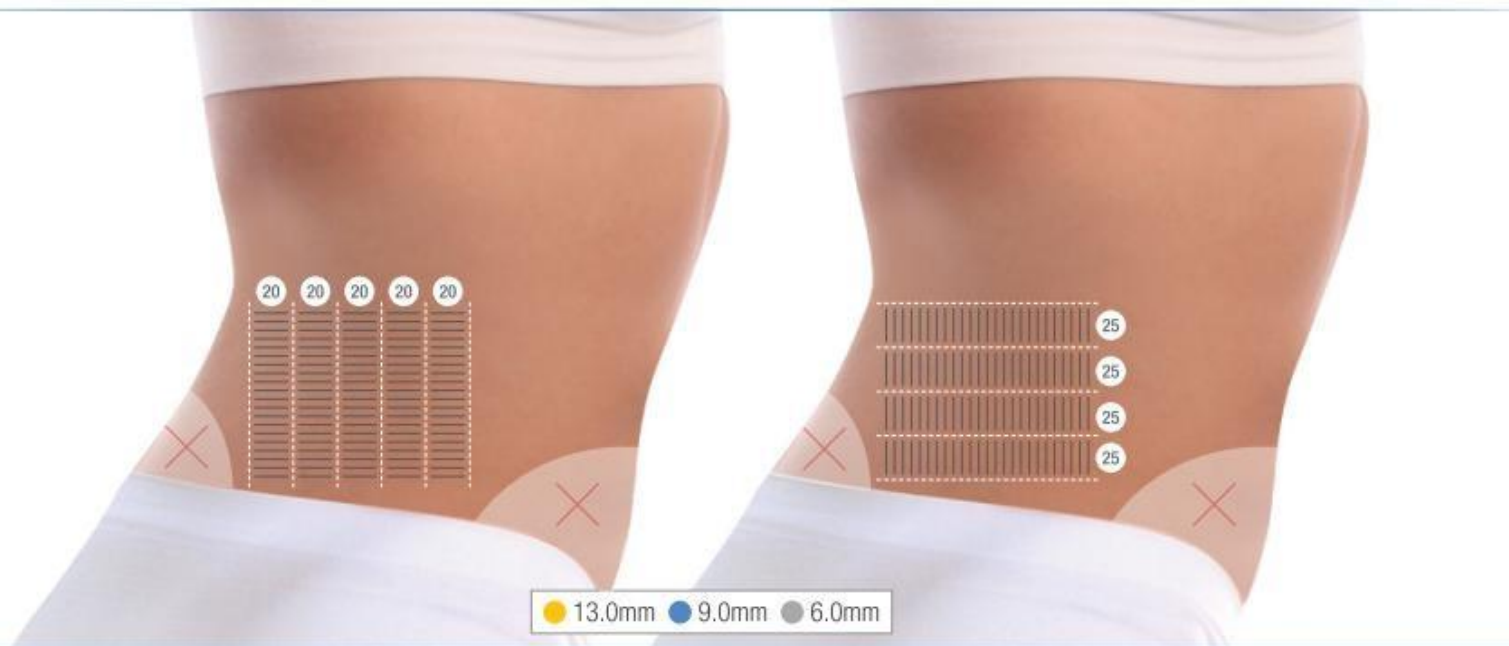


探头	能量	点间距	叠加	发数
● 13.0mm	1.0-1.8J	1.0-1.5mm	3	300/300
● 9.0mm	1.0-1.9J	1.0-1.5mm	3	300/300
● 6.0mm	0.8-1.3J	1.0-1.5mm	3	300/300

- 不要直接对肋骨或骨盆区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加3次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。当然也可以选择水平或垂直任意一种手法进行2次叠加护理。

# Clinical application

## 腰部

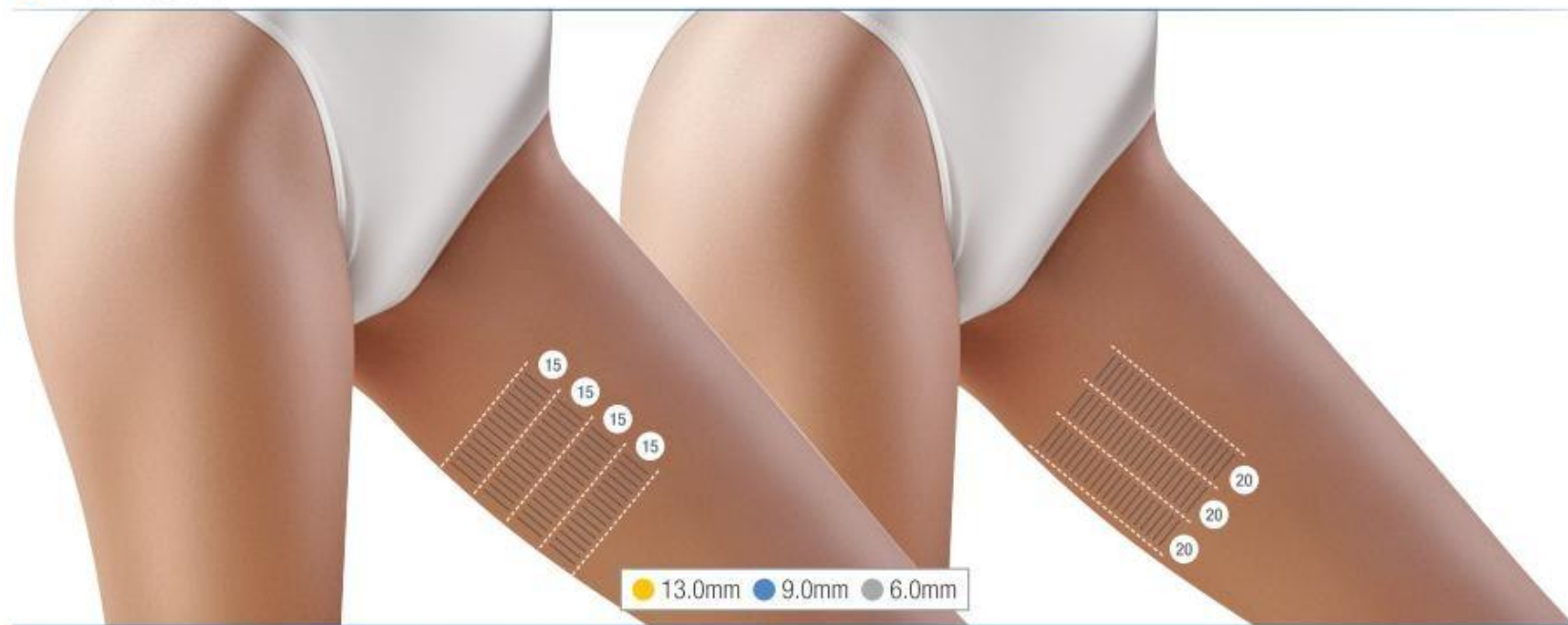


探头	能量	点间距	叠加	发数
● 13.0mm	0.8-1.3J	1.0-1.5mm	3	300/300
● 9.0mm	0.8-1.5J	1.0-1.5mm	3	300/300
● 6.0mm	0.6-1.2J	1.0-1.5mm	3	300/300

- 不要直接在髂后上棘（psis）或骨盆区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加3次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。当然也可以选择水平或垂直任意一种手法进行2次叠加护理。

## Clinical application

### ○ 大腿内侧



探头	能量	点间距	叠加	发数
● 13.0mm	0.5-1.2J	1.0-1.5mm	3	180/180
● 9.0mm	1.0-1.5J	1.0-1.5mm	3	180/180
● 6.0mm	1.0-1.5J	1.0-1.5mm	3	180/180

- 不要直接对坐骨神经区域进行护理。

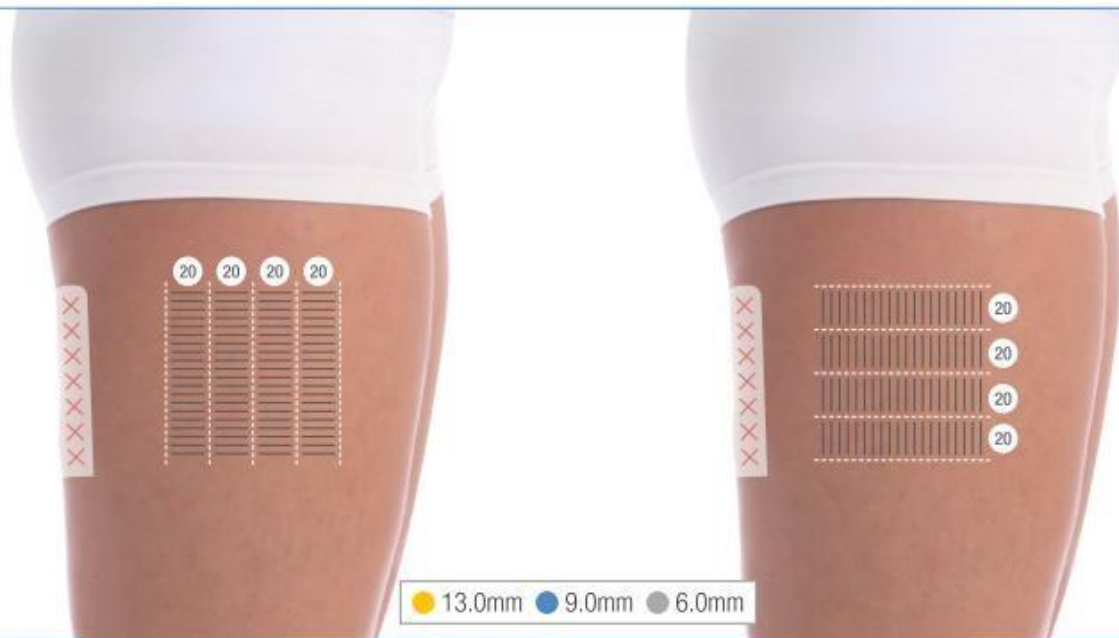
- 多层次护理时，应按顺序从深到浅进行护理。

Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm

- 对于叠加3次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。当然也可以选择水平或垂直任意一种手法进行2次叠加护理。

# Clinical application

## ○ 大腿外侧



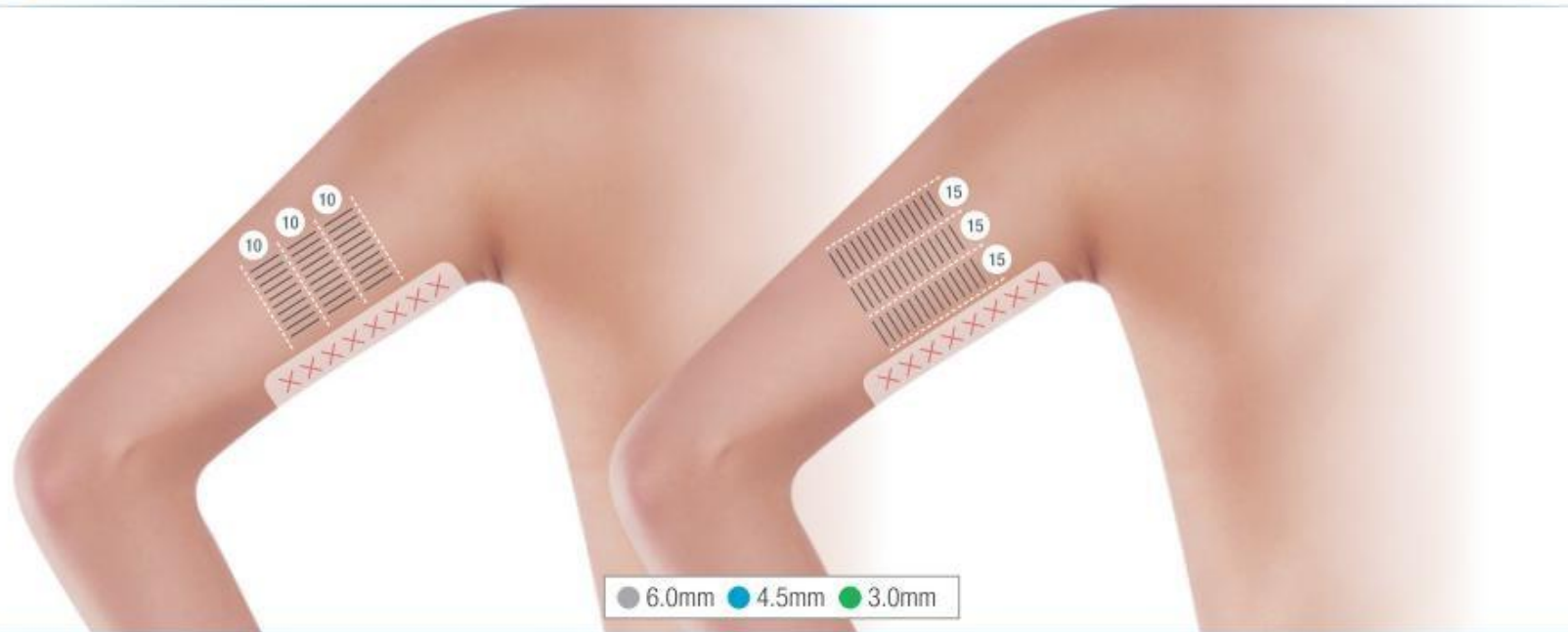
探头	能量	点间距	叠加	发数
● 13.0mm	0.8-1.5J	1.0-1.5mm	3	240/240
● 9.0mm	1.0-2.0J	1.0-1.5mm	3	240/240
● 6.0mm	1.0-2.0J	1.0-1.5mm	3	240/240

- 不要直接对坐骨神经区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加3次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。当然也可以选择水平或垂直任意一种手法进行2次叠加护理。



## Clinical application

### ○ 上臂



探头	能量	点间距	叠加	发数
● 6.0mm	0.8-1.5J	1.0-1.5mm	2	75/75
● 4.5mm	0.6-1.0J	1.0-1.5mm	2	75/75
● 3.0mm	0.6-0.9J	1.0-1.5mm	2	75/75

- 不要直接对尺神经部位进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加2次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。

## Clinical application

### 腋窝



● 6.0mm ● 4.5mm ● 3.0mm

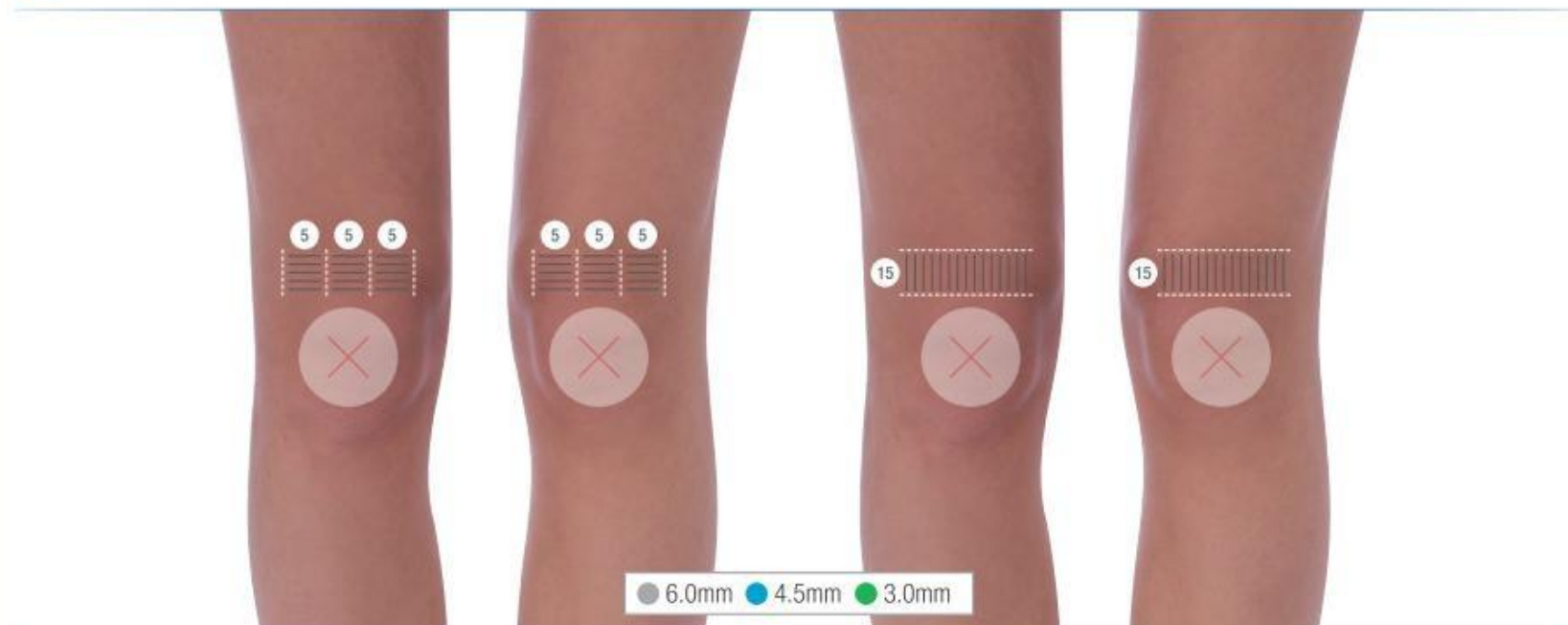
探头	能量	点间距	叠加	发数
● 6.0mm	0.6-0.9J	1.0-1.5mm	2	20/20
● 4.5mm	0.5-0.8J	1.0-1.5mm	2	20/20
● 3.0mm	0.5-0.8J	1.0-1.5mm	2	20/20

- 不要直接对乳房组织或尺神经部位进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加2次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。



## Clinical application

### ○ 膝盖

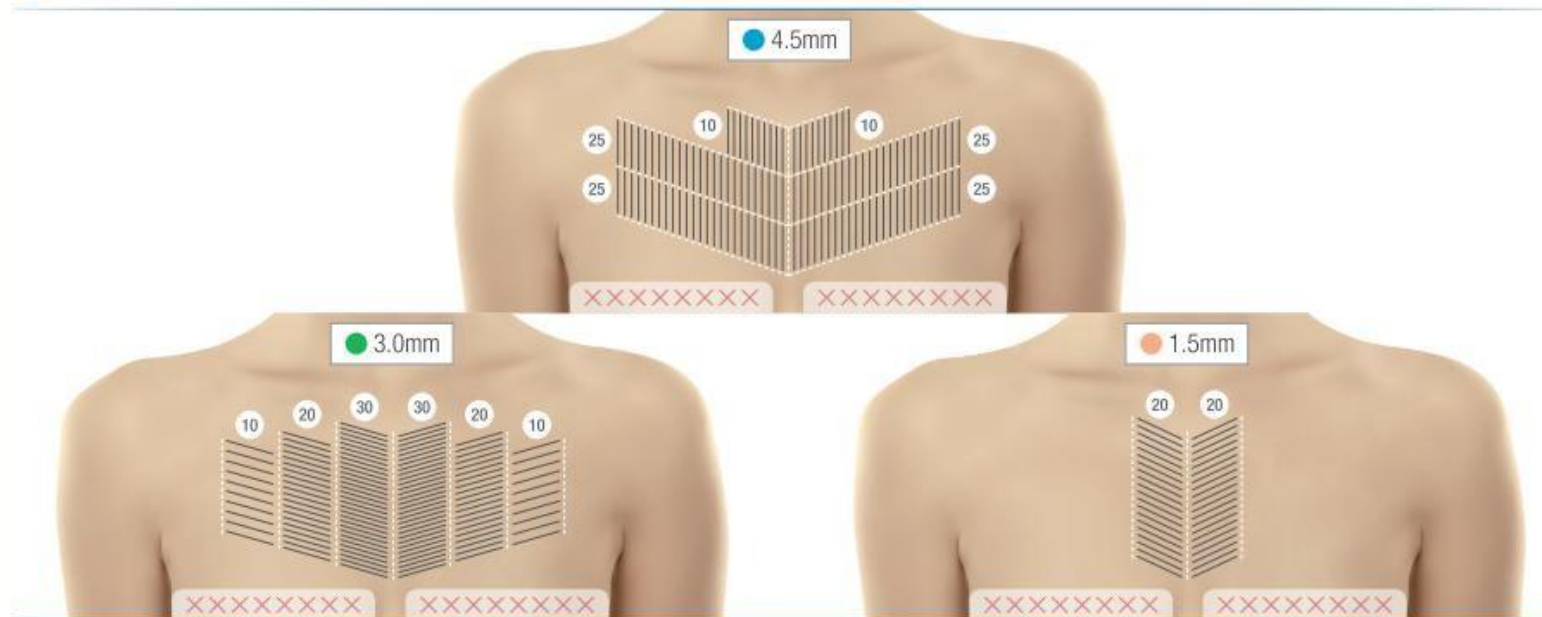


探头	能量	点间距	叠加	发数
● 6.0mm	1.0-2.0J	1.0-1.5mm	2	30/30
● 4.5mm	0.6-0.9J	1.0-1.5mm	2	30/30
● 3.0mm	0.6-0.8J	1.0-1.5mm	2	30/30

- 不要直接在膝盖或神经部位进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加2次的护理过程，建议采用如上所示的水平和垂直复合手法进行护理。

# Clinical application

## 胸肩

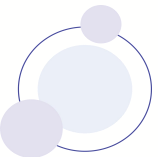


探头	能量	点间距	叠加	发数
● 4.5mm	0.2-0.4J	1.0-1.5mm	1	120
● 3.0mm	0.2-0.4J	1.0-1.5mm	1	120
● 1.5mm	0.1-0.2J	1.0-1.5mm	1	40

- 不要直接对锁骨、乳腺组织或乳房植入物区域进行护理。
- 多层次护理时，应按顺序从深到浅进行护理。  
Ex: 4.5mm ▶ 3.0mm ▶ 1.5mm
- 对于叠加1次的护理过程，按照指示应用处理模式。

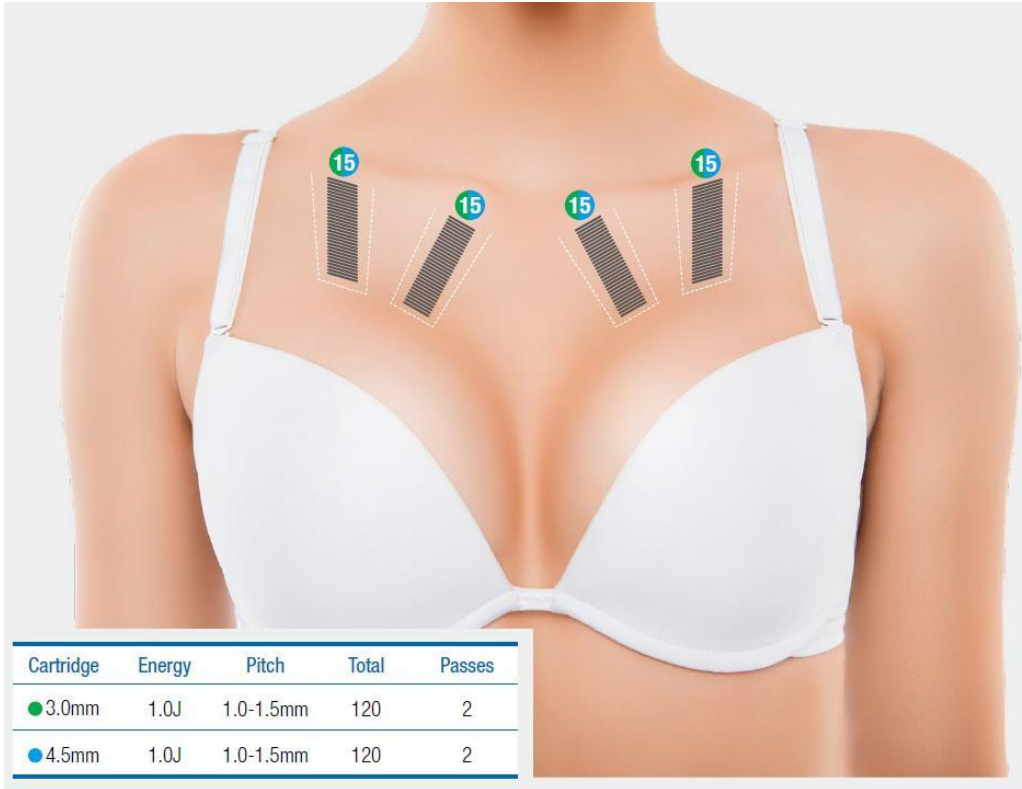


New application solutions based on global user feedback



# 3.0&4.5 new application scheme

## Breast lift



The diagram shows a woman's chest with four treatment areas marked with '15' in a green circle. Below the diagram is a table with the following data:

Cartridge	Energy	Pitch	Total	Passes
● 3.0mm	1.0J	1.0-1.5mm	120	2
● 4.5mm	1.0J	1.0-1.5mm	120	2



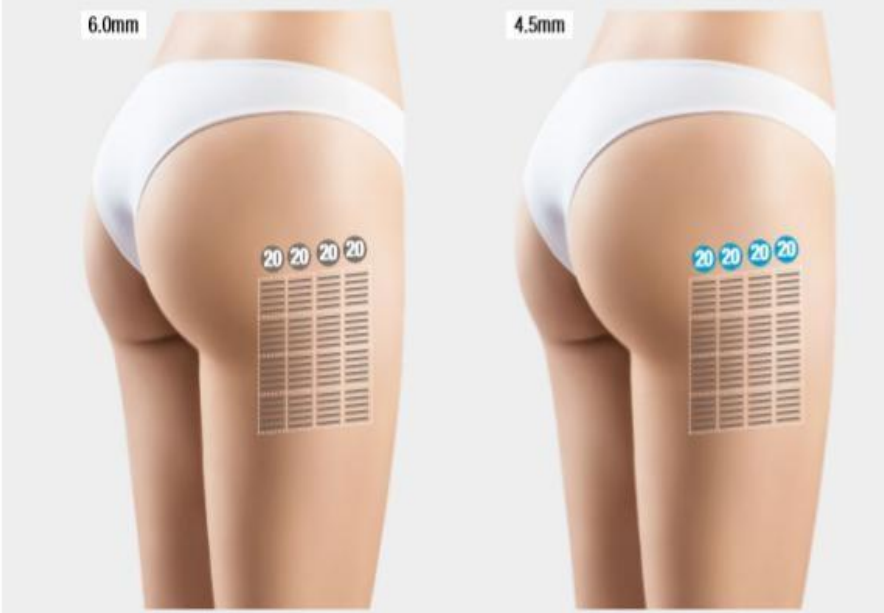
**Baseli  
ne**



**Post  
Procedure**

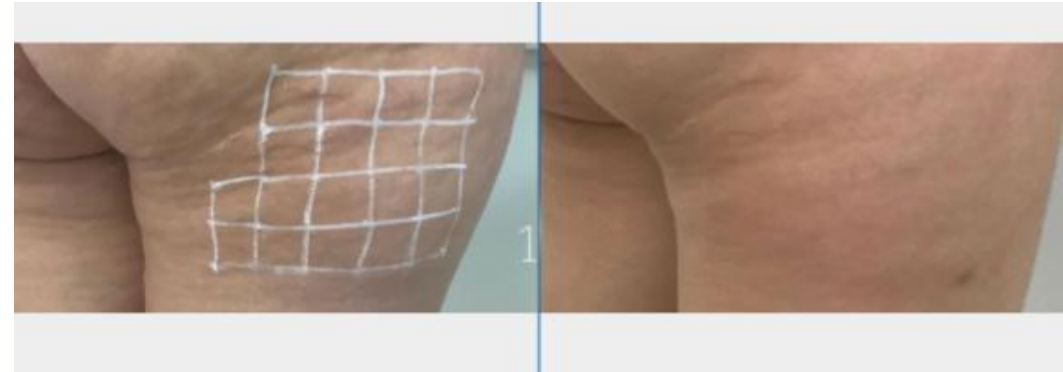
# MF6 new application program

## MF6 Application\_ Cellulite (combined with 4.5mm probe)



The diagram shows two buttocks with treatment grids. The 6.0mm probe grid is larger and has four '20' markers. The 4.5mm probe grid is smaller and also has four '20' markers. Below the diagrams is a table with the following data:

Cartridge	Energy	Pitch	Passes	Shots
● 6.0mm	1.3-1.5J	1.0-1.5mm	2	160
● 4.5mm	1.0-1.2J	1.0-1.5mm	2	160



Baseli  
ne

Post  
Procedure