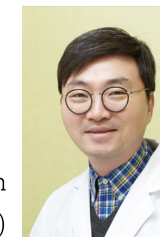


The Chronicle of Aesthetic Medicine Devices

Finexel

Writing/Kim Ki-beom
(Gimpo branch of the Miso Gain Dermatology Clinic)



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Kim Ki-beom, director of the Gimpo branch of the Miso Gain Dermatology Clinic is a typical early adopter of the domestic beauty and medicine community. The driving force behind Kim Ki-beom as an early adopter is his willingness for research and his curiosity about the device. As a result of trying to maximize patient satisfaction, not just using new devices, he was able to gain experience with various devices. Many aesthetic medicine specialists choose and introduce devices with careful consideration. This is because the device is the factor that greatly affects hospital operation and patient satisfaction. <The Chronicle of Aesthetic Medicine Devices> is the 'device introduction period' by doctor Kim Ki-beom.

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The situation when we introduced equipment

The world is experiencing a chaotic and difficult time with COVID-19. It is expected that even more difficult times will come in the future. The more these times, the more you have to stick to the basics in your position to survive the crisis. In the past, my senior doctors used BOVIE to remove mole and treat various lesions, and then I heard that it seemed like they met a new world after encountering CO2 Laser. It was when one CO2 Laser was tens of millions of won(Korean \$). It is used to improve most medical aesthetic treatments and lesions needed in the field of cosmetic medicine. When I heard that all treatment was possible with CO2 Laser, IPL, Q-switched Nd:YAG Laser, it sounded like the an old story of a generation that tiger smoking. Nowadays, a wide variety of devices are pouring out every day. It is living in a flood of devices that is hard to figure out what kind of device it is. When I joined my senior's hospital, I was using Union Medical's ULTRA-25 PLUS, which developed CO2 Laser for the first time in Korea. As the device aged and needed a new CO2 Laser, it was recommended for devices with good beam quality, durability, and user convenience while searching for the device. It was a device called SNJ's Finexel.

The existing ULTRA-25 PLUS of Union Medical was the first product of a company that manufactured CO2 Laser in Korea, so its durability and beam quality were very excellent. However, because the controllable element was simple, there was a point that it was difficult to use because there were a few things that had to be adjusted to be used as simple **igniooperation**. (Now that I think about it, I lacked a lot of studying about CO2 Laser. It seems to have been a time when I did not know the appreciation of domestic manufacturers for providing cheap and excellent CO2 Laser) With the experience of using CO2 Laser for a long time, SNJ's Finexel (<Figure 1>) was a device that satisfies my needs, such as beam quality, user convenience, and ease of operation. According to the directors who introduced the product, the durability of the device is good. However, it is difficult to identify durability without using it. So, when I need to consider durability, I have a tendency to look at the manufacturer's stability and business history.

This is because in order to have excellent durability, considerable trial and error and improvement process are required in the end, and basic physical strength is required to steadily proceed with AS in case of malfunction. It may be the most important factor when choosing a CO2 Laser that is used almost every day. It was difficult to introduce a relatively expensive device without knowing the company SNJ at all. Accordingly, by looking at various data, it was confirmed that it is a company with considerable business power in terms of CO2 Laser. Since then, it has been purchased and used without additional procedures such as demonstration.

Manufacturer introduction

I will briefly introduce a company called SNJ. Founded in 1998, it develops, produces, and sells laser devices for medical and aesthetic. In particular, it is impressive that it is a company that has been dedicated to CO2 Laser technology for 23 years. SNJ developed its own power board and high voltage

regulator, which uses its know-how to implement high peak power compared to other devices. It has also been selected as a technologically innovative SME (Inno-Biz) in 2019 due to its high peak power and differentiated Ultra Pulse technology. It is receiving good reviews from leading hospitals and users not only in Korea but also overseas. In particular, in the CO2 Laser part, OEM proposals are being requested from various companies. In addition, it is a global company that is growing by providing new medical and skin care solutions by devoting itself to the development of new products and clinical science with doctors with various ideas. The lineup of SNJ devices is mainly composed of basic devices (<Table 1>).

Product name	Type	Features
N-PULSE	CO ₂ Laser	The high peak power of high-quality ultra-pulse technology minimizes thermal damage to the skin tissue, thereby reducing the side effects of pigmentation, and realizing a sharp and uniform beam quality, enabling precise and fine treatment. It can be used effectively for moles, age spots, milium, syringoma, and warts.
FINEXEL	Fractional CO ₂ Laser	A device characterized by high power. When using the scanner mode, small and deep treatments can be performed with a small spot (80um) size, and when using the CO2 mode, the spot size can be freely changed with 50mm, and 100mm handpieces for easy use. In addition, since the depth can be adjusted as much as desired by taking advantage of the high power, it is possible to treat various lesions. It is effective for skin regeneration, pore reduction, acne scars, and improvement of eye area and fine lines.
FINEXEL	Vaginal CO ₂ Laser(3 In 1)	Vaginal mode is added to CO2 mode and Fractional mode, so it is highly useful as a handpiece (Vaginal H.P) optimized for improvement of female vaginal environment & remodeling. It helps to improve women's diseases such as vaginal dryness, urinary incontinence, and vaginitis, and to increase the elasticity of the vagina and pelvic floor muscles.
SELIAH	808nm Diode Laser	It is equipped with a 640W powerful module, and it is an effective device for clear hair removal by minimizing pain at a fast speed by strengthening the cooling part of the sapphire element with high power. Helps to increase hair removal and skin elasticity.
DUSONIC	Bi-HIFU System	It is a focused ultrasound device equipped with two single & multi-handpieces using ultrasound technology. The pencil-type single-shot handpiece enables delicate treatment on narrow and curved face areas, helping to lift effect. It is effective for lifting, nasolabial lines, improving lip lines, and body contouring.
FINEBEAM	Nd:YAG Laser(Q-Switched & Long-Pulsed)	It is a high-power dual-pulse (1065, 532nm) Nd:YAG Laser equipped with a dual rod and dual chamber, and it is effective for pigment treatment by utilizing a high-quality and stable output and beam profile. It can be applied to various lesions with various handpiece configurations including MLA. It is used for dermal pigment diseases including melasma and nevus, and for epidermal pigment diseases such as freckles and age spots (tattoo removal, inflammatory lesions, hair removal, injections, telangiectasia).
BLUE EVA	Smoke Evacuator	A fixed hose that can be used alone during laser treatment is adopted. A wide caliber can inhale a large amount of smoke powerfully and quickly, and a triple HEPA filter is installed to provide a comfortable operating environment. In addition, it is a device that is easy to clean and manage by adopting an attachment type and integrated net.
BLUE ICE	Cooling Device	-30°C Powerful air cooling helps reduce pain, blush and swelling. It is a device that is widely used in procedures that require sedation and pain reduction.

Table1. SNJ Product chart.

Manufacturer introduction

When Finexel was first delivered to the hospital after deciding to purchase the device without a special demonstration, I felt that it was rustic (extremely personal opinion) but made solid and faithful to the basics. It is hoped that the exterior color and interface of the device can be decorated a little better. However, even now, the price is slightly higher than that of other companies in the same class, so considering this aspect, there may be a significant price increase, so I think it may be difficult to sell. When I first used the device after receiving it, the feeling of using it for the first time was an exclamation of "Wow!"



Figure3. Finexel

As the existing CO2 Laser was aging and used with a significantly low output, it was unsatisfactory because it sometimes had a lot of char, but SNJ's Finexel was able to remove moles and skin lesions neatly. Furthermore, it was easy to access the lesion with only the touch of the memorized value, which basically required no special effort to get used to the new device.

The Conclusive reason for purchasing a device

CO2 Laser is the most used device in the field of cosmetic medicine. However, since localized devices are relatively well-manufactured and are provided at low prices, they are often purchased according to the preferences of the companies or introductions without comparative analysis. However, we must not forget that the most used and most important device for hospital operations is the CO2 Laser.

Of course, it is good to use expensive foreign-made devices, but it seems that CO2 Laser is the most troublesome device to choose. After these concerns, when I chose CO2 Laser, as mentioned earlier, the company's business ability was a very important factor.

Mechanism and principle, Specification

CO2 Laser is mainly used for tissue incision, evaporation, and Coagulation. Since it emits light in the infrared region of 10600nm wavelength, it is invisible. Thermo-coagulation is due to the direct release of radiant energy and does not show selective absorption for a specific color. It is mainly non-selectively absorbed by water inside and outside cells. Therefore, since tissue damage is mainly determined by the power of the Laser, there is a risk of causing more thermal damage than expected. It can be applied to the treatment of various skin lesions by controlling the focus method, such as using the focusing mode when dissecting the tissue and using the defocusing mode when vaporizing the tissue.

Differentiation and features of Finexel

SNJ's Finexel uses a 40W glass tube and shows a high peak power of 300W. Ultra-pulse are well implemented with high peak power to minimize damage to surrounding tissues and increase the

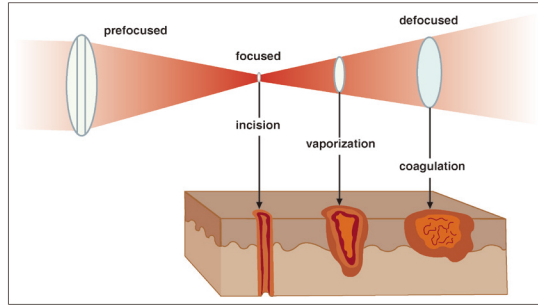


Figure2. How to use each spot size.

penetration depth of tissues, so it can be usefully used for various lesion treatments. Taking advantage of the high peak power of Finexel, Ultra Pulse is well implemented, Fractional CO2 Laser using a 100W glass tube called U-PULSE is also being introduced. I haven't used it yet, but it is thought to show a satisfactory clinical effect. There is something unique that cannot be seen on other devices. The spot size varies according to the arm type of the same model and body. This is an element to be selected at the time of purchase. For general dermatological treatments, you can choose a general arm, and if you want to use it for more sharp spot sizes and sophisticated procedures such as Bovie's role, or ophthalmology and under-eye surgery, you should choose surgical arm. I wanted a sharp beam type, so I chose the surgical arm. Of course, 50mm and 100mm handpieces are basically provided according to the focal length. One of the small drawbacks of Finexel is that the Laser

irradiation foot switch is connected in a very robust form, a type of tread used in industrial applications. When using the foot switch to irradiate the laser, the foot switch was pushed back, so the foot switch had to be drawn frequently during the procedure. But I don't feel uncomfortable anymore because the foot switch has improved recently.

Introduction to Indication and Learning Curve

Basically, CO2 Laser can be used in most areas except for melasma treatment in the field of aesthetic medicine, I feel how important it is to use CO2 Laser effectively as I perform various treatments. It can be understood a little now that seniors in the past can do most of the treatments needed at the beginning of the hospital in three types: CO2 Laser, IPL, and Q-switched Nd:YAG Laser. I look forward to the day when I try a little harder and understand completely. CO2 Laser is the simplest structure, and everyone has it in the field of aesthetic medical, but it seems that it takes a lot of effort and time to use it effectively. I think it is a device that makes it more difficult and modest as the treatment is performed. As there are so many different indications, there is no special protocol. It only takes a lot of practice and effort to make the CO2 Laser used by everyone their own.

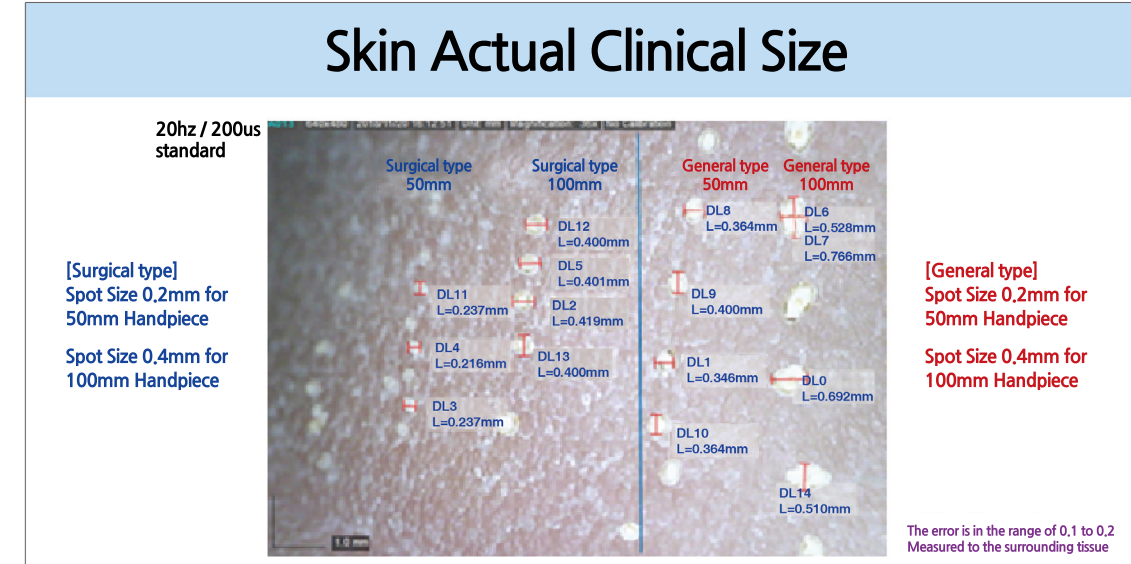


Figure3. Actual skin clinical trial of the surgical arm and the normal arm.

It's as if you know that constant exercise and diet control are important to taking care of a healthy body, but trying to find an easier way. In the end, I think that CO2 Laser is the same as it takes time to discover the truth that good results can be obtained only when exercise and diet faithful to the basics are preceded.

Stable implementation of Ultra Pulse

With the use of SNJ Finexel, it became possible to access the removal of milia and syringoma more conveniently. In addition, recently, it is possible to effectively treat toenail athlete's foot and scar

treatment by using pinhole therapy. This is due to the high peak power and the Ultra Pulse being properly implemented, and I guess it is because I chose the surgical arm. SNJ's Finexel is a stable CO2 Laser device with high peak power and Ultra Pulse. It has a slightly higher price compared to other domestic devices, but all doctors who want to solve the treatment in the field of aesthetic medicine personally think that it is worth using at least once. Of course, there may be many shortcomings for users who have used high-end devices, but for me, it has positively changed the perception of domestic CO2 Lasers, and has been the most abused in my hospital, but it is a valuable device that has consistently maintained its place for many years.

(Continued on next issue)