

# PICOCARE

## RAISING THE BAR FOR PICOSECOND LASERS FOR THE SKIN

**Michael H. Gold** discusses his experience using the PICOCARE picosecond laser for tattoo removal and pigmentary lesions



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**T**HE INTRODUCTION of the picosecond lasers in aesthetic medicine has been a game changer for many in the cosmetic

arena. Picosecond lasers were developed primarily to improve the way clinicians treat tattoos, which is being able to effectively treat tattoos of various colors at a faster rate than what had been traditionally accomplished with the standard Q-switched laser devices. These picosecond devices have delivered on this purpose, using even shorter wavelengths than the Q-switched devices to produce acceptable results for our patients. This manuscript will relay some of our own clinic experiences with the PICOCARE laser from WonTech from South Korea.

All of the picosecond lasers currently on the market utilize hand pieces which allow typical tattoo removal but at a clearance much faster than what has been found in the past with the Q-switched lasers. They all have a 1064nm infrared laser to remove black ink, and 532nm green light to remove red, yellow.

### PICOCARE

The PICOCARE differs slightly from some of the other picosecond lasers on the market in that it utilizes a 595nm and 660nm wavelengths to target in more specifically some of the more difficult colors to treat, mainly the blue, green, and purple. In addition, as has become common

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for the picosecond lasers, there is also a fractional hand piece, called HEXA MLA, available which allows clinicians to utilize the PICOCARE for other indications, mainly rejuvenation and the treatment of acne scars.

The PICOCARE has a pulse duration of 450 picoseconds and a peak power of 1.33 GW for the 1064nm wavelength and 0.8 GW for the 532nm wavelength. This makes it one of the most powerful picosecond lasers in the market. Five specific hand pieces are available for the system: Zoom H/P, Collimation H/P, the 595nm H/P, the 660nm H/P, and HEXA MLA H/P. The spot size range for the Zoom H/P is 2-10 mm, for the Collimation H/P it is 7 mm, for the 595nm and the 660nm H/P it is 3mm, and for the HEXA MLA H/P it is 3-10 mm. The repetition rate for the system can be from a single pulse up to 10Hz. This again allows for precise and effective tissue damage and lesion clearance.

The indications for the PICOCARE vary and are shown in *Table 1*. Picosecond lasers are very effective in removing tattoos at a faster rate than with conventional Q-switched laser systems. It is important to note that each and every patient that one treats with lasers of any kind are to be treated individually and

one should never guarantee a certain amount of treatments for a given tattoo treatment. Even with picosecond lasers, there is some tattoo lesions that respond exceptionally fast, within one to two visits and treatments, but on occasion, more sessions are required. But we do know, and we are quite confident when we discuss with patients, that no matter how many sessions it takes with picosecond lasers, it is usually at least half, if not more, that what has been required in the past with Q-switched lasers, which is a major accomplishment for the treatment of tattoos. Our office has treated numerous tattoos with the PICOCARE and the response rate echoes this trend – faster clearance of tattoos with the PICOCARE than with traditional Q-switched lasers. Another major indication for picosecond lasers is in the treatment of pigmentary lesions. A variety of pigment concerns exist in dermatology and many of these can be successfully and easily treated with picosecond lasers. Lentigos and other benign pigment concerns respond very quickly to picosecond lasers. Melasma, one of the more difficult to treat pigmentary issues, can be cleared nicely with picosecond lasers, although one must always remember that there is

“The PICO CARE has become one of the most sophisticated laser systems available anywhere.”

no cure for melasma, and that with any modality, we are treating the pigment only, and recurrences are likely to occur with sun exposure or with another trigger. Sun protection and topical skin care are also crucial components when one is treating melasma.

One of the major advances for the PICO CARE laser are the available ‘Dye’ hand pieces which have been developed to effectively target some of the harder to clear tattoo colors than with what has been conventionally available. Specifically, the 595nm dye hand piece is effective for blue colors and the 660nm dye hand piece is effective for the green colored lesions. These advances are very important for our patients and make the PICO CARE stand out amongst its competitors.

## Cost

One of the challenges that we all face with picosecond lasers is the cost associated with purchasing these systems. Many find that the cost is too high to justify to just treat tattoos in that many tattoo patients, some will not follow through with the treatment program and others just find that there is too great a financial burden to have their tattoos treated. Again, picosecond lasers treat the lesions faster, which is of great benefits to our patients but for many doctors, which does not translate into wanting to purchase this kind of laser. Over the past several years, we have looked at other indications besides tattoo removal to see where picosecond lasers can be used, again with the concept that with their high peak power, we may be able to treat other conditions successfully and with fewer treatments than what is

already available on the market. Hence, the development of what is typically described ‘fractional’ picosecond treatments. These fractional picosecond treatments have found a place in rejuvenating the skin, in as little as one treatment in many cases, and in treating wrinkles and scars, specifically acne scars, again at a rate faster than most of the traditional laser and light systems that we have available. This increase in what we can utilize the picosecond lasers for has made the higher prices for these machines more reasonable, and with more competition, the overall costs for these devices have diminished over time, making them accessible to all. And PICO CARE, with all of its capabilities, fits right into that affordable price range.

## HEXA MLA

The PICO CARE fractional part is known as the HEXA MLA hand piece. The mechanism of action for how picosecond lasers work to rejuvenate the skin and produce new collagen has been previously described, and will be summarized here<sup>2</sup>. Picosecond lasers utilize what is commonly now referred to as Laser-Induced Optical Breakdown, or LIOB, instead of the traditional selective photothermolysis theory. The fractional hand pieces for these devices use Micro Lens Arrays (MLAs) to concentrate the energy intensity at the center of each microbeam. This allows for a highly concentrated amount of laser energy to target the dermal collagen, resulting in collagen destruction followed by dermal remodeling, and new collagen formation. The concept behind this technology allows the epidermis and basement membrane to remain unaffected by

**Table 1 Indications for the PICO CARE Laser**

### DERMAL PIGMENT LESIONS

Various Colors of tattoo ink  
Nevus of Ota / Ito / Blue  
ABNOM (Acquired Bilateral Nevus of Ota-like Macular)  
Melasma  
PIH


### EPIDERMAL LESIONS

Freckles  
Age spots  
Solar / Simplex Lentigo  
Café au Lait

### SKIN REJUVENATION

Uneven skin texture  
Dull Skin tone  
Enlarged pores  
Fine Lines / Wrinkles  
Acne scars and other atrophic scars

the laser treatment and thus result in faster healing responses, less risk of side-effects, and diminished incidences of potential post-inflammatory hyperpigmentation. The PICO CARE laser with its HEXA MLA hand piece allows these treatments to be done safely and effectively for our patients.

The PICO CARE has become one of the most sophisticated laser systems available anywhere. When considering picosecond lasers for one’s clinic, the PICO CARE should be a laser system that merits attention. It has all the needed bells and whistles to make it a complete system and a price that puts it in a range that is affordable for all. 

## References

1. Choi Y, Park ES. Subsurface fractional ablative resurfacing of a periareolar scar using 1064-nm picosecond laser with micro-lens array. Arch Aesthet Plast Surg 24(1): 36-38, 2018.
2. Tangheiti EA. The histology of skin treated with a picosecond alexandrite laser and a fractional lens array. Lasers Surg Med 48: 646-652, 2016.

# product news

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## WONTECH CO., LTD PICO CARE®

### Application Picosecond laser system

PICO CARE® is a novel picosecond laser system with dual wavelengths (532nm & 1064nm). With ultra-short pulse duration and higher peak power, this system can treat various colors of tattoos (red, orange, yellow with 532nm and dark colors and black with 1064nm) and benign pigmented lesions more effectively at a faster rate than conventional Q-Switched lasers. HEXA MLA, an innovative fractional handpiece, allows PICO CARE's treatment area to expand on various types of scars and skin rejuvenation (fine lines, wrinkles, enlarged pores, uneven skin texture, dull skin tone and etc.), based on the theory of LIOB (Laser Induced Optical Breakdown). Physicians can perform more delicate procedure resulting optimal results with a variety of spot sizes of HEXA MLA, from 3mm to 10mm. Dye handpieces are also available; the 595nm handpiece is to treat blue color tattoo, rosacea, and acne vulgaris, and the 660nm handpiece is for removing green color tattoo, and epidermal pigments.

**Contact** WonTech Co., Ltd ● [www.wtlaser.com](http://www.wtlaser.com)  
● EADV Paris, Booth No. 320

## PROFESSIONAL DIETETICS Sunekos 200

### Application ECM Regeneration System

Sunekos 200 is the new injectable treatment for the natural regeneration of the dermal tissue (Dermal Biogenesis) through the regeneration of the Extra Cellular Matrix. This unique formulation, composed by Hyaluronic Acid and specific Amino-Acids, determines the production of new Extra Cellular Matrix by stimulating the production of Collagen and Elastin, which are the main structural elements of the matrix. So far, the approach of improving the quality of dermis has always been focusing on how to improve the proteins in the dermis with a "nonspecific" approach, stimulating fibroblasts in general. A non-physiological stimulation can lead to stress and exhaustion of the fibroblasts. Professional Dietetics is one of the first companies who started focusing on ECM and on the way to regenerate it through a perfectly physiological process by providing specific mix of Amino-Acids to induce mRNA messengers expression and synthesis of proteins specific of ECM. Sunekos 200 is the treatment to replace ECM and to produce Elastin at once.

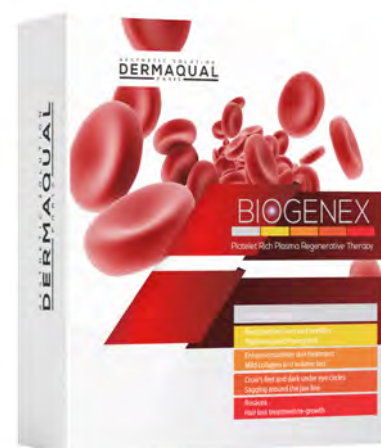


**Contact** Professional Dietetics ● [www.professionaldietetics.com](http://www.professionaldietetics.com)

## DERMAQUAL BIOGENEX

### Application Platelet-Rich Plasma Regenerative Kit

Platelet-Rich Plasma Therapies are without any doubt the most popular and effective aesthetic procedures. The rich platelets act as the natural reservoir for growth factors that provide massive repair and rejuvenating properties. BIOGENEX Cell Therapy Kit is designed for fast and efficient separation and preparation of high concentration of autologous platelets while only requiring minimal amounts of plasma from the patient. The formulation is applied by series of injections in a mesotherapy method. After multiple treatments, the results vary from subtle facial youth boosts to the extremely younger looking skin. BIOGENEX can treat a wide range of dermatological issues such as fine lines, deep wrinkles, acne scarring, sun damage, correction of dark circles, under eye-puffiness. BIOGENEX aids with regaining lost facial volume, improvement of micro vascularization, correction of Rosacea. Moreover, it increases collagen production and effectively stimulates hair growth.



**Contact** DERMAQUAL ● [www.dermaqual.com](http://www.dermaqual.com)