



LIGHTLAS 532 DERM

VASCULAR

- Telangiectasies
- Rosacea
- Couperose
- Hemangioma
- Spider Naevus (Veins)
- Port-wine stain

PIGMENTED

- Lentigo Senilis
- Actinic Keratosis
- Xanthelasma
- Dermatitis Papulosa

CUTANEOUS

- Warts
- Condylomas
- Skin tags
- Fibromas

Delicate, Versatile and Affordable Green Laser for Skin Imperfections

The compact and easily transportable LIGHTLas532 DERM laser with its Ultra-heavy duty plug and play Dermatologic Probe from LIGHTMED USA, is an ideal system for treatment of superficial vascular skin changes thanks to the optimum Oxyhemoglobin and Melanin absorption properties of the green laser wavelength.

LIGHTLas 532 DERM is available in 2W, 3W, 4W and 5W (Watt) configurations, featuring Industry's first Diffusion Bonding crystal coating technology laser engine, which has up to 10-fold the threshold damage capacity of its nearest rivals. This assures unparalleled product lifespan and consistent energy output at small and large spot sizes.

The laser permits treatment with conventional and ultra-short pulses, effectively targeting disturbing vessels while protecting the surrounding tissue.





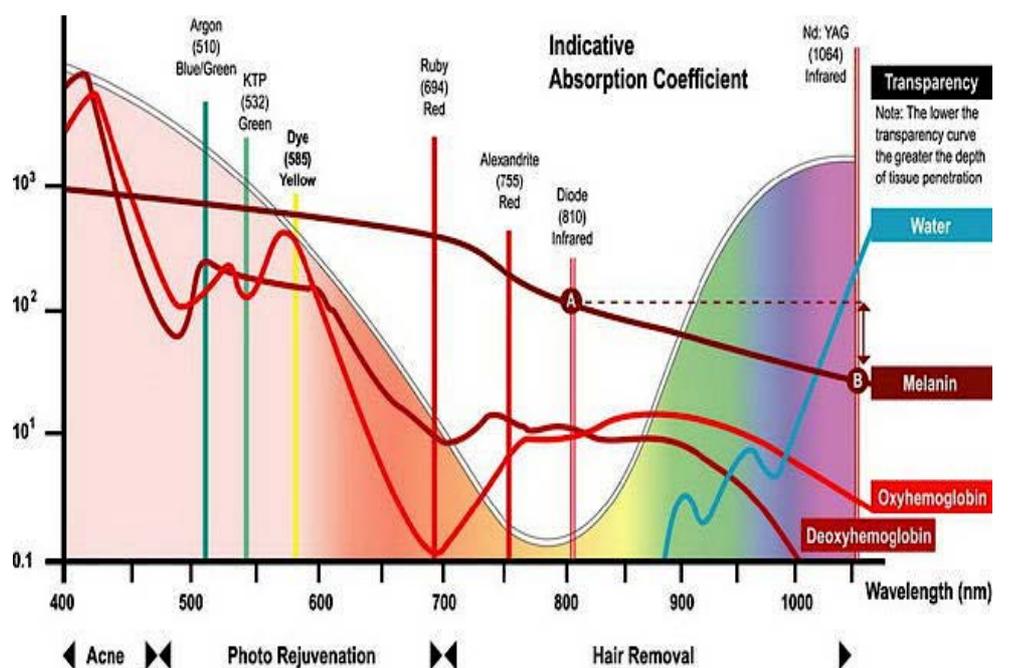
THE GOLD STANDARD
FOR
VASCULAR, PIGMENTED
& CUTENEOUS LESIONS

532nm the Optimum Wavelength Specifically Designed for Finest Treatment of Superficial Skin Lesions

The 532nm is considered as the ideal gold standard wavelength for vascular, pigmented and cutaneous lesions. The high oxyhemoglobin and melanin absorption properties of the skin and its underlying tissue make LIGHTLas 532 DERM an effective tool in the treatment of a wide range of cosmetic procedures such as removal telangiectasia, angiomas, spider naevi, solar lentigos and many more superficial skin lesions including moles, warts & plantar warts, dyschromias and many more, with none or minimal side effects.

Due to the selective absorption of the 532 nm wavelength when treating superficial vascular and pigmented skin lesions on the face and body, the surrounding tissue and the epidermis are protected thereby eliminating post-operative purpura.

Importantly, the red vessels can be often visibly reduced in only a single procedure.



POWERFUL & VERSATILE

- Pulsed and CW Treatment Modes
- Intense Milli and Micro Second pulse Modes
- Minimal side effects
- No requirements for anesthesia
- Purpura-free treatments
- Rejuvenation Mode



INTUITIVE & EASY INTERFCACE

- Large 7" LCD Detachable Touch Screen enhances working space and controls.
- Build-in treatment protocols facilitate system setup.
- Programmable Memory for multiple users or preferred treatment settings.



WIRELESS POWER-CONTROL FOOT PEDAL

- Wireless foot pedal eliminates cable clutter around the system and enhances working space.
- Power Control by foot permits quick and precise titration of treatment energy facilitating adequate focus on procedure.



SUPERBLY CRAFTED DERM HAND PIECE

- Ultra Reliable materials assuring exceptional life (non disposable)
- Distance Spacer for easy positioning
- Small and large spot size controls
- Easy and safe to clean



Technical Specifications

LASER SYSTEM	DPSS True CW & SP-Mode
SAFETY CLASS	Class IV
WAVELENGTH	532nm (Green)
POWER OUTPUT (models)	50mw – 2.0W 50mW – 3.0W 50mW – 4.0W 50mW – 5.0W
PULSE DURATION	0.01 – 3.0s, & Microsecond (SP-Mode)
PULSE INTERVAL	0.01 – 3.0s & Continuous
AIMING BEAM	Red Diode 635nm 0.1-1.0mW
COOLING	Air, Auto fan & TEC
DIMENSIONS (Laser Console)	13cm(H) x 35cm(W) x 33cm(D) 5.1" x 14.4" x 12.9"
WEIGHT (Laser Console)	12kg 24.4lbs
POWER REQ.	100-230VAC 50/60Hz Auto Ranging
PROBE SPOT SIZE	200 - 2000µm

OPTIONAL ACCESSORIES:

Safety Goggles



PROBE STORAGE COMPARTMENT
Prevents misplacement or accidental damage to Fiber Probe when not in use



COMPACT & PORTABLE
LIGHTLas 532 DERM comes with a convenient carry case, permitting multi-practice mobility. While smart and compact design permits for quick plug and play setup of the device.



New LightMed Dermatology Laser Provides Solutions for Pigmented and Vascular Lesions



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Cosmetic Surgeon, Owner
The Center for SmartLips
Langhorne, PA - USA



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First-hand perspective by users of the LightMed LIGHTLas532 DERM Laser System

By Kevin A, Wilson, Contributing Editor
Courtesy of David Konstanzer (NewSurg Inc.)

The affordable and portable LIGHTLas532 DERM laser from Light-Med USA (distributed in USA by NewSurg Bucks County, PA.) provides a new tool for aesthetic practitioners to safely and effectively treat vascular and pigmented lesions on all skin types.

This new system offers a functional and cost effective replacement to Iridex and Laserscope Aura platforms that are no longer being supported by their manufacturers.

For Richard M. Goldfarb, M.D., a cosmetic surgeon and owner of The Center for SmartLipo in Langhorne, Pa., the 532 nm diode laser is essential in his cosmetic practice for the dermatologic conditions that he often encounters.

“The LIGHTLas532 DERM platform has efficient pre-programmed parameters with a simple to use and easy to maneuver handpiece that I really appreciate.

It sets a new standard for the treatment of facial telangiectasia and scar revisions where a vascular component is involved. The preset parameters allow me to precisely treat hemangiomas and even spider veins safely and effectively, which I would not have previously addressed with a 532 nm laser.

I can also adjust pulse width, depth of penetration and spot size, which is essential when treating pediatric patients or pigmentation in darker skin types.

While the training and support from NewSurg Inc., as well as the reliability of the LightMed equipment, are outstanding.”

Continued



The device is solid state system, with a user-friendly color touchscreen and a wire-less foot pedal. Precision and portability are key features of the LIGHTLas532 DERM laser system, Dr. Goldfarb pointed out.

“The system is very rugged and portable. We move this from room to room and even office to office without concern for the device or need for recalibration. However, this portability does not come at the cost of power. It’s incredibly well designed.”

Included with the device were a heavy-duty carrying case and a mobile cart.

Aaron Shapiro, M.D., a facial plastic surgeon in Rosemont, Pa., uses the NS-532 daily.

“This system is extremely easy to use. It’s a small unit and the settings are simple to manage, while at the same time it’s very effective and versatile. I’ve had it for more than a year now and I rely on it for helping to manage surgical scars, for which it is superb. I also use it for angiofibromas, telangiectases, rosacea and anywhere there is redness.”

“The precise parameter management available with the LIGHTLas532 DERM allows me to safely and effectively treat patients who come to me with dermatosis papulosa nigra (DPN),” said Ayman El-Attar, M.D., founder of Derma Laser Centers, with four offices in New Jersey.

“When treating this condition I used to be concerned about leaving hyperpigmentation and I don’t want to replace one aesthetic issue with another.

The NS-532 laser system lets me dial in the depth, adjust spot size and avoid any problems, removing DPNs and leaving patients with greatly im-proved skin.

It is very durable, we’ve had no problems with it, and I am pleased with the way the company trains and supports this product.”



Dermatosis Papulosa Nigra



Dermatosis Papulosa Nigra

Three Months after one Tx procedure with the LIGHTLas532 DERM laser.

Photos Courtesy of Ayman El-Attar, M.D



VASCULAR LESIONS

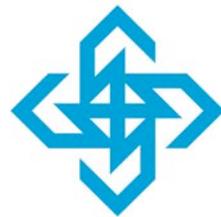
- Telangiectasias
- Spider Veins
- Rosacea
- Hemanigiomas
- Scar Revisions
- Port Wine Stains

PIGMENTED LESIONS

- Sun Damage
- Lentigenes
- Moles
- Dyschromias
- Warts & Plantar Warts
- Dermatosis Papulosis (DPN)



CLINICAL BROCHURE



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Laser Treatment with 532nm Wavelength offers numerous advantages



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weblink: dermatologytimes.modernmedicine.532advantages

The next several columns will examine the wavelengths commonly used in dermatology. Understanding the properties of the wavelength and how it is produced helps give background knowledge leading to more successful clinical outcomes with these devices. This is a review of publications, and some of the treatments mentioned are considered off-label for some of the devices.

A 532 nanometer (nm) wavelength is obtained by passing a 1,064 nm neodymium YAG (Nd: YAG) source through a potassium titanyl phosphate (KTP) crystal, resulting in frequency doubling of the light and emission of green light. These devices are commonly referred to as either the KTP laser or the frequency-doubled Nd: YAG.

A lithium borate crystal can also be used in the laser resonator to frequency-double the 1,064 nm, producing the 532 nm green light. The pumping systems for this laser vary and include arc lamps, flash lamps and diodes. The KTP has been used extensively in the treatment of vascular lesions and cutaneous pigmentation, but it also has been used outside the field of dermatology for vaporization of the prostate, laser pointers and with photosensitizers for bleaching of the teeth

Selective photothermolysis

Selective photothermolysis, as described by Anderson and Parrish in 1981, occurs due to the properties of the wavelength of light and the properties of the tissue chromophore.

At 532 nm, high absorption by both hemoglobin and melanin occurs. The absorption of light by hemoglobin is higher at 532 nm than at the traditional 585 nm pulsed-light wavelength.

However absorption by melanin is also greater at 532 nm than at 585 nm. Due to these innate factors of the wavelength, vascular lesions are easily targeted. Care must be taken, however, to use adequate cooling to protect the pigment-containing epidermis.

Absorption by both melanin and hemoglobin can be useful for treating lesions with both components, such as poikiloderma of Civatte or photoaging. Having a high absorption coefficient for melanin is also an advantage when treating pigmented lesions such as solar lentigines.

The 532 nm wavelength has such a high affinity for pigment that treatment of even very light lesions is possible. Treatment of darker skin types with any short wavelength can be more complicated, however, and appropriate pulse widths and epidermal cooling are crucial.

In 1986, Apfelberg et al described for the first time the use of a 532 nm wavelength light for skin lesions including port wine stains, hemangiomas and tattoos (Apfelberg DB, Bailin P, Rosenberg H. *Lasers Surg Med.* 1986;6(1):38-42).

As demonstrated by Apfelberg, the 532 nm wavelength is a versatile wavelength, in that adjustment in the manner of delivery result in the ability to treat a diverse array of cutaneous lesions.

Pulse width and cooling

The effects of the KTP laser on the skin can be modified by altering the pulse width and the cooling on the device. Effective cooling of the epidermis will result in a relative sparing of the pigment, with better targeting of the hemoglobin-containing structures. Used with minimal or no cooling of the epidermis results in treatment of the pigmented lesions in the epidermis, with little to no effect on the underlying vessels.

Pulse width plays a crucial role in any laser device. The ideal pulse width of the device should be equal to or less than the thermal relaxation time (Trt) of the target. This will result in the least amount of heat transfer to the surrounding normal tissues and the most selectivity for the desired target. As the Trt of melanin is very quick, short pulsed widths are employed for treatment of pigment.

The KTP is commonly used in the Q switched mode (ns) for treatment of pigment including red tattoos. Longer pulse widths have a deeper relative penetration and are able to treat larger targets, such as vessels on the face. By varying these parameters, one device can be used to treat several different types of lesions.

Shorter wavelengths have less penetration through the skin due to trapping by hemoglobin and

Shorter wavelengths have less penetration through the skin due to trapping by hemoglobin and due to scatter. Longer wavelengths are able to penetrate deeper and are more suitable for deeper/thicker lesions.

At 532 nm, light cannot penetrate as deeply as some of the other wavelengths that are less well absorbed by pigment or hemoglobin. Green light essentially gets trapped by pigment or hemoglobin in the more superficial layers of the skin. That, combined with the scattering of shorter wavelengths, results in a superficial effective penetration of light.

The 532 nm wavelength is able to reach the superficial dermis for treatment of dermal vessels, but it is not suitable for treatment of deeper vessels such as spider veins of the lower extremities.

Pigmented lesions

Solar lentigines have a superficial placement and can be treated with most wavelengths that are well absorbed by melanin, including the 532 nm devices. Other methods of removing pigmented lesions using lasers poorly absorbed by melanin are also possible via resurfacing.

Lighter pigmented lesions can be challenging to treat with laser. The 532nm wavelength is very well absorbed by melanin, making it a great choice for lighter lesions. Bassichis et al reported that most patients are satisfied after three KTP

treatments, spaced two to four weeks apart, and that results continue to improve over a three-month period of time.

They used a KTP laser to treat solar lentigines in skin types I to IV (and occasionally V) with a 2 mm handpiece, low energy settings and one pass (Bassichis BA, Swamy R, Dayan SH. *Facial Plast Surg.* 2004;20(1):77-83). Cooling is not required in the treatment of pigmented lesions with a 532 nm laser except in darker skin types. In fact, overcooling of the epidermis will result in sparing of the epidermis and an ineffective treatment of the pigment.

Other Indications

Due to its high affinity for hemoglobin, the KTP is an excellent choice for treatment of superficial vessels. There are publications indicating clinical success for treatment of rosacea with the KTP laser (Miller A. *J Drugs Dermatol.* 2005;4(6):760-766; Clark C, Cameron H, Moseley H, et al. *Lasers Med Sci.* 2004;19(1):1-5). The general consensus is that longer pulse widths may be superior to shorter pulse widths for diffuse redness.

Using longer pulse widths (>15 ms) also reduces the incidence of vessel rupture, resulting in less intradermal hemorrhage and a lower incidence of purpura. Shorter pulse widths are employed in treatment of smaller discrete vessels with a lengthening of the pulse width as the vessel diameter increases. The KTP has also been used successfully for treatment of endonasal vessels.

Acne

Although not considered a first-line treatment for acne, there are a few published reports of using KTP for acne.

A randomized, split-face trial (n = 26 patients) evaluated the efficacy of four treatments within two weeks with the KTP laser and continuous contact cooling versus sham treatment with contact cooling alone. Total acne lesion scores improved 35 percent (one week, P < 0.01) and 21 percent (four weeks, P = 0.09) after laser treatment versus no improvement after sham treatment (Baugh WP, Kucaba WD. *Dermatol Surg.* 2005;31(10):1290-1296).

In 2010, an open-label, split-face study compared aminolevulinic acid (ALA) (30 minutes) plus KTP laser to KTP laser alone for the treatment of moderate facial acne. Eight patients, skin types I to III, completed three treatments, spaced three to four weeks. A spot size of 10 mm, fluence of 7 J/cm², pulse duration of 30 seconds and two passes were used.

After the third treatment session, evaluated at week 12, the acne score improved by 39 percent with ALA-laser treatment, and by 34 percent with laser treatment alone. Statistical differences were not detected with or without ALA treatment (Sadick N. *J Drugs Dermatol.* 2010;9(3):229-233).

Poikiloderma of Civatte

There is just one case report that used a KTP laser for poikiloderma of Civatte: four treatments, 13 mm diameter delivery device, 1 ms

device, 1 ms pulse duration and repetition rate of 10 pulses per second at energy fluences of 10-15 J/cm². The authors referred excellent results but reported hyperpigmentation at some settings (Batta K, Hindson C, Cotterill JA, et al. *Br J Dermatol.* 1999;140(6):1191-1192). The properties of the wavelength itself would make 532 nm an excellent option for this condition, but more studies are necessary.

Tattoos

Used in the Q-switched mode, the KTP laser can be used to remove red-colored tattoo ink. The extremely short pulse width (ns) allows for vaporization of the ink. Even though 532 nm is well absorbed by other colors, the Nd:YAG (1,064 nm) and the alexandrite (755 nm) provide better penetration and a superior clinical result for dark-colored (blue/black) tattoos.

The 532 nm wavelength is very versatile. Its absorption by both melanin and hemoglobin give it both advantages and disadvantages. In general, KTP lasers are very effective for superficial vessels and pigmentation but more difficult to use on dark skin. Using the 532 nm in a short pulse width setting with little or no cooling allows for treatment of epidermal pigmentation. Lengthening the pulse width and adding cooling targets dermal structures such as superficial vascular structures.

Diseases that combine both pigmentation and vascular lesions are also well treated using the 532nm. Deeper vessels do not respond well to the shorter-wavelength vascular lasers and generally require longer wavelength device, such as 1,064nm YAG. Nd:YAG.