

WE ARE
KLASER®

30 W
POWER



CUBE®

PLUS 30

MED

WE ARE
K-LASER[®]

**THE WORLD'S FIRST CLASS 4
THERAPEUTIC LASER
FOR POWER,
PORTABILITY,
SAFETY,
DESIGN
AND CUSTOMER
SUPPORT**



K-LASER IN THE WORLD

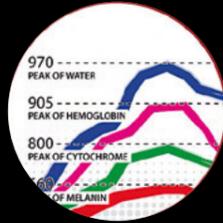
K-Laser company designs, manufactures and markets equipment and professional lasers for the **medical and surgical sector** all over the world, thus expressing **Made in Italy** at its best. Every day, its qualified staff cooperates with competent professionals and renowned private hospitals, investing its resources in Research and Development in order to deliver the most cutting-edge products on the market: the **K-Laser Cube series**.



More than 80% of your patients can benefit from K-Laser therapy.



Increased efficacy delivering better results and stronger compliance.



Shortest treatment time for faster return on investment.



Full customer support (Marketing, Training and Education).



- Record-time effectiveness and versatility **01**
- 02** Improved clinical outcomes
- Fast, painless and non-invasive treatment **03**
- 04** Wide application range
- Alternative solution to drugs **05**
- 06** Long lasting clinical results
- High patient compliance **07**
- 08** Improved patient safety
- New revenue generation opportunities **09**
- 10** World-wide record in safety, compactness, reliability and power



CUBE PLUS 30 High Power Laser (HPL) raises the standard for physical rehabilitation treatment options. This HPL Technology offers fast, painless and non-invasive treatments as an alternative solution to drugs. **CUBE PLUS 30** is a lightweight and transportable device designed to be highly intuitive, with an interactive screen to serve as a guideline for treatment options, and with a smart handpiece sensor detecting the practitioner's hand motion. With its distinctive characteristics, **CUBE PLUS 30** offers an ideal solution in post-surgery rehabilitation and in rehabilitative therapy treatments. The higher power within **CUBE PLUS 30** helps to achieve greater photonic delivery and shortens treatment times. The simultaneous use of multiple wavelengths allows an optimal absorption on the target chromophores, able to trigger photochemical and photothermal aimed at accelerating the tissue healing process and arresting soft tissue and joint pain to stimulate rapid tissue repair.





- **30 W ISP**
- **25 W CW**
- **new** smart handpiece
- **new** thicker and even more resistant fiber
- **new** active distal handpiece:
active photonics modulation - **APM**
- **new** technology:
treatment by phases or by effects
 - advanced bidirectional cooling system
 - 4 wavelengths for a complete and integrated spectrum of tissue stimulation and deeper penetration
 - 1,5 kg - ultra-portable
 - rechargeable battery
long lasting, highest quality
nano-phosphate battery
 - dimensions: 200 x 180 x 190 mm.

ACTIVE HANDPIECE

OUR NEW HANDPIECE IS NOW EQUIPPED WITH A SENSOR FOR EVEN SAFER AND MORE EFFECTIVE TREATMENTS.

NEW HANDPIECE DISTAL WITH ACTIVE PHOTONICS MODULATIONS - APM

OUR NEW DISTAL HANDPIECE SENDS BACK TO THE SKIN ABOUT 10-15% OF THE LIGHT ENERGY WHICH WOULD NORMALLY BE LOST BY REFLEXION. IT ALSO ENSURES THAT THE HANDPIECE ALWAYS STAYS COOL.

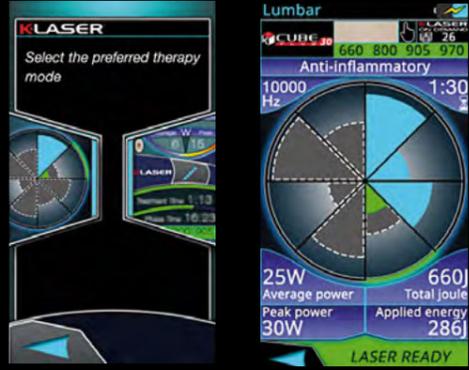
OUR NEW DISTAL PIECE IS EASY TO CLEAN, STERILISABLE, AND SELF-LUBRICATING.

- **DYNAMIC LASER THERAPY**
- **THERAPY SETTINGS RECORDED**
- **MULTI-MODE HANDPIECE WITH INTERCHANGEABLE OPTICS**
- **SOFTWARE UPDATE BY WI-FI**



FAST, INTUITIVE AND VERSATILE K-LASER TREATMENTS

K-Laser Cube Plus 30 approaches modern rehabilitative medicine by treating severe and chronic pain with a new high efficiency, becoming an essential tool to promote rapid tissue repair, accelerating the healing of muscles, tendons and bones as consequence of post-traumatic injuries. With its proven characteristics, K-Laser Cube Plus 30 also offers an ideal solution in post-surgical rehabilitation and in rehabilitative therapy by shortening treatment times and improving healing.



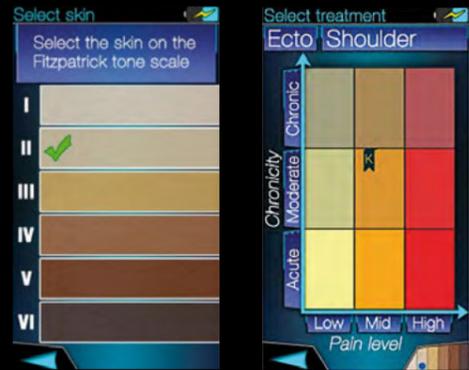
NEW TECHNOLOGY FOR TREATMENT BY PHASES OR BY EFFECTS

K-Laser Cube PLUS 30 is the first innovative Laser Therapy in the world working by DYNAMIC PHASES or by EFFECTS. Eight dynamic modular effects have been chosen to be representative aspects of an altered pathological condition: Analgesia, Vasodilation, Thermal modulation, Anti-inflammatory deep and surface stimulations, Immunity activation and Antimicrobial effect.



CUBE PLUS 30 LASER THERAPY ALLOWS FOR PERSONALIZED TREATMENT DEPENDING ON BODY MORPHOLOGY AND TISSUE TYPE.

Cube Plus 30 allows for an adjustment of energy delivered depending on the factors involved, specific to your patient. This is thanks to selected menus that are graphically intuitive. The increased power and the wavelengths available play a crucial role in the success of Laser Therapy.



CUBE PLUS 30 AMELIORATES THE QUALITY OF TREATMENT

Cube Plus 30 allows for complete therapy customization. According to the body zone being treated, type of skin, body weight, as well as pain and chronicity level, the output treatment parameters will be automatically adjusted. Moreover, for the first time it is possible to select the real size of the treatment area: the appropriate size dimension selection for each individual treatment will ensure the release of the appropriate amount Energy (Total Joule) by adjusting the time of release, (duration of the treatment). This will ensure the maintenance of the correct released Energy Density (J/cm²).



CUBE PLUS 30 IS SYNONYMOUS WITH DYNAMIC THERAPY

In Cube Plus 30 each protocol consists of a dynamic parameter setting in which each therapeutic indication is protocol defined by 8 dynamic modular effects. This NEW approach, allows the Physician to modify the application parameters, adjusting the therapeutic plan to create a personalized protocol based on the needs of the patient at every therapy session. It allows to work with over 25 billion of different settings. Cube Plus 30 makes it possible to select specific treatments and tailor them to your patient's needs.

EFFECTIVENESS AND BENEFITS FOR PAIN THERAPY IN THE MEDICAL FIELD

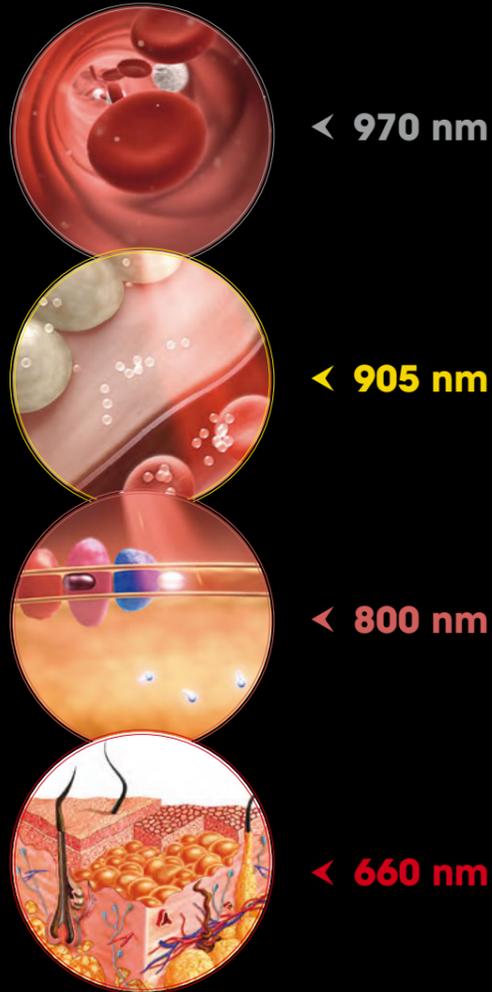
K-Laser Dynamic Therapy is an excellent multidisciplinary therapy

K-Laser Dynamic Therapy uses several pulse frequencies to produce a combination of analgesia, inflammation reduction, biostimulation, immune system activation and antimicrobial effect, thus accelerating the regeneration of tissues and increasing cellular energy.

Cells can thus absorb nutrients more quickly as well as eliminate waste substances. As a result of the exposition to laser light, the cells that constitute tendons, ligaments and muscles are repaired more quickly. K-Laser Dynamic Therapy has anti-oedemic effects since it produces vasodilation while activating the lymphatic drainage system, which results in swelling reduction.



4 WAVELENGTHS



< 970 nm
Blood, the main transport system, provides the cells with all the elements which are necessary to their metabolism, such as oxygen and nutritional substances, thus removing catabolic products. This wavelength is able to absorb most of the water contained in our body and a large part of the energy delivered by the therapy is transformed into heat. The deep tissue layers are thus transformed into localised heat points that create temperature gradients at cellular level. They also boost local microcirculation thanks to the increase in oxygen provided to the cells.

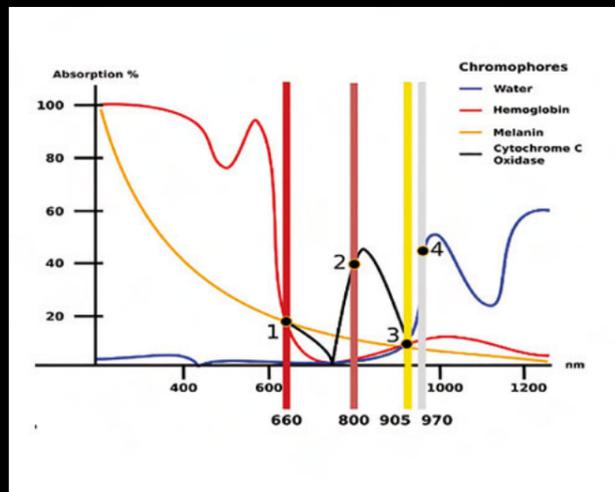
< 905 nm
Oxygen is released in variable percentages in the blood: the faster it is released, the more oxygen needs to be transported to the cell in order for the natural healing processes to take place. This wavelength is absorbed by haemoglobin, water, melanin and Cytochrome C oxidase. When it is absorbed, more oxygen is available to the cells.

< 800 nm
Cytochrome C oxidase is the terminal enzyme of the respiratory chain that determines the amount of oxygen to be turned into ATP according to cellular efficiency. Enzymes are better absorbed at 800 nm: an ATP molecule is generated for each oxygen-reduction cycle accomplished. The photon absorption accelerates such process while increasing the ATP cellular production.

< 660 nm
This wavelength is perfectly absorbed by the melanin contained in the skin, thus guaranteeing energy concentration in the most superficial tissue layers. Laser therapy allows obtaining excellent results in wounds healing as the light both inhibits bacterial proliferation and increases cellular growth.

WAVELENGTH and THERAPEUTIC WINDOW

The chromophores condition the therapeutic use of the Laser, defining the useful window in physical therapy. The therapeutic Window describes the optimal compromise between sufficient Penetration and sufficient Absorption.



DYNAMIC THERAPY

K-LASER THERAPY: SYNONYMOUS WITH DYNAMIC THERAPY

K-Laser's intuitive software consists of several dynamic stages that characterise the selected treatment. It allows adjusting application parameters, as well as wavelength, time frame, frequencies and power within a single therapy session, thus significantly increasing its efficacy and boosting the immune system while repairing tissues.

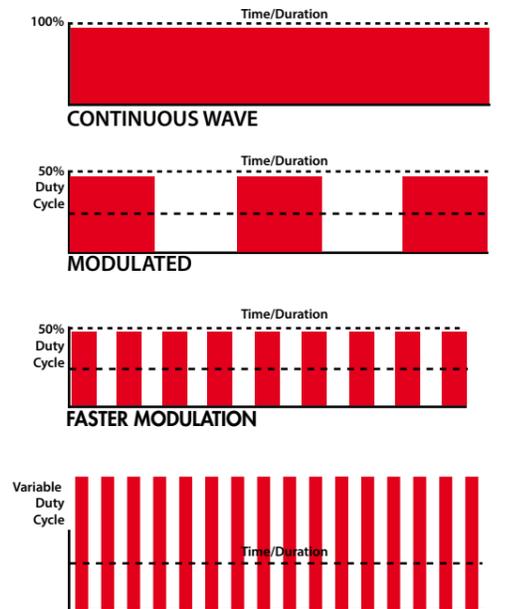
Thanks to an increased ATP production, which reaches its peak 24 hours after the first laser treatment, the human body is able to transform laser energy into vital energy available to the cells.

DIFFERENT TYPES OF TISSUE CORRESPOND TO DIFFERENT MODULATION PARAMETERS

The parameters of the new **K-Laser Cube** line are distinguished according to the type of pulse (**CW** mode, pulse mode with adjustable frequencies, **ISP** super-pulse mode), with diversified tissue response.

Such effects have been thoroughly analysed, paying particular attention to:

- the amount of energy administered depending on the effect obtained;
- the response obtained at different tissue depths; the effects of laser light penetration related to the most suitable administration modalities according to the kind of tissue to be treated.



K-LASER®

EFFECTIVENESS IN REHABILITATION

The innovative K-Laser Dynamic Therapy has also achieved remarkable results in multiple medical fields.

Treatments are quick with their high application comfort level. This is why **K-Laser Dynamic Therapy** can be used to treat all pathological conditions that affect people thanks to the biostimulation of damaged tissues and pain reduction.

Pain Management in:

- General Health Care
- Chiropractic
- Regenerative Medicine
- Sports Injuries
- Wound Care
- Neuropathic Pain



ISP TECHNOLOGY

(Intense Super Pulse)

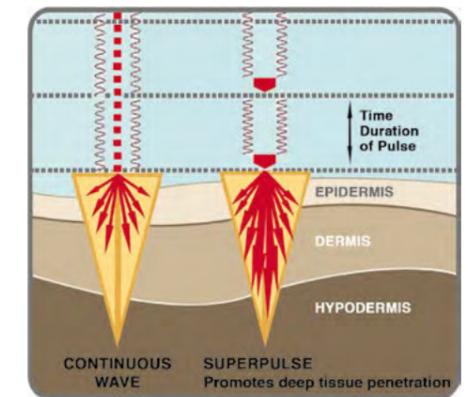
THE NEED FOR INCREASED POWER

The most recent scientific research revealed the importance of average power kept constant in the body: this feature, in fact, is crucial in order to deliver suitable energy during laser treatments. At present, most super-pulse lasers deliver high-power pulses in a short time frame (millionth or billionth of a second). They can only deliver few milliwatts of average power, thus low energy levels during an ordinary treatment.

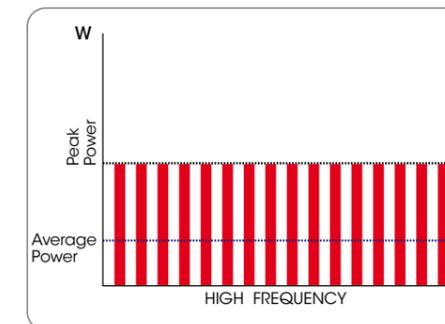
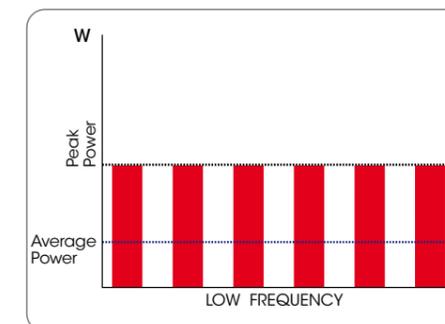
Thanks to its exclusive and exceptional ISP MODE, **K-Laser Cube** is the only laser that, allows selecting both the right modulation frequencies and average power while also operating in **super-pulse mode**. Thus, average power is kept constant at all times.

ISP INTENSE SUPER PULSE

(1 - 20.000 Hz)



The pulse width is variable and is controlled by K-Laser's powerful software. It is up to 200 times wider than the one in ultra-rapid mode.



The pulse frequency can be chosen starting from the **lowest ones (Low Frequency) for analgesic treatments, to the highest ones (High Frequency) for biostimulation**. Average power is independent and adjustable so as to deliver the right type of energy for the tissue to be treated.

BIOLOGICAL EFFECTS

Clinical results form the basis for K-Laser **Dynamic Therapy** in both physiotherapy and rehabilitation, with **very important protocols**.



Anti-inflammatory

Bibliography:

Tricarico P.M. et al. Photobiomodulation as potential novel third line tool for non-invasive treatment of Hidradenitis Suppurativa. *G. Ital Dermatol and Venereol.* 2019 Apr 23. DOI. 10.23736/S0392-0488.19.06247-3
Rupel K. et al. Photobiomodulation at Multiple Wavelengths Differentially Modulates Oxidative Stress In Vitro and In Vivo. *Hindawi Oxidative Medicine and Cellular Longevity* Volume 2018; DOI. org/10.1155/2018/6510159.

Analgesic

Bibliography:

Zupin L. et al. Analgesic effect of Photobiomodulation Therapy: an in vitro and in vivo study. *Journal of Biophotonics.* 2019 Jun 20. DOI. 10.1002/jbio.20190004.
Gobbo M et al. Multicenter randomized, double-blind controlled trial to evaluate the efficacy of laser therapy for the treatment of severe oral mucositis induced by chemotherapy in children: laMPO RCT. *Pediatric Blood and Cancer.* 2018. DOI. 10.1002/pbc.27098.
Yu-Feng Huang et al. Clinical effectiveness of laser acupuncture in the treatment of temporomandibular joint disorder. *Journal of the Formosan Medical Association.* 2014; 113, 535e539. DOI.org/10.1016/j.jfma.2012.07.039.

Improved vascular activity

Bibliography:

Ottaviani G et al. Ottaviani G. et al. Effect of Class IV laser therapy on chemotherapy-induced mucositis: a clinical and experimental study. *Am J Pathol* 2013; 183:1747-1757.
Kelly A. et al. Limb Blood Flow After Class 4 Laser Therapy. *Journal of Athletic Training.* 2012; 47(2): 178-183.
Ottaviani G. et al. Laser Therapy Inhibits Tumor Growth in Mice by promoting Immune Surveillance and vessel Normalization. *EBioMedicine* 2016. Doi.org/10.1016/j.ebiom.2016.07.028.

K-Laser produces an anti-oedema effect: in fact, it both promotes vasodilation and activates the lymphatic drainage system (draining the aedematous areas). Thus, swelling caused by traumas and/or inflammation is reduced.

K-Laser therapy positively affects pain receptors: it increases pain tolerance while reducing the transmission of pain stimuli to the brain. Pain is also reduced thanks to the anti-inflammatory and anti-oedema effect. **K-Laser** therapy triggers **endorphins production**.

K-Laser therapy significantly increases the formation of new capillaries, thus accelerating the healing process of damaged tissues, **quickly healing wounds and reducing the damaged area**. In addition, benefits include increased angiogenesis, which causes vessels to dilate temporarily with the augmentation of the blood vessels diameter. The increased supply of blood in the damaged area facilitates the healing process and reduces pain.

Metabolic activity increase

K-Laser therapy increases the production of specific enzymes for the transport of oxygen, thus facilitating the repair and the regeneration of damaged cells.

Improvement of nerve function

K-Laser therapy is used to treat nerve injuries such as traumatic or iatrogenic paresthesias, dysesthesias and anaesthesias using reference protocols.



Bibliography:

Zupin L. et al. Photobiomodulation therapy for male infertility. REVIEW ARTICLE. *Lasers in Medical Science.* DOI.org/10.1007/s10103-020-03042-x.
Tricarico P.M. et al. Photobiomodulation therapy promotes in vitro wound healing in nicastrin KO HaCaT cells. *Journal of BioPhotonics* 2018. DOI:10.1002/jbio.201800174.

Bibliography:

Zupin L. et al. Photobiomodulation therapy at different wavelength impacts on retinoid acid-dependent SH-SY5Y differentiation. *Lasers in Medicine Science,* March 2019. DOI. 10.1007/s10103-019-02765-w.
Argenta P.A. et al. The effect of photobiomodulation on chemotherapy-induced peripheral neuropathy: A randomized, sham-controlled clinical trial. *Gynecologic Oncology* 2017; 144: 159-166. DOI.org/10.1016/j.ygyno.2016.11.013.

Improvement of wounds of soft tissues

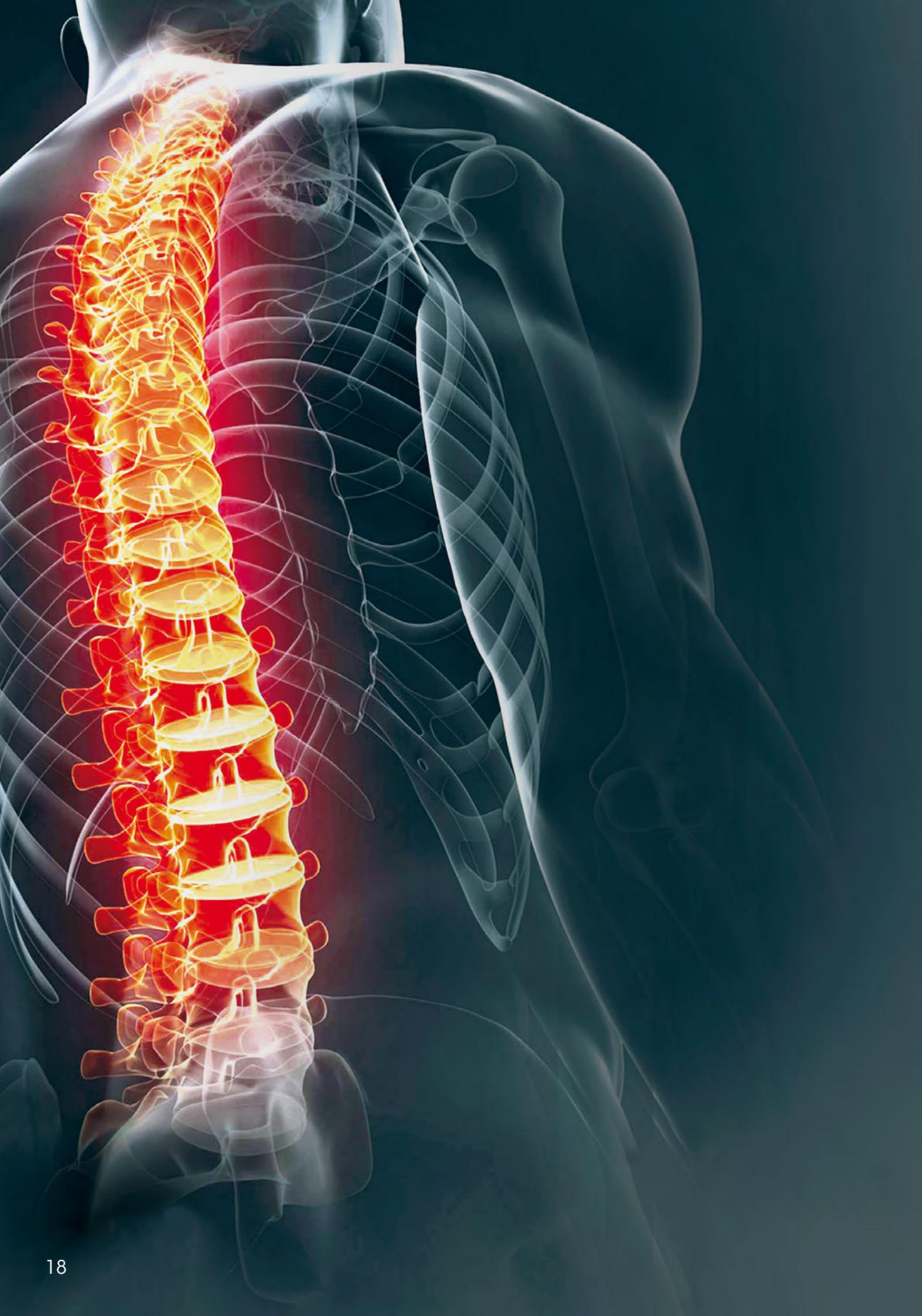
K-Laser therapy allows wounds, ulcers and mucositis to heal faster thanks to tissue biostimulation and consequent better wound healing.

Bibliography:

Chermetz M.; Gobbo M.; Ronfani L.; Ottaviani G.; Zanazzo G.A.; Verzeznassi F.; Treister N.S.; Di Lenarda R.; Biasotto M.; Zacchigna S. Class IV laser therapy as treatment for chemotherapy-induced oral mucositis in onco-haematological paediatric patients: a prospective study. *Int J Paediatr Dent.* 2013 Dec 25. doi: 10.1111/ipd.12090.

Improvement of skin wounds

To treat skin wounds such as bedsores and ulcers, **K-Laser "Wounds of soft tissues"** treatment is generally preferred. Twice a day for 2 weeks every other day



EXTEND PLUS

THERAPY ON EXTENDED AREAS
optional



K-Laser last generation has conceived the "K-Laser Cube Extend" new technology, which can be combined with K-Laser therapy in order to treat extended areas more easily while obtaining better results than the ones achieved with a laser scanner.

K-Laser Cube Extend Plus is equipped with an articulated swivel arm and with a removable head with housing for the laser beam.

Thanks to its wider emission cone, it can treat larger areas.

K-Laser Cube Extend Plus with a 100 mm diameter, has a unique and exclusive design: it is ergonomic and easy to position; it is equipped with special optics that deliver energy uniformly on the whole area to be treated.

K-Laser Cube Extend Plus exploits all wavelengths available. Thanks to the wide range of treatments, it can also be used on serious wounds as well as to treat larger areas.

K-Laser Cube Extend Plus is available for all **K-Laser Cube models**.



ACCESSORIES

ENT FIBER
Included



K-LASER OPTIC PLUS: 12 cmq.
Included

Treating extended areas as well as open wounds gets easier with K-Laser Optic Plus.



PROTECTIVE GOGGLES
Included

K-Laser studied some specific goggles to protect the operator and your patients eyes during K-Laser treatments.



K-LASER TROLLEY
optional

Light, transportable and safe, it guarantees the stability of the device on the base of the trolley.



ALUMINIUM TRANSPORT CASE

optional

K-Laser studied a comfortable transport case.



HIGH POWER HANDPIECE

optional



BATTERY BACKPACK

optional

- Fast charging backpack battery
- Two fast charging USB ports for smartphones, tablets etc.
- Fast Charge backpack charging
- Inside pocket (phone, handpiece tips, etc.)
- Battery life is 10 times longer than the laser battery at maximum power
- Battery percentage showed on display
- On / Off safety switch

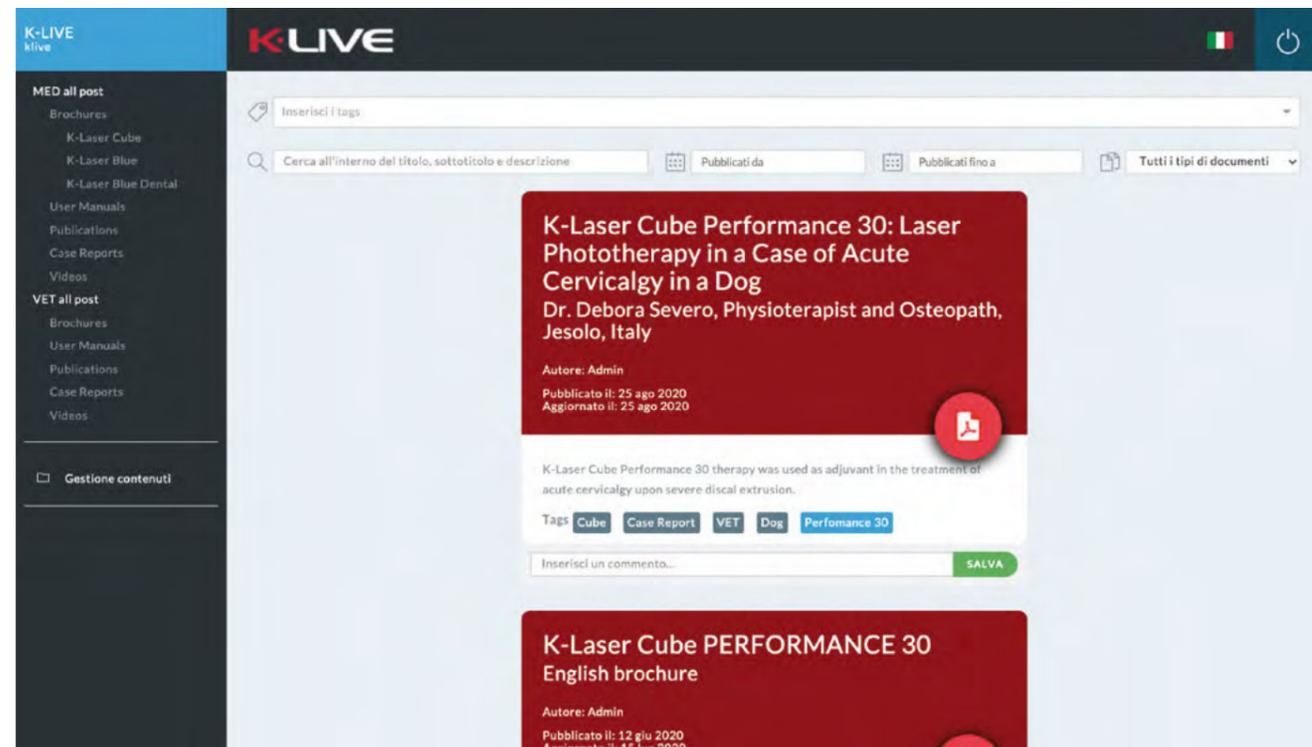
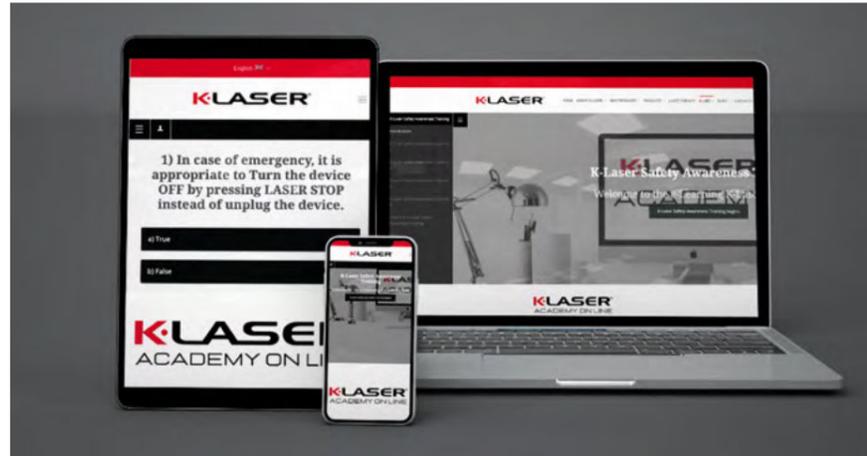


KLASER®

ACADEMY ON LINE

K-Laser aims for excellent training through our Academy, by promoting high-level, fun, punctual and effective training contents.

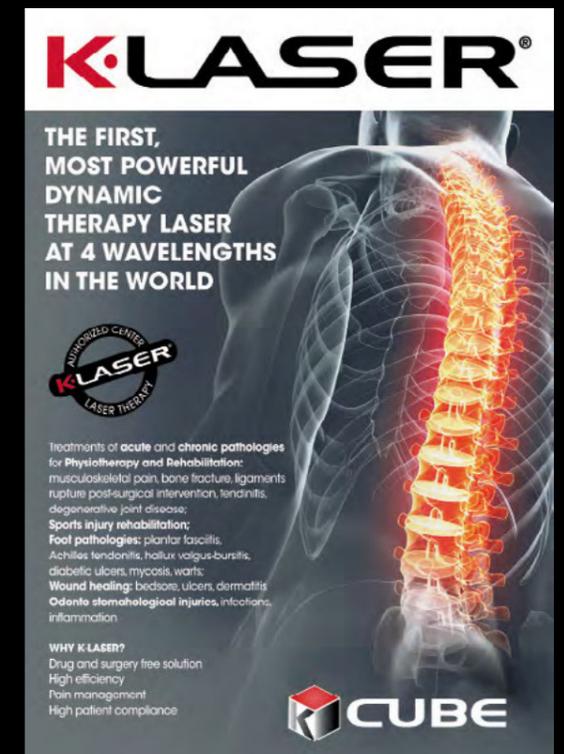
Each training is distributed through an LMS that fully automates every action: by replicating the interested training over the time, and targeting it at an increasingly wide audience, ensuring a highly qualified e-learning training, with the issuance of an on-line certificate.



An exclusive portal where you can find all the official Vet and Med K-Laser publications, the User Manuals, the Brochure and the Case Reports. The users will be free to browse through all the contents of the website and to stay up to date on their profession.



Each K-Laser customer will receive a set of marketing tools such as flyers, the Authorized Center sticker, as well as files of designed posters and banners ready for printing.





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