

LASER THERAPY

LaserFlex **LT16** / by
Mano Médical

Dog, Cat, Horse and Exotics



MOBILITY • SIMPLICITY • EFFICIENCY



LASER THERAPY



Laser therapy offers you many advantages and new opportunities to build customer loyalty.

- ✓ Treatment efficiency
- ✓ Mobility
- ✓ Dynamism of your structure
- ✓ Revenue increase



Efficient and spectacular on:

- Pain treatment in general
- Arthritis
- Traumatology
- Promotion of wound healing



But also:

- Ear infection
- Lower back pain
- Dental abscesses
- Gingivostomatitis
- Granulomas
- Dermatitis
- Slow wound healing
- And many more...



Veterinarians equipped with this technology testify of the therapeutic efficacy on many conditions and of the customers' satisfaction given by the treatments.



22 rue Charles de Gaulle
22100 Lanvallay - France
Tel. +33 (0)2 96 85 86 76

export@manomedical.com

www.manomedical.com



Principles and Applications:

- Main physiological effects:

- Relaxing effect:

- ▶ Vasodilatation
- ▶ Ionic balancing
- ▶ ATP production stimulation

Anti-inflammatory effect:

- ▶ Vasodilatation
- ▶ Phagocytose stimulation with reduction of the responsible cells of the inflammation
- ▶ Stimulation of leucocyte production

- Immune defense stimulation:

- ▶ Vasodilatation
- ▶ Stimulation of leucocyte production
- ▶ Macrophage stimulation

Analgesic effect:

- ▶ Stimulation of endorphine production
- ▶ ATP production stimulation

- Anti-Edema effects:

- ▶ Vasodilatation

Aid wound healing:

- ▶ Fibroblasts stimulation
- ▶ Stimulation of collagen production
- ▶ Angiogenesis stimulation
- ▶ Immune Stimulation



Laser Therapy consists of bio-stimulation of tissues with specific wavelengths of lights in order to get therapeutic effects.



The applications list is directly correlated to the effects of Laser Therapy as described previously.
This list is not exhaustive.

Any application intended to obtain one of the effects mentioned above is potentially effective.
It is important to know the contraindications, always take into account the clinical circumstances and control the short and longterm effects to adapt the treatment if necessary.

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Simple rules for unlimited applications

- Clinical diagnosis

Laser Therapy does not invent medicine:
Only a correct and accurate diagnosis enables an adapted treatment.
Good anatomical and physiological knowledges are necessary.

Protocols setting:

Power (Watts) multiplied by exposure time (Seconds) sets total energy quantity distributed (Joules).

The highest the power is the shortest the treatment time should be.

$P(\text{Watt}) \times \text{Time (Seconds)} = \text{Energy (Joules)}$

High power = Short treatment

But, there are limits to use a high power (Example: dark coat)

Total amount of emitted energy is not necessarily the amount of energy received by the target anatomical part.

Protocols are developed to take into account, among others, the following factors:

- ▶ Vital power to penetrate the area to be treated
- ▶ Power not to exceed to avoid collateral problems
- ▶ Exposure time adapted to the selected power to deliver the amount of required energy at the level of the targeted anatomically part for the determined area.
(Depth of lesion causes energy losses. Therefore, the total amount of emitted energy must increase depending on the depth of the lesion and tissues density)

Why does each protocol incorporate continuous and pulsed phases of variable frequencies?

The different tissues composing the target anatomical parts respond differently depending on the frequencies used. By systematically using continuous phases and different frequencies, it is more likely to bring the required energy to the various tissue components in a suitable manner.

- Treatment application

Always work from proximal to distal to allow the evacuation of the fluxes generated by the vasodilatation.

Application:

The application must be made as close and as much perpendicularly as possible of the area to be treated.

Continuous movement avoids overheating of the target zone.

Working on the skin, hair restricts penetration.

Always control the temperature of the treated area by touching this area from time to time.

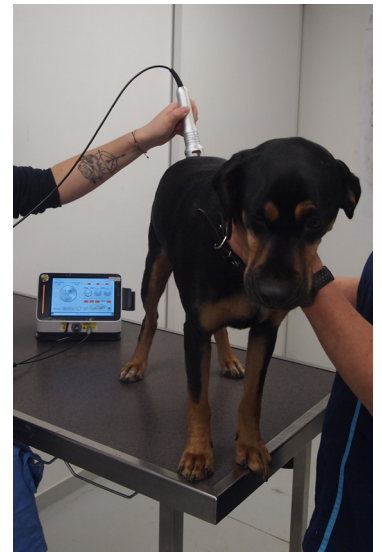
Protocols choice: When we hesitate between 2 different protocols, always choose the less powerful to start the treatment.

Too much power can generate pain.

Acute or chronique: how to treat properly:

The treatment of an acute problem should be done with a lower power and a higher frequency than the treatment of a chronic problem.

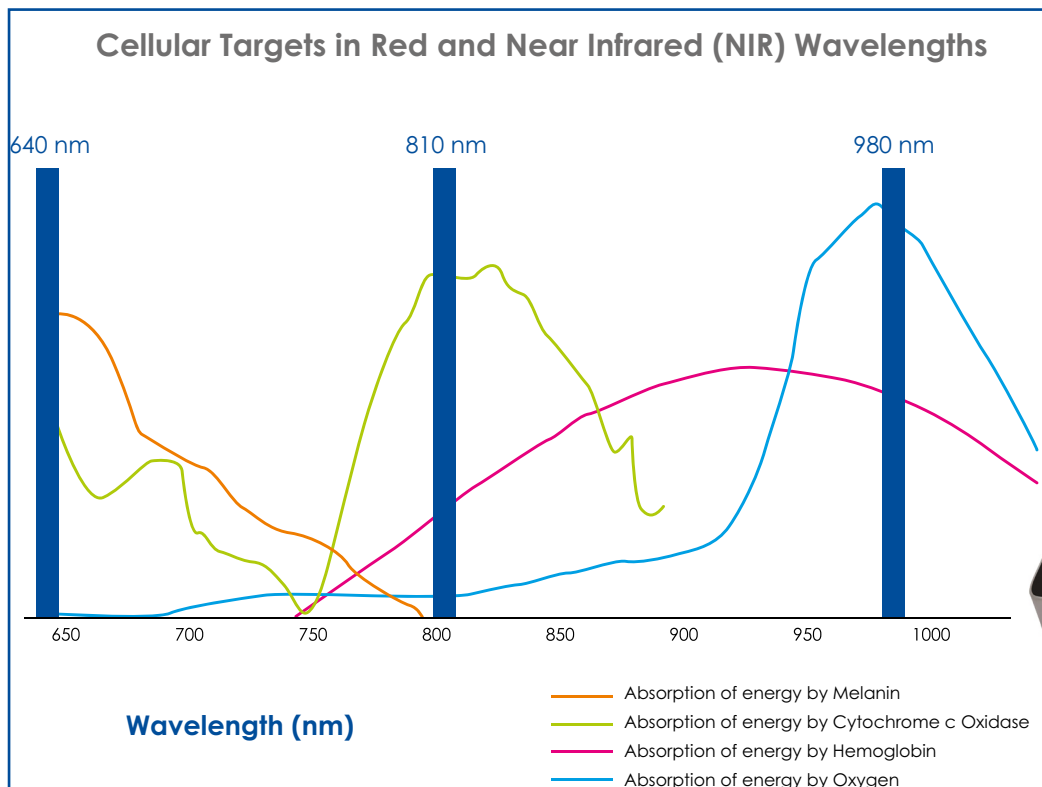
Osteopathy, massage and laser treatments: All these techniques allowing mobilization of the joints or tissues concerned by the treatment can improve its effectiveness, if these actions are not contraindicated.



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• Wavelengths:

- ▶ 640 nm: Wavelength allowing treatment of dermatological wounds (licking wounds, hot pots...)
- ▶ 810 nm: Optimal wavelength of Cytochrome c oxidase absorption favoring production of ATP and therefore production of energy.
- ▶ 980 nm: Optimal wavelength of water absorption and strong absorption by hemoglobin

• Safety:

Our equipment is supplied with safety goggles.

NEVER use this equipment if people in the room do not wear goggles.

Be aware that the laser beam can cause irreversible damages to the eye, if the beam is directed **DIRECTLY** towards the eye but also **BY REFLECTION** of the beam on a window or, more commonly in veterinary medicine on a stainless table.

WARNING

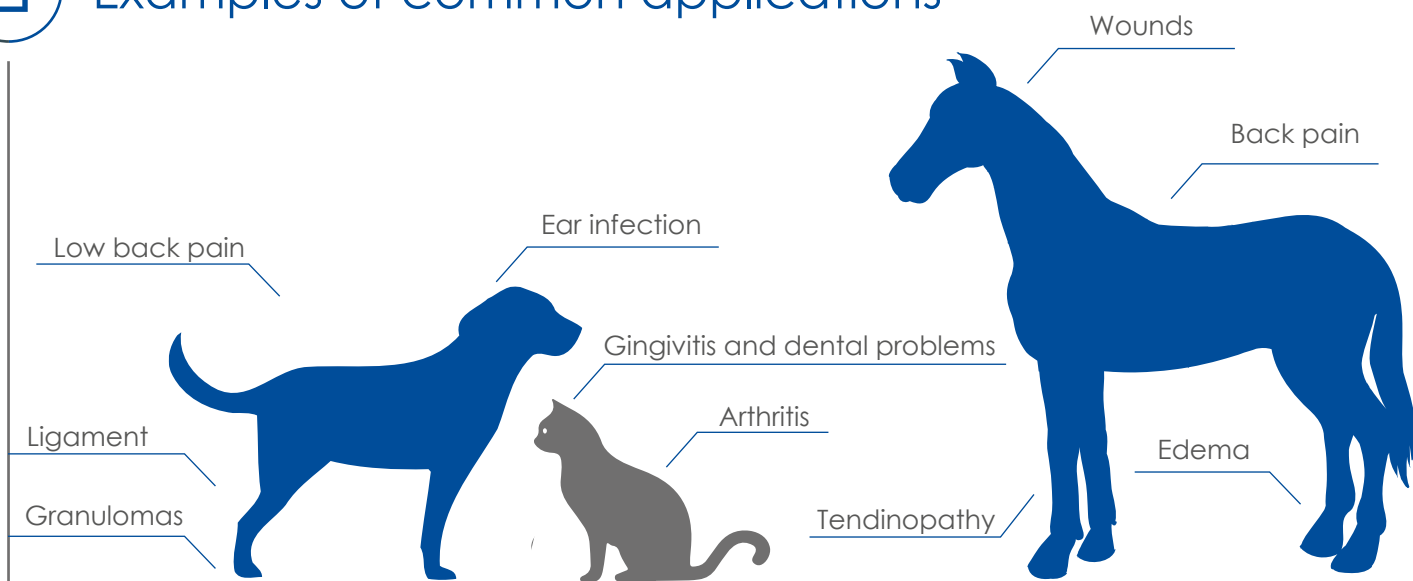
Do not use Laser Therapy in the following cases :

- ▶ DO NOT apply on eye area
- ▶ Cancers : Laser therapy stimulates the cell development so it is contraindicated in case of cancer
- ▶ DO NOT apply on thyroid gland
- ▶ DO NOT use on growing animals joints (DO NOT treat growth cartilage)
- ▶ DO NOT use close to fetus of pregnant animals
- ▶ DO NOT use on tattoos
- ▶ DO NOT use in case of recent infiltration

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Examples of common applications



Which frequencies for which treatment?

- ▶ **Arthritis:**
 - 3 times the 1st week
 - 2 times the 2nd week
 - 1 time the 3rd week
 - Then a treatment every 3 to 5 weeks according to the obtained results
- ▶ **Difficult wounds and Healing:**
 - 1 time every 3 to 4 days, then adapt the frequency according to the results until complete healing
- ▶ **Joint pain:**
 - Once a day every 3 to 4 days, then adapt the frequency according to the intensity of the pain and the effectiveness of the treatment
- ▶ **Gingivostomatitis:**
 - Once a day during 2 to 3 days, then every 3 to 4 days, then every 2 weeks and less if possible
- ▶ **Post surgical Treatment:**
 - 1 time immediately after surgery
 - 1 time immediately at dressing change
 - 1 time when removing wires (inspection visit)
- ▶ **Other treatments:**
 - In general, any treatment of an acute problem needs a higher frequency of treatments (several times a day if necessary) using lower powers. The treatment of a chronic problem will require on the contrary a higher power but a lower frequency



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Ergonomy:

- Battery operated
- Compact and lightweight
- 7" touchscreen
- Simple and intuitive display
- Power : up to 16 Watts
- Android operating system
- Wireless connection



ULTRA MOBILITY !

- Long battery life
- Lightweight (2.2 kg)
- Adapted transport case



Simplicity:

- Pre-set protocols for the different conditions for dogs, cats, horses and exotics (reptile, small mammals and birds)
- Protocols adapted to the coat colour
- Options to change protocols or to create new ones
- Recording of the personalised treatments for the patients
- Flexibility to change frequency to continuous, low, medium or high within the protocol function



1 Start



2 Choose



3 Use

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Technical data:

▶ Laser classification	IV (4)
▶ Laser type	Solid state, semi conductor laser
▶ Source	Gallium aluminium arsenide laser diode (GaAlAs)
▶ Wavelengths	640 ±10 nm, 810 ±10 nm and 980 ±10 nm
▶ Fiber diameter	600 µm
▶ Max. power	16W (power pulse mode)
▶ Spot size	> 15 mm
▶ Operation modes	Continuous wave (CW) or repeat pulse
▶ Frequency during repeat pulse operation	Low: 25 Hz / Average: 300 Hz / High: 5000 Hz
▶ Aiming laser Wavelength	650 ±20 nm
▶ Foot/finger switch operation	ON / OFF
▶ Battery capacity	3500 mAh
▶ Operation temperature	0° to 30° C
▶ Weight	2.2 kg
▶ Dimensions	200 x 160 x 160 mm
▶ Power requirement	12V - 5A
▶ Accessories included:	1 handpiece + cable 2.5 m length 1 large beam applicator ① 2 safety goggles
▶ Options	Additional safety goggles Massage ball head ② Nose and ear tip ③ Trolley with castors



Safety goggles



Tips for handpiece



Kart



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