trimbio

Supply & Service of Medical Devices

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Operating Manual

Handheld Laser System

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For veterinary use only.

Trimbio Ltd would like to thank you for purchasing this Hand Held Laser System.

Please read the Operating Manual carefully before using the equipment.

It is recommended that a thorough inspection is made prior to installation of the unit.

Should any damage be present or parts missing, please contact your distributor.

The Hand Held Laser System is supplied with the following standard accessories.

1 x Carrying Case

1 x Hand Held Laser Probe

2 x AA Batteries

Operating Instructions

Caution - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Unscrew the cap to the rear of the Hand Held Laser and insert the batteries supplied, negative end first (refer to fig .2) and replace end cap securely. Point the Hand Held Laser System towards a white surface, depress the on switch (refer to fig.1), the unit should emit a bright red light. Your Hand Held Laser System is now ready to use.

Warranty

The Hand Held Laser System is fully warranted against defects in materials or Warranty repairs the unit must be returned at the customers expense, Warranty is 1 Year for date of Invoice.

Calibration/Repair

A competent electronics technician with a knowledge of semiconductor laser diodes would be required to perform any calibrations on the unit. An Optical Power Meter capable of accurately measuring optical power at a wavelength of 670nm would also be required.

For the Hand Held Laser System to perform effectively it is recommended that Calibration is carried out at least once a year. You should contact your distributor for this and any other calibrations/repairs required. There are no user serviceable components in the Hand Held Laser System.

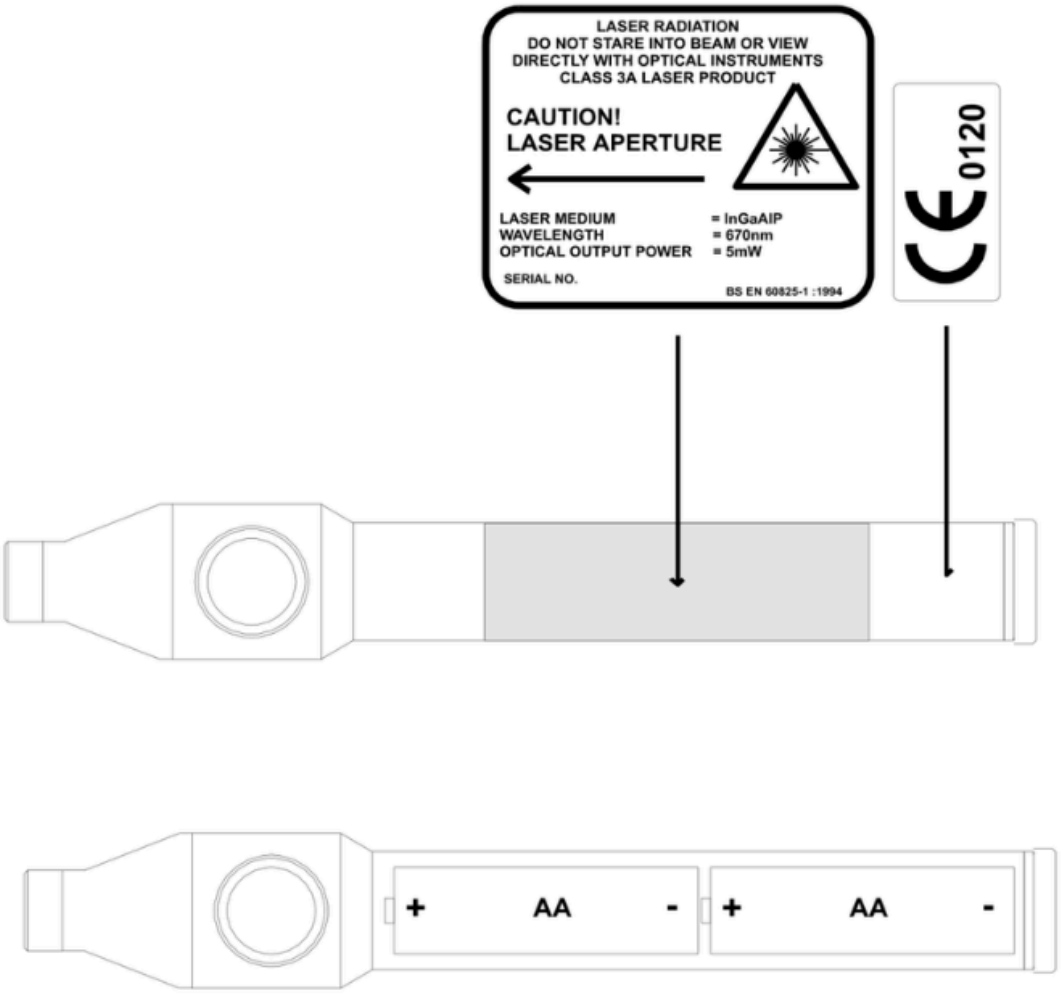


Fig.1 Top Fig.2 Bottom

Not suitable for use with recharchable batteries

WHAT IS LASER THERAPY?

Low Power Laser Therapy is the application of light to injuries and lesions to stimulate healing in tissues. It is believed to resolve inflammation, reduce pain, increase speed, quality and strength of tissue repairs and resolve infection.

Light
Amplification
Stimulated
Emission
Radiation

TREATMENT GUIDE

The Hand Held Laser System should be used with guidance or approval from a veterinary practitioner.

Proper diagnosis is essential for effective treatment and to identify injuries or diseases that may require other treatment, or for which Hand Held Laser System is not indicated.

Trimbio Ltd will not be held responsible for any adverse effects or claims if the above mentioned recommendations are not adhered to.

ACUTE INJURIES Treatment time 1 minute

SUB-ACUTE INJURIES/CHRONIC Treatment time 2 minutes

The Hand Held Laser System should be in contact with the animal (or as close as possible) for effective treatment to be administered. If used at a distance then treatment times should be increased accordingly.

The Hand Held Laser System should be used at 90° to the lesion.

HOW DOES LASER THERAPY WORK

PHOTONS

↓

ABSORBED IN CYTOCHROMES AND ORPHYRINS WITH THE MITOCHONDRIA AND AT THE CELL MEMBRANE

(Visible red light absorbed within mitochondria)

(Infra-red light at the cell membrane)

↓

SINGLE OXYGEN PRODUCTION

(Rate limiting mechs operate to prevent excess single oxygen

formation)

↓

FORMATION OF PROTON GRADIENTS ACROSS CELL MEMBRANE AND ACROSS MEMBRANE OF

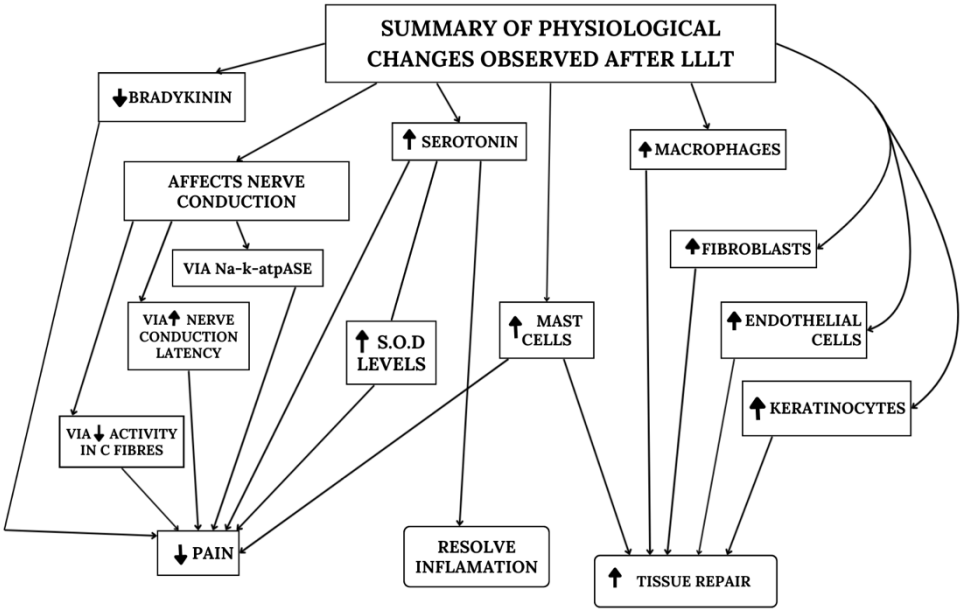
MITOCHONDRIA

CHANGES IN CELL MEMBRANE PERMEABILITY -

INCREASED ATP LEVELS - DNA PRODUCTION

↓

PHYSIOLOGICAL CHANGES



Treatment Guide

Care & Maintenance

User Maintenance

Body : Clean only with a soft damp cloth to remove any marks.

Lens : Clean the tip and lens with a swab soaked in surgical spirit, it is recommended that the probes are NOT sterilised in an autoclave. When using probes over sores and open wounds, the probe or the sore should be covered with a thin transparent sterile film. It is important to keep the probe lens clean and free from damage, as dirt or scratches can scatter or attenuate the output from the probes. Do not use any abrasive or corrosive cleaners on the lens.

CONTAMINATION STATUS OF EQUIPMENT

If it is necessary to return equipment to the manufacturer or to the distributor for repair, servicing or for any other reason, a completed Declaration of Contamination Status Form should be completed before the equipment is returned. The completed Declaration of Contamination Status form should accompany the equipment upon its return.

There is a Declaration of Contamination Status form below which may be copied for completion before the return of equipment.

DECLARATION OF CONTAMINATION STATUS

Prior to the Inspection Servicing, Repair or Return of Medical & Laboratory Equipment

TO:

Make and Description of Equipment:-

Model/Serial/Batch No:-

Authority=s Ref or Order No:-

Recipients Service or Returns Authorisation Reference or Contact Name:-

Tick box A if applicable. Otherwise complete all parts of B, providing further information as requested or appropriate.

A. G This equipment/item has not been used in any invasive procedure or been in contact with blood, other body fluids, respired gases, or pathological samples. It has been cleaned in preparation for inspection, servicing, repair or transportation.

6. 1. Has this equipment/item been exposed internally or externally to hazardous materials as indicated below?

7. Provide further details here

YES/NO Blood, body fluids, respired gases

Pathological samples

YES/NO Other bio-hazards

YES/NO Chemicals or substances hazardous

To health

YES/NO Other hazards

2. Has this equipment/item been cleaned and decontaminated?

YES/NO Indicate methods & materials used

If the equipment/item could not be

decontaminated please indicate why:-

Such equipment must not be returned/presented without the prior agreement of the recipient whose reference or contact name must be given above.

3. Has the equipment/item been suitably prepared to ensure safe

handling transportation?

YES/NO

I Declare that I have taken all reasonable steps to ensure the accuracy of the above information, in accordance with HSG(93)26.

Authorised signature Unit

Name (printed) Dept

Position Tel no

Technical Specification

The output from the probe aperture is a coherent beam of radiation at a wavelength of 670nm and a radiant intensity of 5mW. The output is derived from a laser diode with an lnGaAlp lasing medium.

The output from the probe is not collimated therefore significantly reducing the ocular hazard risk of the laser light.

Parallel Beam Divergence = 6°

Perpendicular Beam Divergence = 21°

Lasing Wavelength = 670nm

Radiant intensity = 5mW (Local to aperture)

Operating current : Typical = 50mA

Max = 70mA

Threshold = 40mA

Operating Temperature = -10 to +50 C

Battery Life Typical = Up to 12 hours

Weight (Without Batteries) = 900g