



Chapter 4 – Physiological Therapeutics

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**Therapeutic Cold
Laser**



Therapeutic Cold Laser

PHYSIOLOGIC EFFECTS OF COLD LASER

May include:

1. Decreased bradykinin
2. Increases procollagen synthesis
3. Activates macrophages
4. Increases serotonin synthesis
5. Enhances endorphin synthesis
6. Increases nerve cell action potentials

These changes appear to be the result of the chemical and physical effects of photons and radiant energy being absorbed by skin and other tissues.

INDICATION FOR USE

1. Wound healing
2. Pain control
3. Soft tissue injuries
4. Herniated discs
5. Osteoarthritis
6. Fibromyalgia
7. Headache
8. Carpal tunnel syndrome
9. Plantar fasciitis

CONTRAINDICATIONS AND PRECAUTIONS

Contraindications

1. Over or into the eyes
2. Pregnant uterus
3. Suspicious or cancerous lesions
4. Over the thyroid gland
5. Over an area injected with steroids (or other anti-inflammatory medication) in previous week

Precautions

Protective goggles to be worn by patient during laser treatment



TECHNIQUES OF APPLICATION

Treatment area

The skin should be cleaned with alcohol. If the area being treated has broken skin, use clear plastic wrap as a protective barrier.

Protective goggles are to be worn by the patient during laser treatment.

Acute Conditions

Treatment time: Treatment time is generally between 5 and 10 minutes for the superluminous diode and generally between 1 and 2 minutes for the laser.

Frequency of treatment: Treatments can be administered daily for the first week. Do not exceed more than 2-3 times per day with a minimum of 2 hours between treatment.

Treatment can decrease to 2-3 times per week until maximum improvement is reached (typically 1 to 3 weeks).

Joules- 10

Pulsing- continuous

Chronic Conditions

Treatment time: Treatment time is generally between 5 and 10 minutes for the superluminous diode and generally between 1 and 2 minutes for the laser.

Frequency of treatment: Treatments can be administered 2 to 3 times per week until resolution or maximum improvement (varying from 6 to 25 treatments).

Joules- 10 (If the patient experiences an increase in pain following treatment, you may consider decreasing the joules by 2 for the next treatment).

Pulsing- continuous

GENERAL CONSIDERATIONS

If the desired results are not obtained during the first two treatments, a pulsed setting could be tried instead of the generally used continuous setting.

Since melanin influences the absorption of laser energy, greater skin pigmentation will necessitate greater energy doses.

If using ice before laser therapy, the vasoconstricting effects will enhance laser penetration.

If using massage or heat, these should be applied after laser therapy since increased blood flow diminishes the penetration of the laser.



References Consulted

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