

# CONNECTICUT VALLEY HOSPITAL

## Physical Therapy Services

### PT Equipment Procedure #42

**Re: Low Level Laser**

**Date: October 21, 2008**

**Description:** Low Level Laser (LLL) Therapy is a form of concentrated light therapy. LASER – is the acronym for Light Amplification through the Stimulated Emission of Radiation. Laser light is a very concentrated beam of light of a single wavelength (monochromatic), with all light waves aimed in a single direction (collimated) and all in phase with each other (coherence). The LLL used in Physical Therapy are those in the Class 3B Classification of Lasers and have milliwattage of less than 500 milliwatts.

#### **Indications:**

1. Joint pain and stiffness
2. Trigger point activity
3. Decreased local circulation
4. Delayed wound healing
5. Carpal Tunnel Syndrome
6. Neck and shoulder pain of musculoskeletal origin
7. Relaxation of muscles
8. Muscle Spasms

#### **Contraindications:**

1. Over eyes
2. Patients with known cancerous growths
3. Photophobia
4. Direct irradiation over the fetus or the uterus during pregnancy
5. Patients using photosensitizing Medications
6. Over hemorrhage
7. Over the thyroid or endocrine glands or sympathetic ganglia
8. Over growth plates in children and young adults
9. Patients with serious infectious diseases

#### **Precautions:**

1. Treatment must occur in a closed room with proper identification.

2. All individuals in the room must wear protective goggles that are wavelength specific to the device that is being used.

**Procedures:**

1. Thoroughly clean the patient's skin in the area to be treated. Dry completely.
2. All individuals in the treatment room must wear appropriate safety goggles.
3. Select the appropriate laser applicator and attach to machine. This is based on the size and area to be treated.
4. Turn machine on.
5. Press the Frequency button to select one of the 12 preset frequencies. Frequency is in Hz (hertz) increments.
6. Press the Time button and select the treatment time. Treatment time and dosage are directly correlated.
7. Press the Dosage button and select the unit's output. Dosage is in Joules/cm<sup>2</sup>.
8. Place the applicator on the first site to be treated with the shaft at a parallel angle.
9. Press the Start button. The message will appear telling you that the laser is armed. The unit will beep two times to count down the number of seconds left until the applicator is ready. Then an orange light will blink twice on the back of the applicator. Press the pause/resume button to begin treatment.
10. When the treatment time has expired, a tone will sound.
11. Move the applicator to the next site to be treated and repeat the process.
12. The machine may be turned off at any time by pressing the stop button.
13. When treating a joint, the joint should be in the "open packed position".

**Maintenance:**

1. Check power cord, plug and applicator cable for fraying, kinks and torn or cut insulation each time the machine is used.
2. Check the applicator lens for oil or foreign material build up. The lens should be cleaned before each use with a clean cloth and a mild cleaning solution.
3. The remainder of the machine should be cleaned with a clean cloth and a mild cleaning solution.
4. The laser applicators must be recalibrated annually.
5. The low level laser machine receives Biomedical Testing on an annual basis in January of each year.