

Documenting Laser Therapy

By Michael Mathesie, DC, DACRB, DABFP and Rob Berman

We speak to many chiropractors during lectures and at trade shows, and often ask them, "Do you have a laser?" Many respond, "Yes," but when we query further about what type of laser they have, we draw a blank stare or a response of, "I don't know." Any chiropractor who does not know much about their laser could use a little bit of help with documentation.

The first step is to know the manufacturer of your laser, model, wavelength, maximum power output in watts or milliwatts, and the square area of your aperture.

(Note that if you have a "light therapy device," it may not even be a laser.) Once you have that basic information, there are six key items to consider for proper laser therapy documentation in your clinical records. We'll discuss the first three in this article and the remaining three in part 2 next issue.

1. Document Laser Penetration

Diode lasers use complex semiconductors. Depending on the wavelength, the laser will penetrate different depths into the body. The manufacturer should inform you about these figures. If the laser also utilizes LEDs, these will barely penetrate the body. Knowing what your target structure is and documenting the expected penetration is important.

Here are some expected penetration depths depending on the wavelength of your laser device according to *The New Laser Therapy Handbook* by Tuner and Hode (2010; pg 118):*

- 630-700 nm: 0.5-1 cm
- 700-800 nm: 2-3 cm
- 800-960 nm: 3-5 cm*
- 970-990 nm: 1-2 cm
- 990-1,200 nm: 4-5 cm

*800-890 nm: up to 4 cm; 900-910 nm: up to 5 cm; but drops to 3 cm at 930-960 nm.

2. Document the Technique

Your depth of penetration as documented in item #1 above can change depending on your treatment method, ranging from shallow to medium to deep. The choice of shallow, medium or deep pressure depends on the condition(s) being treated.

laser therapy - Copyright © Stock Photo / Register Mark Holding the laser off the skin will reduce the depth of laser penetration. This approach works well for dermatological conditions such as psoriasis or road rash. Medium-pressure treatment with the laser head on the skin is the general approach to laser therapy and will reach deeper-seated pathologies.

To maximize penetration to areas such as facets and discs, the deep approach is preferable. By pushing the laser into the skin, it pressures the capillary blood out of the way, allowing even deeper penetration compared to the medium or shallow approach.

Key Documentation Items:

- Shallow (no pressure)
- Medium pressure
- Deep pressure

3. Document Effective Dosage

Dosage is expressed in Joules/cm², but documenting the amount of Joules delivered at the surface and describing the area being lased should be enough for proper documentation.

The key to effective treatment is the dosage at the target area. For example, if the dosage should be 5 J/cm² at the target, you may need 3-4 times more energy density or dose at the skin in order to allow the sufficient energy to travel through the skin, blood and tissues before it reaches the target.

Your documentation should note dosage at the skin and the approximate target area. There is approximately 50 percent loss of laser energy each centimeter into the tissue as the laser reaches the target, thus requiring higher dosage delivered at the surface.

Key Documentation Items:

- Dosage at skin surface
- Approximate dosage at target tissue
- Duration performed (necessary because HCPCS S8948 is a timed constant attendance modality)

Editor's Note: Part 2 of this article (April issue) will discuss 4) Documenting key physiology treatment goals; 5) Documenting health / safety precautions; and 6) Documenting results of treatment.

Dr. Michael Mathesie is a 1988 graduate of Life University. He has been practicing in Coral Springs, Fla., for 26 years, and teaching and utilizing laser therapy in his practice since 2005. Dr. Mathesie is a recipient of the Sports Chiropractor of the Year award, and two governors have appointed him to the Florida Board of Athletic Training and the Florida Board of Chiropractic Medicine.

Rob Berman is a partner at Berman Partners, LLC, a medical device sales, service and marketing company. He has held a variety of marketing roles during his career. Rob can be contacted by phone at 860-707-4220 or by email at rob -at- bermanpartners.com. His company website for new lasers is www.bermanpartners.com and for used lasers www.usedlasercenter.com.

Page printed from:

https://www.dynamicchiropractic.com/mpacms/dc/article.php?id=58125&no_paginate=true&p_friendly=true?no_b=true

Document Laser Therapy (Pt. 2)

By Michael Mathesie, DC, DACRB, DABFP and Rob Berman

Editor's Note: Part 1 of this article appeared in the March 2018 issue and covered documenting 1) laser penetration, 2) technique performed and 3) effective dosage.

4. Document Treatment Goals

Photon tissue interactions fall into primary, secondary and tertiary responses. Laser therapy ultimately will result in acceleration of pain relief, inflammation reduction and tissue repair.

According to Hode and Tuner in *Laser Phototherapy*, the photons, which are the packets of light energy produced by the laser, penetrate through the skin and into the cells. The cells are then able to absorb and convert this light energy to chemical energy that is able to promote healing and pain relief.

The light energy is absorbed in the cytochromes (receptors in the cell). As a result, the rate of ATP production from the cell is increased – bringing the rate of cell metabolism from a depressed rate, as is the case in damaged tissue, to a normal level.

As a result of this increased cell metabolism, many different biological effects may occur. Cell repair is stimulated among all different tissues; tendon, bone, skin, nerve and muscle can all be affected. Laser light has been shown to regenerate nerve cells and restore nerve function.

There has been shown to be an increase in prostaglandins, increased enzymes and growth factors, and cellular products after laser therapy. Angiogenesis can occur, along with reduction of fibrous tissue formation, which is beneficial to healing of chronic wounds. The end results of all of these biological effects are reduction of pain, resolution of inflammation and increased tissue repair.

Key Documentation Items:

- Pain relief only
- Inflammation reduction only
- Tissue repair only

- Combination of items 1-3

5. Document Health and Safety Precautions

Appropriate health / safety precautions should be routine in the office. For example, use clear plastic film on the laser treatment head/aperture when treating the mouth, ear and other moist surfaces or open wounds.

Goggles should be worn by both clinician and patient.

Key Documentation Items:

- Adding clear plastic film to treatment regimen
- Goggles worn by patient and clinician

6. Document Treatment Results

Improvement can be judged by the patient's decreased pain or objectively by:

- Inspection: reduced swelling, redness, bruising
- Palpation: reduced tenderness and less pain
- Function: increased strength, mobility, ROM
- Imaging: IR image, thermography, MRI, photos

Key Documentation Items:

- Findings from inspection as necessary
- Findings from palpation as necessary
- Findings from function as necessary
- Findings from photos and imaging as necessary

Putting It All Together

Below are two examples of documentation with a laser that illustrate the principles of appropriate documentation discussed in this two-part series.

Scenario #1: treatment given and plan of care: Laser therapy (S8948) was applied to the patient's right medial, anterior, lateral and posterior knee to reduce swelling and pain related to the sprain, by Cindy Anderson, CCPA. Both the patient and clinician were wearing appropriate protective goggles.

With direct skin contact technique, an 810 nm, 7W continuous wave GaAlAs laser, modulated down to 4W of average power, was applied equally over each area of the four regions of the knee for a total of 15 minutes, delivering a total of 3,600 Joules. The expected dose at the target tissue 2-3 cm deep is 5-10 Joules/cm² with 20 Joules/cm² at the surface, estimating 180 cm² treatment area (three playing cards).

There was a noticeable reduction of swelling of the anterior medial section of the knee after application from a 3+ to a 2+ edema grade. Tenderness went from a +3 to a +2 grade. Pain levels dropped from a 5/10 (very distressing, strong, deep and piercing) to a 2/10 (discomforting). The patient should be seen again in three days if the swelling or pain stays the same or worsens.

Scenario #2: treatment given and plan of care: The patient was treated today by Dr. Jones with a 910 nm, 250W peak power, 2W average power, superpulsed therapeutic laser (S8948) to the right shoulder and cervical spine. Both the patient and clinician were wearing appropriate protective goggles.

With direct skin contact, 662 Joules were applied to the C5 and C6 spinous processes, right facet joints, right paraspinal muscles, scalene, and trapezius regions and 662 Joules were applied to the right anterior shoulder tendons and the subacromial bursa regions for a total of 16 minutes to reduce the pain, tenderness and inflammation caused by the cervical sprain, facet capsulitis, C5 disc herniation with C6 radiculitis, and right shoulder sprain / strain. The expected dose at the target tissue up to 4 cm deep is 3-6 Joules/cm² with 12 Joules/cm² at the surface, estimating 120 cm² treatment area (two playing cards).

The patient reported 75 percent subjective improvement with intensity of pain after treatment. It was recommended that the patient continue to use ice on the right cervical spine region for 15 minutes and off for one hour, and to the shoulder for 10 minutes and one hour off. Repeat three times throughout the day for the next two days, and then return in two days.

Key Points to Remember

Proper laser therapy documentation creates a paper or electronic trail of your patient's progress toward the treatment plan and goals you, as the chiropractor, have established. As discussed in this article and the previous one, always make sure you document the following:

1. Laser penetration
2. Method of treatment (i.e., technique and specific site of treatment)
3. Effective dosage; including 15 minutes or other duration of time

4. Physiology and treatment goals
 5. Health / safety precautions
 6. Results of treatment
-

Dr. Michael Mathesie is a 1988 graduate of Life University. He has been practicing in Coral Springs, Fla., for 26 years, and teaching and utilizing laser therapy in his practice since 2005. Dr. Mathesie is a recipient of the Sports Chiropractor of the Year award, and two governors have appointed him to the Florida Board of Athletic Training and the Florida Board of Chiropractic Medicine.

Rob Berman is a partner at Berman Partners, LLC, a medical device sales, service and marketing company. He has held a variety of marketing roles during his career. Rob can be contacted by phone at 860-707-4220 or by email at rob -at- bermanpartners.com. His company website for new lasers is www.bermanpartners.com and for used lasers www.usedlasercenter.com.

Page printed from:

https://www.dynamicchiropractic.com/mpacms/dc/article.php?id=58269&no_paginate=true&p_friendly=true?no_b=true