

Acute Rib Fractures Treated with Class IV Lasers



Initial Presentation: seven days after injury



Third Treatment: seven days after initial visit



Fourth Treatment: nine days after initial visit

History:

59-year-old female presenting with a large right posterior flank ecchymosis. She had severe pain in the right flank and lower back. Her injury resulted from a slip and fall injury in her bathtub one week earlier.

Initial x-rays failed to demonstrate rib fractures or abnormality. Triple phase bone scan confirmed posterior rib fractures at the 9th, 10th, 11th and 12th ribs.

Treatment Protocol:

Class IV laser, dual IR wavelengths 800nm and 970nm with modulation. The patient was treated a total of four visits using a scanning technique with the laser probe 1 to 2 cm distance away from the skin.

Power Level:

3 watts using variable modulation at 2hz., 10hz., 2500hz., 4200hz., and 5000hz., for 330 seconds per visit. Treatment dosage estimated at: 455-500 Joules per treatment.

Treatment Results:

Pain substantially reduced after the first treatment. By visit three, swelling and ecchymosis was resolved. By the fourth visit the patient was nearly pain-free with improved ventilation and mobility.

Discussion:

Multiple rib fractures are extremely painful and difficult to treat. The severe pain associated with multiple rib fractures can seriously compromise respiratory mechanics. Delayed morbidity for rib fracture patients is often a result of hypoventilation leading to atelectasis, pneumonia, and respiratory failure.

The use of circumferential rib belts in the treatment of patients with acute rib fractures has been discouraged because of possible complications from restricted ventilation. The current medical treatment for rib fractures focuses on analgesia and improving ventilation.

Intercostal nerve blocks with Marcaine have been suggested as a method to improve rib mechanics and oxygen saturation. (1) Hospitalization and respiratory care may be necessary with development of comorbidities.

Conclusion:

This case study demonstrates the successful treatment of multiple rib fractures, using a class IV IR laser.

Karmakar MK, Ho AM. Acute pain management of patients with multiple fractured ribs. J Trauma. 2003 Mar;54(3):615-25.

Case study courtesy:

Dr. Ron Lewert, Private practice: Coral Springs, FL