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Laser Therapy for Incision Healing in 9 Dogs.

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Abstract

Laser therapy is becoming common place in veterinary medicine with little evidence proving efficacy or dosages. This study evaluated surgical wound healing in canines. Twelve Dachshunds underwent thoraco-lumbar hemilaminectomies for intervertebral disc disease (IVDD). Digital photographs were taken of their incisions within 24 h of surgery and 1, 3, 5, 7, and 21 days postoperatively. The first three dogs were used to create a standardized scar scale to score the other dogs' incision healing. The remaining 9 dogs were randomly assigned to either receive 8 J/cm² laser therapy once a day for 7 days or the non-laser treated control group. Incision healing was scored based on the scar scale from 0 to 5, with zero being a fresh incision and five being completely healed with scar contraction and hair growth. All scar scores significantly improved with increasing time from surgery ($p < 0.001$). Good agreement was achieved for inter-rater reliability ($p = 0.9$). Laser therapy increased the scar scale score, showed improved cosmetic healing, by day seven and continued to be significantly increased on day 21 compared to control dogs ($p < 0.001$). Daily application of laser therapy at 8J/cm² hastened wound healing in Dachshunds that received thoracolumbar hemilaminectomies for IVDD. It also improved the cosmetic appearance.

KEYWORDS:

IVDD; canine; incision; laser; photobiomodulation; scar scale; wound healing

Representative images of the two treatments groups at day 21. **(A)** A non-laser patient illustrating the continued presence of a scab over some of the incision's epithelium. **(B)** A non-laser patient with a wide scar area and one remaining pink area of granulation toward the right side of the incision. **(C)** A laser therapy patient showing a completely healed incision with contraction and hair regrowth around and on the incision.

A



B



C

