

Effect of laser treatment on first-intention incisional wound healing in ball pythons (*Python regius*).

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Article Abstract

OBJECTIVE: To evaluate effects of laser treatment on incisional wound healing in ball pythons (*Python regius*). **ANIMALS:** 6 healthy adult ball pythons. **PROCEDURES:** Snakes were sedated, a skin biopsy specimen was collected for histologic examination, and eight 2-cm skin incisions were made in each snake; each incision was closed with staples (day 0). Gross evaluation of all incision sites was performed daily for 30 days, and a wound score was assigned. Four incisions of each snake were treated (5 J/cm² and a wavelength of 980 nm on a continuous wave sequence) by use of a class 4 laser once daily for 7 consecutive days; the other 4 incisions were not treated. Two excisional skin biopsy specimens (1 control and 1 treatment) were collected from each snake on days 2, 7, 14, and 30 and evaluated microscopically. Scores were assigned for total inflammation, degree of fibrosis, and collagen maturity. Generalized linear models were used to investigate the effect of treatment on each variable. **RESULTS:** Wound scores for laser-treated incisions were significantly better than scores for control incisions on day 2 but not at other time points. There were no significant differences in necrosis, fibroplasia, inflammation, granuloma formation, or bacterial contamination between control and treatment groups. Collagen maturity was significantly better for the laser-treated incisions on day 14. **CONCLUSIONS AND CLINICAL RELEVANCE:** Laser treatment resulted in a significant increase in collagen maturity at day 14 but did not otherwise significantly improve healing of skin incisions.