

Erchonia Laser Case Study – Soft Tissue Wound Healing

Roxanne
8 Years Old

October 3rd, 2012

Oklahoma State University Teaching Hospital
Stillwater, OK

Roxanne, an 8 year old Quarter Horse mare presented to the teaching hospital on October 3rd, 2012 with massive soft tissue damage to her left hind gluteal region. Roxanne had been accidentally let out of her pasture and hit by a vehicle and found by her owner after being struck by the vehicle. Roxanne was in stable condition and still able to bear weight on the affected limb.

The wound was so large and so much skin was missing surgical closure was not a viable treatment option. Roxanne's wound closed via second intention. Second intention wound healing is indirect closure that occurs by granulation tissue formation, contraction and epithelialization.

Treatment was based on promoting wound healing by eliminating factors known to cause a delay such as bacterial infection and the presence of devitalized tissue. Roxanne was given Banamine IV every 12 hours to control pain and inflammation. Roxanne received one dose of Excede IM on day one, and then again on day 4 of treatment to decrease probability of systemic bacterial infection. Every 12 hours Roxanne received hydrotherapy on the wound. Hydrotherapy helps remove unwanted material without disturbing healthy tissue, debrides the wound, dilutes bacterial content and promotes circulation. Low level laser therapy was instituted on the first three days and then every third day. Low level laser therapy utilizes light to stimulate ATP production by mitochondria. This treatment modality enhances physiologic mechanisms that promote wound healing such as leukocyte infiltration, macrophage activity, fibroblast formation and proliferation, formation of granulation tissue and epithelialization. After every hydrotherapy session the wound was treated with Vetericyn and scarlet oil. Vetericyn and scarlet oil are topical agents that promote wound healing by decreasing the bacterial load of the wound without damaging mammalian cells.

Treatment was discontinued after 5 weeks of treatment and Roxanne was put out to pasture. Roxanne's wound continued to heal well by second intention over the next 9 weeks; she is still able to bear weight and ambulate.

References:

Wound repair in the horse: Problems and proposed innovative solutions. *Clinical Techniques in Equine Practice*, Volume 3, Issue 2, June 2004, Pages 134-140. Christine L. Theoret.

Equine wound healing: influence of low level laser therapy on an equine metacarpal wound healing model. Henry W. Jann, Kenneth Bartels, Jerry W. Ritchey, Mark Payton and John M. Bennett. Department of Veterinary Clinical Sciences, Oklahoma State University.

Wound on presentation from rear



Wound on presentation from side



Wound after 1 week treatment



Wound after 3 weeks treatment



Wound 6 weeks after presentation (treatments discontinued)



Wound 9 weeks after presentation (treatments discontinued)

