

# Extracorporeal shockwave therapy in the treatment of distal limb lacerations

## Author:

Scott McClure, Dean Morgan

## Institution:

ISU-CVM; 50011-1250 Ames, Iowa, USA

## Device and producing company:

Equitron; Sanuwave

## Introduction:

The objective of this study was to determine if ESWT affects the rate of epithelialization and contraction of wounds on the metacarpus.

## Methods:

In 6 horses a 4-cm diameter defect including skin, subcutis, and periosteum was created on the metacarpi bilaterally. The wounds were digitally photographed, the circumference of the limb was measured, and the quantity of granulation tissue scored. The metacarpi were radiographed on days 14, 28, and 56. ESWT was initiated on day 7 on 1 randomly selected metacarpus and repeated weekly until the wound was healed. The photographs were analyzed to determine wound size, contraction and epithelialization. The area of bone lysis or proliferation was measured on each radiograph. Swelling was expressed in terms of percentage increase of the circumference. Parametric survival analysis was used to compare the days to wound healing. A matched pairs t-test was used to compare the data **between healed wounds**.

## Results:

The wounds treated with ESWT healed in a mean 76 days compared to a mean of 90 days for the untreated controls, resulting in a  $P = 0.051$ . The healed treated and control wounds had similar areas of epithelialization ( $P = 0.48$ ) and percentages contraction ( $P = 0.96$ ). The percent circumference of the limb was similar between treated and control wounds ( $P = 0.99$ ) and there was no difference in the sum score for granulation tissue between treated and control wounds ( $P = 0.52$ ). There were no radiographic differences between treated and control wounds.

## Discussion:

The epithelialization and contraction were similar between treated and control limbs which indicated the wounds healed in similar fashion.

## Conclusion:

This study indicates that ESWT may speed the rate of healing of distal limb wounds.