

Use of Infrared Therapy to Enhance Healing of Chronic Wounds

By

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Chronic wounds, commonly referred to as refractory wounds, affects approximately 4 million people in the U.S. annually. This reflects 14 to 23 % of patients with a wound etiology, and varies depending on their health care setting. Chronic wounds are costly with the repeated need for antibiotic intervention and/or recurrent hospital or skilled facility placement. This drains the finances of the family, not to mention the third party payor. Conventional topical treatments may be ineffective in the management of chronic wounds, particularly if patients experience exacerbations of underlying auto-immune disease, arthritis, unstable diabetes with micro-occlusion to their extremities; or underlying infections that may not be responsive to antibiotic therapy.



Herpes Myalgia of 6 mos. Duration
Pain intensity 9/10



Number of treatments 19
Tx: 2xwk x 30 min
Pain controlled for 3 hrs after tx, and decreased by week 3

Total number of cases treated with infrared in 2004-2005:	71
Number <u>Healed:</u>	28
Number <u>Improved</u>	27
Stabilization of Progression of Gangrene	4
Non-Compliant with Process and discontinued	11
Average Duration of therapy / weeks	12
Average frequency of treatment per week	2



Infrared therapy delivers monochromatic photo energy through light emitting diodes on the skin. The light that is emitted penetrates below the surface of the skin and is absorbed by target tissue. The photo energy releases a free radical molecule called nitric oxide. Nitric oxide causes relaxation in smooth muscle cells allowing for increased circulation, promoting cell division and proliferation, collagen synthesis, collagen fibril alignment, and angiogenesis. The first infrared therapy treatment begins the release of nitric oxide, and subsequent treatments build on the physiologic and biochemical changes. Since new blood vessels progressively develop, healed wounds



wound of 11/2 yr duration, pain 9/10, edema, slough, profuse drainage, pt with end stage pulmonary hypertension



Decr. Pain by week 2
Decr. Edema, Decr drainage

(all patients selected failed conservative tx)

Number of Venous Patients:	33
Number of Vascular Patients	11
Gangrene Patients	7
Diabetic	5
Pressure patients	13
Connective Tissue Disease Wound Patients	1
Pulmonary Hypertension	1



Pt with MS, connective tissue disease and wound(s) for 15 years w/chronic cellulitis and PVD. Refused amputation



After 8 wks of tx