Aerolase® LightPod Neo®

Clinical Insights

Wound Healing with a Portable 650µsec 1064nm Laser

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Assumptions

- Existing 'cold lasers' were not very effective
- A low-level 1064nm laser may cause or stimulate:
  - dermofibroblast synthesis of collagen
  - NO (Nitric Oxide) production
  - alteration of cell membrane w/release of ions & neurotransmitters
  - wound healing cascade
  - destruction of bacteria

LightPod Neo selected for unique set of benefits:

1. 650µsec energy mode: lack of pain compared with traditional long-pulse Nd:YAG lasers
2. LightPod handpiece allows treatment without contacting the wound (quick, easy, sanitary treatment)
3. Ability to dial energy down to low settings for wound healing
4. Gentle treatment of skin, esp. dark skin types
5. Compact, portable design: easy to use in office or take off-site to hospice, etc.
6. Highly versatile – performs many other medical & aesthetic Tx

Clinical study by Aletha Tippett, MD in Cincinnati, OH (presented at the April 2006 Symposium on Advanced Wound Care, San Antonio, TX):

- 17 subjects treated over 10-week period
- Subjects ranged in age from 36 to 77
- Subjects range in Fitzpatrick Skin Type from I to VI
- Wound types included burns and various ulcers
- Concomitant wound care applied to all subjects

Case 1

59 year old diabetic with onset of gas gangrene in the left foot. Patient scheduled for urgent amputation, but instead had wide surgical debridement. 100% granulation of the wound was achieved by day 85. Laser therapy was started, with accelerated closure observed, avoiding need for skin grafting. Wound had six treatments with one pass 4 joules/cm2 each.

Debridement of gas gangrene.

8 weeks after starting laser.

12 weeks to 100% granulation.

After full closure.

Case 2

47 year old with renal failure and sensory neuropathy with 3rd degree burns on foot. One laser treatment with 4 joules/cm2.

Burn debrided and healing, start laser.

Four weeks after laser.

Two weeks after laser.

After full closure.

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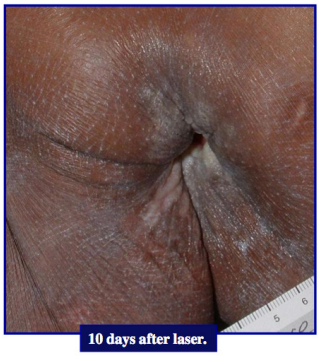
Case 3

35 year old female with chronic osteomyelitis and non-healing ischial buttock wound x 10 months. Treated with one pass of 4 joules/cm2.

10 month old wound.



10 days after laser.

Case 4

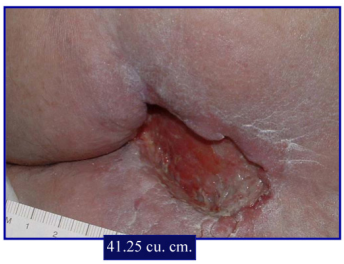
51 year old burn victim with slow closure of wound on dorsum of right foot. One pass of 4 joules/cm2 resulted in complete closure within 2 weeks.

Before laser.

2 weeks later.

Case 5

77 year old with radiation fibrosis and chronic sacral ulcer. Laser treatment with 4 joules/cm2 every two weeks for six weeks, three treatments in total.



41.25 cu. cm.

6 weeks later 10.5 cu. cm.

Obervations

A total of 17 patients had wounds treated over a 10 week period with laser therapy. Results observed include:

- 11 wounds improved, as measured by size and rate of closure
- 1 patient lost to follow-up
- 1 patient experienced increased pain, with no improvement in wound • 3 wounds with no change observed due to laser therapy
- Overall, > 60% improvement in wound healing was observed

Conclusions

Low level laser therapy can be a useful adjuvant in treating chronic wounds to stimulate healing and accelerate wound closure. A MicroPulseTM 1064nm aesthetic laser with 650µsec pulse duration that can provide fluence of 4-8 joules/cm^2 is an effective instrument for providing this therapy.

Summary of clinical cases, Includes 13 additional subjects treated from 5/06 - 1/07

- 30 subjects treated in total
- Subjects ranged in age from 21 to 90 – 15 were men (50%), 15 were women (50%)
- Subjects range in Fitzpatrick Skin Type from I to VI: 11 were black (37%), 19 were white (63%)
- All treatments at low fluences (most at 4 J/cm2 fluence, with a few at 8 J/cm2)
- 26 wounds (87%) improved, two did not improve, three subjects lost to follow-up

Summary of clinical cases by Aletha Tippett, MD (30 subjects in total)

Category	# Pts.	Age	Results	Time Frame	# TX
Surgical/trauma	9*	61	7—100% 2—30-50%	2 wk—4mo. 2 wk	7 average 1
Diabetic foot	6	58	3—100% 2—40% 1—lost to f/u	3-6 months 1 month	13 4
Pressure	5	44	2—100% 2—15-70% 1—lost to f/u	3 wk—6 mo. 5-8 mos.	2 2-13
Stasis	3	74	2—NI 3 of 4 lost to f/u		
Burn	2	50	2—100%	2-4 wks	1-2
Misc	2		Improved	1-8 months	4

*One patient is both diabetic foot and surgical/trauma
NI= not improved

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