



ECONOMIC ANALYSIS OF WOUND HEALING COSTS: SUPERIOR OUTCOMES AND COST SAVINGS WITH A MICROCURRENT GENERATING WOUND DEVICE COMPARED TO OTHER ADVANCED WOUND CARE PRODUCTS

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BACKGROUND

The aging population is increasing the economic strain that wound healing places on our healthcare system as an increased number of adults transition into higher healthcare risk groups. The need for clinically efficacious solutions that are cost effective alternatives to the current standard of care methods has never been greater¹. A recent retrospective study comparing the efficacy of a microcurrent-generating device (MCD) to advanced standard of care therapies on acute and chronic wounds (including abrasions, blisters, burns, dehiscence, diabetic foot ulcers, hematomas, pressure ulcers, skin tears or lacerations, surgical site wounds, vascular wounds, and venous ulcers), N=38, in a long-term care patient population showed that the efficacy of a MCD was statistically superior to Advanced Standard of Care Dressing therapies (ASOC; including silver dressings, foam dressings, hydrocolloids, Negative Pressure Wound Therapy, etc.) in both time to heal ($p = 0.032$) and percentage of per day wound volume reduction ($p = 0.002$).²

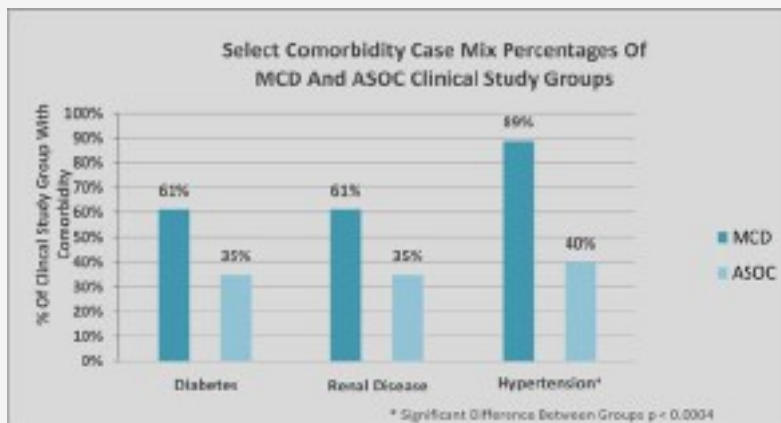
METHODS

Using the data from this retrospective study along with published data on wound healing costs, an economic analysis was performed to assess cost comparisons and return on investment seen with the MCD compared to ASOC treatment protocols in the outpatient wound care setting. Cost information on wound healing was obtained from "Wound Care Outcomes and Associated Cost Among Patients Treated in US Outpatient Wound Centers: Data From the US Wound Registry." The information within the article was calculated from a database of 7,099 wounds over a 5-year period (2005-2010)³. Average cost to heal for all wound types were found to be \$3,927; \$3,601 for patients with 1 or no comorbidities, and \$4,282 for 2 or more comorbidities. Using this information, an average cost per cm of wound closure was imputed to be \$1,718.72. Cost information was generated by utilizing the cost to heal the margin of a wound 1 cm with wound size data and rates of wound closures for both the MCD group and the ASOC group.

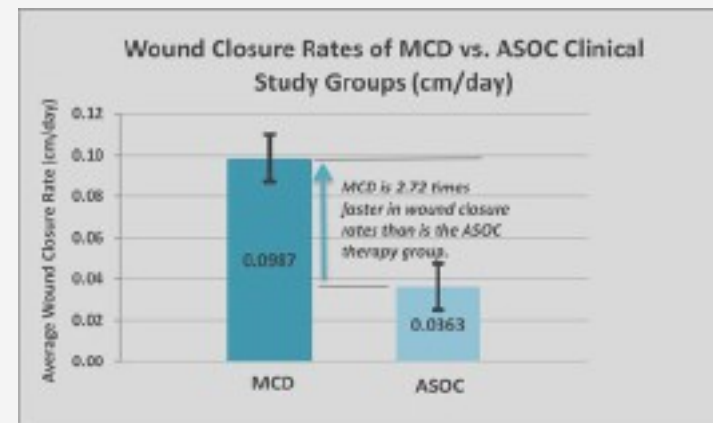
RESULTS

All patients had multiple comorbidities known to impede wound healing, with average number of comorbidities was found to be 20.72 per patient. The MCD group had significantly more patients with hypertension than did the ASOC group (89% vs. 40%, $p < 0.0004$). The MCD group also had more diabetics (61% vs. 35%, $p = 0.10748$) and renal disease patients (61% vs. 35%, $p = 0.10748$). MCD treated patients demonstrated a 2.72 fold increase in healing rates compared to the rates of other advanced wound care products (0.0987 cm/day vs. 0.0363 cm/day).

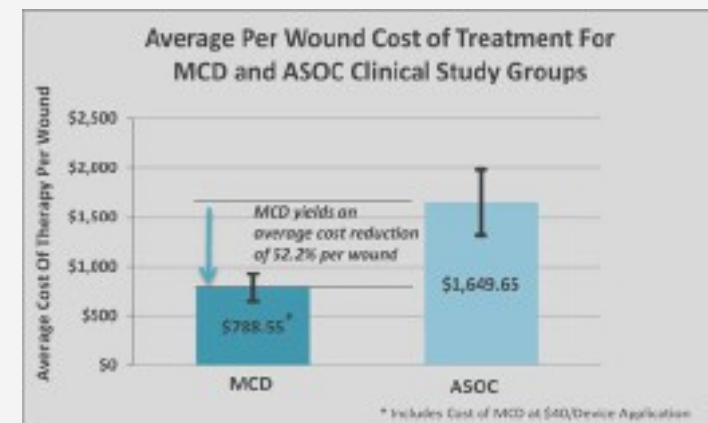
An average cost reduction of 52.2% was found using MCD versus other advanced wound care products, with a return on investment (ROI) analysis demonstrating a greater ROI as wound size increased. The ROI for facilities using MCD ranged from a minimum of \$3.49 up to \$13.98 for large wounds (50 cm²), suggesting that cost of treating a difficult and large wound over a long period of time far exceeds the cost of MCD supplies for that same wound over a much shorter period of time.



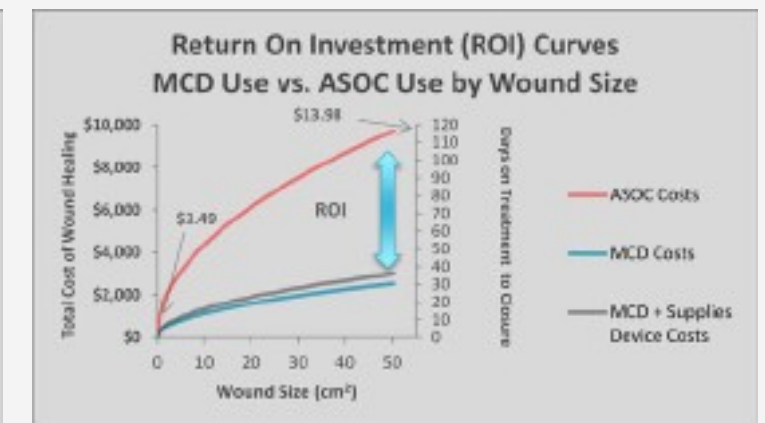
Comorbidity Case Mix of MCD and ASOC Clinical Study Group



Wound Closure Rates of MCD vs. ASOC in Clinical Study



Average Cost of Treatment for MCD vs. ASOC Clinical Study Groups



Return on Investment Curves Comparing MCD vs. ASOC Costs

CONCLUSIONS

The superiority of the microcurrent-generating device both in terms of clinical outcomes and economic cost savings is well demonstrated in these analyses. Findings from this economic model would suggest that adoption of MCD treatment protocols in wound care facilities would be highly efficacious and cost effective yielding an impressive ROI.

References

1. Soon SL, Chen SC. What Are Wound Care Outcomes? WOUNDS. 2004; 16(5).
2. Whitcomb E, Monroe N, Hope-Higman J, Campbell P. Demonstration of a Microcurrent-Generating Wound Care Device for Wound Healing within a Rehabilitation Center Patient Population. Journal of the American College of Clinical Wound Specialists 2013; 4(2):32-39.
3. Fife CE, et al. Wound Care Outcomes and Associated Cost Among Patients Treated in US Outpatient Wound Centers: Data From the US Wound Registry." Wounds 2012; 24(1):10-17.