



OR121 - Electrical Stimulation Therapy Increases Healing of Pressure Ulcers in Community Dwelling People with Spinal Cord Injury

Pamela E. Houghton, PT, PhD (University of Western Ontario, London, Ontario, Canada) Karen E Campbell, APN, MScN, PhD(c) (London Health Sciences Centre-University Hospital) Christine Fraser, HBSC, RD (St Joseph's Health Care London - Parkwood Hospital) Connie Harris, ET (Kitchener-Waterloo, Ontario) M Gail Woodbury, BSc, MSc, PhD (University of Western Ontario)

Goals and Objectives

Electrical stimulation therapy (EST) is an adjunctive therapy involving delivery of low levels of electrical current to the wound bed using specialized electrodes and equipment. It has been recommended for the treatment of non-healing pressure ulcers, however, the success of this therapy has not been tested in a community-based health care system.

Purpose

To investigate whether EST administered as part of a community-based, interdisciplinary, wound care program can improve healing of pressure ulcers of people with spinal cord injury (SCI).

Methods

Adults (51+14y) with SCI and stage II (n=4), III (n=16), IV (n=14) pressure ulcers living in the community received standard wound care including a pressure management program. Half of the subjects (n=18) were randomly assigned to also receive EST (100mA, 80Hz, alternating polarity) for an average of 372 hours over 3 months using a portable, programmable HVPC device.

Results

The percentage decrease in wound surface area was significantly greater in subjects receiving EST (71+25%) compared to those who just received standard wound care (36+61%; $p < 0.05$). Wound appearance, as measured by photographic wound assessment tool (PWAT), was also significantly improved after EST treatment but not standard care. Complete wound closure occurred in sixty-nine percent of subjects receiving EST + standard wound care and 39% of those with standard wound care alone. Average EST treatment time to produce wound closure was 175+138 days.

Discussion / Conclusion

These results demonstrate that EST can improve wound size, appearance, and rate of healing of pressure ulcers in persons with SCI. EST can be incorporated successfully into an interdisciplinary wound care program in the community.

This project was funded by Ontario Neurotrauma Foundation.
Data current as of May 23, 2008