

# The Use of the V.A.C. Device in Healing Chronic Wounds

## A Poster by Deseret Amende

A wound is described as chronic when any acute wound fails to heal in the expected time frame for that type of wound (Rennekampff, Schaller, Tennenhaus, & Werdin, 2009). Failure of a wound to heal can be due to a lack of one or more of the main requirements of healing, such as; a good supply of blood, oxygen and nutrients, and a clean and infection-free environment.

### Risk Factors

- ◊ Impaired healing/immunity
- ◊ Impaired neurological function
- ◊ Impaired motor function

The elderly, people with spinal injuries, and people with diabetes mellitus, are the ones who are most at risk of developing chronic wounds. With New Zealand's aging population, and high incidence of diabetes chronic wounds are becoming more prevalent (Statistics New Zealand, 2006; Berkeley & Lunt, 2006). The best treatment for any chronic wound is prevention, but in order to avoid any unnecessary complications in already developed chronic wounds, it is important for nurses to have an understanding of the interventions available.

### Literature Review

A systematic review of the literature on the use of V.A.C. therapy in chronic wounds generated a wealth of evidence to support the use of the V.A.C. device in healing chronic wounds. It was found that when comparing the V.A.C. system to advanced moist wound therapy (AWMT), the V.A.C. was able to help heal wounds in a fraction of the time, with less complications (Evans, Land, Ubbink, Vermulen, & Westerbos, 2009; Schintler, 2012; Ayala, J., Blume, Lantis, Payne, Walters, 2008). Because wounds were able to heal faster, with less complications, V.A.C. therapy has been described as a cost effective treatment, when used in the continuum of wound care (Trueman, 2008). It is not intended as a replacement of all other wound care interventions, rather used in conjunction with them.

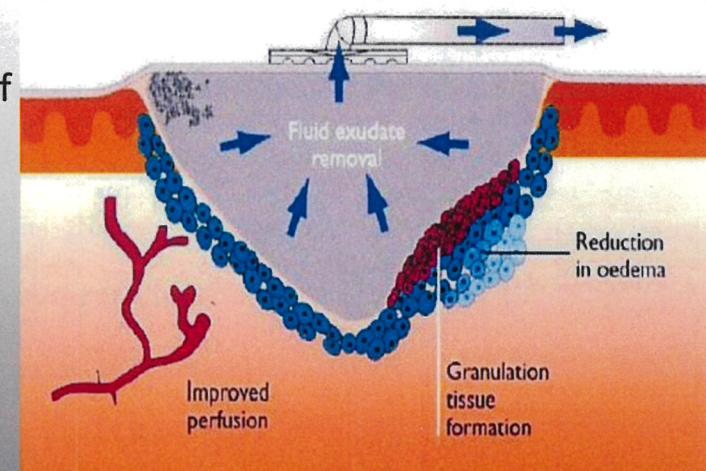
### Objective

My aim was to explore how effective the V.A.C. device was in the healing of chronic wounds. So I formulated the question: In patients with chronic wounds, what are the benefits of a V.A.C. device in wound healing compared to other dressing techniques?

### The V.A.C. Device and Wound Healing

V.A.C. stands for Vacuum Assisted Closure, and comes under the umbrella of Topical Negative Pressure Wound Therapy (TNPWT). It produces a negative pressure gradient across the wound bed, which promotes wound healing by;

- ◊ Increasing blood flow to the wound site
- ◊ Removing exudate and slough from the wound bed
- ◊ Increasing cellular activity encouraging the formation of granulation tissue
- ◊ Reducing oedema



(Schintler, 2012)

### Points to remember when using V.A.C. Wound therapy

- ◊ Ensure that the patient/wound is a suitable candidate for V.A.C. Wound Therapy.
- ◊ Read and follow all user instructions and safety information of the V.A.C. product, as well as the clinical guidelines.
- ◊ Ensure appropriate V.A.C. Dressing selection for the wound
- ◊ Ensure tissue is viable prior to commencing treatment.
- ◊ Do not tightly pack V.A.C. Dressings into the wound
- ◊ Ensure a good dressing seal has been achieved.
- ◊ Accurately document the dressing process
- ◊ If no response or improvement in the wound is observed within two weeks, reassess the treatment plan.
- ◊ V.A.C. Therapy contraindications: patients with malignancy in the wound, untreated osteomyelitis, unexplored fistulae, or necrotic tissue with eschar present. DO NOT place V.A.C. dressing over exposed vessels or organs.
- ◊ Extra care should be provided when the client is on medications that effect their coagulation. If a bleed is suspected V.A.C. therapy should be stopped, and the treatment plan reassessed.

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