

The Application of Skin Adhesive to Maintain Seal in Negative Pressure Wound Therapy

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Background

Optimal wound healing in negative pressure wound therapy (NPWT) depends on a properly sealed vacuum system. Anatomically difficult wounds disrupt the adhesive dressing, resulting in air leaks that impair the integrity of this system. Several techniques have been used in previous reports to prevent air leaks, including the addition of skin adhesives (eg, Skin-Prep[®] or compound tincture of benzoin), hydrocolloid dressings, silicone, and stoma paste. The purpose of this case report is to demonstrate the effectiveness of using a cyanoacrylate tissue adhesive, derma+flex[®], in maintaining an airtight, durable seal in NPWT.

Methods

The authors present a patient with a difficult to manage anogenital wound where efforts to maintain an airtight seal in NPWT proved difficult. It was decided during the course of treatment to use the cyanoacrylate tissue adhesive to create an airtight, durable seal. The tissue adhesive was applied circumferentially to the skin surrounding the wound edge. After placement of vacuum-assisted closure foam over the wound, the adhesive dressing was applied with its edges overlapping the skin area where the tissue adhesive was applied.

Results

The size of the wound was visibly reduced at each dressing change. An airtight seal was consistently maintained for 3 days at a time, surviving the difficult environment of the wound and maximizing the life of each adhesive dressing.

Conclusion

For wounds in anatomically challenging locations, the use of the tissue adhesive appears to be a safe and viable option in creating a durable seal in NPWT.

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