Instillation Negative Pressure Wound Therapy Blockage Alarms: Prevention and Mitigation Strategies

Mary Anne R. Obst, BSN, RN, CWON, CCRN, CWS
Regions Hospital, St. Paul, Minnesota, USA

Introduction

The instillation of a solution into a foam dressing with removal via alternating negative pressure cycles is an important evolution in negative pressure wound therapy. The wound solution is instilled and allowed to soak in the wound at set intervals to facilitate wound cleansing and wound bed clean-up to help promote wound healing. Although many wound instill solutions are available, our facility has found pure Hypochlorous Acid solution* (pHA) to be highly effective in cleansing the wound bed.

Instillation with pHA solubilizes a high volume of slough and other non-viable wound debris which can adhere to the foam dressing and negative pressure tubing and cause pump blockage alarms. These alarms have several negative consequences; they are annoying to the patient, if not addressed the negative pressure therapy will stop, and they are a challenge for providers to fix.

Methods

We report our methods for preventing and mitigating pump blockages alarms during the instillation of pHA.

Our methods for preventing blockages include:

- Always starting the pump in a negative pressure cycle. Note that VAC pumps default to starting in the instillation phase so the pump settings need to be manually changed.
- Preemptively moving port locations on the dressing before a blockage develops.

We mitigate blockages by:

- Using separate ports for instillation and negative pressure whenever possible. This is instead of the combined port pads, which have a single port.
- Relocating the negative pressure port on the dressing surface when a blockage occurs. The "Clip and Move" technique is easy and pain free for the patient, taking only minutes to complete.

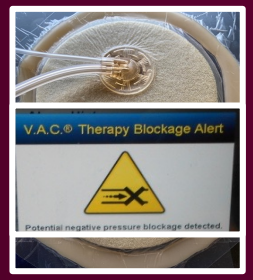
Results

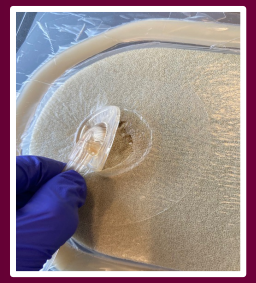
We demonstrate straightforward technique for blockage prevention and mitigation with step-by-step instructions and accompanying photos.

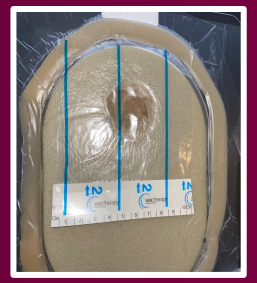
Discussion

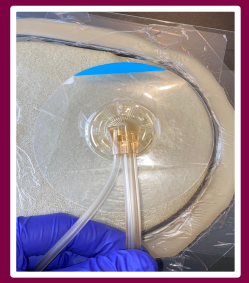
Pump blockages during negative pressure with instillation of pHA occur because this technology is effective in cleansing wounds. Thus, blockages should be viewed as a positive because the therapy is working as intended. However, frustration with pump blockage alarms can reduce provider and patient enthusiasm for the technology. Implementing the prevention and mitigation methods described here can increase provider success and thus improve patient care and outcomes.

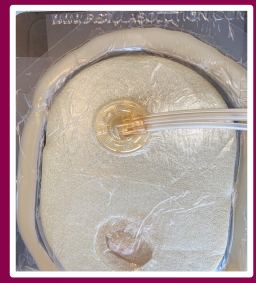
Blockage Alert → **Cut film along edge of negative pressure port** → **Peel off the port** → **Cover with drape** → **Cut new hole in different location** → **Place new port over new hole** → **Remove port release layer** → **Restart pump**











*Vashe® Wound Solution - Urgo Medical North America, Fort Worth, TX USA