

Clinical Evaluation of Adapt Barrier Strips in Conjunction with the Vacuum Assisted Closure Device

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INTRODUCTION

Negative pressure wound therapy (NPWT) and extended wear barrier strips are both useful tools in the wound care provider's toolbox. Achieving a continuous NPWT dressing seal for up to 48 hours is critical to a successful outcome. Liquid chemical bond products can be harsh to the skin surrounding a wound and are poor aids in obtaining a well-sealed NPWT dressing.

Placing extended wear barrier strips under the NPWT drape in difficult areas (e.g. deep skin folds, thick creases, deficits, and joint spaces) provides these areas with a skin-friendly sealant that lasts the required 48 hours.

PURPOSE

The objective of this evaluation was to evaluate the use of Adapt Barrier Strips (Hollister Incorporated) to help fill in space and maintain adequate seals when used in conjunction with the Vacuum Assisted Closure Device (VAC) from KCI Medical.

METHODOLOGY

Case One

40-year-old female, diabetic with a partial right lateral foot amputation. The lateral, 12cm incision extended to 1mm from the remaining fourth toe (Fig. 1). Due to the position of the lateral foot incision, and the motion of the adjacent toes, it was difficult to maintain a seal for NPWT for the recommended 48-hour period.



Figure 1



Figure 2

Clinical Evaluation of Adapt Barrier Strips in Closure Device



Figure 3

To maintain an adequate seal, an Adapt Barrier Strip was placed at the end of the incision, in the joint space of the fourth toe. The Adapt Barrier Strips were placed over the periwound skin to protect the area. The NPWT sponge was placed on top of the barrier to maintain contact with the incision. The entire area was draped and negative pressure was applied. An Adapt Barrier Strip filled the joint space and allowed the remaining toes to move freely without disrupting the NPWT.

The dressing was changed every 48 hours and healing was achieved after 15 dressing changes (Fig. 2).

Case Two

39-year-old male, weighing 480 pounds with chronic lymphocytic leukemia. Status post-abdominal hernia repair with an infected abdominal dehiscence. Drainage was copious, soaking through 30 rolls of gauze each day.

The wound measured 22cm long x 10cm wide, undermining left-11cm, right-6cm (Fig. 3). When the patient stood upright, the rotund abdomen folded downward and the wound protruded facing the ground, between three deep creases. Due to the profound hernia, location, and size of the wound, it was difficult to maintain a NPWT seal for the recommended 48-hour period.



Figure 4

To maintain an adequate seal, the NPWT sponge was packed into the undermined spaces and on top of the wound (Fig. 4). Adapt Barrier Strips were placed around the edges of the wound. The NPWT drape was applied, and the NPWT was initiated (Fig. 5).

Adapt Barrier Strips filled the deep convex areas of the protruding abdomen and allowed the NPWT dressing seal to remain in place as the patient ambulated. Because Adapt Barrier Strips were applied to the wound edges, there was very little periwound irritation from the NPWT sponge.



Figure 5

n Conjunction with the Vacuum Assisted

The dressing was changed every 48 hours. The patient was able to return to work with the NPWT system in place two weeks after discharge from the hospital (Fig. 6).

Case Three

46-year-old female, weighing 400 lbs, diabetic, status post-abdominal panniculectomy with an infected, weeping, incisional dehiscence. Drainage was copious, soaking through 20 ABD pads a day.

The wound measured 1cm long x 52cm wide with multiple undermined areas: right-6cm length x 4cm wide x 5cm deep (Fig. 7); left-3.5cm length x 4cm wide x 3cm deep (Fig. 10) . When the patient stood upright, the rotund abdomen rolled inward and down causing the wound to tuck under the layers of deep skin folds. Due to the location and size of the wound, it was difficult to maintain a NPWT seal for the recommended 48-hour period.

To maintain an adequate seal, the NPWT sponge was packed into the undermined spaces and on top of the wound. Barrier strips were placed around the wound edges (Figs 8, 11). The NPWT drape was applied over the Adapt Barrier Strips.

Adapt Barrier Strips created "bumpers" for the NPWT sponge to maintain the NPWT dressing seal and remain in place under the shear forces of the heavy skin folds. Because the Adapt Barrier Strips were applied to the wound edges, there was very little periwound irritation from the NPWT sponge.

The dressing was intact 48 hours, between scheduled dressing changes. Healing was completed in 90 days (Figs 9, 12).



Figure 6



Right Flank

Figure 7



Right Flank

Figure 8



Right Flank

Figure 9



Left Flank

Figure 10



Left Flank

Figure 11



Left Flank

Figure 12

CONCLUSION

These three case presentations had difficult placement issues and demonstrate the effective use of Adapt Barrier Strips in the process of obtaining a NPWT dressing seal. Achieving the prescribed wound therapy resulted in better wound healing and improved patient outcomes.

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