



**AbThera™**  
Open Abdomen Therapy

## Use of 3M™ AbThera™ Advance Open Abdomen Dressing for definitive closure following a diagnostic laparotomy in a patient with peritonitis and perforated bowel

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### Patient

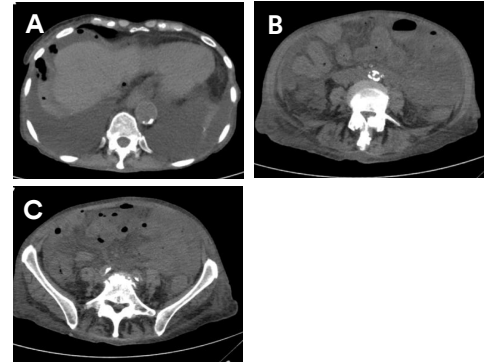
An 82-year-old female presented to the Emergency Department 48 hours following complaints of abdominal pain, fevers, and constipation. She had a past medical history of coronary artery disease, hypertension, peripheral vascular disease, pulmonary hypertension, aortic stenosis, congestive heart failure with an ejection fraction of 35%, chronic renal dysfunction with kidney tumor, and hypercholesterolemia. The medical history also included poor nutritional status, multiple myeloma, the recent insertion of cardiac stents and the prescription of clopidogrel bisulfate.

### Diagnosis

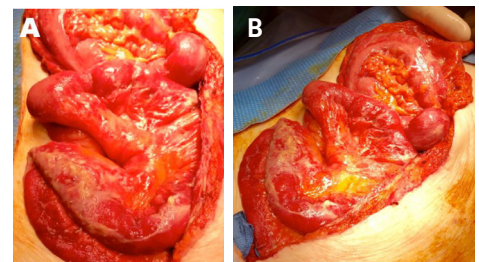
A computed tomography (CT) scan of the abdominopelvic cavity was performed without contrast and revealed free air throughout the abdomen, questionable ischemic bowel, edematous bowel, and free fluid (Figure 1). The patient was taken to the emergent operating room (OR) for a diagnostic laparotomy where perforated bowel with peritonitis was diagnosed. In anticipation of a diagnosis of sepsis and considering the patient's compromised cardiovascular history, the patient received vasopressors (norepinephrine bitartrate and dobutamine). The patient was also oliguric. During the laparotomy, diffuse contamination was found throughout the abdominal cavity. It was revealed that all the bowel surfaces demonstrated signs of inflammation (Figure 2), and 2 L of abscesses were removed. The patient presented with an unclear source for her sepsis as the immediate underlying location of the area of perforation could not be noted. Normal saline solution was enlisted to washout the contaminated abdominal cavity.

### Initial Treatment/Application of 3M™ AbThera™ Advance Open Abdomen Dressing

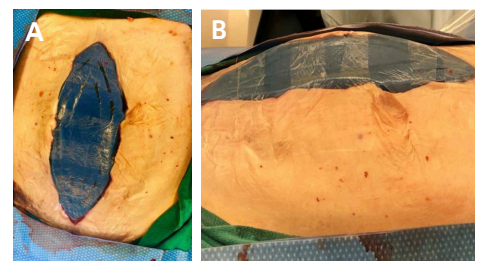
Following the initial diagnostic laparotomy, an AbThera Advance Dressing was placed into the abdomen (Figure 3) and negative pressure (-125mmHg) was applied to minimize fascial retraction and protect the open abdomen with the intent of facilitating definitive closure. Twenty-four hours later, the patient returned to the OR and the patient was taken off the vasopressors as laboratory values improved and renal function had normalized. Following, negative pressure therapy, the width of the wound edges went from 12cm to 6.5cm (Figure 4). During the second exploratory laparotomy, the AbThera Advance Dressing was removed. The previously inflamed bowel surfaces demonstrated improvement, there was an absence of further fluid collection and no continued leakage was noted. The fascial layers were sutured together, and the skin stapled medially to close the edges of the open abdomen (Figure 5A-B). The 3M™ Prevena™ Incision Management System was then placed over the closed abdominal incision and subatmospheric pressure was applied (Figure 5C).



**Figure 1.** Transverse images of patient's abdominal cavity captured via a non-contrast computed tomography scan. **A-C.** Images depicted pockets of free air throughout the abdomen, questionable ischemic bowel, edematous bowel, and the presence of free fluid.



**Figure 2.** Diagnostic laparotomy performed in the operating room. **A.** Anterior aspect of open abdomen demonstrating signs of inflammation over bowel surface. **B.** Lateral aspect of open abdomen demonstrating signs of inflammation over bowel surface.



**Figure 3.** Placement of 3M™ AbThera™ Advance Open Abdomen Dressing within open abdomen following abdominal washout. **A.** Anterior view of 3M™ AbThera™ Advance Open Abdomen Dressing placement within the open abdomen. **B.** Lateral view of 3M™ AbThera™ Advance Open Abdomen Dressing placement within the open abdomen.

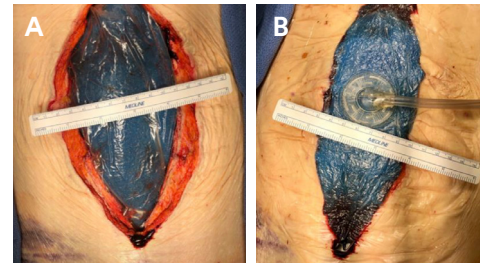
## Discharge and Follow-up

The 3M™ Prevena™ Incision Dressing was removed after seven days (Figure 6). The skin and fascial layers of the abdominal incision came together well. The skin healed without being subject to excessive tension.

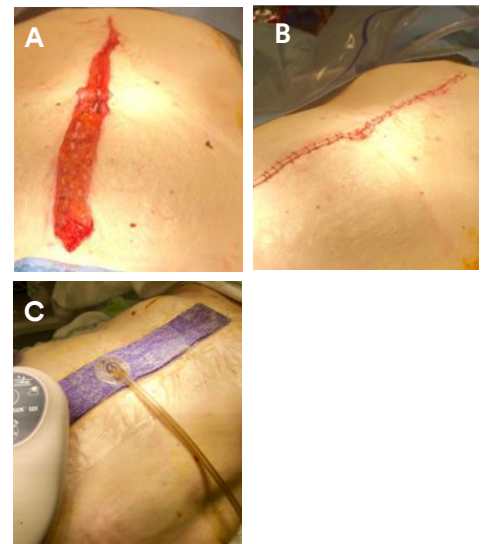
## User Experience

In this case, the 3M™ AbThera™ Advance Open Abdomen Dressing helped to achieve definitive abdominal closure and may have helped prevent the loss of abdominal domain.

Photos and patient information courtesy of Dr. Casey J. Thomas, Salt Lake Surgical Services.



**Figure 4.** 3M™ AbThera™ Advance Open Abdomen Dressing within open abdomen prior to removal during second laparotomy. **A.** Open abdomen with 3M™ AbThera™ Advance Open Abdomen Dressing before the initiation of negative pressure; width across surgical defect is 12cm. **B.** Open abdomen with 3M™ AbThera™ Advance Open Abdomen Dressing after the initiation of negative pressure therapy; width across surgical defect measured 6.5cm.



**Figure 5.** Definitive closure of open abdomen after second laparotomy. **A.** Fascial layers sutured together prior to skin closure. **B.** Completed low tension medial closure of open abdomen via staples and no loss of abdominal domain. **C.** Application of the 3M™ Prevena™ Incision Management System.

As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's circumstances and condition.

**Note:** Specific indications, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.



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**Figure 6.** Closed abdominal incision after 7 days of 3M™ Prevena™ Therapy.