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60 y.o. female presented on 2/22/2010 with spontaneous bacterial peritonitis. She had a history of metastatic abdominal carcinoid. On 2/24 surgery was performed and the abdomen open due to and secondary to exploratory laparotomy with grossly infected peritoneal fluid. Patient experienced poor wound healing secondary to carcinoid and low protein levels due to massive loss of abdominal ascites fluid. Multiple episodes of partial wound dehiscence followed including replacement of Vicryl mesh. Patient was previously treated with NPWT (prior to fascial breakdown) and saline moistened dressings with multiple intra-abdominal drains to control ascites. Patient was loosing up to 1 liter of protein rich ascites per day through wound [fig. 1].

On April 14th following eight weeks with no wound healing we decided to place DermaClose RC continuous external tissue expander. Prior attempts to heal the wound were unsuccessful [fig. 2].

Fig 1

Fig 2

Fig 3 - Flaps elevated

Fig 4- Immediately post-op
At 24 hours following application of the DermaClose external tissue expander the wound was fully approximated, with decreased drainage of fluid. Patient reported no pain during the tissue expansion process.

On day eight the wound was closed with retention and simple interrupted suture without complication. The wound had fully approximated after 24 hours however, the device was left in place for 8 days due to the prior poor wound healing experience. The wound was sutured closed eight days following application of the DermaClose. The patient began to mobilize the same night of surgery and was allowed to eat. The incision healed without incident and the drains were removed at one week following discharge. The patient was discharged six days after closure [fig. 6].

At one month follow-up no breakdown or wound failure [fig. 7].