

Colorectal Abdominal Wounds: Challenges and Innovative Solutions Using Transforming Powder Dressing

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WOCNext 2023 Meeting | June 3 – 7
Las Vegas, NV

CLINICAL PROBLEM

Acute abdominal wounds with enteroatmospheric fistulas (EAF) have burdened healthcare systems with costly and difficult to manage complications associated with colorectal surgeries. Challenges with standard of care (SOC) treatments include pain, bleeding, psychosocial consequences, and time intensive nursing care. Proper management is critical to improving patient recovery and healing.¹

METHODS AND MATERIALS

We evaluated three cases where patients developed complications while being treated with SOC therapies including skin barriers, dressings, NPWT and/or large pouching systems,² consuming considerable time and resources (usually 3x/week).

A novel extended wear transforming powder dressing (TPD*), comprised of polymers similar to those used in contact lenses, was sprinkled over the damaged skin areas, transformed with sterile saline. TPD was evaluated to reduce wound management resources and protect wounds from exposure to contamination.

RESULTS

38 y/o female s/p motor vehicle accident c/b high output EAF surrounded by large open abdominal wound.

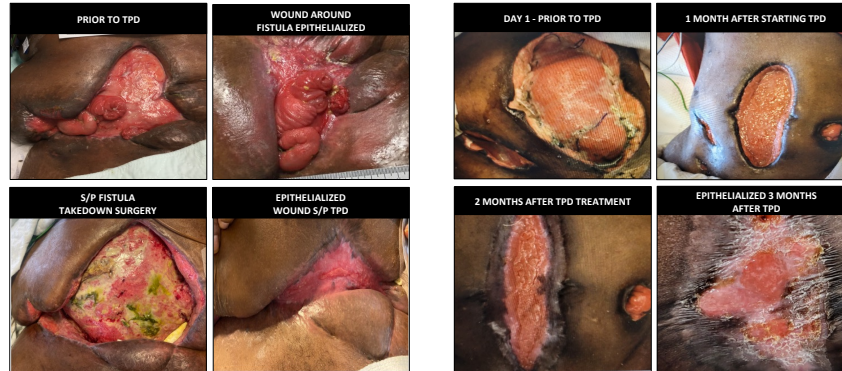
- **Initial Application:** Large wound manager applied 2x/week was unable to isolate the fistula, leaving the wound untreated.
- **TPD Treatment:** After transitioning to TPD, the patient experienced reduced pain, expedited healing, a manageable pouching system, and returned to ADLs.

20 y/o female with ulcerative colitis/Crohn's, ileostomy takedown/stoma re-sited, c/b dehiscd abdominal wall.

- **Initial Application:** Abdominal wound vacuum assisted closure was c/b EAF and associated pain/anxiety, delaying hospital discharge.
- **TPD Application:** NPWT was replaced with TPD and patient was discharged to home with reduced dressing changes (weekly) and less pain/anxiety.

58 y/o female with perforated diverticulitis, s/p sigmoid colectomy required open abdominal wound vacuum assisted closure, c/b pain followed by rectal stump blowout.

- **Initial Application:** Severe pain with NPWT.
- **TPD Application:** Pain significantly reduced after transitioning to TPD; dressing changes decreased to 1x/week. VAS scores went from 10/10 to 0/10 post TPD application.



REFERENCES & ACKNOWLEDGEMENTS

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CONCLUSION

Treatment with TPD facilitated wound healing, fistula isolation, pain reduction, and overall decrease in nursing time and supply costs. Based on the outcomes, we conclude that TPD provides a viable alternative for the treatment of colo-rectal abdominal wounds.