

Successful treatment of a large, dehisced, surgical abdominal wound with a portable, negative pressure wound therapy device

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BACKGROUND

- Over the last decade, Negative Pressure Wound Therapy (NPWT) has become a first choice for the management of dehisced abdominal wounds.
- The use of single patient NPWT pumps is common but wound size has been a limiting factor.
- This case report documents the successful management of a large complicated dehisced abdominal wound managed with a full function, lightweight, personal use, NPWT device* with a dual lumen suction drain** at the patient's home.

PURPOSE

- To demonstrate the change in volume of a large, dehisced abdominal wound, utilizing a portable NPWT system* while being treated at home.

METHODS

- Goal of therapy defined pre-NPWT application: Decrease wound volume and increase granulation tissue
- Weekly clinic visit
- Dressing change every 48-72 hours (twice a week by home care nurses, once a week during clinic visit)

CASE PRESENTATION

- 41 year-old male admitted with diagnosis of perforated diverticulitis
- Two operations:**
- Drainage of multiple abscesses and laparoscopic lysis of adhesions
 - Low anterior resection of sigmoid colon with Hartmann's procedure and end-descending colostomy
- Complications:**
- Readmitted for colostomy necrosis
 - Underwent open resection of ischemic descending colon with new colostomy placement, closure of abdominal wound fascia, dehiscence/incisional hernia repair

Burn/wound team consulted for open abdominal wound



PRE NPWT APPLICATION



DAY OF APPLICATION



ONE WEEK AFTER APPLICATION



TWO WEEKS AFTER APPLICATION



THREE WEEKS AFTER APPLICATION

PERCENT CHANGE	
VOLUME	DEPTH
99.9% decrease	98% decrease

VISIT	MEASUREMENTS (cm)	DRAINAGE
Baseline	25 x 6 x 4.4	Moderate
Week 1	20.5 x 4 x 2.6	Moderate
Week 2	19.0 x 1.0 x 0.4	Moderate
Week 3	15.0 x 0.6 x 0.1	Moderate

DISCUSSION

- Given the need to keep only the sickest patients hospitalized, along with more recent issues such as COVID, the need for patients to maintain standards of care at home is even more prevalent.
- Options for care that do not restrict activities of daily living (ADL) help contribute to the patient being more active physically, as well as socially. These are positive factors that influence well being, and promotes wellness overall.
- For patients with larger, hard to manage wounds, it is sometimes felt these wounds cannot be managed at home.
- This portable NPWT device* was a feasible option for a larger wound and allowed the patient more freedom, with the ability to maintain ADLs.



PRE NPWT APPLICATION



DAY OF APPLICATION



ONE WEEK AFTER APPLICATION



TWO WEEKS AFTER APPLICATION

CONCLUSIONS

- Wound volume decreased by 99.9% and wound depth decreased by 98% over a period of 3 weeks, while treated at home.
- No untoward events.
- Treatment at home was made possible by using a personal-use NPWT system*, allowing the patient more freedom, and an opportunity to return to a more normal daily routine.

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RESEARCH
FOUNDATION

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Product notation: "Invia" Motion™ NPWT system/Invia™ NPWT Dressings; "Invia" FlexPad Acknowledgements: The support of Medela AG (Leutichstrasse 48, 6340 Bann, Switzerland) for this project is gratefully acknowledged. Trademarks: Medela, Invia and Invia Motion are registered in the U.S. Patent and Trademark Office and elsewhere.



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