DECREASING NURSING WORKLOAD: SIMPLIFYING WOUND MANAGEMENT WITH AN INNOVATIVE TRANSFORMING POWDER DRESSING

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INTRODUCTION

The current nursing shortage is expected to intensify, especially as an aging population burdens our healthcare systems[1]. Limited staffing can:

- Cause safety and care issues for patients
- Negatively impact wound healing, and
- Increase hospital length of stay.[2,3]

We investigated if using an extended-wear transforming powder dressing (TPD) would simplify wound management and decrease nursing workload by reducing requisite dressing changes and time associated with wound care, without compromising outcomes.

METHODOLOGY AND MATERIALS

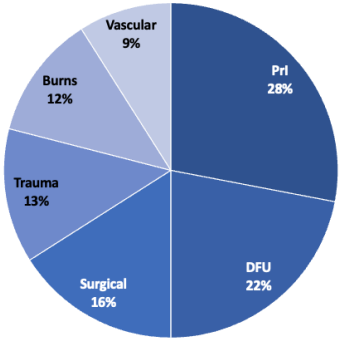
Global data from 76 patients in six patient cohorts treated with TPD was aggregated. Dressing change frequency and nursing time spent on wound care using TPD was compared to standard of care (SOC) dressings. SOC dressing, dressing change time and number of weekly treatments were recorded where available or estimated based on the most conservative of three expert opinions.

TPD is a commercially available dressing comprised primarily of hydrogel polymers like those used in contact lenses. When hydrated with saline, TPD aggregates to form a moist, oxygen-permeable barrier that covers and protects the wound while releasing excess exudate through vapor transpiration. TPD may be left in on the wound for up to 30 days and topped off as needed without requiring primary dressing changes. Simple secondary dressings may be used in areas of high exudation or friction. TPD flakes off as the wound heals.

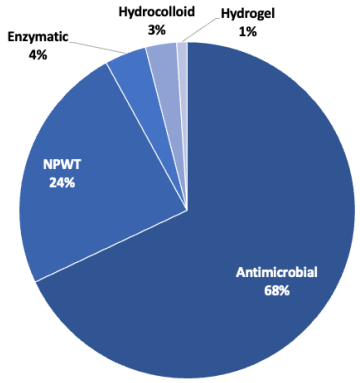
DEMOGRAPHICS

- **N:** 76 | **Age:** 4 – 95 years
- **Gender:** 33% female / 67% male | **Wounds:** 41% acute / 59% chronic

WOUND ETIOLOGIES DISTRIBUTION



SOC TREATMENT MIX

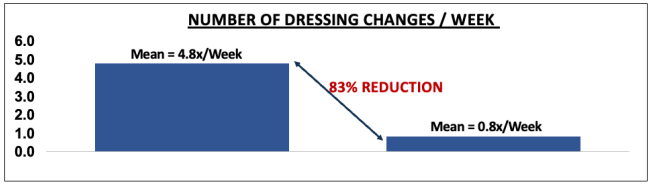


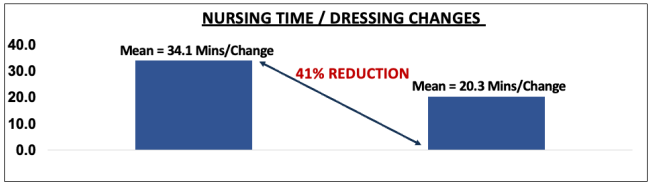
NURSING EFFICIENCIES ACHIEVED ACROSS ETIOLOGIES

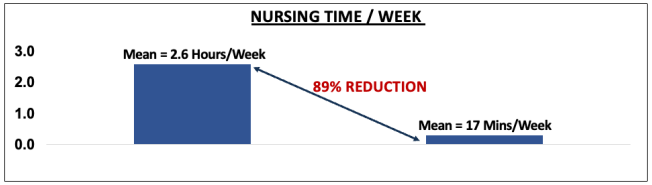
WOUND TYPE	WEEKLY DRESSING CHANGE FREQUENCY			TIME / CHANGE (MINS)			TIME / WEEK (MINS)		
	SOC	TPD	% CHANGE	SOC	TPD	% CHANGE	SOC	TPD	% CHANGE
Surgical	5.6x	1.1x	-81%	34	20	-53%	154	17	-90%
Trauma	4.1x	1.1x	-73%	49	23	-53%	174	25	-86%
Burns	7.0x	0.7x	-90%	29	19.4	-33%	202	13	-94%
Prl	5.4x	0.7x	-88%	23	16	-30%	122	11	-91%
DFU	3.6x	0.8x	-77%	33	23	-31%	111	19	-83%
Vascular	2.9x	0.9x	-70%	20	14	-29%	52	13	-75%
All	**4.8x**	**0.8x**	**-83%**	**34**	**20**	**-41%**	**154**	**17**	**-89%**
Acute	5.5x	1.0x	-83%	46	23	-49%	223	22	-90%
Chronic	4.3x	0.8x	-83%	26	18	-30%	107	14	-87%

RESULTS

- SOC: mean dressing change frequency of 4.8x /week (3x/day to 1x/week) requiring 34 mins / change (10 -120 mins)
- TPD: mean dressing change frequency of 0.8x / week (0.2x to 2.0x/week) requiring 20 mins / change (10 -60 mins)
- **MEAN TIME / WEEK FOR WOUND CARE = 2.6 HOURS / WEEK WITH SOC VERSUS 17 MINS / WEEK WITH TPD**







CONCLUSION

Mean dressing change frequency and required nursing time was significantly lower with TPD versus SOC for all wound etiologies. All wounds healed without complications. Pain and pain medications reduced in cases with patient reported pain. Wound management may be simplified with TPD without compromising healing outcomes by reducing dressing changes and overall costs by decreasing utilization of nursing time and material resources.

REFERENCES & ACKNOWLEDGEMENTS

(1) AACN Fact Sheet-Nursing Shortage aacnnursing.org/news-information/fact-sheets/nursing-short/ Accessed online 29OCT2022 | (2) Nursing Shortages: Implications on Wound Care and The Way Forward. April 5, 2022. Healiant Training & Education. https://healiant.com/nursing-shortages-implications-on-wound-care-and-the-way-forward | (3) Nurse staffing models, nursing hours, and patient safety outcomes. nlm.nih.gov. age. Accessed online 28OCT2022.

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