Evaluation of Dermisplus Prevent as an alternative to current product, to prevent pressure ulcers including medical device related pressure ulcers

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Introduction

Pressure ulcers continue to be a challenge in many healthcare settings, despite national and local initiatives aiming to reduce them. A pressure ulcer that has developed due to the presence of a medical device is referred as a 'medical device related pressure ulcer' (NHSI, 2018). These devices are designed and applied for diagnostic or therapeutic purposes. People with conditions that require the use of medical devices may be at risk of developing pressure ulcers at the sites over which they are used, many such patients are cared for in intensive care units (NICE, 2015).

Jackson et al (2019) states that Medical Device Related (MDR) pressure ulcers can be a key indicator of patient safety and nursing quality in health care settings. They describe these pressure ulcers as a significant public health issue, affecting patient wellbeing and associated costs to the patient, in terms of pain and suffering, and the NHS in terms of treatment costs. As health providers it is essential that patients with a medical device have a pressure ulcer prevention plan that aims to maintain skin integrity.

Dermisplus Prevent (DPP) by Frontier Medical is a range of pressure redistribution pads and strips which are designed to reduce peak pressures and thereby reduce the risk of pressure ulcers, including MDR pressure ulcers. They have been shown to reduce peak pressures by 10% more than a competitor product (Taylor and Webber, 2016).

An evaluation of Dermisplus Prevent was completed, using this as an alternative pressure redistributing aid to the product currently used and with a focus on its use with medical devices.

Method

A four-week evaluation on four ITU beds of Dermisplus Prevent was conducted November - December 2018.

- The aim was to obtain 20 completed evaluation forms from ITU staff.
- Different sizes of the product were made available and kept in a trolley in the clinical area.

These included:

1. 10 cm x 10 cm x 1.2 cm
2. 10 cm x10 cm x 0.3 cm
3. Strip 30 cm x 5 cm x 0.3 cm
4. Strip 50 cm x 2.5 cm x 0.3 cm

- Evaluation forms were made available and company staff provided more at their visits
- Company staff provided staff training and visited ITU several times during the evaluation period, supplemented with daily telephone calls to encourage engagement and evaluation form completion.
- In addition, Tissue Viability Nurses visited ITU frequently to support staff.

Results

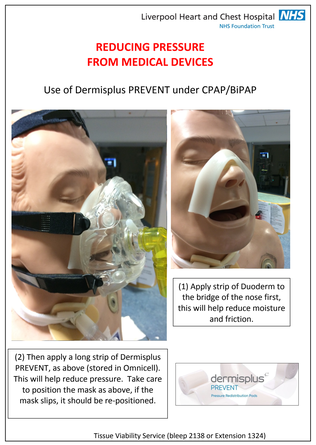
18 completed evaluations were collected.

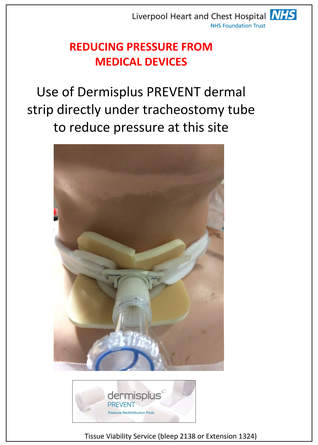
Table 1: Waterlow scores

Mean	Median
25.2	25

Table 2: Location of Dermisplus Prevent on the patient

Heel	Elbow	Sacrum	Head/Face	Other
3	10	2	10	1





Our local practice of using Dermis Plus at these device related sites has been highlighted as part of a national working group and plans to share these across NHS organisations in England are planned.

Figure 1. - Julie Tyrer - Reducing Pressure from Medical Devices Posters

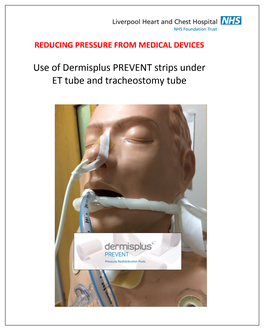


Figure 2. - Julie Tyrer Poster & Dermisplus Prevent Product Range

References

1. Jackson, D., Sarki, A., Betteridge, R. and Brooke, J. (2019). Medical device-related pressure ulcers: A systematic review and meta-analysis. International Journal of Nursing Studies, 92, pp.109-120.
2. NHS Improvement, 2018. Pressure ulcers: revised definition and measurement framework. Available in: https://improvement.nhs.uk/resources/pressure-ulcersrevised-definition-and-measurement-framework/ (accessed 4th April 2019).
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4. Taylor, D. and Webber, L, 2016. Data on File Report – Comparison report of Dermisplus & Aderma (Smith & Nephew Ltd), investigation of peak pressure reduction. Available in: https://www.reposedirect.com/dermisplus/ (accessed 4th April 2019).

Table 3: Objective of use

Pressure Ulcer Prevention (PUP) over bony prominences	PUP Device Related	Category 1 PU	DTI Management
3	10	2	10

Table 4: Method of securing

None	Retention Bandage	Medical Device	Clothing	Tape
14	12	4	0	0

Table 5 Staff evaluation of product

Criteria/Score	Excellent	Good	Satisfactory	Poor
Pressure redistribution	7	9	0	0
Ease of cutting	7	5	1	0
Ability to stay in position	7	9	2	0
Ease of cleaning	11	6	1	0
Integrity	8	6	0	0
Patient comfort	10	5	0	0

The most used size was the strip 10 out of 18 evaluations.

- No pressure damage was reported on areas where DPP was used.
- Patients did not show any discomfort when using the product.
- Maximum use was for one week.
- All staff reported that the product was better than (7) or the same as (10) the previous product used.
- It was found that the DPP when wrapped around ET tubing did not crack or break as the current product had at times.

Comments by staff included:

- ''Good, easy product to use''.
- ''Thicker, seems more durable, doesn't easily tear, doesn't seem wet like the last one''.
- Only one comment made by a staff member had a potential concern: "I wonder if the thickness of the 1.2 cm product would cause indentation on an oedematous area".

Discussion

The evaluation was successful – a product which performed better or as good as the current product in use and at a lower cost.

Conclusion

Pressure redistribution aids are an important part of a patient's pressure ulcer prevention plan. After a successful evaluation in practice, the Trust decided to change to Dermisplus Prevent as a pressure redistributing aid including.

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