Evaluation of the Wear Time and Re-stick Performance of a New Silicone Foam Dressing

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Introduction

The Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline, created in 2014 by the National Pressure Ulcer Advisory Panel (NPUAP), European Pressure Ulcer Advisory Panel (EPUAP) and Pan Pacific Pressure Injury Alliance (PPPIA), recommends several interventions for the prevention of pressure injuries. One intervention recommended is the use of prophylactic dressings that allow for assessment of the skin on a regular basis to detect skin injuries.

When choosing a dressing, clinicians have many options. Silicone foam dressings are frequently chosen for pressure injury prophylaxis because they provide gentle adhesion, allow for lifting and re-adherence while retaining adherent properties.

This study was designed to assess the wear and re-stick performance of a new silicone foam dressing (Dressing A) compared to a competitor silicone foam dressing (Dressing B).

Method

A total of 2 dressing A and 2 dressing B were applied to the backs of 24 subjects and worn for 7 days (n=48 of Dressing A, n=48 of Dressing B). Half of the dressings were partially lifted to full expose the foam pad and then re-adhered each day, to simulate a pressure ulcer prevention protocol. Time until dressing failure, defined as excessive lift into the pad without re-sticking and fall offs, was recorded for each of the two dressings and for each lifting protocol. Survival data were analyzed using Kaplan Meir plots and log-rank tests.

Results

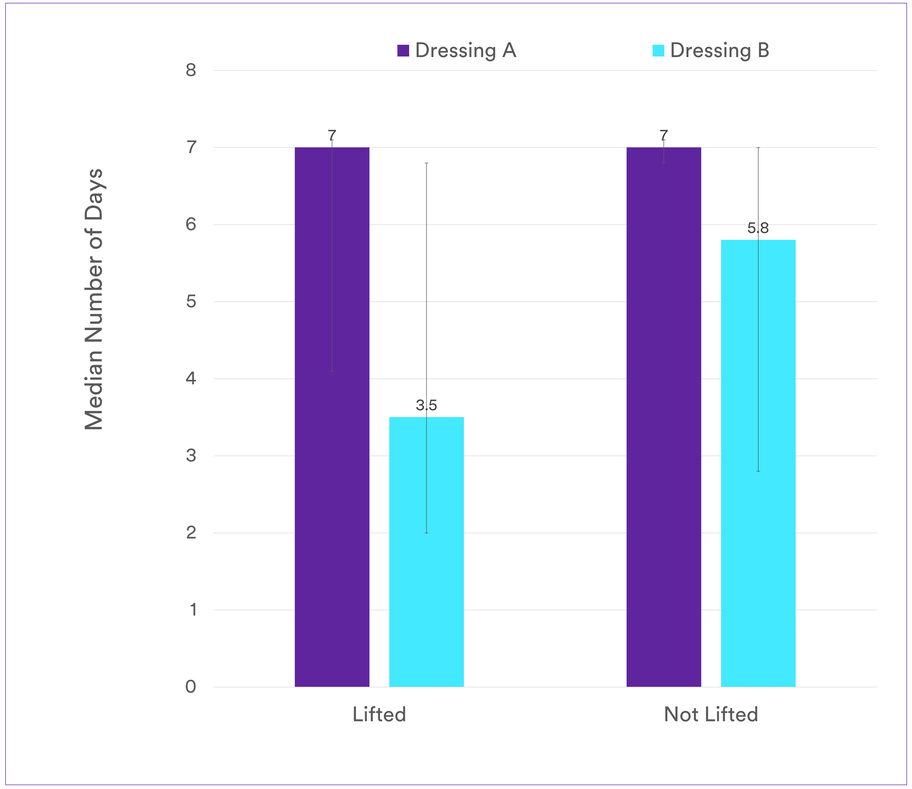

Figure 1. Comparison of wear time between dressing A and B when dressings were either partially lifted daily or not lifted. Dressing A had significantly longer wear times than dressing B for both applications.

Results

Dressing A had a significantly longer wear time than Dressing B whether lifted/re-adhered once a day or not. Median wear times were 7.0 days and 3.5 days under daily lifting conditions; and 7.0 days and 5.8 days without daily lifting/re-adhering. All other assessments, namely overall adhesive residue on skin, erythema, and skin stripping post-dressing removal, were not significantly different.

Conclusion

Dressing A demonstrated longer wear time than Dressing B both when lifted daily and when not lifted. The total protein concentration which represents total skin cell removed by the adhesive showed the Dressing A was not statistically different than Dressing B therefore the dressings have similar gentleness (based on this test method).

In the clinical setting, a dressing that provides both long wear may translate into fewer unnecessary dressing changes and less pain and risk of trauma for patients with fragile skin. Fewer dressing changes can lead to savings both cost and clinician time.

Clinically, these results may translate to fewer unnecessary dressing changes potentially leading to cost savings and clinician time savings.

Footnote

This work was sponsored and supported by 3M Health Care. Data on file at 3M.

* Product description:
Dressing A: 3M™ Tegaderm™ Silicone Foam Border Dressing
Dressing B: Molnlycke HealthCare, Mepilex® Border Dressing