

Use of Two Different Drapes for Negative Pressure Wound Therapy in Patients With Chronic or Traumatic Wounds: Evaluation of Patient and Clinician Satisfaction

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Introduction

- Negative pressure wound therapy (NPWT*) utilizes a polyurethane drape with an acrylic adhesive over foam dressings to provide a clean, moist wound environment.
- Two types of drapes are available (**Table 1**).
- The traditional acrylic adhesive drape[†] can be difficult to create a seal in anatomically challenging areas or remove and reposition once placed.
- There is an alternative silicone-acrylic adhesive hybrid drape[§] (**Figure 1**), consisting of a polyurethane film with acrylic adhesive and a silicone perforated layer.
- The silicone layer imparts flexibility to the drape, does not tend to cling to itself, and allows for the repositioning, reduced waste, and easy removal.

Table 1. Comparison of two types of drapes for NPWT

	Traditional Acrylic Adhesive Drape	Silicone-Acrylic Hybrid Drape
For Use With	NPWT	NPWT
Components	Polyurethane film Acrylic adhesive	Polyurethane film Acrylic adhesive Silicone layer
Characteristics	Strongly adherent	Flexible, less clinging to itself
Ease of Use	Difficult to remove and reposition	More easily repositioned at initial application Easily removed

Purpose

- Use of negative pressure wound therapy (NPWT) dressings with two different adhesive drapes were evaluated.

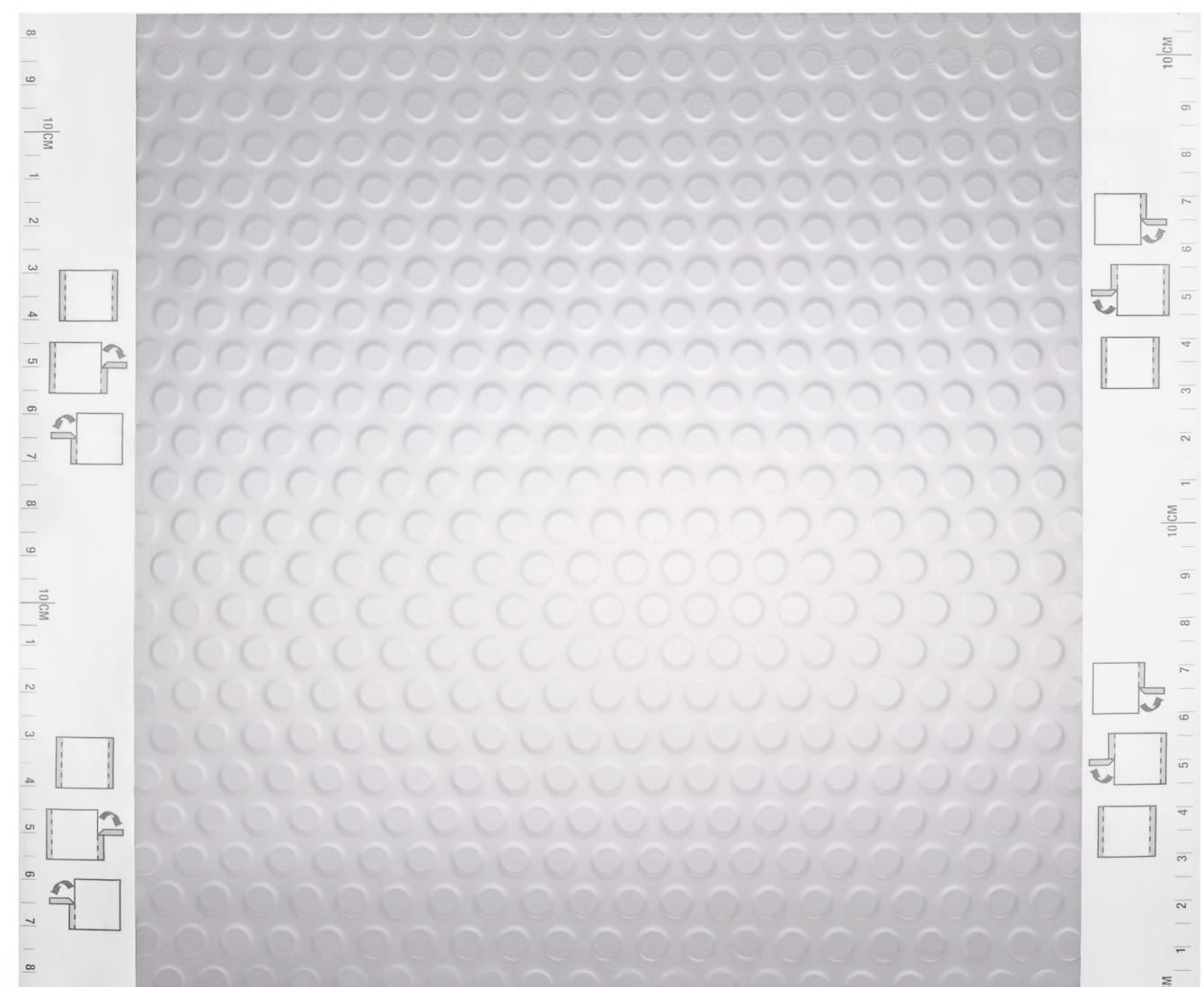


Figure 1. Silicone-acrylic hybrid drape

Methods

- The standard acrylic adhesive drape and the silicone-acrylic drape were used alternately for patients enrolled in this study. Patients received at least 1 dressing application with each drape.
- Pain at dressing removal was graded by the patient on a visual analog scale ranging from 0 (no pain) to 10 (maximum pain).
- Clinician ease of use was graded at each dressing change on a five-item Likert scale from 0 (strongly disagree) to 5 (strongly agree).
- Demographics, injury characteristics, and outcomes are summarized as means and standard deviations for continuous variables and counts and percentages for categorical variables.
- To compare the patient-reported pain, a pairwise comparison of responses was done at the patient level.

Results

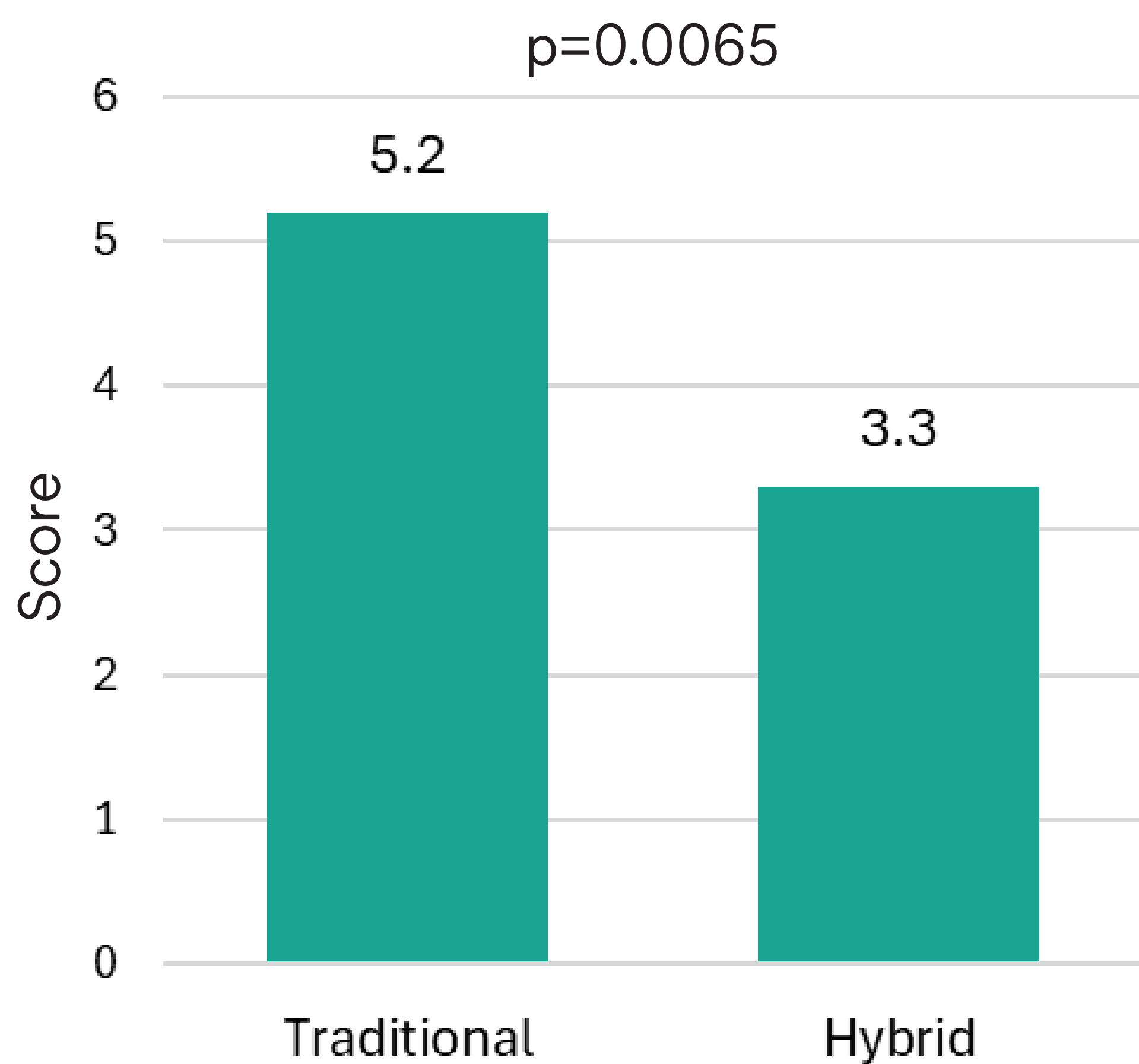


Figure 2. Mean pain score by drape type

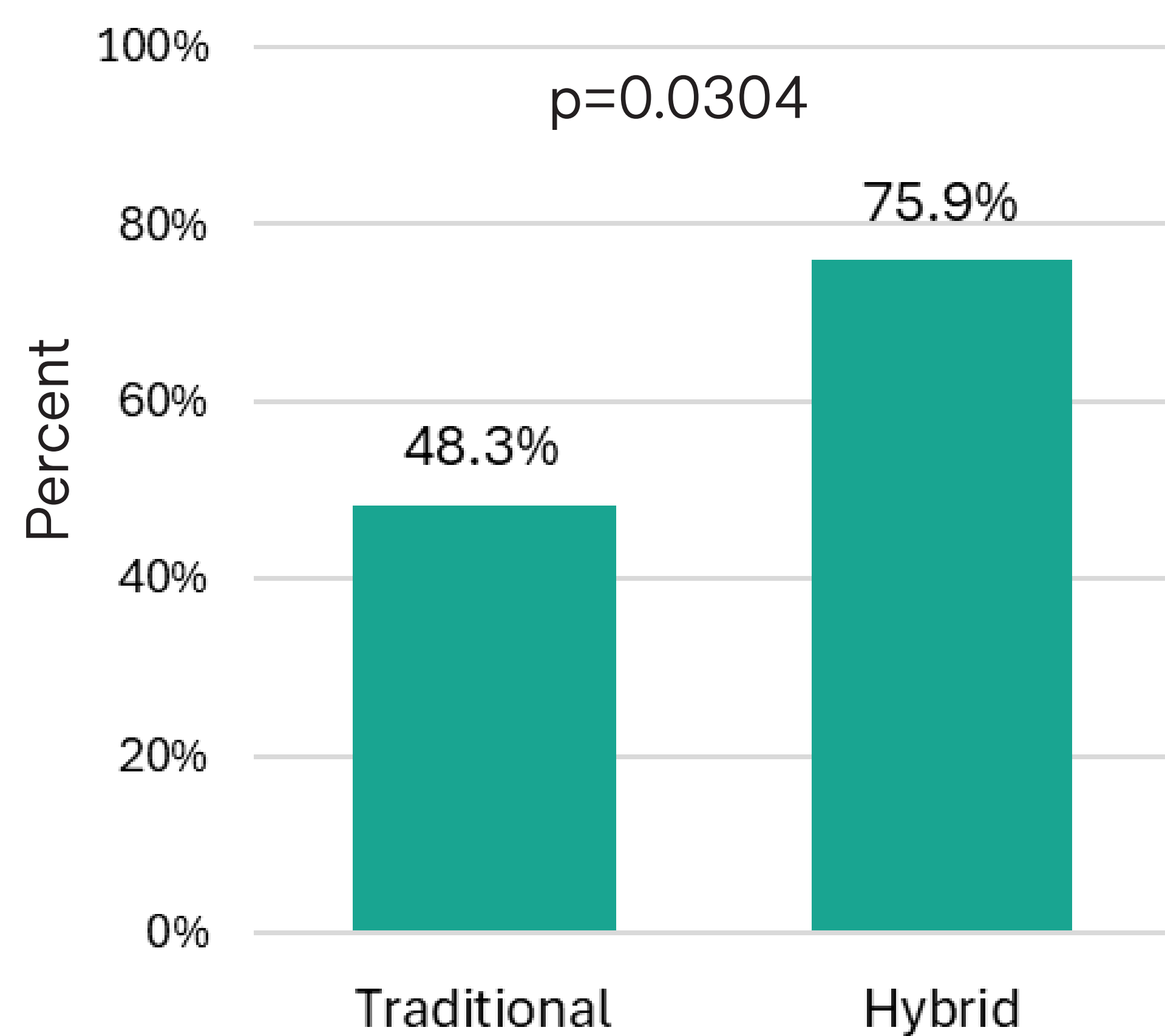


Figure 3. Percent of drapes scored highly (5=strongly agree) by clinicians for ease of use during dressing changes

Results (Cont'd)

- Twenty-nine patients were enrolled, of which 65.5% were male.
- The patients were on average 47 ± 16.8 years old, and the average BMI was 28.9 ± 7.0 kg/m².
- The mean patient-reported pain score at dressing removal was 5.2 ± 3.6 and 3.3 ± 3.5 for the traditional and hybrid drapes, respectively (**Figure 2**). Pain scores were significantly lower for the hybrid drape (-1.8 ± 3.4 , $p=0.0065$).
- The percent of drapes rated 5 (“strongly agree”) for ease of use was 48.3% with the traditional drape and 75.9% with the hybrid drape (**Figure 3**).
- Clinician-reported satisfaction at dressing changes was significantly higher with the hybrid drape ($p=0.0304$).
- Negative pressure leaks were reported in 2 patients (6.9%) with the hybrid drape compared to no patients with the traditional drape, though this was not significant.

Conclusions

- The hybrid drape presents a more flexible, repositionable option for use with NPWT.
- In these patients, the use of hybrid drapes was associated with lower patient-reported pain scores.
- Clinicians reported greater ease of use with the hybrid drape, compared to the traditional drape.