Use of an Absorbent Clear Acrylic Dressing* on Surgical Wounds†

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Background

An essential component of a successful surgical wound treatment plan is selection of the proper dressing to provide a protective environment for healing. Numerous types of dressings are available to the health care professional to cover surgical incisions, however, gauze and tape remain the standard of care for many surgeons.

Recently, a dressing manufactured with a new, clear absorbent technology and a novel design has been introduced. This study is the first to clinically evaluate this new dressing on surgical wounds.†

Ideal Wound Dressing

- ❑ **Control wound drainage**
- ❑ **Maintain moist wound healing**
- ❑ **Waterproof, but allow for gaseous exchange**
- ❑ **Provide thermal insulation**
- ❑ **Protect from trauma & infection**
- ❑ **Easy to apply & remove without trauma to the wound**

Limitations of Gauze & Tape for Surgical Wounds

- ❑ **Inability to visualize surgical site through the dressing**
- ❑ **Limited absorptive capacity**
- ❑ **Limited protection from trauma & secondary infection**
- ❑ **Drying/desiccation of the wound**
- ❑ **Adhesion to the wound, causing trauma during removal**

Absorbent Clear Acrylic Dressing*

- ❑ **Transparent**
  - ➢ Allows surgical site observations without removing the dressing
- ❑ **Unique absorbent acrylic polymer**
  - ➢ Helps manage drainage
  - ➢ Will not adhere to wound – Non-traumatic removal of dressing
- ❑ **Semi-permeable transparent border & backing**
  - ➢ Seals out water but allows passage of water vapor out of wound
  - ➢ Allows for moist wound healing
  - ➢ Unique adhesive designed to stick to dry & moist (diaphoretic) skin
- ❑ **Highly conformable**
  - ➢ Molds to difficult body contours

Objective

The objective of this study was to evaluate the performance of a new absorbent clear acrylic dressing* on surgical incision wounds.†

Methods

Study design

- Single-site, prospective, open-label, non-randomized
- Twenty patients were included in the study
  - ➢ Ten completed Laparoscopic Gastric Bypass Surgery (LGBS)
  - ➢ Ten completed Open Gastric Bypass Surgery (OGBS)
- LBGS incisions were closed with subcuticular sutures and adhesive skin closure strips ‡
- OGBS incisions were closed with staples
- Dressings were removed prior to discharge or by post-op day 3
- Dressing performance assessed using a standardized assessment tool
- Data analyzed with descriptive statistics

Patient Demographics

- 80% (n=16) female and 20% (n=4) male
- AVG (range) age: 43.1 (22-57) years
- AVG (range) height: 64.2 (58-68) inches
- AVG (range) weight: 255.5 (195-348) lbs.
- LBGS: All patients had five small incision wounds
- OGBS: Nine patients had one large incision wound and one patient had one large and one smaller incision wound

Study Dressings

Multiple sizes and configurations of the transparent absorbent acrylic dressing were available to the investigators. The investigators selected the appropriate size/configuration for each incision wound.

Case Studies

Patient #019: Female OGBS, Age 53, wt. 279 lbs, ht. 67 in. Midline and lower left abdominal incisions both closed with staples and covered with multiple large oval dressings.

Patient #002: Female patient OGBS, age 51, wt. 222 lbs, ht. 64 in. Single midline incision closed with staples and covered with two large oval dressings.

Results

Table 1: Dressing Assessments At Application

Variable		LGBS§	OGBS§
Ability to Assess Wound Through Dressing	*Good*‖	50 (100%)	11 (100%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Conformability	*Good*‖	50 (100%)	11 (100%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Ease of Application	*Good*‖	50 (100%)	11 (100%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)

Table 2: Pre-Removal Dressing Assessments at Follow-Up Visit

Variable		LGBS§	OGBS§
Absorbency	*Good*‖	48 (96%)	10 (91%)
	Acceptable	1 (2%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Adhesion	*Good*‖	48 (96%)	9 (82%)
	Acceptable	0 (0%)	1 (9%)
	*Poor***	1 (2%)	0 (0%)
Ability to Assess Wound Through Dressing	*Good*‖	48 (96%)	10 (91%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	1 (2%)	0 (0%)
Barrier Properties	*Good*‖	48 (96%)	10 (91%)
	Acceptable	1 (2%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Patient Comfort During Wear	*Good*‖	50 (100%)	10 (91%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Wear Time	*Good*‖	48 (96%)	10 (91%)
	Acceptable	1 (2%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)

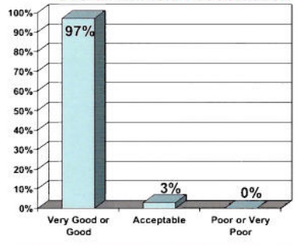
Footnotes

* Clean, closed, approximated surgical incisions and laparoscopic incisions
† 3M™ Tegaderm™ Absorbent Clear Acrylic Dressing
‡ 3M™ Steri-Strip™ Adhesive Skin Closures
§ One dressing missing in each group at the follow-up visit. All assessments could not be completed.
‖ Combined "Very Good" and "Good" responses
** Combined "Very Poor" and "Poor" Responses

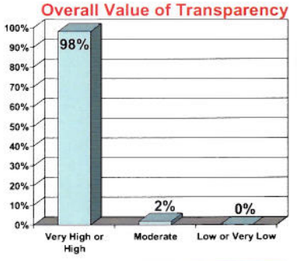
Table 3: During Removal Dressing Assessments at Follow-Up Visit

Variable		LGBS§	OGBS§
Dressing Residue on Skin	*None or Little*	50 (100%)	10 (91%)
	Acceptable	0 (0%)	0 (0%)
	Much	0 (0%)	0 (0%)
Ease of Removal	*Good*‖	49 (98%)	10 (91%)
	Acceptable	0 (0%)	1 (9%)
	*Poor***	0 (0%)	0 (0%)
Non-Adherence to Wound	*Good*‖	49 (98%)	10 (91%)
	Acceptable	0 (0%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)
Odor	*None or Little*	50 (100%)	10 (91%)
	Strong or VS	0 (0%)	0 (0%)
Patient Comfort During Removal	*Good*‖	48 (96%)	10 (91%)
	Acceptable	1 (2%)	0 (0%)
	*Poor***	0 (0%)	0 (0%)

Overall Clinician Satisfaction



Overall Value of Transparency



Conclusions

The new transparent absorbent dressing was easy to use, showed excellent performance, and was well accepted by the surgeons and patients involved in the study. The dressings were comfortable to wear and to remove, provided good barrier/protective properties, and there were no product related adverse events reported. These results indicate that the dressing may be an appropriate choice for clean, closed, approximated surgical incisions and laparoscopic incisions, and that further study of other types of surgical incision wounds is warranted.

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