# 3M™ Tegaderm™ High Integrity and High Gelling Alginate Dressings

## *Characteristics and Clinical Applications of High Integrity and High Gelling*

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## Overview:

Alginates are naturally occurring polysaccharides found in brown seaweed. When the seaweed is harvested and processed, alginic acid is converted to a mixture of calcium and sodium salts. The fibers of calcium or calcium/sodium alginate are used as the basis for the dressing. When an alginate dressing is placed in contact with wound exudate, an ion exchange occurs. Sodium ions found in the wound exudate are very soluble and exchange with the calcium ions found in the alginate dressing. With saturation, the dressing is converted into a soft, conformable hydrophilic gel. Alginate fibers absorb up to 20 times their own weight in wound exudate. This gel-fiber matrix provides a moist wound healing environment, as well as a highly conformable non-adherent dressing.

The performance characteristics of an alginate dressing are related to its chemical composition. Some alginates become a shapeless amorphous mass when saturated with wound exudate. These alginates are referred to as "high gelling" alginates. Others, while absorbing the same amount of exudate, will maintain their shape when saturated. These are called "high integrity" alginates. Multiple factors play a part in determining these performance characteristics. Alginic acid is composed of guluronic and mannuronic acids in varying proportions. The ratio of these two acids will affect dressing performance. Additionally, the method of product processing and the resulting calcium or calcium/sodium content will play a part in determining if an alginate is a "high gelling" or "high integrity" alginate.[1]

## Clinical Decision Making: Alginate Selection

**By Dr. Markéta Límová**
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The choice of which type of alginate to use in a particular clinical situation is dependent on the characteristics of the wound and the desired performance of the dressing.

High integrity alginate dressings allow for the easy removal of the saturated dressing from the wound bed. The benefits of a high integrity alginate become obvious when packing a deep wound or a wound with tracking or undermining along the wound edge. Removal of the saturated dressing often occurs in one piece, with less likelihood of portions of the dressing being left behind in the wound bed. Following removal of the saturated high integrity dressing, there is little gel residual remaining in the wound.

High gelling alginate dressings become an amorphous mass when saturated. This property appears to provide maximum gel interface on the wound surface, which is effective in promoting the autolytic debridement of necrotic tissue. Additionally, wounds that are extremely friable, or wounds with fragile periwound skin may benefit from a high gelling alginate, as they are less likely to adhere to the wound bed and may be atraumatically removed from the wound by gentle irrigation.

| **3M™ Tegaderm™ High Integrity Alginate Dressing** | |
|---|---|
| **Characteristics:**<br>• Retains integrity when saturated<br>• Appearance when saturated: gelled fibers<br>• Often removed from wound bed in one piece<br>• Absorbs up to 20 times its own weight in exudate | **Clinical Applications:**<br>• Deep cavity wounds with moderate to heavy exudate<br>• Wounds with tunneling and/or undermining<br>• Heavily draining wounds with potential for periwound skin maceration |

| **3M™ Tegaderm™ High Gelling Alginate Dressing** | |
|---|---|
| **Characteristics:**<br>• Completely gels with saturation<br>• Appearance when saturated: full gel<br>• Easily irrigated from the wound bed when saturated<br>• Absorbs up to 20 times its own weight in exudate | **Clinical Applications:**<br>• Shallow, moist draining wounds<br>• Wounds with a friable wound base or fragile periwound skin<br>• Wounds requiring autolytic debridement |

## Case Study 1

**3M™ Tegaderm™ High Integrity Alginate Dressing**

***Patient Diagnosis:*** Status-post bowel resection and ileostomy. Retention button erosion resulting in wounds, parallel to midline incision.

***Wound Characteristics:*** Multiple wounds, all full thickness (3.5 cm depth), clean and granulating Moderate amount of wound exudate. Periwound skin intact, no signs of infection.

***Plan of Care:*** Tegaderm™ High Integrity Alginate dressing covered with transparent film dressing, changed every other day.

1 Clinical presentation of wounds following wound irrigation.

2 Gently packing each wound with Tegaderm™ High Integrity Alginate Dressing (rope).

3 Dressing Removal: Saturated dressing removed from wound. Integrity of dressing is maintained, dressing removed in one piece.

## Case Study 2

**3M™ Tegaderm™ High Gelling Alginate Dressing**

***Patient Diagnosis:***
Venous leg ulcer

***Wound Characteristics:***
Shallow, clean wound with fragile periwound skin. Moderate amount of exudate.

***Plan of Care:*** Tegaderm™ High Gelling Alginate dressing covered with compression wrap system, changed every five days.

4 Wound irrigated with normal saline prior to dressing application.

5 Tegaderm™ High Gelling Alginate Dressing cut to fit wound and placed on wound surface.

6 Dressing Removal: Saturated dressing irrigated from the wound with normal saline. Dressing has a thick, gellike consistency, allowing for atraumatic removal.

## References

1. Morgan, D. "Alginate Dressings," *Journal of Tissue Viability*, 1996, Vol. 7, No. 1

## Ordering Information

| 3M™ Tegaderm™ High Integrity Alginate Dressing | | | | | | |
|---|---|---|---|---|---|---|
| **Catalog No.** | **NHRIC/NDC No.** | **Standard Size** | **Metric Size** | **Items/Box** | **Boxes/Case** | **HCPCS Code** |
| 90112 | 8333-9011-20 | 4 in. x 4 in. | 10 x 10 cm | 10 | 5 | A6196 |
| 90120 | 8333-9012-00 | Rope 12 in. | 30,4 cm | 5 | 4 | A6199 |
| **3M™ Tegaderm™ High Gelling Alginate Dressing** | | | | | | |
| **Catalog No.** | **NHRIC/NDC No.** | **Standard Size** | **Metric Size** | **Items/Box** | **Boxes/Case** | **HCPCS Code** |
| 90212 | 8333-9021-20 | 4 in. x 4 in. | 10 x 10 cm | 10 | 5 | A6196 |
| 90220 | 8333-9022-00 | Rope 12 in. | 30,4 cm | 5 | 4 | A6199 |

HCPCS codes as referenced in the PSC Local Coverage Determination Surgical Dressing and Ostomy Policies.

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HCPCS codes have been provided to assist you in the preparation of Medicare Part B claims. Please note, however, that the reimbursement information provided by 3M Health Care and its representatives is intended to provide general information relevant to coverage and coding for 3M products. Insurers' reimbursement policies can vary and the use of the codes discussed here does not guarantee that an insurer will cover or pay at any particular level. Health care providers should exercise independent clinical judgment in choosing the codes which most accurately describe the products provided.

To learn more about skin care and the Tegaderm™ family of products, visit us at **www.3M.com/skinhealth**, contact your 3M Skin Health representative or call the 3M Health Care Customer Helpline at **1-800-228-3957**. Outside of the United States, contact the local 3M subsidiary.

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