

3M Science.
Applied to Life.™

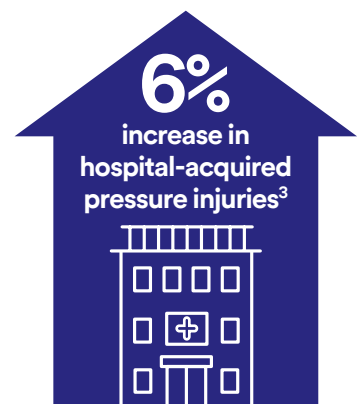


**Reducing Pressure Injuries/
Pressure Ulcers**



The impact of pressure injuries

In 2019, the Centers for Medicare & Medicaid Services (CMS) reported that pressure injuries were the *only* hospital-acquired condition that increased in incidence rates (+ 6%) from 2014-2017, while other hospital-acquired conditions saw a decrease.³ Pressure injuries (PI), also known as pressure ulcers, continue to be a growing healthcare concern¹ —leading to longer hospital stays and higher rates of readmission².



Patient safety begins with skin safety

Now more than ever, patient safety continues to drive the design and delivery of care. To reduce incidence rates, and ultimately improve patient outcomes, it helps to understand *where, how* and *why* pressure injuries occur so the appropriate preventative measures can be put in place.

**Pressure injury
prevalence
and impact**



2.5 million people

More than 2.5 million people in the U.S. develop pressure injuries annually⁴



\$12K-40K
per pressure injury

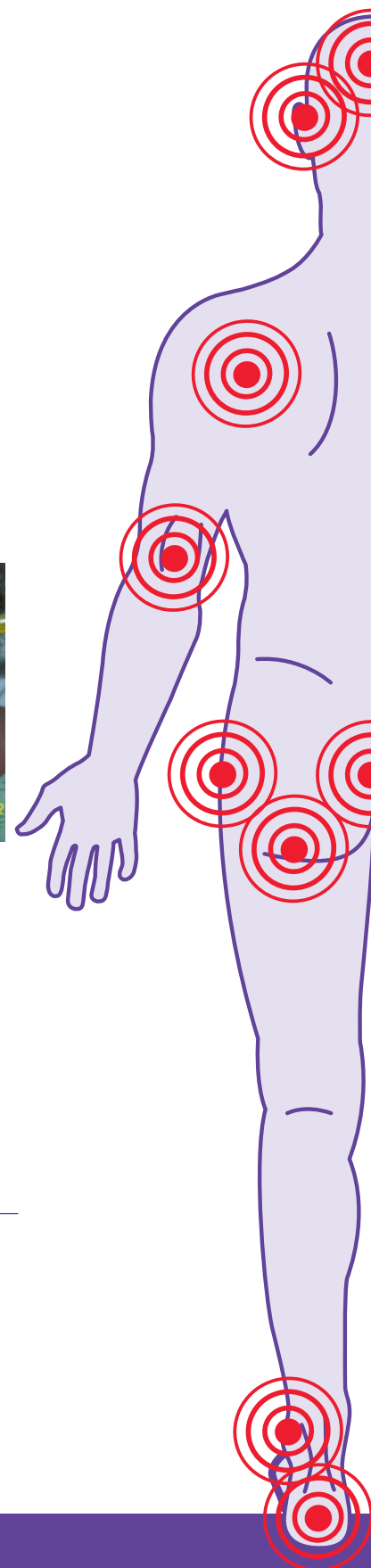
On average, one pressure injury costs \$10,700⁸

Pressure injury facts

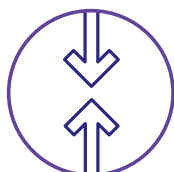
- ▶ Most PIs are developed within the first week of admission⁶
- ▶ The most common stage reported was Deep Tissue Injury (DTI)⁶
- ▶ 75% of medical device-related pressure injuries (MDRPIs) are facility-acquired vs. present on admission (POA)⁶

Sites most susceptible to PI

While pressure injuries can occur at nearly any site, some areas are more vulnerable than others. The most at-risk areas include:

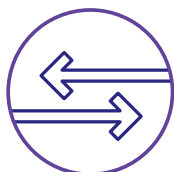


The forces at play



Pressure

While Ischemia plays a role, we now know that the primary driver for pressure injury is deformation of soft tissue. Direct damage from sustained deformation can result in cell damage in a matter of minutes⁵, and an eventual cascade of cell death.



Friction



Shear

Shear strain occurs when skin is exposed to friction and gravity. Friction pins the skin to the underlying surface as gravity pulls downward. These forces compress, twist, and stretch cells and blood vessels and can lead to tissue necrosis.

 **41%** of ICU patients

Up to 41% of ICU patients may develop a pressure injury⁶



3-7 additional days

Pressure injuries add 3-7 days to patient stays⁷



60K deaths occur

It's estimated that 60,000 die as a direct result of PU/I-related complications⁵



Reduce pressure injury with 3M™ Tegaderm™ Silicone Foam Dressings

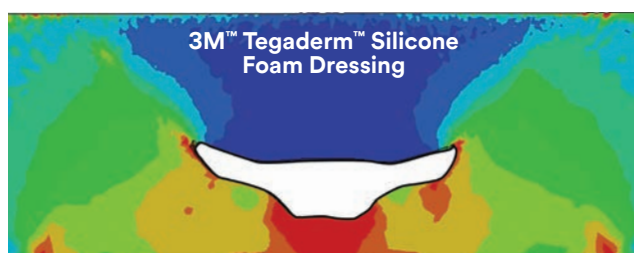
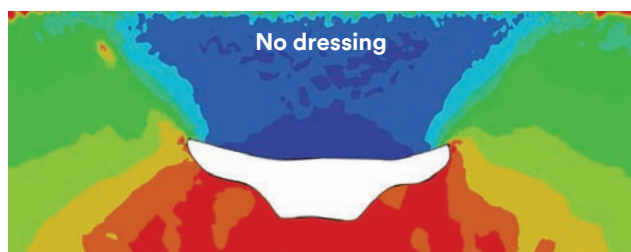
To protect against friction and shear, the National Pressure Ulcer Advisory Panel (NPUAP) recommends using a polyurethane foam dressing to protect bony prominences like the sacrum and heels.¹² To align with these standards, Tegaderm Silicone Foam Dressings provide protection and gentle adhesion at these high-risk locations by:



- 1 Reducing exposure to high levels of tissue strains
- 2 Helping to reduce the potential for skin maceration⁹
- 3 Providing significantly longer wear time than other dressings^{*13}

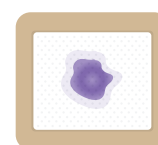
Redistributing pressure

Recent clinical research, imaging studies and mathematical modeling have led to new understanding of how pressure injuries, and especially serious pressure injuries, form. Tegaderm Silicone Foam Dressings have been shown to reduce tissue deformation, minimizing the effects of pressure, friction and shear.



Managing moisture to support skin microclimate

Warm, moist skin is more vulnerable to the damaging effects of pressure and shear, which are recognized risk factors for pressure ulcer formation.⁹ Tegaderm Silicone Foam Dressings are designed to reduce the amount of moisture trapped at the skin's surface, helping support the ideal microclimate to help reduce the potential for skin maceration.¹⁴



Patient side



Back side

Positioned for prevention

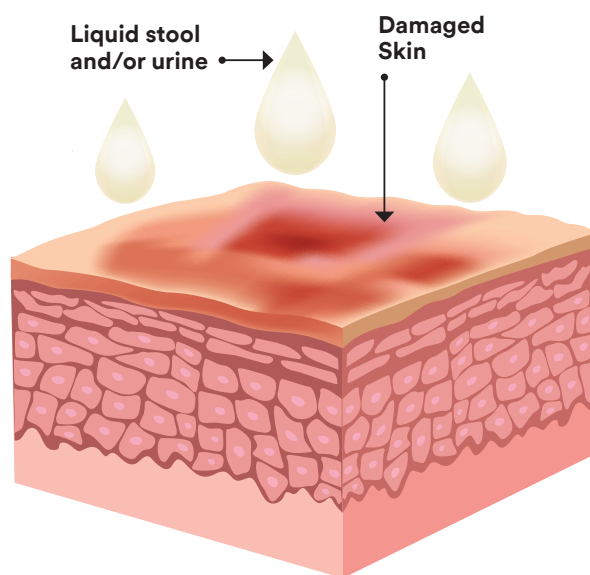
Tegaderm Silicone Foam Dressings provide significantly longer wear time than other dressings^{*13}, and their design keeps the dressing where it's needed to help keep the skin protected.

*Relative to the leading competitive silicone foam dressing. 4x4 and 6x6 dressings, based on in vivo studies EM-13977 and EM-13978.

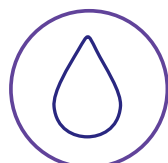
The complex connection between PI and IAD

In addition to the factors mentioned previously, research suggests that incontinence-associated dermatitis (IAD) is a risk factor for developing pressure injuries in the sacral area.¹¹

Given this connection between IAD and PIs, interventions for prevention and management should be integrated and complementary.



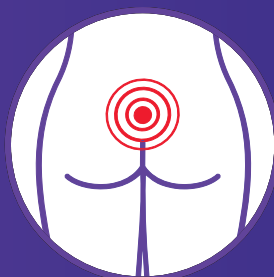
The role of moisture



Moisture

Exposure to wetness decreases skin strength, compromises barrier function, and makes skin more susceptible to damage from friction. Diarrhea can expose the skin to caustic irritants that can rapidly damage skin.⁷

The impact and prevalence of IAD



IAD increases the likelihood of developing a full-thickness sacral PI by **2.65X⁹**



3X increased risk for sacral PI

Patients with IAD are at an increased risk of superficial sacral pressure injuries with an odds ratio of 2.99¹¹



4X more likely to experience PI

Patients with IAD are 4X more likely to experience a facility-acquired sacral PI than patients without IAD⁹



Help prevent IAD with 3M™ Cavilon™ Advanced Skin Protectant

To aid in moisture management, the NPUAP recommends using a high-quality skin protectant.¹³ The revolutionary technology in 3M's Cavilon Advanced Skin Protectant helps skin by:

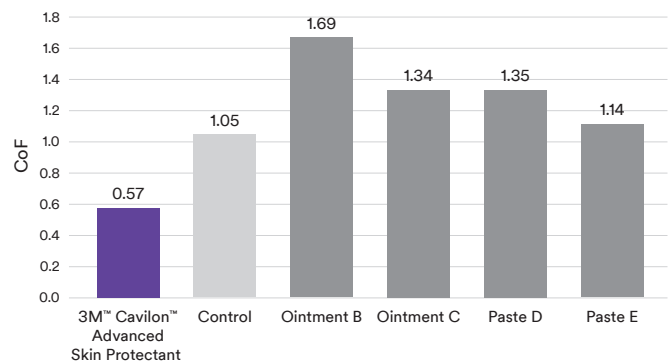
- 1 Protecting against stool, urine and other bodily fluids
- 2 Forming a protective barrier, which helps manage friction and shear

Reducing friction

Use of traditional moisture barriers such as ointments and pastes, are common practice to prevent and treat IAD. But recent research shows that these products can actually increase friction.⁸

Cavilon Advanced Skin Protectant's unique formula creates a highly durable, ultra-thin, transparent, breathable and flexible barrier that protects skin from caustic, corrosive bodily fluids. Unlike traditional moisture barrier pastes and ointments, Cavilon Advanced Skin Protectant does not increase friction and can help reduce risks that contribute to pressure injuries.⁸

Impact on friction: A comparison of moisture barriers



Note: Data was generated in a laboratory setting using a slide sled apparatus.

Patient photos using Cavilon Advanced Skin Protectant



Patient with skin damage on Day 2











Patient with improvement noted on Day 4

Changing the standard of care

Addressing complex, challenging conditions such as PI and IAD require advanced solutions and innovative technologies. 3M's industry-leading expertise in foam dressings, adhesives, and polymer-based skin protectants is changing the standard of care – empowering clinicians to care for patient skin like never before.

When choosing an approach to help reduce the risk of PI and IAD, there are several ideal properties to consider as part of your overall PI prevention program, including protection against pressure, friction, shear and moisture. See how Tegaderm Silicone Foam Dressings and Cavilon Advanced Skin Protectant stand up against these challenges.

Impact on	 3M™ Tegaderm™ Silicone Foam Dressings	 3M™ Cavilon™ Advanced Skin Protectant
 Pressure	<ul style="list-style-type: none"> ▶ May greatly reduce exposure to high levels of tissue strains near the sacrum 	
 Friction  Shear	<ul style="list-style-type: none"> ▶ Low friction backing minimizes local shear forces¹⁶ ▶ Highly conformable ▶ Has a thin, low-profile edge, helping to minimize the rolling and lifting that can impact adhesion and wear time 	<ul style="list-style-type: none"> ▶ Forms a protective barrier, which helps manage friction and shear
 Moisture	<ul style="list-style-type: none"> ▶ A superabsorbent layer further pulls moisture away and locks it in place ▶ A moisture control layer maintains optimal balance by facilitating evaporation through the film backing 	<ul style="list-style-type: none"> ▶ Provides waterproof protection for skin ▶ Attaches to wet, weepy damaged skin¹⁷ ▶ Protects against urine, stool and other bodily fluids

Benefits for		
 Clinicians and patients	<ul style="list-style-type: none"> ▶ Ability to access and assess the skin without damaging the skin ▶ Easy one-handed application* ▶ Up to 7 days wear time, significantly longer than other dressings^{†14} ▶ Gentle adhesion with Silicone adhesive ▶ Unique multi-layer design, helping to reduce the potential for skin maceration 	<ul style="list-style-type: none"> ▶ Durability eliminates the need for frequent application ▶ Allows easy gentle cleansing ▶ Provides a protective barrier. Protective barriers have been shown to reduce pain associated with IAD/IAD care^{‡15} ▶ Creates a protective environment that supports healing ▶ Single-use applicator reduces the potential for cross-contamination
 Economics	<ul style="list-style-type: none"> ▶ Longer wear time plus gentle adhesion may help save time and money on unscheduled dressings changes 	<ul style="list-style-type: none"> ▶ Durability eliminates the need for frequent reapplication¹⁴

*Relative to the leading competitive silicone foam dressing. 4x4 and 6x6 dressings, based on in vivo studies EM-13977 and EM-13978.

†Refers to 90641 and 90646.

‡Cavilon Advanced Skin Protectant is not an analgesic.

Ordering information

Product	Cat No	Size	Items/ Box	Boxes/ Case	HCPSC Code
3M™ Tegaderm™ Silicone Foam Dressings					
Non-Bordered Dressing	90631	4 in. x 4.25 in. / 10 cm x 10.8 cm	10	4	A6210
Non-Bordered Dressing	90632	6 in. x 6 in. / 15 cm x 15 cm	10	4	A6210
Bordered Dressing	90643	2 in. x 2 in. / 5 cm x 5 cm	10	6	A6212
Bordered Dressing	90640	3 in. x 3 in. / 7.5 cm x 7.5 cm	10	6	A6212
Bordered Dressing	90641	4 in. x 4 in. / 10 cm x 10 cm	10	6	A6212
Bordered Dressing	90642	6 in. x 6 in. / 15 cm x 15 cm	10	4	A6213
Heel & Contour	90646	6.5 in. x 6.5 in. / 16.5 cm x 16.5 cm	5	4	A6212
Small Sacral	90647	6 in. x 6.75 in. / 15 cm x 17 cm	10	4	A6213
Large Sacral	90648	7.25 in. x 8.75 in. / 18.5 cm x 22 cm	5	4	A6213
3M™ Cavilon™ Advanced Skin Protectant*	5050	2.7 mL / applicator	20	1	A6250
3M™ Cavilon™ Advanced Skin Protectant*	5051	0.7 mL / applicator	20	1	—

*Rx only.

Disclaimer: HCPCS codes have been provided to assist you in the preparation of insurance 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.

For more information, contact your 3M Health Care Sales Representative, call the 3M Health Care Customer Helpline at **1-800-228-3957** or visit **3M.com/PressureInjury**. These products can be ordered from your local distributor. Outside the United States, contact your local 3M subsidiary.

¹Zaratiekiewicz, S., Whitney, J. D., Lowe, J. R., Taylor, S., O'Donnell, F., & Minton-Foltz, P. (2010). Development and Implementation of a Hospital-Acquired Pressure Ulcer Incidence Tracking System and Algorithm. *Journal for Healthcare Quality*, 32(6), 44-51.

²Health Research & Educational Trust (2016, January). Hospital Acquired Pressure Ulcers (HAPU) Change Package: 2016 Update. Chicago, IL: Health Research & Educational Trust. Accessed at www.hret-hen.org.

³Declines in Hospital-Acquired Conditions. Content last reviewed May 2019. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/data/infographics/hac-rates_2019.html.

⁴AHRQ National Scorecard on Hospital-Acquired Conditions Updated Baseline Rates and Preliminary Results 2014–2017. [Adrq.gov. https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/hacreport-2019.pdf](https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/hacreport-2019.pdf). Published January 2019. Accessed July 1, 2019.

⁵Gould, L. J., Bohn, G., Bryant, R., Paine, T., Couch, K., Cowan, L., ... & Simman, R. (2019). Pressure Ulcer Summit 2018: An Interdisciplinary Approach to Improve Our Understanding of the Risk of Pressure Induced Tissue Damage. *Wound Repair and Regeneration*, DOI: 10.1111/wrr.12730.

⁶Cox J, Roche, S and Murphy V. (2018). Pressure Injury Risk Factors in Critical Care Patients: A Descriptive Analysis. *Adv Skin & Wound Car.* 31(7): 328-334.

⁷Coyer, F., Gardner, A., & Doubrovsky, A. (2017). An interventional skin care protocol (InSPiRE) to reduce incontinence-associated dermatitis in critically ill patients in the intensive care unit: A before and after study. *Intensive and Critical Care Nursing*, 40, 1-10.

⁸Asmus R, Bodkhe R, Ekholm B, Thayer D, and Bradley J. The Effect of a High Endurance Polymeric Skin Protectant on Friction and Shear Stress. Poster presentation at the 2018 Symposium on Advanced Wound Care Las Vegas NV and 2019 National Pressure Ulcer Advisory Panel Annual Conference St Louis MO.

⁹Gray M, Giuliano KK. (2018). Incontinence-associated dermatitis, characteristics and relationship to pressure injury: a multisite epidemiologic analysis. *Journal of Wound Ostomy & Continence Nursing*, 45(1):63-67.

¹⁰Park, K. H. (2014). The effect of a silicone border foam dressing for prevention of pressure ulcers and incontinence-associated dermatitis in intensive care unit patients. *Journal of Wound Ostomy & Continence Nursing*, 41(5), 424-429.

¹¹Demarre L et al. (2015). Factors predicting the development of pressure ulcers in an at-risk population who receive standardized preventive care: secondary analyses of a multicentre randomised controlled trial. *J Adv Nurs.*, 71(2):391-403.

¹²National Pressure Injury Advisory Panel. 2014 Guidelines. Prevention and Treatment of Pressure Ulcers: A Clinical Guide. Accessed at <http://www.internationalguideline.com/static/pdfs/NPUAP-EPUAP-PPPIA-CPG-2017.pdf>.

¹³4x4 and 6x6 dressings, based on *In vivo* studies. EM-13977 and EM-13978. 3M data on file.

¹⁴3M data on file. EM-05-291517.

¹⁵3M data on file. EM-05-01 3924.

¹⁶3M data on file. EM-05-310553.

¹⁷Brennan, Mary R.; Milne, Catherine T.; Agrell-Kann, Marie; Ekholm, Bruce P. (2017). Clinical Evaluation of a Skin Protectant for the Management of Incontinence Associated Dermatitis: An Open-Label, Nonrandomized, Prospective Study. *J of Wound, Ostomy & Continence Nursing*. 44(2):172-180.



Medical Solutions Division
3M Health Care
2510 Conway Ave.
St. Paul, MN 55144 USA

Phone 1-800-228-3957
Web 3M.com/Medical

3M and the other marks shown
are marks and/or registered marks.
Unauthorized use prohibited.
© 3M 2021. All rights reserved.
70-2011-7832-7