

# Innovative Non-Silicone Low Trauma Adhesives

*versus*

# Traditional Silicone Technology

A Review and Comparison

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**C**hronic wound treatments have come a long way over the past thirty years. Traditional gauze dressings providing some occlusion and passive protection have given way to more advanced technologies, such as hydrocolloids, hydrogels, foams and calcium alginates that are designed to create an optimum healing environment for the body to repair itself. Negative pressure and biological dressings, in particular, have been shown to kick start healing for persistent wounds that will not heal on their own.

However, these advanced dressings, requiring skin contact adhesives to bond securely to the wound and surrounding skin, have major drawbacks:

### **Pain on removal**

Clinicians must take great care when removing a dressing to minimize pain and prevent skin trauma. Chronic wound patients are often in poor health with compromised skin surrounding the wound, and anticipatory pain can lead to anxiety around dressing changes.

### **Skin tears**

Especially prevalent with the fragile skin of neonates and the elderly, skin tears are painful, can cause infection, and, when complicated by a compromised vascular system, have significant medical consequences.

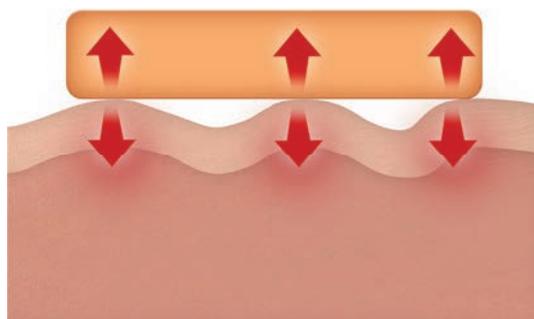
### **Lack of repositionability**

When tape or the adhesive border of a dressing is removed, dead skin cells that have collected on the surface of the dressing make repositioning impractical and reapplication of a new dressing necessary. Additionally, the inability to reposition makes it impractical to optimize the position of the dressing after skin contact is made.



### **Ineffective sealing**

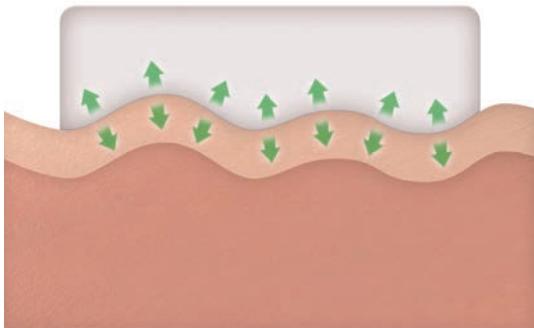
Because traditional acrylic adhesives adhere only to the very top layer of the skin, the periwound area may not be entirely sealed off. Ineffective sealing enhances the possibility of wound exudate migration and leakage that can lead to skin maceration and exposure of wound fluids to surrounding healthy tissue.



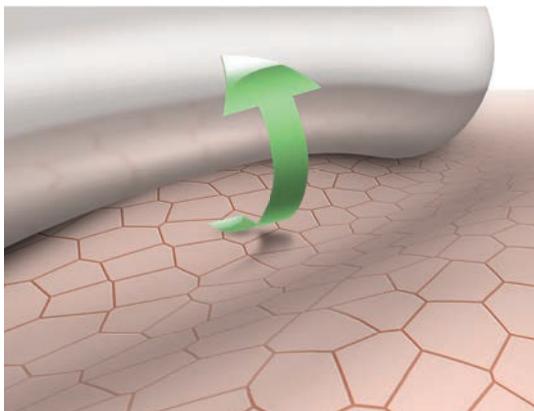
## Silicone Technology:

### Effective, but at a Premium

Several years ago, Mölnlycke Health Care, Gothenburg, Sweden, introduced a line of low trauma wound dressings with a patented silicone adhesive that minimizes pain upon removal and is repositionable. As silicones are softer than traditional acrylics, they tend to flow, forming a more intimate seal at the perimeter of the wound bed. Being first to



market, Mölnlycke was able to command a premium price for a product that provided low trauma adhesion. As this technology came off patent, several competitors introduced lower cost silicone-based systems, but these products still remain more costly than traditional acrylic-based skin adhesives. The high price of silicone adhesives is believed a significant contributing factor in slowing the market shift to less traumatic alternatives.



## Next Generation Solutions:

### Lohmann Non-Silicone Low Trauma Adhesives

As an alternative, Lohmann Corporation, in Orange, Virginia, USA developed a range of non-silicone low trauma, soft stick adhesives that replicate the feel and performance of silicone but at a lower price point. As with silicone, these adhesives adhere well to various skin types yet can be removed painlessly and can be repositioned initial applications. However, unlike silicone, this next generation of low trauma adhesives is gamma sterilization stable, an important consideration to medical product design engineers.

These low trauma adhesives were designed to address the following skin type and performance requirements:

- Ultra-gentle, soft removal for sensitive, geriatric and pediatric skin types
- Secure adhesion to skin and body hair with non-stick removal
- Adhesion to prevent detachment in harder-to-stick applications

With a cost structure more closely aligned with traditional acrylic adhesives, manufacturers will now be able to take advantage of non-silicone adhesives, effectively bridging the gap between the high cost of silicones and traditional acrylics.

## Rated by clinicians

In focus groups with clinicians associated with the Wound Ostomy and Continence Nurses Society™ (WOCN®), researchers probed point-of-care perspectives on non-silicone low trauma adhesives in comparison to commercially available silicone products.

Sixteen clinicians attending the SAWC 2015 Spring Conference were assigned to one of two groups: acute care (hospital-based) clinicians and long-term care practitioners. Area of expertise, geographic location, 5+ years of experience and wound dressing usage were primary factors used to screen qualified clinicians during the pre-selection process.

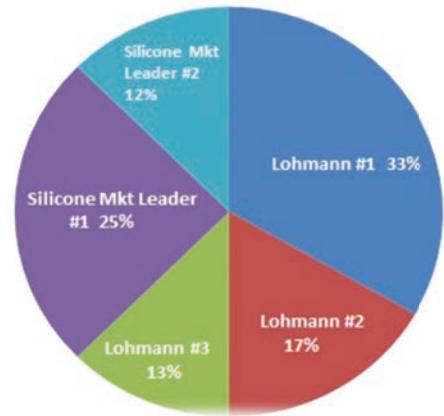
Clinicians were asked to rate the Lohmann low-trauma non-silicone adhesives to the market's leading silicone adhesives. The Lohmann non-silicone technology ranked favorably against the silicone products and was often preferred for comfort during wear and lack of pain upon removal, and repositionability.

## Advancing the industry

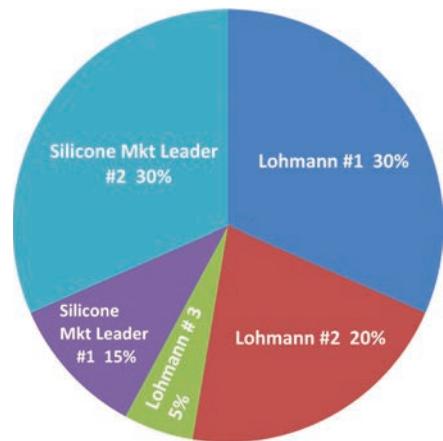
When evaluated by advanced wound care clinicians in a direct comparison with market leading silicone dressings, Lohmann's non-silicone low trauma, soft stick technology replicated the attributes required of adhesives in advanced wound care dressings: the minimization of pain during removal, comfort during wear, and repositionability.

With equivalent performance and a lower cost structure when compared to silicone adhesives, non-silicone low-trauma adhesives offer a more economical solution that meets clinician requirements, and ultimately improves patient outcomes.

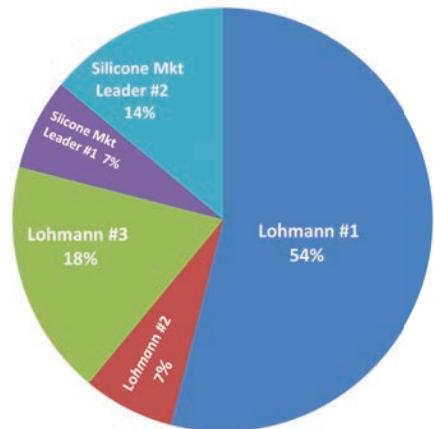
## Most Comfortable



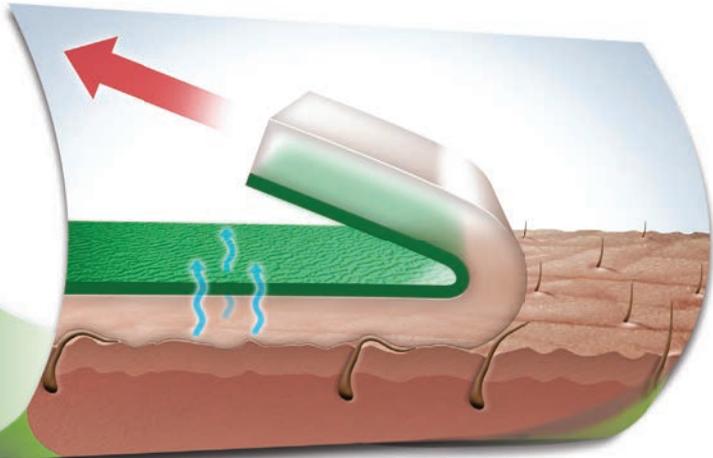
## No Pain on Removal



## Repositionability



**Non-silicone low trauma adhesives are a win for caregivers, for patients with skin types requiring softer, gentler adhesive solutions, and for manufacturing design engineers.**



Lohmann GmbH & Co, Neuwied, Germany is one of the world's leading manufacturers of medical adhesive tapes. Founded in 1851, the Lohmann name is synonymous with decades of expertise in advanced wound care, adhesive bonding and customization, cutting edge innovation, state of the art production processes and uncompromising customer focus.