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What you need to know about MARSI

A new understanding of Medical Adhesive-Related Skin Injuries

Highlights from new and expanded research on medical adhesive-related skin injuries' (MARSI's) epidemiology, assessment, prevention and management to help you prevent unnecessary skin injury, reduce complications and ultimately deliver better patient outcomes.

What is MARSI?

MARSI is damage to the skin that may occur when medical adhesives are not selected, applied and/or removed properly. In mild cases, there might not be any visible trauma. But in other cases, the injury can be more serious, requiring additional treatment. MARSI can cause pain, increase the risk of infection and delay healing – all of which can reduce a patient's quality of life.[1]

The cycle of reducing MARSI

Assess

Assessment involves a thorough examination and documentation of the skin's condition, including its color, texture, temperature, and any abnormalities. Perform an initial comprehensive assessment and document any existing lesions, followed by daily routine-focused assessments based on the patient's MARSI risk level and care setting.

What has changed?

- **Everyone is at risk for MARSI**

  Experts now concur that a safer approach to preventing and assessing MARSI is to consider that everyone requiring a medical adhesive is potentially at risk.[1]

- **Diligent assessment is needed**

  A proper assesment for MARSI risk includes an an initial comprehensive assessment to document any existing lesions, followed by daily routine-focused assessments based on the patient's MARSI risk level and care setting.[1]

- **Hypersensitivty might contribute more to MARSI risk than allergies**

  Hypersensitivity to adhesive devices is more common than allergic responses and both must be documented in a patient's medical record.[1]

The cycle of reducing MARSI

Select and prepare

Choose an appropriate adhesive based on the skin type and intended use, then clean and dry the skin thoroughly to ensure optimal adhesion and reduce the risk of irritation.

What has changed?

- **Product selection is paramount**
  Healthcare providers need to select the least aggressive adhesive that will provide adequate securement for the task.[1]
- **Consider soft silicone**
  Use silicone adhesives when available as they cause less skin trauma on removal because they interact less with skin crevices and pores compared to acrylate, hydrocolloid and rubber adhesives.[2]
- **Apply to clean, dry skin**
  Literature suggests that the risk of MARSI is increased when an adhesive product is applied over a prep that has not been allowed to thoroughly dry.[1]
- **Avoid bonding agents**
  Adhesive enhancers (also known as “tackifiers”) increase the risk of skin injury on removal, and should be avoided, particularly in neonates.[1] Additionally, consider the use of a barrier film with the use of acrylate adhesives to reduce the risk of skin injury on removal.

Apply

To apply a pressure-sensitive adhesive to the skin, firmly press the adhesive onto clean, dry skin to ensure proper bonding and minimize the risk of detachment. Avoid stretching the adhesive on placement.

What has changed?

- **Avoid stretching and tension**
  void stretching the product before applying it to the skin, as this creates tension that can lead to blisters when the skin tries to return to its original shape while the adhesive holds it in place.[1]

Remove

Gently peel the adhesive off while supporting the surrounding skin to minimize discomfort and avoid causing damage at a low angle.

What has changed?

- **Go low and slow**
  Using proper technique for tape removal—removing at a low angle, using two hands while supporting the skin where the adhesive is—promotes comfort while preventing skin stripping and prevents damage to hair follicles.
- **Use adhesive removers**
  The use of silicone-based medical adhesive removers can help to minimize discomfort and MARSI instances because they facilitate adhesive product removal using less force.[1]

How can you stay vigilant?

Education

Recently, a panel of nine clinical experts from four countries reviewed the literature from the past decade and updated clinical practice recommendations related to MARSI **(Medical Adhesive-Related Skin Injury at 10 Years: An Updated Consensus)**. Experts have recently reached a consensus that MARSI is underrecognized in nursing and medical education and that continuing education and providing MARSI education to all clinicians and students to improve knowledge of assessment, prevention and management is essential.

Create guidelines within your organization

The panel recommended creating policies for single-use adhesive products to minimize the risk of cross-contamination when used on multiple patients. They also suggested developing quality improvement measures to reduce the incidence of MARSI based on root cause analyses and trends in MARSI rates and types. Health care organizations should establish protocols for the assessment, prevention, and management of MARSI, and implement evidence-based and best practice policies regarding the use of adhesive products.[1]

How can Solventum help?

Solventum provides a broad portfolio of solutions that help clinicians take action to help reduce risk of MARSI.

Visit our MARSI webpage to learn more.

Skin performance: The feather designates products that deliver the securement power you need while minimizing damage to skin.

Select

Four tapes and wraps

We simplify securement using the "Core Four" securement class framework to group similar clinical jobs by the type of product they require:

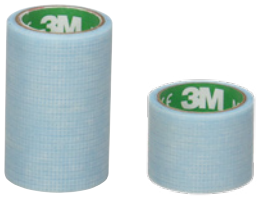
- Non-adhesive securement
- Multi-purpose securement
- Flexible securement
- High-strength securement

This supports the panel's recommendation for healthcare providers to choose the least aggressive adhesive for the intended use.

3M™ Coban™ NL Non-latex Self adherent Wraps

Sticking to itself and not to skin, Coban NL is the recommended product in the Non-adhesive securement class, as it is not made with natural rubber latex and may be torn by hand. Used for blood draws, dressings, immobilization, secondary securement for difficult-to-dress areas, while providing compression* for soft tissue injuries. Available sterile and non-sterile in various widths and colors.

*May use as a component in a compression wrap system support only under supervision of a wound care specialist.



3M™ Micropore™ S Surgical Tape

3M Micropore S Surgical Tape is Solventum's recommended product in the Multi-purpose Securement Class, as it uses a strong but gentle silicone adhesive. Used for blood draws, lightweight dressing, secondary securement of IV lines, and non-critical tubes.

Securement devices

Our securement devices are designed to provide reliable securement, are easy to use, and help promote patient safety to give you the confidence to do your job.

Nasogastric securement

3M™ Nasogastric Securement Device

Designed to provide reliable securement of nasogastric tubes and to help reduce risk of pressure injury.

- Transparency provides visibility to skin and tube position
- Non-adhesive sections
- Uses two custom adhesives

Tube securement

3M™ Tube Securement Device

Designed to provide reliable securement to a variety of medical tubes and catheters spaning 6-24 French with less damage to skin..

- Non-critical tube securement or in conjunction with sutures, primary securement dressings and/or urinary catheter balloons per facility protocol
- Strong but gentle silicone adhesive
- Sterile device in two sies

Skin Protectant

Safeguard and nurture at-risk or compromised skin with 3M™ Cavilon™ Skin Care Solutions, meticulously developed to prevent and address MARSI and other skin conditions.

Barrier film

For all patients before skin damage starts

3M™ Cavilon™ No Sting Barrier Film

A CHG-compatible[2] alcohol- free skin barrier proven to help protect skin from adhesive skin damage. Easy-to-open, peel-down packaging allows for aseptic delivery

Skin protectant

For patients after skin damage has begun

3M™ Cavilon™ Advanced Skin Protectant

A long-lasting barrier that protects the skin for up to seven days and is breathable, allowing for moisture-vapor transmission that helps keep skin comfortable.

References

1. Barton, Andrew; Broadhurst, Daphne; Hitchcock, Jan; Lund, Carolyn; McNichol, Laurie; Ratliff, Catherine R.; Moraes, Juliano Teixeira; Yates, Stephanie; Gray, Mikel. Medical Adhesive-Related Skin Injury at 10 Years: An Updated Consensus. J Wound Ostomy Continence Nurs. 51(5S):p S2-S8, September/October 2024. | DOI: 10.1097/WON.0000000000001116
2. McNichol, Laurie; Lund, Carolyn; Rosen, Ted; Gray, Mikel. Medical Adhesives and Patient Safety: State of the Science. Orthopaedic Nursing 32(5):p 267-281, September/October 2013. | DOI: 10.1097/NOR.0b013e3182a39caf

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