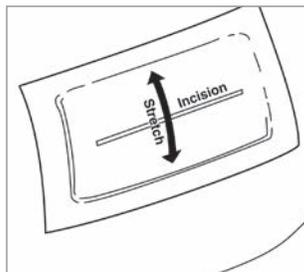


# Medical Adhesive Related Skin Injuries (MARSI)

A medical adhesive related skin injury is an occurrence in which erythema and/or other manifestation of cutaneous abnormality (including, but not limited to, vesicle, bulla, erosion, or tear) persists 30 minutes or more after removal of the adhesive. Skin injury related to medical adhesives is a prevalent, but under-recognized complication. It occurs in all care settings and to people of all ages. If proper technique for application and/or removal of adhesive products is not used, tissue trauma can occur, impacting patient safety, quality of life and increasing healthcare costs.

## Tape Application

1. Tape should be applied without tension to clean, dry skin.
2. A clipper may be used to remove hair, if necessary.
3. To protect at-risk skin, 3M™ Cavilon™ No Sting Barrier Film may be applied and when thoroughly dry, tape may be applied over it.
4. Minimize touching of adhesive.
5. Smooth tape in place with gentle pressure. Avoid gaps and wrinkles.
6. In general, do not encircle a limb completely with tape.
7. Rub in place to get a good seal.



## General taping

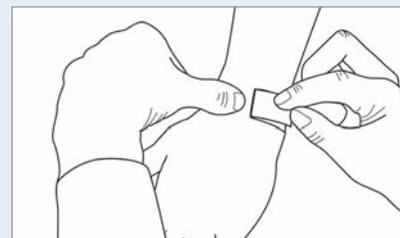
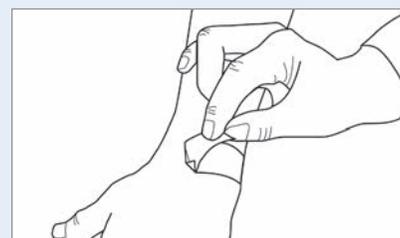
- a) Apply tape without tension, gently but firmly stroking the surface to maximize adhesion.
- b) Tape should extend at least one-half inch beyond the dressing.
- c) Tape should not be pulled or stretched when applied.
- d) If swelling does occur, loosen and re-fasten or replace tape to relieve the tension.

## Anticipated distention (swelling)

- a) Use a nonwoven soft cloth tape which stretches in the cross-direction and on the bias (i.e. 3M™ Medipore™ Surgical Tape).
- b) Direction of the stretch should be considered when securing a dressing or tubing to an area that is at high risk for distention, edema, hematoma formation or movement.
- c) Anecdotally, applying soft cloth tape parallel to the incision appears to be associated with fewer skin tension injuries than taping perpendicular to the incision.

## Tape Removal

Proper tape removal is critical in reducing the occurrence of traumatic skin injuries.



1. Loosen edges of tape. If necessary, press a small piece of tape onto a corner to start an edge of the tape.
2. Stabilize skin with one finger. Remove tape "low and slow" in direction of hair growth, keeping it close to skin surface and pulled back over itself. Removing tape at an angle will pull at the epidermis increasing risk of mechanical trauma.
3. As tape is removed, continue supporting newly exposed skin.



# Tips to Reduce the Risk of MARSI

Problem	Cause	To reduce the risk of injury
 <p><b>Stripping</b></p>	<p>As tape is removed, the epidermis remains attached to the adhesive, resulting in epidermal damage or a painful area of exposed dermis. Degree of stripping varies with skin condition, adhesive characteristics, and frequency of taping.</p>	<ul style="list-style-type: none"> <li>• Use gentle, hypoallergenic tape</li> <li>• Match strength of adhesive to clinical needs and skin condition</li> <li>• For high-risk patients, avoid using skin tackifiers under tape</li> <li>• Protect at-risk skin with 3M™ Cavilon™ No Sting Barrier Film, allowing it to dry before taping</li> <li>• If repeated taping is anticipated, consider applying tape over a platform</li> <li>• Use proper removal technique</li> </ul>
 <p><b>Mechanical Injury Due To Tension</b></p>	<p>The most common causes of tension injury are inappropriate strapping of tape during application and distention of skin under an unyielding tape.</p> <p>Strapping tape across skin is mistakenly thought to increase adhesion. As the tape backing resists stretch or regains its original shape, the epidermis begins to lift.</p> <p>This results in “tension blisters” typically seen at ends of the tape. Skin tears may occur before a blister even forms.</p>	<ul style="list-style-type: none"> <li>• Apply tape without tension</li> <li>• Identify patients at high-risk: fragile skin, medical conditions (e.g., long-term corticosteroid use, malnutrition) or surgical procedures where edema or distention is expected (abdominal, orthopedic)</li> <li>• Protect at-risk skin with 3M™ Cavilon™ No Sting Barrier Film, allowing it to dry before taping</li> <li>• If swelling or movement is expected, use a tape that stretches. Apply tape so that direction of stretch corresponds with direction of swelling</li> <li>• If distention or edema is noted, loosen, reposition, or replace tape</li> </ul>
 <p><b>Non-Allergic Contact Dermatitis</b></p>	<p>A non-allergic contact dermatitis may result when chemical irritants such as tackifiers or some skin preparations are trapped between adhesive and skin. The affected area will correlate to the area of exposure and may appear reddened, swollen, blistered, or weeping.</p>	<ul style="list-style-type: none"> <li>• Assure that skin is clean and dry before applying tape</li> <li>• Protect skin with 3M™ Cavilon™ No Sting Barrier Film, allowing it to dry before applying tape</li> <li>• If possible, avoid using tackifiers</li> </ul>
 <p><b>Allergic Contact Dermatitis</b></p>	<p>Patients may be mistakenly identified as having tape allergies when, in fact, they have experienced a non-allergic contact dermatitis. Clinical signs include well-defined areas of erythema and edema; vesicles may be present, as well as small erosions.</p>	<ul style="list-style-type: none"> <li>• Identifying type of tape causing sensitivity</li> <li>• Options may include identifying an alternative hypoallergenic tape or contacting tape manufacturer for assistance</li> <li>• Using 3M™ Cavilon™ No Sting Barrier Film may not prevent an allergic reaction</li> </ul>
 <p><b>Folliculitis</b></p>	<p>Folliculitis is an inflammation of the hair follicle caused by shaving or entrapment of bacteria.</p>	<ul style="list-style-type: none"> <li>• Use a clipper or depilatory preparation if hair removal is necessary</li> </ul>
 <p><b>Maceration</b></p>	<p>Maceration refers to skin changes seen when moisture is trapped against the skin for a prolonged period. The skin will turn white or gray, soften and wrinkle. Macerated skin is more permeable and prone to damage from friction and irritants.</p>	<ul style="list-style-type: none"> <li>• Keep taped skin clean and dry</li> <li>• Replace tape if soiled</li> <li>• Use breathable tape in moist areas</li> <li>• Avoid occlusive tapes unless clinically indicated</li> </ul>



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