Topical wound closure

While sutures, staples and surgical tape are still commonly used for closing wounds, clinicians are increasingly using topical skin adhesives due to their ability to provide more rapid and less invasive wound closure. Indicated for the closure of surgical incisions and trauma-induced lacerations in areas with low skin tension, topical skin adhesives can be applied without the need for local anesthesia—reducing patient anxiety and eliminating the need for patients to return for the removal of sutures or staples.

Cyanoacrylate technology

Topical skin adhesives are composed of medical grade cyanoacrylates that polymerize into a thin protective film over wound edges when coming into contact with moisture in the skin. The polymerized cyanoacrylates create a strong, secure bond that holds the edges of a wound together to help facilitate the body’s normal wound healing processes. As the skin heals, the adhesive naturally sloughs from the skin – typically within five to 10 days.

Both n-Butyl cyanoacrylate (BCA) and 2-Octyl cyanoacrylate (OCA) skin adhesives have been proven to be a safe and effective method of topical skin closure for surgical incisions as well as trauma-induced lacerations. Multiple studies have demonstrated that when topical skin adhesives are properly used, rates of wound infection and dehiscence, as well as cosmetic outcomes, are similar to sutures. Additionally, in a comparison of BCA-based adhesives to OCA-based adhesives, no significant difference in wound dehiscence or infection was found.

Properties of n-Butyl cyanoacrylate and 2-Octyl cyanoacrylate

<table>
<thead>
<tr>
<th>Adhesive Properties</th>
<th>n-Butyl</th>
<th>2-Octyl</th>
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<tbody>
<tr>
<td>Slow degradation</td>
<td>●</td>
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<tr>
<td>Flexibility</td>
<td>●</td>
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<tr>
<td>Tensile strength</td>
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<tr>
<td>Low exothermic reaction</td>
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<td>●</td>
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<td>Short setting time*</td>
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*While both BCA and OCA adhesives exhibit excellent wound closure properties, adhesives utilizing BCA – such as LiquiBand – require a shorter setting time due to a faster polymerization rate when compared to OCA. In addition, OCA-based topical adhesives generally require two applications to ensure sealing of the wound.

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How LiquiBand® Works

When LiquiBand is applied to a wound, the adhesive flows along the edges of the wound and then polymerizes. This bonds the two edges together (Figure 2a). Excess adhesive that extends beyond the wound edges also polymerizes, but does not have any direct impact on tensile strength.

After application, the wound site remains securely closed while the body begins the healing process. Any excess adhesive at the periphery of the wound and on intact skin begins to crack and flake within 24 hours (Figure 2b). This sloughing is due to the regeneration of the upper epidermal layers of the intact skin and does not occur at the point where the wound is bonded and sealed closed. The peripheral sloughing does not impact the integrity of the bonded wound (Figure 2c).

Proven results, satisfied patients and clinicians

The photo series below demonstrates how LiquiBand remains strong and secure throughout the wound healing process.

LiquiBand also ranks highly in patient satisfaction ratings. In a comparative study, patients whose wounds were closed using LiquiBand reported higher satisfaction than those whose wounds were closed with other topical skin adhesives.

For more than 10 years, clinicians in the United Kingdom and continental Europe have relied on the LiquiBand brand for strong, fast and secure wound closure. With more than 5 million wounds closed in hundreds of healthcare facilities worldwide, LiquiBand is a proven and trusted solution for topical skin closure. To learn more, visit www.liquiband.com.