Adhesive Surgical Drapes May Cause, Not Prevent, Infection

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Approximately 15% of clean surgery cases and 30% of contaminated surgery cases result in a surgical site infection. Surgical site infections are associated with increased morbidity, mortality, and cost. In efforts to reduce this surgical complication, there have been many techniques developed to help make the incision site more sterile. Among these developments has been the introduction of plastic adhesive drapes, used alone or in combination with woven drapes or disposable paper drapes. However, the evidence showing that plastic adhesive drapes are effective has been conflicting, and there has been no recent systematic review to guide clinical practice, explained the researchers.¹

This updated review involved 7 studies, 5 of which compared plastic adhesive drapes with no drapes and involved 3082 participants and 2 of which compared iodine-impregnated adhesive drapes with no drapes and involved 1113 participants; since the last update, no new studies were identified.

The researchers found that patients in the adhesive drape group experienced significantly more surgical site infections than patients in the no-drape group (risk ratio, 1.23; P = 0.03). Adhesive drapes that were iodine-impregnated did not effect the surgical site infection rate (risk ratio, 1.03; P = 0.89). Despite some evidence showing that adhesive surgical drapes increase surgical site infection rates, the length of hospital stay did not differ significantly between the adhesive drape group and the non-adhesive drape group.

“Further trials may be justified, using blinded outcome assessment to examine the effect of adhesive drapes on surgical site infection, based on different wound classifications,” concluded the researchers. Surgical wound classifications are shown in the Table.

<table>
<thead>
<tr>
<th>Wound Class</th>
<th>General Definition</th>
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<tbody>
<tr>
<td>Class I (clean)</td>
<td>Nontraumatic, clean operative wound that does not involve entry into the respiratory, GI, or genitourinary tracts. Cesarean deliveries without prerupture of membranes are classified as clean surgeries.</td>
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<tr>
<td>Class II (clean-contaminated)</td>
<td>Nontraumatic wound in which the respiratory, GI, or genitourinary tract is entered but without significant spillage. Emergency cesarean deliveries involving ruptured membranes or after a trial of labor are classified as clean-contaminated surgeries.</td>
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<tr>
<td>Class III (contaminated)</td>
<td>Fresh traumatic wound from a clean source with entrance into the genitourinary or biliary tracts or involving gross spillage from the GI tract. Acute nonpurulent inflammation is often noted upon</td>
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Class IV (dirty)  
Traumatic wound from dirty source or involving delayed treatment. Wound may involve fecal contamination, a foreign body, devitalized tissue, bacterial inflammation, or abscess.

Unclassified  
Inability to accurately classify surgical wound, often because wound results from a communicable disease.

Data from University of Connecticut Health Center.²


Links:  