Plus Antibacterial Sutures
# Balancing SSI Risk Factors with Interventions$^{1,2}$

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteria on Personnel</td>
<td>Masks, gowns, scrub in</td>
</tr>
<tr>
<td>Bacteria on Patient</td>
<td>Pre-op bathing, skin prep</td>
</tr>
<tr>
<td>Bacteria in Environment</td>
<td>Sterile surfaces</td>
</tr>
<tr>
<td>Bacteria on Tools</td>
<td>Sterile equipment</td>
</tr>
<tr>
<td>Bacteria on Suture</td>
<td>Antibacterial suture</td>
</tr>
<tr>
<td>Diabetes</td>
<td>?</td>
</tr>
<tr>
<td>Obesity</td>
<td>?</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>?</td>
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<tr>
<td>Polypharmacy</td>
<td>?</td>
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</tbody>
</table>

Implants Can Increase Risk of Infection

• Like all implants, sutures can be colonized by bacteria, which can lead to biofilm formation\(^1\)

Plus Antibacterial Suture

Traditional suture

Plus Antibacterial Suture

Suture selection provides an important opportunity to address a known risk factor for infection: bacterial colonization of the suture.

Plus Antibacterial Sutures have been shown in vitro to inhibit bacterial colonization of the suture for 7 days or more, for protection against the most common organisms associated with SSI.4,9

- Staphylococcus aureus
- Staphylococcus epidermidis
- Methicillin-resistant Staphylococcus aureus (MRSA)
- Methicillin-resistant Staphylococcus epidermidis (MRSE)
- Escherichia coli
- Klebsiella pneumoniae

*PDS Plus Suture and MONOCRYL Plus Suture only

The petri dish image is for illustrative purposes only; zone of inhibition testing results can vary.

Triclosan-coated sutures now recommended

Three globally recognized health authorities now recommend the use of triclosan-coated sutures for SSI prevention

Hierarchy of Scientific Evidence

- Randomized Controlled Double Blind Studies
- Cohort Studies
- Case Control Studies
- Case Series
- Case Reports
- Ideas, Editorials, Opinions
- Animal research
- In vitro ('test tube') research
- Systematic Reviews and Meta-analyses
Supported by a wealth of clinical evidence
10 meta-analyses of 24 RCTs involving over 7,000 patients^{10-20}
Results

Meta-analysis demonstrates **28% reduction in SSI risk** with the use of triclosan-coated sutures

- 21 RCTs, 6462 patients, 95% CI: (14, 40%), \( P < 0.001 \)
- All triclosan-coated sutures in these RCTs were Ethicon Plus Antibacterial Sutures (Monocryl Plus, Vicryl Plus and PDS Plus)
Results

Meta-regression analyses demonstrated that the effect of triclosan-coated sutures in reducing the risk of SSI does not vary by CDC wound classification* or suture type#.
Thank you