HELPING YOU
FEEL SECURE

Polysorb™ Suture

For Surgeons
WOUND HEALING: THE FIRST 2 WEEKS AFTER SURGERY ARE CRITICAL

During the first 2 weeks of the post-surgical wound healing process, there is a gradual increase in wound tensile strength and scar tissue formation.\(^1,2\) The fragility of the wound tissue during this time, when tensile strength is only 7–10\(^\%\)\(^3\) that of undamaged skin, means that wound dehiscence is common, and many affected patients will require repeat surgery to manage the condition.\(^4\)

This underlines the importance of using a suture that will provide the necessary strength during this critical wound healing period (CWHP).

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![Graph showing wound tensile strength over days post wounding.](image)

- **Inflammation**: Days 0-2
- **Proliferation**: Days 2-10
- **Maturation**: Days 10-16
Polysorb™ suture has **tighter braided filaments** than Ethicon Vicryl™ suture and is distinguished by its performance during the CWHP.

This strength is supported by data from IFU: studies indicate tensile strength averages for Polysorb™ suture are **40% above USP standard** minimum knot strength out of the package.5

This **superior tensile strength** of Polysorb™ suture is complemented by good knot security for both Polysorb™ suture and Vicryl™ suture. In wet and dry conditions they both perform similarly as shown by the **low percentage of knot slip**.

37% greater knot pull strength out of the package7†

25% greater knot pull strength after one week7†

8% greater knot pull strength after two weeks7†

Polysorb™ suture is 37% stronger out-of-package’

Polysorb™ suture provides 21% greater strength during the critical wound-healing period7

† In R&D testing7, Polysorb™ sutures were statistically significantly comparable or stronger than Vicryl™ sutures during the CWHP: p<0.001 for weeks 0–2 for commonly use size USP 2–0, October 2013.
Wound dehiscence, which is estimated to occur in up to 3.5% of patients following surgery,\(^4\) can place a substantial burden on healthcare systems as a result of increases in the duration of hospital stays and the need for reoperation.\(^4\)

This underlines the importance of using a suture that will provide the necessary strength during the CWHP.

**POLYSORB™ SUTURES HAVE FAVOURABLE HANDLING CHARACTERISTICS**

Of the four absorbable, multifilament sutures (size 2 USP) tested in an *in vivo* animal study,\(^8\) Polysorb™ suture was considered by surgeons to provide:

- The smoothest surface\(^8\)
- The greatest ease of knot positioning\(^8\)
- The best knot tightness\(^8\)
- The best knot security\(^8\)

The panel of surgeons concluded that all features and properties of braided suture material reached a high level of quality in Polysorb™ suture, which combines the positive characteristics of monofilament with those of multifilament materials.\(^8\)
DOES ANTIBACTERIAL SUTURE COATING PROTECT AGAINST SURGICAL SITE INFECTIONS?

Polysorb™ suture is not coated with an antibacterial agent. This means that unlike some triclosan-coated sutures, Polysorb™ suture is not contraindicated in patients with a known allergic reaction to triclosan.

What’s more, **the potential benefit of triclosan coating of sutures is still unclear.**

Contrary to findings from single-centre studies, a recently published large, multicentre, randomised clinical trial after colorectal surgery demonstrated that surgical sutures coated with triclosan do not appear to be effective in reducing the rate of surgical site infection.9

Questions regarding the potential environmental impact of triclosan and the possible emergence of antibiotic resistance were considerations in the decision of the manufacturer of the main triclosan-coated competitor suture to phase out triclosan in consumer products by 2015.10

In addition, in vitro testing of sutures demonstrated an equivalent level of *staphylococcus aureus* colonisation with Polysorb™ suture and braided multifilament sutures specimens, including those coated with triclosan.11

**Occurrence of surgical site infections**

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<thead>
<tr>
<th></th>
<th>Triclosan-coated</th>
<th>Conventional</th>
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<tbody>
<tr>
<td>Overall</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Superficial</td>
<td>16</td>
<td>14</td>
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<tr>
<td>Deep</td>
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*p=0.64

300 adult patients received triclosan-coated (n=140) or conventional (n=141) sutures

**Bacterial colonization**

<table>
<thead>
<tr>
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<th>CFUs/ml</th>
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<tr>
<td>Day 0</td>
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<tr>
<td>Day 1</td>
<td>10,000</td>
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<tr>
<td>Day 2</td>
<td>10,000</td>
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<tr>
<td>Day 6</td>
<td>100,000</td>
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*Vicryl™ sutures* | *Polysorb™ sutures* | *Biosyn™ sutures* | *Vicryl™ Plus sutures*

CFUs, colony-forming units
POLYSORB™ SUTURE COMBINES STRENGTH AND SECURITY WITH EASE OF HANDLING TO PROVIDE SURGEONS WITH PEACE OF MIND

The CWHP\(^1\) is well-documented in many studies.\(^1\)

Compared with Vicryl™\(^*\) suture, Polysorb™ suture is unique in offering greater strength during the CWHP.\(^5,6,7\)\(^†\)

*In vitro* comparisons of braided absorbable sutures have demonstrated that Polysorb™ suture retain greater tensile strength and knot-breaking strength during the CWHP.\(^8\)

**REFERENCES**

7. Based on internal test report CMP-5347, Comparing the most popular sizes used in the market. 2013.
11. Based on internal test report. In vitro evaluation of staphylococcus aureus of commercial braided synthetic absorbable BSA suture materials (some containing triclosan) and monofilament synthetic absorbable (MSA) sutures.

\(^1\) In R&D testing, Polysorb™ sutures were statistically significantly comparable or stronger than Vicryl™ sutures during the CWHP: p<0.001 for weeks 0–2 for commonly use sizes USP 1 to 5–0, October 2013.

\(^†\) Critical Wound Healing Period