

# Introduction

Surgical site infections (SSI) are a complication related to higher financial costs, longer length of hospital stay (LOS), and worse quality of life. We aimed to perform an updated systematic review and meta-analysis addressing the use of triclosan-coated sutures in abdominal procedures, assessing the rates of SSI.

### **Material & Methods**

PubMed, Embase, Cochrane Central, LILACS, and SciElo were systematically searched for studies that compared triclosan-coated with uncoated sutures. The main outcome was SSI, which was analyzed as overall, superficial, deep, and organ space. Statistical analyses were performed using R statistical software.

#### Results

Seventeen studies comprising 11,472 patients were included. We found that triclosan-coated sutures decreased the overall incidence of SSI (OR 0.63; p < 0.001). When splitting the kinds of SSI as deep (OR 0.83; p = 0.56), superficial (OR 1.23; p = 0.33), and organ space (OR 0.91; p = 0.71), it did not present a statistically significant reduction.

# Triclosan-Coated versus Conventional Sutures for Reducing the Incidence of Abdominal Surgical Site Infections: an Updated Systematic Review and Meta-Analysis

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Secondary outcomes such as LOS (MD -0.17 days; p=0.68), operative time (MD 3.92 minutes; p=0.06), intraoperative blood loss (MD -0.29 mL; p=0.98), and all-cause mortality (OR 0.77; p=0.41) were also not associated with a significant reduction. An analysis of the number of contaminated surgeries did not favor the triclosan group (OR 0.72; p=0.35).

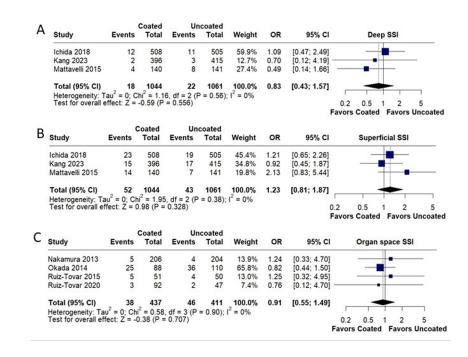
Study	Events	Coated Total	Un Events	coated Total	Weight	OR	95% CI	Surgical Site Infection
Baracs 2011	23	188	24	197	6.5%	1.00	[0.55; 1.85]	<u> </u>
Diener 2014	87	587	96	598	8.9%	0.91	[0.66; 1.25]	<b>=</b>
Hoshino 2013	30	455	73	596	7.8%	0.51	[0.32; 0.79]	-
Ichida 2018	35	508	30	505	7.3%	1.17	[0.71; 1.94]	-
Justinger 2009	51	1043	113	1045	8.7%	0.42	[0.30; 0.60]	
Justinger 2013	31	485	42	371	7.5%	0.53	[0.33; 0.87]	-
Kang 2023	14	396	25	415	6.0%	0.57	[0.29; 1.12]	<b>-</b>
Koujalagi 2017	9	30	13	30	3.7%	0.56	[0.19; 1.62]	<b></b>
Mattavelli 2015	18	140	15	141	5.6%	1.24	[0.60; 2.57]	-
Miyoshi 2022	39	926	44	653	7.8%	0.61	[0.39; 0.95]	-
Nakamura 2013	9	206	19	204	5.0%	0.44	[0.20; 1.01]	<del></del>
Okada 2014	4	88	16	110	3.4%	0.28	[0.09; 0.87]	
Olmez 2019	85	445	115	445	8.9%	0.68	[0.49; 0.93]	<u>=</u>
Pla-Martí 2023	2	143	14	143	2.2%	0.13	[0.03; 0.59] -	
Ruiz-Tovar 2015	18	51	5	50	3.6%	4.91	[1.65; 14.57]	
Ruiz-Tovar 2020	7	92	11	47	3.8%	0.27	[0.10; 0.75]	
Yamashita 2016	4	93	15	93	3.3%	0.23	[0.07; 0.73]	
Total (95% CI)	466	5876	670	5643	100.0%	0.63	[0.49; 0.81]	•
Heterogeneity: Ta	u <sup>2</sup> = 0.162	22; Chi <sup>2</sup> =	49.30, df	= 16 (P <	< 0.01); I <sup>2</sup> =	= 68%		
Test for overall ef					,,			0.1 0.5 1 2 10
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Figure 1. Overall surgical site infection rates.

Scan to access our Table 1 and references!







**Figure 2. A.** Deep surgical site infection rates. **B.** Superficial surgical site infections rates. **C.** Organ space surgical site infection rates.

## **Conclusion**

The use of triclosan-coated sutures was associated with a lower incidence of SSI without an increase in operative time or LOS. Further studies could address the influence of this kind of suture in contaminated surgeries, in order to provide better evidence of its use.