



The Impact Of A “No-Touch” Approach On Breast Implant Infection

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Background

- Over 300,000 breast augmentations are performed annually
- Surgical site infections can lead to reconstruction failure and severe consequences including sepsis and even mortality
- Reported infection rates range significantly from 1-29%
- **There is debate in regards to best practices for iatrogenic implant infection prevention**
- This report documents the effectiveness of a "No-Touch" centered approach, implemented in 2004 to attempt to minimize infection risk

Objective

- **Assess if adherence to an evidence-based "No-Touch" protocol can decrease the incidence of implant infections in breast augmentation surgery compared to a standard approach.**

Methods

- 198 patients underwent breast augmentation from 1992-2004 using a "Standard" approach, and the infection rate was compared to a group of 167 patients from 2004-2022 who underwent augmentation using a "No-Touch" approach
- Patients were surveyed to determine self reported well-being, and likelihood of recommending breast augmentation to a friend at 6 months post-operatively

Methods Ctd.

Step	Description
1	Patients are instructed to wash their breasts, armpits from neck to umbilicus with chlorhexidine daily starting 3 days before surgery and on the morning of surgery.
2	Examination and markings are done with sterile gloves and sterile marking pens.
3	Announcement of the No-Touch Protocol is made to the surgical team prior to draping
4	Avoid using reusable draping.
5	Nipples are covered by nipple shields or with gauze damped with povidone-iodine.
6	Surgery is performed only through the inframammary crease.
7	All instruments and implant sizers are soaked in a solution of half-strength povidone-iodine before and after use. The skin is also prepped with half-strength povidone-iodine each time an instrument is inserted into the pocket.
8	Only sharp dissection using a scalpel and dissecting scissors is allowed under direct visualization. No blunt dissection with fingers.
9	No drains are used throughout the entire operation.
10	Electrocautery is used only to control bleeding vessels and not for dissection.
11	Before implant insertion, a 5 minute “Pause” is taken to observe for any bleeding vessel.
12	Before implant insertion the wound edges are prepped with half-strength povidone-iodine and draped with drapes that cover the upper and lower borders of the incision. A Keller funnel is optionally used for implant insertion.
13	The scrub nurse changed her gloves first, and the surgeon's gloves are donned following the “No-Touch” glove donning technique (details are shown in Figure 2), where the scrub nurse only touches the cuff of the surgeon's gloves and not the rest of the gloves.
14	The sterile box containing the implant is opened by the scrub nurse and implants are removed only by the surgeon after he and the scrub nurse have changed gloves.
15	Surgeon's fingers only enter the implant pockets for insertion and position adjustment of the implants and not during the operation.
16	Wounds are closed with absorbable subdermal and intradermal monofilament sutures.

Figure 1: 16-Step No Touch Protocol

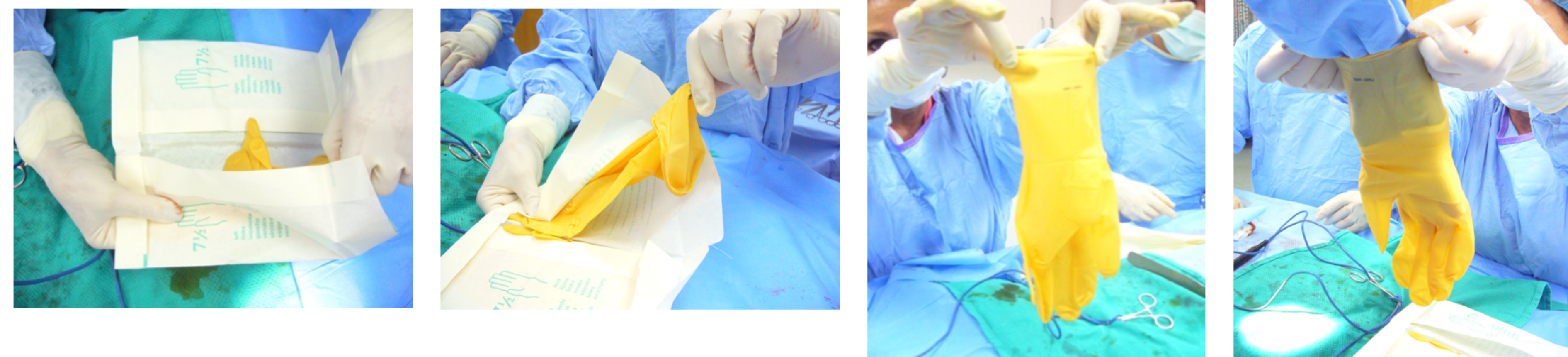


Figure 2: Adapted reverse sleeve glove donning method, Step 13 in the No-Touch Protocol (Figure 1)

Results

- There were **7 reported infections in the standard group (3.54%)** compared to **no reported infections (0%) in the "No-Touch" Group**
- Patients who suffered from an implant infection had **significantly worse well-being scores and were less likely to recommend augmentation to a friend** 6 months post-operatively

	Standard Group (n = 198)		No-Touch Group (n = 167)		p
	n	%	n	%	
Implant Infections	7	3.54	0	0	0.017
S. Aureus	2				
MRSA	1				
S. epidermidis	1				
Pseudomonas	2				
Mycobacterium	1				
Incision location					
Areolar (n=158)	6	3.80			
Inframammary (n=40)	1	2.50			
Baker Grade III/IV	5	2.53	0	0	0.065
Scale					
Well-Being	1-3.99		4.00-7.99		8.00-10.00
	Very depressed		Somewhat Depressed		Not Depressed
Recommendation	Would Not Recommend		May Recommend		Strongly Recommend
	Infected Group (n = 7)		No Infection (n = 158)		p
	Mean	SD	Mean	SD	
Well-Being	4.00	2.50	8.42	1.90	<0.001
Recommendation	4.85	1.96	8.34	2.20	<0.001

Figure 3: A. Infection rate, organism, and incision location for patients in the Standard Group compared to the "No-Touch" Group. B. Self-Reported well-being scores and likelihood to recommend augmentation to a friend in patients with or without implant infection.

Conclusions

- The **"No-Touch" protocol was effective at mitigating iatrogenic infections in one surgical center**, however, many variables can contribute to infection that could not be standardized across this 30+ year longitudinal study
- More studies are needed to optimize iatrogenic implant contamination prevention