

Introduction: Overt infection and biofilm formation resulting from breast augmentation are a rare but serious problem that can lead to contracture and a need for revision surgery. The Keller Funnel is composed of a rip-stop nylon sleeve with a proprietary hydrophilic inner coating. One claim of the funnel is that it employs a “no touch” technique to insert a breast implant thereby limiting contamination. To date there is no data to support this claim.

Methods: A cadaver model was used to test skin and breast parenchyma contamination during both standard implantation techniques and using the Keller funnel. Smooth, round, Mentor moderate-plus implants in sizes of 300cc, 375cc, 500cc and 600cc were used for each experiment. To quantify the amount of skin contamination, a 5%w/v fluorescein paste was painted onto the cadaver thorax. After implantation, the implants were soaked in 250 milliliters of sterile water, and the fluorescence emission of the resulting solution was measured using a UV-Vis spectrophotometer. To qualify the potential contamination from breast parenchyma, the cadaver breast tissue was swabbed with methicillin sensitive *staphylococcus aureus*, and the implant surfaces were cultured post-implantation.

Results: Using the Keller funnel resulted in a twenty-seven fold decrease in skin contact for all implants ($p = 0.00059$). The amount of skin contact and potential contamination increased incrementally with increasing implant volume. Bacterial contamination from breast parenchyma was two times more likely using the standard technique ($p = 0.06$).

Conclusion: The Keller funnel significantly reduces the amount of skin contact and potential parenchyma contamination during breast implantation.