

# Advantages and Technical Pearls for Using the First FDA Cleared Biologic Nipple Reconstruction Implant

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## Abstract

**Background:** Maintaining long-term projection and creating a natural appearance and feel when performing nipple reconstruction continues to be a challenge. The limiting factor is primarily from scar contracture which causes nipple flattening despite the flap technique chosen<sup>1</sup>. The FDA recently cleared a nipple reconstruction cylinder (Cook Medical, Bloomington, IN) for implantation made from acellular porcine small intestinal submucosa with three size options. This device serves as a scaffold to support projection and is later biologically replaced as the patient generates new tissues.

**Methods:** This study reviews the author's experience with placement of this cylinder in combination with a C-V flap technique. Advantageous technical changes after experience with the first six patients include suture anchoring the cylinder in an ideal suspended position, creating a tight seal around the cylinder during closure with delayed suture removal at 6 weeks, utilizing Nitro-BID paste on the reconstructed nipple postoperatively to increase local blood flow, and using a nipple shield for six weeks postoperatively to protect the nipple from compression.

**Results:** Over twenty-five cylinders were placed using a C-V flap in patients with implant reconstruction. There was no increase in operative time due to the rapid (10 second) rehydration of the prefabricated product. For patients undergoing bilateral reconstruction who had significantly different skin flap thickness, two different size cylinders were chosen which provided symmetric results. Early complications were rare and were treated successfully. 3 to 12 month data and photographs support maintenance of postoperative projection and overall appearance (Figure 1).



Figure 1. 3 month postoperative photos

**Conclusions:** The author's experience demonstrates that placement of the cylinder using meticulous technique is safe, rapid, and easily performed. The cylinder provides patients with good long term projection and a natural appearance and feel. Further studies are needed to identify long term patient satisfaction and to advance procedural technique.

## References

1. Shestak KC, Gabriel A, Landecker A, et al. Assessment of long-term nipple projection: a comparison of three techniques. *Plast Reconstr Surg* 2002; 11:780-6.

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