



A Rapid, Simple, Effective, and Inexpensive Reconstructed Nipple Flap Guard

Khurram Khan, BS*
Pierre M. Chevray, MD, PhD†

Summary: Nipple reconstruction is a commonly performed component of breast reconstruction. A nipple reconstructed using local skin flaps requires protection from trauma. Here we describe a novel, effective, simple, rapid, inexpensive, and convenient method to protect a reconstructed nipple in the early postoperative period. (*Plast Reconstr Surg Glob Open* 2015;3:e546; doi: 10.1097/GOX.0000000000000490; Published online 23 October 2015.)

Breast reconstruction is a common procedure that is performed throughout the world.¹ There have been numerous advances in the field and surgeons continue to strive to achieve the most natural-appearing and feeling reconstructed breasts. Reconstruction of the nipple-areola complex (NAC) is one of the final steps of breast reconstruction and adds to the overall aesthetic outcome.

One of the limitations of NAC reconstruction is loss of nipple projection over time. There are several factors that influence long-term projection of the reconstructed nipple. Flap contraction begins immediately after raising the nipple flap. Retraction of the tissue adjacent to the nipple flap and donor site can cause sinking-in, or collapse, of the soft tissue supporting the nipple flap. Trauma to the nipple flap in the early postoperative period can damage or distort the reconstructed nipple and lead to loss of projection. To limit these undesirable outcomes, a protective dressing that shields the reconstructed nipple from compression, shearing, and other trauma is usually applied at the end of the surgery.¹

There are numerous postoperative dressings that have been designed for NAC reconstruction including plastic guards,² doughnut-shaped sponges,³ occlusive dressings with antibiotic ointment,⁴ silicone nipple shields,⁵ or syringes fashioned into nipple covers.⁶⁻⁸ Many of these dressings are bulky, inconvenient, and awkward for patients.³ Some of these dressings are sutured or stapled to the patient and cannot be removed or changed by the patient. The technique we propose here is straightforward to prepare and simple to use for both healthcare professionals and patients alike.

This method uses a Reston (3M, St. Paul, Minn.) self-adhering foam sheet. Each Reston foam sheet measures 20×29.8×1 cm (Figs. 1, 2), can be gas sterilized, and costs our hospital \$9.74. The foam sheet is cut by hand into 12 approximately equal squares. Each square then has a diamond-shaped central area cut out to create a protected space for the reconstructed nipple (Figs. 1, 2). This is accomplished by temporarily folding the foam square and cutting a triangle out from middle of the folded foam to create a diamond-shaped hole once it is allowed to unfold. At this point, the foam nipple guard is ready for use.

We dress the reconstructed nipple with antibiotic ointment, then apply Mastisol liquid adhesive (Mastisol, Eloquest Healthcare, Ferndale, Mich.) to the surrounding reconstructed breast skin. The backing is removed from the Reston foam nipple guard to expose the adhesive surface and the nipple guard is placed over the reconstructed nipple (Figs. 3, 4). The Mastisol ensures that the nipple guard stays in place for the first 48 hours. The patient removes this first nipple guard at home on the second postoperative day, showers, dries off, and applies another

From the *Baylor College of Medicine, Houston, Tex.; and †Division of Plastic Surgery, Houston Methodist Hospital, Houston, Tex., and Weill Cornell Medical College, New York, N.Y.

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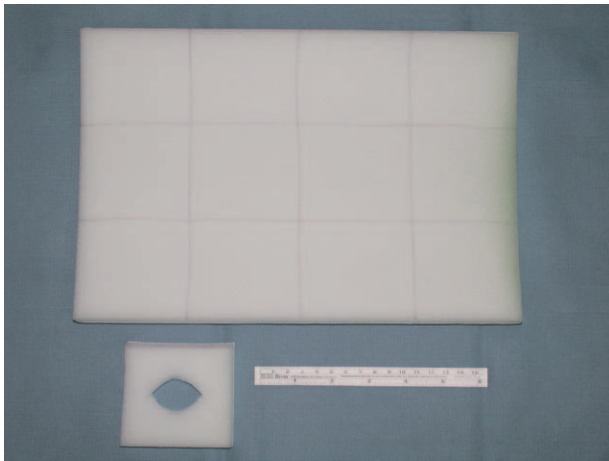


Fig. 1. Front view of Reston foam sheet (A), with 1 square cut out and ready for use (B).



Fig. 2. Back view of Reston foam sheet (A), with 1 square cut out and ready for use (B).



Fig. 3. A reconstructed nipple before placement of foam nipple guard.

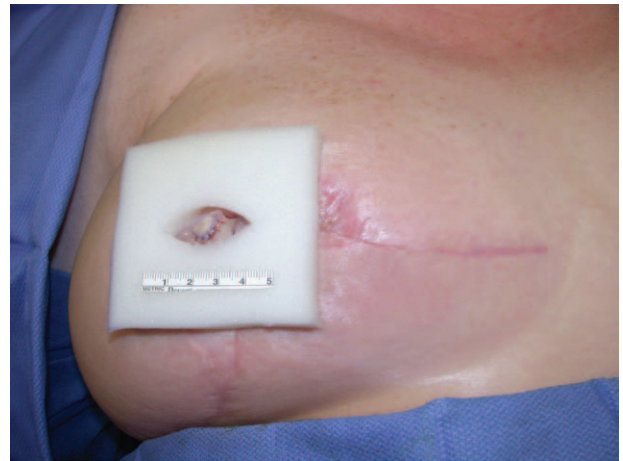


Fig. 4. A reconstructed nipple with foam nipple guard in place.

self-adhesive foam nipple guard each day for 5 additional days. A sheet of Reston foam can be cut into 12 foam nipple guards. In a bilateral nipple reconstruction case, 2 are used at the end of the case and the remaining 10 are given to the patient to use for 5 additional bilateral applications.

The benefits to this method lie in its simplicity, ease of use, and the fact that it does not compress the nipple. The foam sheet is readily available for order at 3M online and preparation is rapid. This foam nipple guard is not as projecting and bulky as a cut syringe barrel and is softer. It is simple to create by hand, either before the surgery or intraoperatively by the surgeon, assistant, or scrub technologist. It is not time consuming to create or apply, does not require suturing or taping to secure, and can be changed by the patient at home. If the nipple guard gets wet or soiled, the patient can replace it with another easily. In addition, the patient does not need to return to a provider to remove this nipple guard.

CONCLUSIONS

The ideal reconstructed nipple dressing should protect the reconstructed nipple from compression, shearing forces, and other trauma; be simple, inexpensive, easy to apply and remove by caregivers and patients alike; maintain the position of the nipple; and allow cleaning of the surgical site to minimize the risk of infection. The foam nipple guard we describe fulfills these criteria.

Pierre M. Chevray, MD, PhD
 Division of Plastic Surgery
 Houston Methodist Hospital
 6560 Fannin Street, Scurlock 2200
 Houston, TX 77030
 E-mail: pchevray@gmail.com

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