

Technical Note: A Technique for Prosthetic Nipple Restoration

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INTRODUCTION

Many techniques have been presented in the prosthetic literature concerning the restoration of oral-facial defects. This is primarily because of the tremendous functional and psychological impact that these defects impose on their unfortunate hosts. Individuals place varying degrees of importance on the appearance of different parts of the body, and because of these varying priorities, they react differently to the loss and subsequent restoration of these different body structures. Some patients are quite happy wearing a black eye patch following orbital exenteration while others demand the ultimate in an orbital prosthesis. Some will hide the loss of an ear by simply growing their hair longer while others will insist on short hair and a prosthetic ear. For some, a small defect, which could easily be hidden, can impart the same feeling of being unwhole that very large facial defects do for others. Often a patient's defect, no matter how small, becomes the focus for all that's wrong in his or her life.

Patients with breast cancer, who have undergone mastectomy surgery, suffer tremendous psychological pain. In addition to the frightening diagnosis, they have to cope with what they feel is a loss of their femininity. At present, plastic surgeons can reconstruct the female breast by means of a Latissimus Dorsi Myocutaneous flap procedure and the use of a silicone gel mammary implant. The implants come in various sizes and usually do well to restore breast contours. An attempt to recreate the areola and nipple of the breast involves another surgical procedure. Grafting

necessitates harvesting properly pigmented mucosa from a donor site, such as the vaginal labia. Therefore, it requires two surgical sites to reconstruct a nipple during this second surgical procedure. As healing proceeds, however, the protrusion of the nipple is usually lost due to scarring (Figure 1). The whole purpose of this second surgical procedure is to achieve nipple protrusion to allow for symmetry when the patient is wearing sheer clothing or a bathing suit. Until a surgical technique is perfected to achieve this goal, a very simple prosthetic technique can be used to achieve the same result and eliminate the need for the second surgical procedure.

TECHNIQUE

Sculpturing and positioning guidelines are drawn on the patient with an indelible ink pencil before making the impression (Figure 2). A horizontal line is drawn at the level of the protruding nipple of the normal breast. In the case of a bilateral reconstruction, this line is drawn slightly below the center of the breast at the point of its greatest curvature. A vertical line is drawn perpendicular to the horizontal line at the same distance from the mid-line as the normal nipple (this vertical line should be 1½" to 2" medial to the distal end of the clavicle depending on the size of the breast and age of the patient). The opposite normal breast is the best guide. In addition, four dots are placed around the circumference of the opposite normal areola to mark its extent. This

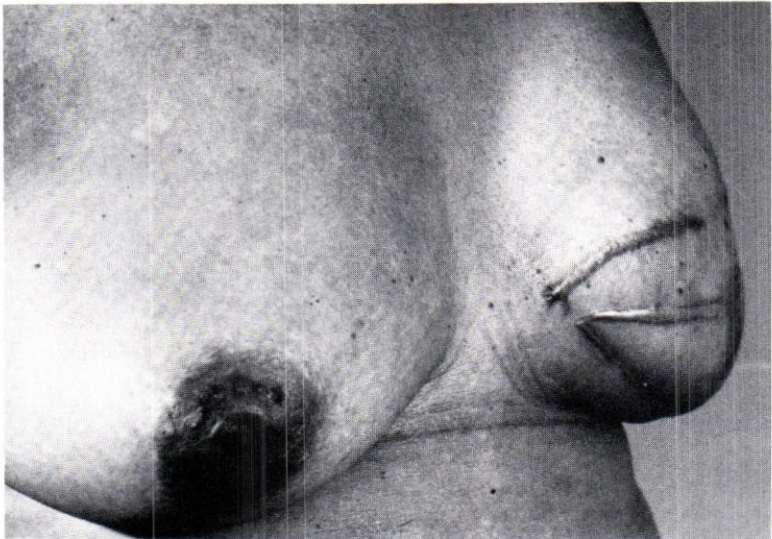


Figure 1. Breast contours restored with Latissimus Dorsi: Myocutaneous flap and silicone gel mammary implant. Nipple protrusion was lost during healing.

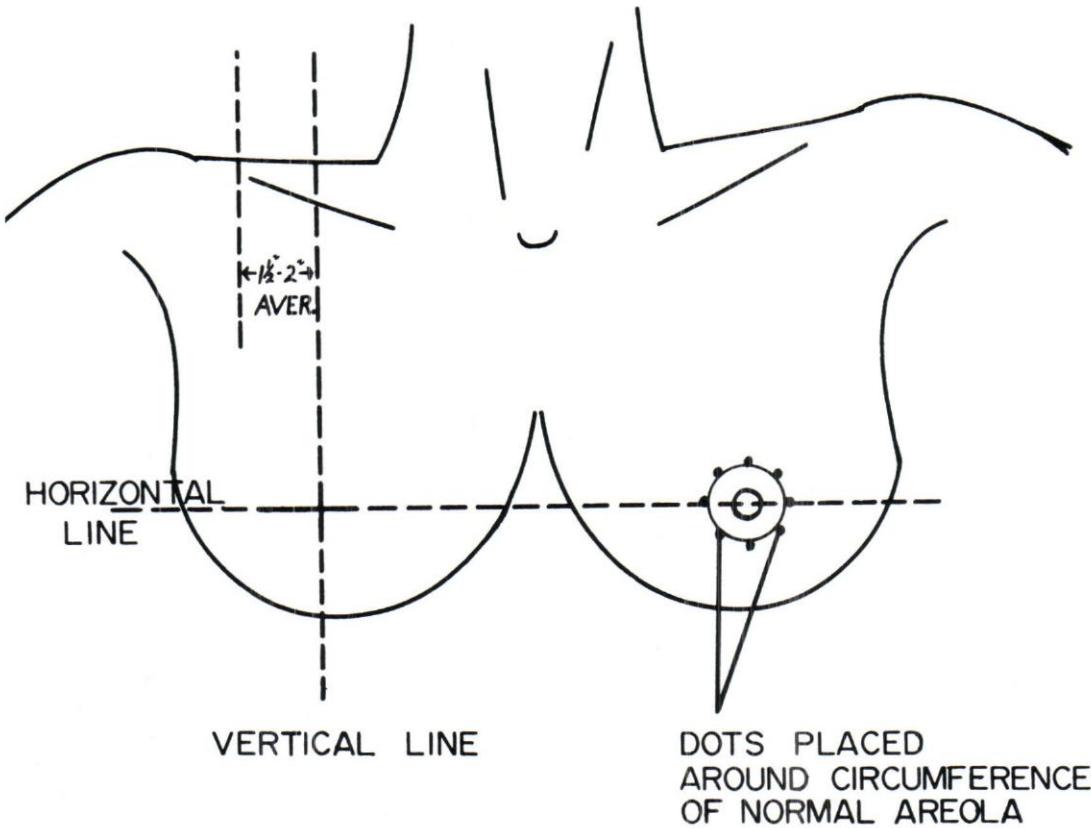


Figure 2. Diagram of guidelines drawn on the reconstructed breast before making the impressions.

border is not always apparent on the positive model.

An impression is then made of each breast¹ using Irreversible Hydrocolloid,* gauze, and accelerated dental plaster.** The patient is kept in an upright position and the impression is kept as thin and light as possible to minimize skin distortion. The indelible pencil guidelines will be transferred to the negative impressions. Molten Base Plate wax*** is poured into the negative impression of the normal breast to the level of the border of the areola (Figure 3). This will yield the initial sculpture of the prosthesis. After this wax-up is recovered, the impression is filled with dental plaster, to produce a positive model. Before the patient is dismissed, a basic shade is mixed by blending MDX-4-4210 Siliconet with earth tones and opaquers.†† Flocking material can be added to simulate fine vascularity. Surface characterization can be accomplished at the time of delivery to further customize the shade.²

The wax-up is oriented on the positive model by centering the protrusion of the nipple over the intersection of the two lines on the model. The wax-up is properly adapted, the margins are sealed to the model, finished to a knife edge, and textured to blend in with the rest of the areola area. By making the small areola prominences more defined in one area, the operator can make it easier for the patient to tell the top from the bottom of the prosthesis (or left from right in a bilateral case). If a "try-on" is desired, it must be done before the margins are sealed to the positive mold.

The plaster mold is created by trimming and boxing the positive model, and then pouring the upper half of the mold with plaster. After the wax is eliminated from the mold by boiling water, the mold is

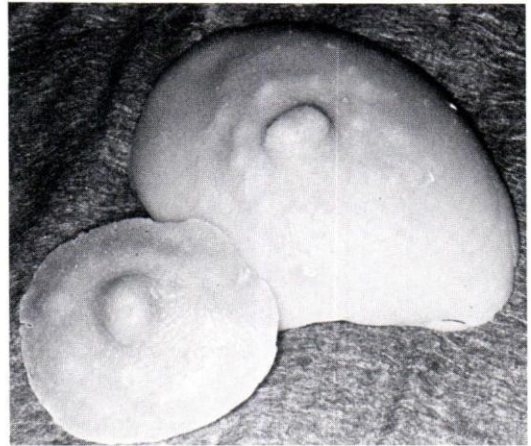


Figure 3. Wax-ups recovered from impressions of normal breasts.

packed with appropriately shaded MDX-4-4210 silicone and cured for 45 minutes in boiling water. After the shade has been mixed and the hardener added, the silicone can be placed under a vacuum to eliminate porosity. In cases where the nipple and areola are two different shades, the two shades are mixed separately. The nipple is first packed into the mold and feathered out over the areola to prevent a line of demarcation. Then the areola shade is packed in on top of it. After processing, the mold is cooled, and the prosthesis is recovered and trimmed (Figure 4). The diameter is checked with the index dots on the refer-

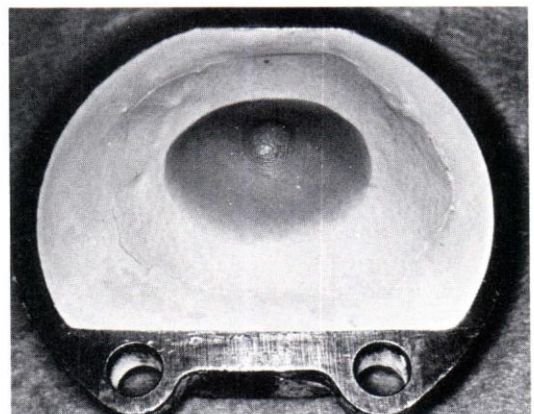


Figure 4. Processed and trimmed prosthesis on drag portion of mold.

*eg. Jeltrate: L.D. Caulk Co.; Milford, Delaware 19963.

**eg. Dental Modeling Plaster; Whip-Mix Corp., Louisville, Kentucky 40217.

***eg. NeoWax: Dentsply/York Division, York, Pennsylvania 17405.

†eg. Dow-Corning; Midland, Michigan 48604.

††Earth Tone Pigments, Kaolin Opaquers, and Flocking Material available from Factor II, P.O. Box 1339, Lakeside, Arizona 85929.

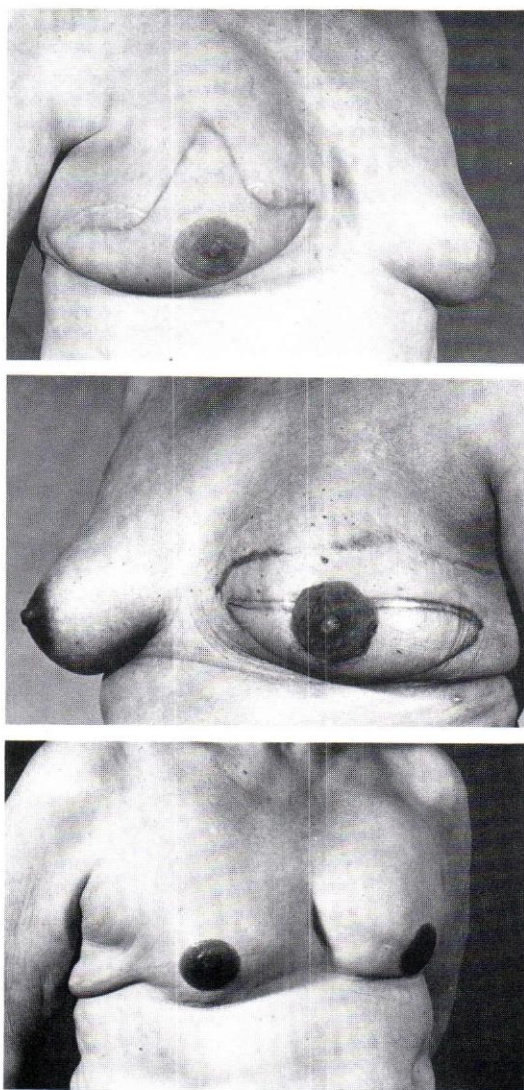


Figure 5. Delivered prostheses on three different patients.

ence model. These prostheses adhere well with Daro Adhesive.^{†††} Patients of the author report showering and swimming with them with no dislodgement.

Sealing of the margins of a nipple prosthesis is really not necessary. But if further characterization or shade correction is desired,² this can be achieved with Xylene, Type-A Medical[†] grade adhesive and Artists Oil Paint (Figure 5).

AUTHOR

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REFERENCES

- ¹Beumer, J., et al., "Maxillofacial Rehabilitation," pp. 503-539.
- ²Fine, L., "New Method of Coloring Facial Prosthesis," *JPD*, 39: 643, 1978.

The opinions expressed herein are the personal views of the author and do not necessarily reflect the views of the United States Air Force.

^{†††}Factor II Products, Lakeside, Arizona 85929.