Indications and Practical Applications for High-Profile Saline Breast Implants
Richard A. Baxter
Aesthetic Surgery Journal 2004 24: 24
DOI: 10.1016/j.asj.2003.10.005

The online version of this article can be found at:
http://aes.sagepub.com/content/24/1/24

Published by:
SAGE
http://www.sagepublications.com

On behalf of:
American Society for Aesthetic Plastic Surgery

Additional services and information for Aesthetic Surgery Journal can be found at:

Email Alerts: http://aes.sagepub.com/cgi/alerts
Subscriptions: http://aes.sagepub.com/subscriptions
Reprints: http://www.sagepub.com/journalsReprints.nav
Permissions: http://www.sagepub.com/journalsPermissions.nav

>> Version of Record - Jan 1, 2004

What is This?
Indications and Practical Applications for High-Profile Saline Breast Implants

Richard A. Baxter, MD

Background: High-profile round saline breast implants that permit a better match of implant diameter to the base diameter of the breast are now available.

Objective: The advantages and disadvantages of high-profile breast implants are defined from the point of view of the author’s initial experience.

Methods: The maximal optimal breast implant was determined on the basis of preoperative measurements, with emphasis on breast base diameter. Patients selected implant size using trial implants in a bra of the desired cup size. The implant profile with the best match to breast base diameter at the selected size range was used.

Results: Sixty-seven patients, of a total of 164 patients who received saline breast implants during a 14-month period, received high-profile breast implants.

Conclusions: High-profile saline implants provide a useful option for the patient who desires an implant size that exceeds the natural breast base diameter in standard profiles. Rippling may be diminished in these cases. A more conical shape may be achieved in cases of periareolar mastopexy with augmentation. Disadvantages of the high-profile design include less mobility of the implant and a less obtuse transition from the chest to the upper breast compared with results achieved with standard round implants. (Aesthetic Surg J 2004;24:24-27)

Round saline implants remain the most popular choice for breast augmentation, with 86% of women who undergo augmentation receiving round rather than shaped implants.1 The advantages of round implants include the creation of a “teardrop” profile in the upright position that rounds out in the supine position, mimicking the behavior of a natural breast2,3; ease of placement through a variety of approaches; and the choice of a smooth or textured surface. However, an important limitation of the standard profile round implants is that the implant size desired by the patient may not have a diameter that corresponds to the base diameter of the breast. If the implant diameter exceeds the base width of the breast, the implant may be circumferentially constricted, resulting in accentuation of rippling (Figure 1). Such rippling can be especially conspicuous in the thin patient with little breast tissue because of the easier palpability and greater visibility of the implant. These are often the very patients who desire an implant with a relatively larger volume for their respective size.

Constricted implants may also be more subject to crease folding, possibly contributing secondarily to higher deflation rates.4 Attempts to expand the implant pocket to accommodate the larger implant may result in overdissection, which in turn can contribute to symmastia on the medial aspect and to trauma to sensory nerves as they course into the breast laterally. Avoidance of overly wide breast implants minimizes tissue trauma from pocket dissection beyond the breast base. It seems reasonable to conclude that the augmented breast with an implant whose diameter comfortably coincides with the anatomical base diameter is theoretically at lower risk for both aesthetic and physical compromise.

The high-profile saline implants introduced in 2002 by Mentor (style 3000; Mentor Corp., Santa Barbara, CA) and Inamed (McGhan style 68HP; Inamed Corp., Santa Barbara, CA) provide a useful option for breast augmentation. With the choice of different profiles in terms of diameter-to-volume ratios, the patient and surgeon can choose the desired implant volume first and then select the implant profile that best matches the patient’s breast base diameter (a low-profile implant is also available).

High-profile implants may also be beneficial in cases...
of periareolar mastopexy. The geometry of the periareolar mastopexy may result in central flattening of the breast. The greater projection afforded by the high-profile design helps counteract this tendency.

**Measurements and Implant Selection**

The external breast base diameter was measured with the use of calipers. Other important dimensions that were measured included the distance from the areolar margin to the inframammary fold and the distance from the nipple to the sternal notch. The aesthetic goal is to center the implant behind the nipple-areolar complex. A simple pinch test will yield an indication of the thickness of the soft tissue envelope. The ideal implant diameter is the external breast diameter minus the soft tissue thickness. Because some degree of periprosthetic soft tissue thinning is to be expected, the surgeon has a reasonable degree of flexibility in determining the implant dimensions, as long as the base diameter of the implant does not exceed that of the breast. An implant with an excessively narrow base will result in an undesirable space between the breasts and unnatural “cleavage.” My preference is to have the patient select the implant size before surgery through the use of trial implants placed in a bra of the desired cup size. Although this process does not translate perfectly into postoperative results, if the patient is adequately informed about the limitations of the process, a good selection can be made. It must be noted that implants tend to appear smaller than expected after implantation. The type of implant is not important in size selection as long as it will conform to the bra because it is used only to determine the desired volume. Once the size is chosen, the implant with the best match to breast base diameter is determined. The typical indication for the use of high-profile implants is a patient with a narrow chest who wants relatively large implants.

The high-profile implants from Mentor and Inamed differ in the ratio of breast base diameter to projection. Calculations from catalog data show that the Mentor style 3000 implants have a ratio of approximately 2.0 to 2.1 at the midrange of fill volumes, compared with 2.1 to 2.2 at midrange for the McGhan style 68HP from Inamed. The Mentor product provides a greater volume at a given breast base diameter but also yields a correspondingly sharper angle of transition from the chest wall to the breast. High-profile implants may not settle into a teardrop profile in the upright position as well as standard profile round implants (Figure 2).

**Surgical Technique**

Preoperative markings were made to facilitate pocket dissection corresponding to the diameter of the implants. Correct positioning of the implants was important in centering the implant behind the nipple-areolar complex. Subpectoral placement may have particular advantages in helping create a more natural transition and compensating for the steeper profile. A closed fill system was always used.

**Results**

Under the criteria outlined above, 67 of a total of 164 saline breast augmentation patients were selected to receive high-profile implants over a 14-month period. The tendency toward rippling appeared to be diminished, although this parameter is difficult to quantify. Representative results of primary augmentation are shown in Figure 2; results of augmentation with periareolar mastopexy are depicted in Figure 3.

**Cases**

Three cases are presented to illustrate patient selection for high-profile versus smooth, round implant styles.

**Case 1**

A 21-year-old woman requested augmentation with 330- to 350-cc implants after trying sample implants in a C-cup bra. She was noted to have a relatively wide and flat chest wall and a breast base diameter of 13.5 cm, with a pinch test finding of 1.5 cm. A 330-cc McGhan

![Figure 1. The effect of circumferential constriction around a saline implant is demonstrated with a tape measure.](image-url)
style 68 (standard, round) implant with a fill volume of 350 cc and a base diameter of approximately 12.3 cm was selected (Figure 2, A-F).

Case 2

A 27-year-old woman also selected 330- to 350-cc implants. Her chest wall was somewhat narrower than that of the patient described in case 1, with a breast base diameter of 12 cm and a pinch test finding of 1 cm. A 320-cc McGhan style 68HP (high-profile) implant with a fill volume of 330 cc and a base diameter of approximately 11.1 cm was selected (Figure 2, G-L).

Case 3

A 33-year-old woman with postlactational involution and ptosis requested implants of 350 to 380 cc. A periareolar mastopexy was recommended, and McGhan style 68HP implants, 350 cc filled to 380 cc, were selected to match the patient’s breast base diameter. The high-profile shape was observed to provide some benefit with respect to central projection.

Discussion

The increasing range of options for breast augmentation with saline implants permits greater customization to suit the patient’s anatomy and preferred implant size. Before the introduction of high-profile designs, a trade-off between volume and base diameter was common. Avoidance of circumferential constriction of the implant through selection of an implant whose diameter is com-
Indications and Practical Applications for High-Profile Saline Breast Implants

Scientific Forum

comfortably circumscribed by the breast may help minimize rippling, a common complaint among patients who undergo augmentation with saline implants. Disadvantages of the high-profile design include less mobility of the implant and a less obtuse transition from the chest to the upper breast — in other words, less of a teardrop shape compared with standard round implants.

Conclusion

High-profile saline breast implants offer a useful option for women seeking breast augmentation, particularly women with a narrow chest and little breast tissue. They also offer greater projection to patients who undergo periareolar mastopexy. Disadvantages include the possibility of decreased implant mobility and a sharper angle of transition from the chest wall to the breast.

References


Reprint requests: Richard A. Baxter, MD, 6100 219th Street SW, Suite 290, Mountlake Terrace, WA 98043.

1090-820X/$30.00
Copyright ©2004 by The American Society for Aesthetic Plastic Surgery, Inc.
doi:10.1016/j.asj.2003.10.005

Figure 3. A, C, E, Preoperative views of a 33-year-old woman with postlactational involution and ptosis. B, D, F, Postoperative views 3 months after periareolar mastopexy and augmentation with McGhan style 68HP (high-profile) saline implants, 350 cc filled to 380 cc.