Commentary on: Evidence-Based Evaluation Technique to Assess Augmentation Mammaplasty Results: A Simple Method to Objectively Analyze Mammary Symmetry and Position

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This article makes the case for a breast measurement system as well as for a surgical technique to minimize breast asymmetry during augmentation. Their stated objective is to "devise an objective method to evaluate mammary symmetry based on statistical analysis of objective manual breast measurements and validate the method by applying it to results of a randomized controlled trial on the correction of breast asymmetry."

But such reasoning is tautological. To use their measurement system to prove that their adjustable implant method creates better symmetry, they must first validate the measurement system. To use their adjustable implant method to prove their measurement system works, they would have to first validate their surgical technique. So neither conclusion made in this article is justified.

Nonetheless, these authors made a Herculean effort in taking measurements and doing statistical analysis. There are 9 measurements to take, and I found them to be relatively easy to do. Repeated measurements were consistent with the original. Such reproducibility is important. Meanwhile, the authors point out that other measurement systems with only 3 or 4 measurements are “very complex,” so it is unlikely that many surgeons would embrace their system either.

This system does not measure the most critical determinants of breast shape: base width and the nipple to inframammary fold distance (NIMF). Ideal NIMF is a function of base width, and both NIMF distances must be equal. The NIMF is too long on the patient in the Figure 1, which is why there is too much lower fill, leaving the nipples too high on the breast mound. In Figure 6F, the inframammary folds are even. But because the left nipple is higher, the left NIMF is longer than the right NIMF, and the result is that there is more fill below the plane of the nipple on the left than on the right. The result in Figure 5 is outstanding, but credit is due to a perfectly planned and executed unilateral mastopexy rather than the choice of implant sizes.

It also does not evaluate distribution of fill (eg, empty upper pole vs fuller lower pole, fold asymmetries, projection, edge visibility and palpability, the fullness of the breast envelope, the degree of ptosis, chest wall irregularities). Other measurements are not relevant to asymmetry, such as the circumference of the torso on inspiration and exhalation, or for which different implant sizes would not notably change, such as the clavicle to nipple distance.

There have been significant improvements in 3-dimensional (3D) imaging technology in recent years. The authors are correct that it is too expensive for many surgeons and that its use would never be universal. At the same time, I believe even fewer surgeons would take the time to do all of these measurements than would own 3D cameras. 3D is too common to ignore, and there are already many excellent studies on 3D evaluation of breasts. 3D imaging should be at least some part of this article, either to validate the measurement system, assess their adjustable implant technique, or be used along with measurements in a hybrid system.

The authors state, “Currently, the evaluation of symmetry after breast augmentation involves little more than craftsmanship and intuition, with strong reliance on the professional skills of surgeons.” I disagree with the emphasis; it is only the patient evaluation that matters, not the.

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Figure 1. Preoperative (A-C) and postoperative (D-F) views of a 41-year-old woman who underwent augmentation for asymmetric breasts with Allergan Style 410 implants (Allergan, Irvine, California), size 220 ML right (12 cm wide × 11.1 cm high × 3.4 cm projection) and 270 FM left (11.5 cm wide × 12 cm high × 4.2 cm projection). With these fixed-volume implants, the 3 dimensions and volume of both implants can be individually selected. But with the adjustable round implants in this study, neither the projection nor the diameter can be predicted preoperatively.

A surgeon’s craftsmanship and intuition would better be devoted to patient education and selection than in evaluating results.

The method of using an adjustable implant is not new. Surgeons have done this for years in both breast reconstruction and augmentation.\textsuperscript{14-19} It can allow for postoperative tweaking of size in patients with substantial asymmetries or for postoperative expansion when the breast is too tight to accommodate an implant of the desired volume. I am certain that adjustable implants will not gain wide appeal for small asymmetries.

No postoperatively adjustable silicone implants are available in the United States at the time of this writing (only all-saline adjustable implants are for sale). Presumably, the implant manufacturers would have prioritized seeking Food and Drug Administration approval if notable demand was imagined. Where available, they cost over twice as much as prefilled silicone implants, and the second shell and valve necessarily increase the chance of device failure. Some believe these double-lumen implants can ripple less than prefilled silicone implants, but that is true only when the inner reservoir is overfilled, making the implant narrower, more spherical, and firmer. A double-lumen implant also does not feel the same as an all-silicone filled implant, and if used on one side, the implants would have a different feel and shape, even if beginning with the same base width. If the port would be pulled during surgery, then it makes absolutely no sense to use an expensive adjustable implant rather than sizers, and there would have to be a large and complex asymmetry to warrant leaving the fill tube postoperatively.

The patient in Figure 3 had an adjustable implant and was given only a 25-cc difference in volume. Aside from such a small difference being that such a patient would typically not be categorized as an “asymmetry patient,” why would anyone bother to use an adjustable implant in this situation? Surely no patient would want a port scar to get 25 cc more on one side. If the fill tube was removed in surgery, then one might as well use intraoperative sizers. And for an asymmetry, this small a commitment to implants could reliably be made preoperatively.
These surgeons started by placing the fixed implant into the larger breast and then putting the adjustable implant in the smaller breast. The adjustable implant was then increased until the volume of the smaller breast equaled that of the larger breast. I believe this should be done in reverse order because the priority must be on the proper size for the smaller breast. If the bigger breast is properly sized, then the smaller breast often has to be dramatically overfilled, creating a fake and round breast. Priority in treating asymmetry should be selecting the ideal size for the smaller breast and then putting whatever smaller implant in the larger breast best creates symmetry. And that ideal size is not necessarily the one that creates the most equal volume, because to do so can render the larger breast substantially less filled.

Equalizing the fill of each breast is as important as equalizing the volume of each breast. The larger breast is typically (but not always) the emptier breast and, therefore, most ideally filled by a larger implant than the smaller side. When the smaller implant is placed in the bigger breast and the bigger implant in the smaller breast, the smaller breast becomes proportionally more filled and the larger breast less filled. The less-filled breast will look emptier and the more-filled breast will look higher and rounder.

Another significant problem with adjustable implants is that the dimensions change as fill increases, and since the end volume is not known ahead of time (otherwise there would be no reason to use adjustable implants), the final dimensions are unknown. For instance, these authors started with fixed implants and adjustable implants of the same width. But as anyone who has used saline implants knows, the base width will narrow and projection will increase as an adjustable implant is filled.

Fixed-volume implants are available in 3 or 4 different projections from each manufacturer, allowing the surgeon to control base width and projection. For instance, a surgeon can use a combination of a moderate- and high-profile implant of the same base width but with different projections and volume or, in a different situation, choose moderate- and high-profile implants of the same volume but different widths and projections. Any 2 combinations of projection, diameter, and volume can be selected with the third as the dependent variable.

The precision increases with shaped implants. Any 3 combinations of height, projection, volume, and width can be selected, with the fourth as a dependent variable (Figure 1).

Treating asymmetry by thinking only about volume than the 2 dimensions of a round implant or 3 dimensions of a shaped implant is taking a 20-year step backward in the evolution of dimensional planning for breast augmentation.

Breast asymmetries are so common as to be considered a variant of normal. That does not mean that they should be ignored, but it does mean that patients need to be educated that asymmetries are normal and that they cannot be wholly corrected. A breast augmentation consent should ideally require patients to initial a line that says, “My breasts will not match.” This is not so much a part of a surgeon’s legal protection as it is honest informed consent.

My father is a sage ophthalmologist and has observed, “In Beverly Hills, an ophthalmologist can prescribe glasses one of three ways: too weak, too strong, or incorrect.” But once the surgeon tries to fix “small-volume asymmetry” (the authors’ words), then he or she must be prepared to accept the patients’ blame for choosing “incorrect” implants and face the ophthalmologist’s frustrations.

Disclosures
The author is a consultant for Allergan, Inc (Irvine, California).

REFERENCES