Commentary on: The Reliability of Anthropometric Measurements Used Preoperatively in Aesthetic Breast Surgery

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 Unfortunately, I could not really get enthused by this paper1 because it really states the obvious—that interobserver errors in breast surface measurements exist, but there are less observer errors in static measurements than so-called dynamic measurements, despite prestudy investigator training on standard assessment and usage of a caliper and measuring tape. In women with small breasts, this may perhaps be more surprising, and there are obviously inherent inaccuracies to consider, especially if measuring with a caliper over a concave or convex surface in which the true upper pole or lower pole may be difficult to elicit and be affected by the positioning or height of the observer. If the tape is used primarily, the measurement is subjective and will vary on contact pressure; the translation of a caliper distance to a measuring tape should show no error of course. It is also of little surprise that the observers so-called dynamic traction measurements are inaccurate because this is a very subjective measurement based on a variable external force. An anterior pull nipple distraction measurement is not a standard measurement; in fact, it is quite unnecessary and painful, and a submammary fold thickness measurement is not of relevance anyway. In the upper pole, caliper-measured thickness depends on the roll created by a pinch, and if no thought is given to the pectoralis muscle and skeletal vector, then there will be obvious observer variance. The authors do not equate the statistical findings with implant selection nor aesthetic outcomes, and there were no data on measurement differences and asymmetry between each patient’s breasts, only average measurements for all volunteers, which meant very little clinically.

Each breast will fit onto the chest frame asymmetrically in most women and this is related to variances in breast volume and musculoskeletal differences on each side. This has been adequately explained in a recent publication in Aesthetic Surgery Journal by Frame and Connelly.² Surface measurements as proposed by two of the greatest contributors in the breast augmentation literature (Heden and Tebbetts) are important during the decision-making process and implant selection is based on a comfortable fit of prosthesis into a correctly sited pocket.³⁴ Surface measurements actually do not come into play in the supine patient on the operating table with enough accuracy, and I tend to use deep pocket intraoperative measurements when making the final decision on implant size and projection, and this includes assessing tissue laxity using a retractor to gauge distraction capability of the soft tissues. In fact, after skin prep, most skin marks may have been removed anyway! Generally though, the age of large breast implants has gone, and women are being far more sensible on sizing issues. Risks are undoubtedly increased if large implants are used, especially over the long term. An implant inserted beyond the confines of the breast envelope is often the cause of dissatisfaction, so it is important to be accurate. The relevance of asymmetry in breast surgery is the consideration that what was asymmetric before will remain asymmetric afterward despite surface measurements, but if done

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correctly, possibly by using different sized or shaped implants, the differences can be made less obvious. Linear measurements can be used to highlight the differences, but I now use the IC360 camera system (IC360, Inc., Newport Beach, CA) to demonstrate this preoperatively and postoperatively on all patients, and this is a marvelous way to demonstrate asymmetry and anatomical variance to the patient at the preoperative consultation. A video demonstrating preoperative and postoperative images utilizing the IC360 camera system is available as Supplementary Material at www.aestheticsurgeryjournal.com. How the breast shape transforms with implants is variable, and measurements take no account of implant positioning especially if placed behind the muscle. I think observers would be surprised at how the postaugmentation measurements are so different from those expected by simple addition of the implant with a set base width, even when computer-generated models are used—especially in larger-breasted women.

**Supplementary Material**

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**REFERENCES**