

Implant Bra Sizing: Are Patients Getting Accurate Information?

Kevin Small M.D.; Chris Costa, M.D., M.P.H.; Bill Adams M.D.

Background: Bra sizing is a common method to preoperatively select implants for breast augmentation; however, no series has corroborated the accuracy of this modality with post-operative outcomes. Alternatively, previous investigations have validated the utility of three-dimensional imaging. This investigation utilizes three-dimensional analysis to determine if preoperative bra sizing provides equivocal information compared to surgical simulation for patient education and planning prior to a breast augmentation.

Methods: During a primary breast augmentation consultation, patients received preoperative three-dimensional images and associated surgical simulations. Sizers, equivocal to the implants chosen in the simulation, were placed in a surgical bra, and three-dimensional images were repeated. Volumetric and contour analyses were compared between the surgical simulation and the bra/sizer image. All patients used a surgical bra (size small, 32-34) and smooth, round silicone sizers, average volume 302cc (Range 265-339cc).

Results: 7 patients (14 breasts) underwent 3D imaging. The average volume of the bra/sizer image was 22.3% greater than the preoperative simulated breast image. The mean absolute difference of all surface points between the two breast images was 9.25mm (range, 5.98-11.96mm; standard deviation, 8.59). The maximum anterior displacement of the bra image from the simulated image was 19.52mm, centered at the upper pole; the maximum posterior displacement was 25.49mm, centered at the lower pole.

Conclusions: In comparison to three-dimensional simulation, pre-operative bra sizing not only overestimates the post-operative volume but also distorts the volumetric distribution and the anterior-posterior projection. This investigation outlines some deficiencies of bra sizing for patient education and informed consent in primary breast augmentation.