Conventional wisdom holds that the variety of patient presentations obliges the surgeon to have a number of different techniques at his or her disposal. In 1979, Georgiade et al dismissed the concept of an “all seasons mammoplasty.” This conclusion predated the popularization of the vertical technique with a medial pedicle by Hall-Findlay in 1999.

Augmentation mastopexy is still regarded with trepidation by many plastic surgeons. Several investigators caution that this procedure not only combines complication rates but multiplies them. The conventional wisdom is that the operations are at cross purposes; the implant stretches the skin envelope, whereas the mastopexy tightens it. Many surgeons advocate staging.

From the Swanson Center, Leawood, Kans.

Background: The safety of augmentation mastopexy has been questioned. Staging has been recommended for women deemed to be at higher risk, such as women with greater degrees of ptosis. Most existing studies evaluate women treated with multiple methods, including the traditional Wise pattern. This retrospective study specifically evaluates vertical augmentation mastopexy. A simple algorithm is introduced.

Methods: From 2002 to 2016, 252 women underwent consecutive vertical augmentation mastopexies performed by the author, with no staged surgery. All patients underwent a vertical mastopexy using a medially based pedicle and intraoperative nipple siting. A subset of women treated from 2012 to 2016 were surveyed to obtain outcome data; 90 patients (inclusion rate, 90%) participated.

Results: The complication rate was 32.9%, including persistent ptosis, delayed wound healing, scar deformities, and asymmetry. There were no cases of nipple loss. An increased risk of complications was detected for smokers (P < 0.01), but not for combined procedures, secondary breast augmentations, or secondary mastopexies. The revision rate was 15.5%. Persistent nipple numbness was reported by 13.3% of respondents. Eighty percent of women were self-conscious about their breast appearance before surgery; 22% of respondents were self-conscious about their breasts after surgery. Seventy percent of respondents reported an improved quality of life, 94.4% would repeat the surgery, and 95.6% would recommend it.

Conclusions: A simple algorithm may be used to guide treatment in women who desire correction of ptosis and upper pole fullness. An “all seasons” vertical augmentation mastopexy is safe and widely applicable. Staging is unnecessary.

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In cosmetic surgery, the patient’s opinion regarding the quality of the result is the most important indicator of surgical success.\textsuperscript{17,18} Despite the popularity of vertical augmentation mastopexy, there is a deficiency of patient-reported outcome data; hence, the need for clinical and outcomes data related solely to the vertical method. This study differs from previous studies of augmentation mastopexy\textsuperscript{6–9,12–16} in that no patient was selected for staging, avoiding selection bias.

**METHODS**

**Patients**

From August 2002 to July 2016, 252 women underwent consecutive vertical augmentation mastopexies performed by the author using a simple algorithm (Fig. 1). Unilateral procedures, breast reconstructions, and patients with resection weights of more than or equal to 300 g from at least 1 breast, categorized as “breast reductions plus implants,”\textsuperscript{19,20} were excluded. The 300-g cutoff is arbitrary. This value was used to maintain consistency with other studies.\textsuperscript{19,20}

An outcome survey was undertaken among the 100 most recently treated patients who underwent surgery between July 2012 and July 2016 (inclusion rate, 90%). Patients were interviewed either in person or by telephone privately by a member of the office staff. This retrospective study was determined to be exempt from institutional review board oversight by Chesapeake Institutional Review Board Services.

**Surgery**

A vertical elliptical resection pattern was marked preoperatively. A medially based pedicle\textsuperscript{3} and intraoperative nipple siting were used in all patients. A mosque-dome or keyhole preoperative pattern was not used (See video, Supplemental Digital Content 1, which demonstrates preoperative marking. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A317). The lower end of the ellipse was marked preoperatively just above the existing inframammary fold. Before performing the mastopexy, the breast implant was placed submuscularly, with partial release of the pectoralis muscle (See video, Supplemental Digital Content 2, which demonstrates implant insertion. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A318; See video, Supplemental Digital Content 3, which demonstrates the vertical mastopexy dissection. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A319). The lower pole resection width is difficult to predict in a mastopexy, particularly when

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**Fig. 1.** Simplified algorithm for cosmetic breast surgery. Only 2 procedures are needed: breast augmentation and vertical mammaplasty (labeled a breast reduction for patients with ≥300 g tissue removed from at least 1 breast). The procedures are performed either individually or in combination.
an implant is inserted simultaneously. Intraoperative adjustments are needed to avoid under- or overresection. The final lower pole resection margins were determined after insertion of the breast implant and creation of the new breast mound, not necessarily aligning with the preoperative markings. The deepithelialized right medial pedicle extended from approximately 1 to 4 o’clock (8 to 11 o’clock on the left breast) along the areola margin to include the third and fourth anterior cutaneous sensory branches.21

The new nipple/areola site was determined after insertion of the breast implant and creation of the new breast mound (See video, Supplemental Digital Content 4, which demonstrates intraoperative nipple siting. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A320; See video, Supplemental Digital Content 5, depicting the wound closure. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A321). The nipple was positioned in reference to the breast mound, not to a predetermined level or distance to the sternal notch. The author does not find it necessary to sit the patient up during surgery. A short inverted-T modification was used in patients in whom the vertical scar extended
below the level of the new (elevated) inframammary crease. The length of this horizontal scar was much shorter than the inframammary component of the Wise pattern, just long enough to remove the inferior dog ear. No drains were used. A vertical mastopexy was used for all secondary augmentation mastopexies. In secondary cases, the nipple position rarely required elevation, facilitating a wider base that always included a medial pedicle and frequently was extended to include the superior areola hemicircumference. In secondary cases requiring no change in the nipple position and only tightening of the lower pole, a periareolar incision may be unnecessary. This series did not include such cases, which might be considered revisions. Breast implants typically settle over time, and some women request a larger size. In patients with existing breast implants, the subpectoral pocket was usually expanded superiorly to accommodate the new implant at a higher level on the chest wall.

All procedures were performed on an outpatient basis using total intravenous anesthesia and a laryngeal mask airway (See video, Supplemental Digital Content 6, which demonstrates the completion of surgery and the patient 24 hours after surgery. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A322). Beginning in 2013, all patients underwent surveillance for deep venous thromboses using Doppler ultrasound imaging.22 Ultrasound screening examinations were performed before surgery, the day after surgery, and approximately 1 week after surgery.22 Chemoprophylaxis was not used. Patients typically received cefazolin 1 g IV preoperatively followed by 3 doses of cephalaxin 500 mg PO q12h.

Statistical Analysis
Statistical analyses were performed using IBM SPSS for Windows version 20.0 (IBM Corp., Armonk, N.Y.). The Pearson chi-square test of independence was used to compare categorical variables. Correlations were tested using Pearson correlations. In view of multiple comparisons, a P value of less than 0.01 was considered significant.

RESULTS
The mean patient age was 43 years, and the mean follow-up time was 9.4 months (range, 0.2–45.7 mo). The mean implant volume was 372 mL (range, 150–800 mL). Two hundred thirty patients (91.3%) elected to have saline-filled implants (Table 1). Thirty-four women (13.5%) had undergone previous mastopexies or breast reductions. In all secondary cases, an inverted-T scar was present, suggesting that a Wise pattern had been used.

The complication rate was 32.9%, including persistent ptosis (8.7%), scar deformities (7.9%), delayed wound healing (7.1%), and size asymmetry (6.0%). Less frequent complications included capsular contracture (4.8%) and cellulitis (4.0%). Two deep venous thromboses (0.8%).

Table 1. Patient Data

|                         | (%) |
|-------------------------|-----|
| n                       | 252 |
| Age, y                  |     |
| Mean                    | 43.1|
| SD                      | 11.2|
| Range                   | 17.0–74.3|
| Follow-up time, mo      |     |
| Mean                    | 9.4 |
| SD                      | 7.5 |
| Range                   | 0.2–45.7|
| Smoking status          |     |
| Nonsmoker               | 208 (82.5)|
| Smoker                  | 44 (17.5)|
| Body mass index, kg/m²  |     |
| Mean                    | 25.4|
| SD                      | 4.7 |
| Range                   | 15.6–41.9|
| Right implant volume, mL|     |
| Mean                    | 371.7|
| SD                      | 102.6|
| Range                   | 180–800|
| Left implant volume, mL |     |
| Mean                    | 371.5|
| SD                      | 100.9|
| Range                   | 150–800|
| Implant style           |     |
| Saline*                 | 230 (91.3)|
| Silicone gel†           | 22 (8.7)|
| Right tissue weight, g  |     |
| Mean                    | 91.2 |
| SD                      | 64.0 |
| Range                   | 2–298|
| Left tissue weight, g   |     |
| Mean                    | 91.6 |
| SD                      | 62.3 |
| Range                   | 5–297|
| Augmentation            |     |
| Primary                 | 181 (71.8)|
| Secondary               | 71 (28.2)|
| Mastopexy‡              |     |
| Primary                 | 218 (86.5)|
| Secondary               | 34 (13.5)|
| In combination with other procedures | | |
| No                      | 97 (38.5)|
| Yes                     | 155 (61.5)|
| Operating time for breast procedures only, min | | |
| Mean                    | 126.5|
| SD                      | 24.9 |
| Range                   | 42–222|

*Mentor (Mentor Corp., Santa Barbara, Calif.) Style 1600 smooth, round, Moderate Profile implant (n = 22); Mentor Style 2000 smooth, round, Moderate Plus Profile implant (n = 85); Inamed/Allergan (Allergan, Inc., Irvine, Calif.), Natrelle Style 68, smooth, round, Moderate Profile implant (n = 123).
†Mentor Style 7000 Moderate Profile Gel (n = 17); Allergan Style 15 Midrange Profile Gel (n = 5).
‡19 patients underwent both secondary augmentations and mastopexies.
Patients with greater skin elasticity should be even better satisfied with a vertical mastopexy than with a Wise pattern as the excess skin is removed and the medial and lateral pillars are brought together, tightening the breast circumference. The length of the vertical scar is longer than for a Wise pattern, typically 10 to 12cm. A vertical mastopexy elevates the inframammary fold because a lower pole tissue wedge is removed, and the medial and lateral pillars are brought together, tightening the breast circumference. The level of the new inframammary fold is unknown until after implant insertion and creation of the new breast mound. A vertical mastopexy elevates the inframammary fold, so that the lower end of the incision relative to the new inframammary fold is unknown until after implant insertion and creation of the new breast mound. A vertical mastopexy elevates the inframammary fold because a lower pole tissue wedge is removed, and the medial and lateral pillars are brought together, tightening the breast circumference. The length of the vertical scar is longer than for a Wise pattern, typically 10 to 12cm.  

**DISCUSSION**

Both the resection width (raising the inframammary fold) and implant volume (lowering the inframammary fold) affect the level of the new inframammary fold, so that the lower end of the incision relative to the new inframammary fold is unknown until after implant insertion and creation of the new breast mound. A vertical mastopexy elevates the inframammary fold because a lower pole tissue wedge is removed, and the medial and lateral pillars are brought together, tightening the breast circumference. The length of the vertical scar is longer than for a Wise pattern, typically 10 to 12cm. The vertical method does not constrict the lower pole, unlike the Wise pattern mammoplasty.

| Table 2. Complications* |
|-------------------------|
| Parameter               | (%) |
| n                       | 252 |
| Complications            |     |
| No                      | 169 (67.1) |
| Yes                     | 83 (32.9) |
| Persistent ptosis        | 22 (8.7) |
| Scar deformity           | 20 (7.9) |
| Delayed wound healing    | 18 (7.1) |
| Size asymmetry           | 15 (6.0) |
| Capsular contracture     | 12 (4.8) |
| Cellulitis/infection     | 10 (4.0) |
| Allergic reaction        | 4 (1.6) |
| Deep venous thrombosis   | 2 (0.8) |
| Hematoma                 | 1 (0.4) |
| Seroma                   | 1 (0.4) |
| Implant deflation        | 0     |
| Symmastia                | 0     |
| Total                    | 105   |

*22 patients had 2 complications.

**Table 3. Treatment of Complications**

| Parameter                        | n  |
|----------------------------------|----|
| Surgical treatment of complications | 252 |
| No                               | 213 (84.5) |
| Yes                              | 39 (15.5) |
| Reoperations (total intravenous sedation) |     |
| Low pole revision for persistent ptosis | 21 (8.3) |
| Open capsulotomy                 | 10 (4.0) |
| Scar revision                    | 8 (3.2) |
| Revision of areola irregularity  | 4 (1.6) |
| Implant replacement              | 2 (0.8) |
| Evacuation of hematoma           | 1 (0.4) |
| Wound revision                   | 1 (0.4) |
| Correction of implant malposition| 1 (0.4) |
| Total reoperations               | 48  |

89 patients underwent 2 surgical treatments of complications.

**Table 4. Correlations between Incidence of Complications and Patient-related Parameters**

| Parameter                        | r    | P     |
|----------------------------------|------|-------|
| Age                              | −0.140 | 0.039 |
| Smoking history                  | 0.196 | 0.004 |
| Body mass index                  | −0.086 | 0.216 |
| Right breast implant volume      | 0.000 | 0.997 |
| Left breast implant volume       | −0.017 | 0.797 |
| Right breast resection weight    | 0.094 | 0.194 |
| Left breast resection weight     | 0.129 | 0.073 |
| Secondary augmentation           | 0.035 | 0.608 |
| Secondary mastopexy              | 0.079 | 0.244 |
| Combined surgery (face or body)  | −0.127 | 0.060 |
| Operating time (breast surgery only) | 0.150 | 0.032 |

Complications were measured dichotomously. Correlations were computed using Pearson correlations.

Recent clinical data and intraoperative breast perfusion data suggest that the dangers attributed to the combined surgery may not derive from combining procedures after all. The increased risk to nipple/areola perfusion is related to the mastopexy technique. The limitations of nonvertical techniques are exposed when an implant is introduced. For example, adding an implant may create pressure on a long, inferiorly based pedicle, further reducing nipple/areola perfusion and possibly tipping the balance to necrosis. In a periareolar mastopexy, the breast area being stretched has already undergone skin resection, increasing tissue tension.

The clinical data obtained in this study pertain to the author’s complete experience with vertical augmentation mastopexy, dating to 2002, including his learning curve experience. A shorter 4-year period for surveys was chosen to maximize the inclusion rate. The 90% response rate satisfies the 80% benchmark for evidence-based medicine.

**Mastopexy Techniques**

With greater than 100 published methods, mammoplasty has long been a subject of confusion for plastic surgeons. Numerous skin patterns and pedicles are used. Algorithms can be complicated. Lee et al published an algorithm based on skin measurements and recommended staging for patients with more than 6cm of vertical skin excess. The basis for this algorithm is unclear. Patients with greater skin elasticity should be even better...
candidates for one-stage surgery; the implant and lower pole resection work together to take up the slack. In many technical respects, the procedures are synergistic, not opposing.20

The mean resection weight per breast was 91 g (range, 2–298 g), similar to the resection weights reported by Beale et al (111.2 ± 131.5 g).6 The traditional recommendation is to use a periareolar resection for cases of minor ptosis, vertical mammaplasty for more moderate degrees of breast ptosis, and an inverted-T technique for major ptosis.1,28 A periareolar resection removes extra tissue from around the areola but provides minimal breast mound elevation.26 By omitting a lower pole tissue resection, the effectiveness of this mastopexy technique is compromised.26,33 Periareolar mastopexy, popularized by Benelli, 34 has fallen into disfavor as plastic surgeons recognize its limitations. 33,35 Nevertheless, periareolar mastopexy remains a useful procedure for minimizing a large areola or for small adjustments in the position of the nipple/areola.

Closure of a horizontal ellipse reduces projection and constricts the lower pole while increasing the width.26 Unfortunately, patients after a Wise pattern mammaplasty often resemble preoperative candidates for a vertical augmentation mastopexy.20 The vertical technique provides greater upper pole projection, breast projection, and more conical lower poles (Figs. 2–4).21 Not surprisingly, patients prefer the aesthetic result of the vertical method.26

Vertical Mammaplasty

Many publications refer to a “vertical scar” mastopexy or reduction or “short scar” mammaplasty. These labels miss an important point. The most important consider-

### Table 5. Survey Data for 90 Patients

|                           | (%) |
|---------------------------|-----|
| No. of surveys            | 90  |
| Age, y                    |     |
| Mean                      | 44.2|
| SD                        | 11.7|
| Range                     | 22.6–69.1|
| Follow-up time, mo        |     |
| Mean                      | 9.2 |
| SD                        | 9.5 |
| Range                     | 1.0–41.2|
| Back, shoulder, or neck pain before surgery | |
| No                        | 70 (77.8) |
| Yes                       | 20 (22.2) |
| Back, shoulder, or neck pain after surgery | |
| No                        | 75 (81.1) |
| Yes                       | 15 (16.7) |
| Difficulty exercising before surgery | |
| No                        | 75 (83.3) |
| Yes                       | 15 (16.7) |
| Difficulty exercising after surgery | |
| No                        | 84 (93.3) |
| Yes                       | 6 (6.7) |
| Reason for surgery        |     |
| Improve appearance        | 74 (82.2) |
| Lessen discomfort         | 0 (0) |
| Both                      | 16 (17.8) |
| Time off work, d          |     |
| Mean                      | 8.0 |
| Median                    | 6    |
| SD                        | 7.8  |
| Range                     | 0–45 |
| Duration of pain, d       |     |
| Mean                      | 8.8 |
| Median                    | 5    |
| SD                        | 11.6 |
| Range                     | 6–60 |
| “Back to normal,” d       |     |
| Mean                      | 34.4|
| Median                    | 30   |
| SD                        | 23.5 |
| Range                     | 2–90 |
| Pain Rating (1–10) *      |     |
| Mean                      | 5.3 |
| SD                        | 2.3  |
| Range                     | 1–10 |
| Complications (reported by patient) | |
| No                        | 63 (70.0) |
| Yes                       | 27 (30.0) |
| Scars                     |     |
| Well hidden               | 18 (20.0) |
| Visible but okay          | 57 (63.3) |
| Unhappy                   | 15 (16.7) |
| Nipple numbness           |     |
| No                        | 46 (51.1) |
| Yes                       | 44 (48.9) |
| Location of numbness      |     |
| Unilateral                | 13 (29.5) |
| Bilateral                 | 31 (70.5) |
| Did feeling return?       |     |
| No                        | 12 (27.3) |
| Yes                       | 19 (43.2) |
| Partially                 | 13 (29.5) |
| Self-conscious with the appearance of your breasts before surgery | |
| No                        | 18 (20.0) |
| Yes                       | 72 (80.0) |
| Self-conscious with the appearance of your breasts after surgery | |
| No                        | 70 (77.8) |
| Yes                       | 20 (22.2) |
| Satisfied with the result |     |
| No                        | 14 (15.6) |
| Yes                       | 76 (84.4) |

*Patients were asked to rate their postoperative pain level on a scale of 1 (no pain) to 10 (most severe pain).
†Patients were asked to rate their result on a scale of 1 (worst) to 10 (best).
A Wise pattern is often recommended for women with major ptosis, such as after massive weight loss. However, the vertical parenchymal dissection may be combined with an inverted-T modification of the lower pole incision to maximize skin removal (often cited as an advantage for the Wise pattern) while preserving the advantages of a vertical parenchymal dissection. A short, safe medial pedicle is preferable to a long inferior pedicle, which jeopardizes nipple/areola perfusion. The scar resembles the scar from a Wise pattern mammoplasty in that there is an inframammary component. However, the parenchymal dissection is completely different, and the horizontal scar is much shorter. It is possible to gather skin (with short-term pleating) to keep the scar short and concealed within the inframammary fold. The term “vertical mammoplasty” is preferred over “vertical scar mammoplasty” because the scar after a vertical mammoplasty is not always just vertical.

Vertical mammoplasties are not really “short scar” techniques (the anchor scar might be considered a “long scar”) and should not be considered in the same category as periareolar resections. Mammoplasties are better categorized as vertical and nonvertical.

**All Seasons Augmentation Mastopexy**

Although the idea of an “all seasons” mammoplasty has been dismissed in the past, a growing number of plastic surgeons use the vertical technique exclusively, including the author, who abandoned the Wise pattern in 2002. Its versatility is demonstrated in 3 patients (Figs. 2–5). Figures 4 and 5 depict the patient featured in Supplemental Digital Content 1–6, and in Supplemental Digital Content 7 (See video, Supplemental Digital Content 7, which displays the entire procedure in one clip. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at [http://links.lww.com/PRSGO/A323](http://links.lww.com/PRSGO/A323)). Any patient who is a candidate for breast augmentation and vertical mastopexy performed individually is a candidate for the combined procedure.
Complications

Surgeons differ in how they define a complication. Some investigators do not consider cosmetic issues such as asymmetry, persistent ptosis, or scar deformities as complications. Others do not recognize implant size change as a complication. The vertical repair does not appear as neat as a Wise pattern on the operating table, with pleats along the incision line. A higher revision rate has been reported. However, an implant takes up volume and minimizes skin gathering, reducing the need for an inverted-T component. The revision rate in the present study (15.5%) is slightly lower than the rate reported for predominantly Wise pattern augmentation mastopexies (19.3%) despite a larger mean implant volume (372 vs 247 mL). The hematoma rate (0.4%) compares favorably with breast augmentation alone (2.7%), possibly because of improved exposure. The capsular contracture rate (4.8%) is very similar to another large study of augmentation mastopexy.

No double bubbles were encountered. Secure approximation of the medial and lateral pillars helps prevent inferior implant displacement. For implant insertion, the author prefers a horizontal incision within the lower pole, above the existing inframammary fold, with a submuscular dissection cephalad to the inframammary ligaments. Technical points include (1) a willingness to “T” off the lower end of the mammoplasty when needed; (2) adequate resection of excessive lower pole parenchyma; (3) tightening of the lower pole and coning of the breast; and (4) intraoperative nipple positioning just below the apex of the breast to prevent nipple overelevation. With these adjustments, the need for revisions for persistent ptosis has dropped in half from 10.3% to 5% for the most recent 100 cases. Adequate parenchymal resection of the lower pole avoids a “mastopexy wrecking bulge” or a snoopy deformity. Direct excision is used rather than liposuction so as to adequately remove denser breast tissue along with fat from the lower pole and to limit tissue trauma. A 39-mm areola marking ring is preferred because the areola tends to stretch about 1 cm postoperatively. Women prefer areola diameters that do not exceed 5 cm. There was no correlation between complications and secondary mastopexies, including delayed wound healing. Women who have had previous Wise pattern mammoplasties may be safely treated using the vertical technique, provided that a wide areola attachment is preserved.

Breast Implants

Subpectoral implant placement adds a layer of tissue cover and is preferred by most operators. However,
prepectoral placement is a valid alternative, particularly in women with adequate breast tissue, and avoids an animation deformity. There is a general preference for silicone gel implants although some surgeons more commonly insert saline implants. Silicone gel implants have traditionally been favored for a more natural feel characteristic and possibly less rippling. However, in a woman who has a moderate breast volume, this difference may be negligible, particular in a subpectoral pocket. The author does not use more cohesive, form-stable implants because they have not been shown to produce a superior outcome and have disadvantages that include firmness, rotation, expense, and texturing—which is linked to late seromas, double capsules, and anaplastic large cell lymphoma. Mean implant volumes in other studies vary from 306 to 450 mL. In this study, the average implant volume was 372 mL, 20 mL less than the average for breast augmentations without mastopexy, and similar to the mean volume in the study by Calobrace et al (392 mL). Measurements of nipple/areola perfusion reveal that implant sizes up to 575 mL may be safely inserted using a vertical method and medial pedicle. It has been suggested that, logically, larger implants should have a higher complication rate. However, neither this study nor the study by Calobrace et al substantiates this claim. Larger implants correlate with greater patient satisfaction.

Nipple Sensation
Eighty percent of women undergoing reduction mammoplasty report that nipple sensation is important sexually. Regardless, sensate body parts are always to be preferred. An inverted-T pedicle sacrifices all superficial innervation to the nipple. The deep innervation is precarious and depends on the extent of the deep dissection. Courtiss and Goldwyn reported that 35% of women experience persistent nipple numbness 2 years after an inverted-T, inferior pedicle breast reduction–much higher than the 13.3% rate of persistent nipple numbness in the present study. Although many surgeons favor a superior or superomedial pedicle, Schlenz et al found that a superior pedicle compromises nipple sensation by sacrificing the deep

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**Fig. 4.** This 35-year-old woman requested a full D-cup size. This is the same patient depicted in the videos (Supplemental Digital Contents 1–7, http://links.lww.com/PRSGO/A317, http://links.lww.com/PRSGO/A318, http://links.lww.com/PRSGO/A319, http://links.lww.com/PRSGO/A320, http://links.lww.com/PRSGO/A321, and http://links.lww.com/PRSGO/A322). She is seen before (A, C, and E) and 9 months after (B, D, and F) a vertical augmentation mastopexy. She chose saline-filled implants (smooth, round, Allergan Natrelle Style 68 MP), which were inflated to 360 mL on the right side and 375 mL on the left side. Resection weights: right breast, 116 g; left breast, 128 g. MPost, plane of maximum postoperative breast projection.
nervation. The author prefers to maintain a parenchymal attachment deep to the nipple/areola complex in an effort to preserve deep innervation and a medial pedicle to cap-

**CONCLUSIONS**

A simple algorithm may be used to select the treatment of women with breast ptosis and volume deficiency. The combined procedure is safe and widely applicable. Staging is unnecessary. Patient-reported outcome data are favorable, with 94.4% of patients reporting that they would repeat the surgery (See video, Supplemental Digital Content 7, which displays the entire procedure in one clip. This video is available in the “related videos” section of the full-text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A323).

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