



# Treatment of Nipple Hypertrophy by a Simplified Reduction Technique

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## Abstract

**Background:** Nipple hypertrophy is associated with physical and psychological sequelae, leading patients to seek corrective treatment.

**Objectives:** The authors present a simple surgical technique to reduce nipple height with minimal tissue manipulation.

**Methods:** Between November 2000 and October 2010, the senior author (CM) employed a nipple amputation technique to correct nipple hypertrophy in 30 consecutive patients. A horizontal incision was made through the distal portion of the nipple in the nonerect state to remove the predetermined nipple height. After nipple amputation, epinephrine-soaked gauze was applied to the surgical site for 5 minutes, followed by a postoperative dressing of nonstick gauze with antibacterial ointment. In 29 of the 30 patients, simultaneous breast procedures were also performed, primarily breast augmentation.

**Results:** A total of 60 nipple reductions were performed on 29 women and 1 man (mean age, 37.8 ± 7.14 years). The mean follow-up was 35.9 weeks. All patients reported being satisfied with the procedure. Three patients noted decreased sensation, 1 noted a size discrepancy requiring further surgical intervention, and 1 noted persistent oozing from the surgical site on postoperative day 1. One patient who became pregnant postoperatively was identified; this patient was able to lactate in the postpartum period but was not able to produce enough milk bilaterally to perform breastfeeding.

**Conclusions:** This simplified surgical technique for correction of nipple hypertrophy was easy to perform, both alone and in combination with additional surgical procedures, and provided reproducible, satisfactory aesthetic results in this case series.

## Level of Evidence: 4

## Keywords

nipple hypertrophy, nipple reduction, amputation, lactation, breast surgery

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Nipple hypertrophy is a relatively common phenomenon, particularly in women, with both physical and psychological consequences. Women with this condition often complain of discomfort and chafing when wearing heavy clothing, whereas during the warmer seasons, they may be unable to wear lightweight clothing and swimsuits due to embarrassment.

In patients with nipple hypertrophy, the nipple is often prominent, with lengths reaching up to 2 cm.<sup>1</sup> The nipple appears globular and may have an increased width. Although the incidence and prevalence of nipple hypertrophy are not well defined in the literature, it appears to be reported most frequently in Asian patients, followed by Hispanic, African American, and white patients.<sup>1,2</sup>

A review of the literature on nipple hypertrophy reveals only a limited discussion of this diagnosis and its treatment options.<sup>2</sup> Among the treatment options identified are various techniques aimed at decreasing nipple height,<sup>1,3-10</sup> width,<sup>11</sup> or a combination of these 2 dimensions.<sup>2,12-18</sup> In many of these reports, wedges of tissue are removed and

flaps are created, requiring additional undermining, tissue manipulation, and suturing of tissue to restore acceptable contour.

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Although these methods appear to be valid and have aesthetically pleasing results based on the published literature, the senior author (CM) has begun to utilize a simplified technique first described by Vecchione<sup>10</sup> in 1979 as amputation with skin grafting, later modified by de Fontaine<sup>4</sup> in 1996 to amputation alone, and further modified in the senior author's practice. This report describes a case series of 30 patients who were treated by the senior author for nipple hypertrophy using this simplified correction technique.

## METHODS

Between November 2000 and October 2010, the senior surgeon (CM) performed 60 nipple reductions using a simplified surgical technique on a total of 30 consecutive patients who presented at his practice with complaints of undesired nipple hypertrophy. In 29 of 30 patients, concomitant breast procedures were also performed, including breast augmentation, mastopexy, breast reduction, and gynecomastia excision. All procedures were performed immediately after the concomitant procedure. Of those with concomitant procedures, 2 patients had mastopexies, 1 patient had gynecomastia excision, and the other 26 patients had breast augmentations. One patient each had documented hypertension, asthma, hyperlipidemia, hypothyroidism, and hyperthyroidism. Two patients had mitral valve prolapse. Race and ethnicity documentation is not available for this patient population. All patients signed an informed consent prior to surgery.

## Surgical Technique

With the nipple in a nonerect state, the proposed site of incision—which was based on patient nipple height preference—was marked at approximately one-third to one-half of the distance from the distal tip of the nipple to its base, regardless of patient sex, leaving a remaining nipple height of at least 6 to 8 mm. Initially, the amputation was performed by grasping the distal tip of the nipple lightly with forceps for stabilization, making a horizontal incision with a No. 10 blade, and transecting the nipple through the predetermined marked site, as seen in Figure 1. To avoid creating a recessed or concave central nipple area, the nipple was tethered with forceps (Moliver forceps; Accurate Surgical & Scientific Instruments Corp., ASSI, Westbury, New York) to avoid artificially extending it. In the latter part of this case series, the senior author adjusted this technique to incorporate a modified tendon forceps designed with a larger grasping circumference to stabilize the nipple during incision, eliminating the distal tip retraction step and further decreasing the risk of wound edge scalloping (Figure 2). A video of this technique is available online at [www.aestheticsurgeryjournal.com](http://www.aestheticsurgeryjournal.com). You may also use any smartphone to scan the code on the first page of this article to be taken directly to the video on [www.YouTube.com](http://www.YouTube.com).



**Figure 1.** Nipple height and presentation are shown immediately after amputation of the distal half of the nipple, prior to dressing with epinephrine-soaked sterile gauze.

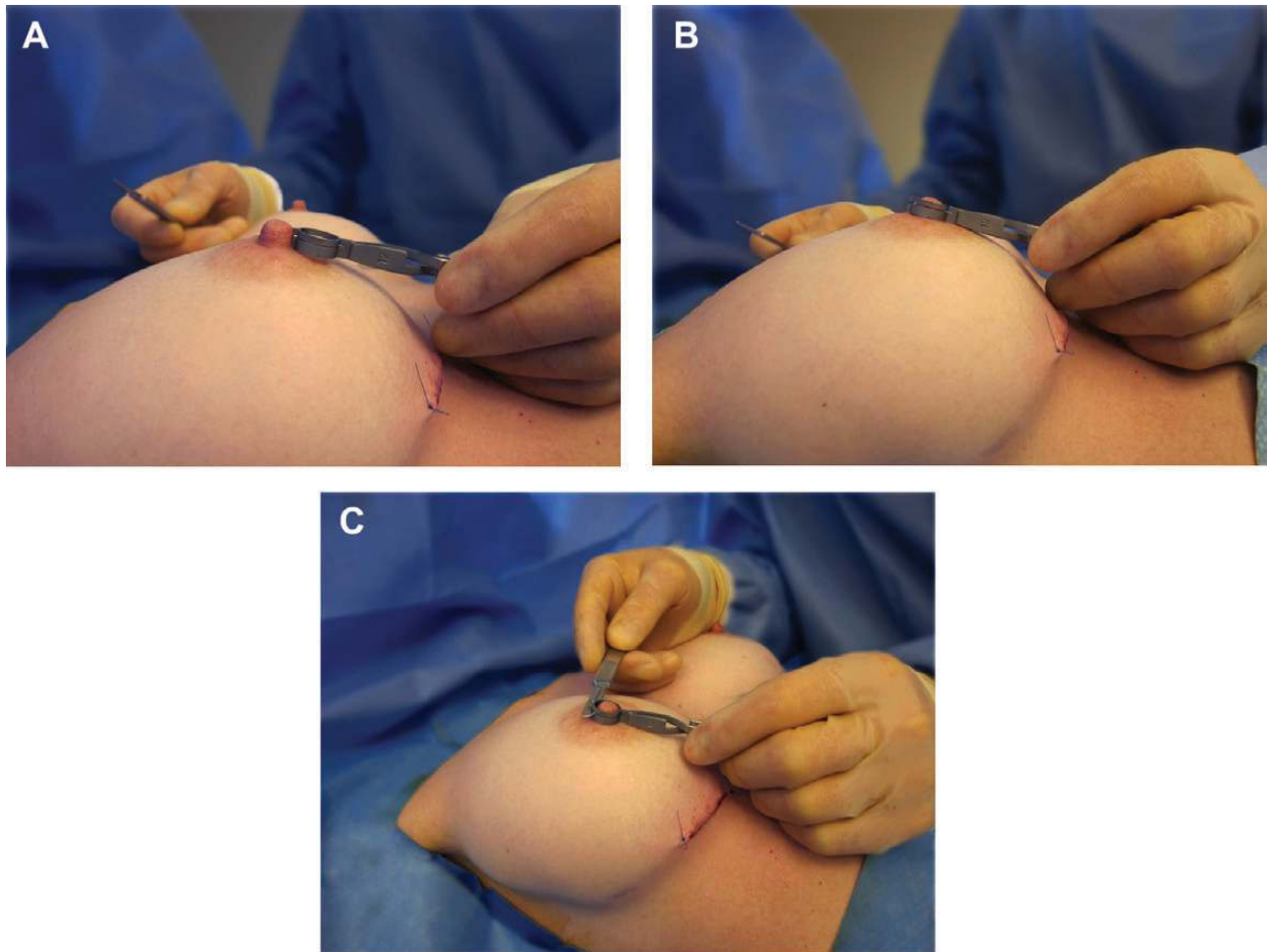
After nipple amputation with either technique, the surgical bed was dressed with sterile surgical gauze soaked in a 1:100 000 epinephrine solution for 5 minutes. The site was then dressed with nonadherent gauze and antibacterial ointment, and the patient was instructed to keep the dressings intact until the return visit on postoperative day 1. On day 1, the site was examined by the surgeon and redressed, and the patient was instructed to perform local wound care with application of antibacterial ointment and nonadherent gauze daily until the wound was completely healed.

In the 29 patients whose nipple corrections were performed in conjunction with other surgical procedures, the procedures were performed under general anesthesia. For the 1 patient who had an isolated nipple reduction, local anesthetic was infiltrated in a periareolar ring block fashion, providing adequate direct and field block anesthesia to the distal sensory end fibers.

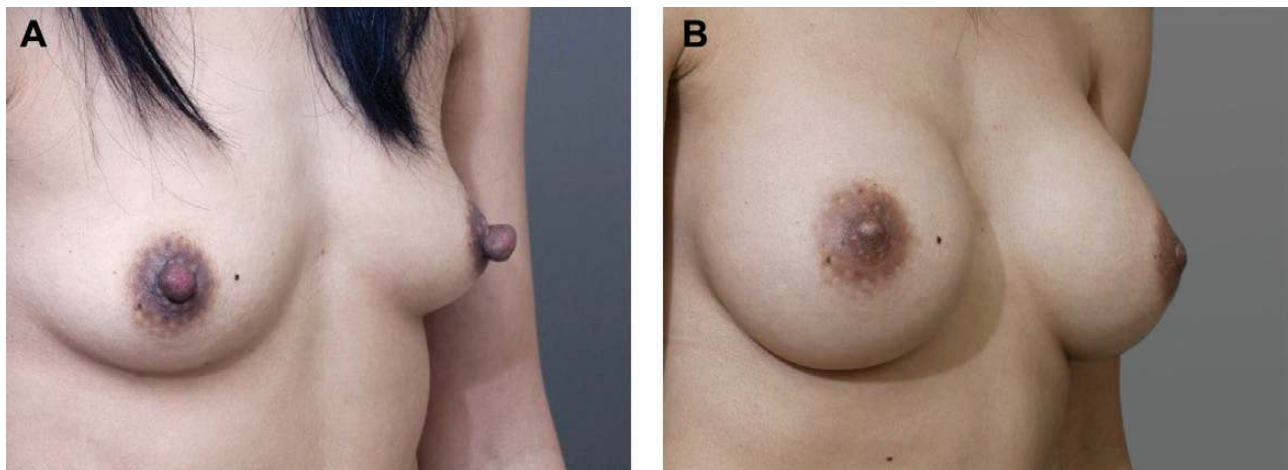
Follow-up appointments ranged from postoperative day 1 (6 patients) to postoperative week 2 (9 patients). The timing was dependent on patient schedule and preference. All patients were evaluated by the senior surgeon during their follow-up appointments.

## RESULTS

A total of 60 nipple reductions were performed on 29 women and 1 man. Patients ranged in age from 26 to 50 years (mean [SD] age, 37.8 [7.1] years) at the time of surgery. The average follow-up time was 35.9 weeks, with a range of 2.5 weeks to 4 years. Representative pre- and postoperative results are shown in Figures 3, 4, and 5. In all cases, complete epithelialization of the wound beds had occurred by 7 to 14 days after surgery, as confirmed by the senior author upon follow-up.



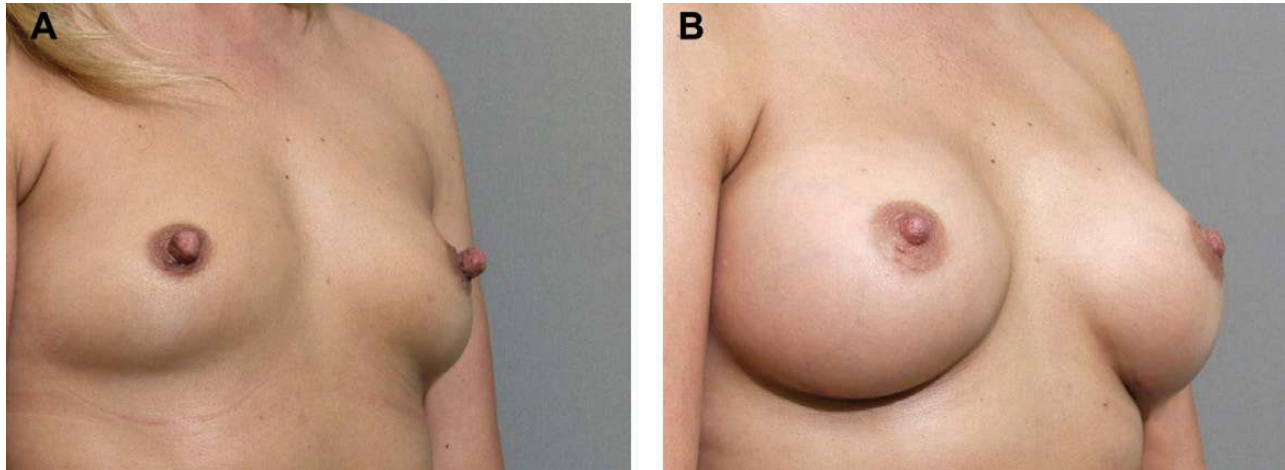
**Figure 2.** Tendon forceps are used to (A) assess desired nipple height, (B) isolate the nipple, and (C) stabilize the nipple during amputation.



**Figure 3.** (A) This 31-year-old woman presented with nipple hypertrophy. (B) Three years after bilateral nipple reduction and augmentation mammoplasty.

Each patient was interviewed at scheduled postoperative evaluations by the senior author and asked whether they were pleased with the results of their procedures.

This question was asked at all follow-up visits, as is the routine practice by the senior surgeon. All 30 patients reported satisfaction with the results. Three of the



**Figure 4.** (A) This 36-year-old woman presented with nipple hypertrophy. (B) Eighteen weeks after bilateral nipple reduction and augmentation mammoplasty.

30 patients (10%) reported decreased nipple sensation after their procedures that remained unchanged during their follow-up period, but stated that they did not feel this had a negative effect. Persistent oozing from the surgical site at postoperative day 1 was reported by 1 patient. This site was treated with compression for 5 minutes and then with daily dressing changes with bacitracin and nonstick gauze. Complete resolution was noted by postoperative day 5. One additional patient noted a size discrepancy between the left and right nipples. This patient underwent a revision 4 months after the first operation to have the left nipple height reduced.

At the time of writing, 1 of the 30 patients had become pregnant and given birth following her procedure. She stated that she was able to lactate during the postpartum period but was not able to produce enough milk bilaterally to perform breastfeeding.

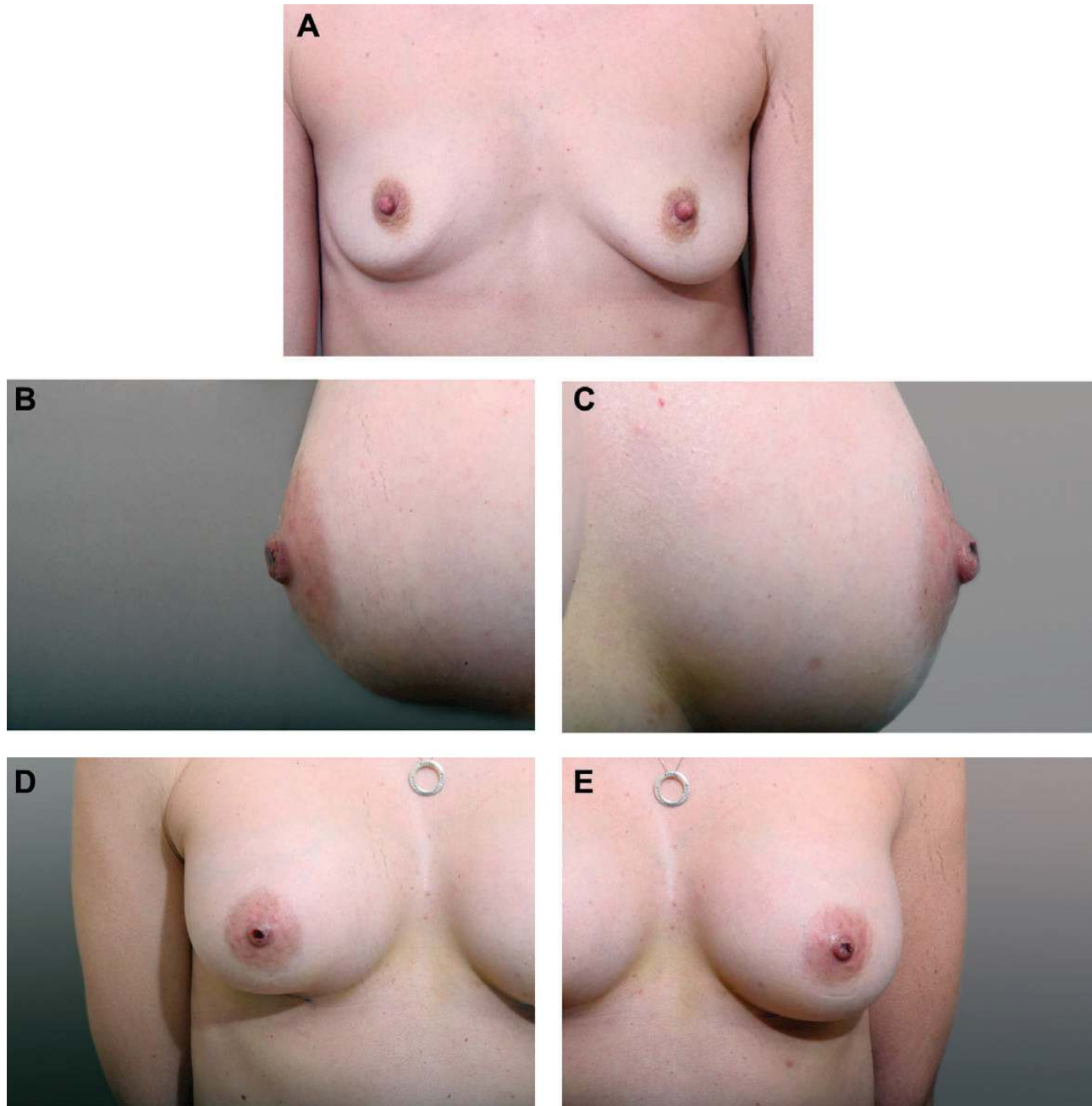
## DISCUSSION

The scope of the senior author's plastic surgery practice has included reconstructive and aesthetic surgery of the body, as well as treatment of traumatic injuries to the face and hand. The idea of a simplified surgical approach to nipple hypertrophy was developed during the treatment of these traumatic injuries. Often, small, open wounds to the fingertips are treated conservatively with local wound care. The wound contracts circumferentially over a granular tissue bed, and the resulting scar appears aesthetically and functionally acceptable.<sup>19,20</sup> Some lip and perioral avulsion injuries, particularly in children, can be treated in a similar manner<sup>21,22</sup> with local wound care while the wound reepithelializes. The proliferative and epithelialization phases of wound healing begin within 2 to 3 days, leading to neovascularization and reestablishment of epidermal integrity, followed by wound contraction.<sup>23</sup> Long-term follow-up has shown that healing by secondary intention can provide optimal results.

The treatment of nipple hypertrophy can be approached in a similar manner. Previously described nipple reduction techniques<sup>1-18</sup> have involved various combinations of vertical elliptical and horizontal wedge excisions, flap elevations, core excision, and the use of closure techniques ranging from skin graft application to purse-string suture placement. By viewing the hypertrophic nipple as an appendage with excessive tissue, the senior author began over the past decade to apply to this deformity the principles of amputation and wound healing by secondary intention. A subsequent review of the literature identified that similar techniques had been described by Vecchione<sup>10</sup> in 1979 and by de Fontaine<sup>4</sup> in 1996.

In this case series of 30 patients, the results of the senior author's nipple amputation technique have been satisfactory to both the physician and patients at routine follow-up visits. Moreover, this technique provides similarly predictable and satisfactory aesthetic results compared with other methods described in the literature.<sup>1-18</sup> In addition, it can be applied to both men and women, requires only minimal postoperative wound care, and appears to have a low rate of complications. Although 3 patients did develop decreased nipple sensation, in the surgeon's opinion, this was more likely related to the concomitant breast augmentation procedure that was performed in each of these patients than to the nipple correction procedure. Further follow-up will be necessary to determine if this sensory disturbance is transient or permanent.

On follow-up, 1 patient had become pregnant since her procedure. This patient had also received a concomitant breast augmentation. Although this patient was able to lactate in the postpartum period, she was not able to produce enough milk bilaterally to perform breastfeeding. In a prospective study examining the association between lactation and several biologic and surgical breast factors, Neifert et al<sup>24</sup> noted that 15% of the women evaluated were unable to produce enough milk to successfully breastfeed. In our patient, it is unknown whether her

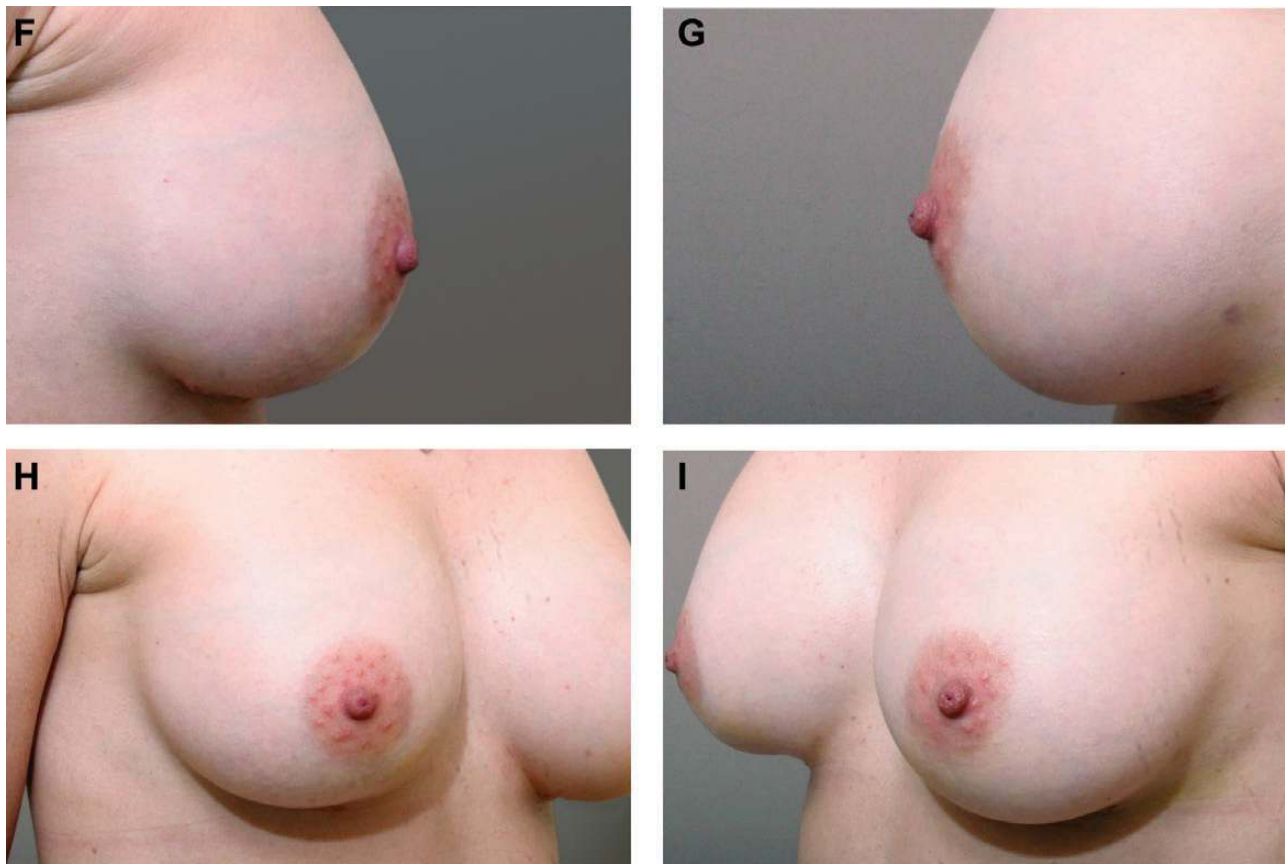


**Figure 5.** (A) This 37-year-old woman presented with nipple hypertrophy. This patient, who is also shown intraoperatively in Figure 2, underwent bilateral nipple reduction and augmentation mammoplasty. (B, D) Right nipple and (C, E) left nipple 6 days after bilateral nipple reduction. This patient had nipple reduction and breast augmentation. No additional procedures were performed. (F, H) Right nipple and (G, I) left nipple 13 days postoperatively.

inability to produce sufficient milk was secondary to compression of breast tissue by the implant, related to the nipple reduction procedure directly, or due to idiopathic causes. It is possible that the lactiferous ducts may remain relatively free from obstruction as healing occurs via epithelial cell migration from the transected ducts and dermal structures, with the surrounding myofibroblasts assisting with circumferential wound contraction. However, fibrosis

and constriction within the ductal system of the nipple are still a potential concern. Currently, the senior author's informed consent process includes a discussion with patients regarding the potential inability to breastfeed following the nipple correction procedure.

For all patients undergoing nipple correction with this procedure, it is imperative to mark the proposed amputation height in the nonerect nipple and to avoid stretching



**Figure 5. (continued)** (A) This 37-year-old woman presented with nipple hypertrophy. This patient, who is also shown intraoperatively in Figure 2, underwent bilateral nipple reduction and augmentation mammoplasty. (B, D) Right nipple and (C, E) left nipple 6 days after bilateral nipple reduction. This patient had nipple reduction and breast augmentation. No additional procedures were performed. (F, H) Right nipple and (G, I) left nipple 13 days postoperatively.

the nipple prior to tip amputation. These steps will help the surgeon avoid creating a concavity in the remaining wound bed, with an unsatisfactory aesthetic appearance<sup>7</sup> that becomes more pronounced as the tissue contracts.

## CONCLUSIONS

Based on the results of this case series, this simplified surgical technique for the correction of nipple hypertrophy provides predictable, satisfactory aesthetic results. It can be performed alone or in combination with additional surgical procedures, is time and cost-efficient, and is easily reproducible with minimal manipulation of tissue.

## Disclosures

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article. Note that although the forceps mentioned in this article bear Dr. Moliver's name and are manufactured by ASSI, Dr. Moliver has no relationship to the company, financial or otherwise.

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