New Marking Designs for Vertical Scar Breast Reduction

According to the authors, a new marking design for vertical scar breast reduction avoids the tension at nipple level that may occur with the use of a mosque-shaped marking (Lejour technique). Furthermore, better symmetry may be achieved in placement of the areola and nipple. (Aesthetic Surg J 2004;24:171-175)

The vertical scar technique described by Lassus and Lejour has been our technique of choice for breast reduction. Lejour’s design involves a “mosque-shaped” tissue resection in the area of nipple-areola-complex (NAC) placement. However, we have found that in some patients the Lejour technique produces excessive tension, which ultimately affects placement of the NAC. The goal of our new design for breast reduction is to achieve symmetrical breast shape without excessive tension on the NAC.1-4

Markings

With the patient standing, mark the midline from the sternal manubrium to the umbilicus. Next mark the midclavicular line on each side through the nipple and down to the inframammary fold. Then mark the inframammary fold on each side and place your index finger in the center of the fold to mark its projection on the front of the breast at the crossover on the midclavicular line. This is the point where the nipple should be placed: point A. If a limited amount of tissue resection is planned, locate point A 2 or 3 cm lower (Figure 1).5,6,7

Next, with the palm of your hand on the breast, displace the breast laterally and mark the projection of the clavicular line on this side. Then perform the same maneuver, but medially, and remark the vertical line to obtain 2 vertical lines, 1 on each side of the NAC. Join these 2 lines, making a slightly curved horizontal line that is parallel and 4 cm from the submammarian fold. From point A, mark a circle with the center at point A and a radius of 7 cm. For bigger breasts, the radius may be 8 or 9 cm. Mark 2 points, B and C, in this circle where the 2 lateral vertical lines cross over. Then join points B, A, and C to form an acute downward angle.

Surgical Technique

Mark the NAC with a 40-mm circle. Apply a tourniquet at the base of the breast to prevent bleeding and also to provide tension during deepithelialization. After the area surrounding the NAC has been deepithelialized, make a lateral 2-cm incision parallel to the skin in the subcutaneous tissue on both sides of the triangle limbs, A–B and A–C. Then make 0.5-cm-deep incisions in the vertical part of the design and on both sides, as well as in the inferior horizontal line and through the subcutaneous tissue. Undermine the mammary gland until the inframammary sulcus is reached laterally and medially. At this point, excellent hemostasis may be achieved with the use of electrocautery.

Next, perform superior dissection on the pectoral fascia, starting at the inframammary fold, to produce a tunnel that extends upward to the second or third rib in the central breast area. Avoid excessive lateral dissection and leave the glandular tissue connected to the pectoral fascia to form the pillars.

Then design the superior pedicle containing the NAC with a 1-cm lateral margin and a 2-cm caudal thickness. Trace this with a Lillys forceps and make an oblique flap that progressively widens towards the base. Mark the lateral pillars with a height of 5 to 7 cm and cut until you reach the pectoral fascia vertically and horizontally to the lateral and medial breast margins. After cutting the pillars, remove breast tissue between them and the breast tissue below down to the inframammary fold. (Figures 2 and 3). Perform careful hemostasis after tissue removal is complete.8

Once redundant breast tissue has been resected, place a 2-0 suture (Dexon Davis-Geck, Wayne, NJ) from the

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vertex of the pedicle to the skin about 2 cm above point A. This places the NAC in the correct position. Once the NAC has been elevated, determine where to anchor the superior pedicle (using 3-0 Ethilon sutures) (Ethicon Inc., Somerville, NJ) on the pectoral fascia at the height of the second or third rib.9

After anchoring the central pedicle, suture the lateral pillars together in the midline. Once the breast mound has been formed, place one hook in the superior part and another in the inferior part of the cutaneous incision for skin closure. Place a closed wound suction drain in the subglandular position and bring it out at the midpoint of the vertical incision. Then shorten this incision with a

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**Figure 1. A, B,** Mark a circle with a 7- to 9-cm radius to indicate placement of the new nipple (point A).

**Figure 2.** Beginning resection of tissue.

**Figure 3. A, B,** The resection of tissue is finished and the pedicle is isolated.
subcutaneous 4-0 nylon suture beginning distally 4 cm from point A, extending to the end of the cutaneous incision, and gather this until it is hidden within the inframammary fold.

If there is excessive tension at the level of the breast cone in the new location of the NAC, it is possible to approximate the sutures without tension just to support the skin.

After finishing the longitudinal suture on each side, place a large silk suture in the sternal manubrium and another in the medial line to the xiphoid to serve as reference when checking symmetry and NAC placement. With the patient raised to a 45-degree angle, use the areola marker to measure the exact point, symmetrical on the two sides, at which to place the NAC. After resecting a circle of skin, inset the nipple with reabsorbable 4-0 subcutaneous and interdermal sutures (Figures 4 and 5). Then place a paper dressing and a petroleum-jelly gauze on the incision lines and maintain these for 1 week.

Results
This technique was used in 46 patients, ranging in age from 18 to 45 years, undergoing breast reduction. The resected tissue ranged in weight from 250 to 1200 g. No complications occurred. This design achieves symmetrical, precise NAC placement without undue tension. The quality of the scar is generally good, and the initial bunching disappears within a few weeks (Figures 6 and 7).

Conclusion
Once the breast has been reduced, there is sometimes insufficient available skin, resulting in tension in the periareolar suture area. With this new marking design, the tension that sometimes results with the use of the mosque-shaped marking described in the Lejour technique is avoided at the level of the NAC. The technique also is beneficial for patients who have breast ptosis with flaccidity or fibrocystic breasts; either condition may lead to greater tension on the NAC.

Also, this technique may achieve better areola and nipple symmetry because the area to be resected may be more symmetrically placed with displacement a few centimeters up or down, medially or laterally, until correct
Figure 6. A, C, Preoperative views of a 36-year-old woman. B, D, Postoperative views 6 months after vertical scar breast reduction in which 290 g of tissue was removed from each breast.

Figure 7. A, C, Preoperative views of a 32-year-old woman. B, D, Postoperative views 6 months after vertical scar breast reduction in which 720 g of tissue was removed from each breast.
breast placement with good bilateral symmetry is achieved.

References


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