

Continuing Medical Education Article — Body Contouring

Gynecomastia

Learning Objectives:

The reader is presumed to have a broad understanding of plastic surgical procedures and concepts. After studying this article, the participant should be able to:

1. Describe some of the differences in the etiologies and surgical philosophy of gynecomastia occurring in youth and adulthood.
2. Plan a surgical approach to treat routine gynecomastia using lipoplasty and/or surgical excision.
3. Select a different surgical approach when gynecomastia involves significant sagging of the breast.

Physicians may earn 1 hour of Category 1 CME credit by successfully completing the examination based on material covered in this article. The examination begins on page 480. ASAPS members can also complete this CME examination online by logging in on the ASAPS Web site (<http://www.surgery.org/members>) and clicking on "Online Education" in the menu bar.

The male patient's degree of breast sagging is the guideline that this author uses to determine the correct surgical approach to gynecomastia. When the patient has no sagging, a small infraareolar incision suffices. With significant sagging, alternative incisions are usually necessary for skin excision and areolar repositioning. Adjunctive lipoplasty is recommended to facilitate correction, improve results, and decrease morbidity and complications. (*Aesthetic Surg J* 2004;24:471-479.)

The term *gynecomastia* refers to any type of benign enlargement of the male breast. The enlargement may be glandular or fatty, but is more frequently a combination caused by variables that range from endocrine to exogenous factors. If gynecomastia appears before puberty, endocrine problems (testicular, pituitary, or adrenal) should be ruled out. A bilateral symmetric enlargement that develops during puberty is common, but this enlargement usually involutes in a few years. A relationship has been noted between breast cancer and Kleinfelter's syndrome (gynecomastia associated with testicular atrophy). Exogenous factors such as drug use, including marijuana, may exacerbate and prolong gynecomastia at any age. In an otherwise healthy adult, long-standing bilateral gynecomastia does not require an exhaustive medical work-up.

The indication for surgery in most patients is simply the desire to eliminate an embarrassing breast enlargement. Very obese patients may benefit from a preopera-

tive weight reduction program, but most patients will still need surgery, even after the weight loss. Although breast cancer is extremely rare in men, if there is a unilateral, firm breast mass, carcinoma must be considered.



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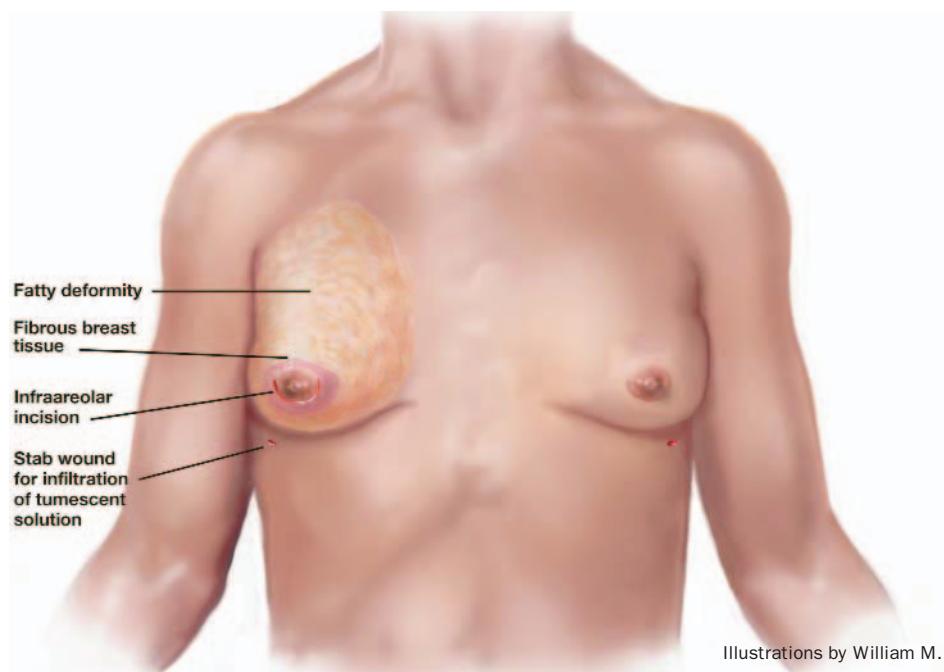
Surgical Approaches

To determine the appropriate surgical approach to gynecomastia, a simple and practical guide is whether or not the breast is sagging. When there is no sagging, a standard, small infraareolar incision suffices (Figures 1 and 2). When there is significant sagging, alternative incisions are usually necessary for skin excision and areolar repositioning. In general, slight sagging may be corrected with a crescent excision of supraareolar skin: the supraareolar lift (Figure 2). Moderate sagging may be corrected by a periareolar, donut type skin excision (Figure 3). For extensive sagging it is often necessary to make a transverse elliptical excision and perform a free areolar graft or pedicle shifting of the areola (Figure 4).

Preoperative Evaluation

Use careful palpation and the pinch test, noting the degree of sagging and the elasticity of the tissues to help determine the size and thickness of the fibrous gyneco-

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Illustrations by William M. Winn, Atlanta, GA.

Figure 1. A patient with typical gynecomastia has a significant fatty accumulation with a smaller area of discoid subareolar breast tissue. The lateral 2- to 3-mm stab incision can be used for tumescent solution injection, for lipoplasty, and for a drain tube exit.

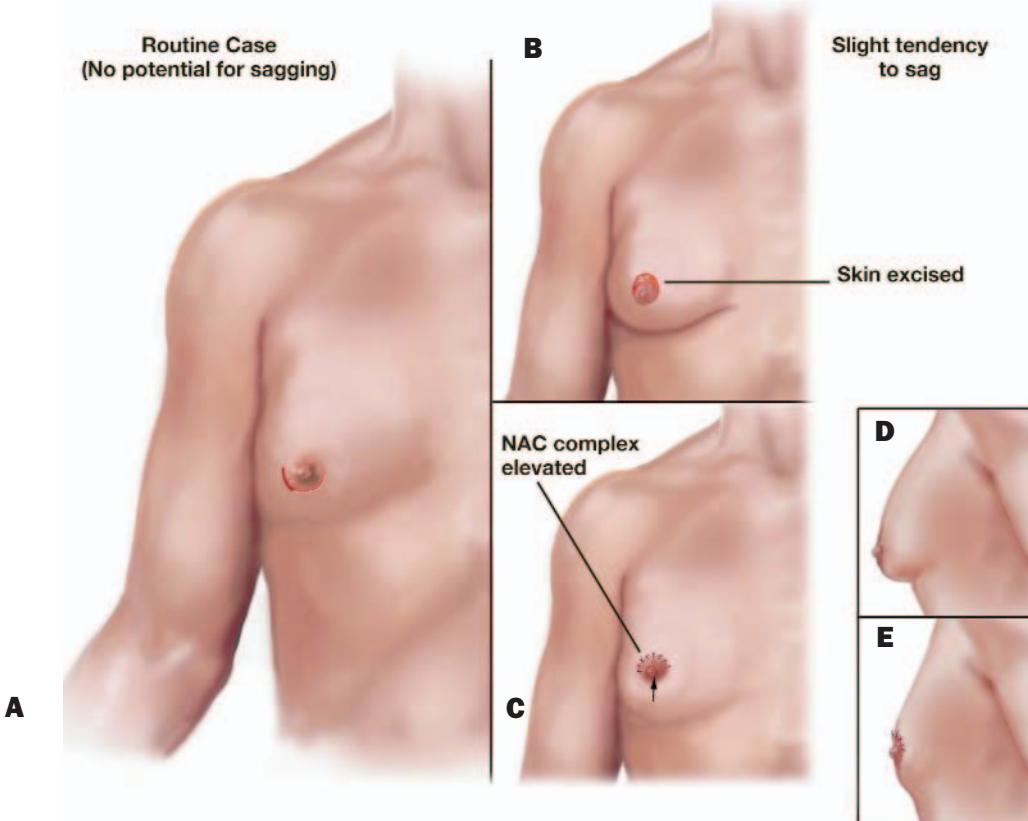


Figure 2. **A**, The infraareolar incision is used in patients who do not have significant sagging. **B, C**, When there is a slight tendency to sag, a supraareolar crescent of skin can be excised to slightly lift the nipple-areolar complex (NAC). **D**, Lateral view of patient having a slight potential to sag. **E**, Lateral view after surgery with NAC elevated with an areolar lift.

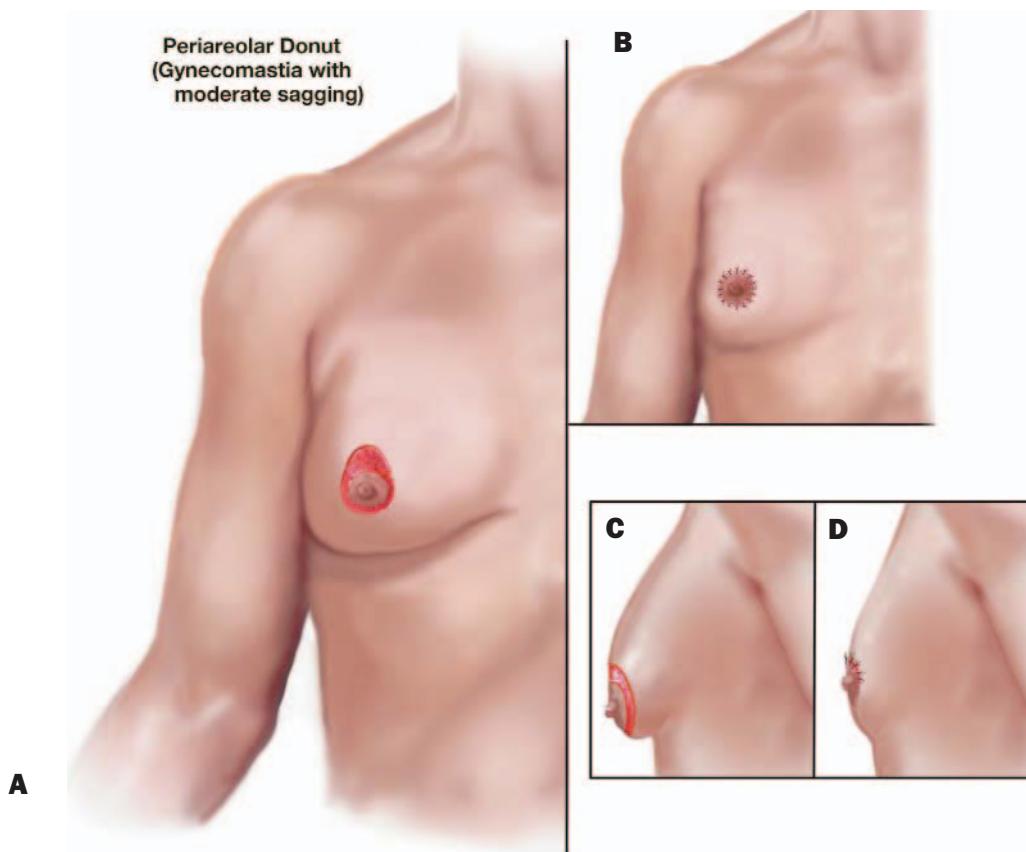


Figure 3. When the sagging is more significant, and in patients with poor skin elasticity, a periareolar type excision (deepithelialization) can be used to tighten and lift the entire breast. **A**, Frontal view of planned periareolar approach for patient with moderate sagging. **B**, Postoperative view demonstrates the periareolar closure correcting the sagging. **C**, Lateral view shows periareolar deepithelialization. **D**, Lateral postoperative view demonstrates surgical correction of gynecomastia and periareolar closure correcting moderate sagging.

mastia and the surrounding fat. For preoperative preparation for a routine gynecomastia, include physical examination and laboratory work appropriate to the age and health of the patient. Urge patients to stop aspirin, ibuprofen, alcohol, vitamin E, and tobacco for 10 days before surgery. I also ask patients to wash with a surgical soap before surgery.

Surgical Technique

On the day of surgery, execute markings with the patient in a sitting position. In most patients the markings will be symmetrical. For routine gynecomastia, mark the incision on the bottom half of the areola-skin junction.

Place the patient in the supine position on the operating table with arms abducted on arm boards. Place a folded flat sheet under the patient's shoulders to help thrust the breasts forward. General anesthesia is used in

most patients, but local anesthesia alone or local with intravenous sedation may be satisfactory when gynecomastia is less severe.

After prepping and draping, infiltrate the entire surgical area with 50 mL of 1% lidocaine and 1 mg epinephrine to 1000 mL of saline or ringers lactate. Inject the fluid using a long, blunt, multiport needle through a 1-mm stab incision on the lateral inferior aspect of the chest, which is the same site used for lipoplasty and for the drain tube (Figures 5 and 6). Inject enough fluid to create a very tense, firm breast. This frequently requires a tumescent level of injection: 2 mL of fluid to 1 mL of anticipated removal.

The use of adjunctive lipoplasty has facilitated correction, improved results, and decreased the morbidity and complication rate of the gynecomastia procedure. Regardless of the amount of fat, tunneling and suctioning are beneficial in almost all patients to help refine the

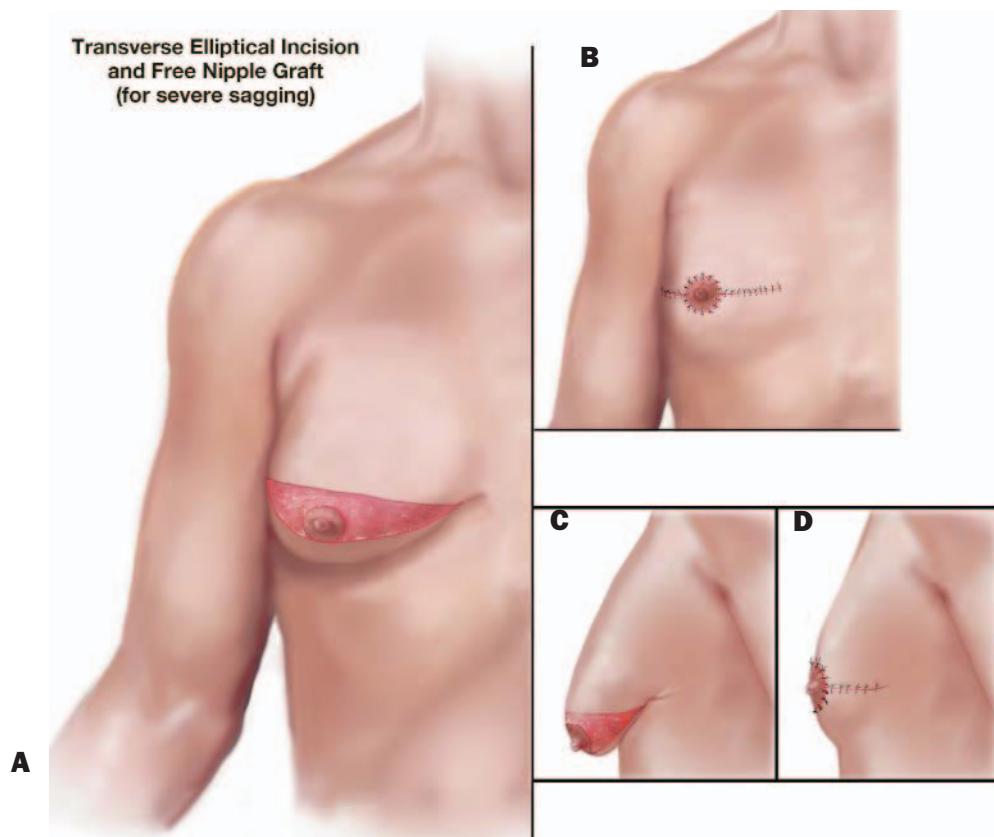


Figure 4. When the sagging is extremely marked and cannot be corrected with a periareolar type approach, a transverse wedge excision can be used to flatten the breast and eliminate sagging. The NAC can be attached to a dermal pedicle or a free nipple graft. **A**, Frontal view of patient with marked sagging. The shaded area can be excised along with the underlying breast tissue. The NAC is removed and reattached as a full thickness graft into the deepithelialized donor site. **B**, Postoperative view of skin closure and reattachment of NAC as a full thickness graft. **C**, Preoperative lateral view of skin area and breast to be excised. **D**, Postoperative view after excision, skin closure, and reattachment of NAC as a full thickness graft.

peripheral contour and define the glandular tissue. Lipoplasty is most effective when it is executed in 2 different directions (cross-tunneling) across the gynecomastia. Perform lipoplasty first through the same small lateral chest incision used to infiltrate tumescent fluid (after widening the incision slightly by spreading it with scissors). The other directions for lipoplasty tunneling may be (1) from the infraareolar incision, (2) downwards from a small axillary incision, or (3) directly across the sternum from the opposite infraareolar incision (Figure 5).

First, perform lipoplasty with a triple-hole 3- or 4-mm cannula and then proceed with a 3- or 4-mm “scraper” cannula, which has a surface much like a vegetable scraper (Figure 7). After you loosen the retinacular fibrous bands with the scraper cannula, complete lipoplasty using a triple-hole accelerator cannula (Byron Medical, Tucson, AZ).

While executing lipoplasty, use one hand to thrust the cannula and the opposite hand to palpate the cannula. Because there can be considerable initial resistance when performing lipoplasty for gynecomastia, start with short strokes, then continue the force and rhythm of the thrusting, and gradually increase to longer, smooth strokes that easily extend beyond the peripheral marks. Feather (contour) the periphery by extending the suctioning slightly beyond the peripheral-marked limits.

When the tissue return in the lipoplasty tube changes from yellow fat to a bloodier substance, the chest flattens, and the pinch test is uniform, you can stop suctioning. It is not unusual to remove 200 cc to 500 cc from each breast with lipoplasty. After completing the suctioning, pinch and roll the entire area with the thumb and index finger to check for uniform thickness. In a small percentage of patients, lipoplasty alone may correct the problem and no further work is necessary. In most

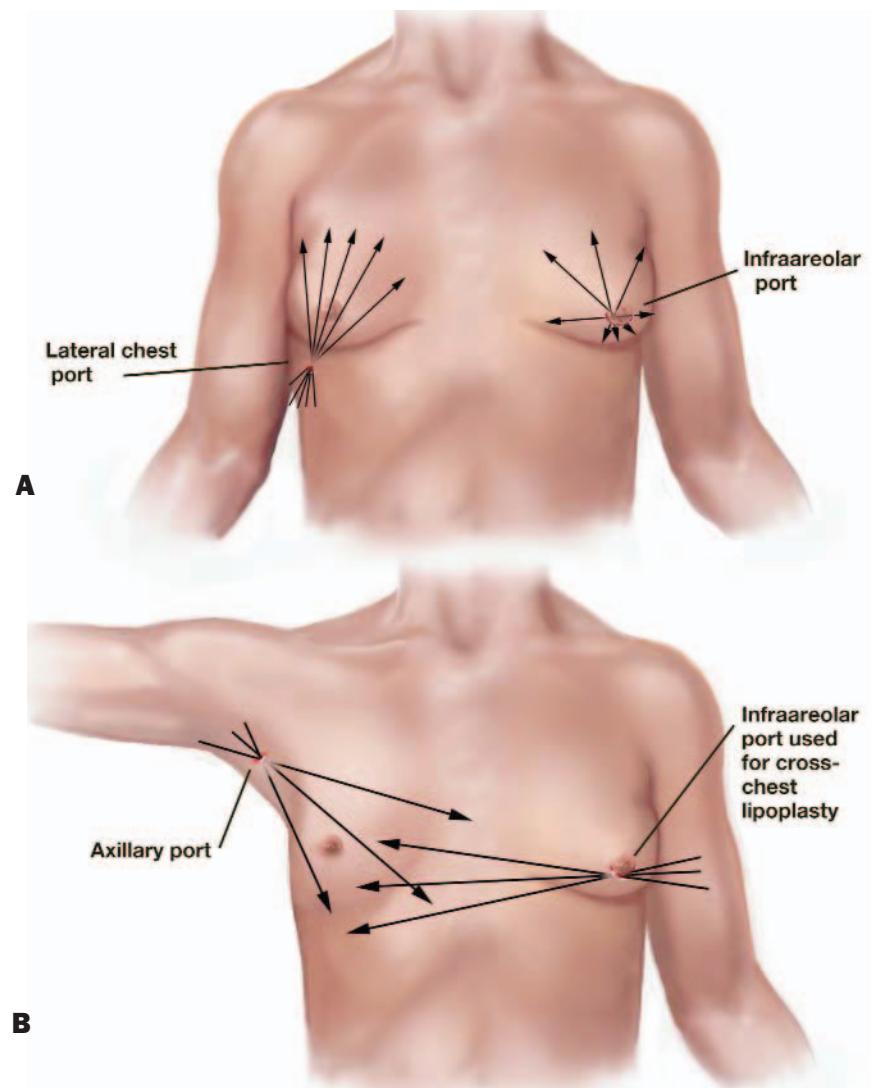


Figure 5. A, B, The variety of ports that can be used for infusing tumescent fluid and/or performing lipoplasty.



Figure 6. Lipoplasty through the lateral chest port. The same chest port is used for tumescent solution injection before lipoplasty and also for the drain exit (if a drain is used).



Figure 7. Close-up view of the 3-mm "vegetable scraper" cannula. Note that there is a slightly raised edge next to each hole.

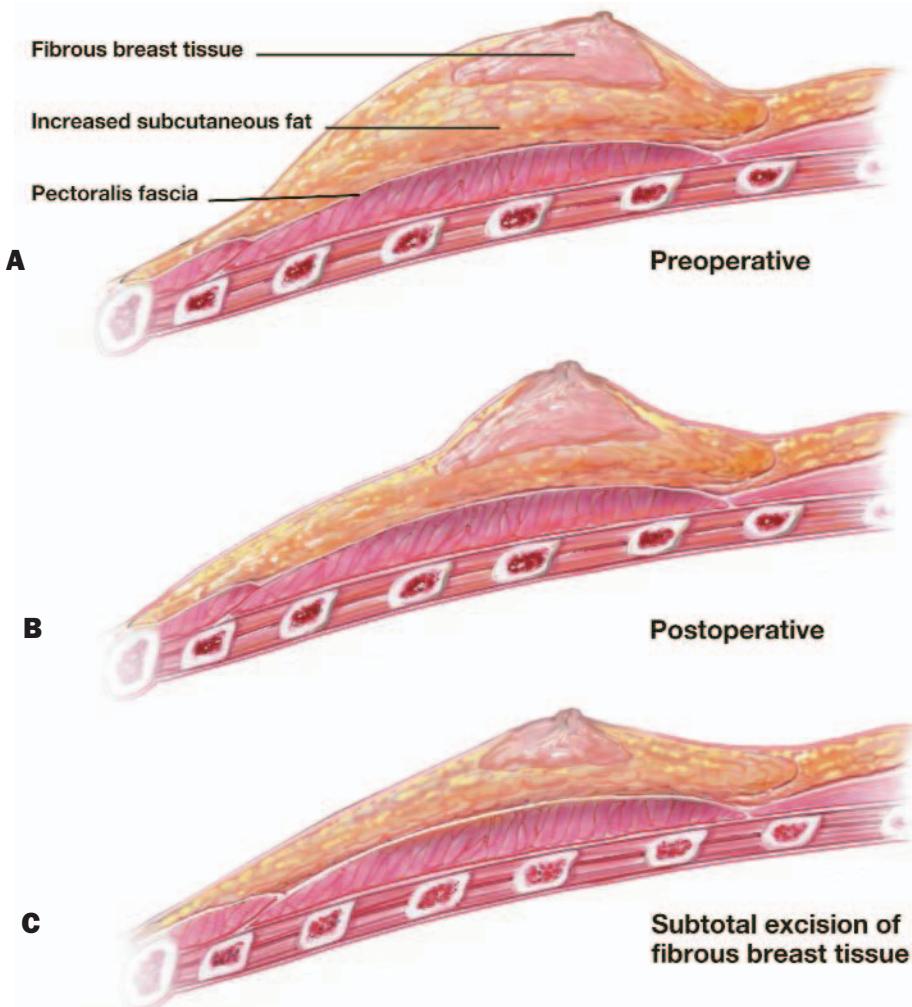


Figure 8. **A,** The lateral view shows a small amount of discoid breast tissue and the typical gynecomastia fat deformity. **B,** After lipoplasty the discoid breast tissue is obvious. **C,** Subtotal sharp excision of breast tissue leaves just enough tissue to prevent a donut (central depression) deformity.

patients, a breast bulge under the areola remains after lipoplasty because of the remaining glandular tissue (Figure 8). The glandular tissue may be a very small disc or may protrude medially and laterally 3 to 6 cm. Young, muscular patients frequently have more glandular tissue and relatively little fat compared with older, heavier patients who have opposite characteristics.

To excise the glandular tissue, enlarge the inferior areolar incision and resect the remaining tissue with sharp dissection. Begin the sharp dissection with a #10 blade or heavy Mayo scissors (Robbins Instruments, Chatham, NJ) to transect the glandular tissue about 8 mm beneath the areola. The thickness of tissue remaining under the areola helps prevent a postoperative subareolar de-

sion (Figure 8). After the glandular breast tissue is transected from the areola, extend the superficial subcutaneous plane of dissection in all directions with scissors. When there is a deep inframammary crease, it is important to completely release that crease with scissor dissection. The prior lipoplasty reveals the extent of the glandular tissue disc. Using a fiberoptic headlight, excise the glandular tissue with scissors and/or cutting cautery (Figure 9). To avoid burning the skin, use a long insulated blade on the cutting cautery. To facilitate the glandular tissue dissection, hold the tissue with a long clamp or forceps. Take care to leave a small layer of areolar tissue and/or fascia on the pectoralis muscle and not to expose bare muscle. If the glandular mass is too large to remove

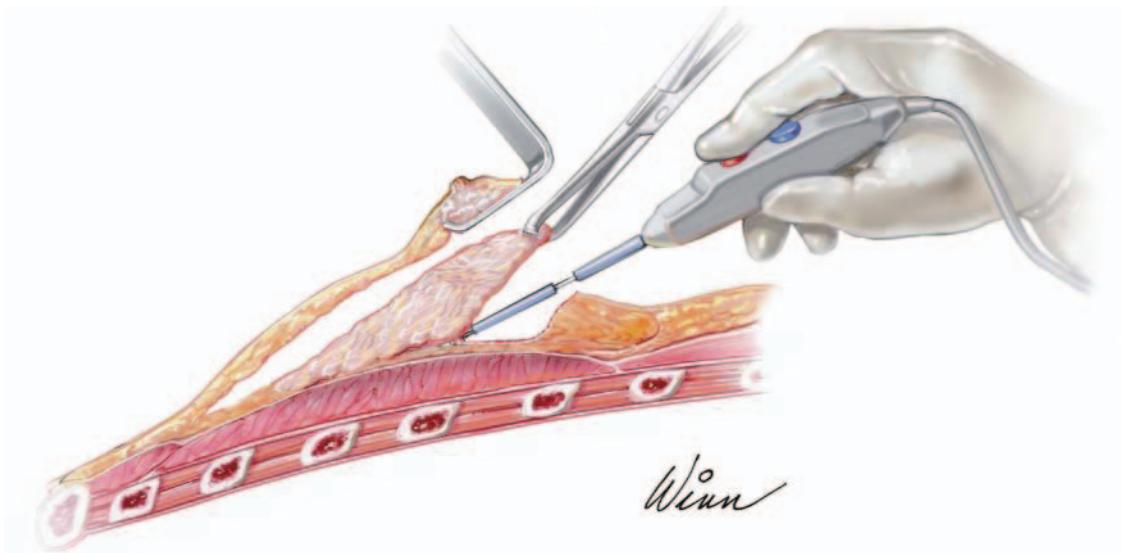


Figure 9. The fibrous breast tissue can easily be removed after lipoplasty by lifting the skin flap and using cutting cautery. It is important to leave a layer of fat and/or fascia on the pectoralis muscle.



Figure 10. Typical amount of fibrous breast tissue removed with sharp dissection in patients with modest deformity.



Figure 11. One mL of Tisseel is sprayed onto the deep surface of the surgical pocket on each side just prior to closure.

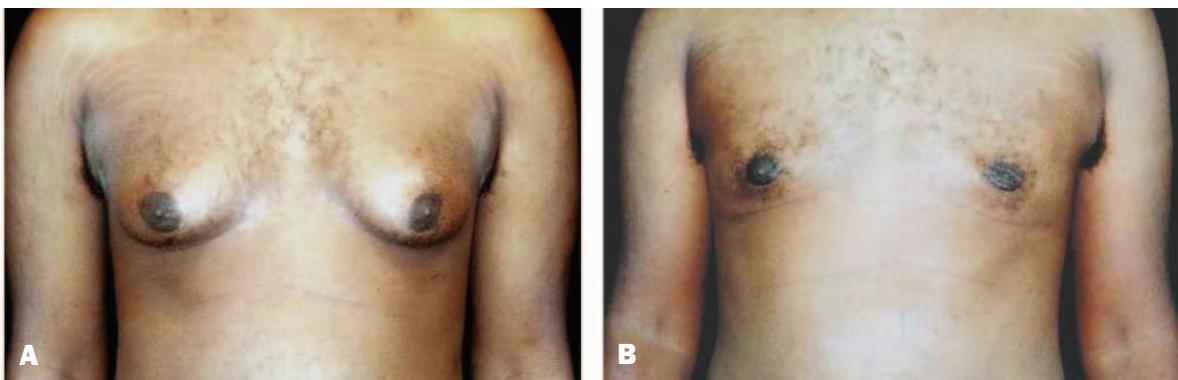


Figure 12. A, Preoperative view of a 36-year-old man with gynecomastia. **B,** Postoperative view 8 months after lipoplasty and excision of small fibrous breast mass.

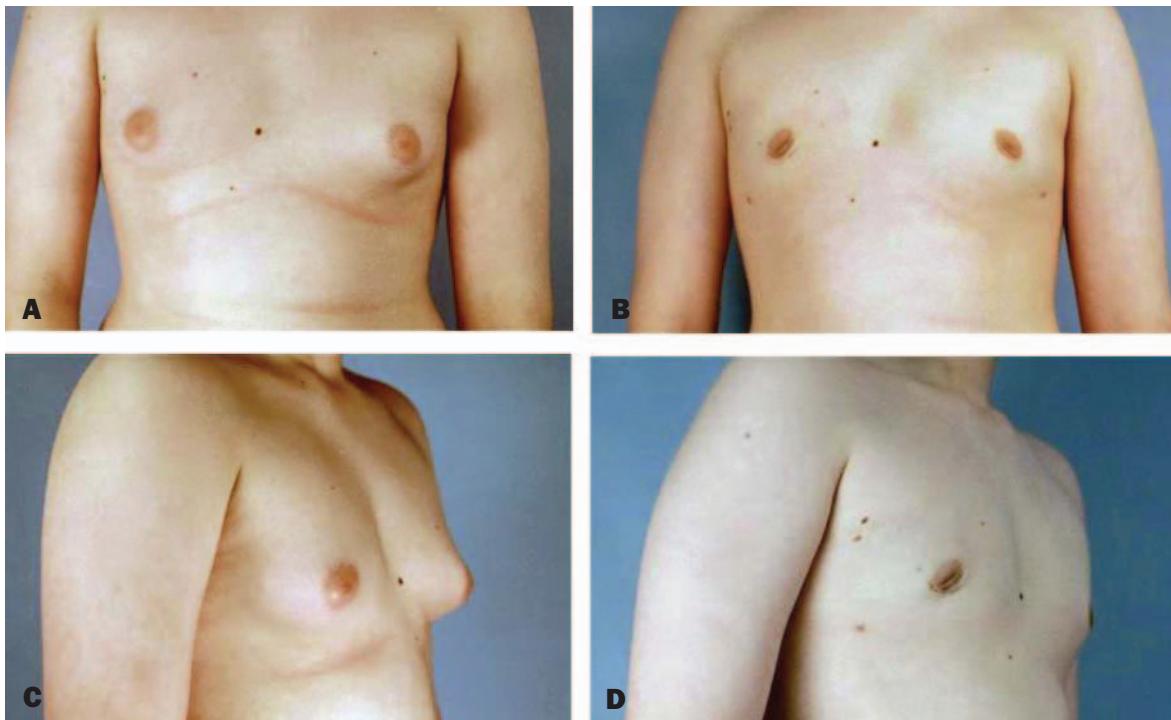


Figure 13. **A, C,** Preoperative views of a 26-year-old man with bilateral gynecomastia. **B, D,** Postoperative views 1 year after lipoplasty and excision of fibrous breast tissue.

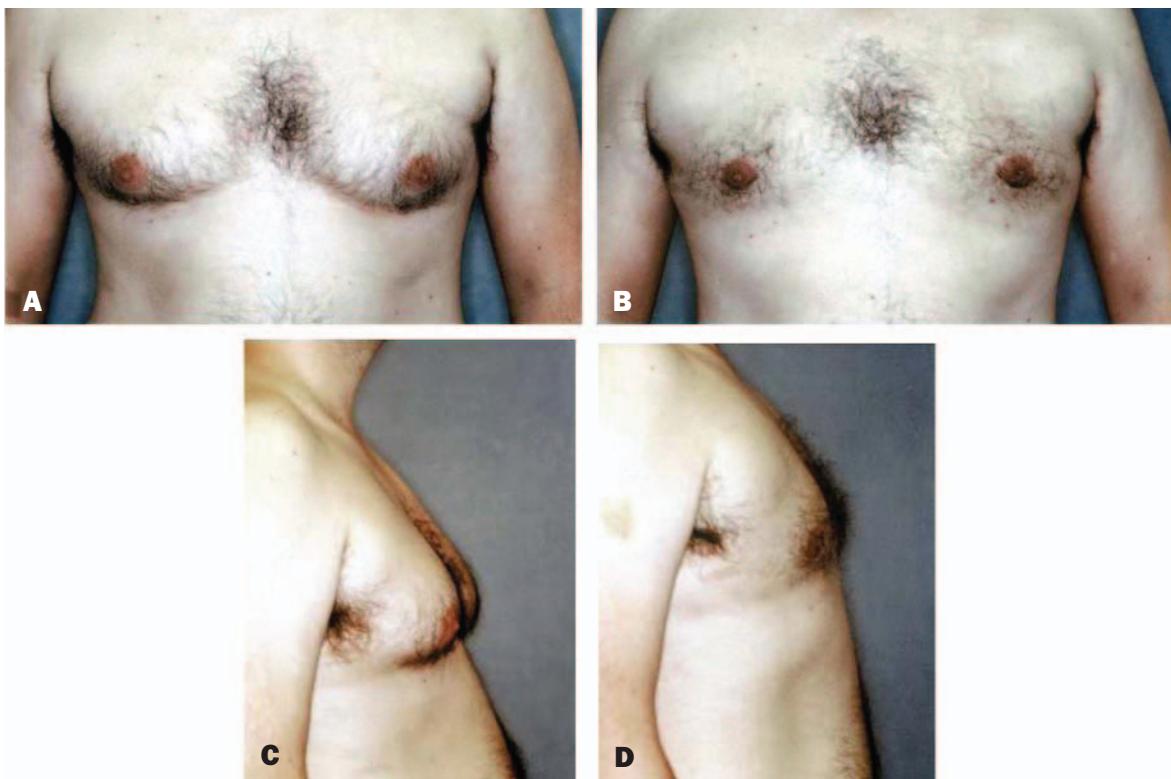


Figure 14. **A, C,** Preoperative views of a 29-year-old man with gynecomastia. **B, D,** Postoperative views 7 months after lipoplasty and large excision of fibrous breast tissue.

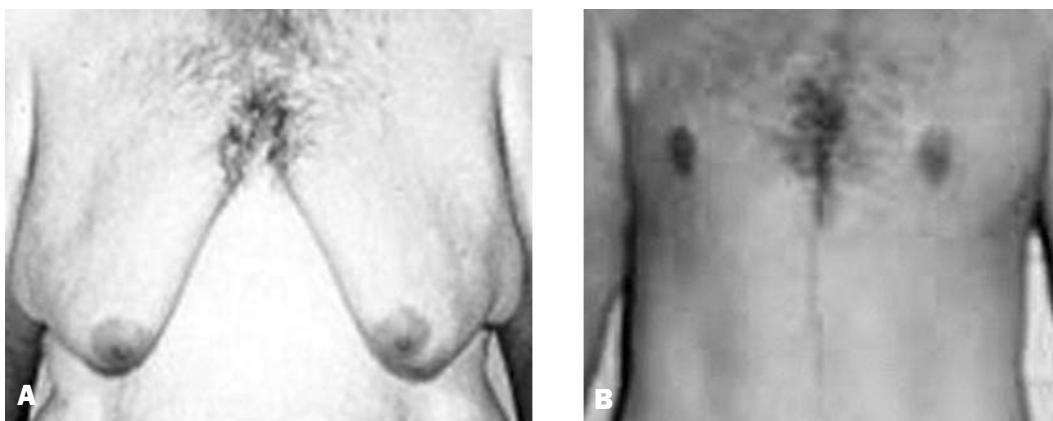


Figure 15. **A**, Preoperative view of a 44-year-old man having extensive ptotic gynecomastia after a weight loss of 350 pounds. His weight changed from 530 pounds to 180 pounds. **B**, Postoperative view 10 months after horizontal wedge excision of hanging skin and breast tissue with free nipple graft.

through the small incision, it helps to cut it in pieces and remove it in sections (Figure 10).

After achieving hemostasis with cautery and irrigating the pocket with saline, inspect for bleeders or any remaining lumps of tissue that need resection. Then insert a small suction drain, drawing it out through the same tiny lateral chest incision. Place folded towels over the patient's breast and have your assistant apply pressure to the completed dissection on the first side while you switch your position to the other side of the table to begin working on the other breast. After you reassess the hemostasis, check the contours by wiping the skin with a wet sponge and using tangential light to demonstrate irregularities.

The final step in the closure is to spray 1 mL of Tisseel (Baxter Corp., Mississauga, Ontario, Canada) onto the deep surface of the surgical pocket on each side (Figure 11). Then press down the skin for about 3 minutes to make the attachment firm and close off the dead space. The skin will be firmly attached after spraying the Tisseel, but take care not to rub the skin or create shear forces that cause it to separate from the deep attachment.

Close the incisions with interrupted 4-0 catgut on the subcutaneous and/or subcuticular layer. Use a 5-0 subcuticular nylon pullout suture to close the skin. Apply surgical tape strips on the incision and place one-half inch surgical foam over each breast. Then wrap the patient with a 6-foot elastic bandage. Activate the drain and apply cooling on the breast area for 3 to 4 hours before the patient is discharged. Patients return in 24 to 48 hours for inspection of the wounds and removal of the drains. Advise the patient to decrease activity for 10 to 14 days and continue the use of a compression bandage for about 2 weeks postoperatively. Results of this procedure are demonstrated in Figures 12 through 15. ■

Bibliography

Mladick RA. Liposuction and Excision. *Clin Plast Surg* 1991;18:815-822.

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