

## Inferior Pedicle Reduction Technique for Larger Forms of Gynecomastia

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**Abstract.** The treatment of larger types of gynecomastia is significantly different than that of less severe gynecomastias. Special concerns of the former include areola enlargement, nipple–areola ptosis, and redundant skin. Many procedures have been described to address these issues, none of which is completely satisfactory; these are reviewed here. Unsatisfactory results may be due to residual breast hypertrophy, skin redundancy, complications related to nipple–areola placement, form and viability, and cosmetically unacceptable scars. We describe a new technique that uses an inferior pedicle to reposition the nipple–areola complex and to maintain its neurovascular integrity and form. A superiorly based chest wall flap in conjunction with suction-assisted lipectomy maximizes chest wall contour. There are no breast mound scars, only a periareolar and inframammary scar.

**Key words:** Gynecomastia—Inferior pedicle technique—Suction-assisted lipectomy—Open technique

Gynecomastia, or benign enlargement of the male breast, has a wide spectrum of clinical presentation. Treatment must be individualized. Some forms of gynecomastia are amenable to suction techniques alone; others require open procedures using either intra-areolar or extra-areolar incisions. In cases of large gynecomastia, an intra-areolar incision does not provide the exposure necessary to address issues of skin excess, areola expansion, and ptosis. With

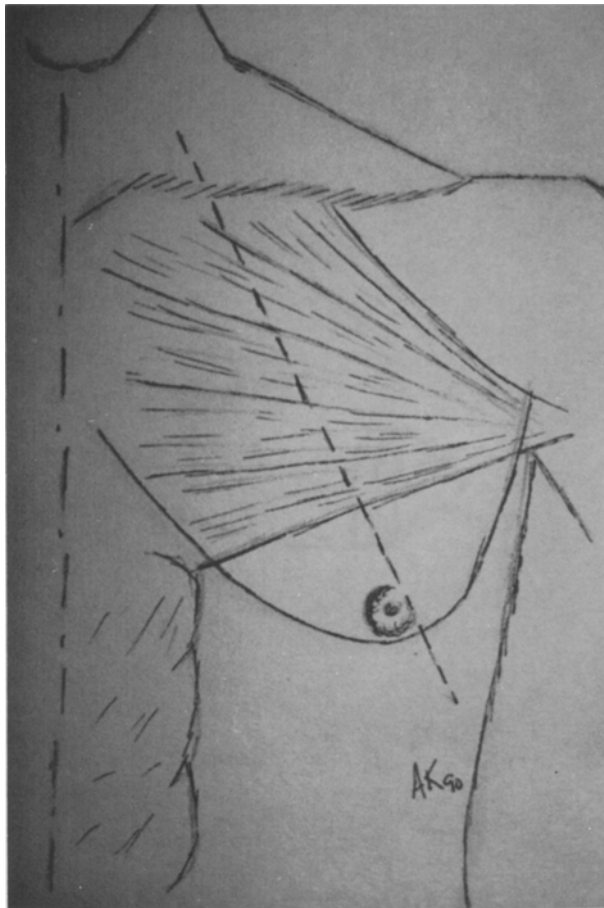
the common goal of restoring a masculine chest wall contour, all procedures for correcting cases of large gynecomastia must address and satisfactorily correct these deformities, with cosmetically acceptable scarring.

We describe a technique for treating larger forms of gynecomastia that include redundant skin. It uses suction-assisted lipectomy to facilitate sculpting of the chest wall breast and adipose tissue elements. A deepithelialized inferior pedicle, carrying the nipple–areola complex, corrects areola hypertrophy and ptosis. A superiorly based chest wall flap is advanced over the inferior pedicle and redundant skin is excised at the inframammary fold. The result is a well-contoured chest wall with a neurovascularly intact nipple–areola complex and only periareolar and inframammary scars.

### Preoperative Planning

The patient is evaluated while in standing. The anatomic midline, inframammary crease, and extent of breast parenchyma are marked. Asymmetries of breast proportion and nipple–areola size and location are noted. The breast meridian is marked; the new nipple location is planned approximately one to two fingerbreadths cephalad to the intersection of the meridian with the inferolateral border of the pectoralis major muscle (Fig. 1). The inframammary incision is marked one fingerbreadth cephalad to the natural inframammary fold to limit postoperative settling of the scar onto the chest wall. A pedicle of ample width is based inferolaterally along the inframammary marking. This helps maintain neurovascular integrity to the nipple–areola complex and minimizes parasternal skin redundancy (Fig. 2).

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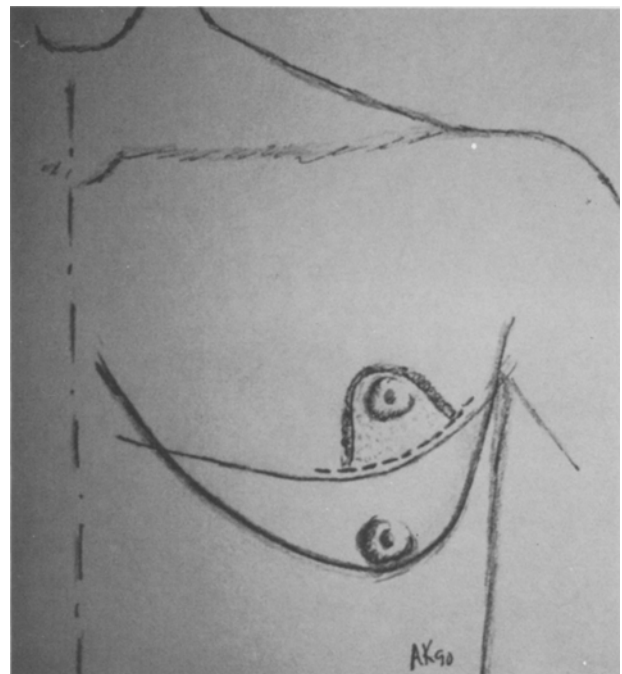


**Fig. 1.** Breast meridian and inferolateral border of pectoralis major muscle approximating new location of nipple-areola complex

### Technique

Suction-assisted lipectomy is performed to contour the chest wall's subcutaneous tissues. It also facilitates dissection of the inferior pedicle and superiorly based chest flaps. Next, the inferior pedicle is deepithelialized, leaving a nipple-aerola complex diameter of approximately 25–35 mm. The planned inferior pedicle is then dissected from the underlying pectoralis fascia. This provides mobility for repositioning the nipple-areola complex. Additional trimming of its adipoglandular elements is carried out sharply as indicated, resulting in a finely contoured carrier for the nipple-areola complex.

The inframammary incisions medial and lateral to the pedicle are carried down to the pectoralis fascia. A superiorly based chest wall flap is raised at this level. Additional sharp excision of adipoglandular tissues is performed to improve chest wall contour at the surgeon's discretion. Dissection is complete when the apex of the arch, created by the inferior pedicle defect, will comfortably reach the inframam-



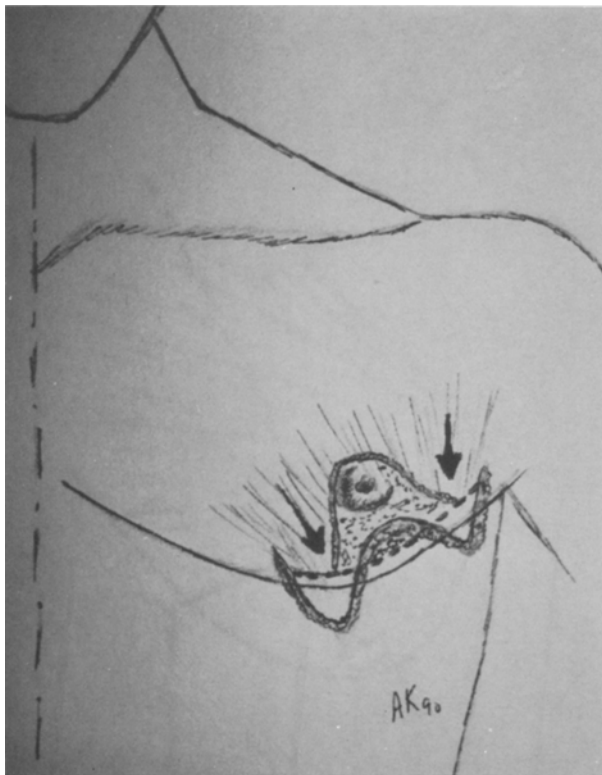
**Fig. 2.** Natural inframammary crease and planned inferior pedicle

mary incision. When this is accomplished, the lateral limbs of the arch can be excised as caudally directed triangles of excess skin overlying the inframammary fold (Fig. 3).

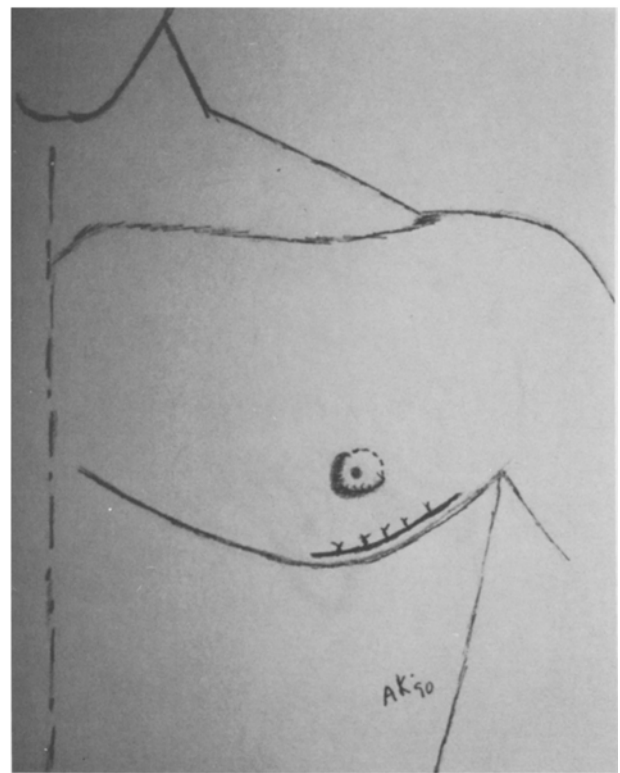
We check the position and symmetry of the planned nipple-areola complex and create an aperture centered at the preplanned point. The wound is irrigated and hemostasis is achieved. We routinely use a closed drainage system. The areola is inset and the inframammary incision is closed (Fig. 4).

### Discussion

The time-honored dictum of gynecomastia surgery urges one to restrict operative incisions within the areola complex. Credit for this belongs to Dufourmental [2] and Webster [12]. More recently suction lipectomy has been a tremendous advance in gynecomastia surgery, in most cases completely eliminating the need for surgical incisions [9]. It is a safe and reliable technique, yielding predictable results, especially when breast hypertrophy is predominantly adipose tissue and skin excess is limited. Recently, Fodor [3] advocated preoperative mammography to determine the tissue composition of hypermastia in gynecomastia patients. This technique has enabled us to determine preoperatively whether suction alone, for predominantly adipose breasts, or suction in combination with direct glandular exci-



**Fig. 3.** Superiorly based chest wall flap being advanced over underlying inferior pedicle carrying the nipple-areola complex



**Fig. 4.** Inset of nipple-areola complex and closed infra-mammary and periareolar incisions

sion, for more glandular ones, will be required to optimize chest wall contour.

In patients with modest skin excess, suction or direct periareolar skin incision can be used as a first stage. Excess skin is allowed to contract and additional skin contouring, if necessary, is carried out at a second stage. This works best in younger patients.

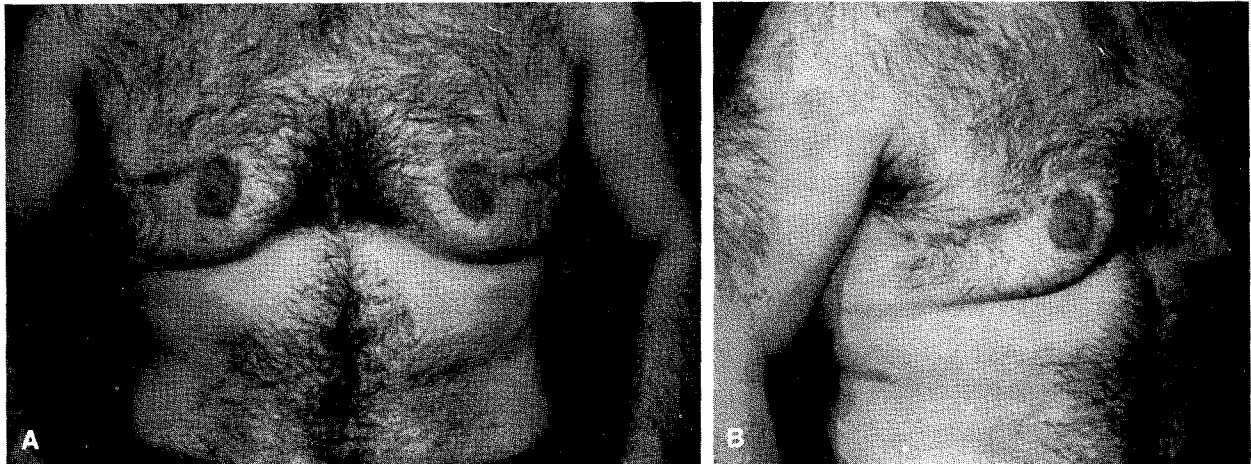
In cases of large gynecomastia or in older patients where skin elasticity is limited, the degree of adipoglandular hypertrophy and skin redundancy necessitates extra-areolar contouring [5, 7]. Many procedures have been described, including Simon, Hoffman, and Kahn's simple mastectomy technique [11] and Wray, Hoopes, and Davis' *en bloc* excision of skin and subcutaneous tissues at the inframammary fold [13]. Both techniques use free nipple grafting. Bretteville-Jensen's [1] modification of the Dufourmental-Mouly and the Hollander methods with superior rotation of the nipple-areola complex on a deepithelialized vertical pedicle results in a periareolar and lateral oblique scar. Pers and Bretteville-Jensen [10] describe another vertical pedicle technique with medial and lateral skin excision resulting in a transverse scar at the level of the nipple. Finally, an inferior pedicle technique [6], similar to female breast reduction resulting in an "anchor scar," has been described. This results in some degree of breast

coning as excess skin is advanced centrally and excised at the vertical incision. In addition, since the vertical scar is contiguous with the nipple-areola complex, it can contract thus distorting it.

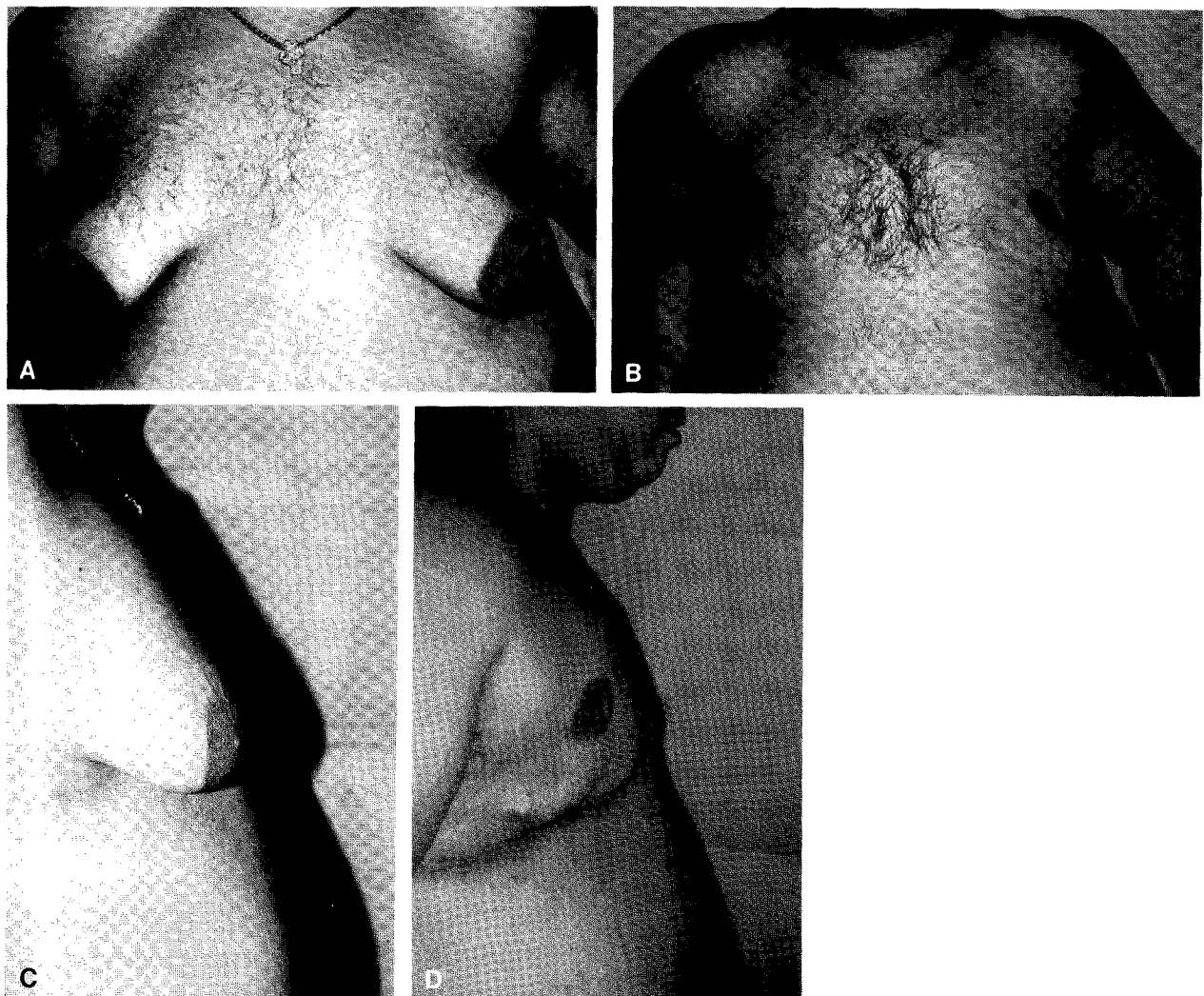
The issues of areolar stretching and ptosis are an additional concern in this patient population. The areola's diameter is greatly exaggerated because of "expansion," necessitating reduction. Some authors have suggested 20–25 mm as an average areola size [4]. The final diameter of the areola is up to the surgeon, who uses the breast mound and chest wall proportions as a guide. Superior and medial translocation of the nipple-areola complex is important in restoring a more natural and masculine appearance. Use of the inferolateral border of the pectoralis major muscle as a guide for nipple placement acknowledges the wider internipple distance of the male chest relative to its female counterpart. This attention to breast mound-areola proportion greatly enhances the final cosmetic result.

### Complications

Complications related to the nipple-areola complex, such as positioning, flattening, inversion, and necrosis, in addition to poor contour, residual skin excess,



**Fig. 5.** Potential pitfalls of “conventional” massive gynecomastia surgery including conspicuous breast mound scarring, residual breast hypertrophy, and medially displaced and “expanded” nipple–areola complex. **(A)** Anteroposterior view, **(B)** oblique view



**Fig. 6.** Gynecomastia inferior pedicle reduction technique (GIRT) exemplary case photographs: **(A)** pre- and **(B)** postoperative anteroposterior views, **(C)** pre- and **(D)** postoperative oblique views

scarring, and hematomas, remain significant problems in massive gynecomastia surgery [8] (Fig. 5). Gynecomastia inferior pedicle reduction technique (GIRT) empowers the surgeon with the ability to satisfactorily address these issues. The inferior pedicle provides the freedom to place the nipple–areola complex in a more cephalad and medial position and to alter its final diameter. Neurovascular integrity of the nipple is maintained. The exposure provided by the superiorly based chest wall flap, in conjunction with suction lipectomy, facilitates sculpting of the chest wall adipoglandular elements. The amount of skin excision at the inframammary incision is at the surgeon's discretion. Finally, the open exposure provided by this technique facilitates hemostasis (Fig. 6).

### Conclusion

The number of operative procedures available for large gynecomastias is indicative of their collective deficiencies. Our procedure is by no means a panacea; however, it successfully addresses many of the important issues in the surgical correction of large gynecomastias. GIRT results in a nipple–areola complex which is sensate and has truer projection and form. The periareolar incision often heals well and there is no vertical limb, as in the “anchor” procedure, to contract and distort the areola. A masculine contour is optimized and the nipple–areola complex is restored to its correct size and location. Many of the commonly reported aesthetic shortcomings and complications are minimized. We submit GIRT for your consideration as an alternative to current techniques in massive gynecomastia surgery.

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