

# Transaxillary Subfascial Breast Augmentation: Optimizing Outcomes

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## 49.1 Introduction

Regardless of progress in surgical procedures and breast implant technology, augmentation mammoplasty remains a technique in development. The decision as to the plane of placement and which type of implant to use is an exercise in balancing a number of objective and subjective factors. Aesthetic expectations, patient's physical individuality, surgeon's experience, lifestyle factors and implant – soft tissue relations, all influence the decision process, surgical planning and outcome [5, 12, 13]. To date, there is no consensus concerning the best procedure. The main advantages of the technique should include safety, reproducibility and acceptable complication rates. Probably, these goals are not achievable by any single procedure and each technique has advantages and limitations.

Subfascial placement of breast implants has been mentioned as an alternative that has some of the advantages of both the subglandular and submuscular techniques while minimizing the disadvantages of each [3, 4, 10, 11]. Despite the debate regarding the concept of the suboptimal soft tissue coverage provided by the subfascial technique and the limitation of the pectoralis fascia thickness [15], some clinical series have demonstrated a satisfactory outcome in selected patients [3, 4, 11].

Recently, the transaxillary approach seems to have gained new status with the advent of endoscopic techniques [4, 10, 13, 14]. Essentially, the majority of the series have employed the submuscular plane and the endoscopic assistance which provides precise hemostasis

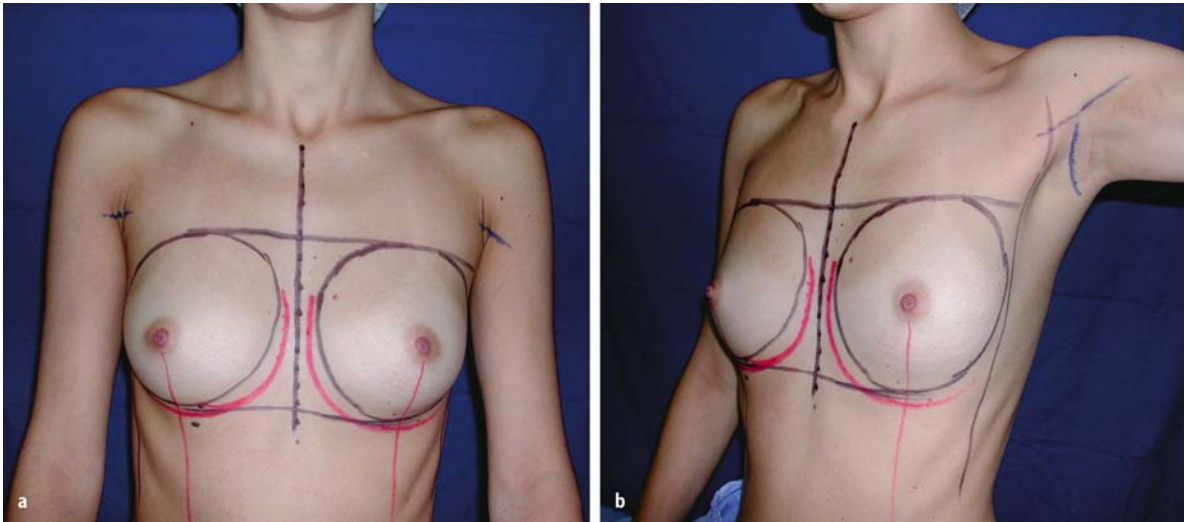
and release of soft-tissue attachments [5, 12–14]. As a consequence of the advances in techniques, the subfascial plane has been associated with the axillary approach. Introduced by Graf et al. [4], the subfascial transaxillary technique is particularly attractive for selected patients and includes some benefits due to placement of the incision in the axilla, thus avoiding visible signs of surgery on the breast mound [4, 10, 11]. Additionally, the pectoralis muscle fascia is a well-defined structure in the upper thorax and is useful in minimizing the appearance of the edges of the implant [3, 4, 10, 11].

## 49.2 Patient Selection and Surgical Planning

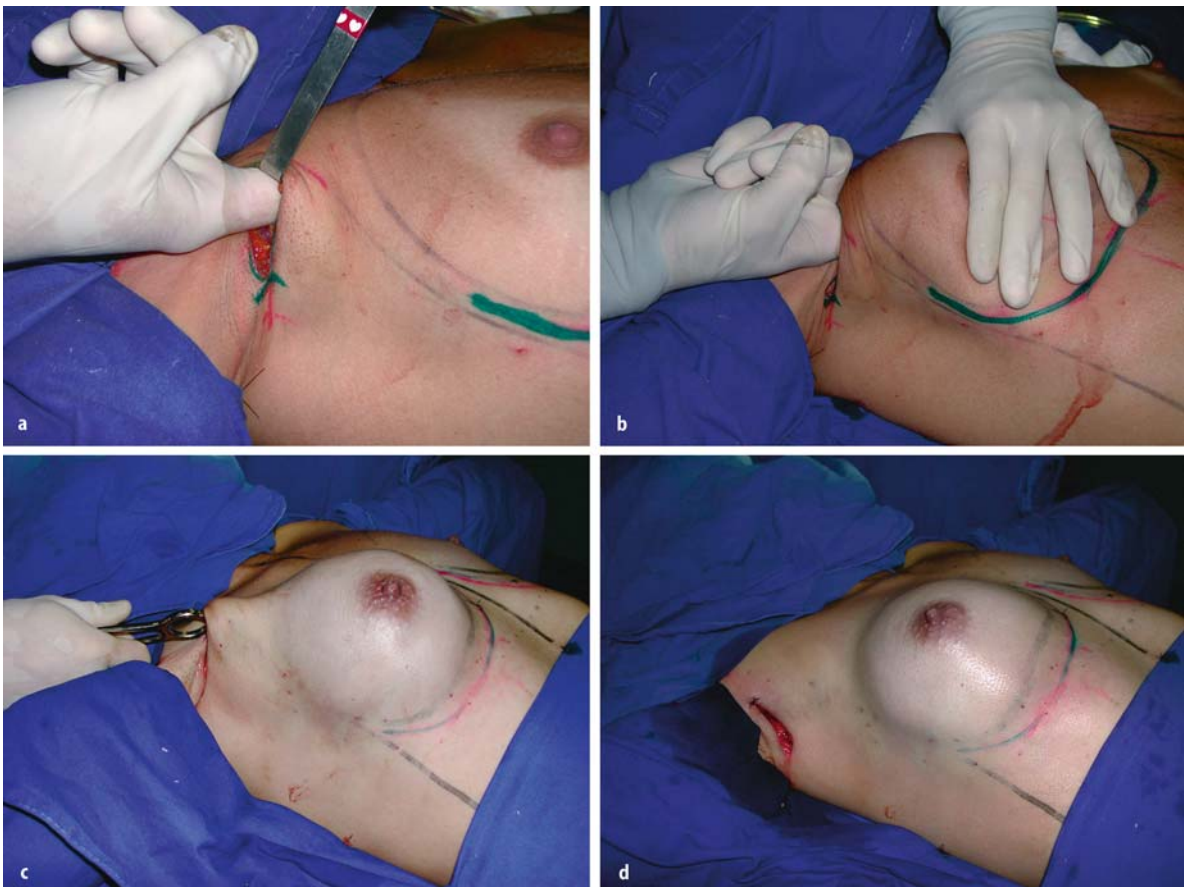
The technique is best indicated in patients with small volume breasts without ptosis. In patients who do not want the presence of breast scars or have a poorly defined inframammary fold, the technique is particularly advantageous. With the patient sitting, skin markings are planned: the inframammary sulcus, the limits of the pocket, the anterior axillary line, and the new inframammary fold. It is important to lower the inframammary fold and for small implants the new fold is located 0.5–1 cm below, and for large implants, 3 cm may be required. The incision is marked and the deepest natural fold is chosen. It is imperative to keep the incision in the limits of the axilla, never crossing outside the lateral edge of the pectoralis major muscle.

## 49.3 Surgical Technique

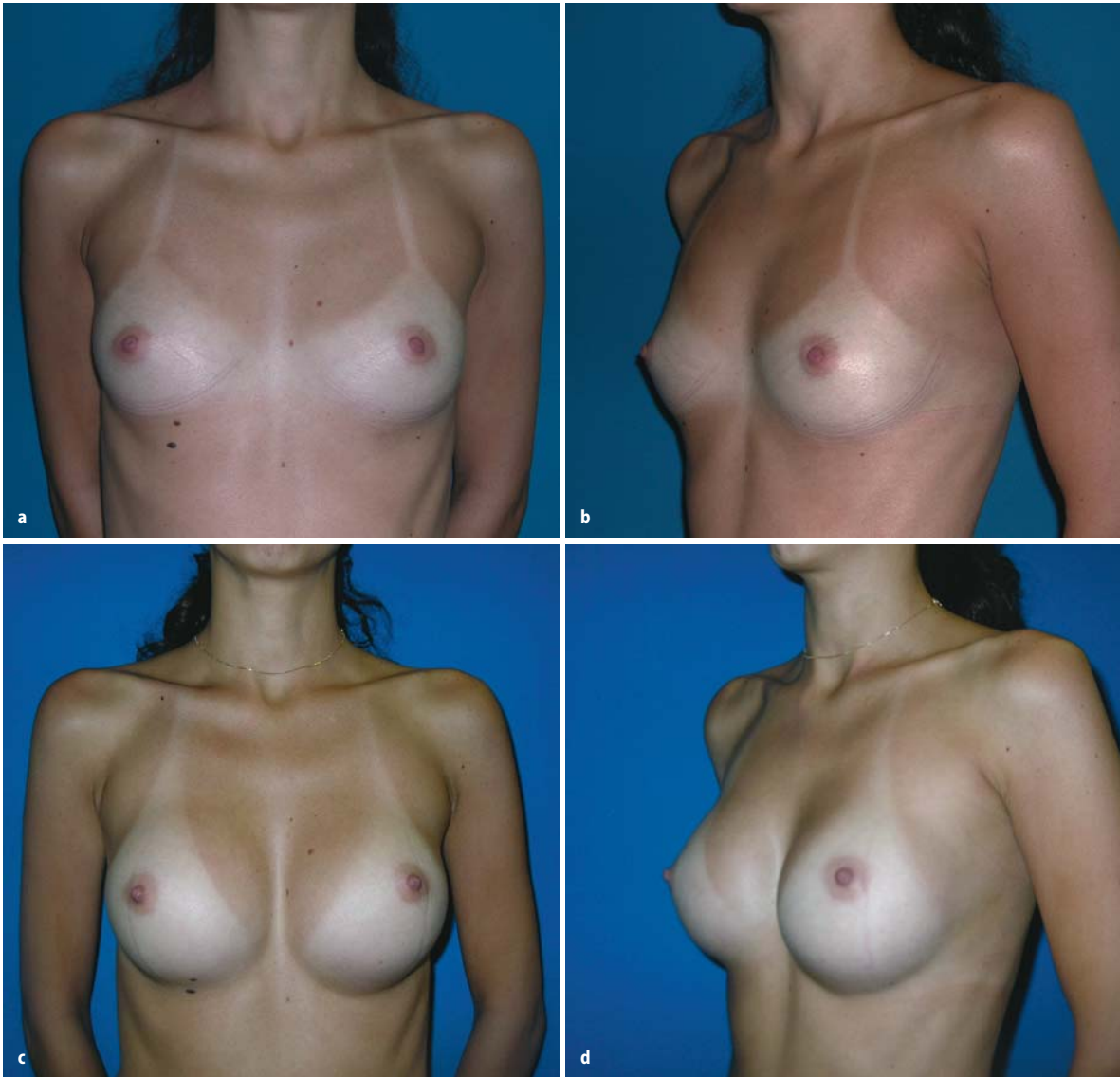
The procedure is performed with the patient under intravenous sedation in combination with local anesthetics (0.25% lidocaine/epinephrine 1/100,000). Both breasts are symmetrically infiltrated with a total volume of 200 cc. The infiltration is performed in the planned dissection plane using a long needle (the boundaries of the pocket, the axillary incision, the region between the current and the new inframammary



**Fig. 49.1a, b.** Skin markings are designed: the current inframammary sulcus, the anterior axillary line, the limits of the pocket and axillary dissection and the future inframammary fold. The new inframammary fold was located 1 cm above the original fold (a). It is important to maintain the incision in the limits of the axilla, and usually the deepest natural fold is chosen (b)



**Fig. 49.2a–d.** The axillary incision is performed and subfascial blunt dissection is done with the finger and with gently sweeping maneuvers the fascia is separated from the muscle as far as the finger can reach (a, b). When the distalmost margin is reached, the breast dissector is introduced and is used to complete the dissection (c). The silicone gel implants are placed in the subfascial location and the patient is positioned upright to assess implant position and breast shape (d)



**Fig. 49.3a–d.** Preoperative frontal and left oblique view of a 25-year-old patient with hypoplastic breasts (a, b). Two years postoperative appearance with a very good outcome. A bilateral 220-cc McGhan 120 style was used (c, d)

fold). An incision is made in the axillary fold and the superficial fascia of the pectoralis muscle is opened. Subfascial blunt dissection is performed with the finger and with gently sweeping maneuvers the fascia is separated from the muscle as far as the finger can reach. When the most distal margin is reached, the breast dissector is introduced and is used to complete the dissection. The breast is lifted away from the chest, consequently elevating the gland and muscular fascia, facilitating the passage between them and the breast dissector. The boundaries of the pocket and the new inframammary fold can be checked with the dissector, and enlarged by stretching if necessary. In order to avoid injury to the lateral cutaneous nerves and the lymphatic

channels, the lateral aspect of the pocket dissection is minimized. The silicone gel implants are placed in the subfascial location and the patient is positioned upright to assess implant position and breast shape. Layered wound closure is done using non-absorbable in the pectoralis fascia, subcutaneous and subdermal planes; and absorbable subcuticular running sutures.

#### 49.4 Postoperative Period

The procedure is performed on an outpatient basis. At the end of the surgery, an elastic band is used over the



superior breast poles and maintained for 4 weeks with the aim of avoiding superior displacement of the implants. All patients received intravenous antibiotics and oral antibiotics were continued for 48 h. The adhesive straps are removed on day 5 and the patients are advised to wear a normal bra associated with the elastic band across the upper breast pole. Patients are instructed to avoid lifting for 6 weeks.

### 49.5 Technical Aspects and Optimizing Outcomes

Most complications occur in the initial postoperative period and are directly related to the axillary incision [10]. The majority are minor, predictable and do not impair the final result. Axillary subcutaneous banding is occasionally observed and some authors believe that this may be attributed to inflammation of the cutaneous nerves or sclerosed lymphatic channels [1, 7, 10]. It is important to inform the patients previously and they are instructed to perform a local massage after the first postoperative week [10].

Another aspect is related to intercostobrachial nerve damage and lymphatic system preservation. Previous clinical series noted an incidence of sensory loss in 1–24% of the patients; however the true incidence of intercostobrachial injury is not defined [2, 10]. Similarly as proposed by Tebbetts [14], it is important to not dissect near the nerve and to preserve the axillary fat. The subcutaneous tissue should be undermined parallel to the skin and superficially to the axillary fat to avoid nerve injury [10].

Concerning the lymphatic channels, it is important to perform a minimal undermining in the lateral aspect of the breast to avoid interruption between the breast tissue and the axilla. Currently, analysis of axillary lymph nodes provides crucial information for adjuvant therapies in breast cancer, and sentinel lymph node biopsy has been proposed as an alternative in selected cases [6]. One might surmise that a previous dissection in the axilla could interrupt the normal lymphatic system and jeopardize the oncological treatment [8–10]. Our previous observation has demonstrated that the lymphatic channels can be preserved and that sentinel lymph node mapping is feasible with this technique [8, 9]. However, additional studies with larger clinical series are necessary to analyze the accuracy of the procedure in patients with a previous transaxillary approach [9].

Finally, postoperative care is crucial for the aesthetic outcome and to avoid implant displacement. Thus, an elastic band should be used over the superior breast poles and maintained for 4 weeks with the rationale of preventing upward migration of the implants and ensuring that the lowered inframammary crease remains

at the desired height. As the breast edema subsides, the band tension requires some adjustment, and the patient should be seen at appropriate intervals to supervise band tension [10].

### 49.6 Conclusions

Transaxillary subfascial augmentation mammoplasty is an advanced technique in aesthetic breast surgery. In selected patients the procedure ultimately unites the advantages of the submuscular technique but eliminates the disadvantages of postoperative discomfort and disturbing muscle movement of the breast. The thickness of the fascia increases from the inferior part to the upper third of the pectoralis muscle. In this last region, the fascia can present a good coverage of the implant and the edge is neither visible nor palpable. The incision location presents positive aspects. It is less visible than the inframammary/periareolar scars and in patients with a poorly defined inframammary fold, it can be valuable. Transaxillary subfascial breast augmentation can play a useful role for breast augmentation. The success of the technique depends on patient selection, an adequate technique and careful postoperative management [10].

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