

# Teaching Breast Augmentation

## A Focus on Critical Intraoperative Techniques and Decision Making to Maximize Results and Minimize Revisions

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### KEYWORDS

- Breast augmentation • Complications • Incisions • Pocket • Capsular contracture
- Operative approach • Inframammary fold • Dual plane

### KEY POINTS

- Preoperative assessment should determine choice of implant, breast pocket, incision, and need to lower inframammary fold.
- Surgical approach, implant choice, and operative technique can affect the incidence of capsular contracture.
- Inframammary fold positioning is critical to establishing optimal implant placement in the pocket.
- Creating a controlled pocket minimizes the risk of implant malposition or rotation.
- The dual plane maximizes coverage and support of the breast implant while minimizing the negative attributes of submuscular placement.



Video of the intraoperative steps of breast augmentation surgery accompanies this article at <http://www.plasticsurgery.theclinics.com/>

### INTRODUCTION

The operative approach in breast augmentation begins with careful and thoughtful consideration preoperatively to the many variables that ultimately affect the final result. Most decisions are made during preoperative evaluation and require expert operative execution to minimize the risks of unsatisfactory outcomes.

### PREOPERATIVE PLANNING

One of the most critical steps in achieving excellence in breast augmentation is the preoperative evaluation. Such an evaluation should identify not only the appropriate implant to achieve optimal results but also the location of the incision, the implant pocket, asymmetries of the breast, chest wall, and nipple-areolar complex,

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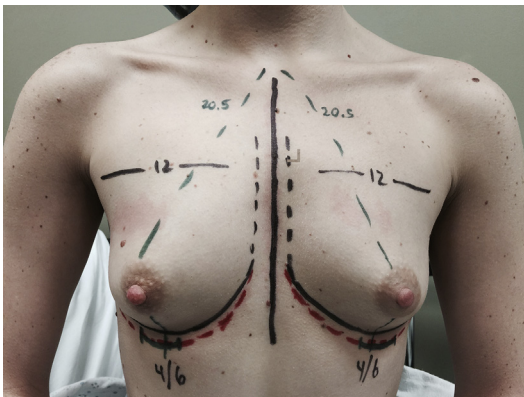
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and the potential need to lower and manage the inframammary fold (IMF). The preoperative markings create a roadmap for the planned procedure (Fig. 1). Evaluation of the soft-tissue coverage, including quality of skin and breast tissue, amount of breast parenchyma present, and the level of ptosis, is essential in determining the optimal pocket for implant placement. Precise pocket creation and appropriate implant choice are the best safeguards against postoperative implant malposition issues. Likewise, one of the major drivers of revision surgery after a breast augmentation is capsular contracture.<sup>1,2</sup> There is significant evidence that contamination with biofilm development is a significant causative component in the development of capsular contracture.<sup>3-6</sup> Therefore, the surgical approach, implant choice, and operative technique can all affect the development of capsular contracture. At the preoperative planning stage, every effort should be made to minimize this risk. **Box 1** summarizes some of the implant and surgical technique options that have been associated with lower capsular contractures.<sup>7-23</sup>

### PATIENT POSITIONING

Patients are placed on the operating room table in the supine position. The arms are secured to the armboard at 45° to stabilize the patient in the upright position (Fig. 2). This positioning allows access for the surgeon to stand and yet relaxes the pectoralis muscle, providing a more accurate assessment of the implant position and the re-draping of the breast tissue overlying it. Placing the arms by the patient's side is a useful alternative, but assessing the patient with the arms outstretched at 90° should be avoided.



**Fig. 1.** Preoperative markings create a roadmap for the planned procedure.

#### Box 1

#### Characteristics associated with incidence of reduced capsular contracture

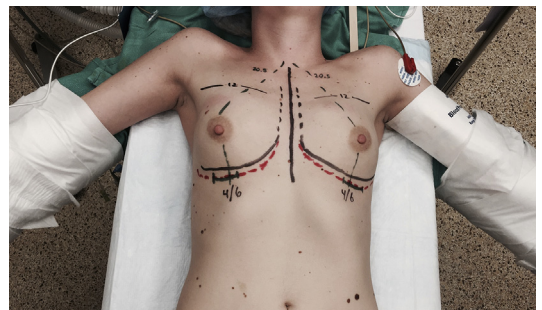
- No-touch technique
- Nipple shields
- Pocket irrigation with triple antibiotics
- Insertion sleeve
- Submuscular implant pocket
- Textured implants
- Inframammary incision
- Cohesive shaped implants

### INFILTRATION OF LOCAL ANESTHETIC

Before surgical preparation, 50 mL of a local field block of 1/4% lidocaine, 1/8% bupivacaine, and 1:400,000 epinephrine is injected (Table 1). The injection is placed in the dermis along the planned incision line, deep to the dermis along the IMF, the medial pectoral border, the anterior axillary line, and deep to the breast parenchyma, in a fanning fashion throughout the area of planned pocket creation (Fig. 3). These injections provide assistance not only in operative hemostasis but also in the management of postoperative pain.

### SURGICAL PREPARATION AND STERILE DRAPING

After local infiltration, nipple shields (created by placing a small piece of Tegaderm over each nipple-areolar complex) provide a barrier against potential bacterial contamination<sup>8</sup> (Fig. 4). The patient is prepped with chlorhexidine and draped to provide a sterile field with the entire chest and bilateral breasts visible for assessment during the procedure. The sterile dressings must be secured



**Fig. 2.** The arms are secured to the armboard at 45° to allow appropriate evaluation of breast implant placement in the upright position.

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