

Fascio-adipose Inframammary Fold Flap for Full Expander Coverage in Breast Reconstruction

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Two-stage implant-based reconstruction is still one of the most common procedures to restore the female breast after mastectomy.¹ The tissue expander reconstruction, originally introduced by Radovan,² is a safe and useful approach still qualified in managing breast volume change, asymmetry, or impaired vascularization to the mastectomy skin flaps.³ The eventual placement of the definitive implant when all soft tissues are stabilized is the key advantage for a successful and symmetric reconstruction.⁴

Implant exposure is a dreaded complication, and for this reason, the surgical technique should focus on creating a robust and well-vascularized pocket for implant insertion. Traditionally, two-stage breast reconstruction requires the placement of the expander under the pectoralis major muscle to achieve a thick and perfused layer below the thin mastectomy skin flap, preventing extrusion while expanding.

The pectoralis major muscle, however, cannot totally cover the expander, especially in the lateral-lower portion. Two approaches allow the submuscular pocket to completely cover the implant: the elevation of the serratus anterior muscle for an entire musculofascial coverage, which is our standard approach, or the use of acellular dermal matrix sutured between the lateral border of the pectoralis major muscle and the inframammary fold.⁴ In the literature, the rectus abdominis fascia has also been suggested to solve this issue.³

By avoiding the placement of matrices, the first technique is less expensive and does not have the risks associated with a dermal matrix. Still, a complete musculofascial closure can be difficult if the pectoralis major muscle is thin, has poor elasticity, or has a short and medialized insertion, which happens quite frequently in thin patients.⁵ In such circumstances, the lateral-lower portion of the expander may be exposed. To solve this old problem, our team has designed a simple solution.

If the mastectomy skin flap is thick enough (1–1.5 cm), as it usually is at the level of the lower fold, a triangular (or rectangular, according to the specific need) fascio-subcutaneous flap can be harvested and flipped down to cover the remaining part of the tissue expander (Fig. 1). The flap is usually designed with a random vascularization, and inferiorly based by the inframammary fold away from the mastectomy skin access. The flap may also be designed on perforator vessels off the intercostals, if visualized. Dissection usually starts 2–4 cm cranial to the inframammary fold and extends 4–10 cm in width according to the reconstructive need. Once harvested, the flap can be sutured both to the inferior-lateral margin of the pectoralis major muscle and to the inferior-anterior margin of the serratus muscle. By doing this, the expander remains totally isolated in a customized pocket, as shown in Figures 1 and 2. (See Video [online], which displays harvested fascio-adipose fold flap. A perforator of the intercostal artery is visible at the basis of the flap.)



Fig. 1. Outline of the fascio-adipose inferiorly based fold flap.

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Received for publication July 31, 2023; accepted September 8, 2023.

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Plast Reconstr Surg Glob Open 2023; 11:e5365; doi: 10.1097/GOX.0000000000005365; Published online 3 November 2023.

Disclosure statements are at the end of this article, following the correspondence information.

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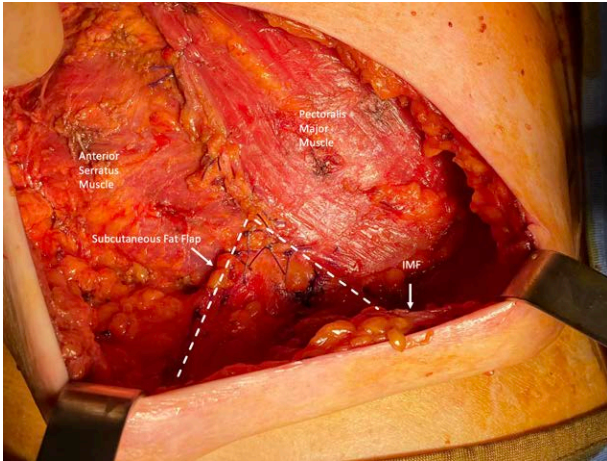


Fig. 2. Intraoperative view of expander placement and coverage with pectoralis major muscle, anterior serratus muscle and fascio-adipose fold flap.

In our experience, the closure of the pocket containing the expander is critical. By doing this, two separate environments are created, and the expander remains isolated from the subcutaneous prepectoral dissected space, where contamination may occur in the case of skin breakdown.

Our team used this technique successfully in four patients, and no complications have occurred. The postoperative course was uneventful, and a full expansion was achieved for all patients.

This simple and straightforward procedure should be kept in mind and explored in its feasibility to use in all cases in which the submuscular pocket containing the expander cannot be closed.

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DISCLOSURE

All the authors have no financial interest to declare in relation to the content of this article.

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