

# Preservation of the Peri-prosthetic Capsule Allows Larger Volumes of Fat Transfer After Explantation

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## Background

- Autologous Fat Grafting (AFG) offers a promising solution for preserving breast contour and volume, especially after explanation<sup>1</sup>.
- A common concern with breast AFG is volume retention, with smaller volume AFG potentially requiring multiple fat grafting sessions. However, larger volume AFG can have unpredictable graft survival<sup>2</sup>.
- Implant removal may necessitate capsulectomy, which further depletes breast volume and eliminates a potential fat grafting plane, which may be an important consideration for volume retention<sup>3</sup>.

## Objective

The purpose of this study is to investigate the role of capsular preservation and postoperative outcomes of large-volume AFG for breast reaugmentation after explantation.

## Methods

- A retrospective review was conducted on all consecutive cosmetic augmentation patients who underwent explantation with large-volume AFG (>200 mL) performed by the senior author between January 2021 and July 2024.

## Surgical Technique

Implants were approached through a limited inframammary or circumvertical approach. In cases of calcified or abnormally thickened capsules, capsulectomy was performed. Fat grafts were deposited in separate 2 mm ribbons into the soft tissues of the breasts. Subcapsular fat deposition was conducted when the capsule was present.

## Results

Fifteen patients (30 breasts) were included

- Average BMI was 26.25±4.64.
- Indications for explantation included breast implant illness (n=1), ruptured implants (n=3), capsular contracture (n=5), pain (n=2), and aesthetic dissatisfaction (n=4).
- Implants were pre-pectoral in 33% of cases.
- Capsulectomy was performed in 47% of breasts, and mastopexy in 87%.
- Average implant size removed was 357±71 mL and average AFG volume was 555±225 (range: 210–1000) mL.

Capsulectomy, pocket location, and BMI on AFG volume

- AFG volume was **28% greater** in the no-capsulectomy group compared to the capsulectomy group (460.71±139.25 vs. 637±256, **p<0.03**).
- BMI and pocket location (pre-pectoral vs. sub-pectoral) did not have an impact on the amount of fat injected (p=NS).

Complications

- Two breasts in one patient developed dehiscence and superficial infection within 30 days
- Fat necrosis occurs in 4 breasts and was **not associated with initial AFG volume** (p=NS)
- No other early complications (donor-site complications, seroma, hematoma, deep vein thrombosis (DVT), fat necrosis, or reoperations) occurred.

Additional AFG

- Two patients required additional fat grafting of 366±199 mL
- Breasts requiring additional fat grafting had **lower initial AFG** (290 mL vs. 595 mL, **p<0.001**).

## Conclusions

- Large-volume autologous fat grafting after cosmetic explantation is an effective option for maintaining aesthetic goals with minimal complications.
- Preserving the periprosthetic capsule during explantation facilitates larger fat volume transfers.
- Lower initial graft volumes may increase the likelihood of requiring additional fat grafting.

## References

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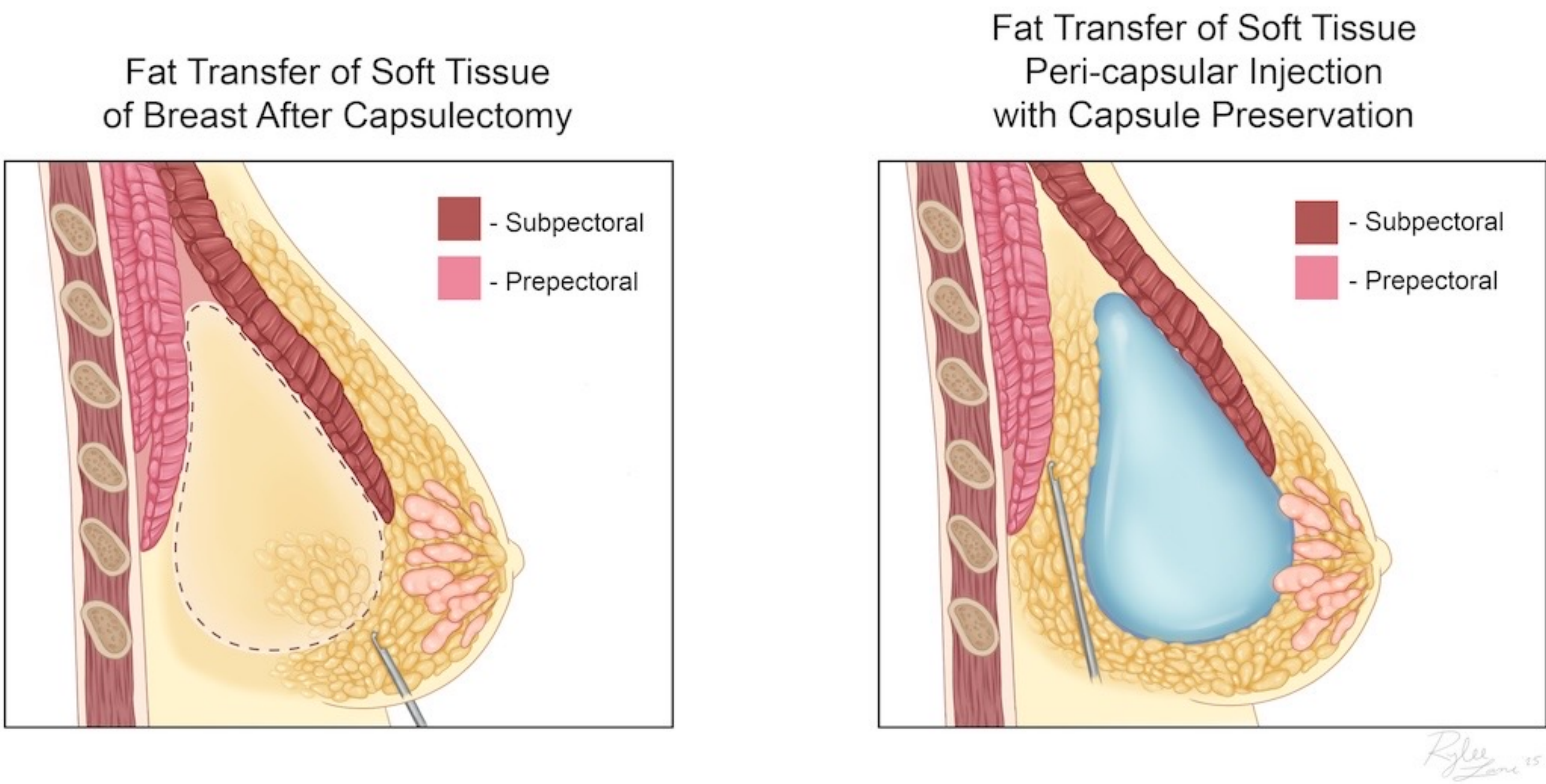


Figure 1. Surgical technique demonstrating the capsule interface used as a fat grafting plane.