

# BREAST AUGMENTATION WITH GRAFTING OF LIPOSUCTIONED FAT:

## ABSTRACT

- **Objective:**  
Gynecologists are frequently asked by their patients about breast augmentation. There have been only two effective treatments: breast augmentation with implants and non-surgical breast enhancement with an external tissue expansion device. This study investigates whether breast augmentation with liposuctioned fat is a safe and effective alternative to breast augmentation, given the advancements made in harvesting techniques, refinement of surgical instrumentation and preparation of the graft site.
- **Methods**  
After 4 weeks of vacuum external breast expansion with the Brava® System, 26 women underwent 11 bilateral breast augmentations with lipotransfer. 90-300ml of decanted low-pressure aspirated fat was re-injected in a 3-D fanning pattern in the expanded subcutaneous periglandular space. Postoperatively expanders were used for 1 week as stabilization stents. Breast volumes were derived from 3D reconstructions of the baseline, 3 and 6 months postoperative MRIs. Mammography was performed at one year.
- **Results**  
At 12-30 months follow-up, there are no complications; no nodules, no suspicious radiographic findings and all patients were satisfied with their results. 20% have typical fat necrosis calcifications identified on MRI imaging. Average augmentation is 180ml/ breast per lipotransfer procedure (range 90-230 ml). Graft survival averages 90% (range 70-100%).
- **Conclusions**  
Single-stage, large-volume lipotransfer breast augmentation is feasible in a prepared, expanded, hypervascularized bed with a predictable 90% graft survival. Fat necrosis is a rare finding recognizable

## METHODS

- IRB approval
- Baseline MRI:
  - confirm no pathology
  - precise volume determination
- 4 weeks of Brava use for external expansion (>10 hours/day)
- Uninterrupted Brava® usage for 4 weeks prior to surgery
- Local anesthesia with sedation
- Harvest 200-300 ml of fat with Coleman cannulas
- Inject breasts in a multiplanar, weave pattern
- Begin wearing Brava 12 hours a day, wear continuously as tolerated; >10 hours/day for 5 to 7 days
- MRI performed at 3 months and 6 months postoperatively
  - % of fat take
  - Volume of enhancement
  - Presence of fat necrosis
- Mammography at 1 year

**External Tissue Expansion  
Augments the Recipient Bed**

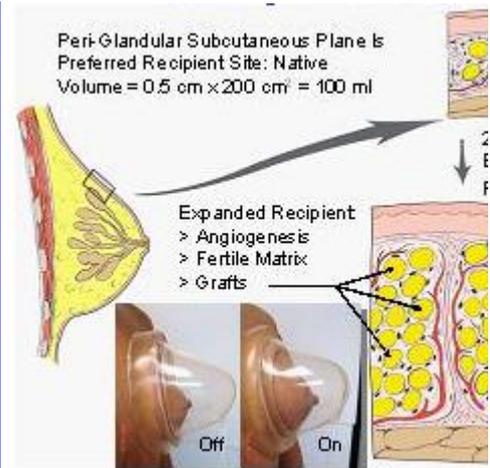
by modern breast imaging. Most importantly, the procedure does not distort the breast tissue or interfere with breast cancer detection. Subcutaneous autologous fat grafting safely and effectively augments the breast.

## OBJECTIVE

The primary objective of this study is to determine whether autologous fat grafting to the breast, utilizing a negative pressure external soft-tissue device to expand and prepare the recipient graft site in conjunction with refinements in fat harvesting techniques and microfat transfer, is a viable option for breast augmentation and reconstruction.

## BACKGROUND

- In 1987, the American Society of Plastic and Reconstructive Surgeons institute a ban on fat grafting to the breast because of poor graft survival, fat necrosis and limited breast imaging.
- Today, radiologists can clearly differentiate neoplastic properties from fat necrosis.
- Micro fat grafting has been markedly improved with refinements made in harvesting techniques, preparation of the graft site and specialized instrumentation.
- In addition Brava , an external breast tissue expander, was found to increase the vascularity of the breast and to temporarily expand the extracellular and extra glandular preferred recipient site.



## Pre-op Markings On Recipient Site



## Peri-Glandular 3D Infiltration of Fat Grafts Through 14G Cannula Through Puncture Site



1