

CASE REPORT

Breast reconstruction performed with Workstation Pro plus by Moeller



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Hybrid breast reconstruction using Workstation Pro plus and Puregraft

Abstract

Hybrid breast reconstruction, which combines implant-based reconstruction with autologous fat grafting, offers a method to achieve natural breast contours and improve outcomes in post-mastectomy patients. This case report highlights the use of Workstation Pro plus by Moeller for precise fat harvesting and Puregraft for fat purification, ensuring safe and effective results.

Challenge

- Achieving a harmonious and natural breast shape
- Addressing volume irregularities and contour deformities post-reconstruction
- Reducing implant visibility and palpability
- Ensuring fat graft retention and safety during large-volume procedures

Solution

Hybrid breast reconstruction combines the structural support of an implant with the natural enhancement provided by autologous fat grafting. The process involves gradual tissue expansion, multiple lipofilling sessions, and final implant placement to achieve optimal aesthetic and functional outcomes. Utilizing the Moeller Workstation Pro plus and Puregraft systems streamlines the process of fat harvesting, preparation, and grafting, minimizing tissue trauma and optimizing graft viability.

Technique overview

- After mastectomy, a temporary breast expander was inserted to preserve or reconstruct the breast skin envelope through gradual expansion.
- This process created a capsule around the expander, providing a compliant space between the skin and the capsule ideal for fat grafting.
- Several sessions of lipofilling were performed at three-month intervals over 15 months to build up the subcutaneous tissue layers.
- Once adequate tissue was established, the expander was replaced with a permanent implant.

Fat harvesting and purification

For tissue preparation, tumescence was infiltrated using the Moeller Thermia Pro, to prevent hypothermia, and the MOELLER Liposat Pro plus for easy infiltration. Fat was harvested using the Vibrasat Pro, equipped with blunt-tipped cannulas, allowing for precise and gentle liposuction. The Moeller Vacusat power facilitates controlled suction, reducing tissue trauma and preserving fat cell integrity. Harvested fat was purified using the Puregraft system, which employs a closed filtration process to separate unwanted fluids, ensuring high-quality fat for grafting.

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Procedure

The hybrid breast reconstruction was performed in stages:

- 1. Tissue Expansion:** Following mastectomy, a temporary expander was placed to stretch the skin and create a suitable pocket for the implant. The expander remained in place for 15 months to allow for sufficient skin expansion and tissue preparation.
- 2. Autologous Fat Grafting:** Fat grafts were injected into the subcutaneous layer and surrounding tissues to build up the tissue layers, smooth contour irregularities, and prepare for implant placement. For infiltration the Moeller Liposat Pro plus was used together with the vibrating Vibrasat Pro. Multiple sessions were performed, spaced three months apart.
- 3. Implant Placement:** After sufficient tissue was established, the expander was removed and replaced with a permanent implant, providing central core projection.

Case study

A 42-year-old female underwent hybrid breast reconstruction following mastectomy for breast cancer. A temporary expander was placed and remained in place for 15 months, during which four sessions of fat grafting were performed. Fat was harvested from the abdomen and thighs, purified using the Puregraft system, and injected into the breast area. After achieving adequate soft tissue coverage, the expander was replaced with a silicone implant. At six months follow-up, the patient demonstrated improved breast symmetry, softer contours, and a high degree of satisfaction with the aesthetic outcome.

Conclusion

Hybrid breast reconstruction using Workstation Pro plus and Puregraft offers a versatile and effective solution for post-mastectomy patients. This approach facilitates natural contouring, reduces implant visibility, and addresses volume discrepancies with a focus on safety and precision. While long-term studies are needed, early results suggest this method optimizes outcomes for both surgeons and patients.



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