

The Prepectoral, Hybrid Breast Reconstruction: The Synergy of Lipofilling and Breast Implants

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Background: Breast reconstruction modalities are based on autologous tissue transfer, implants, or a combination of both. The aim of an allogeneic breast reconstruction is to minimize the impact of the implant on surrounding tissues to achieve an aesthetically pleasing result. Accurate tissue coverage, proper implant selection, and implant location are the absolute concerns in planning an implant-based reconstruction.

Methods: A single surgeon's experience with the ergonomic, hybrid approach in primary and secondary breast reconstructions is presented. The hybrid approach is based on tissue expansion followed by serial sessions of fat grafting to augment the residual autologous (subcutaneous) compartment. The last step included the insertion of a prepectoral, ergonomic implant to obtain central core projection and additional volume.

Results: Fifty-six hybrid breast reconstructions were performed with a mean follow-up of 24.1 months. Aesthetic outcomes and patient satisfaction have been good with pleasing breast projection, natural breast motion, and optimal coverage of the prepectoral implants.

Conclusions: The hybrid reconstructive approach is a reliable technique to improve the outcomes in implant-based breast reconstructions. The 2-step, prepectoral approach with expander-to-implant exchange allows better control of the final breast shape, and complications related to submuscular approaches are avoided. Fat grafting adds an autologous benefit to obtain natural results. (*Plast Reconstr Surg Glob Open* 2020;8:e2966; doi: [10.1097/GOX.0000000000002966](https://doi.org/10.1097/GOX.0000000000002966); Published online 23 July 2020.)

INTRODUCTION

Breast reconstruction modalities are based on allogeneic materials, autologous tissue transfer, or a combination of both. Despite the advantages of autologous tissue transfer, implant-based breast reconstructions are outnumbering autologous reconstructions by a ratio of 4:1.^{1,2} Alloplastic breast reconstructions involve fewer scars, no donor site morbidity, and less operating time.^{3,4} However, the long-term impact and behavior of an implant are not ignorable. The transcendental challenge in implant-based reconstructions (as well as in aesthetic breast augmentation) is soft-tissue coverage. Implants are infamous

for their burden on surrounding tissues even after the well-accepted conversion to submuscular or dual-plane techniques. Problems are increased risk of infection, tissue atrophy, capsular contraction, animation deformity, implant migration or lateralization, poor aesthetic outcomes with disproportionate upper pole fullness, and deficient lower pole expansion.³⁻⁸ The long-term outcome is often a "static" breast with unnatural contours and a deformed footprint. The surgeon's task is to optimize the implant's performance related to the surrounding tissues and in respect of the patient's anthropometry, the motion of the breast, and biomechanical interactions. The breast mound can be reconstructed simultaneously with the mastectomy or is delayed as a 2-stage procedure. There have been reports of immediate, prepectoral hybrid techniques.⁹⁻¹¹ Acellular dermal matrices (ADMs) were introduced as soft-tissue replacement frameworks to overcome some disadvantages of implant-related complications but

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with contradictory conclusions and an additional cost for the patient.^{12–18} Reconstructive procedures should be based on the replace-like-with-like principle. The breast is a subcutaneous structure; gravity, aging, and posture influence breast volume distribution and its contour: the breast has a distinct ergonomic compared with other anatomic regions. The majority of breast reconstructions in our department is performed with microsurgical tissue transfer to achieve long-lasting, natural results. Nonetheless, the choice for a certain breast reconstructive technique is based on a personalized approach. Some patients benefit from an implant-based approach because autologous options are often not available to or simply not wanted by all patients. Recognition for the aesthetic part is equally important as the reconstructive part in allogeneic reconstructions. The reconstructive component comprises volume and footprint restoration, whereas aesthetics is directed by the surgeon's skills, tissue quality and availability, and the implant characteristics.¹⁹ In autologous reconstructions, the transplanted tissue adapts to its new environment because of its unique plasticity. In implant-based reconstructions, the implant does not adapt to its new surroundings, affects the remaining tissues, and is the major manipulator of the aesthetic outcome. Lipofilling is now a universally accepted technique to correct soft-tissue deficiencies or to improve contour irregularities in breast surgery. Lipoaspirate (LA) is a liquefied tissue material, and breast reconstruction does not involve "filling up gaps" but the restoration of a 3-dimensional tissue substitute that approximates a breast. This conception holds a major confrontation: using a flowing substance (LA) to assemble and fashion a 3-dimensional tissue construct. Fat grafting can be applied to reconstruct (small volume) breasts, but often, for larger breasts, an increased volume, enhanced core projection, and stability are obtained with an additional (small) implant.^{20–22} This article presents our experience with the hybrid breast reconstruction technique: a technique based on a series of fat grafting to restore the subcutaneous tissue barrier followed by an implant insertion to provide additional volume and core projection.

PATIENTS AND METHODS

Between 2014 and 2017, 56 prepectoral, hybrid breast reconstructions were performed in 33 patients, with a mean age of 42 (range, 21–77 years old). The mean follow-up was 24.1 months (range, 6–54 months). Indications for the hybrid technique were genetic predisposition with prophylactic mastectomy (36 breasts), primary reconstructions with mastectomy and diagnosed breast cancer (7 breasts), secondary reconstructions (10 breasts), and previous failure of autologous reconstruction (3 breasts). The choice to perform a hybrid breast reconstruction was based on a personalized approach of the patient. Our standard approach in breast reconstruction is autologous tissue transfer, but whenever this option was not available or not wanted by the patient, the hybrid approach was offered to the patient. Demographics are shown in Supplemental Digital Content 1 (see Supplemental Digital Content 1, which displays the demographics in this study, <http://links.lww.com/PRSGO/B427>).

Surgical Technique

Step 1: Expander Insertion

(See Video 1 [online], which displays the preoperative markings and expander insertion in a secondary breast reconstruction. The expander is inserted through an inframammary fold (IMF) incision and positioned subcutaneously in a prepectoral position.)

An expander (CPX4 Contour Profile Tissue Expander, Mentor) is inserted to preserve or expand the prepectoral space as well as the skin envelope in primary or secondary breast reconstructions, respectively (Fig. 1). The expander is preferentially inserted in the prepectoral pocket. All patients were marked preoperatively in the upright position. Markings included limits of planned dissection or skin undermining, the existing IMFs, and the proposed new IMF in secondary reconstructions. In primary cases, the mastectomy flaps were evaluated for thickness and vascularity. Mastectomy flaps with a questionable vascularity were indications to opt for the submuscular plane. In secondary cases, all the expanders were inserted subcutaneously through an imaginary IMF incision, and the existing mastectomy scar was left intact (Fig. 2). Conservation of the skin by not opening the mastectomy scar is of upmost importance to treat the entire skin envelope with fat injections. Reopening the previous mastectomy scar would compromise the lipofilling procedure as the wound needs to heal again.

The inset of the expander should be slightly lower than the existing IMF to support sufficient lower pole expansion. The expander's suture tabs are fixated with resorbable Vicryl 2/0 sutures to prevent migration or lateralization. A closed suction drain is placed in the pocket, and the incision is closed with resorbable sutures. Drains are removed postoperatively until drainage output is <30 cc over 24 hours.

Expanders were always inserted in a deflated condition to off load the pressure on surrounding tissues and incisions. Antibiotic prophylaxis was prescribed for 5 days (amoxicillin 500 mg/clavulanic acid 125 mg).

Step 2: Expansion

Expansion was started at 2 weeks postoperatively in the event of favorable wound healing and was performed on a weekly basis. Initially, we injected a physiologic sterile solution but changed this policy to an injection with air, which is more comfortable for the patient. Air has a more homogeneous distribution compared with water and provides a more uniform expansion of the skin envelope with a better comfort for the patient and less rippling. The expansion process generates the formation of a periprosthetic, well-vascularized capsule^{23–25} (Fig. 1). (See Video 2 [online], which displays the well-compliant space in between the skin and the capsule around the expander. Fat injections are performed within this space, which is well vascularized after the expansion process.) The capsule creates a well-defined, supportive space between the skin and the capsule (see Video 2). The expansion process also creates a well-defined IMF, footprint, and lower-pole expansion (Fig. 2C–D).

Step 3: Fat Grafting

Eight weeks after the onset of expansion, the Coleman structural fat grafting technique is performed to build up the subcutaneous tissue thickness.²⁶ (See Video 3 [online], which

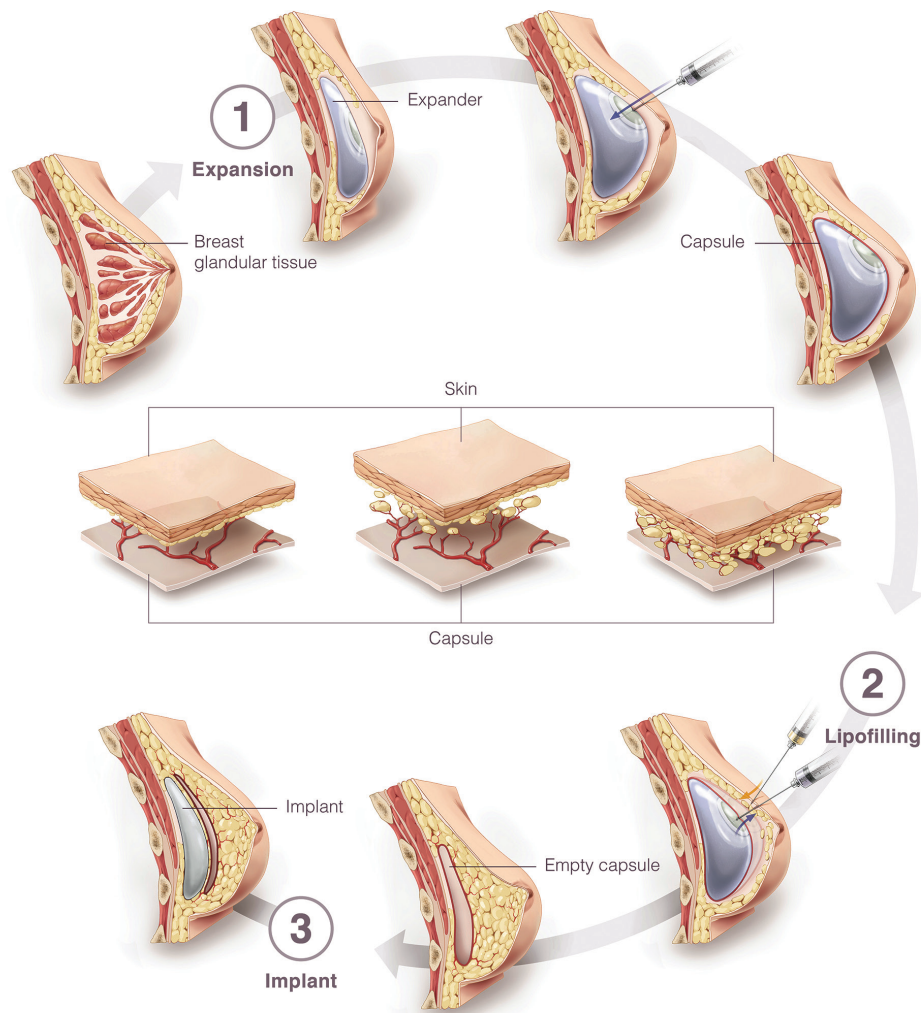


Fig. 1. Schematic drawing of the hybrid breast reconstruction approach with initial skin expansion followed by serial fat grafting sessions to augment the subcutaneous tissue layers. A rich vascular plexus is generated in the outer part of the capsule at 8 weeks postexpansion. At this time point, the first lipofilling session is performed and fat particles will be positioned in close proximity to this newly formed vascular plexus. The final step is insertion of an implant in the prepectoral space following the principles of breast augmentation. The augmented subcutaneous tissue layers provide adequate coverage of the implant and smoothens the transition areas with the chest wall.

displays the fat grafting procedure in an expanded recipient site. Fat grafting is gently performed to avoid excessive tissue turgor, which could compromise the fat graft survival. Attention is paid to the aesthetic areas of the breast.) In summary, donor sites (thigh, buttock area, and abdomen) were infiltrated with a liposuction solution (1L sodium chloride 0.9%, 20mL xylocaine 1%, and 1 mL epinephrine 1.0mg/1mL). After a delay period of 30 minutes, fat was liposuctioned manually with a 50-mL syringe connected to a 3-hole Mercedes tip, 3-mm cannula. LA was transferred into 10-mL Luer lock syringes and centrifuged at 12g for 3 minutes (Sarstedt, Centrifuge LC 24, 230 V). Concentrated LA was injected subcutaneously with a single-hole cannula (Coleman Concave Infiltration Cannula, Style I, 12g) in a layered, multidirectional fashion. Care was taken not to compromise the skin turgor to avoid obstruction of the capillary perfusion (see Video 3). Fat grafts are placed in the space between the skin and the capsule. This is

a well-defined space that supports the survival of grafted fat. Fat grafting sessions were performed with a 3-month interval until an acceptable volume was obtained based on clinical examination, available donor tissue, and symmetry with the contralateral breast (Fig. 2). (See Video 4 [online], which displays process and result of a bilateral breast reconstruction with fat grafting. It shows how a prepectoral tissue unit can be reconstructed. This reconstructed tissue unit could function as a tissue barrier for a prepectoral breast implant.) Lipofilling sessions were performed in a 1-day admission setting.

Step 4: Implant Insertion

An advantage of the 2-stage expander-to-implant approach is a more controlled judgment of the final implant volume and its base width. Implants were selected based on the base and volume of the contralateral breast or on the residual volume and base of the expander in bilateral reconstructions. The final step in the reconstructive

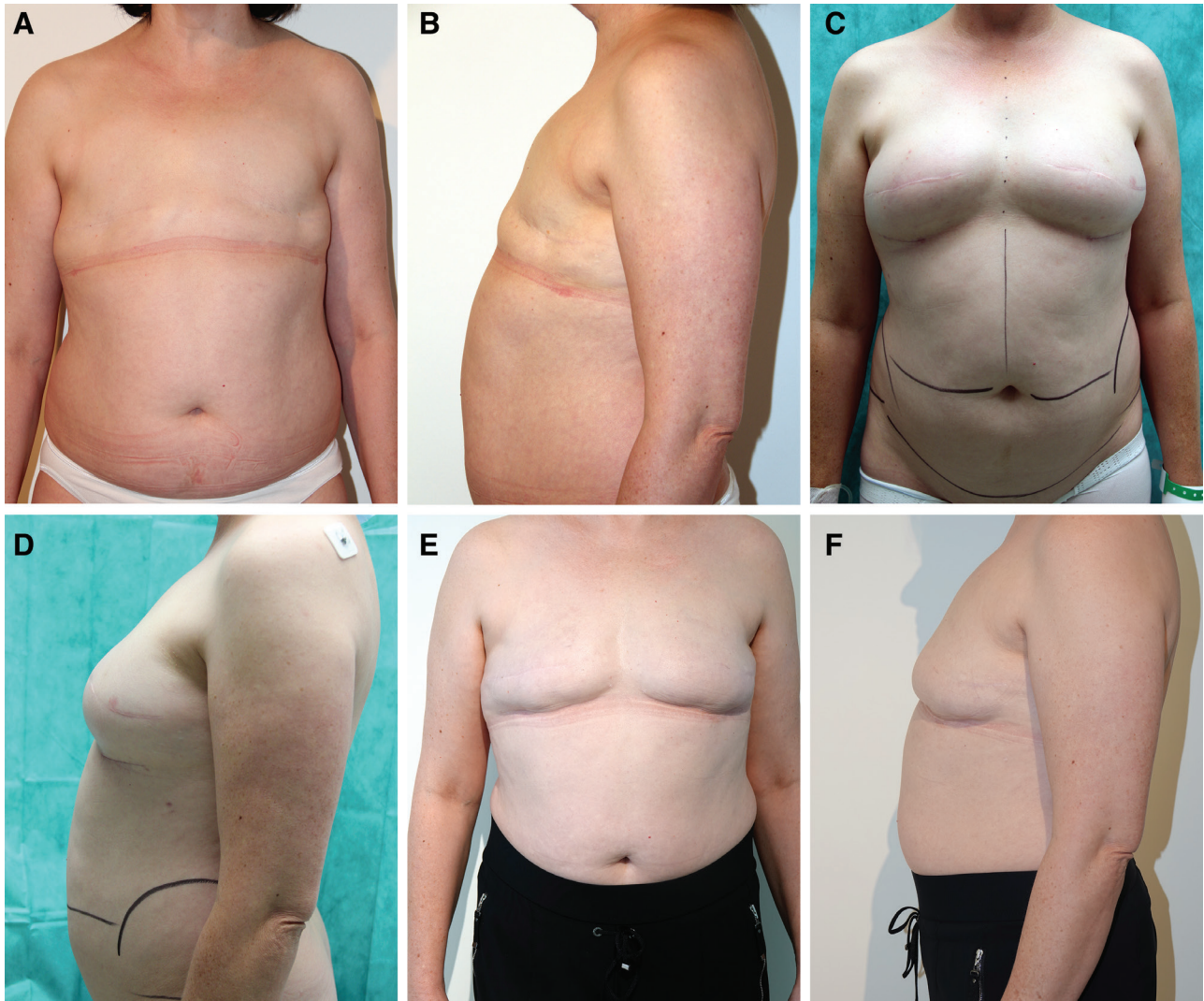


Fig. 2. Bilateral secondary breast reconstruction with lipofilling. A, Bilateral mastectomy in a 53-year-old patient (front view) who preferred not to have any type of microsurgical tissue transfer. B, Flattened chest wall after bilateral mastectomy. The mastectomy recipient site shows skin laxity and tissue compliance. C, Breast tissue expanders have been inserted through an inframammary incision to preserve the entire skin envelope. Reopening of the previous mastectomy scar has been avoided in order not to compromise the recipient site. They have been fully expanded, and the patient is seen before her first lipofilling session. The expansion process has created a well-defined inframammary fold. D, Expansion has created a prepectoral well-defined shape and projection. The inframammary fold is well defined, and there is lower pole expansion. E, The patient is seen 2 years after the last lipofilling session (370-mL right breast and 380-mL left breast; 3 sessions). A prepectoral, autologous tissue unit has been reconstructed. F, A prepectoral tissue volume has been reconstructed with fat grafting, and the expander has been removed. The patient now resembles a breast augmentation patient and could benefit from an additional small implant to improve central core breast projection. However, in this case, she refused any breast implant and opted for fat grafting only. The inframammary fold is well defined, and there is lower pole expansion.

process consisted of insertion of the implant in the prepectoral space after removal of the expander. Implants used were silicone-filled Motiva Implants Ergonomix (Establishment Labs, Alajuela, Costa Rica), whose gel has viscoelastic properties that allow the implant to adapt better to the gravitational force, mimicking the natural movement of the breast.²⁷ (See Video 5 [online], which demonstrates the final breast implant insertion and removal of the tissue expander. The implant is inserted in the prepectoral pocket. The prepectoral approach is the most rational approach as the breast is a subcutaneous structure.) Whenever needed, the lateral part of

the capsule was tightened with a plicature of a running prolene 2/0. This prevents lateralization of the implant and thickens the inferolateral breast pole. Additional subcutaneous scar release is performed with an 18G needle.

RESULTS

The mean implant volume was 319 mL (range, 125–475 mL). The mean injected volume of fat per breast was 262 mL (range, 40–620 mL), with a mean number of 2.7 (range, 1–5) lipofilling sessions. The mean percentage of fat injected relative to the implant volume was 103%. Patients who underwent prophylactic mastectomy had their expander

inserted through an IMF incision. Whenever needed, the nipple was removed through a separate small incision around the nipple with preservation of the areola. In secondary reconstructions, expanders were inserted through a small IMF incision and not through the existing mastectomy scar. In primary reconstructions with active breast cancer disease, the mastectomy was performed through a vertical scar incision extending from the nipple to the IMF and the expander was inserted through the same incision. With acceptable thickness of the mastectomy flaps, the expander was positioned in a prepectoral plane with proper, everted closure of the incision (3 breasts). In those cases, with thin mastectomy flaps, the expander was positioned in the submuscular pocket (4 breasts). In this group, 1 patient required additional adjuvant radiotherapy. The fat grafting session was delayed until 6 months after completion of her adjuvant therapy. The submuscular expanders were eventually removed and replaced with prepectoral implants. Complications occurred in 4 patients. Minor complications involved hematoma and seroma formation after expander insertion. The hematoma ($n = 1$) after expander insertion was treated conservatively and required no additional drainage. Minimal to moderate seroma formation or serosanguinous liquid accumulation to some degree was observed in almost all patients after expander insertion. The seromas were drained ambulatory when the patient was seen for her expansion protocol as the expansion favored the drainage of the seroma. No seromas were drained or observed after the final implant

insertion. Expander infection ($n = 1$) occurred in a secondary reconstruction with a history of adjuvant radiation therapy. We observed 2 infections of the implants that were removed and replaced after a delay period of 6 weeks. Since the occurrence of those infections, prophylactic oral antibiotics are prescribed for 5 days. One patient with the infection of the implant required additional surgical release of the lower pole due to contraction and lateralization of the nipple. The ambulatory expansion protocol was uneventful and well tolerated by all patients. The structural fat grafting sessions were uneventful, well tolerated, and performed in a 1-day clinic admission. No fat diffusion in the mastectomy pocket occurred during the fat grafting sessions as observed during final implant insertion. At this stage, no patients were reported with capsular contraction, rippling, or major discomfort. In secondary reconstructions, the mastectomy scar was revised to obtain a pleasing aesthetic result.

Clinical Assessment

Overall, patients were very satisfied with the clinical outcome and the natural touch of the breast. (See Video 6 [online], which displays the final result of a reconstructed breast with the hybrid technique. The breast has natural contours and feels natural with a well-defined IMF.) (See Video 7 [online], which displays 2 patients during their breast reconstructive process.)

In patients requiring additional procedures such as a mastopexy, an intraoperative view confirmed the presence



Fig. 3. Preoperative view for bilateral prophylactic mastectomy and hybrid reconstruction. A, Prophylactic subcutaneous skin-sparing mastectomy in a 43-year-old patient who preferred not to have microsurgery. Breast size is considerable, and she is not a good candidate for breast reconstruction with only fat grafting. The hybrid approach was chosen in this case. B, Some ptotic appearance of both breasts are observed, needing additional breast lifting.



Fig. 4. An additional mastopexy procedure in a hybrid breast reconstruction with an intraoperative view on injected and viable fat. The injected fat is healthy and well vascularized and provides an extra barrier for optimal implant coverage.

of viable injected fat (Figs. 3–5). In all patients, we achieved a good symmetry in relation to the contralateral breast. The breasts showed a pleasing lower pole expansion that contributes to the natural look of the breast (Figs. 6,7). Magnetic Resonance Imaging studies were performed to

assess implant coverage and showed a homogeneous distribution of injected, viable fat (Fig. 8).

DISCUSSION

The gold standard in breast reconstruction is microsurgical, autologous tissue transfer, but implants can be an alternative in specific cases for many reasons. Another autologous option is the minimal invasive fat grafting technique. However, fat grafting is indicated to reconstruct small-volume breasts, and several sessions will be necessary to reconstruct the breast. Its major disadvantage is the unpredictable resorption rate. The question in implant-based reconstructions is how to create natural results with an allogeneic material and how to optimize the implant's interaction with the surrounding tissues at the short and at the long term. A natural result will depend on sufficient tissue coverage, proper implant selection, and a proper autologous/allogeneic ratio. A commitment to fulfill all those requirements will create an acceptable breast ergonomic related to the patient's anthropometry. The only method that provides a minimal invasive, autologous "plug-in" in implant-based reconstructions is the fat grafting technique. Additionally, specific parts of the breasts, such as the cleavage area, can be treated, which makes this technique very attractive in breast reconstruction. Lipofilling uses LA material (a liquefied material) and

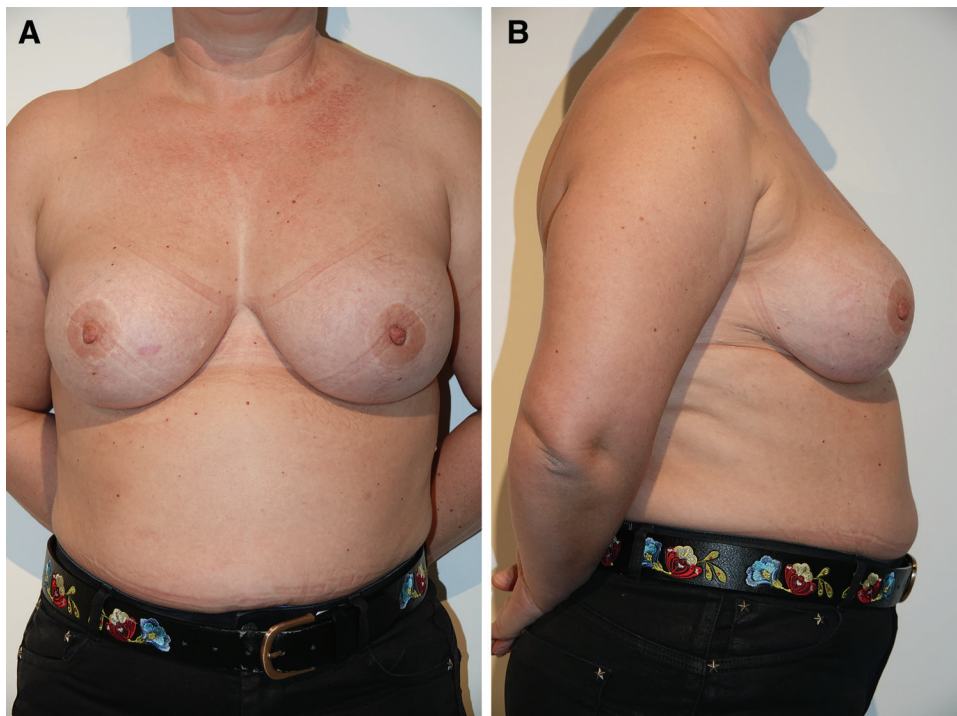


Fig. 5. Postoperative view after bilateral prophylactic mastectomy and hybrid reconstruction. A, The patient is seen 15 months after her hybrid breast reconstruction. An expander was inserted in the prepectoral plane, and serial sessions of lipofilling have been performed (320-mL right and 340-mL left; 3 lipofilling sessions). An additional ergonomic, prepectoral implant of 410 mL provided the extra volume and central core projection. She required an additional mastopexy procedure. B, The profile view shows a natural distribution of the breast volume with acceptable breast projection and position of the nipple. The breast has a natural, ptotic appearance with lower pole expansion.

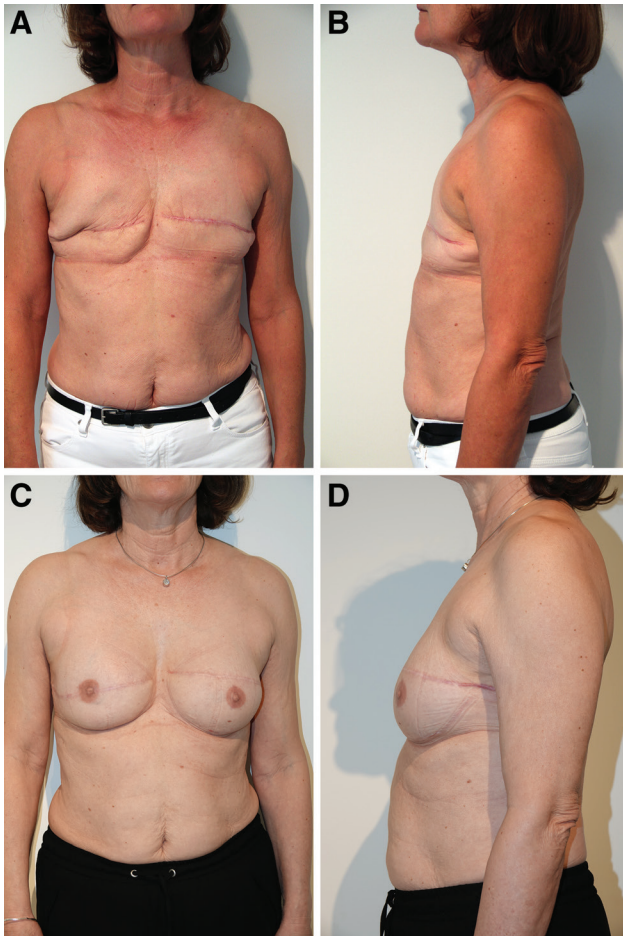


Fig. 6. Bilateral secondary hybrid reconstruction. A, Preoperative frontal view of a 61-year-old patient after bilateral mastectomy (oncologic mastectomy right and prophylactic left). Both recipient sites show tissue compliance and a stretchable skin envelope. B, Profile view showing the flattened appearance of the chest wall and skin compliance. The inframammary fold is partially preserved. C, Secondary breast reconstruction with initial expansion and injection of 200 mL per breast in 2 sessions. Additional ergonomic implant in a prepectoral position with a volume of 275 mL. Implant and expander were inserted through an inframammary incision with later correction of the mastectomy scar. She is seen 7 months after implant insertion. Breast symmetry is acceptable, and she presents with a natural cleavage area. D, The reconstructed breast has a natural appearance with lower expansion, acceptable breast projection, and a well-defined inframammary fold.

injects numerous particles of fat using the structural fat grafting technique. The structural fat grafting approach was introduced by Coleman²⁶ and injects minuscule amounts of fat at different levels to maximize the surface area of contact between the fat graft and the recipient site. An efficient application of this fat grafting technique in breast reconstruction requires a clinical setting that anchors fat grafts and supports their survival in a compliant recipient site. Diffusion of injected fat is prevented in the sealed space generated by the expander in between the skin and the resilient capsule. Fat grafts are relocated nearby a newly generated vascular plexus in the outer layer of the capsule, and the sealed space is compliant, allowing

for volume augmentation with serial fat grafting sessions. The problem with implants is the need for tissue coverage. A submuscular position is related with well-known complications and discomfort, whereas a subcutaneous position certainly is not an option. Both options will not reflect an ideal situation with a breast that looks unnatural related to the patient's anthropometry, body habitus, and physical interactions (motion and position). To avoid the disadvantages of the sub- or prepectoral location, fat grafting could help augment the mastectomy skin flaps for better implant coverage. Undeniably, the prepectoral pocket is the most rational plane to reconstruct the breast volume. The reconstructive, lipofilling-based approach should also include a step that allows a 3-dimensional arrangement of the injected fat. The capsule plays a pivotal role in this hybrid technique: (1) it defines a new and delimited space, (2) it is compliant following volume augmentation, and (3) it includes a vascular network. Augmentation of this sealed space is easily achieved with several sessions of fat injection. From our own experience, we have learned that injection of 100 mL of fat will result in a volume augmentation of approximately 50–60 mL.²⁰ The idea of using the periprosthetic, subcutaneous space is based on our previous research findings in mice.²⁸ The research concluded that 4 basic principles are necessary to guarantee adipogenesis: a protected space, a vascular source, a potent cell source, and a supportive matrix. The videoendoscopic findings illustrated the ideal environment for fat grafts to survive (see Video 2). The ergonomic hybrid approach reproduces the clinical setting of a prepectoral breast augmentation: an autologous tissue unit anteriorly and an allogeneic core unit (the implant). Breast ptosis is most likely to occur with a prepectoral implant in the absence of muscle contraction with subsequent implant migration. The advantage of microsurgical tissue transfer is undeniably the tissue plasticity opposed to the rigidity of an implant in an implant-based reconstruction (IBR). An autologous reconstructed breast is susceptible to the gravitational force that shapes breast ptosis, the cleavage, and breast contour. This ergonomic peculiarity is not recognized in an IBR. An IBR is indicated in the event of insufficient or compromised donor tissue or when patients simply do not prefer to undergo a microsurgical procedure for whatever reason. Reasonable ptosis with adequate volume distribution, a delineated IMF, and tissue coverage are the challenging objectives in IBR. ADMs have been introduced as supportive devices to reach the above-mentioned challenges.^{11–16} We relied on the formation of an autologous periprosthetic capsule not only to avoid the cost and complications of ADM but also to create a supportive niche for fat grafts to survive.²⁰ In submuscular expanders, the generated capsule replaces the ADM in the inferolateral part of the breast. The inferolateral part of the breast is usually the problematic area because of poor tissue coverage even with a submuscular approach. The 2-stage expander-to-implant approach favored a better management of the footprint, symmetry between both breasts, IMF definition, and (lower pole) ptosis, especially in secondary reconstructions. It allows a better choice of final implant volume. It has also

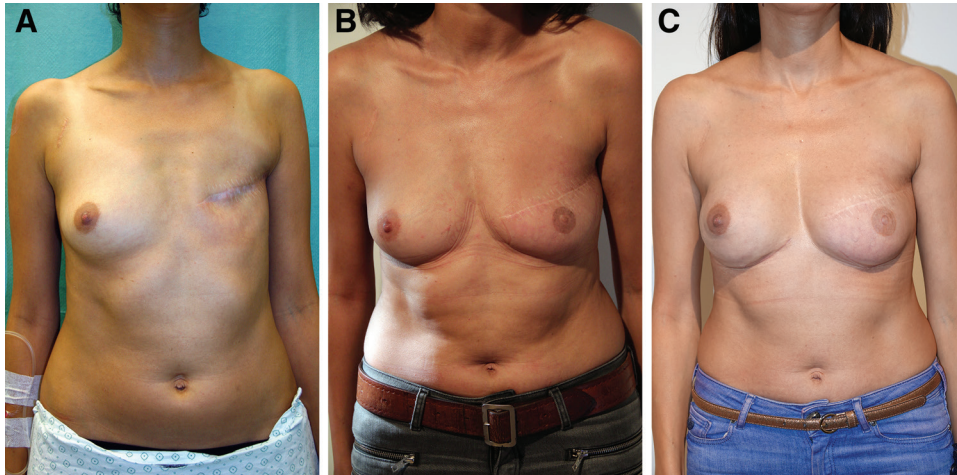


Fig. 7. Bilateral hybrid reconstruction: primary and secondary (left breast). A, 35-year-old patient with a history of left mastectomy and irradiation therapy. She refused microsurgery and opted for fat grafting and a small implant to reconstruct her breast. The mastectomy scar is not reopened to avoid a delay in wound healing and not to compromise the recipient area. The expander is inserted through a small inframammary fold incision. B, The prepectoral volume was reconstructed with fat injections, and a total of 620 mL was injected. C, An additional implant of 125 mL was inserted in the left prepectoral plane for additional volume and central core projection. At the same time, a right mastectomy was performed with insertion of a 285-mL ergonomic implant because of genetic predisposition. The mastectomy was revised with a better aesthetic outcome.

been reported that the rate of complications is lower in 2-staged procedures compared with single-stage procedures.^{10,17} Furthermore, tissue quality will also improve postoperatively and as a result of fat grafting. Excess skin in ptotic breasts is easier and safer to correct in a second

stage when final implant is chosen. With the expander in deflated status, tension-free closure favors wound healing. The introduction of ergonomic implants that adapt to the position and motion of the breast has vanished the choice between anatomical and round implants. Round

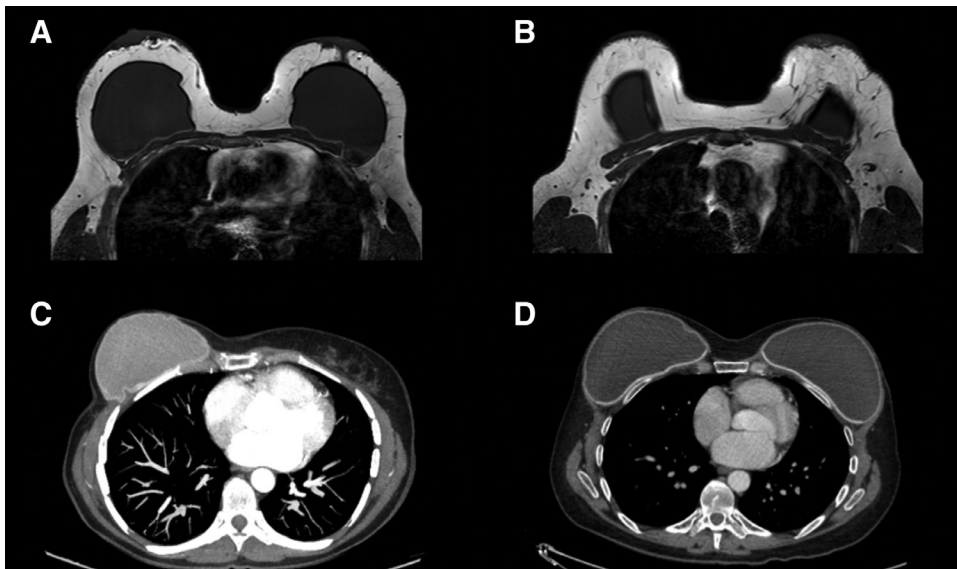


Fig. 8. MRI studies in hybrid reconstruction compared to implant-based reconstruction and breast augmentation. MRI sections of the patient (Figs. 5A, 5B) at the level of the nipple–areola complex (A) and lower pole (B). With 3 lipofilling sessions, an acceptable tissue coverage was obtained of the implant in hybrid breast reconstruction with good symmetry between both breasts. The end result is far better compared with the standard implant-based reconstruction with a submuscular implant (C) with complete muscle atrophy. The final result is compared with an aesthetic submuscular breast augmentation patient (D) and shows better coverage of the implant. The lateral regions of the reconstructed breast are well covered with injected fat. MRI indicates magnetic resonance imaging.

implants tend to create a superior border step-off deformity.⁹ Volume restoration without excessive superior pole fullness can be achieved with anatomic-shaped implants, but malrotation is a concern especially in a loose environment that lacks tissue support. The Ergonomix implants offer a wide set of advantages related to their surface features that can benefit short- and long-term adverse events related to chronic inflammation and fibrotic reaction.^{29,30} The accepted safety of autologous fat grafting procedure combined with bioengineered prosthetic devices and a careful follow-up process with gradually expansion and integration of the tissue around the implant stand out as a satisfactory alternative to promote the hybrid prepectoral breast reconstruction. Moreover, patients experience also a more natural cleavage with ergonomic implants because they provide moderate fullness in the medial breast area when wearing a bra. This is achieved because of the gel characteristics of these implants. The implant adapts to the position of the patient and creates lower pole fullness in upright position. In our experience, the implant is well tolerated by the patients who often claim a more natural feeling of the implants; edges are less palpable and visible mainly in the upper part of the newly reconstructed breast. The overall morbidity related to the hybrid approach in breast reconstruction is well tolerated.^{31,32} Lipofilling and deflation sessions are performed in a day clinic admission. A disadvantage of this approach is the number of procedures needed to obtain the final result with expander insertion, repetitive fat grafting procedures, and final implant insertion.

CONCLUSIONS

With the ergonomic hybrid breast reconstruction, we have been able to reconstruct a natural-looking breast. The hybrid technique with ergonomic implants is a valuable alternative to autologous reconstruction; additional core volume and projection are added with an implant and the implant's impact on surrounding tissues is minimized with the restoration of a subcutaneous, autologous "plug-in" with fat grafting. Long-term observation is necessary to establish the results and outcome.

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