



# Use of SERI Surgical Scaffold for Soft-tissue Support in a Massive Weight Loss Patient

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**Summary:** Patients with a history of massive weight loss have compromised and poor-quality skin and fascia. Various body contouring surgeries aim to improve appearance and shape of the trunk and restore fascial integrity. These patients may be at increased risk of recurrent fascial laxity or bulges after conventional techniques. Here, the author presents a case where a silk-based bioresorbable scaffold was used prophylactically in a massive weight loss patient undergoing a circumferential body lift. (*Plast Reconstr Surg Glob Open* 2013;1:e86; doi: 10.1097/GOX.0000000000000025; Published online 20 December 2013.)

**P**atients with histories of massive weight loss (MWL) often have compromised skin, as evidenced by stretch marks and stria. In a similar fashion to which obesity traumatizes the dermis, the increased load on the abdominal fascia compromises its mechanical strength and integrity. Although the use of mesh to add strength and contour to these patients is seldom described in the literature, the literature does describe weakened abdominal wall components as a known cause of hernias and bulges after abdominoplasties.<sup>1-5</sup> Furthermore, obese patients have a higher risk of developing incisional hernias after abdominal surgery.<sup>6</sup>

This is a report of the first use of SERI Surgical Scaffold (SERI; Allergan, Inc.), a silk-based long-term bioresorbable scaffold, to provide soft-tissue support to the abdominal fascia. SERI is a 510(k)-cleared scaffold indicated for use as a transitory scaffold for soft-tissue support and repair where weaknesses exist. This report investigates the use of SERI to provide

support and to enhance fascial integrity in a patient undergoing circumferential body lift.

## CASE REPORT

A 53-year-old woman with a history of MWL was referred for evaluation of her abdominal and trunk contour. She had fullness in the anterior axilla, lateral breast rolls, significant excess skin and fullness in the abdomen and trunk circumferentially, and abdominal wall laxity.

During examination, stretch marks and stria were noted. After reviewing several surgical options with her, a plan was developed to perform a circumferential body lift with suction-assisted and ultrasound-assisted lipectomy. It was, therefore, thought that the use of SERI might provide additional support and integrity to the abdominal wall plication and help to maintain the patient's postoperative contours. This option was discussed with the patient, and she provided oral and written informed consent. This patient was particularly well-informed, as she had been a healthcare worker in an operating room setting for many years.

The patient was marked before surgery. The surgery was commenced in the prone position, and suction-assisted lipectomy was performed on the

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back and lateral thigh. The posterior lipectomy was completed in a standard fashion. The patient was turned to the supine position, and circumferential body lift anteriorly was performed in a standard technique. Her anterior rectus fascia was observed to be weak and attenuated. The anterior rectus sheath was plicated with figure of 8 mattress of #1 polydioxanone suture and then with a running #1 polydioxanone suture, from xiphoid to pubis.

Before using SERI, the surgical site was irrigated with antibiotic solution (bacitracin, gentamicin, and cefazolin), and the skin was re-prepped with Betadine solution. After being soaked in an antibiotic solution, a 10×25 piece of SERI was cut, contoured, and inset inferiorly. Another 10×25 was cut, contoured, and set above the umbilicus, leaving ample space between the device and the umbilical stalk (Fig. 1). SERI was sutured at its perimeter with a 3-0 barbed (Covidien) running suture. The excision of redundant skin and soft tissue and closure were done in a standard technique (See Video 1, Supplemental Digital Content 1, which displays placement of SERI in the abdomen to provide additional support and integrity to the abdominal wall plication, <http://links.lww.com/PRS-Go/A19>). The patient tolerated the surgery well, with planned overnight recovery in the hospital. She returned to work after 3 weeks and was back to full normal activities by 6 weeks. She reported that she was pleased with her appearance; at 24-month follow-up (Fig. 2), the contour and flatness of the anterior abdominal wall was maintained.

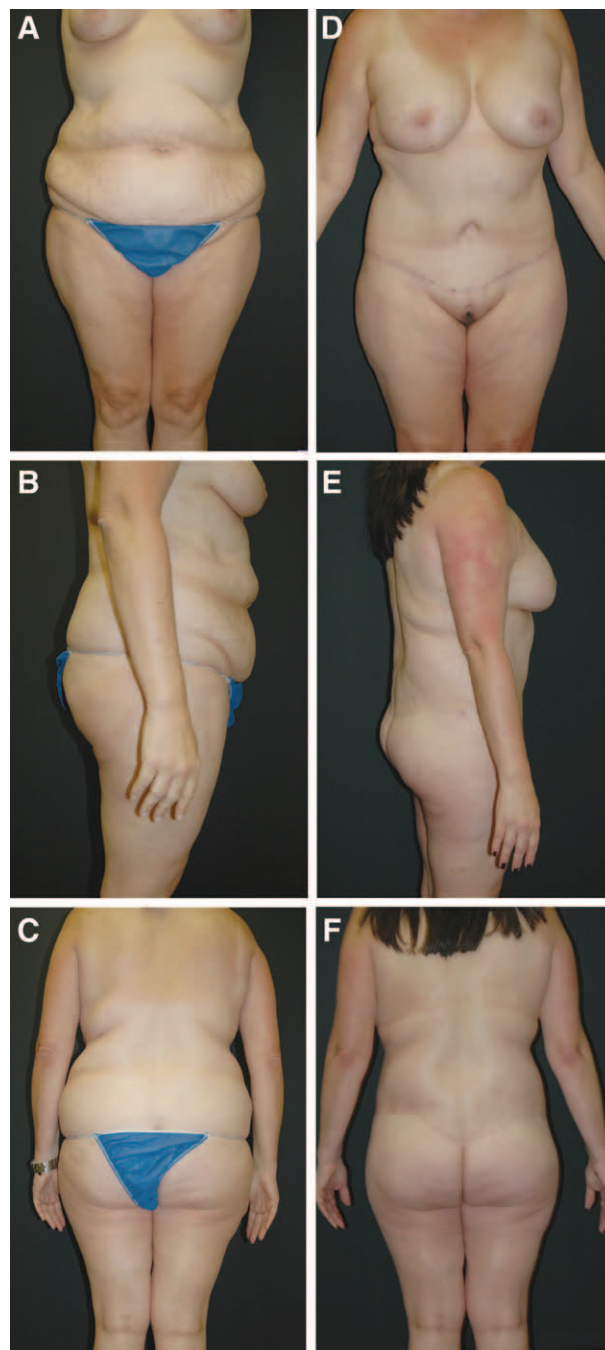
## DISCUSSION

During abdominoplasty in patients with histories of MWL, the anterior rectus fascia is frequently



**Fig. 1.** Intraoperative image of the 2 pieces of 10×25 SERI Surgical Scaffold inset, 1 above and 1 below the umbilicus, and sutured around their perimeters.

observed to be weak and attenuated. With traditional abdominal wall fascial plication techniques, the sutures often pull through the fascia. Even when gross observation of the fascia does not reveal excessive trauma, the contour produced by



**Fig. 2.** Preoperative (A, B, and C) and 2-year postoperative follow-up images (D, E, and F). The patient's preoperative stretch marks and stria, fullness in the anterior axilla, lateral breast rolls, significant excess skin, and circumferential fullness in the abdomen are evident. At 2-year follow-up, the patient has maintained the contour and flatness of the anterior abdominal wall.



**Video Graphic 1.** See video, Supplemental Digital Content 1, which displays placement of SERI in the abdomen to provide additional support and integrity to the abdominal wall plication, <http://links.lww.com/PRSGO/A19>.

the abdominoplasty may not be maintained long-term, as the abdominal wall lacks the strength to support itself.<sup>3,4</sup>

Although this single case report has found positive results with the novel use of a bioresorbable surgical scaffold for support of the abdominal fascia, the utility and the value of this scaffold for this use remain uncertain. We have yet to determine how to most accurately measure postsurgical outcomes, but given that the scaffold does not leave a permanent foreign body and is replaced by native tissue, the risk-benefits seemed favorable. Further evaluation may confirm the utility of SERI in providing long-lasting results to abdominoplasty patients, and suggest additional applications, such as assisting in shaping the truncal contour (eg, internal “wide belt-shaped” device) to further define the waist area, and helping to maintain the buttock lift portion of a circumferential body lift.

## CONCLUSIONS

In this massive weight loss patient, SERI was implanted to provide additional support of the abdominal fascia as part of a circumferential body lift procedure. At 24-month follow-up, the contour and flatness of the anterior abdominal wall was maintained. Further studies are needed to confirm the utility of SERI in this application.

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