We report a case of a 31-year-old woman who required repair of her bottomed out implants at the same time as a scheduled sternotomy for resection of a malignant perivascular epithelioid cell tumor (PEComa). Further, she refused a midline skin incision for sternotomy because of aesthetic concerns and preferred an inframammary approach, a technique that our team has some experience with.

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CASE REPORT

Our patient is a 31-year-old woman who had a pelvic resection of a PEComa in 2010 and breast augmentation with 330 cm³ round Natrelle (Allergan, Santa Barbara, Calif.) implants in 2011. She noticed bottoming out of her implants and rippling but also suffered shortness of breath and chest pain and had a mediastinal mass consistent with recurrence of her PEComa (Fig. 1; see supplemental digital content 1, which displays bottoming of the patient's implants with a ¾ view, http://links.lww.com/PRSGO/A180; see supplemental digital content 2, which displays bottoming of...

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the patient’s implants with a lateral view, http://links.lww.com/PRSGO/A181). She underwent neoadjuvant chemotherapy and required resection.

Her operative planning was complicated, because she refused a traditional median sternotomy scar for cosmesis and desired correction of her implants concomitantly. We decided to perform her sternotomy via an inframammary incision, elevating a chest wall flap to expose her sternum. This incision would violate her implant capsules and the midline, risking more severe complications than a traditional breast augmentation, including symmastia, implant malposition, asymmetry, infection, and scarring. We felt that a reaugmentation was possible as long as the natural anatomy was recreated and supported with a mesh.

The operation was performed in conjunction with thoracic surgery team by making an inframammary incision, extending from the lateral aspect of the right breast to the lateral aspect of the left breast, curving up toward the xiphoid in the midline. The skin and breast tissue were elevated off of the chest. The capsules were opened, implants were removed, and the breast tissue was lifted off the pectoralis muscles and the soft tissue off the sternum up to the manubrium (Fig. 2). This allowed for a sternotomy but also created one large breast pocket. At this point, the cardiothoracic surgeons performed the resection and closed her sternum.

The patient had complete loss of landmarks. The inframammary folds (IMFs) were reconstructed using 2-0 polydioxanone (PDS; Ethicon US, LLC, Somerville, N.J.) sutures tacking the fold back to the chest wall. The flap over the sternum was advanced and tacked back down with 2-0 polydioxanone sutures from the sternal notch to the xiphoid (Fig. 3) and drained with a 15 Blake drain (Ethicon US, LLC) to prevent seroma, prevent symmastia, and recreate the natural concavity of the breast-sternal junction.

The implant pocket was adjusted by placing lateral 2-0 polydioxanone capsulorrhaphy sutures with the old devices functioning as sizers. SERI Surgical Scaffold (SERI; Allergan, Inc., Irvine, Calif.) was used as a sling to support the implant medially and inferiorly. After irrigation, her implants were replaced with Sientra moderate plus profile 350 mL gel implants (Sientra, Santa Barbara, Calif.). The SERI Scaffold was suspended to the upper breast flap and muscle using 2-0 polydioxanone sutures. A 15 Blake drain was placed into each breast pocket, and the incisions were closed using interrupted 2-0 polydioxanone, interrupted 3-0 poliglecaprone 25 (Monocryl; Ethicon US, LLC), and a running subcuticular 4-0 Monocryl sutures. At the end of the procedure, the implants were symmetric and in ideal position. She had an unremarkable postoperative course and has had many follow-up visits, most recently her 1-year postoperative visit. She is very happy with the appearance of her breasts and scars (Fig. 4;
see supplemental digital content 3, which displays the patient’s implants at 1 year follow up with a ¾ view, http://links.lww.com/PRSGO/A182; see supplemental digital content 4, which displays the patient’s implants at 1 year follow up with a lateral view, http://links.lww.com/PRSGO/A183).

**DISCUSSION**
Complications after breast augmentation can include capsular contracture, implant malposition, ptosis, rippling, prosthesis failure, asymmetry, bleeding, and infection. Excessive pocket dissection can lead to inappropriate implant migration; overdissection medially can cause symmastia; excessive lateral dissection can lead to a wide intramammary distance; and inferior overdissection can lead to a long nipple to IMF position and bottoming out of the implant.1–3 Considering the nature of this operation, our biggest concern was malposition.

Despite the possible cosmetic complications, our patient required treatment of her PEComa. Her tumor would require a median sternotomy for exposure, because it is the surgical approach of choice for cardiac and mediastinal operations, but the traditional sternotomy leaves an unsightly scar.4 The inframammary incision described in 1960 is a continuous horizontal bilateral submammary incision with elevation of a flap of subcutaneous tissue and breasts to expose the sternum, which is still incised in the midline.4,5 It has been described in the literature on patients with previous augmentation mammoplasty and reduction mammoplasty,4 but our search did not find any cases of concomitant breast augmentation during submammary median sternotomy, making this case description unique.

We attribute the success of this challenging cosmetic procedure to recreation of her normal anatomy by reinforcing the IMF and medial breast with SERI Scaffold. Our biggest challenge was to prevent bottoming out and symmastia, because this occurred after her initial augmentation. Bottoming out is often the result of overdissection of the IMF or thinning of the inferior tissue with minimal scar and capsule formation. There are few solutions to the problem including capsulorrhaphy sutures,6 muscle flaps, and capsular flaps.3,7 A better solution to this problem is to reinforce the capsule with durable, biologic grafts in the form of acellular dermal matrices (ADMs).7 This technique was originally used to cover tissue expanders for breast reconstruction but has evolved for repair in secondary breast augmentation.8 The ADM is sutured in place, especially in areas that may need extra reinforcement, like the IMF and chest wall.7,8 It has been described to treat rippling, bottoming out, symmastia, and expansion atrophy and to perform capsular reconstruction.7,9

SERI Scaffold is a silk-based long-term biodegradable scaffold, a newer product that can be used as reinforcement.10 This product was chosen over an ADM because we feel that the longer incorporation time of SERI Scaffold will offer greater strength and support in this challenging setting.

**CONCLUSION**
We feel that despite the difficulty and high-risk nature of performing breast augmentation in patients undergoing thoracic surgery, good results are possible by reinforcing the repair with a mesh or an ADM to recreate support and proper anatomy.

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