

Just Right: A Goldilocks Strategy For Free Flap Breast Reconstruction In The Setting Of Post Mastectomy Radiation

Elizabeth Cox, MD¹; Kyle Ockerman, MD²; Andrew Martella, MD³; Benjamin Raber, MD⁴; Rachel Yang, MD⁴; Rita Kwan-Feinberg, MD⁵; Carolyn Cafro, BS⁶; Jaimie Bryan, MD¹; Jane Chow, MS, PA-C¹; Arash Momeni, MD¹; Sarah Sorice-Virk, MD¹

- 1. Stanford University, Department of Surgery, Division of Plastic & Reconstructive Surgery
- 2. University of Florida College of Medicine
- 3. Stanford University, Department of Radiation Oncology
- 4. Stanford University, Department of Surgery
- 5. Sutter East Bay Medical Group
- 6. University of Rochester School of Medicine & Dentistry



Introduction

- The need for post mastectomy radiation therapy (PMRT) is a foundational component of multimodal breast cancer treatment.
- There are three schools of thought when it comes to timing of autologous reconstruction: Immediate, delayed, and delayed-immediate.
- Ultimately, autologous reconstruction often occurs at least 6-9 months after adjuvant radiation.
- This study evaluated the feasibility and safety of performing short interval autologous breast reconstruction (SIBR) within a 2–5-week interval after PMRT.

Methods

- Study type: Retrospective case series.
- Population: Patients who underwent PMRT followed by DIEP flap breast reconstruction within 2-5 weeks after PMRT.
- Date range: Surgery in April 2024 – April 2026
- Primary outcome: Complete autologous flap loss
- Secondary outcomes:
 - Intraoperative and pathologic evaluation of internal mammary vessels
 - Any postoperative complications

Results

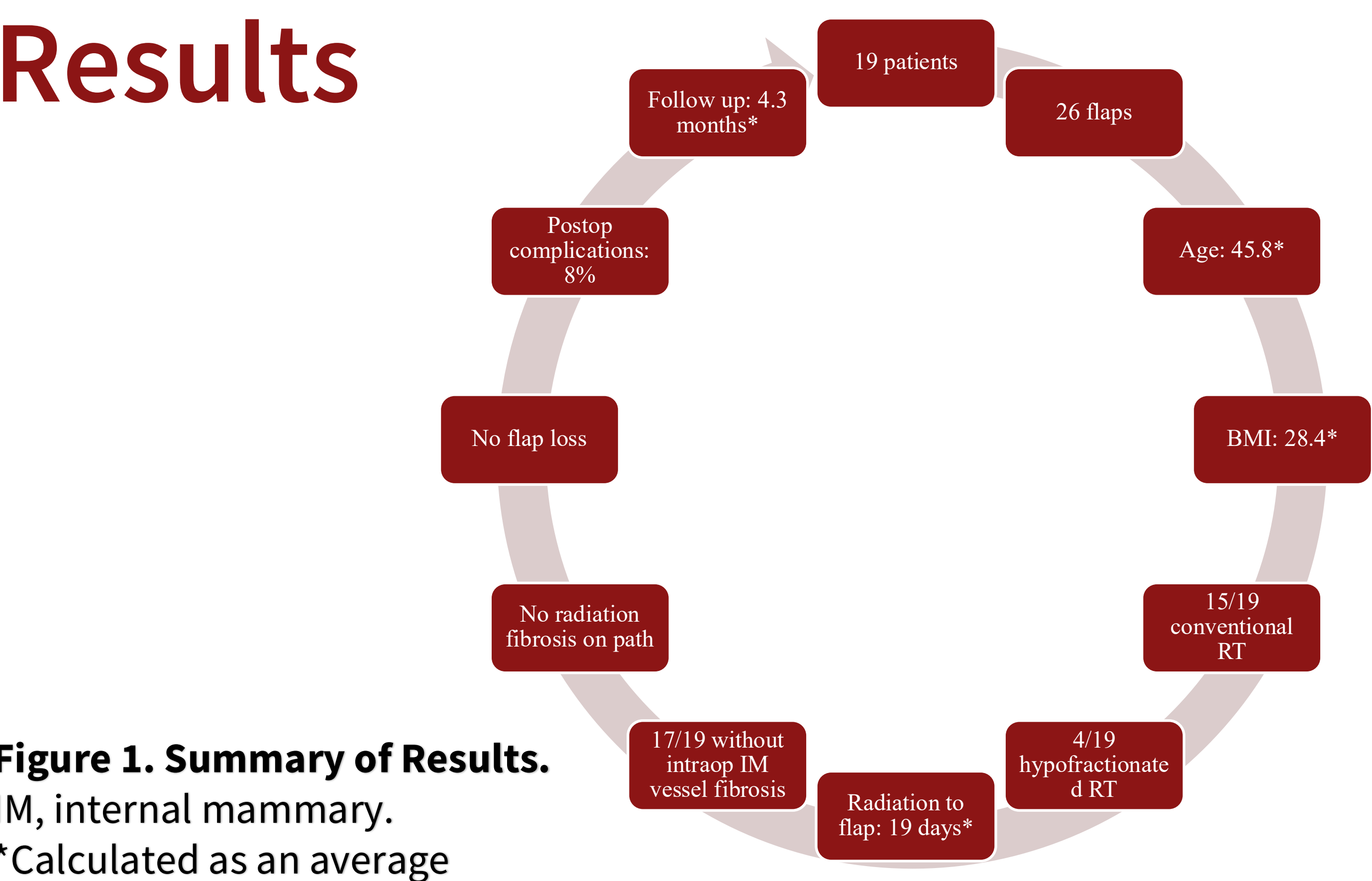


Figure 1. Summary of Results.
IM, internal mammary.

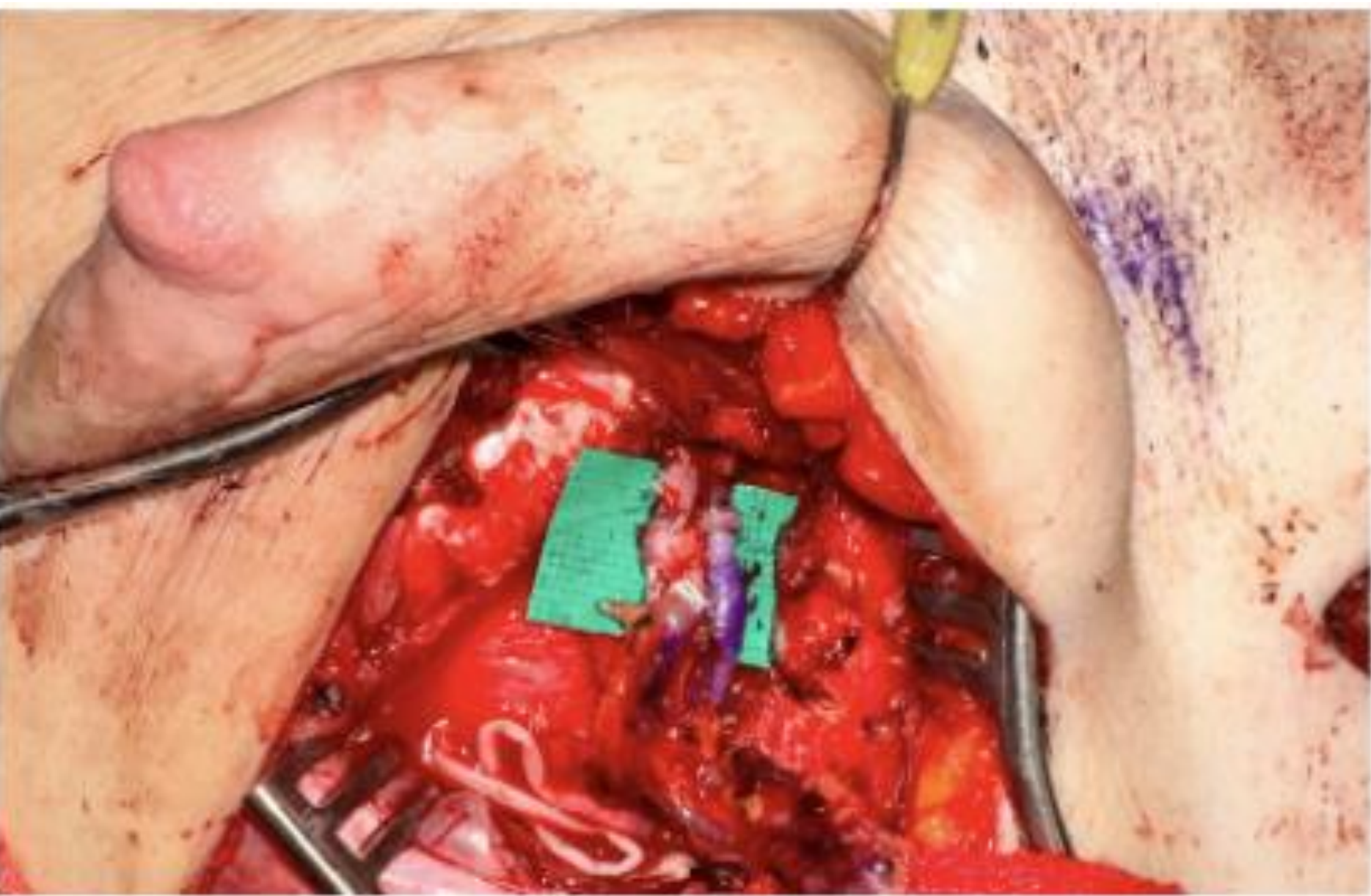
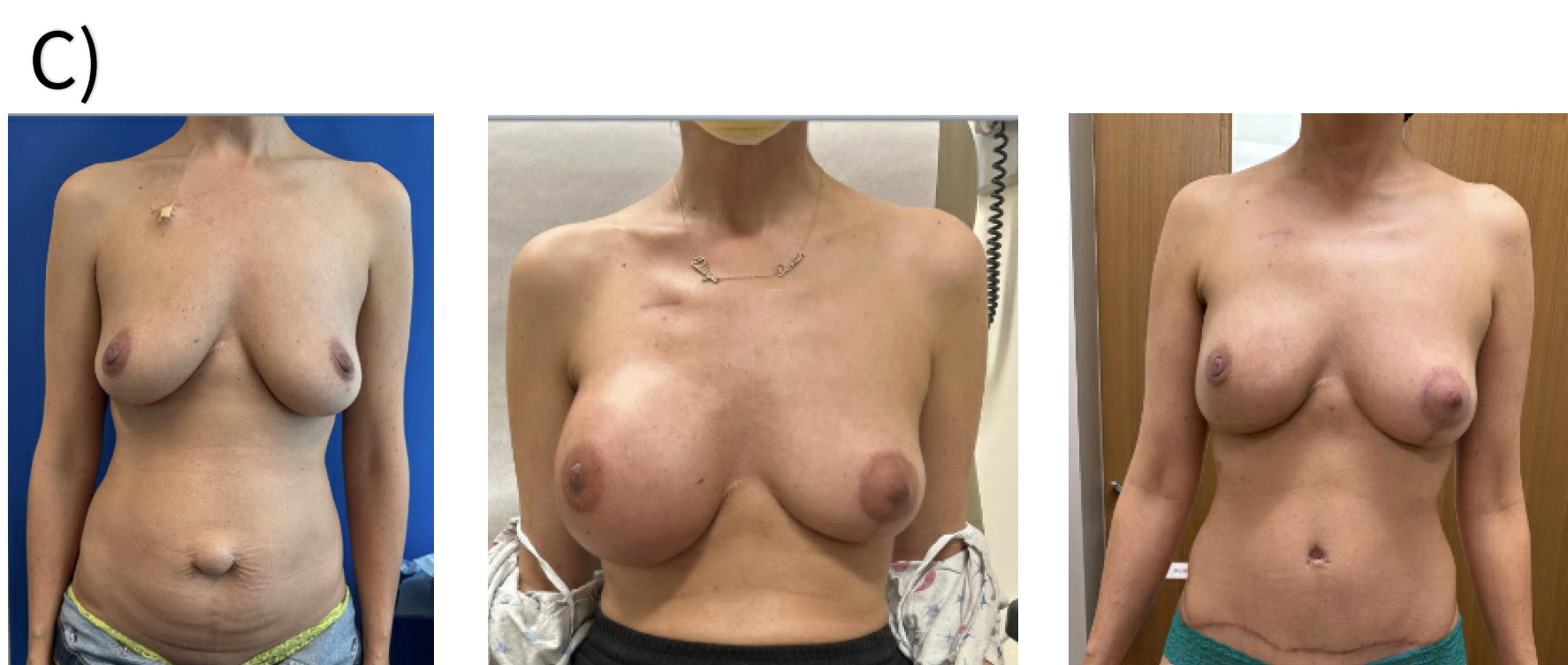
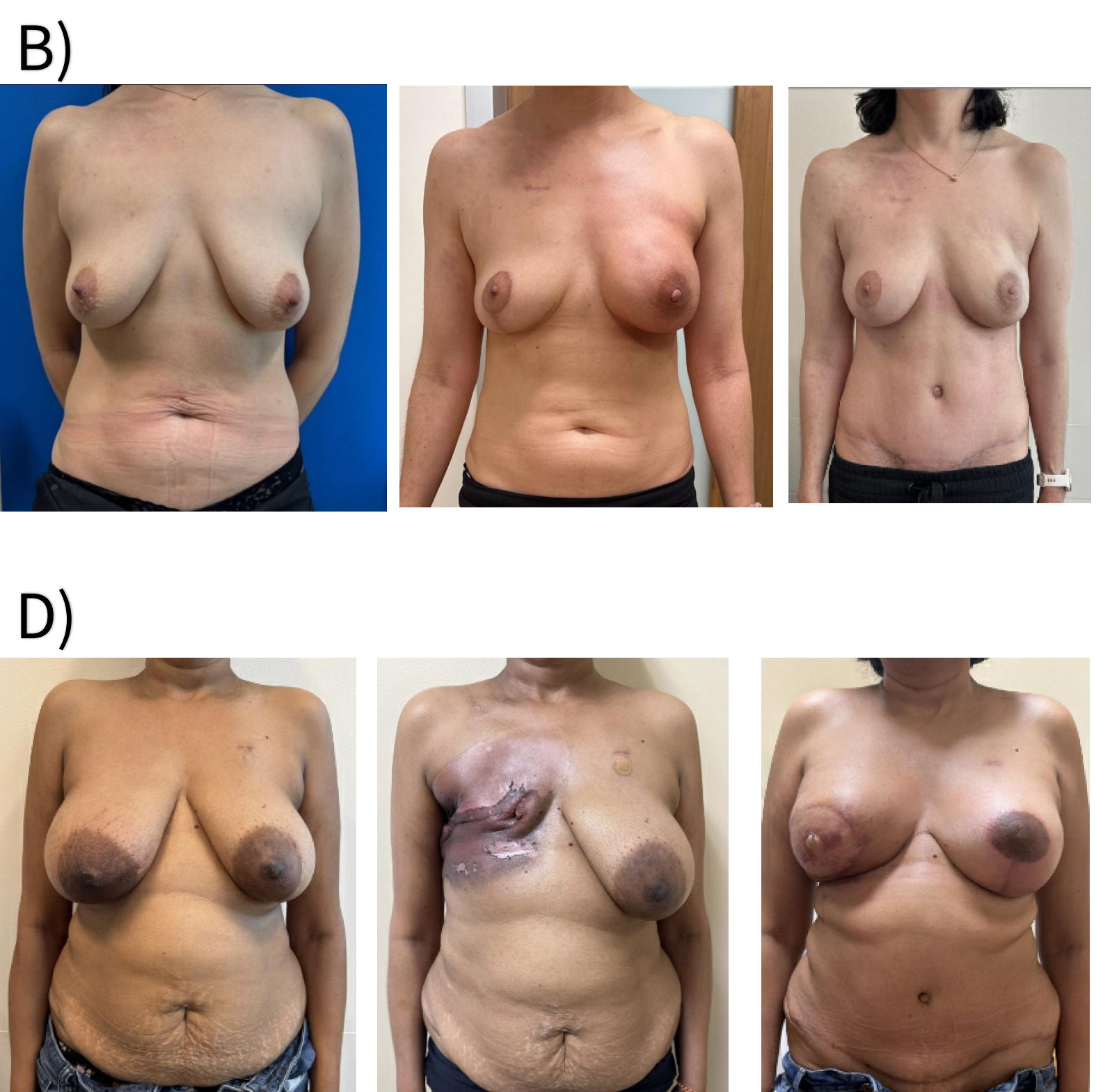


Figure 2. Intraoperative Evaluation of IM Vessels.

Figure 3. SIBR Postoperative Outcomes.

- A)**Participant 1: Preoperative, 3 weeks s/p PMRT, 1 year s/p autologous reconstruction/4.5 months s/p revision.
- B)** Participant 2: Preoperative, 2 weeks s/p PMRT, 1 year s/p autologous reconstruction/9 months s/p revision.
- C)** Participant 3: Preoperative, 1 week s/p PMRT, 4 months s/p autologous reconstruction/pre-revision.
- D)** Participant 4: Preoperative, 1 day s/p PMRT, 10 months s/p autologous reconstruction/3 months s/p revision.

Conclusions

- SIBR after PMRT appears to be safe.
- SIBR expedites the reconstructive process after mastectomy.
- SIBR may provide easier recipient vessel dissection and microanastomosis at the time of autologous reconstruction.
- Aesthetic outcomes after SIBR are acceptable.

Future Directions

Our team has plans to conduct an RCT comparing outcomes of patients undergoing SIBR to those undergoing delayed autologous reconstruction 6-9 months after adjuvant radiation.