



Reconstructing Failure: Assessing Surgical and Patient Reported Outcomes Following Loss of Initial Breast Reconstruction



Minji Kim, BS¹, Nima Khavanin, MD¹, Charles Jiang, BS¹, Josh Barnett, MD¹, Lillian A. Boe, PhD²; Carrie S. Stern, MD¹, Jonas A. Nelson, MD, MPH¹

¹Plastic and Reconstructive Surgery Service, ²Epidemiology and Biostatistics, Memorial Sloan Kettering Cancer Center, New York, NY

Background

- Breast reconstruction failure, defined as the removal of a prosthetic device or flap without immediate replacement, remains an unsettling reality and carries far-reaching consequences. Failure occurs at a rate of 5-12% and 1-2% in implant-based and autologous-based breast reconstruction, respectively.¹⁻⁴
- Many studies have examined factors associated with reconstructive failure, but only a few have described outcomes after reconstructive failures.
- Understanding outcomes after reconstructive failure will help surgeons counsel patients and patients to make informed decisions.

Objectives

- To describe the progression of patients who experience reconstructive failure.
 - Assess the proportion of patients who undergo additional reconstruction after failure
 - Compare patients who opt for additional reconstruction versus those who do not
 - Propensity score matched analysis between patients who complete initial reconstruction without complication and those who complete secondary reconstruction after failure

Methods

- Study population:** Patients who underwent TE, implant, or autologous breast reconstruction between 2017-2022
- Outcomes:** Whether patients underwent additional reconstruction and BREAST-Q scores

Results

	Patients	Patients with reconstructive failure	Additional reconstruction
TE	4,258	283 (6.6%)	140 (49.5%)
Implant	4,420	63 (1.4%)	3 (4.8%)
Autologous	1,545	13 (0.8%)	7 (53.8%)

94%

of secondary reconstructions were successful, as of the receipt of analysis.

Factors Associated with Likelihood of Undergoing Secondary Reconstruction

- Younger Age
- History of psychiatric diagnosis
- Adjuvant chemotherapy (vs. No chemotherapy)
- No radiation (vs. Adjuvant radiation)
- Nipple-sparing mastectomy (vs Skin-sparing)

BREAST-Q Scores 1-Year Postoperatively

Figure 1. BREAST-Q scores at 1-year between patients without additional reconstruction and patients with additional reconstruction after reconstructive failure

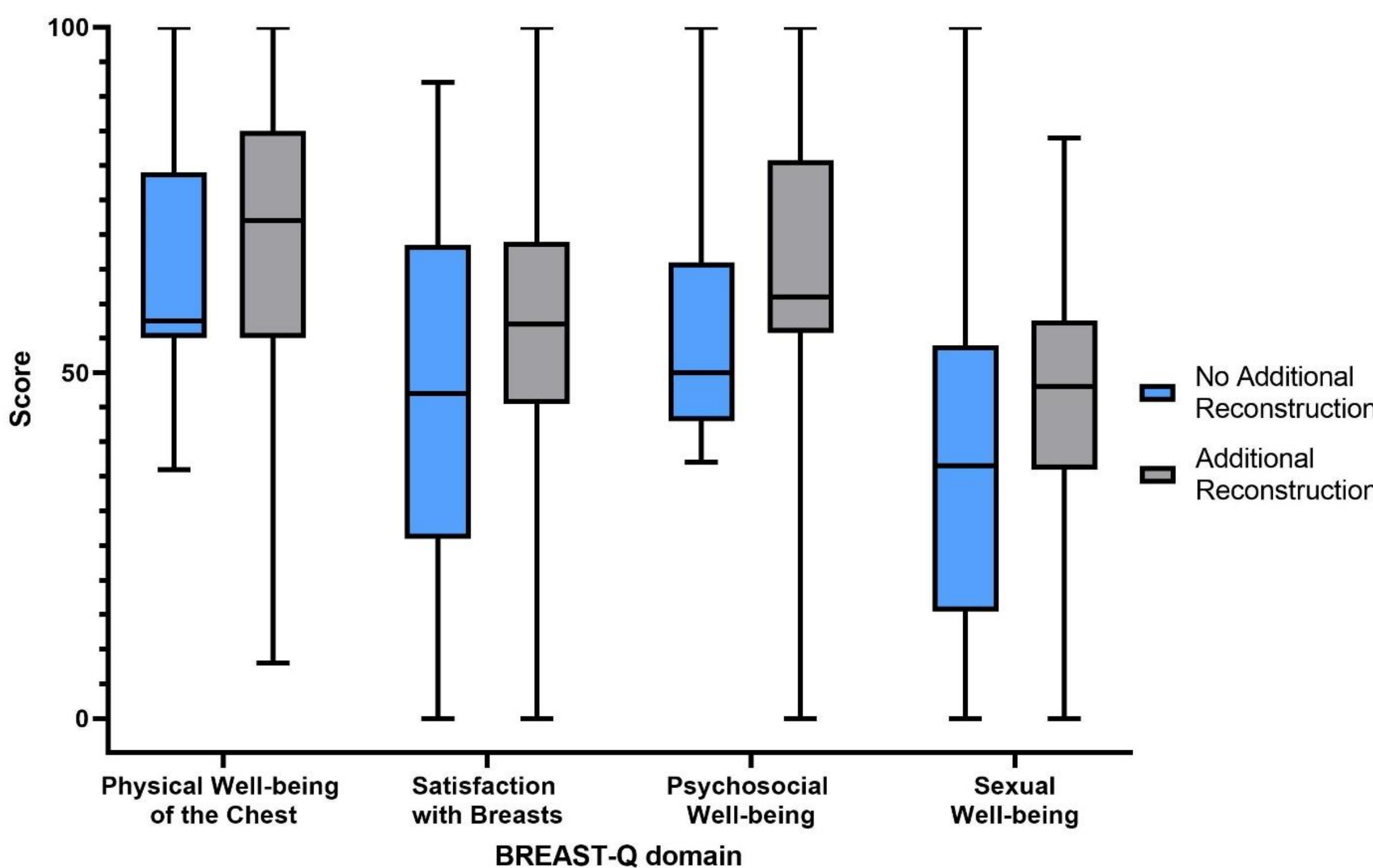
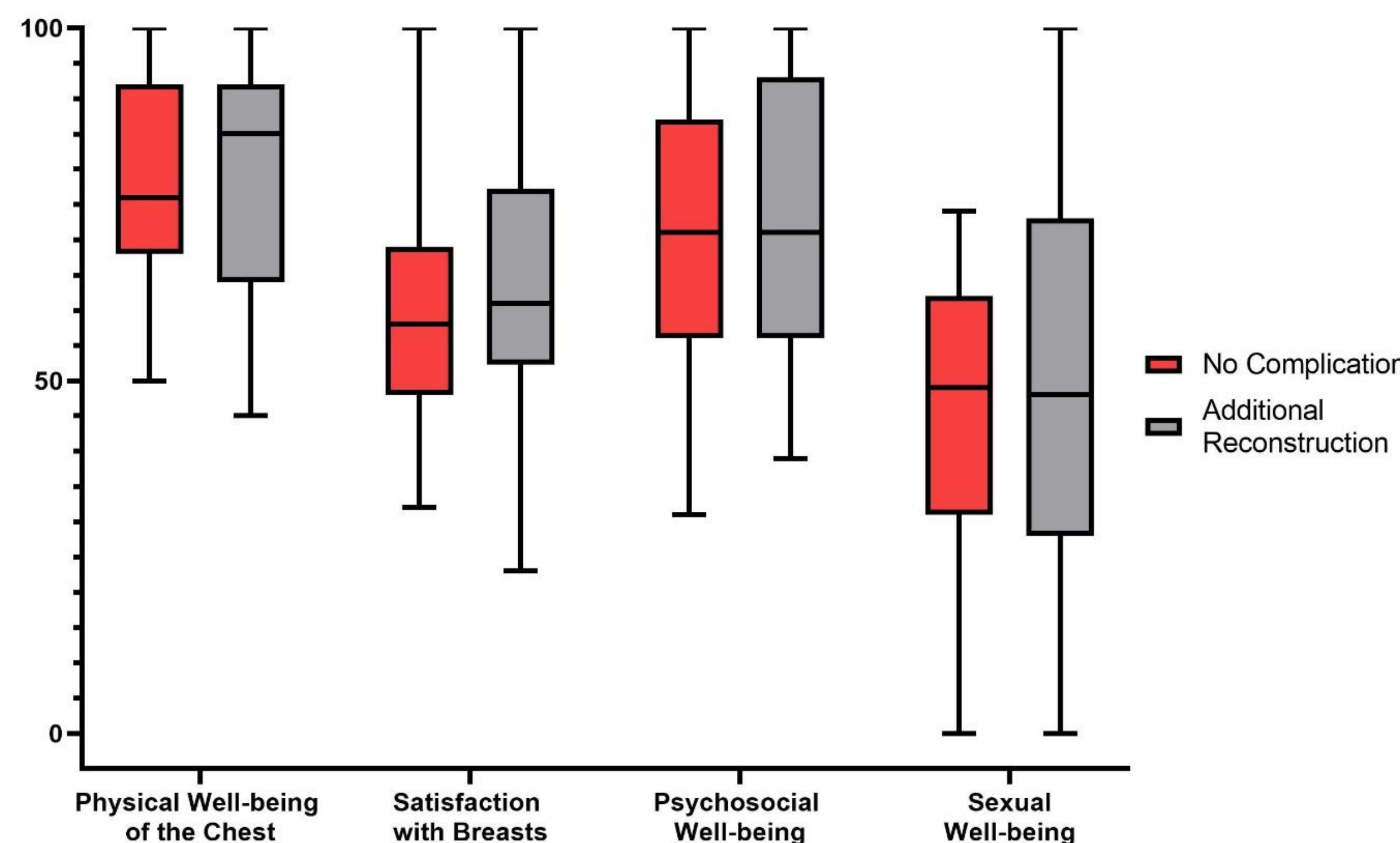


Figure 2. Propensity Matched Analysis of BREAST-Q scores at 1-year between TE Patients who had no complications and patients who had additional reconstruction after reconstructive failure



Conclusion

- Less than half of patients with reconstructive failure undergo additional reconstruction.
- Patients with implant failure, especially don't undergo secondary reconstruction.
- Patients with additional reconstruction have higher quality of life than those who do not, and majority of these secondary reconstructions are successful.
- Patients who had secondary reconstruction had comparable BREAST-Q scores to those whose initial reconstruction was uncomplicated.
- Surgeons should counsel patients who experience this traumatic reconstructive failure that although difficult, secondary reconstruction can be successful and beneficial to their quality of life.

References

- Srinivasa DR, Garvey PB, Qi J, et al. Direct-to-Implant versus Two-Stage Tissue Expander/Implant Reconstruction: 2-Year Risks and Patient-Reported Outcomes from a Prospective, Multicenter Study. *Plast Reconstr Surg*. Nov 2017;140(5):869-877. doi:10.1097/PRS.0000000000003748
- Bennett KG, Qi J, Kim HM, Hamill JB, Pusic AL, Wilkins EG. Comparison of 2-Year Complication Rates Among Common Techniques for Postmastectomy Breast Reconstruction. *JAMA Surg*. Oct 1 2018;153(10):901-908. doi:10.1001/jamasurg.2018.1687
- Blok YL, van Lierop E, Plat VD, Corion LUM, Verduijn PS, Krekel NMA. Implant Loss and Associated Risk Factors following Implant-based Breast Reconstructions. *Plast Reconstr Surg Glob Open*. Jul 2021;9(7):e3708. doi:10.1097/GOX.0000000000003708
- Poppler LH, Mundschenk MB, Linkugel A, Zubovic E, Dolen UC, Myckatyn TM. Tissue Expander Complications Do Not Preclude a Second Successful Implant-Based Breast Reconstruction. *Plast Reconstr Surg*. Jan 2019;143(1):24-34. doi:10.1097/PRS.0000000000005131