

What Happens After Loss? Predicting Pathways of Breast Reconstruction Following Implant Failure

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Introduction

- Implant-based breast reconstruction (IBBR) is the most common reconstructive approach for women following mastectomy¹.
- Severe complications can lead to implant loss, which affects up to 16.9% of reconstructions².
- While risk factors contributing to implant loss are well documented, there is less understood about the reconstructive course following implant reconstruction failure.

Objective: Explore reconstruction choices following implant loss and the demographic or operative factors that modulate these outcomes.

Methods

Design: We retrospectively reviewed all patients who underwent immediate or delayed implant-based breast reconstruction at a single institution from 2017-2023. Direct-to-implant and two-staged expander-implant reconstruction were included.

Primary outcomes: Reconstruction outcomes after implant loss, including implant-salvage, conversion to autologous, or abandoned reconstruction.

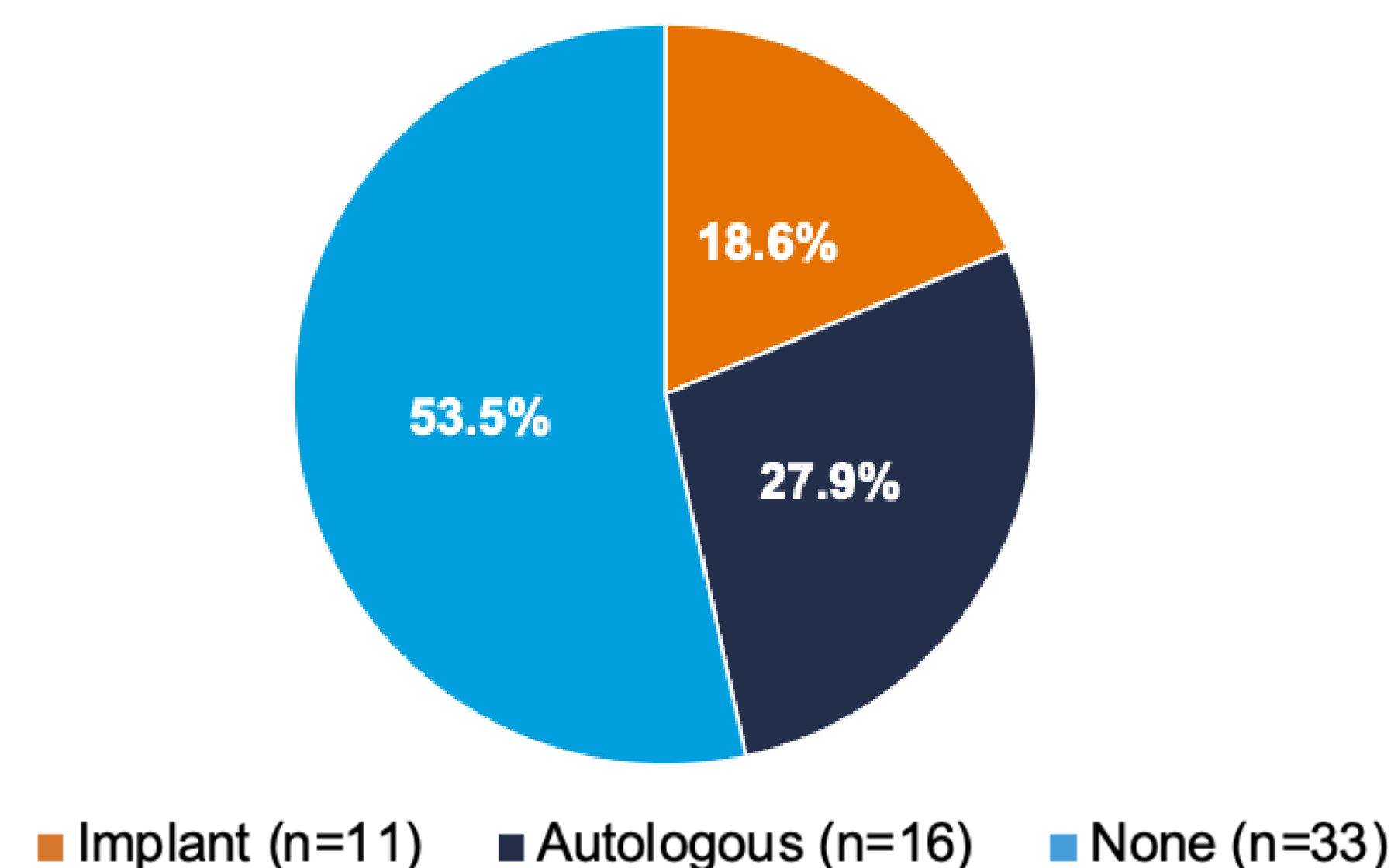
Data: Patient demographics, co-morbidities, operative characteristics, and complications preceding implant loss were collected.

Analysis: Multi-variate logistic regression was conducted with Statal.

Results

505 patients underwent IBBR over the study period and **43 (8.5%)** experienced implant loss.

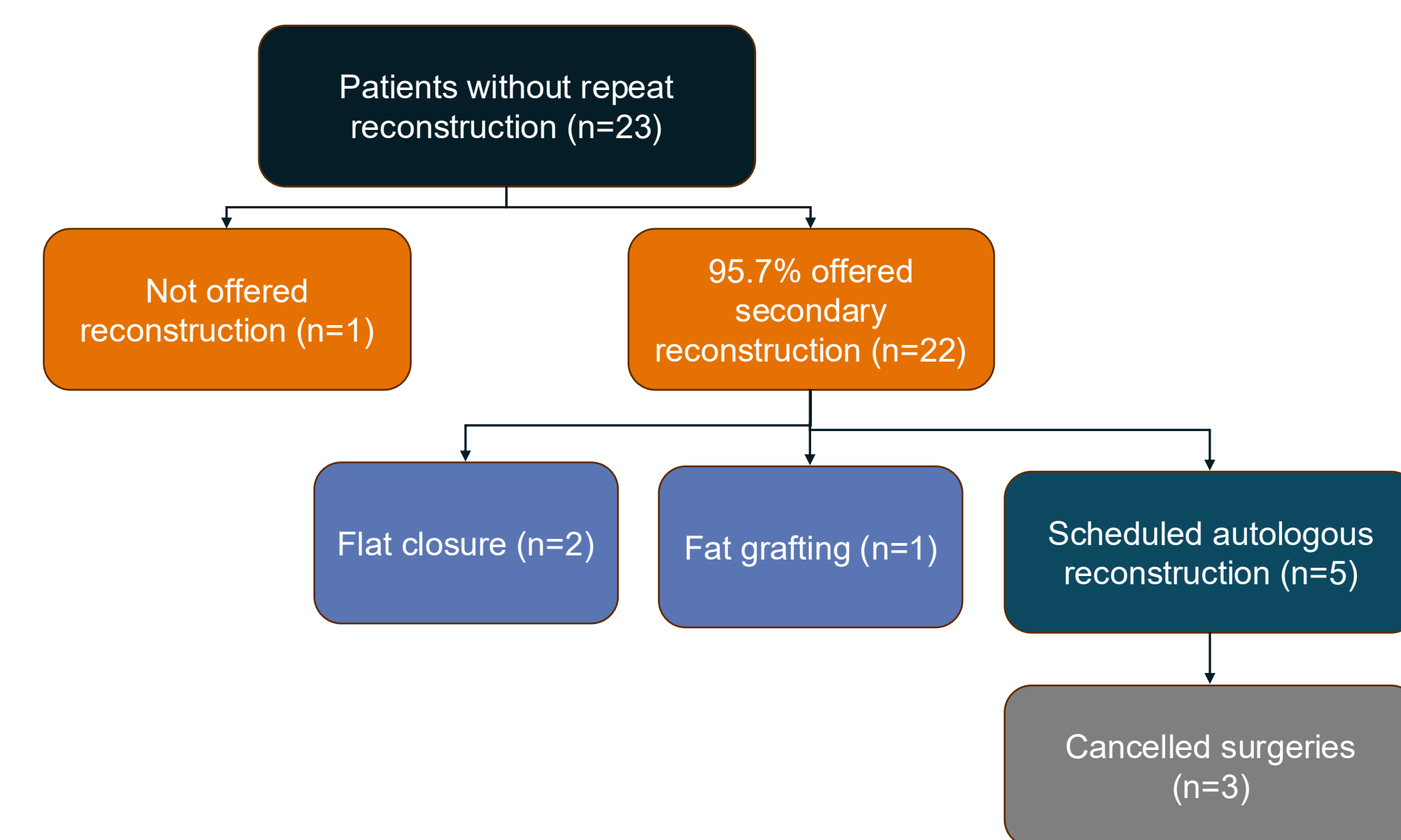
Secondary Reconstruction After Implant Loss



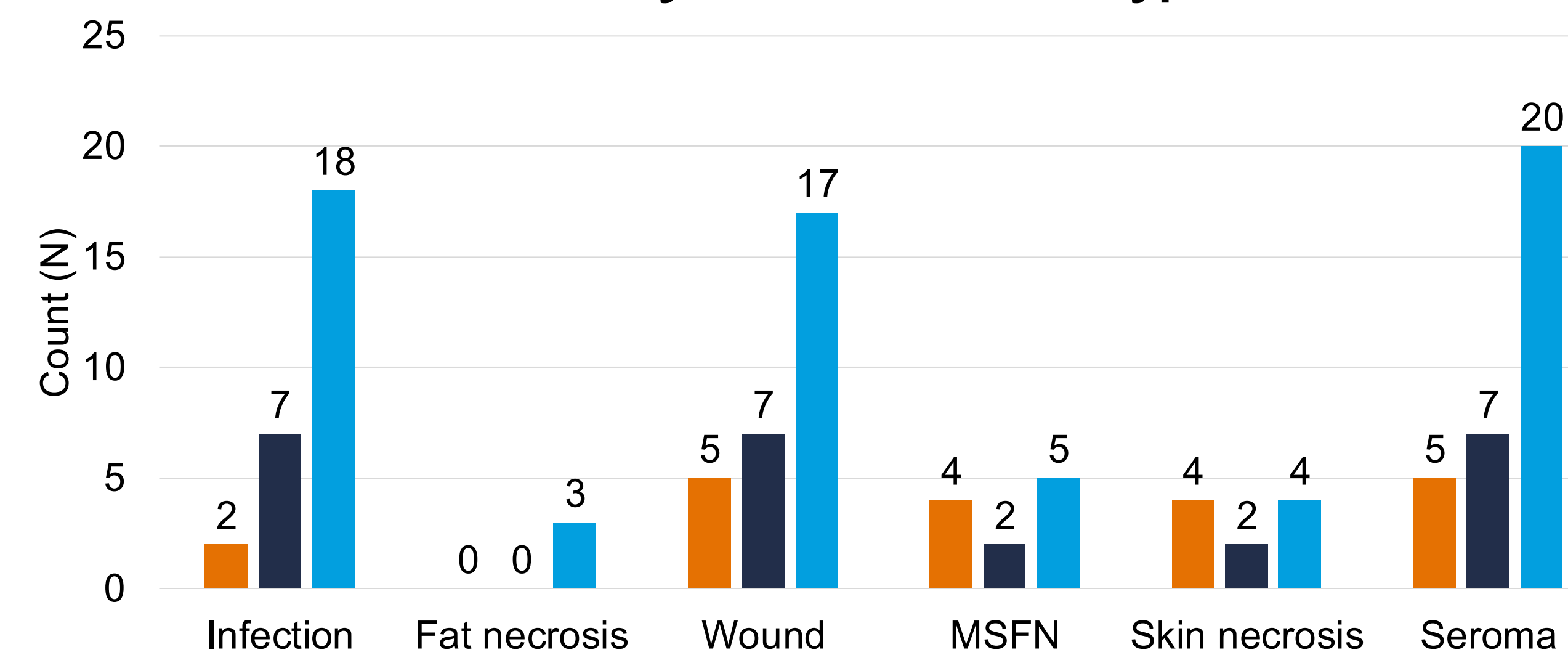
Characteristics of Device Removal

	Autologous (n=16)	Implant (n=11)	None (n=33)	Overall (n=60)	p-value
Device Removed					
Tissue Expander	10	6	15	31	0.084
Implant	6	5	18	29	0.522
Timing of Removal					
Days after TE placement	175.2	375.33	135.6	194.77	0.114
Days after implant placement	98.17	118.8	242	191	0.273
Overall days since device	146.3	258.73	193.64	192.95	0.46

Shared Decision-Making for Secondary Reconstruction



Complications Preceding Implant Loss by Secondary Reconstruction Type



Predictors of Primary Implant Loss

Predictor	OR	p-value
ASA	2.05	0.024
DM	2.04	0.05
Neoadjuvant chemotherapy	1..99	0.035
Immediate (vs delayed) reconstruction	4.5	<0.001

Predictors of Secondary Implant Reconstruction (vs autologous or no reconstruction)

	Odds-Ratio	p-value
 Adjuvant Radiation DECREASES ODDS	0.0083	0.012
 Age (per additional year) DECREASES ODDS	0.892	0.027
 Anxiety INCREASES ODDS	31.55	0.028

Conclusion

Most patients who experience implant loss forego further reconstruction. Outcomes of secondary reconstruction are also influenced by several factors:

- Radiation:** Adjuvant radiation markedly reduced the likelihood of secondary implant reconstruction, likely reflecting its effect on wound healing and changes to the chest wall³
- Age:** Older patients are less likely to pursue secondary reconstruction of any form
- Psychiatric Comorbidity:** Anxiety and depression was higher among those who pursued secondary implant reconstruction

Foregoing reconstruction likely reflects individualized choices rather than loss of surgical candidacy

Clinical Relevance

- Secondary reconstruction can offer successful outcomes after primary implant loss, though it requires personalized counseling and shared-decision making
- Understanding clinical and psychosocial predictors of secondary reconstruction can enhance a surgeon's ability to anticipate patients needs

References

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