

Psychological Outcomes After Mastectomy: Implant vs. Autologous Reconstruction

Braden N. Miller, MD, Augustine Deering III, BS, Payden Harrah, BS, Thais Polanco, MD, Roberto Martinez, MD, Anton Fries MD, PhD
University of Texas Health Science Center, San Antonio, TX



INTRODUCTION

- Breast cancer is associated with significant psychological morbidity which negatively impacts quality of life ¹
- New-onset depression or anxiety increases the risk of breast cancer recurrence and cancer-specific mortality ²
- Breast reconstruction restores body image and improves psychological well-being, but the impact of the reconstructive modality is unclear ³
- We investigated the impact of autologous versus implant-based reconstruction on post-mastectomy depression rates

METHODS

- Data Source:** TriNetX federated database of electronic medical records
- Population:** Adult women with breast cancer who underwent mastectomy followed by either **autologous** (pedicled or free tissue transfer) or **implant-based** reconstruction
- Exclusions:** Patients who underwent multiple reconstruction modalities
- Variables Assessed:** Patient clinicodemographic data, psychosocial history and tumor characteristics
- Primary Outcome:** Depression rates at 3 years after diagnosis
- Analysis:** Relative risks (RR) reported. Propensity score-matched 1:1 for age, race, BMI, nodal and metastasis status

RESULTS

- 22,602 patients underwent IBR (84%) and 4,256 underwent ABR (16%)

RESULTS

Table 1: Depression Rates by Reconstructive Approach

Outcome	Autologous (n=3,707)	Implant-Based (n=3,707)	RR	P-value
Depression				
Depressive Episode	23.4%	20.2%	1.16	0.0006
Dysthymic Disorder	2.8%	2.2%	1.24	0.15
Major Depressive Disorder	3.5%	4.3%	0.81	0.06
Any Depressive Diagnosis	24.9%	21.9%	1.14	0.002

Table 2: Depression Rates by Reconstructive Approach (Adjusting for Pre-Op Depression)

Outcome	Autologous (n=3,812)	Implant-Based (n=3,812)	RR	P-value
Depression				
Depressive Episode	17.9%	14.3%	1.25	<0.0001
Dysthymic Disorder	2.2%	1.4%	1.58	0.009
Major Depressive Disorder	2.4%	3.3%	0.72	0.02
Any Depressive Diagnosis	18.3%	15.3%	1.20	0.0008

Table 3: Depression Rates after Autologous or Implant-Based Reconstruction by Timing

Outcome	Immediate Autologous (n=748)	Delayed Autologous (n=748)	RR	P-value
Any Depression	17.5%	26.2%	0.67	<0.0001
	Immediate Implant (n=5,789)	Delayed Implant (n=5,789)		
Any Depression	18.5%	23.5%	0.79	<0.0001

RESULTS/DISCUSSION

- After controlling for pre-operative depression, implant-based reconstruction was found to be associated with more severe depressive symptoms and major depressive disorder
- Pre-existing depression is an important confounding variable to consider, which may explain the variation in literature findings
- Immediate breast reconstruction is protective against depression
- Limitations:**
 - Autologous group includes pedicled TRAM and latissimus dorsi flaps, limiting generalizability to DIEP flap population
 - Anxiety symptoms are also prevalent and further evaluation into these measures of psychological well-being is needed

CONCLUSIONS

- Autologous reconstruction results in greater rates of depression, but a lower risk of severe symptoms and diagnosis of major depressive disorder
- Pre-existing depression is an important confounding variable
- Our findings support immediate breast reconstruction when feasible for improved psychological outcomes
- Further research into free-flap reconstruction-specific outcomes is needed

REFERENCES

- Javan Biparva et al. Global depression in breast cancer patients: Systematic review and meta-analysis. PLoS One. 2023 Jul 26;18(7):e0287372.
- Wang X et al. Prognostic value of depression and anxiety on breast cancer recurrence and mortality: a systematic review and meta-analysis of 282,203 patients. Mol Psychiatry. 2020 Dec;25(12):3186-3197.
- Roy N et al. The psychological impacts of post-mastectomy breast reconstruction: a systematic review. Ann Breast Surg. 2024 Jun 30;8:19.