

Timing of Autologous Tissue Breast Reconstruction Does Not Affect Free Flap Failure

Christopher L Kalmar, Wesley P Thayer, Salam Kassis, Kent K Higdon, Galen Perdikis

Vanderbilt Plastic Surgery

Purpose

Determine whether undergoing immediate versus delayed reconstruction is associated with breast free flap failure

Analyze practice patterns across the country for immediate versus delayed autologous breast reconstruction over the last six years

Methods



Study Design: Retrospective cohort study



Participants: Microvascular free tissue transfer performed in North America for breast reconstruction after mastectomy for breast cancer



Institutions: Hospitals participating in NSQIP



Dates: 2015-2019



Outcomes: Free flap failure
Based on ICD-9 and ICD-10 code for return to operating room

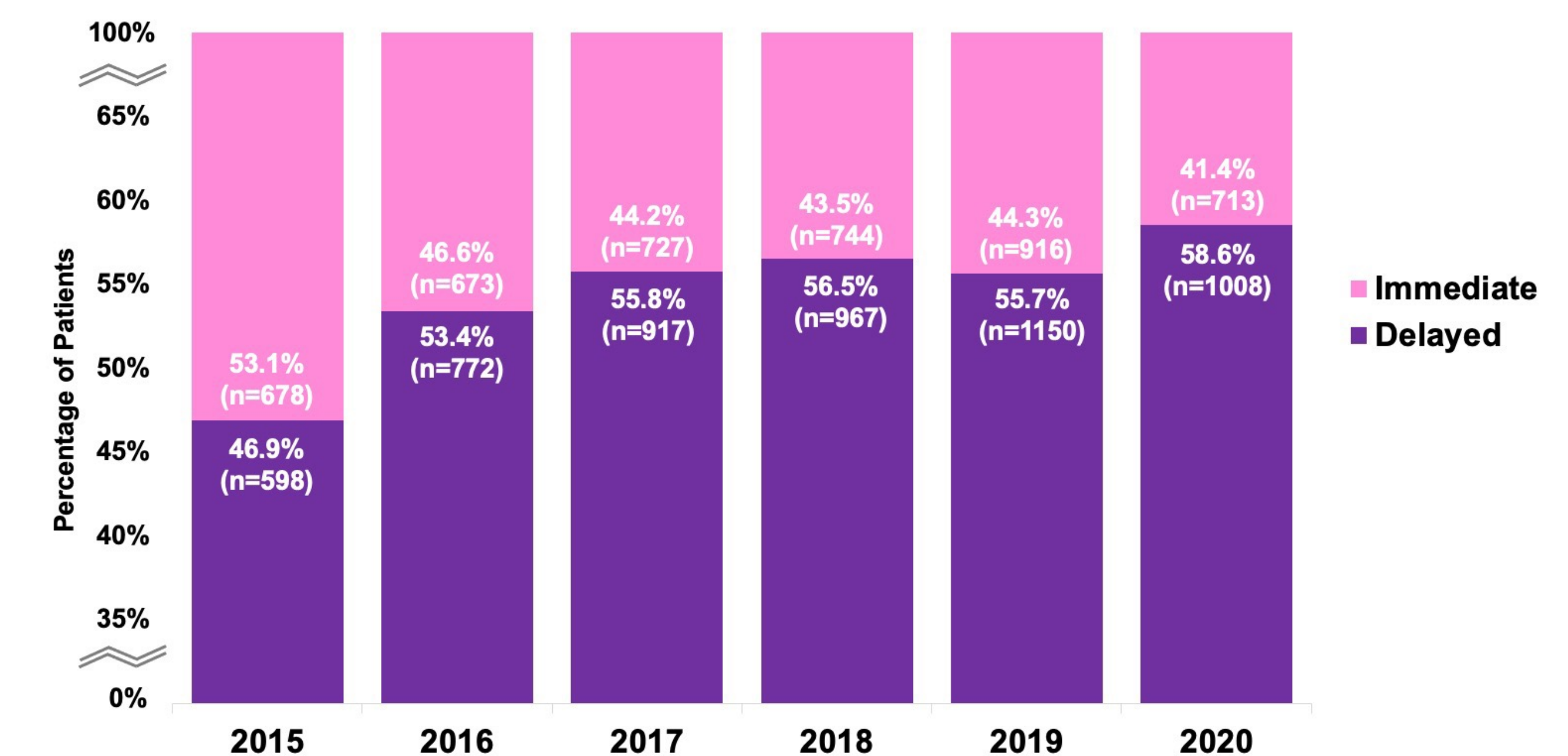
Results

- **9863 patients** underwent autologous breast reconstruction
 - 45.1% **immediate** reconstruction
 - 54.9% **delayed** reconstruction
 - 65.0% **unilateral** mastectomy and reconstruction
 - 34.2% **bilateral** mastectomy and reconstruction
- Those electing **bilateral** reconstruction were significantly more likely to undergo **immediate** reconstruction than delayed reconstruction ($p < .001$, 53.5% vs 46.5%),
- Over the last six years, there has been an **increase in delayed** reconstruction ($p < .001$)
- **Flap failure** rate overall was 1.3%, which was **similar** between immediate versus delayed reconstruction ($p = .920$)
- On multivariate regression analysis
 - The decision to undergo **unilateral versus bilateral** reconstruction ($p = .109$) or the decision to undergo **immediate versus delayed** reconstruction ($p = .836$) was **not** associated with breast free flap failure, when controlling for age, BMI, ASA classification, and comorbidities
 - **Higher BMI** was significantly associated with free flap failure ($p = .030$), such that **every 5 kg/m²** increase in BMI resulted in a **1.275 increased risk** of free flap failure (95%CI 1.024-1.588)

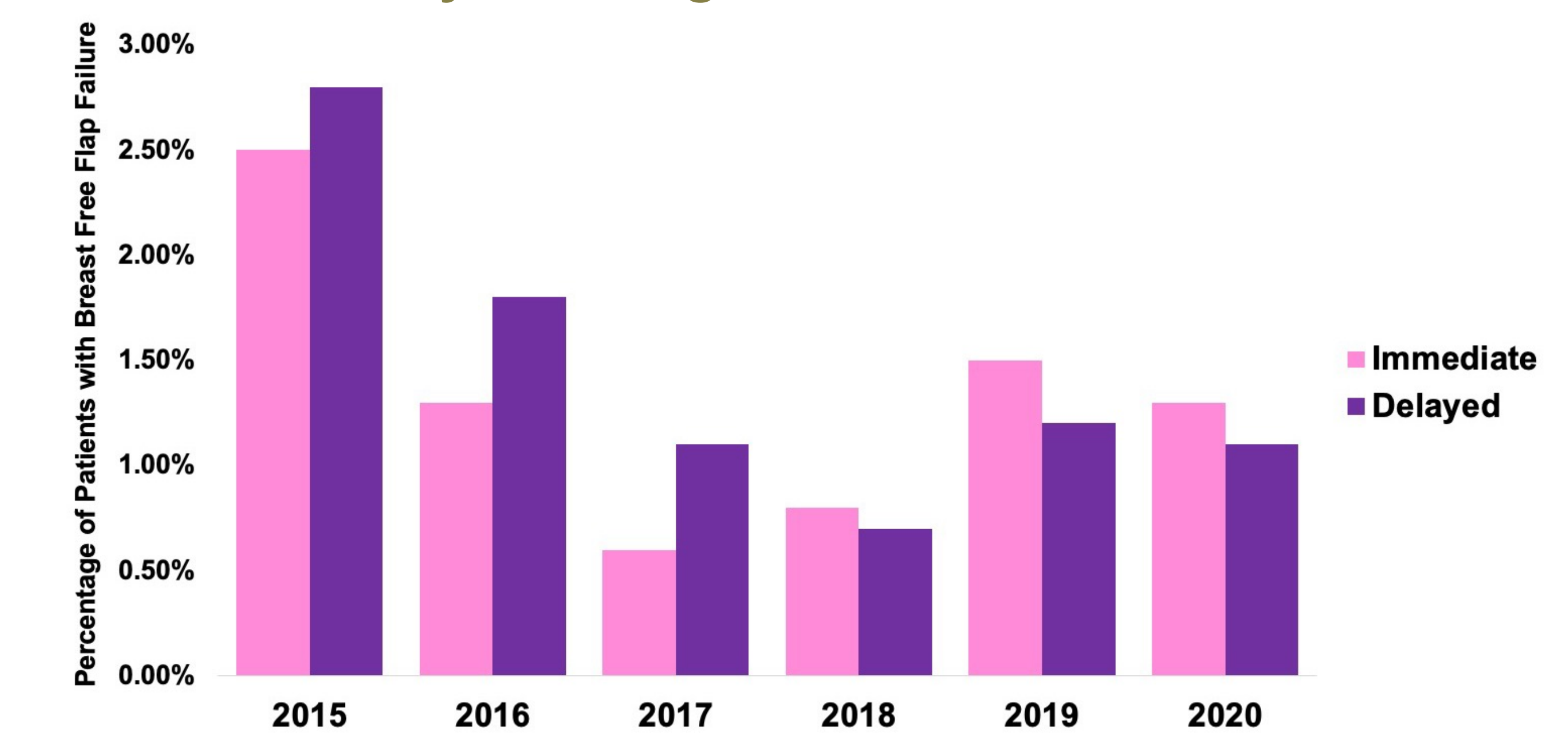
Conclusions

The decision to undergo immediate versus delayed autologous breast reconstruction does not have an association with free flap failure. This remains true regardless of undergoing unilateral mastectomy with reconstruction, or choosing to also undergo contralateral prophylactic mastectomy with bilateral reconstruction.

Immediate vs Delayed Autologous Breast Reconstruction Trends Over the Years



Decreasing Rates of Breast Free Flap Failure Over the Years for Immediate and Delayed Autologous Breast Reconstruction



Comparison of Breast Free Flap Failure based on Immediate vs Delayed and Unilateral vs Bilateral Reconstruction

