

National Trends in Autologous Breast Reconstruction with Free Tissue Transfer

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Introduction

- Autologous breast reconstruction (ABR) offers durable outcomes and high patient satisfaction^{1,2}
- National trends in ABR postoperative outcomes over time remain incompletely characterized
- This study analyzes a **12-year national cohort** to evaluate **temporal trends** in ABR utilization, patient characteristics, and short-term outcomes

Methods

- **Sample:** 20,991 patients undergoing free flap ABR (2011-2022 NSQIP data)
- **CPT Code:** 19364 for free flap ABR
- **Exclusions:** Emergency cases
- **Cohorts:** Stratified into 3-year intervals (2011–2013, 2014–2016, 2017–2019, 2020–2022)
- **Outcomes:** 30-day all-cause complications, reoperation, readmission, and surgical site infection (SSI)
- **Analysis:** Compared cohorts utilizing multivariable logistic regression for adjusted odds ratios; marginal effects for predicted complication risk ($p < 0.05$ significant)

Results

Temporal Trends – Univariate

- Any complication: 25.1 → 23.2%
- SSI: 4.6% → 9.2%
- Operative time: 8.3 → 7.5 hours
- Length of stay: 4.7 → 3.4 days
- Reoperation: 12.1% → 10.7%
- Readmission: 6.5% → 5.2%
 - **all $p < 0.02$**

Multivariable Analysis (vs. 2011–2013)

- All-Cause Complications
 - 2014–2016: OR 0.90, $p = 0.056$
 - **2017–2019: OR 0.87, $p = 0.009$**
 - 2020–2022: OR 0.99, $p = 0.905$
- Surgical Site Infection
 - 2014–2016: OR 0.87, $p = 0.314$
 - **2017–2019: OR 1.48, $p = 0.001$**
 - **2020–2022: OR 2.21, $p < 0.001$**
- Readmission
 - 2014–2016: OR 0.82, $p = 0.050$
 - 2017–2019: OR 0.98, $p = 0.866$
 - 2020–2022: OR 0.86, $p = 0.107$
- Reoperation
 - 2014–2016: OR 1.03, $p = 0.651$
 - 2017–2019: OR 0.98, $p = 0.743$
 - 2020–2022: OR 0.95, $p = 0.448$

Figure 1. Patient Inclusion Flow Chart

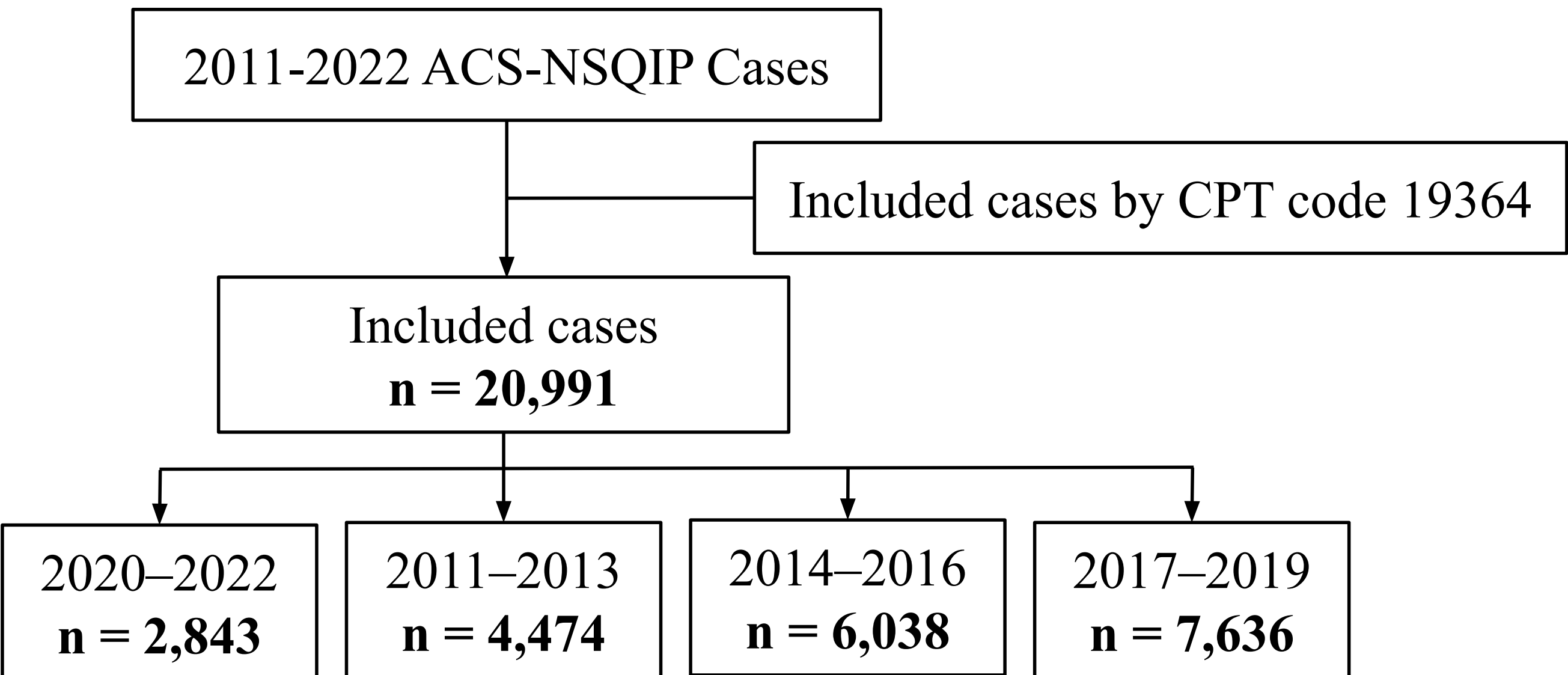
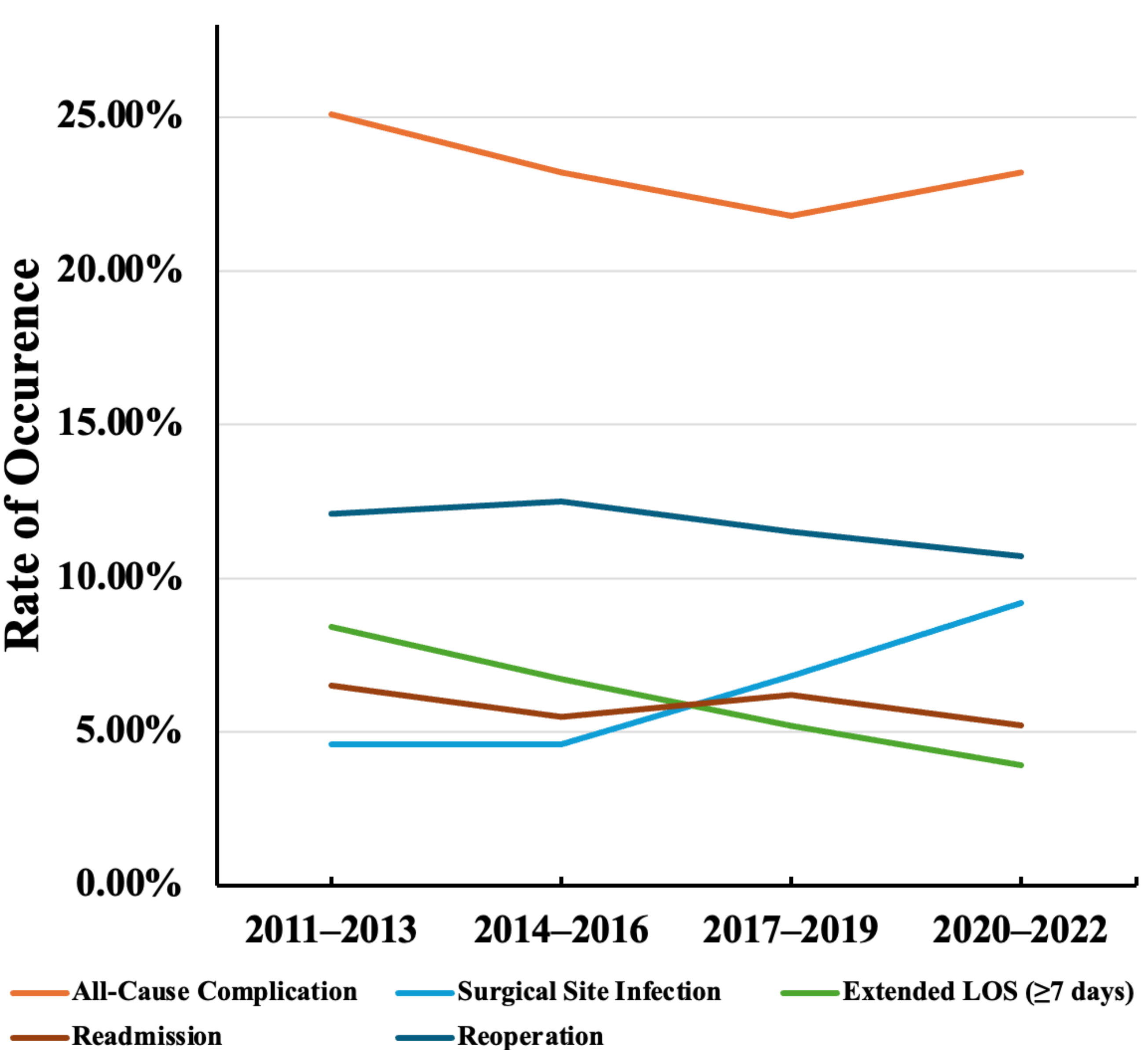


Figure 2. Temporal Trends in Postoperative Outcomes



Conclusion

- ABR has become more utilized and efficient, with **declining operative times and shorter hospital stays**
- Complication and reoperation rates improved from 2011 to 2019 but showed no further gains in the most recent cohort
- **SSI significantly increased**, highlighting a need for strengthened infection control and perioperative management
- Ongoing surveillance of national trends in ABR can guide development of standardized protocols and identify emerging quality concerns

References

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