

# Trends in Reconstructive Breast Surgery following Mastectomy at a Single Institution between 2011 and 2015

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## Introduction

Current trends show that same-day breast reconstruction after oncologic breast surgery is increasing. Data regarding the factors contributing to this increase in oncoplastic surgery is lacking<sup>3,4</sup>.

The objective of this retrospective study was to examine the incidence, timing and type of reconstructive surgery following mastectomy at a community hospital between the years of 2011 and 2015.

We hypothesized that the majority of women would choose immediate reconstruction rather than delayed reconstruction following mastectomy and that the number of reconstructive surgeries would increase from 2011 to 2015 correlating with the increase in availability and popularity of oncoplastic breast procedures.

## Background

Overall cancer incidence among men is declining by 2% each year, however the incidence of cancers affecting women have remained stable over the past 10 years.<sup>6</sup> Breast cancer remains the number one cancer affecting women in the United States. This represents 15% of all new cancers. Advances in treatment and technology have contributed to a decline in breast cancer death rates, approximately 1.8% annually. As research in screening, treatment and surveillance expand, so does research and patient preferences surrounding reconstructive breast surgery.

Since the NSABP-B06 and follow up trials demonstrated no significant difference in recurrence rates between breast-conserving surgery (BCS) and mastectomy, the percentage of BCS has increased<sup>2</sup>. Data shows that as the trends in oncologic surgical procedures shift, so do the associated plastic surgery procedures<sup>1</sup>. While studies show a trend towards the use of tissue expanders and/or implants over the use of tissue flaps, little data exists to correlate the preferred reconstructive plastic surgery and the oncologic procedure performed. Future research to better define these changing trends is still needed<sup>5</sup>.

## Objective

1. Identify the number of patients with breast disease (both in situ and invasive disease) who underwent breast conservation therapy as opposed to mastectomy.
2. Identify the occurrence and timing of reconstructive breast surgery following oncologic breast surgery.
3. Identify the predominant type of reconstructive breast surgery when comparing tissue expanders or implants to musculocutaneous tissue flaps.

## Methods

- Electronic medical record retrospective review revealed a total of 1451 breast disease patients were identified between 2011-2015.
- Of the 1451 breast disease cases, 129 patients (9%) underwent reconstructive breast surgery.
- Operative reports by the general surgeon and plastic surgeon were reviewed of the 129 patients who underwent reconstructive surgery.
- If the reconstructive surgery did not occur on the same day as the oncologic surgery, it was categorized as delayed.

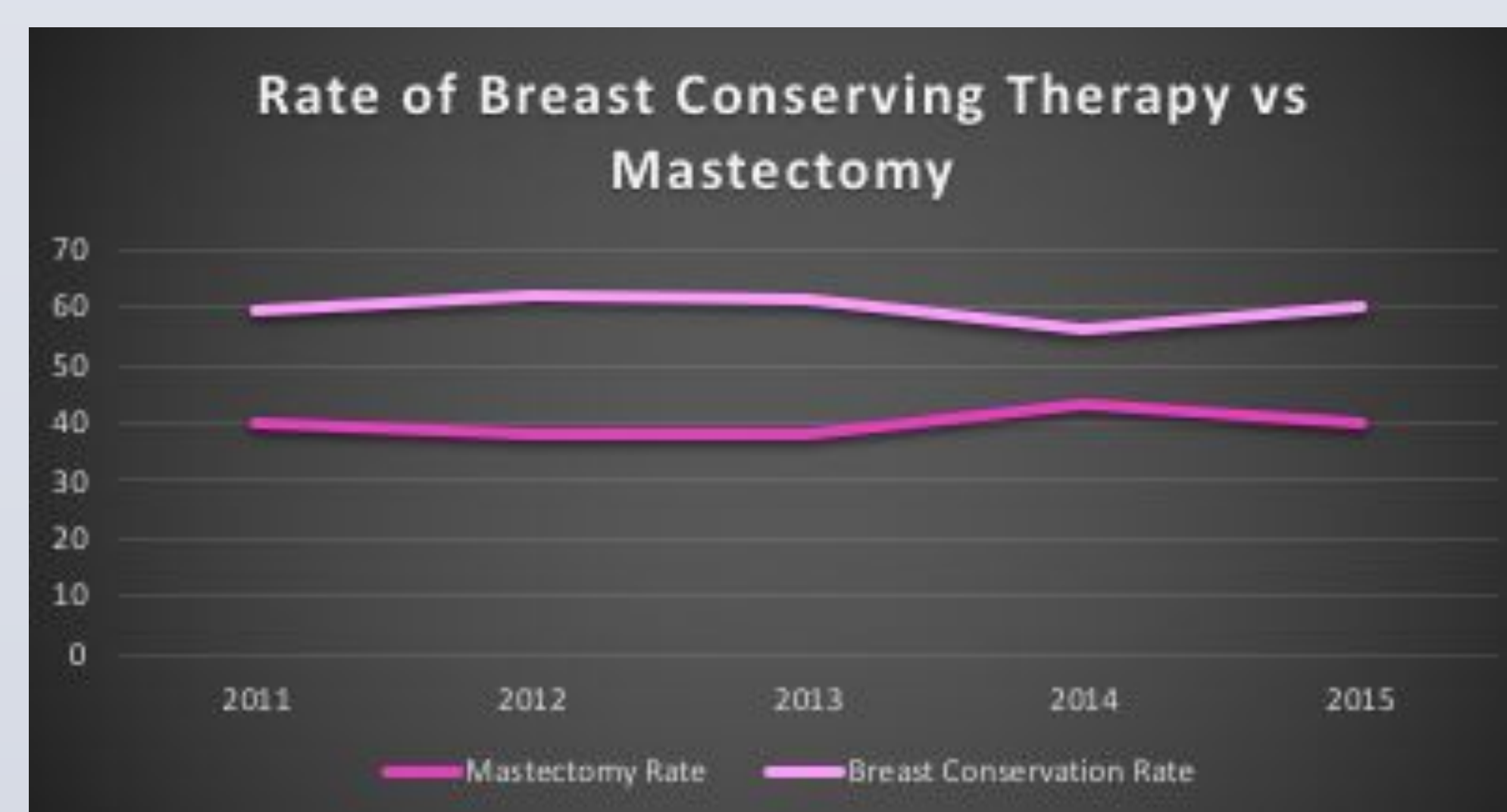


Table 1

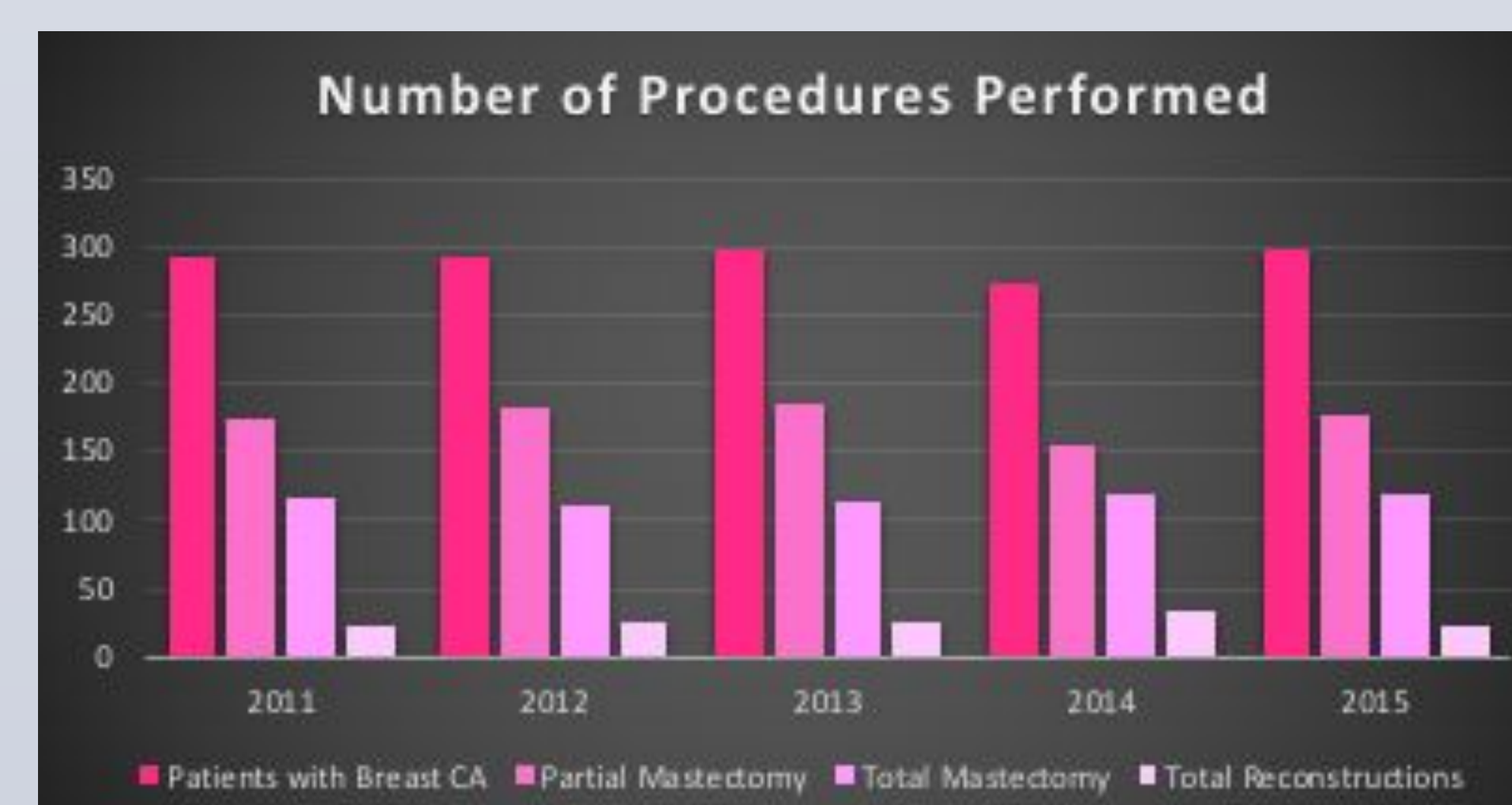


Table 2

## Results

1. Breast Conservation vs Mastectomy (Tables 1 and 2):
  - Breast Conserving Surgeries
    - 872 patients (60.1%)
  - Mastectomies
    - 579 patients (39.9%)
- 2a. Reconstruction Rates (Table 3):
  - Reconstruction after Mastectomy
    - 129 patients (22.6%)
  - Unilateral breast disease who underwent reconstruction
    - 112 patients (86.8%)
  - Bilateral breast disease who underwent reconstruction
    - 17 patients (13.2%)
- 2b. Timing of Reconstruction
  - Same-day Reconstruction
    - 127 patients (98.5%)
  - Delayed Reconstruction
    - 2 patients (1.5%)
3. Type of Reconstructive Surgery
  - Tissue expanders/implants
    - 121 patients (93.8%)
  - Musculocutaneous flaps
    - 8 patients (6.2%)



Table 3

## Conclusion

This study did not demonstrate an overall increase in reconstructive surgeries between 2011 and 2015. However, there was an increase in bilateral reconstructive surgery for both bilateral and unilateral breast disease during this time. Similar to the National Cancer Database (NCDB) of the American College of Surgeons and the American Cancer Society, the majority of women underwent immediate breast reconstruction with the use of tissue expanders/implants compared to tissue flaps as hypothesized.

While we concluded that the overall rate of breast reconstruction after mastectomy between 2011 and 2015 did not change, the increase in bilateral mastectomies for unilateral disease did. This may reflect the increasing popularity of oncoplastics as well as benefits of immediate reconstruction including time, cost and body image.

## References

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