Re-excision following breast conservation surgery in modern times: A single institution’s quality study looking at re-excision following segmental mastectomy at both the institutional and individual surgeon level

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PURPOSE
• Breast conservation is performed in the majority of breast cancer patients in the United States and re-excision is a known risk with wide variability in the published rates.

• We performed a single institution quality study which looked at our current re-excision rates, both as an institution and individually as surgeons, and the associated factors.

METHODS
• Our institution has 6 breast surgeons and is an accredited breast center. We performed a retrospective chart review of patients undergoing a segmental mastectomy (CPT code 19301) from 2016-2018.

• Re-excision was defined as return to the operating room for either another segmental mastectomy or full mastectomy within 90 days.

• Patient characteristics, tumor histology, imaging findings, and neoadjuvant treatment were recorded. Individual surgeon re-excision rates were reported for each year and compared to re-excision rates generated by the tumor registry and reported to each surgeon.

• Prior to seeing their individual rates, each surgeon was asked to estimate their re-excision rate, report factors associated with re-excision, and whether re-excision rates should be a quality measure.

RESULTS
• 1,508 segmental mastectomies (CPT code 19301) were completed during the studied time frame and 238 re-excisions were performed (on 205 patients), with an overall institutional re-excision rate of 15.8%.

• Cancer was found in the re-excision specimens in 53.4% of re-excision cases. The re-excision rates for 2016, 2017, and 2018 were 16.2%, 15.1%, and 16.0% respectively. The re-excision rate varied significantly between surgeons, ranging from 3.3% to 30.0% overall from 2016-2018.

• Patients with ductal carcinoma in situ (DCIS), particularly a larger size of DCIS, were more likely to require re-excision (p <0.0001).

• The tumor registry reported an overall re-excision rate of 20.7% compared to the chart review re-excision rate of 15.8%.

• All six surgeons underestimated their re-excision rate by 4.2% on average, with the underestimation varying from 0.6-8.3%. None of the surgeons felt that margins are an accurate metric of quality in regards to breast cancer surgeries.

CONCLUSIONS
• Despite the margin guidelines, re-excision rates following breast conservation surgery vary widely by breast surgeon within a single institution and using different methodology to calculate re-excision rates.

• Institutions considering a re-excision quality study should take these factors into account.