BACKGROUND:
Several well-controlled studies have demonstrated significantly increased local recurrence rates in patients with low-stage breast carcinoma treated with breast conservation therapy in whom focally positive margins or close (1 mm) margins were not re-excised. In our experience, preoperative MRI with gadolinium to establish size and location of breast cancer in combination with mammogram and indicated ultrasound and intraoperative pathology consultation for margins significantly improves recurrence risks by allowing margin clearance at the time of initial surgery, and avoiding added separate surgeries in many cases.

The large majority of studies on the use of intraoperative evaluation of margins of breast conservation therapy have been performed at the university-based academic centers.

OBJECTIVE:
To evaluate the utility of multidisciplinary approach, using proper preoperative planning with Gadolinium MRI in addition to standard mammogram and ultrasound, bracketing J-wire technique and intraoperative ink and gross pathologic evaluation of breast conservation therapy margins in a community hospital setting.

METHODS;
We retrospectively reviewed the intraoperative ink and gross evaluation for margins of 177 lumpectomy specimens that had been obtained from 2 year period and studied the re-excision and local recurrence rate.

Preoperative MRI with gadolinium to establish size and location of breast cancer in combination with mammogram and indicated ultrasound with image-guided needle biopsies to rule out larger more extensive breast cancer or separate cancers in the ipsilateral and/or contralateral breast. Single J-wire for nonpalpable cancers smaller than 1.5-2.0 cm, bracketing J-wires placed for nonpalpable cancers greater than 1.5-2.0 cm. This is done at the time of Lymphoseek injection for sentinel node mapping. The pathologist performs intraoperative ink and gross assessment of the lumpectomy and communicates with the surgeon while the patient is still under anesthesia.

RESULTS:
Oncoplastic incision is discussed with the patient preopeartively. Procedure is done under general anesthesia. 5.0 millimeter margins are utilized with suture
orientation. Biplanar specimen radiograms are performed prior to ink and gross
assessment by the pathologist.

Intraoperative ink and gross of the specimen is performed by the pathologist after
specimen radiography. Immediate reexcision of any margin thought to be less
than 5.0 millimeters is performed and relabeled after discussion by the surgeon
with the mammographer and the pathologist. Oncoplastic closure is performed.
On final pathology analysis, 5.0 millimeter margins are required to the main tumor
and 2.0 millimeter margins are required to a small focus of tumor.

CONCLUSION:
Grossly evaluation of margins by palpation and viewing under the magnifying lens
by the pathologist at the time of surgery, with appropriate communication with the
radiologist and the surgeon and proper preoperative planning is an accurate,
simple, rapid and cost-effective method for determining the margin status of
breast conservative therapy specimens intraoperatively in the community hospital
setting. This method allows a survey of the entire surface area of the lumpectomy
specimen, which is not practical using frozen section evaluation.