PARTIAL MASTECTOMY (LUMPECTOMY)

Since the early 1990’s, the preferred surgical treatment for most breast cancer has been breast preservation or partial mastectomy (lumpectomy). Many excellent studies in which women were randomly assigned to either mastectomy or partial mastectomy have demonstrated that there is no difference in survival whether a woman chooses mastectomy or breast preservation. The studies were done in the early 1970’s, so the follow-up of those patients is very long, and our confidence in the findings is quite high.

A partial mastectomy consists of removing the cancer and a small rim of normal tissue around it to be sure all of the cancer has been removed. We usually use ultrasound in the operating room to help us know what tissue to remove, frequently injecting a small amount of blue dye that serves as a visual guide for what to remove. When we cannot feel the cancer, and frequently even when we can feel it, an x-ray of the specimen is taken immediately after removing it in order to determine how close the cancer (or the clip marking the spot of the cancer) is to the tissue that we have cut across.

We have a special x-ray machine (a Faxitron) in the operating room to x-ray the specimen. The digital images are available within seconds and can be transmitted electronically almost immediately to the breast radiology specialists for review. We speak by phone and together with the radiologist we decide whether to remove additional tissue if the margin looks too close. In addition, we sometimes leave the operating room to cut the specimen with the pathologist to be as sure as possible that we have all the cancer out. Sometimes we return while the patient is still on the operating table and remove more tissue. Despite these precautions, sometimes individual clusters of tumor cells in the ducts or in the tissue don’t show up on ultrasound, x-ray, or to the naked eye, and the margin where we cut across the tissue is involved with cancer.

It is difficult to do immediate frozen section examination of the specimen margins because the fatty tissue of the breast does not freeze well. Touch prep cytology has been disappointing as well, as far as immediate margin assessment is concerned. Consequently, we do not know the status of the margin, that is, how much normal tissue is between the cancer and the area that was cut across in the breast, until two or three days after the operation when the final pathology report is available. The majority of the time, the margin is adequate and no further tissue removal is necessary. In a distinct minority of patients, the margin is involved, and we go back to the operating room on another day and remove more tissue. (DCIS and lobular carcinomas pose a particular problem in achieving free margins the first time.) The more tissue we take to insure an adequate margin, the greater the cosmetic deformity. We try to balance the competing goals of good cosmesis and the desire to do just one operation.
When the cancer is originally removed, we mark the specimen with six different colors of ink to orient the pathologists so we know what part of the specimen is superior, inferior, lateral, medial, superficial, and deep. If a margin is involved with cancer on the pathology examination, we know which one it is, and we are able to go back and just remove additional tissue in that one area without re-excising the whole excision cavity. This helps to improve the overall cosmetic result.

Occasionally, multiple margins are involved with cancer which is more extensive than it appeared to be, and it is necessary to return to the operating room for a mastectomy. We would not know that until the final pathology report is available, so we never convert from a partial mastectomy to a mastectomy during the same operation.