



Percutaneous Needle vs Surgical Breast Biopsy: Previous Allegations of Overuse of Surgery Are in Error

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Purpose: A recent paper in the *American Journal of Surgery* reported that surgery is used for 30% of breast biopsies, an excessive number. The investigators' stated biopsy volume included Current Procedural Terminology[®] code 19125 ("excision of breast lesion identified by preoperative placement of radiological marker, open"). However, this code may often be used when a surgeon's primary intention is not biopsy but rather excision of a lesion. Therefore, the reported results may overstate the percentage of biopsies performed as surgical procedures. The aim of this study was to more accurately assess the use of percutaneous core needle biopsy (PNB) compared with surgical biopsy.

Methods: The nationwide Medicare Part B databases for 2004 to 2009 were used. Trends in use of codes 19100 (PNB without imaging), 19102 and 19103 (PNB with imaging), 19101 (open biopsy), and the aforementioned 19125 were determined.

Results: From 2004 to 2009, the volumes of PNB with imaging (codes 19102 and 19103) increased substantially, while the volume of code 19125 decreased substantially. If one includes all 19125 claims as biopsies, the 2009 frequency of surgical biopsies was 18%. If one considers all 19125 claims as excisions, the frequency of surgical biopsies was 2%.

Conclusions: The previously published statement in the *American Journal of Surgery* that 30% of breast biopsies are done surgically is erroneous. Medicare data indicate that the true surgical breast biopsy figure is somewhere between 2% and 18%. Given that the recommended rate is 10%, it seems that surgeons and radiologists are collaborating well and that surgical breast biopsy is not being overused.

Key Words: Breast biopsy, breast imaging, radiology and radiologists, socioeconomic issues, overutilization of medical tests

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Early in 2011, Gutwein et al [1] reported on the rate of use of open surgical breast biopsy among 172,342 women in Florida being evaluated for suspicious breast lesions between 2003 and 2008. They found that ap-

proximately 30% of these patients had undergone open surgical biopsy. The rest had undergone minimally invasive percutaneous core needle biopsy (PNB). This figure of 30% was considered far too high; a more appropriate rate of use of open surgery was felt to be 10% [1-3]. Gutwein et al postulated that the reasons for the high rate of open biopsy included lack of access to PNB, a lack of education among practitioners about the value of PNB, and financial incentives related to the fees surgeons receive for open surgery. They calculated that reducing the open biopsy rate to 10% would have saved \$37.2 million in 2008 in Florida alone just in facility fees, not including the higher professional fees accruing to surgery. In addition, of course, numerous women could have avoided the pain, inconvenience, possible complications, and time lost from work associated with a surgical procedure.

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Table 1. *Current Procedural Terminology*[®], fourth ed, codes and descriptors used to describe breast biopsy

Code	Descriptor
19100	Biopsy of breast; percutaneous, needle core, not using imaging guidance
19101	Biopsy of breast; open, incisional
19102	Biopsy of breast; percutaneous, needle core, using imaging guidance
19103	Biopsy of breast; percutaneous, automated vacuum assisted or rotating biopsy device, using imaging guidance
19125	Excision of breast lesion identified by preoperative placement of radiological marker, open; single lesion

Note: The word *biopsy* does not appear in the descriptor for code 19125.

This paper sparked a front-page article in the *New York Times* on February 18, 2011, alleging that surgery was being used too extensively for purposes of breast biopsy [4]. The article contained quotations from several prominent breast surgeons who expressed concern and even outrage about the practice. Needless to say, this discussion did not cast physicians associated with breast care in a very favorable light.

In performing their study, Gutwein et al [1] included five *Current Procedural Terminology*[®], fourth ed (*CPT*[®]-4), codes in their analysis. These codes and their descriptors are shown in Table 1. The first 4 (19100-19103) clearly describe biopsy procedures. However, their inclusion of the fifth code, 19125, is more problematic. The descriptor for this code is “excision of breast lesion identified by preoperative placement of radiological marker, open; single lesion.” The word *biopsy* does not appear in the descriptor. We believe that by categorizing this open surgical code as a type of biopsy, Gutwein et al may have substantially overestimated the number of open biopsies being performed. Code 19125 seems to fall into one of the “gray zones” that occasionally may be found in the *CPT*-4 coding manual. This code may often be used when the primary intent of a surgeon is to remove a lesion, not just biopsy it. Such a situation may arise when a patient has concerns and wants a lesion removed regardless of its nature, or when it is causing her pain. Surgeons may use this code when they feel that lesions are probably benign (such as fibroadenomas, complex cysts, or intraductal papillomas) and are not concerned about getting clear margins around it. A previous PNB may have been performed and revealed a lesion considered to be a risk factor, such as atypical ductal or lobular hyperplasia or atypical papilloma. In these circumstances, surgeons will often advise removal of the lesion in case there is an adjacent malignant focus. Thus, in some or even many cases in which a claim is filed under code 19125, the primary intent of the surgeon may have been to remove the lesion in its entirety and to send the entire specimen for histopathologic examination.

Our intent in this study was to revisit the issue of breast biopsy and to reanalyze the data using several different assumptions about how code 19125 should be classified.

METHODS

Our data source was the Medicare Part B Physician/Supplier Procedure Summary Master Files for 2004 through 2009. They cover all beneficiaries in traditional fee-for-service Medicare (34,937,790 in 2009) but do not include those in Medicare Advantage plans. These files provide volume data for every code in the *CPT*-4 manual. We selected the 4 codes that clearly designate breast biopsy, plus the excisional code 19125. These are the same codes used by Gutwein et al [1], as shown in Table 1. The table includes the exact descriptors as stated in the *CPT*-4 manual. Procedure volume trends were plotted for each code over the period of study. Codes 19100, 19102, and 19103 are PNB procedures, the first done without imaging guidance and the latter two with imaging guidance. Code 19101 is clearly a surgical code, and 19125 may or may not be, as noted above.

Using 2009 data, we calculated the number of surgical breast biopsies, using 3 different assumptions about how code 19125 should be classified. Under assumption 1, all claims filed under code 19125 were considered to be surgical biopsies. This is the same approach taken by Gutwein et al [1] in the Florida population. Under assumption 2, none of the 19125 claims were considered to be surgical biopsies. Instead, all were considered surgical excisions of lesions. Under assumption 3, which is being used only as an example, half the 19125 claims were considered surgical biopsies and the other half were considered surgical excisions of lesions. The number and percentage of surgical breast biopsies were calculated using the 3 different assumptions.

We also used Medicare’s physician specialty codes to determine what percentages of the procedures under each of the 5 codes was performed by radiologists.

Table 2. Breast biopsy volumes and changes from 2004 to 2009, Medicare

<i>CPT</i> [®] -4 Code	2004 Volume	2009 Volume	Percentage Change
19100	13,669	7,545	-45%
19101	6,605	3,879	-41%
19102	48,220	53,959	+12%
19103	76,203	107,907	+42%
19125	55,925	34,186	-39%
Total	200,622	207,476	+3%

Note: *CPT*[®]-4 = *Current Procedural Terminology*[®], fourth ed. For the purposes of this table, claims under code 19125 were included as biopsies. Codes 19100, 19102, and 19103 are for percutaneous needle techniques; the latter two use imaging guidance.

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