

# Surgeons' unanimous consensus: Needle biopsy is gold standard for breast cancer diagnosis

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A special report published in the October issue of the *Journal of the American College of Surgeons* indicates that an alarming 35% of initial diagnostic breast biopsies in the United States are still being done using unnecessary open surgical techniques. This in spite of the fact that it costs as much as three times more than the much less invasive and equally accurate needle biopsy technique.

A panel of leading breast disease specialists recently convened at the International Consensus Conference on Image Detected Breast Cancer III and unanimously agreed that percutaneous needle biopsy represents "best practice" and should be the "gold standard" for initial diagnosis of breast abnormalities. The recommendations were reached after building clinical evidence since the preceding Consensus Conferences in 2001 and 2005, yet little progress is being made in reducing the number of open surgical biopsies being performed nationwide.

"In spite of considerable agreement in the medical literature and national recommendations published by industry thought leaders such as the American College of Surgeons and the American Society of Breast Surgeons, there was only a small decrease in the number of surgical biopsies since our last conference four years ago. 1,2 This slow rate of adoption is appalling considering the overwhelming benefits of needle biopsy versus open surgery for the initial diagnosis of breast cancer," said Dr. Melvin Silverstein, medical director of Hoag Breast Care

Center; clinical professor of surgery at the Keck School of Medicine, University of Southern California; and chair of the 2001, 2005 and 2009 Consensus Conferences. "Considering only 15-20% of abnormalities found by mammography turn out to be cancer, this means a significant number of women with benign lesions are undergoing unneeded diagnostic surgery when needle biopsy is equally effective for discovering cancer."

Last year, approximately 1.7 million women underwent a breast biopsy to have a suspicious lump or imaging abnormality examined.<sup>1</sup> During a breast biopsy, a small sample of tissue from the abnormal lesion is removed and sent to a pathologist to be analyzed microscopically to check for breast cancer. The tissue sample can be removed either through an open surgical biopsy or less invasive needle biopsy.

Women who undergo open surgical biopsy are generally put under anesthesia, and a physician creates an incision in the breast through which part of the lump is removed. Because an incision is required, open surgical biopsy carries the risk of infection, complications and scarring. Open biopsy also costs about two to four times more on average than a needle biopsy. During a needle biopsy, women are given local anesthesia, and a thin needle is used to withdraw small cores of tissue from the suspicious area. In some cases, imaging equipment may be used to guide the needle to the right spot. Unlike open surgical biopsy, minimally invasive needle biopsy may result in some bruising, but usually does not leave a scar. Additionally, the risks associated with needle biopsy are significantly less, as is patient recovery time.

"There are very few instances when needle biopsy is so technically difficult to perform due to a lesion's position or other factors, that an open surgical biopsy would be needed as the initial diagnostic procedure," said Dr. Silverstein.

At Hoag Breast Care Center, minimally invasive [needle biopsy](#) is the standard of care. In fact, only about one percent of the diagnostic biopsies performed at the center require an open surgical procedure. Needle biopsies provide detailed information about the nature of the breast tumor including biologic markers, histologic tumor grade, and lymphovascular invasion. This information can all be identified in the biopsy sample to aid in therapeutic decision-making before surgical intervention.

"If a lesion is diagnosed to be cancer before operative intervention, the surgeon can more precisely plan the optimal location of the incisions for maximum breast conservation," Dr. Silverstein explains. "With pre-operative planning, more complete and precise removal of the cancer and its margins is more likely, generally sparing patients a second surgery. Additionally, the surgeon can make better use of oncoplastic techniques."

The panel's report in the *Journal of the American College of Surgeons* established comprehensive guidance for the diagnosis and treatment of patients with breast cancer. In addition to establishing best-practices for the method of breast biopsy, the paper describes stronger positions in support of the use of magnetic resonance imaging in diagnosis and preoperative planning, shortened radiology treatments, and the incorporation of oncoplastic techniques into surgical breast cancer practice.

#### References:

1. Silverstein M, Recht A, Lagois M, et al. Image-Detected Breast Cancer: State-of-the-Art Diagnosis and Treatment. *J Am Coll Surg* 2009. 209:504-520.
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3. Clarke-Pearson EM, et al. Quality Assurance Initiative at One Institution for Minimally Invasive [Breast](#) Biopsy as the Initial Diagnostic Technique. J Am Coll Surg 2009. 208:75-79.

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