

How to Discuss Cancer Detection With Breast Augmentation Patients

An Expert Interview With Jennifer L. Walden, MD

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Editor's Note: *Breast augmentation continues to be the most popular form of plastic surgery, according to the American Society of Plastic Surgeons.^[1] The plastic surgery community naturally took notice, then, when a systematic review and meta-analysis, published online on April 30 in BMJ,^[2] concluded that cosmetic breast augmentation affects the survival of women who are subsequently diagnosed with breast cancer. Jennifer L. Walden, MD, a plastic surgeon with a private practice in Austin, Texas, spoke with Medscape about what the results of this study mean for patients seeking implants.*

Medscape: What is the take-home message of this study for plastic surgeons?

Dr. Walden: Breast implants can obscure mammogram images, which can decrease the ability of mammograms to reveal breast cancer. Still, studies show that mammograms are an effective way to screen for breast cancer, as a diagnostic examination, in women with breast implants.

The other take-home message is that the results should be interpreted with caution, given some of the limitations of the study. Still, some of the same tenets apply for plastic surgeons: We should inform patients with breast implants about the fact that their implants can obscure mammogram imaging at times, and we should be open and honest about that. We should refer them to clinics where radiologists have experience performing and reading mammograms of women with breast implants. It's also important that patients know that there are ways to perform the mammogram, adding additional views which pushes the implant against the chest wall that can help with visualization of the breast tissue.

Medscape: What are some of the study's limitations?

Dr. Walden: The authors of the paper correctly note that the conclusion should be interpreted with caution. That being said, some of the limitations are that they only looked at a small number of studies -- 12 in total -- with only 5 looking at a woman's chance of dying from breast cancer. In some of those 5 studies, the cause of death wasn't even identified, so we're not even sure in those studies whether the woman died from breast cancer or a heart attack or stroke. Additional potentially confounding factors that weren't adjusted for, and which could have implications on the results, are the age of the patients at the time of diagnosis and the body mass index of the patients. Both of those have implications in breast cancer risk. The authors identified those as confounding factors.

There's a large body of scientific evidence preceding this that admittedly shows that implants can decrease the ability to see the breast tissue on mammograms, but there's also a large body of scientific data in the literature that has been peer reviewed that shows no increase in breast cancer risk, no difference in survival, and no difference in stage of disease or recurrence rates in augmented vs nonaugmented women.^[3,4] Several of these studies have very large series of patients -- larger than this study did -- of thousands of people who have been augmented and not augmented, and the

investigators studied them over a period of years. These studies have been conducted in multiple academic centers in the United States with the ability to conduct controlled studies.

Some studies have also shown that there is a lower rate of developing cancer in women with implants.^[4,5] Something that we do see in the literature is that implants can facilitate the detection of palpable tumors in some women with large or dense breasts. If you can imagine, when the implant is in place it acts as a platform and pushes the palpable mass upwards towards the skin. Some clinical studies have shown that the detection of palpable masses is easier in a woman with breast implants.^[6]

Medscape: Why is it important that women with implants undergo additional screenings?

Dr. Walden: Women with implants need to understand that there are additional views on mammography to add to the screening exam for breast cancer. With additional implant displacement views (Eklund views), the screening examination becomes a diagnostic exam. Those views can help to visualize the breast tissue, although in any mammogram there is a certain amount of obscuring of the breast tissue due to the radiopaque nature of the implant. Women with implants should find a facility that sees many women with breast implants and is familiar with interpreting these mammogram images. Digital mammography may also aid with visualization of breast tissue because the images can be enlarged and manipulated to a certain extent.

Communicating with Patients

Medscape: When a woman comes to your office who is interested in breast implants, do you feel that it is your responsibility to inform her that they could make it more difficult to detect breast cancer?

Dr. Walden: As plastic surgeons board certified by the American Board of Plastic Surgery, we're committed to patient safety and education and a proper informed consent process. I tell my patients that, yes, breast implants can obscure mammography to a certain point.

Things that may aid with visualization of the breast tissue are adjunctive studies like MRI, a highly sensitive yet expensive test, and ultrasound to a lesser degree. Also, putting the implant behind the pectoralis major muscle, which makes it a muscle layer away from the breast tissue, can help, as can using a breast implant that's within a reasonable size for a person's chest anatomy so that it doesn't irreparably stretch tissues and stretch breast parenchyma.

We also know that capsular contracture can obscure imaging. The more severe capsular contracture that a patient may have, the harder it is to see the breast tissue. Also, sometimes the capsule around the implant can have calcifications, which need to be distinguished from calcifications of breast cancer. When one performs a breast augmentation with a breast lift (mastopexy), there is usually some manipulation of the breast tissue. The actual breast parenchyma can be manipulated to a certain extent, and internal scarring within the breast parenchyma and/or fat necrosis can sometimes feel like a lump or look suspect on mammography, and that needs to be imaged and possibly biopsied. Some of these things can mimic the presentation or appearance of breast cancer after plastic surgery and may lead to additional imaging and biopsies that a woman may not have had if she had not undergone the procedure.

Medscape: Are there women who meet a certain risk profile whom you would caution against getting implants?

Dr. Walden: There are increasing data to support MRI or MRI screening for younger patients at high risk for breast cancer -- ie, with the BRCA1 or BRCA2 mutation or a strong family or personal history of breast cancer. However, those high-risk patients probably should be discouraged from undergoing elective breast augmentation because the implants might interfere with the earliest possible detection of cancer. In those high-risk patients with genetic markers for developing breast cancer -- "my mom got it, my sister got it, and I'm BRCA positive" -- I'm not going to be performing a breast augmentation because I want them to have the best possible chance of detecting the earliest lesion should they decide not to undergo prophylactic mastectomy with breast reconstruction.

Medscape: Do plastic surgeons generally ask about this sort of medical history?

Dr. Walden: Plastic surgeons do and should be asking whether the patient has a family or personal history of breast cancer, any history of a genetic marker for breast cancer, or a history of previous biopsies or lumpectomy. We also ask patients whether they have had previous imaging studies, dependent upon their age and breast cancer risk profile. We want to know whether they have had a baseline mammogram. I often recommend a baseline mammogram to patients before they get breast augmentation so that we have an image to compare to once the implants are in place.

Medscape: What additional research needs to be done on this topic?

Dr. Walden: There's a lot of research on the topic. It certainly is very important because American Society for Aesthetic Plastic Surgery statistics show that over 280,000 breast augmentations were performed in 2012. Seventy-two percent were silicone implants and 28% were saline.

One in 7 women will develop breast cancer. We know that. Millions of women have breast implants in place, and 1 in 7 women will get breast cancer. We know that a certain number of women who have implants in place are going to go on to develop breast cancer. Women are still going to undergo breast augmentation, so we need to inform them of the risks, benefits, possible complications, and alternatives in therapy. Currently, there are gaps and limitations in the available literature. For example, in the *BMJ* study,^[1] there were certain confounding factors that weren't examined. There is evidence to suggest that implants can obscure mammography to a certain point, with some factors making lesions harder to see, like fibrous capsular contracture, subglandular placement, and calcification in the capsule. Further investigations are warranted on the long-term effects of breast implants on the detection and prognosis of breast cancer, adjusting for those confounders.

Perhaps the answer is well-designed, large, multicenter studies that control for confounding factors where we currently see gaps in the literature. That's going to be helpful as we go forward because we know 2 things that aren't going to change anytime soon: Women are going to develop breast cancer and women are going to get breast implants. What can we as surgeons and radiologists do to maximize the ability to anatomically place the implant and then to image the breast to maximize the ability to detect early-stage breast cancer? Autologous fat grafting to augment the breast brings a whole other host of questions what with fat preparation, anatomic placement, and postprocedure imaging as this procedure is growing in popularity, as techniques and reproducibility of results improve.

Medscape: How should plastic surgeons discuss the results of the *BMJ* study with patients?

Dr. Walden: Should a patient ask me about the study, I would just tell her what I told you: that this study is recently published but has conclusions that should be heeded with caution, that there's a large body of literature that shows that there is no change in survival rates or stage of disease at diagnosis,

and that it's super important that they stay on track with their imaging, know about their breast implants, and tell the technician or the radiologist at the mammography suite that they have implants in place so that they can get adequately imaged.

What I've noticed, and I am sure other plastic surgeons have noticed, is that breast augmentation patients often are very in tune with their health and their body. They're usually fit women seeking an elective procedure and they tend to be very in tune with their own breasts. They're inspecting them quite a bit and are doing implant massage, and often more self-breast exams, than the average female. Because they have discussions with their plastic surgeon, and sometimes even their radiologist or mammography technician when getting imaged for their baseline mammogram, they know about the consistency and feel of their breasts, as well as imaging and mammography, at a relatively young age.

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