

Breast Cancer Riddle: Best Ways to Screen and Treat

Laura J. Esserman, MD, of the University of California, San Francisco, explains how to improve breast cancer screening practices.

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Despite decades of scientific progress, breast cancer remains the most common cancer among women in the United States. Experts are divided on many aspects, such as when and how often to do mammograms, how to rethink interventions for precancer lesions, and how to pinpoint risk and reduce the toxicity of treatments. During Breast Cancer Awareness Month, marked each October, we asked Laura J. Esserman, MD, MBA, director of the [UCSF Breast Care Center](#) and co-leader of the [Breast Oncology Program](#) at the [UCSF Helen Diller Family Comprehensive Cancer Center](#), about risk factors, progress in the field and the importance of tailoring treatment for women with low-risk cancer while also identifying women at high risk of invasive cancer.

I was just diagnosed with breast cancer, now what? What should I ask my doctor?

Cancer is not an emergency that needs to be tended to the moment it's discovered. After receiving a cancer diagnosis, it's entirely natural to feel scared and anxious, and the immediate impulse might be to rush into treatment. Give yourself and your health care team the time needed to understand the nature of the tumor. Partner with your health care team and make decisions together that consider your well-being every step of the way. You should also consider joining a clinical trial, which can provide more cutting-edge treatment options that are tailored to your tumor biology.

What has shifted in recent years in our understanding of breast cancer?

We now know much more about the biology of breast cancer and understand that breast cancer is not just one disease. We've made great strides in improving treatments by learning how to profile tumors and tailor therapy accordingly. We have also accelerated progress by switching the order of therapy by using systemic treatments before surgery. This has enabled us to learn quickly which treatments work well and which do not.

We also know that some breast cancers are slow-growing and some grow much faster. Treatments are not the same, and it stands to reason that screening should not be the same. For instance, some of the findings from screening, such as stage 0 cancer (or Ductal Carcinoma in Situ), may never develop into invasive cancer or cause harm, and safely reducing treatment is an important part of advancing breast cancer care.

We have also learned that women's risk for developing breast cancer varies greatly based on her own individual risk factors. Thus, we can link treatment, screening and prevention by better understanding not only risk but risk for what type of cancer.

Should women still do self-exams?

Women should know their breasts and what is normal or typical for them. About half of fast-growing cancers are found by women performing regular self-breast exams who know what their breasts normally feel like, as opposed to being found by mammogram or other imaging. Even if you've had a recent normal mammogram, if you feel or see something different in your breasts such as a new lump, or symptoms such as fluid coming out spontaneously from the nipple, dimpling, generalized redness or shape changes, you should contact your provider.

Who is most at risk of developing breast cancer?

There are several risk factors for developing breast cancer, including age, family history, genetics, lifestyle factors such as exercise, diet and alcohol consumption, race and ethnicity, breast density, and external factors such as environmental exposures. We used to think that family history of breast cancer was the biggest indicator of risk, but that is too simplistic.

We've learned in the [WISDOM Study](#) that about 60% of participants who have errors in one of the genes that predispose them to high risk for breast cancer do not have a first-degree family member who was diagnosed with breast cancer. Although only a small percentage of women have a genetic mutation, we can learn who has them with an easy, inexpensive test. This might help us to work to reduce the chance that these high-risk women, such as those with mutations in BRCA1 and 2, will die of breast cancer.

What's the benefit of individualized screening?

Every woman has a different risk for developing breast cancer, so it makes sense that women should have personalized screening recommendations based on their individual risk. This is the goal of the WISDOM Study. In particular, we are now working on predicting who is at risk for fast-growing and slow-growing tumors. This information should change how often we screen and with what tools. It also can help us figure out who is most likely to benefit from hormone risk-reducing therapy, which interferes with hormone signaling that helps some cancers grow, from attaching.

Is it me, or are screening recommendations unclear, even puzzling at times?

The current breast screening recommendations are confusing and are generally based on age, rather than using our knowledge of the spectrum of breast cancer risk factors. This age-based, one-size-fits all approach has led to some women with a very low risk of breast cancer undergoing more frequent screenings than necessary, while those at higher risk may not be screened often enough to detect rapidly progressing cancers. The problem with more screening is that many women receive call backs leading to unnecessary, painful and stressful procedures that turn out to be nothing.

Is there a recommended starting time for mammograms?

There are seven different guidelines in the U.S. for breast cancer, and they are all slightly different. They are based on your age, rather than on all of the risk factors we now know about. A comprehensive risk assessment, including genetics, family history, breast density, age, race/ethnicity and other factors is the most comprehensive approach to determining screening frequency. If you have a strong family history or know you have a genetic mutation, you will likely be told to start screening at a younger age and with additional screening techniques (MRI).

Those identified at highest risk (greater than 20-30% lifetime risk) should consider screening every six months, while those identified at lower risk can safely screen every two years. Our goal is now to determine who is at risk for fast or slow growing tumors. We think this will help us tailor how often and when to screen, and to reduce the chance that women at high risk get breast cancer.

How should less aggressive or slow growing breast cancer be handled, such as Ductal Carcinoma in Situ (DCIS)?

Some cancers are slow-growing and may never pose a danger to women, including some types of DCIS. For these cancers, new approaches are being tested. It may be most effective to manage DCIS with a six-month period of endocrine risk reducing medication and watching to assess the response. This will allow us to determine who will be a good candidate to be able to skip surgery altogether.

DCIS is not an emergency, and there is time to look at all the options. It may be that many women will do just as well without surgery. A new UCSF-led study, RECAST DCIS, is opening around the country this month. Rather than start with surgery for women with hormone positive DCIS, in this study, we will test different endocrine risk-reducing medications for six months, to learn who is likely to be a good candidate for active surveillance and skip surgery.

How should more aggressive breast cancer be handled, and who is most at risk

for these breast cancers?

We have new approaches to target treatment to your specific breast cancer subtype. The more aggressive breast cancers, such as Triple Negative Breast Cancer (TNBC) and Her2 positive tumors, are found more often in younger women of all race and ethnicities, but remain a higher proportion of cancers for Black and African American women after age 40. We are still investigating why and are working with breast cancer advocacy organizations nationwide to support better representation in clinical trials to ensure we get an answer more quickly. For women with more aggressive cancers, starting with the medication before surgery gives us the opportunity to determine whether the treatment is working. This approach has become the standard of care in most academic centers.

What do you see for the future of breast cancer?

The goal of my research is driven by wanting to find more effective and less toxic approaches to every stage of breast cancer, and to make sure we are trying to apply what we have learned to prevent cancer. There will not be a one-size-fits-all, so it is essential that we ask ourselves: How can we effectively integrate a personalized medicine approach into care and clinical trials? How do we make personalized medicine accessible and equitable for all women? And, importantly, how can we shift our approach to health care so that continuous improvement is part of the routine of care? We do not want to be doing tomorrow what we are doing today.

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