

## Healthline with Yale Cancer Center

*Hosts*

Edward Chu, MD Chief of Medical Oncology

Kenneth Miller, MD Director of Supportive Care

WTIC Newstalk 1080

### Novel Treatments for Breast Cancer

### Guest Expert:

**Lyndsay Harris, MD**

*Director*

*Yale Breast Cancer Program*



*Healthline with Yale Cancer Center is a weekly broadcast on WTIC Newstalk 1080  
Sunday Mornings at 8:30*

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*This is Healthline. A joint venture of WTIC NewsTalk 1080 and Yale Cancer Center. Yale Cancer Center is a resource for cancer programs throughout Connecticut, developing new advances in prevention, screening, diagnosis and treatment. On Healthline you will hear from some of the leading doctors in the country. Healthline is not intended to provide medical advice. Yale Cancer Center urges you to consult with a qualified physician in your community for diagnosis and for answers to your medical questions. And now, our co-hosts Oncologists Ken Miller and Ed Chu*

Miller Good morning and welcome to Healthline. My name is Dr. Ken Miller and I am the Director of the Survivorship Program at the Yale Cancer Center in New Haven. I am here at the WTIC studios with my colleague and co-host, Dr. Ed Chu, who is the Chief Adult Oncologist at the Yale Cancer Center. Good morning Ed.

Chu Good morning Ken. Healthline with the Yale Cancer Center is our way of providing you with the most up to date information on cancer care every Sunday morning at 8:30 a.m. here at this station WTIC NewsTalk 1080. Our Healthline program features some of the nations leading oncologists and cancer specialists who are in the forefront of the battle to fight cancer right here in our state of Connecticut.

Miller Each week Ed and I will be joined by different experts from the Yale Cancer Center. Together we will discuss the myths about cancer, the latest treatment available to people with cancer, and advances in clinical research. Our goal is to give you help by providing information and also to give you hope. We will answer your questions and give you the latest information that we have available on the treatment of cancer. If you would like to submit a question about cancer to Healthline, please email us at [Healthline@Yale.edu](mailto:Healthline@Yale.edu) or you can call us at 1-888-234-4-YCC. We will try to answer your questions on the air today or in a future broadcast.

Chu Today our program focuses on new treatment options for breast cancer, and our special guest today is Dr. Lyndsay Harris, who is the Director of the Breast Cancer Disease Unit at the Yale Cancer Center. Dr. Harris is a leading expert in the treatment of breast cancer and her career has focused in developing novel therapies for this disease. Lyndsay, thanks so much for being with us today on Healthline.

Harris Good morning, it is a pleasure to be here.

Miller Lyndsay, I want to start up by asking you, how common is breast cancer in women?

Harris Breast cancer is a common disease. It is the most common solid tumor and it will affect 1 in 8 women if she lives up to 80 years of age.

Chu Lyndsay, what are some of the screening methods that are available for breast cancer and how often should a woman undergo screening?

- Harris Screening is generally thought of as [mammography](#). Mammography should be performed in women after the age of 40 on an annual basis.
- Miller What would constitute a woman who is at higher risk for breast cancer and should her screening be any different?
- Harris Certainly, women at higher risk, either having a strong family history or having previously had a biopsy that suggests that she is at higher risk, should be screened more intensively, and we now know that for women with a specific mutation in one of the [BRCA 1](#) or 2 genes should be screened more intensively both with mammograms and with MRIs.
- Chu And when do you typically do genetic testing for women for these BRCA 1 and BRCA 2 genes that you just mentioned?
- Harris We have a program at Yale Cancer Center, which provides genetic counseling and testing for women with breast cancer and women at high risk, and we recommend that women who are diagnosed at the age of 45 or younger be tested for the BRCA 1 and 2 genes. In addition, we recommend that women who have a strong family history with multiple family members who have been affected with breast or ovarian cancer undergo this genetic testing.
- Miller Someone might hear about genetic testing and think to themselves, that must be painful or difficult. Is that the case?
- Harris No, it is actually a very straightforward process. It simply involves a blood test and counseling with a genetics counselor to receive more information and the test results.
- Chu The other point that you mentioned, Lyndsay, was that if someone has the BRCA1 and BRCA2 genes then they are at risk for breast cancer or for ovarian cancer, but as we are now learning more about this, there are other cancers that women may also be at risk for.
- Harris Yes, that is right, and certainly there is some evidence that there may be an increase in prostate cancer may be increased in families with BRCA1 or 2, and in addition, there is some new information suggesting that pancreatic cancer may be more frequent in those patients with a genetic risk.
- Miller We had an email from Bonnie who lives in Norwich, and she writes here, *Is there an advantage to having a digital mammogram instead of the traditional mammogram?* And I am going to throw a question in there too, which is – there is a lot of talk about MRI of the breast, so what can you tell us about digital mammography and about MRI?

- Harris Digital mammography is a more sensitive measure to detect lesions in the breast and to diagnose breast cancer. There are recent studies that suggest that women with more dense breasts have a better detection rate with digital mammography and it should be considered in that situation. In addition, the MRI measurement that you mentioned should be done in women who have a genetic risk because we know it can pick up breast cancers with a higher detection rate than mammograms alone.
- Chu Lyndsay, what are some of the other potential risk factors, in addition to the familial genetic component of breast cancer, women should be aware of?
- Harris Yes, we know that hormonal therapy does play a role in causing breast cancer or promoting it and we have learned that long-term hormonal therapy greater than 5 or 10 years of use, particularly high-dose estrogens, is associated with an increased risk of breast cancer. Given the recent information on hormonal therapy's questionable benefit, it should be carefully discussed with your physician if you plan to consider hormonal therapy.
- Miller We have an email from Melinda who lives in Hartford, and she says,  
*Is there a link between the use of the birth control pill and breast cancer?*
- Harris Yes, there are some older studies showing that birth control pills designed in 1978 and before increase the risk of breast cancer. Those were higher doses of estrogen. Currently, the lower dose estrogen birth control pills do not show such a strong affect, but still this is a conversation that every woman needs to have with her doctor to determine if she is at higher risk and to discuss both the risk and benefit of taking oral contraceptives. In general, however, oral contraceptives are safe and obviously provide a lot of other important advantages.
- Chu Lyndsay, I know a lot of women who are postmenopausal are taking soy supplementation to try to help relieve the menopausal symptoms, but there may also be some concern that that might turn on and activate the processes involved in breast cancer. What are your thoughts on that?
- Harris Yes, I think that it is very clear now that soy contains [phytoestrogen](#), which is a natural source of estrogen, a weaker estrogen, but it does have many properties in common with standard estrogens. What we recommend to our breast cancer patients is not that you eliminate soy from the diet but that you use it in moderation, and certainly because it helps with hot flashes in women who are not at a higher risk it is a reasonable choice.
- Miller We would like to remind you to please email your questions to us and questions for Dr. Lyndsay Harris to [Healthline@Yale.edu](mailto:Healthline@Yale.edu) or you can call us at 1-888-2344-YCC. We are going to take a short break for a medical minute. Please stay tuned to learn more information about new treatments for breast cancer with Dr. Lyndsay Harris.

### Medical Minute

*It is estimated that over 2 million men in the U.S. are currently living with prostate cancer. One in six American men will develop prostate cancer in the course of his lifetime. Yet major advances in the detection and treatment of prostate cancer have dramatically decreased the number of men who die from the disease. New treatment options now provide hope for all men diagnosed with prostate cancer. Screening for prostate cancer can be performed quickly and easily in a physician's office using two simple tests, a physical exam and a blood test. With screening, early detection, and a healthy lifestyle prostate cancer can be defeated. Clinical trials are currently underway at Yale Cancer Center, Connecticut's only federally designated comprehensive cancer center to test innovative new treatments for prostate cancer. Patients enrolled in these trials are given access to experimental medicines, which have not yet been approved by The Food and Drug Administration. This has been a medical minute brought to you as a public service by Yale Cancer Center. For more information visit our website at [YaleCancerCenter.org](http://YaleCancerCenter.org).*

Miller Welcome back to Healthline. This is Dr. Ken Miller, and I am in the WTIC studios with my co-host Dr. Ed Chu and our guest Dr. Lyndsay Harris, who is the Director of the Breast Cancer Program at the Yale Cancer Center.

Chu Lyndsay, maybe you can outline for our listening audience some of the different treatment strategies that are used in women with breast cancer.

Harris Sure, Ed. The breast cancer treatment strategies are really defined by the stage of breast cancer that a woman presents with and also the underlying biological features of her tumor. These specific treatments are offered to women both at early stages of breast cancer and at later stages of breast cancer, and they include a combination of hormonal therapy and chemotherapy. We also have recently added biological therapies to the armamentarium, and these targeted therapies allow us to attack the cancer at its inception.

Miller Let me ask you more about that as a followup. You talked about the type of cancer, and that the size is important, but what do you mean by biological features and how do those guide you in terms of making treatment choices?

Harris That is a great question, Ken. As we understand the biology of breast cancer better now, we also have insight into what makes tumor cell grow. For example, breast cancer is driven by several different genes. The estrogen receptor drives a certain proportion of breast cancers and anti-estrogen therapies such as [tamoxifen](#) and [aromatase](#) inhibitors are very effective in most of those patients. In addition, we now know that the [HER2](#) receptor drives about 20% to 25% of breast cancers, and the new treatments using [trastuzumab](#) or [Herceptin](#) are very effective in killing cancer cells in women who have that kind of breast cancer.

- Chu And there also are strategies trying to attack the process of [angiogenesis](#), which is the formation of new blood vessels? Can you elaborate a little bit more on that, Lyndsay?
- Harris Yes, this is a very exciting new area of research and it is now moving into clinical trials. We know that in order for a tumor to be enlarged within 1 cm, it requires new blood vessel formation, and new strategies have attacked the pathways that are important in new blood vessel formation and have led to the development of medications like [Avastin](#) and [Sutent](#), several agents that target those pathways. We also know that these drugs are effective in shrinking cancers and in reducing the time that the cancer takes to progress in women with advanced cancer.
- Miller Lyndsay, I know a lot of your research has been on the drug Herceptin. Can you share with us the latest information on Herceptin? In what situations have you found that it is useful in treatment of your patients, and has the spectrum of the use of Herceptin changed at all?
- Harris It is changing over time, and Herceptin is really an example of one of the new biological therapies that arose from observations in the laboratory and is now being applied and offered to patients with HER2-positive breast cancer. Over the last 10 years, we have found that not only is Herceptin able to improve survival in women with advanced breast cancer, but it is also able to improve survival in women with early stage breast cancer. Herceptin is now part of standard of the care in all stages of breast cancer with HER2 overexpression on the tumor.
- Miller I want to share an email with you from Andrea who lives in Branford. She says,  
*I am 35 years old and I have had breast cancer recently, she says, stage 2, so it sounds as like perhaps there is involvement of lymph nodes, and I have been talking with my oncologist who has recommended that I receive chemotherapy. How do I know if I should also receive Herceptin?*
- Harris The only way to really be able to make that recommendation is to know the HER2 status on the breast cancer that Andrea had. At the time of the biopsy or removal of the tumor, the tumor is tested for HER2 by an assay in the laboratory to determine if the HER2 is strongly expressed. If this was true, her oncologist would recommend the use of Herceptin to prevent the cancer from coming back.
- Chu In your experience and in terms of advising patients, is Herceptin something that people need to be afraid of? Are there a lot of side effects that someone will have to worry about or is it well tolerated?
- Harris Herceptin, like many biologic agents, has minimal side effects and while there are a few potentially serious side effects, they are very rare. Any time you receive a medication you need to discuss it with your doctor and understand what the specific side effect profile is, but compared with many other medications, Herceptin is extremely well tolerated.

Miller We would like to remind you to email your questions to us and to Dr. Lyndsay Harris at [Healthline@Yale.edu](mailto:Healthline@Yale.edu). We are going to take a short break to listen to a survivor story and please stay tuned to learn more information about breast cancer with Dr. Lyndsay Harris.

*Survivor Story*

*A few years ago the diagnosis of cancer was a death sentence for many patients, but today, thanks to advances in clinical research we are turning the corner in the battle against cancer. There are over 10 million cancer survivors now living in the US. They are the true heroes in the war against cancer. Here is the story of a hero from Guilford*

*My name is Kathy. I am a cancer survivor and I am the mother of three girls. I was diagnosed with breast cancer at age 40. I had had my baseline mammogram at 36, but with no family history of breast cancer I was told to return when I was 40 for another mammogram. I got the diagnosis that no one prepares you for - cancer, but I was lucky. I was referred to the Yale Cancer Center where I met Dr. Lannin. I underwent a double mastectomy in the summer of 2004. I still take tamoxifen daily but have been cancer-free ever since. If there is one message that I want to convey to all women is to get a regular mammogram. I am a perfect example of how early detection is part of the cure.*

*This survivor story has been brought to you by Yale Cancer Center.*

Miller Welcome back to Healthline. This is Dr. Ken Miller. I am in the WTIC studios with my co-host Dr. Ed Chu and our guest Dr. Lyndsay Harris from the Yale Cancer Center. We are discussing the exciting breakthroughs made in the treatment of breast cancer.

Chu Lyndsay, your research career has really focused on trying to take ideas from the lab and into the clinic and then to take clinical observations and try to get a better understanding of whether or not the treatments are working. Perhaps you could explain to our listening audience what your research has really focused on over the last few years, and what you are also hoping to do now here at the Yale Cancer Center?

Harris Sure, I would be happy to, Ed. We have known for a long time that discoveries in the laboratory are essential in order to design new therapies for cancer. We are actually starting to realize this observation in the clinical setting as new biological therapies are designed to target specific pathways in breast cancer and other tumors. What we found in my research program is that the HER2 overexpressing in some types of breast cancer is extremely sensitive to Herceptin in most situations. However, there are groups of women with HER2 overexpression on the tumor that do not benefit from Herceptin, and it is an important goal for us to find out what those tumors are like and how we can help those women.

- Miller Here is a group of women that might benefit from this wonderful drug and they are not, and I know that there are clinical trials available at Yale that are looking at this issue and other questions. Would you share with us some of the clinical trials available for a woman in the situation you just discussed, and other trials as well?
- Harris What we know is that women with HER2 overexpression on the breast cancer can be resistant to the Herceptin or their tumors soon grow while receiving Herceptin. There are a number of different studies from the laboratory showing that by adding a new drug known as [rapamycin](#), we are able to target these resistant breast cancers, and so we have designed a clinical trial that offers rapamycin in women with HER2 overexpressing breast cancers to try and rescue them from the resistance that they have to the Herceptin.
- Chu The nice thing about this rapamycin is that it is an oral agent. It is a pill and patients can kind of take it in the comfort of their home and not have to come into the clinic for any kind of IV injection.
- Harris Absolutely, and it is not only oral, but is well tolerated. It has been used in different contexts in other transplant settings, so we know a lot about the medication, but it has only recently been discovered to be an anticancer agent.
- Chu Lyndsay, are there any other targeted therapies that your group here at Yale is developing?
- Harris We are looking at new ways to target the HER2 receptor, and there are number of specific molecules that target the HER2 in a different way that are being moved into clinical trials. These will also be available for patients who may have developed resistance to Herceptin or have other features that we think are associated with resistance to Herceptin.
- Miller If someone is listening and they have breast cancer or they are concerned about their loved one, how would they access a clinical trial here at Yale? Do you know who would they contact and what would they expect if they did call?
- Harris We have a very user friendly website that I think is very helpful to patients interested and finding out more about new treatments. The website is [www.YaleCancerCenter.org](http://www.YaleCancerCenter.org). When they access that website, they will see the options that are available for different kinds of tumors, and then when they click on those links will go into the specific clinical trials that are available for their type of cancer.
- Chu Lyndsay, we have talked a great deal already this morning about the role of targeted therapies. I think it is important to emphasize to our listening audience that chemotherapy, that is traditional cancer drugs, also have a very, very important role in the treatment of breast cancer. Can you

explain what you are trying to do here at Yale in terms of using traditional cancer drugs in combination, perhaps, with these targeted therapies?

- Harris Yes, we have a real effort to use what is available now as standard therapy in combination with new targeted agents. We know that many of these new targeted agents actually improve the benefit from standard chemotherapy drugs, which are very powerful medicines against tumors. So, using them in combination with new biological treatments is actually the way that we hope to maximize the benefit from both and help our patients the most.
- Miller We have heard the term adjuvant therapy, which means to add to what has been done surgically. What is neoadjuvant therapy? What does that mean?
- Harris That is a fancy term that simply means that the systemic treatment, the medication that we offer to shrink the cancer, is given before the surgery, and this has a number of advantages. Giving therapy preoperatively is often able to improve the likelihood that we can do a lumpectomy as opposed to a mastectomy, and for many women that is an important goal. In addition, we can see if the therapy is actually working. Whereas if you have already taken the tumor out its really only an educated guess as to whether the therapy is effective.
- Chu Lyndsay, your research has also focused a great deal on integrating molecular biology techniques with the development of these new therapies. Please explain a little bit more on that.
- Harris I would be happy to. The new approaches to the diagnosis of cancer and specifically breast cancer are allowing us to have a bigger insight into each woman's tumor. There are new types of tests available to really fingerprint the tumor and allow us to measure thousands of genes all at the same time. The advantage of this is that we can understand what it is that drives that tumor to grow and make the best assessment of what the best treatment is for that patient. These new approaches are really going to become standard of care in the not too distant future, and so being able to offer these to our patients now is essential as women are diagnosed with cancer.
- Chu And I think an important point to emphasize is that here at the Yale Cancer Center and the Yale School of Medicine, there are really tremendous resources to do these types of genomic and proteomic profiling or fingerprints, if you will, of what makes up the breast tumor cells.
- Harris That is very true. The resources here are unsurpassed compared to many of the large institutions in the country, and having been at a number of them, I can say that. We really have the state-of-the-art facilities to be able to do fingerprinting studies.
- Miller I want to ask you about a group of women with breast cancer that is a triple-negative. I know you are one of the world authorities on that. What is that? What is a triple-negative tumor and what happens then in terms of treatment?

- Harris Triple-negative breast cancer is really a new term that has been coined for tumors that have no evidence of the estrogen receptor, no evidence of the HER2 receptor, and no evidence of the progesterone receptor. So, we know that these tumors are not sensitive to hormonal therapy and they are not sensitive to Herceptin. What that means is that it is a completely new type of breast cancer that has another driver in the seat as opposed to these well-characterized molecules.
- Chu And are there any subsets of women who are at increased risk for developing triple-negative breast cancer?
- Harris There absolutely are. The studies that have recently come out, including the one that we recently performed in my laboratory, show that unfortunately this kind of breast cancer is more aggressive, and it may well explain the observation that women of African American descent tend to have a worse prognosis when they are diagnosed with breast cancer. We know that from all of our gene studies that breast cancer in African American women is much more likely to be triple-negative in its type.
- Miller Well, this has been an incredible review for us on the latest information, and if you have questions for Dr. Lyndsay Harris or for Healthline, we encourage you to go to our website at [www.YaleCancerCenter.org](http://www.YaleCancerCenter.org) for more information about cancer and the resources available to you. Before we sign off, Lyndsay, can you review for us two or three key messages that you would like our listeners to remember about the newest advances in the treatment of breast cancer.
- Harris I think it is really important that women realize that breast cancer is a very curable disease. Even though one in eight woman will be diagnosed with breast cancer, nearly 80% will be cured of their disease, and the important thing to keep in mind is that screening and early detection are an essential part of that cure rate.
- Miller Thank you very, very much, and actually I think closing on that positive note, is a wonderful thing for all of us. I would like to thank Dr. Lyndsay Harris for joining on Healthline.
- Chu Lyndsay, I too also would like to thank you for a terrific session today. And remember to tune in to WTIC NewsTalk 1080 every Sunday morning at 8:30 a.m. for Healthline with the Yale Cancer Center. Our next program will focus on a very important topic of life after cancer and our special guests will be Dr. Ruth McCorkle and Dr. Tish Knobf at the Yale School of Nursing. Until then, this is Dr. Ed. Chu
- Miller And Dr. Ken Miller
- Chu From the Yale Cancer Center, wishing you a safe and healthy week.