

BREAST CANCER

Awareness

October 2020

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Breast CANCER

STRENGTH • COURAGE • HOPE



By Kelly Duncan

Staff Writer

In 2009, Clinton resident, Tim Mann was diagnosed with cancer. From there, a group of Mann's friends decided to join forces to hold the inaugural "Run Like a Mann 5K" to help assist Mann's family financially. The "Run Like a Mann 5K" took place in 2010 and 2011 – a portion of the proceeds continued to help support the Mann family.

Then in May of 2012, the Laurens County Cancer Association became an official 501c3 organization and the money raised from the run began to go towards other families experiencing cancer who were in need. Thus the LCCA was born.

Two years later, the Board for the Cancer Association hired Executive Director Ann Casey to put guidelines and procedures into place along with setting up office hours to effectively serve cancer patients who live in Laurens County.

The LCCA currently serves clients ranging from 16-92 years old for various cancers including: breast cancer, lung cancer, colon cancer, leukemia, pancreatic cancer, kidney cancer, prostate cancer, brain cancer, lymphoma, multiple myeloma, throat, mouth, esophageal and stomach cancer.

October is widely recognized as Breast Cancer Awareness Month and Casey said breast cancer patients make up the largest portion of cancer patients. On their current active list, there are 36 patients who are being treated for breast cancer.

"Our active client list stays stable – between 150 – 180 per month on our active list. We do not see that many each month because not all cancer patients come monthly. We see about 60-70 clients a month," she said. "New clients come in and current clients are taken off our list when they go into remission or sadly, die from cancer. The number is fluid as are the types of cancer we see. Breast cancer has consistently remained the most common of cancers that we see. I do not know if it is because women are more prone to asking for help or if it is a more prevalent cancer."

Casey added the LCCA strives to provide education and outreach to those with not only breast cancer, but various cancers.

"We provide lots of educational materials when a cancer patient first comes to us for help. We encourage our clients to sign up for a free magazine called "Cure", which provides a lot of information on the latest cancer research and stories from cancer patients. We also have materials specific to breast cancer that we provide breast cancer patients. Of course, Teresa Bussey, in our office, offers



firsthand experiences to our breast cancer clients. She is awesome," Casey said.

The Cancer Association also offers wigs, hats and scarves for patients if needed while they are going through chemotherapy treatments.

Since opening their doors in 2014, the LCCA has gone through many changes, according to Casey. Some of those changes include setting specific office hours at their current location – 1337 Medical Ridge Road – and fuel assistance for patients.

"Before setting up specific office hours, the Cancer Association provided bank cards to cancer patients to enable them to purchase fuel for their trips for treatments. Marion Reeder, who was on the board at the beginning of the organization, was a social worker and discovered during her work, people who were fighting cancer and who needed help. She was the 'face' of the organization until her death from cancer in June 2014. So, in the beginning, the help that came from the Cancer Association was fuel assistance and a monthly support group meeting – the Wings of Hope. Both of these are still part of what we do, but we have expanded our help," Casey said.

The LCCA has also begun providing nutritional help for their clients since their inception.

"Each cancer patient who needs nutritional help to keep up their weight or for those who have trouble eating, are provided a case of 24 servings of Ensure or Glucerna. On occasion we have helped provide nutrition for cancer patients who are having to be fed by feeding tube," Casey said. "The Cancer Association also provides help with medical equipment such as wheelchairs, walkers, shower chairs and bedside toilets to those who have no insurance or whose insurance does not help with medical equipment. Most of the medical equipment we share is provided to us as donations from individuals or businesses."

Household and personal hygiene products

such as paper products, pain medicine and shampoo, to name a few, are also provided to patients. There is a limit of eight items each month.

As for any new services in the works, Casey said they are providing as many services as their budget can support.

"It has been a tough year this year in raising funds. One of our two annual fundraisers had to be cancelled earlier this year. Hopefully, we will be able to successfully hold our 5K in November, but this year it will have to be done virtually," she said.

One item she said they are in great need of, but does not see the LCCA being able to provide, is transportation for their cancer patients who do not have a car or someone to take them to their treatment appointments.

"The Cancer Association is not the only organization in the county that faces this issue. Many of our citizens find it very difficult to travel out of town for treatments of any kind. Our organization is too small to be able to set up a program of transportation services, so we always share information about Master Care out of Greenwood and Piedmont Agency on Aging that provide some help with transportation," she said.

In addition to nutritional and hygienic help, the LCCA has been awarded grants that will go towards their Fuel Assistance Program, the costliest program in the budget, according to Casey.

"The United Way has approved us for a grant for the third year this year to help provide fuel assistance. We also received a grant from the Laurens County Community Foundation for the second year this year to help with that program as well. We are very thankful for their assistance! These two grants are certainly helping with that expense but they do not completely cover that expense. We are careful of how we disburse the funds for this need," she said. "Each client is required to provide an appointment schedule of his or her upcoming appointments. The amount they are given is based on how many appointments they have scheduled for the upcoming 30 days. It averages out to \$10 a trip with a maximum of \$100 per month per client. If a client has more than seven appointments per month or is taking radiation, which is usually a five day a week treatment, they are given \$100 per month."

Casey added several grants that were submitted this year were declined, some due to foundations having less to distribute due to the COVID-19 pandemic.

"Currently we are waiting to hear from two grants recently submitted. One of them is requesting help with our nutritional program and one for help with overall expenses,"

she said.

With the pandemic still looming, the LCCA has had to make some changes to continue to serve their clients in the safest way possible.

"We immediately changed the way we meet and greet our clients when they come for assistance. Now, they are asked to stay in their vehicles, and we go out to them. We wear masks and sanitize our hands, clipboards and pens after each client is served. Items we have for distribution are listed on a sheet and they can choose what they need. Then we go in and fill their order," Casey said. "The only time a client is allowed in our building is if they are being fitted for a wig. For that, they must be masked. A separate room has been set up for that and we are careful to sanitize everything once they leave. The two of us who work in the office wear masks when we are near each other. Tables, chair arms, doorknobs, etc. are wiped down each day that we are open before beginning work and at the end of the workday."

As we near the end of 2020, Casey's main goal right now is to stay in business, with funding playing a critical and necessary role in keeping their doors open.

"Two of our main sponsors this year have had to back off from providing funding for us this year. Understandably, COVID-19 has hurt everyone, including foundations that normally support us in a very generous way. I am going to focus more on encouraging the average population to support us with individual gifts," she said. "Cancer affects nearly every person in our population whether it is personal or affecting someone in your family or affecting a close friend. One in three people will face this disease in their lifetime. That's huge! This is one battle that will continue to rage on even after COVID-19 is, hopefully, a thing of the past!"

There are many ways to support the LCCA including:

- Donations (if you are able). Mail a check to PO Box 6, Clinton, SC 29335
- Sign up for the upcoming Virtual "Run Like a Mann" 5K event coming in November. You can register on our website: www.hopeincommunity.net
- Pray.
- Like the LCCA on Facebook.
- Suggest someone to serve on the board or volunteer yourself to serve on the board.

If you or someone you know needs assistance, call the LCCA office at 864-833-3976 or email Casey at lccancerassoc@gmail.com.

Potential clients can also come to the office on Tuesdays or Thursdays between the hours of 10-noon. When you arrive at the office, you are asked not to exit your vehicle.

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What is Breast Cancer?

Breast cancer is a type of cancer that starts in the breast. Cancer starts when cells begin to grow out of control.

Breast cancer cells usually form a tumor that can often be seen on an x-ray or felt as a lump. Breast cancer occurs almost entirely in women, but men can get breast cancer, too.

It's important to understand that most breast lumps are benign and not cancer (malignant). Non-cancerous breast tumors are abnormal growths, but they do not spread outside of the breast. They are not life threatening, but some types of benign breast lumps can increase a woman's risk of getting breast cancer. Any breast lump

or change needs to be checked by a health care professional to determine if it is benign or malignant (cancer) and if it might affect your future cancer risk.

There are many different types of breast cancer and common ones include ductal carcinoma in situ (DCIS) and invasive carcinoma. Others, like phyllodes tumors and angiosarcoma are less common.

Once a biopsy is done, breast cancer cells are tested for proteins called estrogen receptors, progesterone receptors and HER2. The tumor cells are also closely looked at in the lab to find out what grade it is. The specific proteins found and the tumor grade can help decide treatment op-

tions.

Breast cancer is the second leading cause of cancer death in women (only lung cancer kills more women each year). The chance that a woman will die from breast cancer is about 1 in 38 (about 2.6%).

Since 2007, breast cancer death rates have been steady in women younger than 50, but have continued to decrease in older women. From 2013 to 2017, the death rate decreased by 1.3% per year.

These decreases are believed to be the result of finding breast cancer earlier through screening and increased awareness, as well as better treatments.

Breast Cancer statistics at a glance...

The American Cancer Society's estimates for breast cancer in the United States for 2020:

- About 276,480 new cases of invasive breast cancer will be diagnosed in women.
- About 48,530 new cases of carcinoma in situ (CIS) will be diagnosed (CIS is non-invasive and is the earliest form of breast cancer).
- About 42,170 women will die from breast cancer.
- In recent years, incidence rates have increased slightly (by 0.3% per year).

How does Breast Cancer start?

Changes or mutations in DNA can cause normal breast cells to become cancer. Certain DNA changes are passed on from parents (inherited) and can greatly increase your risk for breast cancer. Other lifestyle-related risk factors, such as what you eat and how much you exercise, can increase your chance of developing breast cancer, but it's not yet known exactly how some of these risk factors cause normal cells to become cancer. Hormones seem to play a role in many cases of breast cancer, but just how this happens is not fully understood.

Normal breast cells become cancer because of changes (mutations) in DNA. DNA is the chemical in our cells that makes up our genes. Genes have the instructions for how our cells function.

Some DNA mutations are inherited or passed to you from your parents. This means the mutations are in all your cells when you are born. Some mutations can greatly increase the risk of certain cancers. They cause many of the cancers that run in some families and often cause cancer when people are younger.

But most DNA mutations linked to breast cancer are acquired. This means the change takes place in breast cells during a person's life rather than having been inherited or born with them. Acquired DNA mutations take place over time and are only in the breast cancer cells.

Mutated DNA can lead to mutated genes. Some genes control when our cells grow, di-

vide into new cells, and die. Changes in these genes can cause the cells to lose normal control and are linked to cancer.

Proto-oncogenes are genes that help cells grow normally. When a proto-oncogene mutates (changes) or there are too many copies of it, it becomes a "bad" gene that can stay turned on or activated when it's not supposed to be. When this happens, the cell grows out of control and makes more cells that grow out of control. This can lead to cancer. This bad gene is called an oncogene.

Think of a cell as a car. For the car to work properly, there need to be ways to control how fast it goes. A proto-oncogene normally functions in a way that's much like a gas pedal. It helps control how and when the cell grows and divides. An oncogene is like a gas pedal that's stuck down, which causes the cell to divide out of control.

Tumor suppressor genes are normal genes that slow down cell division (cell growth), repair DNA mistakes, or tell cells when to die (a process known as apoptosis or programmed cell death). When tumor suppressor genes don't work properly, cells can grow out of control, make more cells that grow out of control, and cells don't die when they should, which can lead to cancer.

A tumor suppressor gene is like the brake pedal on a car. It normally keeps the cell from dividing too quickly, just as a brake keeps a car from going too fast. When something goes

wrong with the gene, such as a mutation, the "brakes" don't work and cell division can get out of control.

Certain inherited DNA mutations (changes) can dramatically increase the risk for developing certain cancers and are linked to many of the cancers that run in some families. For instance, the BRCA genes (BRCA1 and BRCA2) are tumor suppressor genes. When one of these genes changes, it no longer suppresses abnormal cell growth, and cancer is more likely to develop. A change in one of these genes can be passed from a parent to a child.

Women have already begun to benefit from advances in understanding the genetic basis of breast cancer. Genetic testing can identify some women who have inherited mutations in the BRCA1 or BRCA2 tumor suppressor genes (or less commonly in other genes such as PALB2, ATM or CHEK2). These women can then take steps to reduce their risk of breast cancer by increasing awareness of their breasts and following appropriate screening recommendations to help find cancer at an earlier, more treatable stage. Since these mutations in BRCA1 and BRCA2 genes are also associated with other cancers (besides breast), women with these mutations might also consider early screening and preventive actions for other cancers.

Mutations in tumor suppressor genes like

How common is Breast Cancer?

Breast cancer is the most common cancer in American women, except for skin cancers. Currently, the average risk of a woman in the United States developing breast cancer sometime in her life is about 13%. This means there is a 1 in 8 chance she will develop breast cancer. This also means there is a 7 in 8 chance she will never have the disease.

At this time there are more than 3.5 million breast cancer survivors in the United States. This includes women still being treated and those who have completed treatment.



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Nationalbreastcancer.org



LAURENS COUNTY HELPING LAURENS COUNTY

The Laurens County Cancer Association is a local nonprofit organization whose mission is to provide needed services to citizens of Laurens County who are being treated for cancer. Our services are free and qualification for help requires two things: 1) You must be a citizen of Laurens County, and 2) You must currently be receiving treatment for cancer.



CANCER SUPPORT SERVICES ARE PROVIDED REGARDLESS OF INCOME LEVEL.

Assistance includes: Fuel Assistance; nutritional supplements; medical equipment; wigs; household and personal hygiene products; limited prescription assistance for cancer-related medicine.

Know someone who needs our help? Let us know. Contact us at 864 833-3976 or by email at lccancerassoc@gmail.com.

Want to help? Send a gift to LCCA, PO Box 6, Clinton, SC 29325. Please consider making a donation in honor or memory of someone who has impacted your life.

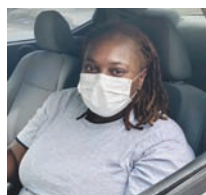
We are located at 1337 Medical Ridge Road, Clinton, SC 29325.

Office hours are Tuesday and Thursday from 9:00—5:00. Seeing cancer patients from 10:00—12:00 noon.

MAKE PLANS NOW TO JOIN US THIS NOVEMBER 15-21 FOR THE 11TH ANNIVERSARY OF OUR RUN LIKE A MANN 5K RUN/WALK! THIS YEAR IT'S VIRTUAL!
FOR MORE INFORMATION, CALL THE OFFICE AT 833-3976 OR EMAIL US AT LCCANCERASSOC@GMAIL.COM.



The Laurens County Cancer Association is dedicated to serving our friends and neighbors like these who live in Laurens County.



Our mission & passion is to help those who are battling cancer.



Cancer

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the BRCA genes are considered “high penetrance” because they often lead to cancer. And although many women with high penetrance mutations develop cancer, most cases of cancer (including breast cancer) are not caused by this kind of mutation.

More often, low-penetrance mutations or gene variations are a factor in cancer development. Each of these may have a small effect on cancer occurring in any one person, but the overall effect on the population can be large because the mutations are common, and people

often have more than one at the same time. The genes involved can affect things like hormone levels, metabolism, or other factors that impact risk for breast cancer. These genes might also cause much of the risk of breast cancer that runs in families.

Most DNA mutations related to breast cancer take place in breast cells during a woman's life rather than having been inherited. These acquired mutations of oncogenes and/or tumor suppressor genes may result from other factors, like radiation or cancer-causing chemicals. But so far, the causes of most acquired mutations that could lead to breast cancer are still unknown. Most breast cancers have several acquired gene mutations.

Chemotherapy for Breast Cancer

Chemotherapy (chemo) uses anti-cancer drugs that may be given intravenously (injected into your vein) or by mouth. The drugs travel through the bloodstream to reach cancer cells in most parts of the body. Occasionally, chemo may be given directly into the spinal fluid which surrounds the brain and spinal cord.

whose cancer has spread outside the breast and underarm area, either when it is diagnosed or after initial treatments. The length of treatment depends on how well the chemo is working and how well you tolerate it.

Sometimes it is not clear if chemotherapy will be helpful. There are tests available, such as Oncotype DX, that can help determine which women will most likely benefit from chemo after breast surgery.

When is chemotherapy used?

Not all women with breast cancer will need chemo, but there are several situations in which chemo may be recommended:

- **After surgery (adjuvant chemotherapy):** Adjuvant chemo might be given to try to kill any cancer cells that might have been left behind or have spread but can't be seen, even on imaging tests. If these cells were allowed to grow, they could form new tumors in other places in the body. Adjuvant chemo can lower the risk of breast cancer coming back.

- **Before surgery (neoadjuvant chemotherapy):** Neoadjuvant chemo might be given to try to shrink the tumor so it can be removed with less extensive surgery. Because of this, neoadjuvant chemo is often used to treat cancers that are too big to be removed by surgery when first diagnosed (called locally advanced cancers). Also, by giving chemo before the tumor is removed, doctors can see how the cancer responds to it. If the first set of chemo drugs doesn't shrink the tumor, your doctor will know that other drugs are needed. It should also kill any cancer cells that have spread but can't be seen. Just like adjuvant chemo, neoadjuvant chemo can lower the risk of breast cancer coming back.

For certain types of breast cancer, if there are tumor cells still found at the time of surgery (also called residual disease), you may be offered more chemotherapy after surgery to reduce the chances of the cancer coming back (recurrence).

How is chemotherapy given?

Chemo drugs for breast cancer are typically given into a vein (IV), either as an injection over a few minutes or as an infusion over a longer period of time. This can be done in a doctor's office, infusion center, or in a hospital setting.

Often, a slightly larger and sturdier IV is required in the vein system to administer chemo. These are known as central venous catheters (CVCs), central venous access devices (CVADs), or central lines. They are used to put medicines, blood products, nutrients, or fluids right into your blood. They can also be used to take out blood for testing.

There are many different kinds of CVCs. The most common types are the port and the PICC line. For breast cancer patients, the central line is typically placed on the side opposite of the underarm that had lymph nodes removed for the breast cancer surgery.

Chemo is given in cycles, followed by a rest period to give you time to recover from the effects of the drugs. Cycles are most often 2 or 3 weeks long. The schedule varies depending on the drugs used. For example, with some drugs, the chemo is given only on the first day of the cycle. With others, it is given for a few days in a row, or once a week. Then, at the end of the cycle, the chemo schedule repeats to start the next cycle.

Adjuvant and neoadjuvant chemo is often given for a total of 3 to 6 months, depending on the drugs used. The length of treatment for advanced breast cancer depends on how

- **For advanced breast cancer:** Chemo can be used as the main treatment for women

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Chemo

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well it is working and what side effects you have.

Doctors have found that giving the cycles of certain chemo drugs closer together can lower the chance that the cancer will come back and improve survival for some women. For example, a drug that would normally be given every 3 weeks might be given every 2 weeks. This can be done for both neoadjuvant and adjuvant treatment. It can lead to more problems with low blood cell counts, so it's not an option for all women. A chemo combination sometimes given this way is doxorubicin (Adriamycin) and cyclophosphamide (Cytoxan), followed by weekly paclitaxel (Taxol).



Possible side effects of chemo

- Hair loss
- Nail changes
- Mouth sores
- Loss of appetite or weight changes
- Nausea and vomiting
- Diarrhea
- Increased chance of infections (from low white blood cell counts)
- Easy bruising or bleeding (from low blood platelet counts)
- Fatigue (from low red blood cell counts and other reasons)
- Menstrual changes and fertility issues
- Heart damage
- Nerve damage (neuropathy)
- Hand-foot syndrome
- Chemo brain
- Increased risk of leukemia
- Feeling unwell or tired (fatigue)

Know the signs and symptoms

Knowing how your breasts normally look and feel is an important part of breast health. Although having regular screening tests for breast cancer is important, mammograms do not find every breast cancer. This means it's also important for you to be aware of changes in your breasts and to know the signs and symptoms of breast cancer.

The most common symptom of breast cancer is a new lump or mass. A painless, hard mass that has irregular edges is more likely to be cancer, but breast cancers can be tender, soft, or round. They can even be painful. For this reason, it's important to have any new breast mass, lump, or breast change checked by an experienced health care professional.

Other possible symptoms of breast cancer include:

- Swelling of all or part of a breast (even if no lump is felt)



- Skin dimpling (sometimes looking like an orange peel)
- Breast or nipple pain
- Nipple retraction (turning inward)
- Nipple or breast skin that is red, dry, flaking or thickened
- Nipple discharge (other than breast

milk)

• Swollen lymph nodes (Sometimes a breast cancer can spread to lymph nodes under the arm or around the collar bone and cause a lump or swelling there, even before the original tumor in the breast is large enough to be felt.)

Although any of these symptoms can be caused by things other than breast cancer, if you have them, they should be reported to a health care professional so the cause can be found.

Remember that knowing what to look for does not take the place of having regular mammograms and other screening tests. Screening tests can help find breast cancer early, before any symptoms appear. Finding breast cancer early gives you a better chance of successful treatment.

- www.cancer.org

Radiation for Breast Cancer

Radiation therapy is treatment with high-energy rays (or particles) that destroy cancer cells. Some women with breast cancer will need radiation, in addition to other treatments. Radiation therapy is used in several situations:

- After breast-conserving surgery (BCS), to help lower the chance that the cancer will come back in the same breast or nearby lymph nodes.

- After a mastectomy, especially if the cancer was larger than 5 cm (about 2 inches), if cancer is found in many lymph nodes, or if certain surgical margins have cancer such as the skin or muscle.

- If cancer has spread to other parts of the body, such as the bones or brain.

The main types of radiation therapy that can be used to treat breast cancer are external beam radiation therapy (EBRT) and brachytherapy.

External beam radiation

This is the most common type of radiation therapy for women with breast cancer. A machine outside the body focuses the radiation on the area affected by the cancer.

Which areas need radiation depends on whether you had a mastectomy or breast-conserving surgery (BCS) and whether or not the cancer has reached nearby lymph nodes.

Preparing for external beam radiation

therapy

External radiation therapy is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless. Each treatment lasts only a few minutes, but the setup time—getting you into place for treatment—usually takes longer.

Types and schedules of external beam radiation for breast cancer

Whole breast radiation

- The standard schedule for getting whole breast radiation is 5 days a week (Monday through Friday) for about 6 to 7 weeks.

- Another option is hypofractionated radiation therapy where the radiation is also given to the whole breast, but in larger daily doses (Monday through Friday) using fewer treatments (typically for only 3 to 4 weeks). In women treated with breast-conserving surgery (BCS) and without cancer spread to underarm lymph nodes, this schedule has been shown to be just as good at keeping the cancer from coming back in the same breast as giving the radiation over longer periods of time. It might also lead to fewer short-term side effects.

Accelerated partial breast irradiation

In select women, some doctors are using accelerated partial breast irradiation (APBI) to give larger doses over a shorter time to only one part of the breast compared to the

entire breast. Since more research is needed to know if these newer methods will have the same long-term results as standard radiation, not all doctors use them. There are several different types of accelerated partial breast irradiation:

- Intraoperative radiation therapy (IORT): In this approach, a single large dose of radiation is given to the area where the tumor was removed (tumor bed) in the operating room right after BCS (before the breast incision is closed). IORT requires special equipment and is not widely available.

- 3D-conformal radiotherapy (3D-CRT): In this technique, the radiation is given with special machines so that it is better aimed at the tumor bed. This spares more of the healthy breast. Treatments are given twice a day for 5 days.

- Intensity-modulated radiotherapy (IMRT): IMRT is like 3D-CRT, but it also changes the strength of some of the beams in certain areas. This gets stronger doses to certain parts of the tumor bed and helps lessen damage to nearby normal body tissues.

- Brachytherapy: See brachytherapy below.

Women who are interested in these approaches may want to ask their doctor about

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Radiation

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taking part in clinical trials of accelerated partial breast irradiation.

Chest wall radiation

If you had a mastectomy and none of the lymph nodes had cancer, radiation will be given to the entire chest wall, the mastectomy scar, and the areas of any surgical drains. It is typically given daily 5 days a week for 6 weeks.

Lymph node radiation

Whether or not you have had BCS or a mastectomy, if cancer was found in the lymph nodes under the arm (axillary lymph nodes), this area may be given radiation. In certain cases, the lymph nodes above the collarbone (supraclavicular lymph nodes) and behind the breast bone in the center of the chest (internal mammary lymph nodes) will also receive radiation along with the underarm nodes. It is typically given daily 5 days a week for 6 weeks at the same time as the radiation to the breast or chest wall is given.

Possible side effects of external radiation

The main short-term side effects of external beam radiation therapy to the breast are:

- Swelling in the breast
- Skin changes in the treated area similar to a sunburn (redness, skin peeling, darkening of the skin)

• Fatigue

Your health care team may advise you to avoid exposing the treated skin to the sun because it could make the skin changes worse. Most skin changes get better within a few months. Changes to the breast tissue usually go away in 6 to 12 months, but it can take longer.

External beam radiation therapy can also cause side effects later on:

• Some women may find that radiation therapy causes the breast to become smaller and firmer.

• Radiation may affect your options for breast reconstruction later on. It can also raise the risk of problems with appearance and healing if it's given after reconstruction, especially tissue flap procedures.

• Women who have had breast radiation may have problems breastfeeding.

• Radiation to the breast can sometimes damage some of the nerves to the arm. This is called brachial plexopathy and can lead to numbness, pain, and weakness in the shoulder, arm, and hand.

• Radiation to the underarm lymph nodes might cause lymphedema, a type of pain and swelling in the arm or chest.

• In rare cases, radiation therapy may weaken the ribs, which could lead to a fracture.

• In the past, parts of the lungs and heart were more likely to get some radiation, which could lead to long-term damage of these organs in some women. Modern radiation therapy equipment better focuses the radiation

beams, so these problems are rare today.

• A very rare complication of radiation to the breast is the development of another cancer called an angiosarcoma.

Brachytherapy

Brachytherapy, also known as internal radiation, is another way to deliver radiation therapy. Instead of aiming radiation beams from outside the body, a device containing radioactive seeds or pellets is placed into the breast tissue for a short time in the area where the cancer had been removed (tumor bed).

For certain women who had breast-conserving surgery (BCS), brachytherapy can be used by itself (instead of radiation to the whole breast) as a form of accelerated partial breast irradiation. Tumor size, location, and other factors may limit who can get brachytherapy.

Types of brachytherapy

• Intracavitary brachytherapy: This is the most common type of brachytherapy for women with breast cancer. A device is put into the space left from BCS and is left there until treatment is complete. There are several different devices available, most of which require surgical training for proper placement. They all go into the breast as a small catheter (tube). The end of the device inside the breast is then expanded like a balloon so that it stays securely in place for the entire treatment. The other end of the catheter sticks out of the breast. For each treatment, one or more sources of radiation (often pellets) are placed down through the tube and into the device for a short time and then removed. Treatments

are typically given twice a day for 5 days as an outpatient. After the last treatment, the device is deflated and removed.

• Interstitial brachytherapy: In this approach, several small, hollow tubes called catheters are inserted into the breast around the area where the cancer was removed and are left in place for several days. Radioactive pellets are inserted into the catheters for short periods of time each day and then removed. This method of brachytherapy has been around longer (and has more evidence to support it), but it is not used as much.

Early studies of intracavitary brachytherapy as the only radiation after BCS have had promising results as far as having at least equal cancer control compared with standard whole breast radiation, but may have more complications including poor cosmetic results. Studies of this treatment are being done and more follow-up is needed.

Possible side effects of intracavitary brachytherapy

As with external beam radiation, intracavitary brachytherapy can have side effects, including:

- Redness and/or bruising at the treatment site
 - Breast pain
 - Infection
 - Damage to fatty tissue in the breast
 - Weakness and fracture of the ribs in rare cases
 - Fluid collecting in the breast (seroma)
- www.cancer.org

For women with an increased risk of Breast Cancer

If you are a woman at increased risk for breast cancer (for instance, because you have a strong family history of breast cancer, a known gene mutation that increases breast cancer risk, such as in the BRCA1 or BRCA2 gene, or you have had DCIS or LCIS), there are some things you can do that might help lower your chances of developing breast cancer (or help find it early).

Your health care provider can help you determine your risk of breast cancer, as well as which, if any, of these options might be right for you.

Genetic counseling and testing

If there are reasons to think you might have inherited a gene change that increases your risk of breast cancer (such as having a strong family history of breast cancer, or a family member with a known gene mutation), you might want to talk to

your doctor about genetic counseling to see if you should be tested. To learn more, see Genetic Counseling and Testing for Breast Cancer Risk.

If you decide to be tested and a gene change is found, this might affect your decision about using the options below to help lower your risk for breast cancer (or find it early).

Close observation

For women at increased breast cancer risk who don't want to take medicines or have surgery, some doctors might recommend close observation. This approach might include:

• More frequent doctor visits (such as every 6 to 12 months) for breast exams and ongoing risk assessment

• Starting breast cancer screening with yearly mammograms at an earlier age

• Possibly adding another screening

test, such as breast MRI

While this approach doesn't lower breast cancer risk, it might help find it early, when it's likely to be easier to treat.

Medicines to lower breast cancer risk

Prescription medicines can be used to help lower breast cancer risk in certain women at increased risk of breast cancer.

Medicines such as tamoxifen and raloxifene block the action of estrogen in breast tissue. Tamoxifen might be an option even if you haven't gone through menopause, while raloxifene is only used for women who have gone through menopause. Other drugs, called aromatase inhibitors, might also be an option for women past menopause. All of these medicines can also have side effects, so it's important to understand the possible benefits and risks of taking one of them.

Preventive surgery for women with very high breast cancer risk

For the small fraction of women who have a very high risk for breast cancer, such as from a BRCA gene mutation, surgery to remove the breasts (prophylactic mastectomy) may be an option. Another option might be to remove the ovaries, which are the main source of estrogen in the body. While surgery can lower the risk of breast cancer, it can't eliminate it completely, and it can have its own side effects. For more on this topic, see Preventive Surgery to Reduce Breast Cancer Risk.

Before deciding which, if any, of these options might be right for you, talk with your health care provider to understand your risk of breast cancer and how much any of these approaches might affect your risk. - www.cancer.org

Can I lower my risk of Breast Cancer?

There is no sure way to prevent breast cancer. But there are things you can do that might lower your risk. Many risk factors are beyond your control, such as being born female and getting older. But other risk factors can be changed and may lower your risk.

For women who are known to be at increased risk for breast cancer, there are additional steps that might reduce the risk of developing breast cancer.

FOR ALL WOMEN

Get to and stay at a healthy weight:

Both increased body weight and weight gain as an adult are linked with a higher risk of breast cancer after menopause. The American Cancer Society recommends you stay at a healthy weight throughout your life and avoid excess weight gain by balancing your food intake with physical activity.

Be physically active: Many studies have shown that moderate to vigorous physical activity is linked with lower breast cancer risk, so it's important to get regular physical activity. The American Cancer Society recommends that adults get at least 150 to 300 minutes of moderate intensity or 75 to 150 minutes of vigorous intensity activity each week (or a combination of these), preferably spread throughout the week. Getting to or

exceeding the upper limit of 300 minutes is ideal.

- Moderate activity is anything that makes you breathe as hard as you do during a brisk walk. It causes a slight increase in heart rate and breathing. You should be able to talk, but not sing during the activity.

- Vigorous activities are performed at a higher intensity. They cause an increased heart rate, sweating, and a faster breathing rate.

Avoid or limit alcohol: Alcohol increases risk of breast cancer. Even low levels of alcohol intake have been linked with an increase in risk. It is best not to drink alcohol. For women who do drink, they should have no more than 1 alcoholic drink a day. A drink is 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of 80-proof distilled spirits (hard liquor).

Is there a link between diets/vitamins and breast cancer risk?

The possible link between diet and breast cancer risk is not clear, but this is an active area of study. Some (but not all) studies have suggested that a diet that is high in vegetables, fruit, and calcium-rich dairy products, but low in red and processed meats might help lower the risk of breast cancer. It's also not clear if specific vegetables, fruits, or

other foods can lower risk. And most studies have not found that lowering fat intake has much of an effect on breast cancer risk (although some have suggested it might help lower the risk of dying from breast cancer).

But just because the science isn't clear on this doesn't mean that there's no point in eating a healthy diet. A diet low in fat, processed and red meat, and sugary drinks, but high in fruits and vegetables can clearly have many health benefits, including lowering the risk of some other types of cancer.

So far, there's no strong evidence that taking vitamins or any other type of dietary supplement reduces the risk of breast cancer.

Other factors that might lower risk:

Women who choose to breastfeed for at least several months may also get an added benefit of reducing their breast cancer risk.

Using hormone therapy after menopause can increase your risk of breast cancer. To avoid this, talk to your health care provider about non-hormonal options to treat menopausal symptoms.

For more on the links between body weight, physical activity, diet, and breast cancer (as well as other cancers), see American Cancer Society Guidelines for Diet and Physical Activity for Cancer Prevention.

- www.cancer.org





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Be in the pink this year. Early detection is key. Conduct monthly self-exams, arrange for regular clinical exams and schedule a yearly mammogram if you have a family history of the disease, are over the age of 40 or have been advised to do so by your physician. Stay on top of your health! Make your appointment today!

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October is Breast Cancer Awareness Month, and there is no better time to make an appointment with your physician and learn more about the disease. While there is no surefire way to prevent breast cancer, there are ways to reduce your risk of it. These include:

- **Lowering** your daily fat intake.
- **Eating** more fiber and fresh fruits and vegetables.
- **Limiting** your alcohol consumption to less than two drinks per day.
- **Exercising** for at least 30 minutes on most days of the week.
- **Quitting** smoking.

Of course, even with the best of precautions, breast cancer may occur. That is why early detection is so important. The earlier the disease is detected, the better the patient's chance of survival.



Following up after Breast Cancer treatment

Many women are relieved or excited to be finished with breast cancer treatment. But it can also be a time of worry, being concerned about the cancer coming back, or feeling lost without seeing their cancer care team as often.

For some women with advanced breast cancer, the cancer may never go away completely. These women may continue to get treatments such as chemotherapy, hor-

mone therapy, or other treatments to help keep the breast cancer under control and to help relieve symptoms from it. Learning to live with breast cancer that doesn't go away can have its own type of uncertainty.

Even if you have completed breast cancer treatment, your doctors will want to watch you closely. It's very important to go to all of your follow-up appointments. During these visits, your doctors will ask

if you are having any problems, and will probably examine you. Lab tests and imaging tests aren't typically needed after treatment for most early stage breast cancers, but they might be done in some women to look for signs of cancer or treatment side effects.

Almost any cancer treatment can have side effects. Some might only last for a few days or weeks, but others might last a

long time. Some side effects might not even show up until years after you have finished treatment. Visits with your doctor are a good time for you to ask questions and talk about any changes or problems you notice or concerns you have. However, if you have additional concerns about your cancer, you do not have to wait until your next scheduled visit. You can call your doctor immediately.



Ask your doctor for a survivorship care plan

Talk with your doctor about developing a survivorship care plan for you. This plan might include:

- A suggested schedule for follow-up exams and tests
- A schedule for other tests you might need in the future, such as early detection (screening) tests for other types of cancer, or tests to look for long-term health effects from your cancer or its treatment
- A list of possible late- or long-term side effects from your treatment, including what to watch for and when you should contact your doctor
- Diet, physical activity, and other lifestyle modification suggestions

Even after treatment, it's very important to keep health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer com-

ing back, this could happen.

At some point after your treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to keep copies of your medical records to give your new doctor the details of your diagnosis and treatment.

If cancer does return, your treatment options will depend on where it comes back, what treatments you've had before, and your current health and preferences.

It's important to know that women who have had breast cancer can also still get other types of cancer. In fact, women who have had breast cancer are at higher risk for certain other cancers. Because of this, it's important to follow the American Cancer Society guidelines for the early detection of cancer, such as those for colorectal cancer and cervical cancer.

Typical follow-up schedules

• **Doctor visits:** If you have finished treatment, your follow-up doctor visits will probably be scheduled for every few months at first. The longer you have been free of cancer, the less often the appointments are needed. After 5 years, they are typically done about once a year.

• **Mammograms:** If you had breast-conserving surgery (lumpectomy or partial mastectomy), you will likely get a mammogram about 6-12 months after surgery and radiation are completed, and then at least every year after that. Women who've had a

mastectomy (removal of the entire breast) typically no longer need mammograms on that side. But unless you've had both breasts removed, you still need to have yearly mammograms on the remaining breast. To learn more, see Mammograms After Breast Cancer Surgery.

• **Pelvic exams:** If you are taking either of the hormone drugs tamoxifen or toremifene and still have your uterus, you should have pelvic exams every year because these drugs can increase your risk of uterine cancer. This risk is highest in

women who have gone through menopause. Be sure to tell your doctor right away about any unusual vaginal bleeding, such as vaginal bleeding or spotting after menopause, bleeding or spotting between periods, or a change in your periods. Although this is usually caused by something that isn't cancer, it can also be the first sign of uterine cancer.

• **Bone density tests:** If you are taking a hormone drug called an aromatase inhibitor (anastrozole, letrozole, or exemestane) for early stage breast cancer, or if you go

through menopause as a result of treatment, your doctor will want to monitor your bone health and may consider testing your bone density.

• **Other tests:** Other tests such as blood tests and imaging tests (like bone scans and chest x-rays) are not a standard part of follow-up because they haven't been shown to help a woman who's been treated for breast cancer live longer. But they might be done if you have symptoms or physical exam findings that suggest that the cancer might have come back.

Information courtesy of www.cancer.org

What's new in Breast Cancer research?

Studies continue to uncover lifestyle factors and habits, as well as inherited genes, that affect breast cancer risk. Here are a few examples:

- Several studies are looking at the effect of exercise, weight gain or loss, and diet on risk.

- Studies on the best use of genetic testing for breast cancer mutations continue.

- Scientists are exploring how common gene variations (small changes in genes that are not as significant as mutations) may affect breast cancer risk. Gene variants typically have only a modest effect on risk, but when taken together they could possibly have a large impact.

- Possible environmental causes of breast cancer have also received more attention in recent years. While much of the science on this topic is still in its earliest stages, this is an area of active research.

Researchers continue to look for medicines that might help lower breast cancer risk, especially women who are at high risk.

- Estrogen blocking drugs are typically used to help treat breast cancer, but some might also help prevent it. Tamoxifen and raloxifene have been used for many years to prevent breast cancer. More recent

studies with another class of drugs called aromatase inhibitors (exemestane and anastrozole) have shown that these drugs are also very effective in preventing breast cancer

- Other clinical trials are looking at non-hormonal drugs for breast cancer reduction. Drugs of interest include drugs for diabetes like metformin, drugs used to treat blood or bone marrow disorders, like ruxolitinib, and bexarotene, a drug that treats a specific type of T-cell lymphoma.

This type of research takes many years. It might be some time before meaningful results on any of these compounds are available.

New lab tests

Liquid biopsies

Circulating tumor cells (CTCs) and circulating tumor DNA (ctDNA)

Circulating tumor cells (CTCs) are cancer cells that break away from the tumor and move into the bloodstream. Circulating tumor DNA (ctDNA) is DNA that is released into the bloodstream when cancer cells die. Researchers are investigating tests that measure the amount of CTCs and ctDNA in the blood of women with breast cancer. Identifying and testing the CTCs and ctDNA in the blood is sometimes referred to as a "liquid

biopsy." This type of biopsy may offer an easier and less expensive way to test the tumor than a traditional needle biopsy, which comes with risks such as bleeding and infection.

Some studies have shown that in women with metastatic (Stage 4) breast cancer, a high level of CTCs might predict a poorer outcome compared to women with a lower level.

Although more studies are needed before liquid biopsies could replace the traditional needle biopsy, some potential uses include:

- Looking for new gene changes (mutations) in the tumor cells that might mean the cancer has become resistant to specific treatments (like aromatase inhibitors)

- Determining if a certain drug will work on a tumor before trying it

- Helping decide if a woman's cancer is responding to a certain treatment by noticing a decline in CTC level

- Predicting if the breast cancer will recur (come back) in women with early stage breast cancer.

New imaging tests

Newer types of tests are being developed for breast imaging. Some of these are already being used in certain situa-

tions, while others are still being studied. It will take time to see if they are as good as or better than those used today. Some of these tests include:

- Scintimammography (molecular breast imaging)

- Positron emission mammography (PEM)

- Electrical impedance imaging (EIT)

- Elastography

- New types of optical imaging tests

- www.cancer.org



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Early Detection Is Your Best Protection



October is National Breast Cancer Awareness Month. Thankfully, early detection through self-examination and mammograms is bringing about a decline in breast cancer deaths. We encourage all women to get regular mammograms and learn the techniques of self-examination.



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Chemotherapy and Triple-negative breast cancer

It is known that chemotherapy can be helpful for many breast cancer patients. But predicting who will benefit the most or the least is still being studied. Sometimes there are significant side effects (long- and short-term) from chemotherapy, so having tests that can determine who really needs chemo would be useful. Many studies are being done to evaluate different tests that can more accurately tell which patients would benefit from chemo and which patients could avoid it.

Since triple-negative breast cancers (TNBC) cannot be treated with hormone therapy or targeted therapy such as HER2 drugs, the treatment options are limited to chemotherapy. And although TNBC tends to respond well to initial chemotherapy, it tends to come back (recur) more frequently than other breast cancers.

In 2019, the immunotherapy drug Atezolizumab (Tecentriq), was approved along with the chemotherapy drug nab-paclitaxel (Abraxane) for use in women with advanced triple negative breast cancer that makes the PD-L1 protein. Other potential targets for new breast cancer drugs have been identified in recent years. Drugs based on these targets, such as kinase inhibitors, are now being studied to treat triple-negative breast cancers, either by themselves, or in combination with chemotherapy. One example is the AKT inhibitor ipatasertib, which, when used with paclitaxel, shows promising results in treating women with TNBC as the first treatment. Another AKT inhibitor, capivasertib, is also showing encouraging results when given with paclitaxel.

Androgen receptor inhibitors

Breast cancer cells are routinely tested for estrogen and progesterone receptors to help determine treatment options. About 60% of breast cancer cells also have receptors for androgens (male hormones). Initial studies in women with breast cancer show some response when using the antiandrogen bicalutamide, to treat TNBC that has the androgen receptor. Bicalutamide is a drug that has been used to treat prostate cancer for many years. More studies in breast cancer are ongoing.

Supportive care

There are trials looking at different medicines to try and improve memory and brain symptoms after chemotherapy. Other studies are evaluating if certain cardiac drugs, known as beta-blockers, can prevent the heart damage sometimes caused by common breast cancer drugs

such as doxorubicin and trastuzumab.

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases, they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials, or see Clinical Trials to learn more.

- www.cancer.org



Going pink for a cure. Clinton High School Athletics goes pink to show their support for Breast Cancer Awareness Month. Every October, organizations raise funds and awareness in the fight against breast cancer, with emphasis on the importance of early detection and prevention.



*Early detection
saves lives.*



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How should a breast self-exam be performed?

1.) In the shower

With the pads/flats of your 3 middle fingers, check the entire breast and armpit area pressing down with light, medium, and firm pressure. Check both breasts each month feeling for any lump, thickening, hardened knot, or any other breast changes.

2.) In front of a mirror

Visually inspect your breasts with your arms at your sides. Next, raise your arms high overhead.

Look for any changes in the contour,

any swelling, or dimpling of the skin, or changes in the nipples. Next, rest your palms on your hips and press firmly to flex your chest muscles. Left and right breasts will not exactly match—few women’s breasts do, so look for any dimpling, puckering, or changes, particularly on one side.

3.) Lying down

When lying down, the breast tissue spreads out evenly along the chest wall. Place a pillow under your right shoulder and your right arm behind your head.

Using your left hand, move the pads of your fingers around your right breast gently covering the entire breast area and armpit.

Use light, medium, and firm pressure. Squeeze the nipple; check for discharge and lumps. Repeat these steps for your left breast.

Adult women of all ages are encouraged to perform breast self-exams at least once a month. Johns Hopkins Medical center states,

“Forty percent of diagnosed breast can-

cers are detected by women who feel a lump, so establishing a regular breast self-exam is very important.”

While mammograms can help you to detect cancer before you can feel a lump, breast self-exams help you to be familiar with how your breasts look and feel so you can alert your healthcare professional if there are any changes.

- www.nationalbreastcancer.org

What causes breast pain?

There are a number of harmless causes for breast pain and tenderness that may primarily be related to changes in hormone levels. These can include:

- Puberty in girls and sometimes for boys, too
- Menstruation and premenstrual syndrome (PMS)
- Pregnancy – more often during the first trimester

• Days following childbirth as milk comes in Breastfeeding Mastitis, which is caused by a milk duct that is not properly draining and becomes infected, should be treated. It has no correlation with cancer, but it can become a serious infection if left untreated.

- Menopause
- A breast abscess, which is an infection inside of the breast, similar to a boil.
- A benign cyst

Some women have lumpy breast tissue called fibrocystic breasts, which may be more painful during certain times of the month. Fibrocystic breasts are not necessarily linked to breast cancer, and the lumps are fluid filled cysts rather than a mass of cells. Fibrocystic breast changes are also a common cause of breast pain. Fibrocystic breast tissue contains lumps that tend to be more tender just before your menstrual period.

Known triggers to increased breast pain include:

- Digitalis preparations
- Methyldopa (Aldomet)
- Spironolactone (Aldactone)
- Certain diuretics
- Anadrol
- Chlorpromazin

www.nationalbreastcancer.org



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Myths about Breast Cancer...

• **Myth: Finding a lump in your breast means you have breast cancer.**

The truth: Only a small percentage of breast lumps turn out to be cancer. But if you discover a persistent lump in your breast or notice any changes in breast tissue, it should never be ignored. It is very important that you see a physician for a clinical breast exam. He or she may possibly order breast imaging studies to determine if this lump is of concern or not.

Take charge of your health by performing routine breast self-exams, establishing ongoing communication with your doctor, getting an annual clinical breast exam, and scheduling your routine screening mammograms.

• **Myth: Men do not get breast cancer; it affects women only.**

The truth: Quite the contrary, each year it is estimated that approximately 2,190 men will be diagnosed with breast cancer and 410 will die. While this percentage is still small, men should also check themselves periodically by doing a breast self-exam while in the shower and reporting any changes to their physicians. Breast cancer in men is usually detected as a hard lump underneath

the nipple and areola. Men carry a higher mortality than women do, primarily because awareness among men is less and they are less likely to assume a lump is breast cancer, which can cause a delay in seeking treatment.

• **Myth: A mammogram can cause breast cancer to spread.**

The truth: A mammogram, or x-ray of the breast, currently remains the gold standard for the early detection of breast cancer. Breast compression while getting a mammogram cannot cause cancer to spread. According to the National Cancer Institute, "The benefits of mammography, however, nearly always outweigh the potential harm from the radiation exposure. Mammograms require very small doses of radiation. The risk of harm from this radiation exposure is extremely low."

The standard recommendation is an annual mammographic screening for women beginning at age 40. Base your decision on your physician's recommendation and be sure to discuss any remaining questions or concerns you may have with your physician.

• **Myth: If you have a family history of breast cancer, you are likely to develop breast cancer, too.**

The truth: While women who have a

family history of breast cancer are in a higher risk group, most women who have breast cancer have no family history. Statistically only about 10% of individuals diagnosed with breast cancer have a family history of this disease.

• **Myth: Breast cancer is contagious.**

The truth: You cannot catch breast cancer or transfer it to someone else's body. Breast cancer is the result of uncontrolled cell growth of mutated cells that begin to spread into other tissues within the breast. However, you can reduce your risk by practicing a healthy lifestyle, being aware of the risk factors, and following an early detection plan so that you will be diagnosed early if breast cancer were to occur.

• **Myth: If the gene mutation BRCA1 or BRCA2 is detected in your DNA, you will definitely develop breast cancer.**

The truth: According to the National Cancer Institute, regarding families who are known to carry BRCA1 or BRCA2, "not every woman in such families carries a harmful BRCA1 or BRCA2 mutation, and not every cancer in such families is linked to a harmful mutation in one of these genes. Further-

more, not every woman who has a harmful BRCA1 or BRCA2 mutation will develop breast and/or ovarian cancer. But, a woman who has inherited a harmful mutation in BRCA1 or BRCA2 is about five times more likely to develop breast cancer than a woman who does not have such a mutation." For people who discover they have the harmful mutation, there are various proactive measures that can be done to reduce risk. These include taking a hormonal therapy called Tamoxifen or deciding to take a surgical prevention approach which is to have bilateral prophylactic mastectomies, usually done with reconstruction. Most women will also have ovaries and fallopian tubes removed as well since there is no reliable screening test for the early stages of developing ovarian cancer.

• **Myth: Antiperspirants and deodorants cause breast cancer.**

The truth: Researchers at the National Cancer Institute (NCI) are not aware of any conclusive evidence linking the use of underarm antiperspirants or deodorants and the subsequent development of breast cancer.

- www.nationalbreastcancer.org

The benefits and risks of mammography

The benefits of screening mammography vary by age. Women ages 50-69 get the most overall benefit for a number of reasons. For example, breast cancer in women younger than 50 is much less common than breast cancer in women 50 and older. Getting regular screening mammograms lowers the risk of dying from breast cancer, but it doesn't completely remove this risk.

Although the benefits of mammography are real, it's not a perfect test. Some women who get regular mammograms may still be diagnosed with breast cancer and unfortunately, may still die from the disease.

Over-diagnosis

Over-diagnosis occurs when a mammogram finds ductal carcinoma in situ (DCIS) or small, invasive breast cancers that would have never caused symptoms or problems if left untreated.

These breast cancers may never grow and some may even shrink on their own. Or, a person may die from another cause before breast cancer becomes a problem.

Studies suggest 5-50 percent of DCIS and small, invasive breast cancers found with mammography may be over-diagnosed. A meta-analysis of 3 randomized controlled trials found over-diagnosis from mammography was 19 percent.

Even without treatment, these over-diagnosed breast cancers would never progress to invasive breast cancer and would never cause problems in a person's lifetime.

Over-treatment

Over-treatment occurs when a cancer that would have never caused symptoms or problems is found (over-diagnosis) and treated. This means even without treatment, the breast cancer would never have caused a problem. So, a person would be exposed to the risks of treatment, but get no benefits.

It's not possible to tell which breast cancers will never cause problems, so all breast cancers are treated. Over-treatment is a con-

cern for those with DCIS and some very early invasive cancers.

Although DCIS is non-invasive, without treatment, the abnormal cells can progress to invasive breast cancer over time. Left untreated, it's estimated 40-50 percent of DCIS cases may progress to invasive breast cancer. In the same way, small, invasive breast cancers may grow over time.

Since the introduction of mammography in the 1980s, the number of women diagnosed with DCIS has greatly increased. So,

Benefits, 15



Benefits

From page 14

the true risk of DCIS progressing to invasive breast cancer may be lower (fewer cases of DCIS may progress).

Health care providers cannot predict which cases of DCIS will progress to invasive breast cancer and which will not. Higher grade DCIS appears more likely than lower grade DCIS to progress to invasive cancer after treatment (surgery, with or without radiation therapy).

There's also no way to tell which small, invasive breast cancers will progress if left untreated.

Women with DCIS or a small, invasive breast cancer are treated with a lumpectomy plus radiation therapy or a mastectomy. Hormone therapy may also be needed. Some women with small, invasive breast cancer may also get chemotherapy.

Since not all cases of DCIS and small, invasive breast cancer will progress, some women may be over-treated.

Under study

Researchers are studying ways to identify which cases of DCIS and small, invasive breast cancer are most likely to progress. This would allow treatment to be targeted to those who are at higher than average risk of progressing and might allow some people to avoid treatment.

Researchers are also studying whether some cases with lower risk profiles can be treated less aggressively than they are treated now.

Other risks of mammography

Sometimes a mammogram shows something abnormal that might be cancer, but

turns out not to be cancer. This is called a false positive result.

If your mammogram shows something abnormal, you will need follow-up tests to check whether or not the finding is breast cancer.

These tests may include a follow-up mammogram (diagnostic mammogram), breast ultrasound or breast MRI. Sometimes, a biopsy is needed. A biopsy removes a small amount of tissue in the breast to check for cancer.

Estimates of false positive results from mammography

If you have an abnormal finding on a mammogram, try not to panic or worry. Most abnormal findings are not breast cancer. Understanding the chances of having a false positive result on a mammogram may help ease fear and worry over an abnormal finding.

For example, after one screening, it's estimated 1,212 out of 10,000 women ages 40-49 will have a false positive result. Among older women, there are fewer false positive results.

The more mammograms a woman has, the more likely it is she will have a false positive result. After 10 yearly mammograms, the chance of having a false positive is about 50-60 percent [19-21].

Population versus individual benefits and risks

The benefits and risks of mammography for the population can differ from those for an individual woman.

At the population level, we can say mammography saves lives by lowering the risk of dying from breast cancer. However, it doesn't save the life of every woman who gets screened. Not all women get the same benefit from mammography.

For example, say a large group of women

get regular mammograms. Some of the women in the group will have a breast cancer that's found early. They will get treatment and will not die from breast cancer.

However, for an individual woman who never develops breast cancer there may be no benefit from regular mammogram screening, only risks.

Sometimes a result on a mammogram leads to a biopsy that shows no cancer. For any one woman, this biopsy may not be a big problem as the results were negative for breast cancer. However, if thousands of women have biopsies that don't show cancer, this adds up to a lot of extra medical procedures, anxiety and cost.

In making screening guidelines, organizations look at the benefits and risks for a population of women rather than the benefits and risks for any one woman. They try to give recommendations that give the most benefit with the least amount of risk to the population.

These benefits and risks may be different for an individual woman though. Some women will get more benefits than the population as a whole and some will get more risks.

What does this mean for you?

Despite some ongoing debate about the balance of benefits and harms, for most women, mammography is the most effective breast cancer screening tool used today.

While any health decision is a personal one that involves weighing benefits and risks, most health organizations recommend women get mammograms on a regular basis.

Women ages 40-49

Mammography in women ages 40-49 may save lives, but the benefit is less than for older women.

Some health organizations have concluded the modest potential benefits of mam-

mography for women in their 40s outweigh the risks of false positive results, over-diagnosis and over-treatment.

Some health organizations recommend informed decision-making with a health care provider, guided by a woman's breast cancer risk profile.

If you're in your 40s, talk with your provider about when to start mammography screening.

Women ages 50 and older

Health organizations agree women ages 50-69 (and at least some women 70 and older) should get mammograms. However, there's some debate about how often these women should get a mammogram.

Some health organizations recommend mammography every year for women 50-69 (and for women 70 and older who are in good health).

Other organizations recommend mammography every other year (every 2 years).

For example, the U.S. Preventive Services Task Force recommends mammography every 2 years starting at age 50. And, the American Cancer Society recommends mammography every year for women ages 50-54 and every 2 years starting at age 55.

The Task Force reviewed the scientific evidence and concluded mammography every 2 years gives almost as much benefit as mammography every year and reduces risks.

Radiation exposure during a mammogram

You're exposed to a small amount of radiation during a mammogram.

While the radiation exposure during mammography can increase the risk of breast cancer over time, this increased risk is very small.

- ww5.komen.org

Risk factors you can & cannot change

Risk Factors You Cannot Change

- Getting older.
- Genetic mutations.
- Reproductive history.
- Having dense breasts.
- Personal history of breast cancer or certain non-cancerous breast diseases.

• Family history of breast or ovarian cancer. Previous treatment using radiation therapy. Women who had radiation therapy to the chest or breasts (like for treatment of Hodgkin's lymphoma) before age 30 have a higher risk of getting breast cancer later in life.

- Women who took the drug diethylstilbestrol (DES), which was given to some pregnant

women in the United States between 1940 and 1971 to prevent miscarriage, have a higher risk.

Risk Factors You Can Change

- Not being physically active.
- Being overweight or obese after menopause.
- Taking hormones.
- Reproductive history.
- Drinking alcohol.

Research suggests that other factors such as smoking, being exposed to chemicals that can cause cancer, and changes in other hormones due to night shift working also may increase breast cancer risk.

- www.cdc.gov/



HIGH RISK BREAST CLINIC

Providing risk reducing practices for individuals identified with a high lifetime risk of developing breast cancer.



A proactive approach to reducing your risks for developing breast cancer and a personalized approach to early detection.

Risk factors that are known to put women at a higher risk for developing breast cancer:

- Genetic predispositions
- Having a male relative with breast cancer
- Having relatives with history of certain cancers
- Personal history of previous biopsy proven atypia (pre-cancer cells)
- Dense breast tissue (identified by mammogram)
- Chest wall radiation

At the High Risk Breast Clinic, you'll receive:

- Care tailored to your specific needs
- Personal plan developed and managed by one of our board-certified Medical Oncologists
- Plans may include a genetics referral, an individualized screening care plan, medical intervention and prophylactic (preventive) surgery options

For more information, visit <https://www.selfregional.org/highriskbreastclinic/>



1 in 8 women will develop breast cancer in her life, but with early detection and screening, quality of life can be improved and lives can be saved.

SELF REGIONAL
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BREAST CENTER

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[selfregional.org](https://www.selfregional.org)

