

## Q&A Regarding Risk Factors and Cancer Treatments for Breast Cancer

### What are some of the risk factors for breast cancer?

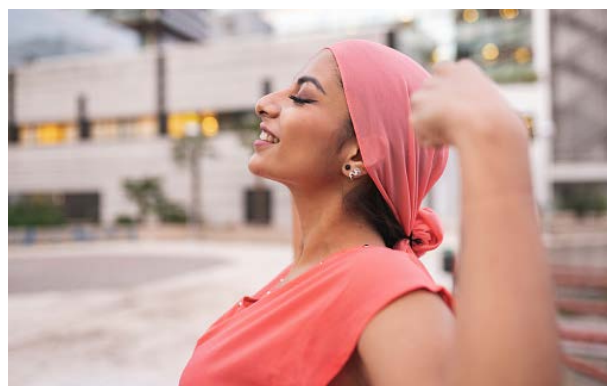
Among the many risks factors for breast cancer, some are established and some are still emerging. Well-established risk factors for breast cancer include:

- Being a woman
- Older age
- Family history of breast cancer
- Genetic mutations
- Personal history of breast cancer
- Obesity
- Smoking
- Drinking alcohol
- Use of hormone replacement therapy
- Early menarche or late pregnancy

Some of the emerging risk factors for breast cancer that are currently being studied are low levels of vitamin D, lack of exercise and exposure to certain chemicals.

### What is in the future regarding cancer treatments for patients with breast cancer?

Several new medications are being studied and many are newly approved for patients with breast cancer, including targeted therapies and immunotherapies. Used for many years, targeted therapies are drugs that work against

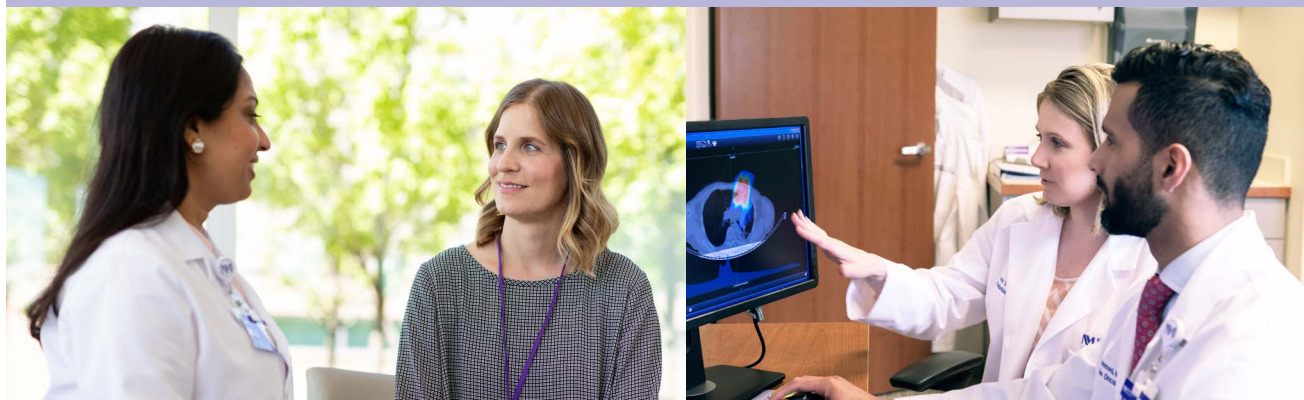


certain proteins that are present or overproduced in cancer cells compared with healthy cells. Immunotherapy is a novel and exciting breakthrough in drug therapy for breast cancer; it helps the body's immune system identify and destroy cancer cells. In radiation therapy for breast cancer, many trials are focusing on de-escalation of treatment, trying to shorten the duration and dose of therapy or simplifying a radiation regimen in some other way. Proton therapy for breast cancer is also being studied in a large randomized trial, especially for patients with left-sided locally advanced breast cancer, where radiation dose may affect the heart and lung. It is an exciting time for breast cancer research, with new breakthroughs being made available to patients at an increasing rate.

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## Treating Breast Cancer With Proton Therapy

According to the American Cancer Society, every year more than 260,000 women are diagnosed with breast cancer. As part of an innovative cancer care network, the team at Northwestern Medicine Proton Center can help you or a loved one understand a breast cancer diagnosis and the advantages of proton therapy.

Proton therapy has unique attributes. It can be controlled with great precision that minimizes radiation exposure to healthy organs. This means that more energy goes into destroying the cancer, and less radiation is delivered to surrounding tissue. This attribute is especially important in treating left-sided breast cancer, where the treatment field may include critical organs such as the heart and the lungs.

The science behind proton therapy demonstrates its value for women who are concerned about the potential side effects from radiation treatment and underscores the impact of proton therapy as one of the latest advancements in cancer treatment.

You may be eligible for and benefit the most from proton therapy if you have the following:

- Breast cancer involving the lymph nodes
- Other risk factors that indicate the inclusion of lymph node irradiation
- A treatment plan with cardiotoxic chemotherapy, such as doxorubicin or trastuzumab
- Preexisting vascular comorbidity, cardiac disease, lung disease or increased risk of developing a secondary malignancy
- Anatomy that places healthy organs at elevated risk of radiation exposure

The Northwestern Medicine Proton Center team is dedicated to explaining all of your treatment options for breast cancer and facilitating a conversation with you, your physician and your oncologist to determine the best course of treatment for you. [LEARN MORE](#)

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## Clinical Trials

The staff at the Northwestern Medicine Proton Center is dedicated to supporting the advancement of science and care through participation in clinical research trials. Our approach to clinical trials is based on collaboration with other proton centers and increasing the knowledge of the community as a whole. This approach lets us publish findings faster and provide information to the proton community more effectively than if we were working as a single institution.

The Northwestern Medicine Proton Center is among the first to provide proton therapy cancer treatment to patients with locally advanced breast cancer who have undergone either breast-conserving surgery or mastectomy. The team is here to help you treat your breast cancer with a powerful tool that could spare healthy tissue.

To learn more about the breast cancer clinical trials available at Northwestern Medicine Proton Center, visit [protoncenter.nm.org](http://protoncenter.nm.org). [LEARN MORE](#)

## Finding the Finish Line A Nurse's Race to Breast Cancer Recovery

Laura Lundstrom, RN, has had a goal to run in all 50 states by the time she is 50 years old. But when she went to get a mammogram the day after her 43rd birthday, she had to pause that goal. She had a tumor, an invasive ductal carcinoma, in her right breast.

"I didn't have many symptoms at all, and I have no family history of breast cancer," she explains. "I was shocked."

### Choosing Proton Therapy

Laura is a registered nurse at Northwestern Medicine and has two young kids at home. She was determined to find the best treatment that would spare her any potential additional procedures. Her care was a coordinated effort by:

- [Batul Al-Zubeidy, MD](#), breast surgeon with Northwestern Medicine Regional Medical Group
- [Dragana Tomic, MD](#), medical oncologist with Northwestern Medicine Regional Medical Group
- [Arpi Thukral, MD\\*](#), radiation oncologist at Northwestern Medicine Proton Center

Instead of removing more lymph nodes through surgery, the clinical team determined that proton therapy at Northwestern Medicine Proton Center was the best treatment option for Laura because of her young age and wanting to spare other healthy tissue near her breast.

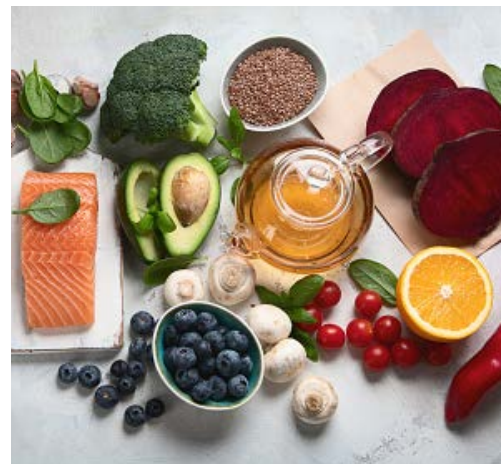


Today, thanks to proton therapy, Laura is back to reaching her goal of running in all 50 states before she turns 50 years old. Read about her treatment journey. [LEARN MORE](#)

## Can Food Fight Cancer?

Many lists identify cancer-fighting foods, but no single food group can prevent or cure cancer. However, certain foods associated with a balanced diet can strengthen your immune system and help you maintain a healthy body weight, which can be primary factors in protecting against cancer. Read answers provided by clinical dietitians at Northwestern Medicine to the following questions:

- What does the phrase "cancer-fighting foods" mean?
- What are the dangers of calling food cancer-fighting?
- What is the connection between diet and cancer?
- What is the connection between diet and a strong immune system?
- What benefits or nutrients do the following common cancer-fighting foods contain?



To see the full article, [visit HealthBeat](#) on nm.org.

\*The physician identified, who practices at the Northwestern Medicine Proton Center, is neither an agent nor employee of Northwestern Memorial HealthCare or any of its affiliate organizations. This physician has selected our facilities as the place where she wants to treat and care for her private patients.

## Meet Two Members of the Care Team

### Ally C.



#### Why did you go into nursing?

When I was heading to college, my cousin was diagnosed with medulloblastoma at 10 years old. My family quickly found that among all the awesome staff involved in his care, the nurses made the biggest

personal impact on all of us. I knew I wanted to be that for other families.

#### What is your favorite thing about being a nurse?

Celebrating the little victories and the progress patients make, such as completing radiation treatment.

#### Who or what inspires you?

The pediatric patients. They come in with such a positive attitude!

### Susan N.



#### Why did you go into dosimetry?

I was a radiation therapist when I was asked by the physics team if I would like to train in Dosimetry. I did my training on the job and studied for my boards. I had always liked helping in Dosimetry as a radiation

therapy student, cutting blocks and doing calculations, so it was a good fit for me, though I do admit that I missed the day-to-day patient care.

#### What is your favorite thing about being a dosimetrist?

My favorite thing about dosimetry is that you are always learning new things. The dosimetry field has changed so much over my career, and it is always exciting, especially proton dosimetry. Proton dosimetry is an evolving field right now. Our software is improving, and the Proton Center supports its staff to improve their methods and improve patient care.

#### Who or what inspires you?

Our patients and their families inspire me and my colleagues to strive for the best care anywhere.



To discover if you or a loved one could benefit from proton therapy, please call us at 877.887.5807 (TTY 711)