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A GUIDE TO BREAST CANCER

FOR MIDDLE AGED WOMEN

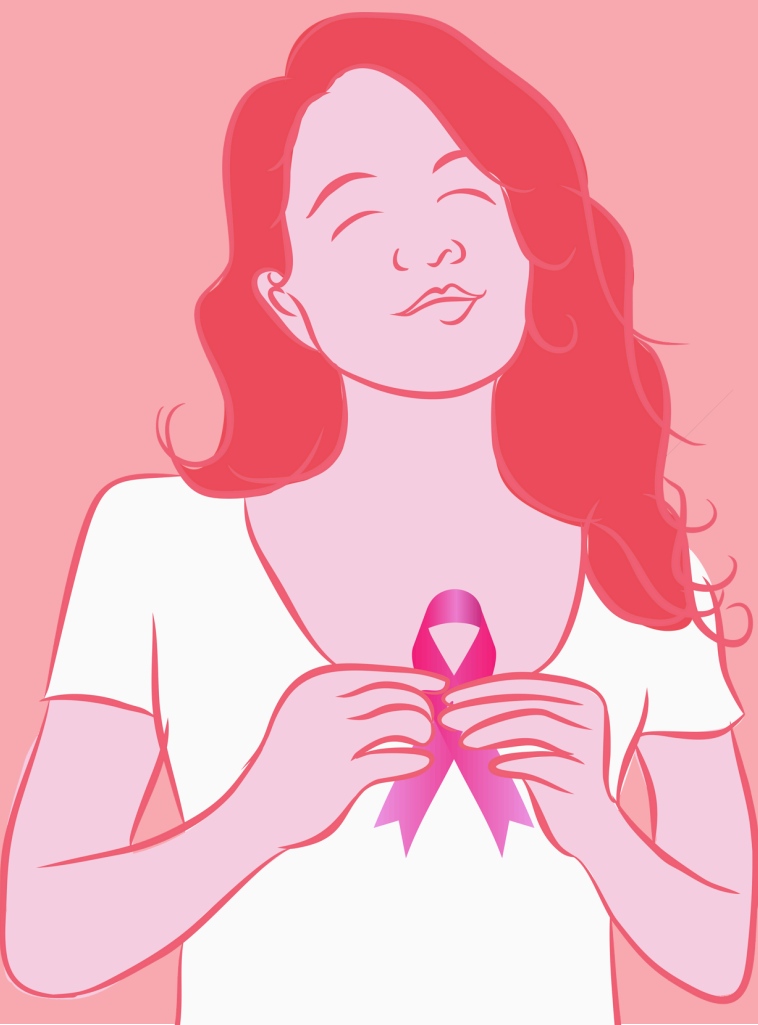


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HOW TO USE THIS MANUAL

This manual is intended for middle-aged female adults around the age of 20 to 30 years old. The manual begins with important introductory explanations and general definitions of breast cancer and the types of breast cancer. Next, the manual discusses the diagnosis of breast cancer, ways to go about treatment, and diet/exercise benefits.

Lastly, the manual expresses how to maintain a positive lifestyle and how to find support. The hope is that after reading this manual, middle-aged females will have a clear and comprehensive understanding of breast cancer symptoms, treatment options, and lifestyle changes.

If you or someone you know suspects they may have breast cancer, schedule an appointment with a medical professional today. Do not wait as symptoms can worsen if not treated. If caught early, and with the right treatment, breast cancer can be successfully treated.

Introduction

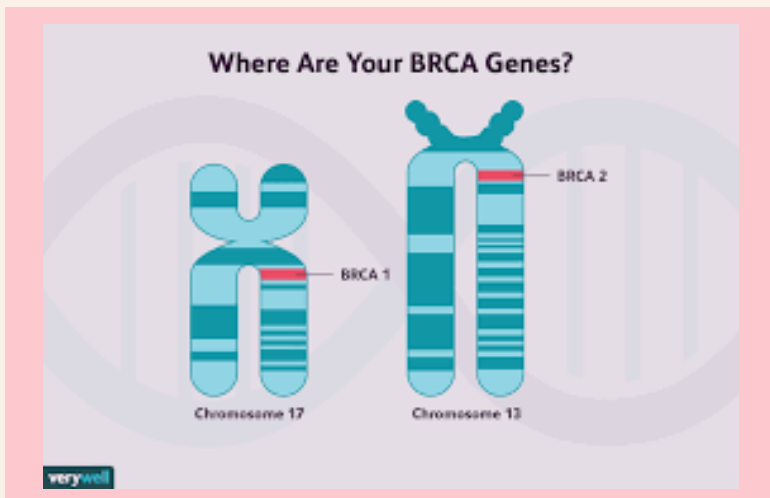
What is breast cancer?

- Breast cancer is a disease in which abnormal breast cells grow out of control and form tumors. ¹

How do you get breast cancer?

- The exact cause of most breast cancers is unknown, but there are several factors that can increase the risk of developing breast cancer
 - Genetics being the strongest factor ²

Genetics: Inherited genetic mutations in the BRCA1 and BRCA2 genes are the most common cause of hereditary breast cancer. ²



Source: <https://www.verywellhealth.com/brca-mutations-and-breast-cancer-4158206>

Other Factors:

Age: The risk of breast cancer increases with age, and most breast cancers are found in people over 50. ¹

Table 2. Age-specific Ten-year Probability of Breast Cancer Diagnosis or Death for US Women

Current age	Diagnosed with invasive breast cancer	Dying from breast cancer
20	0.1% (1 in 1,479)	<0.1% (1 in 18,503)
30	0.5% (1 in 209)	<0.1% (1 in 2,016)
40	1.5% (1 in 65)	0.2% (1 in 645)
50	2.4% (1 in 42)	0.3% (1 in 310)
60	3.5% (1 in 28)	0.5% (1 in 193)
70	4.1% (1 in 25)	0.8% (1 in 132)
80	3.0% (1 in 33)	1.0% (1 in 101)
Lifetime risk	12.8% (1 in 8)	2.6% (1 in 39)

Note: Probability is among those who have not been previously diagnosed with cancer. Percentages and "1 in" numbers may not be numerically equivalent due to rounding.

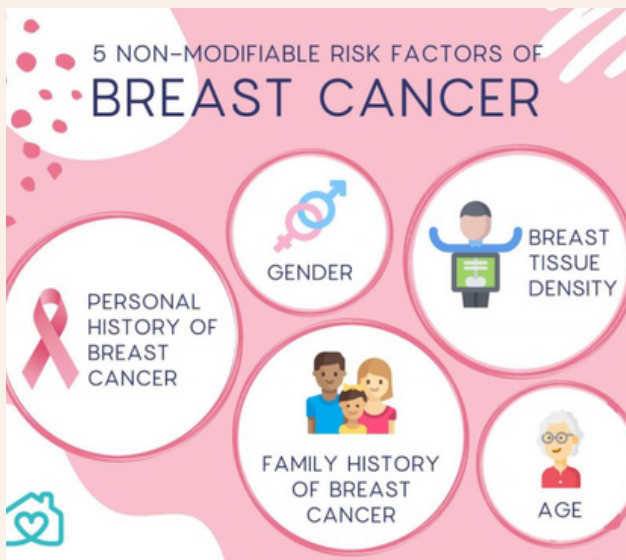
©2019, American Cancer Society, Inc., Surveillance Research

source: <https://www.bedfordbreastcenter.com/blog/breast-cancer-diagnosis-statistics/>

The statistic shows as you age women living in the US have a high percentage chance of being diagnosed with invasive breast cancer

Family history: If a close relative has had breast cancer, your risk of developing it is higher. ¹

Lifestyle: Smoking, drinking alcohol, and being overweight or obese can increase the risk of breast cancer. ¹



Who does breast cancer affect the most?

Female gender is the strongest breast cancer risk factor.

Approximately 99% of breast cancers occur in women and 0.5–1% of breast cancers occur in men. ²

source: <https://www.homage.sg/health/causes-of-breast-cancer/>

TYPES OF BREAST CANCER

MAIN TYPE:

- **Carcinomas:** which are tumors that start in epithelial cells lined by organs and tissues
 - if it forms in the breast it is a little more specific called an **adenocarcinoma** that starts in these cells in the milk ducts or lobules of the breast³

LESS COMMON TYPES:

- **Triple Negative Breast Cancer (TNBC):** which tends to be more aggressive and grows in size faster
 - more common in younger women who have the BRCA1 gene mutation
- **HER2 Positive breast cancer:** higher amount of HER2 cell in the body³

Treatment:

- How long you are in treatment will depend on which treatments you need to effectively remove or manage the cancer.⁴
- Early-stage breast cancer includes stages 0 to III.
- In general, a person diagnosed with early-stage breast cancer can be in active treatment for about one year.
 - Typically, the higher the stage, the farther the cancer cells have traveled away from the breast.

Metastatic (meaning quickly dividing and growing) breast cancer is different

- Metastatic breast cancer includes stage IV. While it's not curable, it is treatable, and treatment is ongoing. The goal is to live as long as possible with the best possible quality of life.

Diet and Exercise Prevention

Potential Benefits of Diet & Exercise Changes

- A check of your breasts done on your own to look and feel any changes in your breasts

Diet Changes

Eating 3.5 to 5 cups of fruit and vegetables a day lowers risk by 27%⁵

Processed meats and red meats increase risk by 9%⁵

Reducing alcohol consumption decreases risk by 25%⁵



Self-Examination

What is a Breast Self-Exam?

A check of your breasts done on your own to look and feel any changes in your breasts

When and How often should I do one?

For women menstruating, a self-examination should be performed a **few days after** the **period ends**

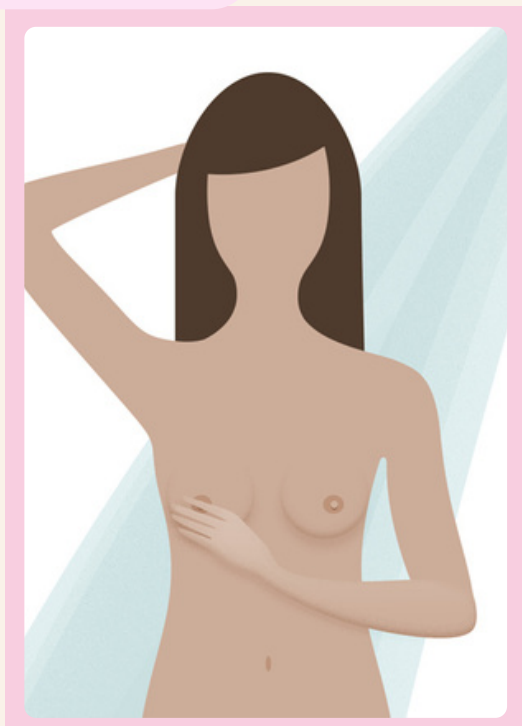
For those post-menopausal, a self-examination should be performed on the **same day** of **each month**

Caution

- A breast self-examination is a useful tool to detect breast cancer early
- However, it should **NOT** take place of regular mammograms and clinical breast exams
- **Alert** your healthcare professional if you notice any changes in your breasts

How to perform a breast self-exam

1. In the Shower

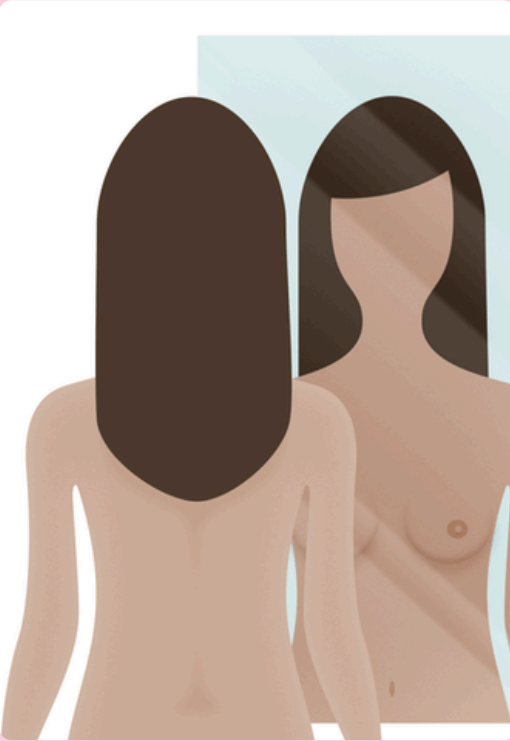


<https://www.nationalbreastcancer.org/breast-self-exam/>



1. Using the pads of your three **middle fingers**, check the entire breast and armpit area
 2. Press down using light, medium, and firm **pressure**
 3. **Note** any changes, hard knots, thickenings, or new lumps
- This method works well as the warm water helps relax and easier to glide hands over skin

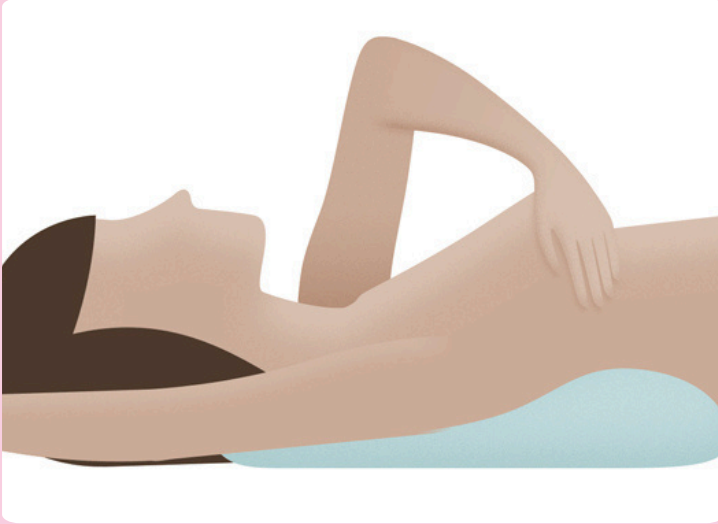
2. In the Mirror



<https://www.nationalbreastcancer.org/breast-self-exam/>

1. Put arms **at side** and inspect breasts
 2. Look for changes in **contour** or **shape** of breasts, dimpling, swelling, or nipple changes
 3. Rest palms on hips and press firmly to **flex** chest
 4. Look for **dimpling** or **puckering** on one side
- Note that the left and right breasts will **not match** as few women's breasts are perfectly symmetrical

3. Lying Down



<https://www.nationalbreastcancer.org/breast-self-exam/>



1. Place a **pillow** under right shoulder and put right arm **behind** your head
2. With the left hand, move the pads of your 3 middle fingers around the right breast
3. **Cover** the entire breast area and armpit
4. Move in **circular** motions with light, medium, and firm pressure
5. Repeat on left breast

What symptoms are associated with breast cancer?

New lump/swelling or thickening in the breast or underarm or any change in the size or shape of the breast⁶



Irritation or dimpling of breast skin or redness or flaky skin in the nipple area or the breast.⁶



Pulling in of the nipple or pain in the nipple area or nipple discharge other than breast milk, including blood⁶



source: <https://drjayanam.com/videos/signs-and-symptoms-of-breast-cancer/>

Diagnosing breast cancer

- **Mammogram**
 - A detailed X-ray that can detect cancer before it's big enough to feel or cause symptoms. Mammograms are the best way to find breast cancer for most women of screening age.⁶
- **Ultrasound**
 - Uses sound waves to create images of the breast. Ultrasounds can help determine if a lump is a cyst or a solid tumor.⁶
- **Biopsy**
 - A tissue or fluid sample is removed from the breast for examination under a microscope. A biopsy is the only way to definitively diagnose breast cancer.⁶
- **MRI**
 - A body scan that uses a magnet and computer to create detailed pictures of the breast.⁶
- **CT scan**
 - Uses X-rays and a computer to create detailed pictures of the body. A CT scan can help determine if the cancer has spread.⁶



Genetic Testing

What is genetic testing?

- Genetic testing looks for genetic changes , like mutations in the DNA
- These can be passed down from parents
- Tested using a blood, saliva, or skin test
- Takes between 2-4 weeks⁷

What are the benefits?

- Helps determine one's risk for Breast Cancer
- Make informed decisions about your health and family's health
- Can identify early in case of treatment or preventative measures⁷

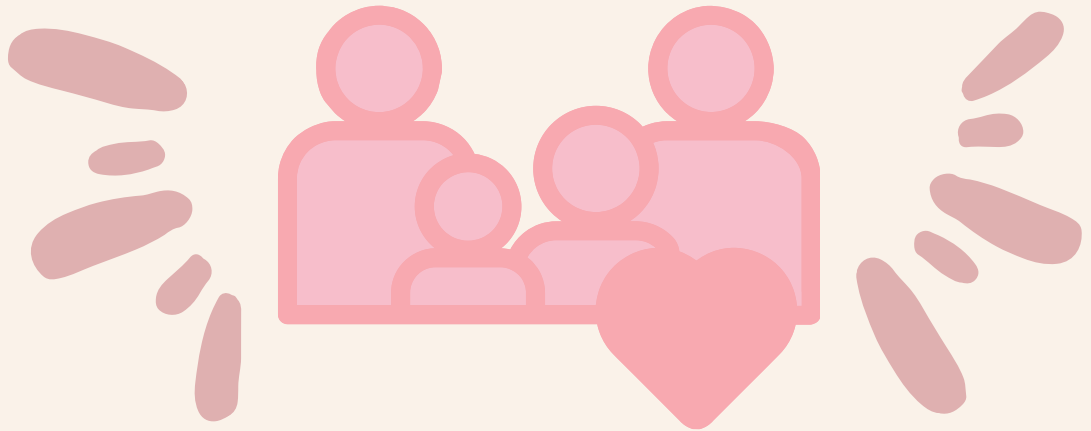
What mutations are common in breast cancer?

- BRCA1 and BRCA2 are most common and significantly increase the breast and ovarian cancer risks
- TP53, PTEN, and PALB2 are other high risk genes⁷



Who should get genetic testing?

- People with breast cancer whose treatment choices could be influenced by genetic test results
- Triple-negative breast cancer
- Personal or family history of ovarian, male breast, pancreatic, or prostate cancer
- People with breast cancer of Ashkenazi Jewish ancestry
- Personal or family history of early-onset breast cancer⁷



How to get connected:

- Find a genetic counselor through local hospitals
- Check out the National Society of Genetic Counselors website or call (312)321-6834

Types of treatment

TYPES OF BREAST CANCER SURGERY



Lumpectomy

Mastectomy

Mastectomy with Reconstruction

shutterstock.com - 2358096239

source: https://www.shutterstock.com/search/lumpectomy?image_type=illustration

Surgery: Is an operation in which doctors cut out the cancer⁴

- A Lumpectomy is removal of the tumor leaving the breast intact
- A Mastectomy is removal of the tumor and breast
- A Mastectomy with reconstruction is a separate surgery following a Mastectomy to recreate of appearance of breast



source: <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/intravenous-chemotherapy>

Chemotherapy: Uses drugs to kill or stop the growth of cancer cells; most commonly given through your veins but can also be distributed through pills⁴



source: <https://www.medpace.com/therapeutics/crossovers/radiation-therapy/>

Radiation therapy: Uses high-energy rays (similar to x-rays) to kill the cancer.

- mostly used as a pair with chemo or surgery⁴

Other types of treatment

- **Hormonal therapy:** Blocks cancer cells from getting the hormones they need to grow.⁴
- **Biological therapy:** Works with your body's immune system to help it fight cancer cells or to control side effects from other cancer treatments.⁴



Treatment Options

There are many options available depending on the stage of breast cancer. Consult your doctor on what treatment options are best

Stage 0

This stage is a **very early form of breast cancer**. It can often be treated when detected early.

Treatment for this stage is focused on preventing the cells in your breast from becoming cancer.

Options include:

- (1) **Surgery** to remove the affected area.
- (2) **Radiation therapy** to stop the spread of the cells.
- (3) Close monitoring of the area through regular screening.⁸

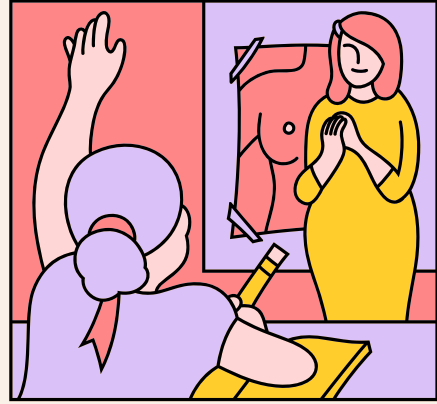


Stage I

Treatment for this stage is focused on removing the tumor and preventing it from coming back.

Options include:

- (1) **Surgery** to remove the tumor from the body.
- (2) **Radiation therapy** to shrink and destroy the tumor. This is often used alongside surgery.⁸



Stage II

At this stage, the tumor is bigger and may have spread to other areas.

There are options available for treatment:

- (1) **Surgery** can still be used to remove the tumor.
- (2) **Radiation therapy** can be used, especially after surgery is done.
- (3) **Hormone therapy** can be used depending on the kind of tumor.⁸



Stage III

The goal of treatment at this stage is to make the tumor smaller. Surgery and radiation therapy are options, but there are other options as well.

Chemotherapy is a cancer treatment that uses drugs to slow the growth of cancer cells. It can be used to cure cancer and reduce the chance of it returning.⁸



Stage IV

Treatment will be different for every case, and the goal is to control the disease and relieve symptoms.

There are a few options available:

- (1) **Radiation therapy** can be used to help relieve symptoms.
- (2) **Hormone therapy** can also be used depending on the type of cancer.⁸



Recurrent Breast Cancer

Breast cancer has a risk of returning, and the treatment for it depends on where the breast cancer is located.

Surgery or radiation can be used as treatment if the cancer is localized in the breast area, but sometimes other treatments will need to be used.

Doctors will be able to run tests to decide what form of treatment is most effective.⁸

Ongoing Research

Currently, there is research being done to increase our understanding of how to prevent and treat breast cancer.

As we do more research, doctors will get better at treating breast cancer and detecting it early. They'll also be able to make patients more comfortable

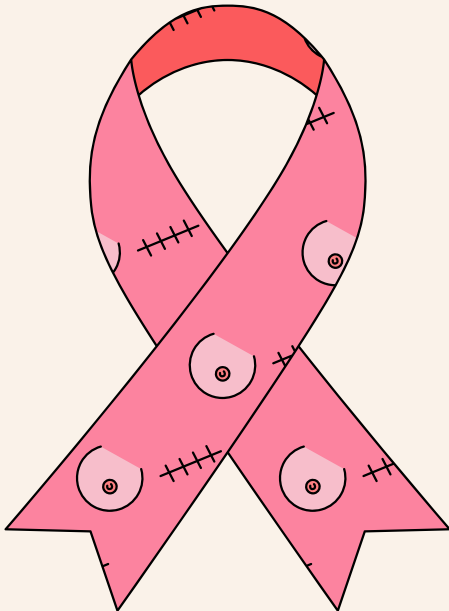
There are many drug trials going on that will increase the options that we have for breast cancer.⁹



Preventative Surgery

Preventative surgeries can be done to reduce the risk of breast cancer.

A **mastectomy** is the surgical removal of one or both breasts. This can reduce the risk of breast cancer greatly.¹⁰



There are many different kinds of mastectomies that can be done.

Some mastectomies will remove only part of the breast. Other mastectomies will remove the entire breast.¹⁰



Preventative Surgery

This surgery is usually recommended for:

- women with a family history of breast cancer
- women with the BRCA gene mutation
- women with a history of breast cancer
- women who otherwise have a high risk of developing breast cancer.¹⁰

This is not a guarantee that breast cancer will not develop.

However, it greatly decreases the risk of it developing. It's important to consult your doctor, a genetic counselor, and an oncologist before making a decision about preventative surgery



How to Manage Breast Cancer

The process of receiving treatment for breast cancer can sometimes be long and difficult. However, there are many ways to help manage symptoms.

Having a Support System



Having a support system is important for everyone going through breast cancer treatment.

You can consult your doctors about local support groups. Your friends and family can also provide assistance.

Don't be afraid to rely on others for help!

Managing Side Effects



There are many side effects to breast cancer treatment.

Depending on the person and the treatment being received, you may experience nausea, hair loss, changes to your skin, fatigue, mouth sores, and other symptoms. Talk to your doctor about your side effects and any concerns that you have.¹¹

What are some ways to manage side effects?

There are many ways that your side effects can be managed.

Chemotherapy and Radiation Therapy



Chemotherapy and radiation therapy can help treat breast cancer and remove tumors.

There are a few side effects associated with each, but they also help minimize any side effects that come from breast cancer.

Your doctor will have more information about your treatment plan.¹¹

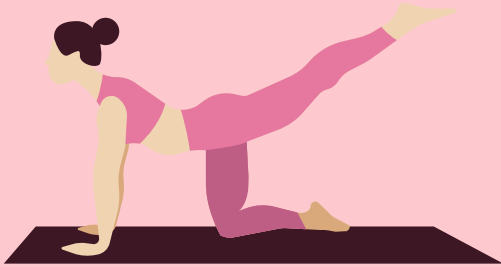
Resting is an important part of recovering from illness, and fatigue is a common side effect of chemotherapy.

If you're feeling fatigued, make sure to get adequate rest when needed. It gives your body time to recover.¹¹

Resting



Getting Exercise



Exercise has shown to help relieve pain, reduce fatigue, and increase your appetite.

Participate in some light exercise when you feel up to it. Try stretching or going for a light walk.

Additionally, participating in yoga and mindfulness activities can help reduce anxiety during stressful times.¹¹

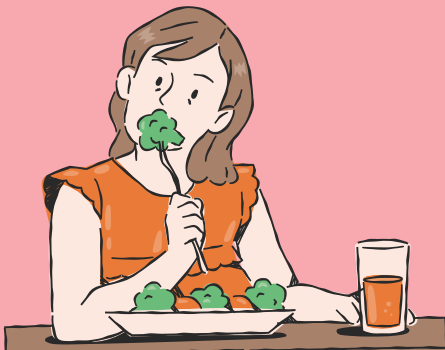
Staying hydrated is crucial during treatment. Dehydration can make your side effects worse.

It's recommended that you drink at least 64 ounces of water a day, which is equivalent to 8 cups.¹¹

Staying Hydrated



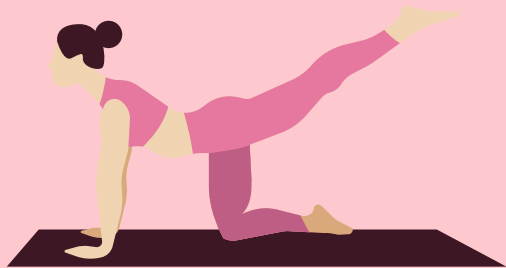
Staying Nourished



Eating a chemo-friendly diet can keep you healthy and help you manage your symptoms.

Many website online, such as the National Breast Cancer Foundation, have recommendations on their websites for what foods to eat¹¹

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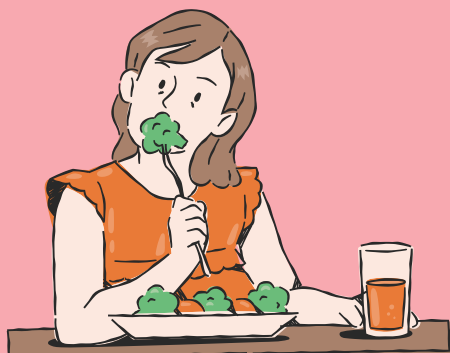
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HOW TO FIND SUPPORT

Support groups provide a space to talk about your experiences and make connections with others who are navigating similar challenges.



Different Types of Support Groups:

- Informational based support groups focus on education such as what to expect from chemotherapy
- Emotional support groups encourage people to share their feelings¹²

Finding a Support Group:

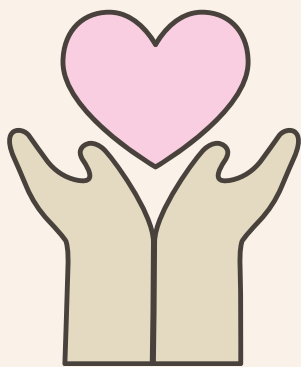
Everyone has different needs. It is important to find a support group system that works for you. There are support groups tailored to meet the needs of people of a certain age or at a certain stage of breast cancer.

Talk to a patient navigator or social worker

Call the Komen Breast Care Helpline at 1-877 GO KOMEN (1-877-465-6636)

More resources can be found on the Susan G. Komen website

Non-profit organizations for breast cancer support patients by providing financial support during active treatment. This includes housing, transportation, and utilities so that patients can focus on their health. They also provide emotional support, advocate for policy changes, and fund research¹³



American Cancer Society supports breast cancer patients by rides and lodging during treatment

National Breast Cancer Foundation provides support groups and breast health education

Mental health services. People diagnosed with breast cancer are more likely to experience: addiction, anxiety, fatigue, insomnia, memory loss, mood swings, and PTSD. Services include your primary doctor or these helplines:¹⁴

Cancer Support Community (1-888-793-9355)

American Psychosocial Oncology Society (1-866-276-7443)

American Cancer Society (1-800-227-2345).

HOW TO SUPPORT A LOVED ONE

Practical Support



Side effects from treatment may make it difficult to complete everyday tasks. You might offer to help with tasks such as cleaning, gardening, dog walking, or babysitting.

Some people may be reluctant to accept support therefore be clear in your offer. For example, “Would you like me to walk your dog in the afternoon?”¹⁵

Emotional Support



Be present with your friend or family member and allow them to tell you how they feel. Listening patiently and, if it's appropriate, a hug are ways to show support.

However, not everyone wants to talk about their diagnosis therefore a distraction or talking about other topics are preferred¹⁵

This can be a difficult experience. Make sure to look after yourself as well!

CHAPTER SUMMARIES

Chapter 1:

Breast cancer is a disease in which abnormal breast cells grow out of control and form tumors. There are factors such as genetics, lifestyle, age, and family history that can increase your risk for developing breast cancer. Genetics is the strongest factor

Chapter 2:

The main type of breast cancer is carcinomas which are tumors that start in the epithelial cells. Other types include TNBC and HER2 positive breast cancer. Early-stage breast cancer (0-III) can have active treatment for about a year. Metastatic (stage IV) is not curable but can still have treatment for a better quality of life. Treatment options include surgery, chemotherapy,

Chapter 3:

Diet and exercise may be helpful for the prevention of breast cancer. Diet changes include eating 3.5 to 5 cups of fruits and vegetables as well as reducing consumption of red meats and alcohol.

CHAPTER

SUMMARIES

Chapter 4:

To perform a breast self-exam use the pads of your three middle fingers to apply pressure to check the entire breast and armpit area. Take note of any changes of your breast. Then with both arms at side inspect for any changes in the contour of shape of breasts. To look for dimpling rest palms on hips and press firmly to flex chest.

Chapter 5:

Symptoms associated with breast cancer include changes of the breast, irritation, and pain. Changes can include lumps or swelling of the breast. Irritation and pain are usually found near the nipple area. If any of these symptoms are noticed it is important to check for breast cancer which can be diagnosed by a mammogram, ultrasound, biopsy, MRI, or CT scan.

Chapter 6:

Genetic testing can be done to look for any mutations in the DNA including BRCA1 and BRCA2. This helps determine one's risk for breast cancer. It can help someone make informed decisions about ones health and take preventative measures. People with family history of ovarian, male-breast, pancreatic, or prostate cancer are recommended to get genetic testing

CHAPTER SUMMARIES

Chapter 7:

Treatment options for breast cancer depends on the stage of breast cancer. Most stages have the option of surgery and radiation therapy. However, stage 4 mainly focuses on chemotherapy to slow the growth of tumor cells. The treatment used is dependent on the location of the cancer. There is ongoing research to increase treatment options. Preventative surgery can be done to reduce risk of breast cancer.

Chapter 8:

Receiving treatment for breast cancer can be difficult, but there are ways to manage symptoms. Depending on the person and treatment there may be various side effects, however resting, getting exercise, staying hydrated, and staying nourished may help these subside these side effects.

Chapter 9:

A support system is important for those going through breast cancer. Support can be found from support groups, non-profit organizations, mental health services, or loved ones. Depending on preference there are informational based support groups and emotional support groups. Certain non-profits can provide financial support.

References

1. Mayo Clinic. Breast Cancer. <https://www.mayoclinic.org/diseases-conditions/breast-cancer/symptoms-causes/syc-20352470>
2. World Health Organization. Breast Cancer. <https://www.who.int/news-room/fact-sheets/detail/breast-cancer#:~:text=Certain%20factors%20increase%20the%20risk,use%20and%20postmenopausal%20hormone%20therapy.>
3. American Cancer Society. Types of Breast Cancer. <https://www.cancer.org/cancer/types/breast-cancer/about/types-of-breast-cancer.html>
4. CDC. Treatment of Breast Cancer. [https://www.cdc.gov/breast-cancer/treatment/index.html#:~:text=Treatment%20options,rays\)%20to%20kill%20the%20cancer.](https://www.cdc.gov/breast-cancer/treatment/index.html#:~:text=Treatment%20options,rays)%20to%20kill%20the%20cancer.)
5. American Cancer Society. 3 Diet Changes That Can Help Lower Your Breast Cancer Risk. <https://www.cancer.org/cancer/latest-news/3-diet-changes-that-can-help-lower-your-breast-cancer-risk.html>
6. CDC. Symptoms of Breast Cancer. <https://www.cdc.gov/breast-cancer/symptoms/index.html>
7. American Cancer Society. Genetic Counseling and Testing for Breast Cancer Risk. <https://www.cancer.org/cancer/types/breast-cancer/risk-and-prevention/genetic-testing.html>
8. American Cancer Society. Treatment of Breast Cancer by Stage. <https://www.cancer.org/cancer/types/breast-cancer/treatment/treatment-of-breast-cancer-by-stage.html>
9. National Cancer Institute. Advances in Breast Cancer Research. <https://www.cancer.gov/types/breast/research>
10. American Cancer Society. Preventive Surgery to Reduce Breast Cancer Risk. <https://www.cancer.org/cancer/types/breast-cancer/risk-and-prevention/preventive-surgery-to-reduce-breast-cancer-risk.html#:~:text=A%20prophylactic%20mastectomy%20is%20surgery,will%20not%20get%20breast%20cancer>
11. National Breast Cancer Foundation. Side Effects of Breast Cancer Treatment and How to Manage Them. <https://www.nationalbreastcancer.org/side-effects-of-breast-cancer-treatment-and-how-to-manage-them/>

12. G.Komen S. What are Support Groups?
<https://www.komen.org/support-resources/support/support-groups/>
13. National Breast Cancer Foundation. Comparing Top 7 Breast Cancer Charities. <https://www.nationalbreastcancer.org/blog/charitable-partner/comparing-top-7-breast-cancer-charities/>
14. Sayre C. How Breast Cancer Can Affect Mental Health.
<https://www.breastcancer.org/managing-life/taking-care-of-mental-health/how-breast-cancer-affects-mental-health>
15. Breast Cancer Now. How to support someone with breast cancer.
<https://breastcancernow.org/about-breast-cancer/primary-breast-cancer/supporting-someone/how-to-support-someone-with-breast-cancer/>