A CHANCE TO LIVE LONGER FOR CERTAIN PATIENTS WITH

Who is HALAVEN (eribulin mesylate) Injection for?
HALAVEN is a prescription medicine used to treat adults with breast cancer that has spread to other parts of the body, and who have already received other types of anticancer medicines after the cancer has spread.

What safety information do I need to know about HALAVEN?
HALAVEN can cause serious side effects, including

- Low white blood cell count (neutropenia). This can lead to serious infections that could lead to death. Your health care provider will check your blood cell counts. Call your health care provider right away if you develop fever (temperature above 100.5°F), chills, cough, or burning or pain when you urinate, as any of these can be symptoms of infection

- Numbness, tingling, or pain in your hands or feet (peripheral neuropathy). Peripheral neuropathy is common with HALAVEN and sometimes can be severe. Tell your health care provider if you have new or worsening symptoms of peripheral neuropathy

- Your health care provider may delay or decrease your dose or stop treatment with HALAVEN if you have side effects

Before you receive HALAVEN, tell your health care provider about all of your medical conditions, including if you
- have liver or kidney problems
- have heart problems, including a problem called congenital long QT syndrome
- have low potassium or low magnesium in your blood
HALAVEN® is the only chemotherapy proven to help some women live longer when used alone after 2 prior chemotherapies for metastatic breast cancer (mBC)

Although some women lived longer and some women did not live as long, women with mBC who were treated with HALAVEN in a clinical trial lived an average of 13.2 months, compared with women treated with other chemotherapy or hormone therapy, who lived an average of 10.6 months.

To learn more about HALAVEN and to hear from patients about their experiences, visit www.halaven.com

Before you receive HALAVEN, also tell your health care provider about all of your medical conditions, including if you

• are pregnant or plan to become pregnant. HALAVEN can harm your unborn baby. Tell your health care provider right away if you become pregnant or think you are pregnant during treatment with HALAVEN. Females who are able to become pregnant should use an effective form of birth control during treatment with HALAVEN and for at least 2 weeks after the final dose of HALAVEN and males should use an effective form of birth control when having sex with female partners who are able to become pregnant during treatment with HALAVEN and for 3½ months (14 weeks) after the final dose of HALAVEN.

• are breastfeeding or plan to breastfeed. It is not known if HALAVEN passes into your breast milk. Do not breastfeed during treatment with HALAVEN and for 2 weeks after the final dose of HALAVEN.

Tell your health care provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

What are the possible side effects of HALAVEN?

HALAVEN can cause changes in your heartbeat (called QT prolongation). This can cause irregular heartbeats. Your health care provider may do heart monitoring (electrocardiogram or ECG) or blood tests during your treatment with HALAVEN to check for heart problems.

The most common side effects of HALAVEN in adults with breast cancer include low white blood cell count (neutropenia), low red blood cell count (anemia), weakness or tiredness, hair loss (alopecia), nausea, and constipation.

Your health care provider will do blood tests before and during treatment while you are taking HALAVEN.

Please see the Patient Information for HALAVEN on the following page.
HALAVEN® (HAL-ih-vun) (eribulin mesylate) injection, for intravenous use

What is the most important information I should know about HALAVEN?

HALAVEN can cause serious side effects, including:

- **Low white blood cell count (neutropenia).** This can lead to serious infections that could lead to death. Your healthcare provider will check your blood cell counts before you receive each dose of HALAVEN and during treatment. Call your healthcare provider right away if you develop any of these symptoms of infection:
  - fever (temperature above 100.5°F)
  - chills
  - cough
  - burning or pain when you urinate

- **Numbness, tingling, or pain in your hands or feet (peripheral neuropathy).** Peripheral neuropathy is common with HALAVEN and sometimes can be severe. Tell your healthcare provider if you have new or worsening symptoms of peripheral neuropathy.

- **Your healthcare provider may delay, decrease your dose, or stop treatment with HALAVEN if you have side effects.**

See “What are possible side effects of HALAVEN?” for more information about side effects.

What is HALAVEN?

HALAVEN is a prescription medicine used to treat people with:

- Breast cancer
  - that has spread to other parts of the body, and
  - who have already received certain types of anticancer medicines after the cancer has spread

- Liposarcoma
  - that cannot be treated with surgery or has spread to other parts of the body, and
  - who have received treatment with a certain type of anticancer medicine

It is not known if HALAVEN is safe and effective in children under 18 years of age.

Before you receive HALAVEN, tell your healthcare provider about all of your medical conditions, including if you:

- have liver or kidney problems
- have heart problems, including a problem called congenital long QT syndrome
- have low potassium or low magnesium in your blood
- are pregnant or plan to become pregnant. HALAVEN can harm your unborn baby. Tell your healthcare provider right away if you become pregnant or think you are pregnant during treatment with HALAVEN.
  - **Females** who are able to become pregnant should use an effective birth control method during treatment with HALAVEN and for at least 2 weeks after the final dose of HALAVEN.
  - **Males** should use an effective form of birth control while having sex with female partners who are able to become pregnant during treatment with HALAVEN and for at least 2 weeks after the final dose of HALAVEN.
- are breastfeeding or plan to breastfeeding. It is not known if HALAVEN passes into your breast milk. Do not breastfeed during treatment with HALAVEN and for 2 weeks after the final dose of HALAVEN.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

How will I receive HALAVEN?

- HALAVEN is given by intravenous (IV) injection in your vein.
- HALAVEN is given in “cycles” of treatment, with each cycle lasting 21 days.
- HALAVEN is usually given on day 1 and day 8 of a treatment cycle.

What are the possible side effects of HALAVEN?

HALAVEN may cause serious side effects, including:

- See “What is the most important information I should know about HALAVEN?”

- **HALAVEN can cause changes in your heartbeat (called QT prolongation).** This can cause irregular heartbeats. Your healthcare provider may do heart monitoring (electrocardiogram or ECG) or blood tests during your treatment with HALAVEN to check for heart problems.

The most common side effects of HALAVEN include:

- fever
- cough
- chills
- nausea
- constipation

The most common side effects of HALAVEN in people with liposarcoma include:

- low white blood cell count (neutropenia)
- low red blood cell count (anemia)
- weakness or tiredness
- hair loss (alopecia)

Your healthcare provider will do blood tests before and during treatment while you are taking HALAVEN. The most common changes to blood tests in people with liposarcoma include:

- decreased blood levels of potassium or calcium

Tell your healthcare provider about any side effect that bothers you or that does not go away.

These are not all the possible side effects of HALAVEN. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

General information about HALAVEN

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. You can ask your pharmacist or healthcare provider for information about HALAVEN that is written for health professionals.

What are the ingredients in HALAVEN?

**Active Ingredient:** eribulin mesylate

**Inactive Ingredients:** ethanol, water

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For more information, go to www.HALAVEN.com or call Eisai Inc. at 1-877-873-4724. If you would like a leaflet with larger printing, please contact Eisai Inc. at 1-877-873-4724. This Patient Information has been approved by the U.S. Food and Drug Administration. Revised: 01/2016

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THE PEOPLE I MET DURING TREATMENT AND THE SUPPORT GROUPS I ATTENDED WERE INSTRUMENTAL IN MY RECOVERY.

~ Barbra Tugman

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PRP PATIENT RESOURCE PUBLISHING™

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Most people are familiar with breast cancer but they may not have heard of triple negative breast cancer. About one in every five or six breast cancers is considered triple negative. What does that mean? How will your course of treatment and follow-up be different? To better understand triple negative cancer, you must first understand how breast cancer develops and how it is characterized.

Who is affected by triple negative breast cancer?
Triple negative breast cancer can develop in any woman and has been identified in men with breast cancer, as well. However, young women, African American women and BRCA1 mutation-carriers are affected significantly more often.

Ask your doctor about genetic testing, which can show if you have a BRCA1 mutation. Genetic testing can potentially help identify treatments and/or clinical trials that will be most appropriate for you. You are more likely to carry a BRCA1 or BRCA2 mutation if you have multiple relatives with breast and/or ovarian cancer; however, BRCA testing is recommended for all patients diagnosed with triple negative breast cancer prior to age 60, regardless of their family history. Learn more about genetic testing on page 10.

A triple negative breast cancer diagnosis can be especially unsettling because of its unique nature. One of the most important things you can do is to educate yourself about the disease. There are many myths surrounding triple negative breast cancer, such as the misconception that it always comes back and that it always requires a mastectomy. Neither is true; many triple negative breast cancer patients are treated effectively and, often, they have successful breast-conserving surgery. Learn more facts by talking with your medical team and doing research on your own using the additional resources in this guide. The more you know, the more prepared you will be to make confident treatment decisions.

Development and classification
At one time, all breast cancers were considered to be the same and were treated the same way. However, researchers now have a better understanding of the genetic make-up of breast cancers and have discovered that breast cancers differ from each other in many ways.

Breast cancer starts from one abnormal cell that grows out of control and forms a mass of abnormal cells called a tumor. Some breast cancers need hormones to grow. The cancer cells in these breast cancers contain large amounts of receptors for the hormones estrogen (ER) and/or progesterone (PR). These breast cancers are referred to as ER-positive and/or PR-positive. In addition, a breast cancer cell can have too many receptors for a certain protein called HER2/neu, which is a growth factor. This type of a breast cancer is referred to as HER2-positive. The discovery of these differences led to the development of unique (targeted) treatments for these specific breast cancers. For example, hormone therapy is used for ER-positive and/or PR-positive breast cancers, and anti-HER2 drugs are used to treat HER2-positive breast cancers.

Triple negative breast cancer is so-named because it tests negatively for ER, PR and HER2. Triple negative breast cancers are not likely to respond to hormone therapy or anti-HER2 drugs. You may feel discouraged to learn that these treatments are not options for you, but it’s important to know the standard treatments for breast cancer – chemotherapy, surgery and radiation therapy – are options for triple negative breast cancer. In fact, hormone-negative breast cancer, which includes triple negative breast cancer, may actually respond better to chemotherapy than other types of breast cancer do.

Triple negative breast cancers tend to be more aggressive; that is, they tend to be a higher grade, which means they grow more quickly. In addition, triple negative breast cancer is more likely to spread beyond the breast and to recur (come back). The more aggressive nature of triple negative breast cancer is related to the fact that most (approximately 80 percent) of these tumors have a genetic makeup within the tumor that is called a basal subtype, which allows the cancer to metastasize more easily than a non-triple negative breast cancer. These characteristics can be scary; however, your doctor will consider the best treatment options for you to help eliminate cancer cells and to lower the risk of recurrence. In addition, your doctor will recommend close follow-up care after treatment so that if can-
cancer does recur, it can be treated early. Not all triple negative breast cancers belong to the basal subtype, and some triple negative breast cancers are less aggressive than others. Furthermore, early detection of even the aggressive triple negative breast cancers is still important and can help patients avoid needing chemotherapy. You can learn more about treatment and follow-up care on pages 6 and 10.

Staging and grading

Staging the disease is the next step to help your managing physician plan the best treatment for your unique diagnosis. The staging system used for breast cancer was developed by the American Joint Committee on Cancer (AJCC). Known as TNM staging, this system uses the tumor (T), node (N) and metastasis (M) classification (see Table 1).

Results from a physical exam, X-rays and other imaging studies, and laboratory tests offer insight into the tumor’s characteristics, which your managing physician uses for clinical staging.

The T classification is the same for both clinical and pathologic staging and provides information on the size and extent of the tumor within the breast. Clinical staging for the N category describes which lymph nodes have evidence of breast cancer cells. Where the involved lymph nodes are located in the body is important because it shows the extent the disease has spread. The pathologic N category (sometimes denoted as pN) shows how many lymph nodes are involved and the amount of tumor cells actually found in the nodes. The M category indicates whether there is evidence that the cancer has spread to other parts of the body beyond the breast and local lymph nodes. Staging for the M category is primarily clinical, although a new M subcategory takes into account the presence of tumor cells that can be detected only by microscopic examination or with molecular testing. The most common sites of distant metastasis in breast cancer are the bones, lungs, liver and brain.

A pathologist examines tissue specimens removed during surgery or biopsy as part of pathologic staging. In addition, the AJCC recommends tissue testing to better determine the treatments that are likely to be most effective. Breast cancer tumors are tested for estrogen and progesterone receptors (ER/PR) and human epidermal growth factor receptor-2 (HER2/neu).

After the breast cancer has been classified, an overall stage is assigned (see Table 2). A grade, which is based on the microscopic features of tumor cell growth rate and aggressiveness, is assigned by a pathologist. Knowing the grade helps determine how fast a cancer is likely to grow and how likely it is to spread. Triple negative breast cancers are often diagnosed as Grade 3, meaning they tend to grow quickly and spread. Higher grade cancers may be more aggressive, but they are still treatable.

### TABLE 2: STAGES OF BREAST CANCER

<table>
<thead>
<tr>
<th>Stage</th>
<th>TNM classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Tis, N0, M0</td>
</tr>
<tr>
<td>IA</td>
<td>T1, N0, M0</td>
</tr>
<tr>
<td>IB</td>
<td>T0 or T1, N1mi, M0</td>
</tr>
<tr>
<td>IIA</td>
<td>T0 or T1, N1, M0  // T2, N0, M0</td>
</tr>
<tr>
<td>IIB</td>
<td>T2, N1, M0 // T3, N0, M0</td>
</tr>
<tr>
<td>IIA</td>
<td>T2-T3, N2, M0 // T3, N1, M0</td>
</tr>
<tr>
<td>IIB</td>
<td>T4, N0-N2, M0</td>
</tr>
<tr>
<td>IIC</td>
<td>Any T, N3, M0</td>
</tr>
<tr>
<td>IV</td>
<td>Any T, Any N, M1</td>
</tr>
</tbody>
</table>

Used with permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original and primary source for this information is the AJCC Cancer Staging Manual, Eighth Edition (2017), published by Springer Science+Business Media.

### TABLE 1: AJCC TMN SYSTEM FOR CLASSIFYING BREAST CANCER

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>T0</td>
<td>No evidence of primary tumor.</td>
</tr>
<tr>
<td>Tis (DCIS)</td>
<td>Ductal carcinoma in situ.</td>
</tr>
<tr>
<td>Tis (Paget)</td>
<td>Paget disease of the nipple NOT associated with invasive carcinoma and/or carcinoma in situ (DCIS) in the underlying breast parenchyma (tissue)</td>
</tr>
<tr>
<td>T1</td>
<td>Tumor ≤ (not more than) 20 mm in greatest dimension.</td>
</tr>
<tr>
<td>T1mi</td>
<td>Tumor ≤ (not more than) 1 mm but ≤ (not more than) 5 mm in greatest dimension.</td>
</tr>
<tr>
<td>T1a</td>
<td>Tumor &gt; (more than) 1 mm but ≤ (not more than) 5 mm in greatest dimension.</td>
</tr>
<tr>
<td>T1b</td>
<td>Tumor &gt; (more than) 5 mm but ≤ (not more than) 10 mm in greatest dimension.</td>
</tr>
<tr>
<td>T1c</td>
<td>Tumor &gt; (more than) 10 mm but ≤ (not more than) 20 mm in greatest dimension.</td>
</tr>
<tr>
<td>T2</td>
<td>Tumor &gt; (more than) 20 mm but ≤ (not more than) 50 mm in greatest dimension.</td>
</tr>
<tr>
<td>T3</td>
<td>Tumor &gt; (more than) 50 mm in greatest dimension.</td>
</tr>
<tr>
<td>T4</td>
<td>Tumor of any size with direct extension to the chest wall and/or to the skin (ulceration or macroscopic nodules).</td>
</tr>
<tr>
<td>T4a</td>
<td>Extension to the chest wall.</td>
</tr>
<tr>
<td>T4b</td>
<td>Ulceration and/or ipsilateral (on the same side) macroscopic satellite nodules and/or edema (including peau d’orange) of the skin that does not meet the criteria for inflammatory carcinoma.</td>
</tr>
<tr>
<td>T4c</td>
<td>Both T4a and T4b are present.</td>
</tr>
<tr>
<td>T4d</td>
<td>Inflammatory carcinoma.</td>
</tr>
</tbody>
</table>

### Metastasis (M)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>pN0</td>
<td>Regional lymph nodes cannot be assessed.</td>
</tr>
<tr>
<td>pN0(i+o)</td>
<td>No regional lymph node metastasis identified or ITCs (isolated tumor cells) only. ITCs (isolated tumor cells) only (malignant cell clusters no larger than 0.2 mm) in regional lymph node(s).</td>
</tr>
<tr>
<td>pN0(mol+)</td>
<td>Positive molecular findings by reverse transcriptase polymerase chain reaction (RT-PCR); no ITCs (isolated tumor cells) detected.</td>
</tr>
<tr>
<td>pN1</td>
<td>Micrometastases; or metastases in 1-3 axillary (armpit) lymph nodes; and/or clinically negative internal mammary nodes with micrometastases or macrometastases by sentinel lymph node biopsy.</td>
</tr>
<tr>
<td>pN1mi</td>
<td>Micrometastases (approximately 200 cells, larger than 0.2 mm, but none larger than 2.0 mm).</td>
</tr>
<tr>
<td>pN1a</td>
<td>Metastases in 1-3 axillary (armpit) lymph nodes, at least one metastasis larger than 2.0 mm.</td>
</tr>
<tr>
<td>pN1b</td>
<td>Metastases in ipsilateral (on the same side) internal mammary sentinel nodes, excluding ITCs (isolated tumor cells), pN1a and pN1b combined.</td>
</tr>
<tr>
<td>pN2a</td>
<td>Metastases in 4-9 axillary (armpit) lymph nodes; or positive ipsilateral (on the same side) internal mammary lymph node metastases.</td>
</tr>
<tr>
<td>pN2b</td>
<td>Metastases in 4-9 axillary (armpit) lymph nodes (at least one tumor deposit larger than 2.0 mm).</td>
</tr>
<tr>
<td>pN3a</td>
<td>Metastases in 10 or more axillary (armpit) lymph nodes; or in infracapsular (below the clavicle) [Level III axillary (armpit)] lymph nodes; or positive ipsilateral (on the same side) internal mammary lymph node metastases by imaging in the presence of one or more positive Level I, II axillary (armpit) lymph nodes; or in more than three axillary (armpit) lymph nodes and micrometastases or macrometastases by sentinel lymph node biopsy in clinically negative ipsilateral (on the same side) internal mammary lymph nodes; or in ipsilateral (on the same side) supracapsular (above the clavicle) lymph nodes.</td>
</tr>
<tr>
<td>pN3b</td>
<td>Metastases in 10 or more axillary (armpit) lymph nodes (at least one tumor deposit larger than 2.0 mm); or metastases to the infracapsular (below the clavicle) [Level III axillary (armpit)] lymph nodes.</td>
</tr>
<tr>
<td>pN3c</td>
<td>Metastases in ipsilateral supracapsular (above the clavicle) lymph nodes.</td>
</tr>
</tbody>
</table>

Note: (i) and (o) suffices should be added to the N category to denote confirmation of metastasis by sentinel node biopsy or VNA-core needle biopsy respectively, with NO further resection of nodes.
Your treatment plan will be just as individual as your diagnosis, and your doctor will consider many factors before recommending the best treatment options for you, including your pathology and other test results; features of your tumor, including its size and location; lymph node involvement; tumor grade; and genetic testing results.

Triple negative breast cancer is typically treated with a combination of surgery, radiation therapy and often chemotherapy as well. Clinical trials can offer access to cutting-edge treatments that are being studied. In addition to educating yourself about the options available to you, talking with other triple negative breast cancer survivors can be helpful in coping with the diagnosis and making treatment decisions.

Surgery

Surgery is the primary treatment for most breast cancers. A lumpectomy is known as “breast-conserving treatment” because most of the breast is left intact. The surgeon removes only the tumor (lump) and a small amount of healthy tissue around the lump (see Figure 1). Lumpectomy can be done for most small tumors.

A mastectomy, which is surgery to remove the entire breast, is often done for large tumors (see Figure 2). Some people with a small tumor may choose a mastectomy to ease their worry about watching out for cancer recurrence, and some choose this option as a way to potentially avoid radiation therapy. Your doctor may recommend a mastectomy if you have a large tumor, multiple tumors in the breast, cancer that has spread to the skin or if you’ve already had breast cancer in the same breast.

With either lumpectomy or mastectomy surgery for triple negative breast cancer, the surgeon will also remove lymph nodes in the underarm area. A pathologist will examine the nodes for cancer cells. This step is called lymph node staging and helps doctors determine the extent of the breast cancer. If you do not have any bulky or obvious cancer-containing lymph nodes in your underarm, your surgeon can focus on removing only the few most important lymph nodes, called the sentinel lymph nodes. Some patients require a more extensive lymph node operation to control their disease, called an axillary lymph node dissection (see Figure 1). The axillary lymph node dissection can leave patients at risk for a problem called lymphedema, which is swelling of the arm. The axillary surgery plan that is most appropriate for your cancer will be based upon several factors, including the extent of your disease and other treatments that you receive, such as radiation therapy and chemotherapy.

After a mastectomy, you have many options for reconstructive surgery. This is usually done by a plastic surgeon who rebuilds the breast to make it look as much as possible like it did before surgery.

Some triple negative breast cancer patients, especially those who have been found to have BRCA mutations and/or hereditary breast cancer, may consider additional surgical procedures. These women have a higher-than-average risk for developing new cancers in the contralateral (opposite) breast, the ovaries or the fallopian tubes. They may, therefore, choose to have prophylactic (preventive) removal of the ovaries and fallopian tubes or of the opposite breast as a precaution against future cancer. Removal of the ovaries causes permanent infertility (the inability to have children) and premature menopause when performed in young women, as well as potential risks to bone and heart health. Contralateral prophylactic mastectomy can increase surgical complication rates and obviously alters body image. Talk to your doctor about these potential options before deciding if surgery is right for you.

Radiation therapy

The most common type of radiation therapy for triple negative breast cancer is external-beam radiation therapy (EBRT). With this type of therapy, radiation is delivered from an external machine. Internal radiation, or brachytherapy, may also be used either alone or in combination with EBRT. Brachytherapy involves placing radioactive seeds through a catheter in the breast to deliver radiation directly to the area where the tumor was removed.

Radiation therapy is almost always done after lumpectomy to destroy any cancer cells that may remain hidden in normal-appearing breast tissue. Research shows that women with a small tumor who have radiation therapy after a lumpectomy live as long as those who have a mastectomy. Radiation therapy is sometimes necessary after a mastectomy and is typically recommended for individuals at high risk for cancer recurrence on the chest wall, such as women with inflammatory breast cancer or women with cancer in several axillary lymph nodes. Radiation therapy is also used to control symptoms in some metastatic breast cancer patients with selected cases of bone or brain metastases.

Chemotherapy

Chemotherapy is often necessary for triple negative breast cancer. Research has shown that triple negative breast cancer may respond better to chemotherapy than other types of breast cancer. Several chemotherapy drugs are available and they may be given in combination with each other or sequentially (one after the other) over a specific period (usually three to six months). The chemotherapy regimens used most often are anthracycline-based or taxane-based.

When chemotherapy is given before surgery, it is known as neoadjuvant (preoperative) chemotherapy. Neoadjuvant chemotherapy...
may be used to shrink a tumor so that it can be surgically removed or to shrink a large breast tumor to allow for lumpectomy rather than a mastectomy. Neoadjuvant chemotherapy is also often used in patients where cancerous axillary (armpit) lymph nodes are found at the time of initial breast cancer diagnosis, by axillary ultrasound and ultrasound-guided needle biopsy. The pathology findings from the breast and lymph node tissue removed after neoadjuvant chemotherapy provides important clues regarding prognosis (outlook). If the pathology report shows that the chemotherapy completely sterilized the cancer (called a complete pathologic response), this indicates that the chemotherapy regimen was very effective against that patient’s disease, and long-term survival rates are excellent, even with triple negative breast cancers. For triple negative breast cancers that have residual disease after neoadjuvant chemotherapy, recent research shows that additional medication can improve outcomes.

Chemotherapy given after surgery is known as adjuvant chemotherapy. The goal is to destroy cancer cells that may remain after surgery, some of which may be too small to detect with laboratory testing or imaging studies. Adjuvant chemotherapy is typically recommended for triple negative breast cancers found to be larger than one centimeter in the lumpectomy or mastectomy specimen, and/or in patients found to have cancer in surgically-removed axillary lymph nodes.

Disease responds differently to chemotherapy in every patient, and certain drugs may be more effective for you. If your disease doesn’t respond as expected to one chemotherapy drug, your doctor may recommend another. Researchers continue to study various chemotherapy combinations and the genetic makeup of tumors to determine which regimens work best against the specific characteristics of different tumor types.

Chemotherapy often causes side effects such as nausea, hair loss and increased risk of infection due to neutropenia, but you may be able to manage or minimize them. Discuss the advantages and disadvantages of chemotherapy drugs with your medical team so you can know what to expect and make an informed decision.

### Clinical trials

Triple negative breast cancer, with its distinctive characteristics, is an ongoing focus of cancer research. Researchers and doctors are learning more about the disease and how it responds to treatment, making clinical trials a valuable, potentially life-saving treatment option to consider.

Clinical trials offer access to treatments that may work for some triple negative breast cancers, and new treatment options being studied include targeted therapy and immunotherapy. No targeted therapy or immunotherapy options have been approved yet, but some that have shown promise in clinical trials include the targeted therapies poly (ADP-ribose) polymerase (PARP) inhibitors, vascular endothelial growth factor (VEGF) inhibitors, androgen receptor blockade, PI3 kinase inhibitors, and epidermal growth factor receptor (EGFR) inhibitors, and immunotherapies known as immune checkpoint inhibitors. There are many reasons to consider participating in a clinical trial:

- Your current treatment may not be working as well as expected.
- A clinical trial may significantly improve your quality of life. Discuss your personal situation with your medical team, so they understand your expectations for side effects.
- By simply participating, you play an integral role in helping refine and improve the way millions of people with cancer are treated.

Successes from other clinical trial participants may inspire you to volunteer. Keep in mind that not everyone responds to treatments in the same way, so you cannot expect an identical experience in response to treatment or side effects.

You can research clinical trials at any time during your treatment. Regardless of when you enroll in a trial, participating will not jeopardize your guarantee to receive the standard of care. Following are resources where you can search for clinical trials and learn more about them:

- **TNBC Foundation Clinical Trials Matching Service:** www.tnbcfoundation.org/clinical-trials
- **BreastCancerTrials.org:** www.breastcancertrials.org
- **Center for Information and Study on Clinical Research Participation:** www.searchclinicaltrials.org
- **ClinicalTrials.gov:** clinicaltrials.gov
- **Coalition of Cancer Cooperative Groups:** www.cancertrialshelp.com
- **My Clinical Trial Locator:** myclinicaltriallocator.com
- **National Cancer Institute:** www.cancer.gov/clinicaltrials
- **Patient Resource:** www.patientresource.com/search_clinical_trials.aspx

### POTENTIAL SIDE EFFECTS*

<table>
<thead>
<tr>
<th>Side Effects</th>
<th>Related Treatment</th>
<th>Ways to Manage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alopecia (hair loss)</td>
<td>Chemotherapy</td>
<td>Use a cooling cap; wear a wig, scarf or hat; use a wide-toothed comb, sleep on a satin pillow case; ask your doctor for prescription for wig</td>
</tr>
<tr>
<td>Anemia (low red blood cell count)</td>
<td>Chemotherapy</td>
<td>Get plenty of rest, participate in regular physical activity</td>
</tr>
<tr>
<td>Changes in appetite</td>
<td>Chemotherapy, radiation therapy, surgery</td>
<td>Eat when you have the most hunger, eat high-calorie foods, eat small meals, keep high-calorie snacks on hand</td>
</tr>
<tr>
<td>Cognitive dysfunction (“chemo brain”)</td>
<td>Chemotherapy, radiation therapy</td>
<td>Take notes, keep lists, use a daily planner, don’t multitask</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Chemotherapy</td>
<td>Take antidiarrheal medicine, drink plenty of fluids, eat several small meals, avoid greasy foods</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Chemotherapy, radiation therapy, surgery</td>
<td>Balance activity and rest, take short naps, sleep regularly, participate in regular activity, ask for help</td>
</tr>
<tr>
<td>Lymphedema</td>
<td>Surgery</td>
<td>Wear a compression garment, elevate the swollen limb</td>
</tr>
<tr>
<td>Mouth sores</td>
<td>Chemotherapy</td>
<td>Brush teeth often with a toothbrush with soft bristles, eat soft foods, drink plenty of fluids</td>
</tr>
<tr>
<td>Nausea, vomiting</td>
<td>Chemotherapy</td>
<td>Take antiemetics as prescribed, eat several small meals, drink plenty of fluids, avoid unpleasant odors</td>
</tr>
<tr>
<td>Neuropathy</td>
<td>Chemotherapy</td>
<td>Avoid tight clothes or shoes, keep hands and feet warm, avoid standing for long periods of time</td>
</tr>
<tr>
<td>Neutropenia (low white blood cell count)</td>
<td>Chemotherapy</td>
<td>Wash hands frequently, avoid crowds, wash fruits and vegetables carefully</td>
</tr>
<tr>
<td>Skin reactions</td>
<td>Radiation therapy</td>
<td>Use mild soap, use thick cream (with no alcohol, perfume or dye) to moisturize skin</td>
</tr>
</tbody>
</table>

*To learn more about common treatment-related side effects, turn this guide over to the Patient Resource Advanced Breast Cancer Guide and see page 11.
TRUST in medical team a must

My family history prompted me to have preventive mammograms every six months, and I’d been on that schedule for five years when I felt a lump deep in my left breast. I assumed it was another cyst, which was common for me, but it wasn’t. At 57, I was diagnosed with invasive ductal carcinoma, grade 3, Stage IIB triple negative breast cancer. Additionally, there was ductal carcinoma in situ, solid type, high nuclear grade.

I chose a hospital that was well-known for being on the forefront of cancer treatment. I wanted to be in a place that could give me lots of options, and I felt I’d get the best treatment possible there. I made a consultation appointment with an oncologist. I wanted to ensure we had a good rapport because, in my mind, she would be my doctor for the rest of my life. I was confident in my decision to work with her and her team.

I immediately went online to learn everything I could about breast cancer. My breast surgeon warned me not to get overwhelmed with the volume of information I’d find and recommended certain sites. This was educational and helped preserve my sanity.

My breast surgeon gave me three treatment options, and I had to make the final decision. I had a left mastectomy with a sentinel node biopsy and removal of lymph nodes. Because there was no lymph-vascular invasion, I didn’t need radiation but I had chemotherapy.

Chemotherapy was extremely difficult. I was at the ER weekly and was hospitalized for a variety of reasons, including dehydration, a heart issue from the chemotherapy and severe mucositis. I had some peripheral neuropathy, and I was nauseous for four months straight. My short-term memory was destroyed, which has been especially hard because I had a fabulous memory. My ex-husband called me “the human phonebook!”

I stayed at Hope Lodge during treatment, and the people I met there became lifelong friends. They, and the support groups I attended, were instrumental in my recovery. I also took advantage of the different programs that were free to cancer patients. I worked with a nutritionist (and still do). Physiologists taught exercise classes, and oncology-certified physical therapists offered a variety of classes, such as yoga and Reiki massage. There were even special yoga classes for people with neuropathy in their feet or who had to use a chair during class because they were post-op. The classes helped a lot, and I still like to attend them when I’m at the hospital.

Nine months later, I had a right mastectomy and bilateral DIEP flap reconstruction. I have been NED (no evidence of disease) for seven years, and I feel very lucky to have not had a recurrence.

After treatment and reconstruction, I’d panic if something didn’t feel right. My oncologist never dismissed me and ran tests when they were warranted. I can’t emphasize how important it is to have a team that you trust and that listens to you. I don’t let those panicky feelings rule my life anymore, but I stay on top of my health. I recently had some pains in the area where I’d had the breast cancer, and, even though a recurrence was unlikely since my DIEP flap reconstruction moved stomach tissue to my chest, my doctor checked me out thoroughly. I respect that.

I have some late effects. My lymphedema is well-controlled thanks to a lot of physical therapy and lymphatic massage. I still wear a compression sleeve at the gym and when I fly. I have an oncology cardiologist to monitor treatment-related effects on my heart. My neuropathy is bad, but I work with a pain management team at the hospital where I was treated.

I’m currently getting lidocaine infusions. It’s like a shorter version of chemotherapy, and I feel pain relief almost instantly that lasts for almost a month.

I was a medical assistant for 25 years, and I know the importance of giving back. The hospital where I was treated is too far to go to on a daily basis, so I volunteer five days a week at cancer hospitals closer to home. I’m also an American Cancer Society volunteer, and I manage the ACS wig bank. We offer free synthetic and real-hair wigs to cancer patients from any hospital, and I do all the wig fittings.

When I was in treatment, I attended the ACS Look Good, Feel Better program. I really wanted to be a part of that program, so now I host it at three different hospitals. I feel honored to have won the Look Good, Feel Better 2016 Volunteer Host of the Year award for Massachusetts. I was asked to make an informal speech when I received the award. I surprised many of the people there by beginning with “As a cancer patient myself….”. Now they know it’s possible to take an incredibly negative situation and turn it into a positive one.

When Barbra Tugman recently uttered the words, “I never thought I’d see you again” to a mammogram machine in her doctor’s office, she was only half-joking. After having DIEP flap reconstruction with stomach tissue following a triple negative breast cancer diagnosis and bilateral mastectomy, she didn’t think a recurrence in her breast was possible, but her very thorough medical team was covering all the bases — just as they’ve done consistently since she was diagnosed in 2009. Fortunately, the pain she felt was not a recurrence, and she has been cancer-free for several years. Today, she is devoted to helping others going through cancer treatment.
Learning you have cancer produces a range of emotional reactions. A diagnosis of triple negative breast cancer can be especially difficult to hear because it is so different from other breast cancers. Because it is commonly diagnosed in younger women, all the typical emotional reactions to a breast cancer diagnosis—such as fear, anxiety, and feelings of isolation—are compounded with challenges related to family, taking care of your children and managing your career. Know that you are not alone. Talk to other individuals who have or had triple negative breast cancer and make a plan to help you better cope and communicate.

Controlling fear
Fear is common throughout the course of triple negative breast cancer, from diagnosis through treatment. Being afraid is completely normal. To manage it, learn all you can about your treatment options. This will help you feel more in control and confident about your treatment choices.

Managing anxiety
Feeling sad, worried or overwhelmed during your treatment is also normal. You may find that these feelings are worse at some times than others. If these negative feelings don’t go away or get worse, you may have anxiety or depression. Anxiety and depression are considered medical conditions and can be managed. You can help alleviate anxiety by doing the following:

• Focus on what you love. Activities you enjoy can help you feel better and live in the present.
• Practice relaxation techniques.
• Engage in regular physical activity.
• Avoid unnecessary stress by staying away from people who make you feel negative.
• Say no to extra responsibilities.

When sadness interferes with your daily life and persists for at least two weeks, talk to your doctor, as you may have depression. Women with mild anxiety or depression may benefit from counseling. Counseling can help you improve your communication with family members and friends, as well as ease fears about your cancer. A combination of counseling and medication (antidepressants) may be effective. Cancer support groups may also be helpful. Don’t be afraid to talk to your doctor or another member of your treatment team about your emotional state.

Overcoming feelings of isolation
You may feel isolated, even from others with a different type of breast cancer. It can be hard to hear about people who have treatment options you don’t have. Likewise, well-meaning friends may ask insensitive questions or suggest options that just aren’t available to you. Having to explain how your diagnosis is different from other types of breast cancers that most people are familiar with and correcting misconceptions can also be frustrating. Seeking out other people with triple negative breast cancer may help you feel less isolated and part of a distinct community.

Dealing with fertility issues
Fertility may be a major concern if you are of childbearing age when triple negative breast cancer is diagnosed. Some treatments may leave you unable to have children. If you would like to explore the possibility of becoming a parent in the future, consult with a fertility expert before committing to any treatment options. There are ways to preserve your fertility, and your medical team can help you better understand your options.

Caring for your kids
Talk with family and friends about helping your kids continue to live normal lives as much as possible. Make playdates for days you know you won’t be at your best, and schedule fun activities that you can be part of for your good days. Kids are perceptive and often know when something is wrong, so consider talking to them about cancer as soon after the diagnosis as possible. If you’re having trouble starting the conversation, it may be helpful to include another family member or a professional who can help answer questions. Focus on all that you and your doctors are doing to treat the cancer. Assure your kids that they can still come to you to talk about other important or fun things. Remind them that no matter what happens, cancer doesn’t affect how much you love them.

Handling your career
Your cancer diagnosis may force you to make choices in the workplace. If you continue to work, talk with your employer about adjusting your schedule to accommodate more frequent medical visits or recuperation time after treatments. If you take significant time off during cancer treatment, re-entering the work force can be a difficult transition, whether you are returning full-time, part-time or starting a new job. Mixed emotions are normal so give yourself plenty of time to work through them. Setting career goals, understanding disclosure obligations and determining any necessary modifications you’ll need beforehand can all help you clear your head and ease the transition.
After you complete treatment for triple negative breast cancer, your medical team will provide you with a follow-up care plan. This is an important step in your cancer care to manage any remaining side effects from treatment and to watch for any signs that may indicate recurrence or metastasis. Develop a personalized plan by talking to your medical team about your follow-up schedule, which physicians you will continue to see and what screenings are necessary.

Your screening schedule will depend on several factors, including your specific diagnosis, the treatments you received, your age and overall health. Generally, the following screening tests are recommended after breast cancer treatment.

- **Physical exams every three to six months** for the first three years after the first treatment, every six to 12 months for the next two years, and then once each year thereafter.
- **A mammogram one year after the first mammogram** that led to your diagnosis. If you received radiation therapy, it is advised to wait six months after your last treatment. A mammogram is then recommended at least once per year. Additionally, perform monthly breast self-examinations.
- **Genetic counseling**, if you have not considered it already (see Genetic Testing below).

In addition to following screening guidelines, survivors with triple negative breast cancer are encouraged to maintain a healthy lifestyle, including reaching and maintaining a healthy weight, eating a balanced diet and exercising.

### Recurrent disease

One of the biggest fears you may have is the possibility the cancer will recur (come back). Recurrence is when the breast cancer comes back in the same or opposite breast or chest wall. If the cancer comes back outside of the breast, it is called metastatic recurrence. Both are considered advanced disease. Although a diagnosis of either can be overwhelming, it is important to know that treatment options for recurrence are available to you.

If your cancer recurs, be sure to talk to your medical team about re-evaluating the tumor for hormone-receptor and HER2 status because it may be different than it was for your original diagnosis.

### Managing your fear

Your fear of recurrence may be even greater once you know that long-term treatment is not an option for you. Additionally, once your treatment ends, you may feel as if you are not doing all you can to protect yourself against recurrence. Certain events, such as holidays, family gatherings and medical appointments, may make you emotional and cause you to worry more.

All of those feelings and fears are valid, but they don’t have to control your life. You can help manage your fear of recurrence by being proactive. Planning will help you feel more confident in facing your fears.

- **Listen to your body.** Not every symptom means a recurrence, but you can only be sure if you communicate openly with your medical team.
- **Create a follow-up plan,** also called a survivorship plan, which addresses long-term side effects, support resources, nutrition, finances and more.
- **Embrace life** by engaging in activities you enjoy.

Don’t let your fears overwhelm you. This is not a struggle you should face alone. Seek the advice of a professional. See the resources in this guide, and reach out to your medical team.

### ADDITIONAL RESOURCES

- American Cancer Society: www.cancer.org
- American Society of Clinical Oncology: www.cancer.net
- Breast Cancer: Follow-up Care and Monitoring
- Living Beyond Breast Cancer: www.lbbc.org
- TNBC: Risks and Fears of Recurrence

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**TRIPLE NEGATIVE BREAST CANCER FOUNDATION**

**Follow-up Care After Breast Cancer Treatment**

**American Society of Clinical Oncology**

**Living Beyond Breast Cancer**

**American Cancer Society**

**National Society of Genetic Counselors**

**Susan G. Komen**

**Genetic Testing**

Triple negative breast cancer is often associated with BRCA mutations (abnormalities), the genes that are linked to inherited risk for breast and ovarian cancer. Knowing whether you have a mutation in one of these genes is valuable for two very important reasons.

1. **Choosing the best treatment possible**

   If you have a BRCA mutation, some treatments may be more effective for you. Your medical team will work closely with you to determine the best treatment plan for your triple negative breast cancer. Additionally, a BRCA mutation puts you at a higher risk for cancer in the other breast and in the ovaries. Experts recommend testing for BRCA mutations for people with triple negative breast cancer who are younger than 60. If you do have one, you can learn about ways to lower your risk for those cancers. Research is being done to find better ways to detect, treat and prevent cancer in people with BRCA mutations.

2. **Assessing your family’s risk**

   If you have a BRCA mutation, your family members may also carry the mutation. A genetic counselor can discuss the risks and benefits of genetic testing to help you and your family decide if it is appropriate for your family members. A genetic counselor can also explain the results of genetic testing, which can sometimes be complicated.

   Most experts recommend against testing children under 18 for BRCA mutations because no safe, effective therapies to prevent breast cancer in children currently exist. In addition, children are not old enough to decide whether they want to know about their cancer risk.

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**ASK YOUR DOCTOR ABOUT GENETIC TESTING, AND VISIT THE FOLLOWING WEBSITES TO LEARN MORE:**

- **Triple Negative Breast Cancer Foundation:** www.tnbcfoundation.org/guide-to-understanding-triple-negative-breast-cancer
- **Facing Our Risk of Cancer Empowered:** www.facingourrisk.org
- **National Society of Genetic Counselors:** www.nsgc.org
- **National Breast Cancer Foundation:** www.nationalbreastcancer.org
- **Susan G. Komen:** www.komen.org