Understanding Breast Cancer
A Focus on Metastatic Breast Cancer and Treatments

A Guidebook for Patients & Families

AstraZeneca
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Introduction

"My initial reaction was total shock. You have to change your whole mindset. You have to look at it one day at a time and say I can do this."

—Lynn, living with metastatic breast cancer

Being diagnosed with **metastatic** breast cancer is a life-changing experience. Patients and their loved ones may feel a range of emotions, such as fear, anger, denial, and uncertainty. The testing, treatments, and decisions patients face can be overwhelming, and there is often a lack of tailored information specific to metastatic breast cancer.

Learning more about metastatic breast cancer and its treatment may help ease some of these concerns. Taking the time to learn about MBC and the available choices can help patients and families feel empowered, allowing for more involvement with their treatment team to make the best healthcare decisions possible. In 2016, there will be an estimated 178,500 women living with metastatic breast cancer in the United States. Although metastatic breast cancer is generally not curable, in many cases it can be controlled with ongoing treatment.

This guidebook is intended to help patients and their loved ones learn about metastatic breast cancer and available options. It also provides some practical suggestions to help patients cope with the many challenges they may face.

Medical terms are indicated in **bold** when they first appear in each section and you'll find a glossary for these words on page 42 of this guidebook.

If you have questions as you read this, write them down in the Notes section located at the back of this book to discuss with your doctor or health care provider at your next visit.
Breast cancer occurs when cells in the breast become abnormal and grow without control. **Metastatic** breast cancer, otherwise known as Stage IV breast cancer, is the most advanced stage of breast cancer and means that the cancer has spread from its original location to other parts of the body. While metastatic breast cancer often develops as a recurrence of a previously diagnosed breast cancer, in a small number of cases it can occur in women who have no prior history of breast cancer. This is called “de novo” metastatic disease.

In metastatic breast cancer, the cancer has spread beyond the breast and/or **lymph nodes** under the arm to distant areas of the body. The most common places to which these cancer cells travel are the bones, lungs, or liver. Patients with metastatic breast cancer can have these cancer cells in just one place or in several areas of the body.

If breast cancer spreads or metastasizes to other body parts, it is still called breast cancer. For example, if breast cancer spreads to the lungs, the cancer in the lung is not lung cancer, but breast cancer that has metastasized.

Breast cancer can spread (metastasize) beyond the breast to various organs in the body—most often the bones, lungs, or liver.
Understanding metastatic breast cancer

Signs and symptoms of metastatic breast cancer can be similar to other health problems and may include:

- Bone pain
- Bone fractures
- Headaches or seizures
- Persistent coughing

- Jaundice (yellow skin)
- Changes in vision
- Extreme fatigue/tiredness

Patients with breast cancer should notify their doctor as soon as possible if they experience any new symptoms.
Common tests

In patients with metastatic breast cancer, various tests could be used to evaluate the disease. Your doctor will determine which of the following tests are needed.

- **PHYSICAL EXAMINATION.** The doctor gives the patient a complete physical examination to better understand how the patient is feeling and the areas that may be of concern.

- **BIOPSY.** In many cases, a biopsy, which involves removing a small piece of tissue from the suspected tumor or area to determine if characteristics of the cells confirm a cancer diagnosis, confirm the spread of the original cancer (metastasis), or are different from the original cancer.

- **BLOOD TEST.** Blood tests can check a patient's general health and may show the extent to which the cancer has spread.

- **CHEST X-RAY.** A chest x-ray may be done to see if the breast cancer has spread to other parts of the abdominal cavity.

- **BONE SCAN.** A bone scan is used to check for breast cancer that has spread to the bones. During a bone scan, a small amount of low-level radioactive material is injected into the blood. Areas that have changes to the bone attract more of this radioactive material, which may indicate the presence of metastatic cancer.

- **MAGNETIC RESONANCE IMAGING (MRI) SCAN.** Magnetic resonance imaging, or MRI, uses magnet and radio waves instead of x-rays to create an image of the body. The MRI can help doctors examine cancer in the breast or look for cancer that may have spread beyond the breast. In addition, MRI scans are helpful to identify tumor growth in the brain and spinal cord.
COMPUTED TOMOGRAPHY (CT) SCAN. A computed tomography scan, also known as a CT scan, produces detailed pictures of the body by combining multiple x-ray images. This test is often used to look at organ metastases in the chest and abdomen areas.

POSITRON EMISSION TOMOGRAPHY (PET) SCAN. In some cases, a positron emission tomography, or PET, scan may also be done. Radioactive material is injected into the blood, and concentrates more in tumor cells than in healthy cells. A special camera detects these areas of increased radioactivity, and this visual information is used to form an image showing where cancer may be present.
There are different subtypes of metastatic breast cancer, each of which has different characteristics. One of the characteristics is the presence or absence of hormone receptors, such as the estrogen receptor (ER) and the progesterone receptor (PR). The human epidermal growth factor receptor 2 (HER2) is another characteristic that is used to determine the subtype of metastatic breast cancer. The status of these markers in a tumor are used to determine which treatment approach is selected. Below is an overview of the most common subtypes of metastatic breast cancer:

- Estrogen receptor positive (ER+)
- Estrogen receptor negative (ER-)
- Progesterone receptor positive (PR+)
- Progesterone receptor negative (PR-)
- Human epidermal receptor 2 negative (HER2-)
- Human epidermal receptor 2 positive (HER2+)
- Triple negative (TN)

It may be possible to be diagnosed with any combination of receptor status (ie, HER2-positive or -negative and hormone receptor-positive or -negative).
Understanding metastatic breast cancer

**HORMONE (ER, PR) RECEPTOR-NEGATIVE BREAST CANCER**

Hormone receptor-negative breast cancer is not affected by estrogen or progesterone. Doctors often refer to this type of breast cancer as estrogen receptor-negative or progesterone receptor-negative.

Approximately 33% of MBC patients have hormone receptor-negative breast cancer.

**HER2-POSITIVE BREAST CANCER**

In HER2-positive breast cancer, the cancer cells make too much of the protein HER2. If too much of this protein is present, it can cause breast cancer cells fueled by HER2 (or HER2-positive breast cancer cells) to grow and spread more aggressively.

Approximately 20% with metastatic breast cancer have HER2-positive breast cancer.

**HER2-NEGATIVE BREAST CANCER**

In HER2-negative breast cancer, the cancer cells do not have an excess of the protein HER2. Approximately 80% of metastatic breast cancers are HER2-negative.

**TRIPLE-NEGATIVE BREAST CANCER**

Triple-negative breast cancer means that the breast cancer cells are hormone receptor-negative (estrogen receptor-negative and progesterone receptor-negative) and HER2-negative. Nearly 10% to 20% of metastatic breast cancer is triple-negative. Triple-negative breast cancer is more common in younger women.

Here are some questions you can ask your doctor to help you better understand your type of metastatic breast cancer:

- What type of breast cancer do I have?
- Where has the cancer spread?
- Can you describe the tests I will need?
- Based on my type of MBC, what types of therapies should I consider?

**Understanding changes in hormone receptor status**

Because breast cancer can be hormone driven – and the hormones driving the tumor's growth may change over time, it is important to know your tumor's hormone status and, based on recommendations from your HCP, to consider re-biopsying your tumor periodically to ensure the hormones driving its growth have not changed.

If your tumor's hormone status has changed, it is important to speak to your doctor about what this means for your MBC journey and how these changes may impact your current course of treatment. Some questions to ask your doctor include:

- What is my current hormone receptor status?
- What does this change in hormone receptor status mean for my MBC?
- What does this mean for my treatment? Can I stay on my current course of therapy or will I need to start a new therapy?
There are many factors that your doctor may need to consider when making a treatment plan, such as:

- Type of breast cancer
- Location and size of tumors and if the cancer has spread to other areas of the body
- Previous treatments (if any) and how you responded
- Length of time the patient was free of disease after initial therapy
- Symptoms
- Age, overall health, and any other medical conditions
- Individual treatment goals and preferences, such as quality of life and ease of treatment regimen
- Possible side effects of cancer therapy
- Possible changes in the tumor’s hormone receptor status

There are different options for the treatment of metastatic breast cancer. If your cancer gets worse, your tumor’s hormone receptor status changes or you experience significant treatment-related side effects, your doctor may suggest other treatment options.

Learning about the disease and the treatment options available will help you have a more informed conversation with your doctor. Your own preferences may also play a role in the treatment decision-making process, so be sure to talk to your doctor about your goals and concerns of treatment.
I think the biggest thing is to ask your doctor enough questions so you feel comfortable. Don’t be afraid to question how is it going to affect me, how is this going to affect my life?
—Karon, living with metastatic breast cancer

**Treatment options**

Some patients with metastatic breast cancer will do very well on a single treatment, while others may require combination therapy. The next few pages provide more information about different treatment options for metastatic breast cancer.

Metastatic breast cancer is more likely to respond to certain systemic therapies, such as treatments targeting the hormone receptors, if the estrogen receptor, progesterone receptor, or HER2 status is positive. **Systemic therapy** is medication that travels through the bloodstream to kill or slow the growth of cancer cells.

**Systemic treatment options**

Many systemic medications are used to treat metastatic breast cancer, including:

- **Hormonal therapy**
- **Chemotherapy**
- **Targeted therapy**
Hormonal therapy

Hormonal therapy is the main treatment for many women with hormone receptor-positive breast cancer. Hormonal therapy, which is sometimes called endocrine therapy (a term used to describe treatment that adds, blocks, or removes hormones), is a way of treating breast cancer with medication to block the effect of the female hormones estrogen or progesterone, or to lower the level of either of these hormones in the body. Estrogen and progesterone can cause some breast cancer cells to make more cancer cells. Blocking the effects or lowering the levels of these hormones can slow down or stop the growth of breast cancer.

Hormonal therapy for breast cancer is NOT the same as hormone replacement therapy, which involves giving estrogen to women to help ease the symptoms of menopause. Hormone replacement therapy should not be used in women who have been diagnosed with breast cancer.

Hormonal therapy should be the primary choice for patients with hormone receptor-positive metastatic breast cancer. About 50% of all patients with hormone receptor-positive metastatic breast cancer respond to hormonal therapy. The best way to predict a woman’s response to hormonal therapy is to confirm the presence of estrogen and/or progesterone receptors in the cell. Your doctor can perform this test.

In estrogen receptor-positive breast cancer, hormonal therapy may be able to prevent estrogen from helping tumor cells grow and divide.

If hormonal therapy worked for you initially but then the cancer spread, you may be given a different type of hormonal therapy. The US Food and Drug Administration (FDA) has approved several different types of hormonal therapies to treat hormone receptor-positive metastatic breast cancer.
There are various factors to determine what type of hormonal therapy is right for you. Knowing if you are premenopausal or postmenopausal will aid your doctor in making a recommendation. Other factors that you and your doctor may consider when making a treatment plan include:

• Effectiveness and safety of available treatment options
• Type(s) of hormonal therapy previously received
• Previous treatment experience
• Your age and other existing medical conditions
• Your preferences, as well as those of your doctor

You and your doctor may discuss which type of hormonal therapy might be right for you throughout your treatment.

How are hormones made in premenopausal and postmenopausal women?

While women are still menstruating (premenopausal), they have high levels of estrogen that is produced by the ovaries. After menopause, smaller amounts of estrogen are still made in the body by converting a hormone called androgen into estrogen.
Possible side effects

The side effects of hormonal therapy depend on the treatment being used and might include:

- Feeling tired
- Hot flashes
- Mild nausea
- Vaginal dryness or discharge

Possible serious side effects may include:

- Blood clots
- Increased risk of stroke
- Cancer of the uterus
- Loss of bone strength that can lead to osteoporosis and bone fractures

Talk to your doctor about any side effects you may experience as there may be options available to help manage the side effects.

Here are some questions you can ask your doctor to help you better understand hormonal therapy:

- Is hormonal therapy an option for me? Why or why not?
- What type of hormonal therapy should I have? Why?
- When will I start the hormonal therapy?
- How often will I get it?
- How long will I need to take it?
- What are the side effects of hormonal therapy?
- Will the side effects last a long time?
- How can I help manage the side effects of hormonal therapy?
Chemotherapy

Chemotherapy involves the use of drugs to kill cancer cells. These drugs move throughout the body by traveling through the bloodstream and kill any rapidly growing cells, including cancer cells and some healthy cells.

Chemotherapy is used in patients who have:

- **Hormone receptor-negative** or **triple-negative** breast cancer
- **Hormone receptor-positive breast cancer**, in which:
  - The cancer does not respond to/or has stopped responding to hormonal therapy
  - The patient has metastatic disease that threatens the function of vital organs

There are many chemotherapy drugs available. If the cancer worsens during or after treatment with one chemotherapy drug, or if treatment-related side effects are a problem, patients may be able to try an alternate drug.

Doctors look at many factors when deciding on the type of chemotherapy for a patient. These factors include:

- How aggressive or fast-growing the cancer is
- The type(s) of chemotherapy the patient has already received
- Chemotherapy side effects
- Other medical conditions
- Patient preferences
What to expect with chemotherapy

Drugs used for chemotherapy come in many different forms. Some chemotherapy drugs are taken by mouth (orally) as pills while others are injected directly into a vein (intravenously) in a doctor’s office or clinic. While some patients may receive one chemotherapy drug, others may be given a combination.

It may take several hours to undergo chemotherapy at a clinic or hospital. Depending on the type of chemotherapy, the patient may take medications before the chemotherapy to help prevent or reduce certain side effects, such as nausea.

Chemotherapy is given in cycles, with a pre-determined number of treatments, followed by a break.

- Different chemotherapy drugs have different cycles
- Patients may not always get the same drug(s) on treatment days
- Taking breaks between cycles may help reduce side effects
- Treatment most commonly lasts for several months

When chemotherapy may be used

There are several situations in which a doctor may recommend chemotherapy:

- **After surgery (adjuvant chemotherapy)**: This is a type of therapy given to patients with no evidence of cancer after surgery. Adjuvant chemotherapy is used to kill cancer cells that may have been left behind after surgery, or that may have spread but can’t be recognized with the current tests available. If these cells are allowed to grow, they can create new tumors elsewhere in the body.

- **Before surgery (neoadjuvant chemotherapy)**: This is similar to adjuvant therapy, except the patient receives (or starts) therapy before surgery instead of after. The goal of neoadjuvant chemotherapy is to shrink the tumor so it can be removed with less extensive surgery. By giving chemotherapy before removing the tumor, doctors can also better see how the cancer responds.

- **For advanced breast cancer**: Depending on the type of MBC, chemotherapy can be the main treatment for some women. Chemotherapy is used either when cancer is diagnosed or after initial therapy. The length of treatment depends upon whether the cancer shrinks, how much it shrinks, and how well the patient tolerates treatment.
Possible side effects

Every patient may experience different side effects of chemotherapy drugs and the severity of side effects will vary from person to person. While possible side effects vary with different chemotherapy drugs, the most common side effects include:

- Low red blood cell count (anemia)
- Extreme tiredness (fatigue)
- Hair loss
- Increased chance of bruising, bleeding, and infection
- Nausea and vomiting
- Low white blood cell count (neutropenia)

Other possible effects on the body include:

- Diarrhea or constipation
- Changes in appetite
- Gaining or losing weight
- Sore mouth, gums, and throat
- Nerve damage (mainly in the hands and feet), which can cause numbness, pain, burning or tingling, or sensitivity to cold and heat
- Muscle weakness
- Dry and/or discolored skin
- Kidney irritation leading to decreased urination, swelling (edema) of the hands and feet or headache
- Bladder irritation leading to a burning sensation when urinating and increased urinary frequency
- Premature menopause (not having any more menstrual periods) and infertility (not being able to become pregnant)

More serious side effects might include:

- Long-term damage to the heart, lungs, kidneys, or reproductive organs
- A second cancer (that can show up many years later)

Most side effects are temporary and begin to lessen after treatment ends; however, others may take months or years to go away.

Patients may need to take other medications to prevent or ease these side effects. If side effects are severe, your doctor may temporarily stop or lower the dose of the chemotherapy. Or your doctor may recommend a different chemotherapy medication.

Talk to your doctor about the side effects you can expect and how they can be managed if they occur. Remember to tell your doctor about any side effects you experience.
Here are some questions you can ask your doctor to help you better understand your chemotherapy:

• Is chemotherapy an option for me?
• What type of chemotherapy should I have? Why?
• Are there any other chemotherapy options that are appropriate for me?
• Will I receive chemotherapy by mouth or by injection?
• How many cycles of chemotherapy treatments should I have?
• How long will the treatment take?
• What are the side effects of chemotherapy? Will these side effects last a long time?
• How can I help manage the side effects of chemotherapy?
Targeted therapy

Scientists and doctors continue to research and test new ways to treat cancer. Much of their research has focused on gene changes (mutations) in cells that can lead to the development of cancer. In recent years, scientists have been working to develop drugs that target specific genes and associated cancer types. These so-called targeted therapies work differently from traditional chemotherapy medications because they affect the genetic changes that cause cancer, and often have different—and less severe—side effects.

HER2-targeted therapy

These medications target breast cancer cells that make too much of the protein HER2. They work through two primary methods:
• Interfering with HER2 by preventing the breast cancer cell from receiving growth signals
• Blocking signals inside the cell that can lead to cancer growth. Even if your HER2-targeted therapy stops working, you may continue to receive the same therapy or receive an additional HER2-targeted medication. Because each treatment has a different way of working, a new or additional medication may be effective alone (as a monotherapy) or in combination with another targeted therapy.

Side effects of HER2-targeted therapy

Some side effects may include nausea, rash, vomiting, diarrhea, and fatigue. Possible serious side effects may include decreased heart function and liver problems, such as hepatitis and elevated liver enzymes. Talk to your doctor about what side effects you can expect and how you can manage them if they occur. Be sure to tell your doctor if you experience any side effects while being treated with any of these therapies.

Combination therapy

In the treatment of metastatic breast cancer, combination therapy can refer to the use of two or more medications. There are a variety of medicines that can be used in combination therapy. Talk to your doctor about which treatment regimen may be right for you.
Here are some questions you can ask your doctor to help you better understand your targeted therapy:

• Is targeted therapy an option for me? If so, why?
• What type of targeted therapy should I have? Why?
• How will the targeted therapy be given to me?
• How many treatments do I need?
• How long will the treatment take?
• What are the side effects? How long will these side effects last?
• What can I take to help manage the side effects of targeted therapy?
Additional treatment options

These are some additional treatments that your doctor may recommend in order to enhance the effects of other treatments or to prevent adverse effects:

• Treatments for bone metastases
• Surgery
• Radiation therapy

TREATMENTS FOR BONE METASTASES

If breast cancer has spread to the bones, patients may experience bone pain and have an increased risk of fracture. Also, some breast cancer treatments may cause bone thinning (osteoporosis). When a patient has been confirmed to have bone metastases, the healthcare provider may recommend any of the following to aid bone health:

• Medications to strengthen bones by decreasing thinning and lower the risk of a bone fracture, minimizing the need for surgery
• Over the counter supplements, in addition to prescribed medications
• Radiation to treat bone pain

SURGERY

Surgery is relatively uncommon for patients with metastatic breast cancer, but it may be used for patients who need symptom relief after initial treatment.
Radiation therapy uses x-rays to kill cancer cells. It is often given after surgery to help reduce the chance that the cancer will come back in the breast or nearby lymph nodes. Radiation may also be recommended after surgical removal of the breast (mastectomy) in patients either with a cancer larger than 5 centimeters, or when cancer is found in the lymph nodes. In patients with metastatic breast cancer, radiation therapy may be used to help relieve symptoms such as pain, or to improve breathing.

Possible side effects of radiation therapy

Side effects of radiation therapy may depend on where the radiation treatment is given. While side effects usually lessen in time, they may continue for several months after treatment is finished. Your doctor may be able to provide recommendations for coping with the most common side effects, including:

- Skin irritation, including: redness, tenderness, or sensitivity
- Extreme tiredness

Make sure to tell your doctor if you experience any side effects while undergoing treatment.
Here are some questions you can ask your doctor to help you better understand your treatment options:

**Bone metastases:**
- Is therapy for bone metastases an option for me? Why?
- What type of treatment should I have?
- How long should I take this therapy?
- What are the side effects? What can I do to help manage them?

**Surgery:**
- Do I need surgery?
- What can I expect if I do have surgery?
- After surgery, what kind of follow-up care will I need?

**Radiation:**
- Do you think radiation therapy is an option for me? If so, why?
- How many treatments will I need?
- How will the radiation be given?
- What are the possible side effects of radiation therapy?
- What can I do to help manage the side effects of radiation therapy?
Clinical trials are carefully conducted research studies that are done with patient volunteers. They are designed to determine the effectiveness and safety of new treatments or procedures. Talk to your doctor to determine if a clinical trial might be an option for you.

Each clinical trial has specific guidelines on patient characteristics that should be included and excluded. The following factors can help determine if a patient is appropriate for a given clinical trial:

- Age
- Gender
- Type of disease
- Prior treatments
- Medical history

Before treatments are allowed to be tested in people, researchers must first prove that the new drug works and must apply for approval. If the U.S. Food and Drug Administration (FDA) approves the application, the clinical trial is allowed to move into the next phase of research. In addition, every trial has specific rules determined by the FDA for when and how patients should be monitored, as well as when they will receive medications and at what doses.

Throughout the study, patients will visit with the research team to determine if the treatment is working and if the patient is experiencing any side effects. Testing of treatments occurs in phases. Most clinical trials are categorized as phase I, II, III, or IV.

- **PHASE I TRIALS** are often the first studies to test a new drug in people. Phase I trials typically evaluate how a new drug should be given and how much of the drug may be given safely. These trials usually involve a small group (20 to 80) of otherwise healthy participants.

- **PHASE II TRIALS** further test the safety of the drug and begin to measure how well the drug works in a larger group (100 to 300) of patients. Trial patients are usually patients with the disease for which the specific medication is being evaluated.

- **PHASE III TRIALS** typically compare the safety and efficacy of the new treatment with the current standard treatment. Phase III trials often enroll a large number of patients (1000 to 3000) at different sites. These studies are most often used to determine if a medication can be submitted for FDA approval.

- **PHASE IV TRIALS** are conducted after a new treatment has been approved by the FDA and is available to be prescribed. These trials typically evaluate the safety and efficacy of a drug over a longer period of time in a larger number of patients.
It is essential to note that participation in a clinical trial is voluntary.

Before deciding whether to participate in a clinical trial, it is important to learn about your options:

- Discuss pros and cons, including the potential risks and benefits of participation with:
  - Your doctor
  - Other members of your healthcare team
  - Family members

There are potential risks and benefits when participating in a clinical trial.

Pros

- Care provided by leading cancer researchers
- Access to new drugs and interventions before they are widely available
- Close monitoring of your health care and any side effects
- An opportunity to make a valuable contribution to cancer research

Cons

- Potential side effects of the treatment
- The new treatment may not work
- Forgo an opportunity to receive an approved treatment
- Additional tests and doctor visits may be required
Here are some questions you can ask your doctor to help you better understand clinical trials:

General questions:
• Is a clinical trial an option for me?
• What types of clinical trials can I join?
• What are the pros and cons of clinical trials?

If you are considering enrolling in a specific trial:
• What is the purpose of the trial?
• Why do researchers think this treatment might be better than the treatments that are already available?
• What are my other treatment options if I don’t enroll in the trial?
• What are the possible short- and long-term risks of participating in the trial?
• What kinds of side effects should I expect?

If you are enrolled in a trial:
• How long will the clinical trial last?
• How and how often will the safety and effectiveness of the treatment be monitored?
• What other kinds of tests, treatments, or doctor’s visits are needed or allowed during the trial period?
• What is the cost to participate?
• Does insurance cover the cost of participation?
• Will I be able to continue taking my other medications during the trial period?
Patients with metastatic breast cancer face many challenges. These challenges may present issues that affect many parts of their lives, including the physical, psychological, social, and spiritual aspects of their lives. The challenges may be related to various factors, including:

• Disease symptoms
• Changes in relationships with family and friends
• Ability to perform daily activities
• Financial concerns

For many women, working through the psychological aspects of living with metastatic breast cancer may be particularly challenging, as the disease may lead to depression, anxiety, fear, and loss of independence. Loved ones and caregivers also share the burden of many of these issues.
Living with metastatic breast cancer

Coping with side effects and symptoms

Cancer treatment can also affect normal, healthy cells, which can result in side effects. These side effects and symptoms can be different for every patient.

Many effects of cancer and cancer treatment can be managed; therefore, it’s important to talk to your health care team about any side effects, pain, or discomfort. There are many different types of prescription and over-the-counter treatments that can help manage side effects, including:

- Relieve pain
- Fight infections
- Treat anemia (abnormally low level of red blood cell counts)
- Strengthen bones
- Treat diarrhea

- Relieve constipation
- Reduce nausea and vomiting
- Treat hot flashes
- Treat depression

In addition to standard medical treatments, some complementary treatments may also help patients feel better. Examples of complementary treatments include acupuncture or massage therapy. Talk to your doctor first before using any complementary therapies.

“It’s like walking a tight wire. If you’re really balanced, you have the sense of security and everything’s okay, but if you find out your cancer progressed, it upsets your balance and you have to find out how to start walking in balance again. It’s an ongoing process and some days are better than others.” —Lynn, living with metastatic breast cancer
Maintaining overall health and wellness

Nutrition

Patients with breast cancer should do their best to make healthy choices. Good nutrition can help keep your strength up and help you cope with side effects. Additionally, a healthy diet may help lower the risk of infection. You may wish to talk to a dietitian or nutritionist to help you find a diet that allows you to get enough calories and protein - both of which are important in helping fight infection, as well as forming and maintaining tissues and enzymes. The following tips may be helpful:

• Try different plant-based foods, such as beans and peas, instead of meat, a few meals each week
• Try to eat at least 2½ cups of fruits and vegetables a day, including citrus fruits, dark-green and deep-yellow vegetables
• Choose low-fat milk and dairy products, and limit high-fat foods, especially those from animal sources
• Limit your intake of salt-cured, smoked, and pickled foods

Exercise

Staying active may help lessen fatigue, boost energy, and increase appetite. It is important to talk to your doctor if you plan to begin an exercise program. Exercise may help with fatigue and stress. It may also improve mood, self-esteem, and your sense of well-being, while also keeping you at a healthy weight.

Relaxation

Meditation, relaxation therapy, and massage may help relieve anxiety and stress. Remember to take time for yourself. You may need to plan ahead for times when you need more rest. Don't be afraid to ask for help and cut back on any extra commitments that may drain your time and energy. Friends and family can help support you with practical things, such as doing chores and arranging transportation to treatment.

Getting support

For many women, a diagnosis of metastatic breast cancer triggers a range of emotions—shock, disbelief, fear, anxiety, sadness, anger, and depression.

Talking to family and friends can be a source of comfort and is an effective way of coping. Some patients join a support group or online community for breast cancer patients. Groups focusing on certain stages of cancer, such as metastatic disease, can be especially helpful.

Patients may find that talking to others with metastatic breast cancer eases some of their fears, as they learn how others cope.
Some women find comfort in spirituality. Patients may wish to work with a religious leader to help them with their feelings, while others may prefer a mental health professional. Patients should ask their doctor if he or she has any recommendations. Everyone is different. Take time to find the support that is right for you.

**Taking an active role in your treatment**

Communication is an essential part of learning about the disease and understanding treatment options. Determine how much you want to know and how involved you want to be in the decision-making process. While some patients want to be actively involved, others are more comfortable with knowing only what is necessary. Here are some tips you and your family may find helpful as you go through the treatment process.

Make the most out of each doctor’s visit.

- Prepare for each visit. Write a list of questions and take it to your next visit.
- Make a list of the medications you’re taking (including over-the-counter medications, vitamins, and herbal supplements), the doses you take, and the number of times a day you take the medications. If you’re unsure of any of this information, take the medication bottles with you.
- Consider taking a family member or friend with you. They can offer support, help you remember questions you may forget, and may be a second pair of ears.
- Ask your doctor to clearly explain anything you don’t understand or information you are not comfortable with.
- Do not feel rushed into making decisions about your care. Always have thoughtful discussions with your medical team, and do not hesitate if you wish to seek a second opinion.
- Share feelings of anxiety and distress with your healthcare team and loved ones. This is not the time to hide concerns or try to see if feelings of anxiety and distress will pass. Talk with your healthcare team and loved ones about ways you can relieve your stress and reduce your fears.
- Talk to others going through similar journeys. Connecting with others living with MBC in person or online can be extraordinarily meaningful for both those who are just beginning their MBC journey and for those who have experience and insights to share.

**Living with metastatic breast cancer**
Ultimately, your medical team is the best resource to help manage the disease, so it’s important to understand which health care professionals (HCPs) you should consider to be a part of your team. These professionals will provide you with services and resources to maximize your health and well-being. It is important to remember that you are the center of the health care team. When faced with a major decision, you can always decide to get a second medical opinion. Be sure to share your concerns and decisions with everyone involved in your care.

Below are some points you should know when choosing your treatment team:

- Understand who should be on your team. Utilize all resources available to you, such as your primary care physician (PCP), local cancer center, advocacy groups, or oncologist directory (AMA, ASCO), to find the right experts to support your journey.

- An effective treatment team includes a variety of professionals. Specialists and HCPs you should consider including on your medical team include a medical oncologist, PCP, nutritionist, mental health professional, physical therapist, pharmacist, surgeon, radiologist, and an oncology nurse practitioner.

- Your medical oncologist will be responsible for your care and treatment. Consider choosing someone who specializes in breast cancer and has expertise in treating women with metastatic disease. You may also want to consider choosing a member of an established breast center as this can help streamline your care.

- Build a relationship with your team. Good communication between you and your team is essential to having your needs met to your satisfaction.

It is very helpful if your entire health care team has the same information. You can help share this information by:

- Asking your oncologist for a treatment summary that includes your medical history and cancer treatment history. A treatment summary can be a useful tool to make sure all your health care providers know your history and the cancer treatments you have had.

- Keeping copies of test results and medical records so that you can share them with all members of the health care team.

—I love my doctor ... She answered all of my questions and helped me understand the process at a slow pace. She didn’t throw everything at me at once and she kind of led me along as I needed to be, which was good now that I look back.

—Lori, living with metastatic breast cancer
BEYOND PINK: SHARING OUR METASTATIC BREAST CANCER Story
Staying on track with treatment

To get the most out of treatment, patients need to stick to their treatment plan. Here are some practical suggestions:

• Try not to miss any doctor visits, especially when cancer treatment will be given.

• For patients who take pills, make sure to take them, as prescribed, the same time every day. Some tips for remembering to take medications include:
  – Taking pills along with meals or other daily events, such as brushing your teeth.
  – Using special pillboxes that are divided into days of the week. You can find these pillboxes at any pharmacy.
  – Asking people who are close to you to remind you to take the pills.
  – Keeping a medicine calendar near your pills, making a note every time you take a dose.

• Call your doctor if you have side effects. Many side effects can be managed. Do not stop taking your medication on your own without talking to your doctor first.
Dealing with financial issues

Breast cancer patients may also face financial issues. Paying for treatment can create a financial burden for patients and their families, even for patients with insurance. However, it is important not to panic or stop treatment. Talk to your insurance provider or someone at your doctor’s office to learn about your benefits and additional resources that can help you pay for treatment.

Many organizations can help breast cancer patients get financial assistance or support services. Some possible sources for information on financial assistance are listed to the right.

For a list of resources by category, download Dealing with Financial Issues Related to Metastatic Breast Cancer from the Beyond Pink homepage.

National Cancer Institute (NCI)

American Cancer Society (ACS)
http://www.cancer.org/treatment/findingandpayingfortreatment/index

American Association for Cancer Research (AACR)
http://www.aacr.org/aboutus/Pages/default.aspx#.VabHc_5RGM8

Cancer Financial Assistance Coalition (CFAC)
http://www.cancerfac.org/

CancerCare
http://www.cancercare.org/get_help/assistance/cc_financial.php
Below are some of the breast cancer organizations with websites that offer information and helpful resources for patients, family, and friends. They are grouped by the type of service they provide most often, but many organizations offer a variety of services.

This list of resources is provided solely as a convenience. AstraZeneca takes no responsibility for the content of, or services provided by, these organizations and makes no representation as to the accuracy or completeness of any information provided. AstraZeneca shall have no liability for any damages or injuries of any kind arising from the information provided.

**Support and community**

**AdvancedBC.org**
www.advancedbc.org
AdvancedBC.org is an organization dedicated solely to the needs of people living with metastatic breast cancer, providing links to online resources, and information about research and treatments.

**American Cancer Society (ACS)**
www.cancer.org
1-800-ACS-2345
The ACS is a nationwide, community-based, voluntary health organization dedicated to eliminating cancer as a major health problem. In addition to its headquarters in Atlanta, Georgia, the ACS has regional and local offices throughout the country that support 11 geographical divisions.
Association of Cancer Online Resources (ACOR)
www.acor.org
ACOR is a collection of online cancer communities designed to provide timely and accurate information in a supportive environment. ACOR online communities are for parents, caregivers, family members, and friends to discuss clinical and non-clinical issues and advances pertaining to all forms of a specific disease.

Association of Oncology Social Work (AOSW)
www.aosw.org
1-215-599-6093
The AOSW is a non-profit international organization dedicated to providing psychosocial services to people with cancer, their families, and caregivers. It is the world’s largest professional organization entirely dedicated to the psychosocial care of people affected by cancer.

Breastcancer.org
www.breastcancer.org
Breastcancer.org is a non-profit organization, dedicated to providing the most reliable, complete, and up-to-date information about breast cancer. Its web site provides information on various topics including symptoms and diagnosis, treatment and side effects, and day-to-day matters.

BCMets Mailing List
www bcmets.org
BCMets.org is the world’s largest online support group for metastatic cancer, with more than 1,000 members.

Breast Cancer Care & Research Fund
www.breastcancercare.org
1-310-927-7606
Breast Cancer Care & Research Fund’s mission is to eradicate breast cancer through education, research, advocacy, and community outreach.
CancerNet (American Society of Clinical Oncology)
www.cancer.net
1-888-651-3038
Cancer.net provides timely, comprehensive, oncologist-approved information from the American Society of Clinical Oncology (ASCO), with support from the Conquer Cancer Foundation.

Cancer Care
www.cancercare.org
1-800-813-HOPE
Cancer Care provides free, professional support services and information to help people manage the emotional, practical, and financial challenges of cancer.

Cancer Support Community (formerly known as The Wellness Community)
www.cancersupportcommunity.org
1-888-793-9355
The Cancer Support Community is an international non-profit dedicated to providing support, education and hope to people affected by cancer. One of the largest employers of psychosocial oncology mental health professionals in the United States, CSC offers a menu of personalized services and education for all people affected by cancer.

HER2 Online Support Group
her2support.org
The HER2 Online Support Group is a community of patients, caregivers, mothers, children, and husbands of breast cancer survivors who are HER2-positive. Members gather on the group’s web site to seek information about the illness, and to share their experiences and knowledge.
Living Beyond Breast Cancer (LBBC)
www.lbcc.org
1-610-645-4567
1-484-708-1550
Living Beyond Breast Cancer provides programs and services those whose lives have been impacted by breast cancer. The goal is to provide easily accessible information which is frequently reviewed by the country's leading healthcare experts, community and support that you can trust, and respectful of patients and their situations.

Metastatic Breast Cancer Alliance
http://www.mbcalliance.org/
Led by advocates, Metastatic Breast Cancer Alliance aims to ensure patients and caregivers are able to access needed care and services, build understanding how MBC differs from early stage breast cancer, and progress research to better quality of patients’ lives.

Metastatic Breast Cancer Network
http://mbcn.org/
1-888-500-0370
Metastatic Breast Cancer Network is a national, independent, nonprofit, patient advocacy group dedicated to helping those living with MBC be their own best advocate. The group provides education on coping with the disease and treatment option information.

METAvivor
http://www.metavivor.org/
The first dedicated to funding research for Stage IV breast cancer, METAvivor continues to rally public awareness, awards research grants, and provides much needed support for those living with MBC.

Mothers Supporting Daughters with Breast Cancer
www.mothersdaughters.org
1-410-778-1982
The mission of Mothers Supporting Daughters with Breast Cancer is to provide tailored support to mothers of daughters with breast cancer. With more individualized support and information mothers can better cope with the effects breast cancer has on themselves and their daughters.

Resources
**National Cancer Institute**

www.cancer.gov  
1-800-4-CANCER

The National Cancer Institute (NCI) is the government’s principal agency for cancer research and training. NCI provides grants, in depth information for every stage of cancer, and support groups for patients and caregivers. NCI’s ultimate goal is to reduce the burden of cancer in the US and around the world.

**Sisters Network Inc**

www.sistersnetworkinc.org  
1-866-781-1808

Sisters Network Inc. is the only national African American survivorship organization. Since 1994, the organization has been committed to increasing local and national attention to the impact breast cancer has in the African American community, by providing support and encouraging women to get annual mammograms.

**Susan G. Komen for the Cure**

ww5.komen.org  
1-877 GO KOMEN

Susan G. Komen’s mission is simply to save lives and end breast cancer forever by educating, supporting research, offering grants that provide financial and emotional assistance, and advocating better breast cancer policy. Last year, 50,000 families impacted by breast cancer received Komen’s social and financial support.

**Young Survival Coalition**

www.youngsurvival.org  
1-877-YSC-1011

Young Survival Coalition provides in-person and online educational programs that are designed to reach young women affected by breast cancer, as well as friends, family, medical professionals, caregivers, the breast health community, and the general public. Programs include conferences, online chats, and educational materials.
**Treatment options**

**American Cancer Society (ACS)**

http://www.cancer.org/treatment/
findingandpayingfortreatment/index

1-800-ACS-2345

For over a century, American Cancer Society has worked to save lives, help people get well and stay well, find cures, and fight against cancer. Cancer research, educational material, advocacy events, and treatment and support options are all part of ACS's contribution to creating a world with less cancer.

**American Society of Clinical Oncology (ASCO)**

http://www.cancer.net/cancer-types/breast-cancer/treatment-options

1-888-651-3038

Founded in 1964, American Society of Clinical Oncology has been dedicated to addressing the clinical needs of people with cancer. Its mission is to provide advancements in cancer research, understanding, and care so the disease may be prevented or cured, and every survivor is healthy.

**Breastcancer.org**

http://www.breastcancer.org/treatment

A nonprofit organization dedicated to providing reliable, complete, and up-to-date information about breast cancer, Breastcancer.org strives to help women and their loved ones make the best decisions for their lives.

**Cancer survivorship and education**

**National Coalition for Cancer Survivorship (NCSS)**

www.canceradvocacy.org
1-888-650-9127

Born from the desire to replace the words “cancer victim” with “cancer survivor,” National Coalition for Cancer Survivorship (NCSS) has worked for almost 30 years to advocate for quality cancer care. NCCS works with legislators and policy makers to represent cancer patients and survivors to improve quality of care and life after diagnosis.

**Survivorship A to Z**

http://www.survivorshipatoz.org/cancer/212-586-5600

Produced to help provide the best chance for thriving and surviving beyond a cancer diagnosis, Survivorship A to Z makes unbiased information available covering topics like finances, legal and life after being diagnosed. The information is provided on a personal basis to ensure it is pertinent and practical.
A

ADJUVANT CHEMOTHERAPY (ADD-joo-vant key-mo-THER-a-pee): additional chemotherapy given after the primary (first) treatment to lower the risk that the cancer will come back.

ADRENAL GLAND (uh-DREE-nul gland): a small gland that makes hormones, which help control heart rate, blood pressure, and other important functions of the body.

ANALOG (A-nuh-log): a substance or compound that is artificially made (derived) from a naturally occurring substance or compound.

ANDROGEN (AN-droh-jen): a type of hormone that supports the development and maintenance of male sex characteristics.

ANEMIA (un-NEE-mee-uh): a condition in which the number of red blood cells is below normal.

ANGIOGENESIS (an-gee-o-JEN-i-sis): the formation of new blood vessels, which tumors need to grow and spread. These new vessels carry oxygen and nutrients to the tumor, allowing it to grow. Antiangiogenesis medications stop tumors from growing by blocking formation of new blood vessels.

B

BIOPSY (BI-yop-see): a procedure in which a small piece of tissue is removed and then examined for the presence of disease such as cancer.

BONE SCAN (bohn scan): a test used to help find cancer metastases in the bone. Bone scans can find abnormal things in the bone such as fractures, infections, or tumors.

C

CAT SCAN (cat scan): See computed tomography scan.

CHEMOTHERAPY (kee-mo-THER-a-pee): a treatment with strong drugs that attack cancer cells but may also temporarily harm some types of healthy cells.
COMPLEMENTARY MEDICINE (kom-plah-MEN-tah-ree MED-ah-sin): a type of nontraditional therapy used with, but not instead of, traditional medical treatment. Acupuncture or massage therapy are examples of complementary therapies.

COMPUTED TOMOGRAPHY SCAN (kum-pyoot-ed to-MOG-ra-fee scan): also called CT or CAT scan; an x-ray machine test that takes multiple pictures of organs and tissues, and uses a computer to create a detailed image of areas within the body.

CT SCAN (See-tee scan): See computed tomography scan.

DE NOVO (deh NOH-voh): in cancer, the first occurrence of cancer in the body.

EDema (eh-DEE-ma): swelling caused by excess fluid in body tissues.

EFFICACY (EF-uh-cuh-see): effectiveness. In medicine, efficacy refers to the ability of an intervention (such as a drug or surgery) to produce the desired beneficial effect.

ESTROGEN (ES-trow-jin): a hormone made by the ovaries, fat tissues, and other places in the body. It causes female sex characteristics and is important in menstruation and fertility. Estrogen may also cause the growth of some breast cancers (ie, those that are estrogen receptor-positive).

ESTROGEN RECEPTOR (ES-trow-jen re-SEP-tor): a structure on the inside of various cells in the body, most prominently the breast and uterus. Estrogen receptors are also located in brain, heart, liver, and bone, in addition to breast and uterus. When estrogen binds to the estrogen receptors, it causes cells to grow.

HER2 (her two): a protein involved in the growth of normal cells. It is found on some breast cancer cells, as well as on other types of cancer cells.

HER2-TARGETED THERAPY (her two TAHR-git-id THER-a-pee): therapy specifically for patients whose breast cancer overproduces the HER2 protein (see targeted therapy).
HORMONAL THERAPY (hor-MOWN-uhl THER-a-pee): a way of treating breast cancer that is hormone receptor-positive. Hormonal therapy can be used to block the effect of estrogen and/or progesterone or to prevent the ovaries from producing these hormones. It is different from hormone replacement therapy.

HORMONE RECEPTOR (hor-MOWN re-SEP-tor): a structure on the inside of a cell that receives and to which hormones, such as estrogen or progesterone, bind. When these hormones bind to the receptor, the breast cancer cells grow.

HORMONE RECEPTOR-NEGATIVE (hor-MOWN re-SEP-tor NEH-guh-tiv): in breast cancer, this means that the tumor cells do not have hormone receptors and, therefore, do not need hormones to grow.

HORMONE RECEPTOR-POSITIVE (hor-MOWN re-SEP-tor POZ-i-tiv): in breast cancer, this means the tumor cells have hormone receptors (see hormone receptor above) and need hormones, such as estrogen and progesterone, to grow.

HORMONE REPLACEMENT THERAPY (hor-MOWN ri-PLAYS-mu nt THER-a-pee): a treatment that gives estrogen and/or progesterone to women to help ease the symptoms of menopause.


JAUNDICE (JAWN-dis): a yellow discoloration of the skin and/or whites of the eyes. It is caused when the liver cannot get rid of bile and there is too much of a substance called bilirubin in the blood.

LOCAL THERAPY (LOW-kal THER-a-pee): a treatment directed only at the area where the cancer is, such as surgery or radiation to the breast.

LYMPH (limpf): a clear fluid that contains proteins, salts, water as well as white blood cells, which play an important role in fighting infections.

LYMPH NODES (limpf nowdz): small, bean-shaped structures located in several places throughout the body, such as the groin, armpit, and neck. Lymph nodes carry lymph (see lymph above) and may play a role in fighting cancer.
MAGNETIC RESONANCE IMAGING (MAG-ne-tik re-SOW-nins IM-i-jing): often called an MRI, this test uses magnetic fields to create clear images of internal body parts, including tissues, muscles, nerves, and bones.

MENOPAUSE (MEN-o-pawz): a stage in a woman’s life when menstruation stops and the ovaries stop making eggs and the hormones estrogen and progesterone.

METASTASIS (me-TAS-tah-sis): a cancer that has spread beyond the original site of the cancer to other parts of the body.

METASTASIZE (me-TAS-ta-sayz): what cancer cells do when they break off from the tumor where they started and spread to other areas of the body via the blood and/or the lymph.

METASTATIC (met-uh-STAT-ik): something that has spread (metastasized) to other locations.

MRI: See magnetic resonance imaging.

PET: See positron emission tomography.

POSITRON EMISSION TOMOGRAPHY (PO-zi-tron i-MISH-shin to-MOG-ra-fee): often called a PET scan, this procedure makes a detailed image of areas in the body and can be used to locate cancer cells. The procedure involves the injection of a small amount of a radioactive material into a vein. Because tumors soak up more of the radioactive material, they can be easily identified.

POSTMENOPAUSAL (POWST-men-o-PAW-zal): happening after menopause.

PREMENOPAUSAL (PREE-men-o-PAW-zal): happening before menopause.

PROGESTERONE (pro-JES-ter-own): a hormone that is important in menstruation and fertility. Progesterone may also affect the growth of some breast cancers (ie, those that are progesterone receptor-positive).

PROGESTERONE RECEPTOR (pro-JES-ter-own re-SEP-tor): a structure on the inside of a cell that receives and to which progesterone binds. When progesterone binds to the progesterone receptor, it causes breast cancer cells to grow.

PROTEIN (PRO-teen): an essential component in the body. Proteins form basic structures of the body, such as the skin and hair, and have many jobs that are needed for the body to work normally.
RADIATION (ray-dee-AH-shun) and RADIOThERAPY (RAY-dee-yo-THER-a-pee): x-rays used to treat cancer and the symptoms related to cancer.

RECEPTOR (reh-SEP-ter): a molecule inside, or on the surface of, a cell to which a specific substance binds, causing a specific effect in the cell.

RECURRENTCE (re-KAHR-ins): the return of cancer signs or symptoms after a period during which they could not be detected.

SIGNALING (SIG-niling): a process used by cells to control important functions in the body.

SYSTEMIC THERAPY (sis-TE-mik THER-a-pee): a treatment given orally or directly into the bloodstream to affect or treat cells all over the body rather than at a specific site. In breast cancer, systemic therapies may include chemotherapy, hormone therapy, and targeted therapy.

TARGETED THERAPY (TAHR-git-id THER-a-pee): This treatment specifically attacks the functioning of cancer cells, stopping their growth and spread to other parts of the body.

TRIPLE-NEGATIVE (TRI-pill NEG-a-tiv): breast cancer cells that do not have estrogen receptors (ER-), progesterone receptors (PR-), or large amounts of the HER2 protein (see HER2).

TUMOR (TOO-mor): abnormal tissue caused from cells growing more quickly than normal tissue.
For more information, visit LifeBeyondPink.com

Provided as an educational service by AstraZeneca.
If you have any questions about your condition, talk to your doctor.

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