



Understanding Breast Cancer

A Focus on Metastatic Breast
Cancer and Its Treatments

A Guidebook for Patients & Families

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Being diagnosed with *metastatic* breast cancer can be 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.

Learning more about metastatic breast cancer and its treatment may help ease some of these concerns. Patients and their families may get a sense of control from having the knowledge to make educated choices, and you may find support in knowing that you are not alone. There are over 150,000 women living with metastatic breast cancer in the United States today. Although metastatic breast cancer is generally not curable, it can often be controlled with treatment.

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

Medical terms are indicated in *italics* when they first appear in each section and you'll find a glossary for these words on page 40 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. You can ask your doctor or health care provider these questions at your next visit.

There are over 150,000 women living with metastatic breast cancer in the United States today.

Understanding metastatic breast cancer

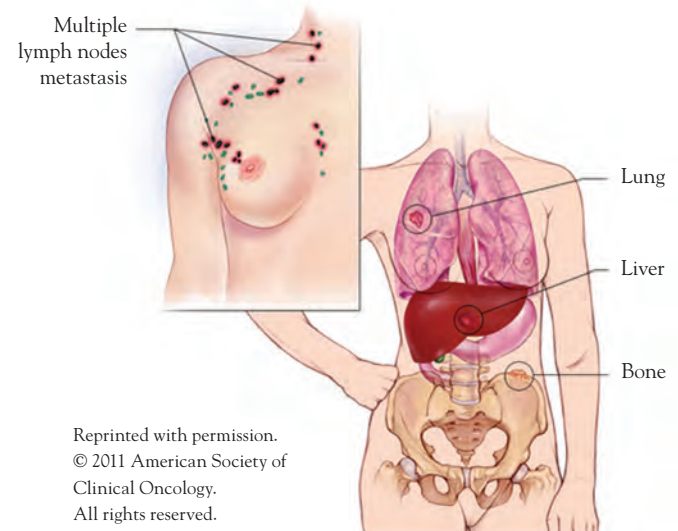
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Breast cancer occurs when cells in the breast become abnormal and grow without control. *Metastatic* breast cancer, otherwise known as stage IV breast cancer, is the most advanced stage of breast cancer and means that the cancer has spread from its original location. In some instances, a woman's first diagnosis of breast cancer may be metastatic.

In metastatic breast cancer, the cancer has spread beyond the breast and/or *lymph nodes* under the arm to distant areas of the body. Breast cancer cells can break away from the main *tumor* and travel or *metastasize* through the blood or another body fluid, called *lymph*, to other parts of the body. The most common places to which these tumor cells travel are the bones, lungs, or liver. Patients with metastatic breast cancer can have these tumor 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 tumor in the lung is not lung cancer but breast cancer that has metastasized.



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

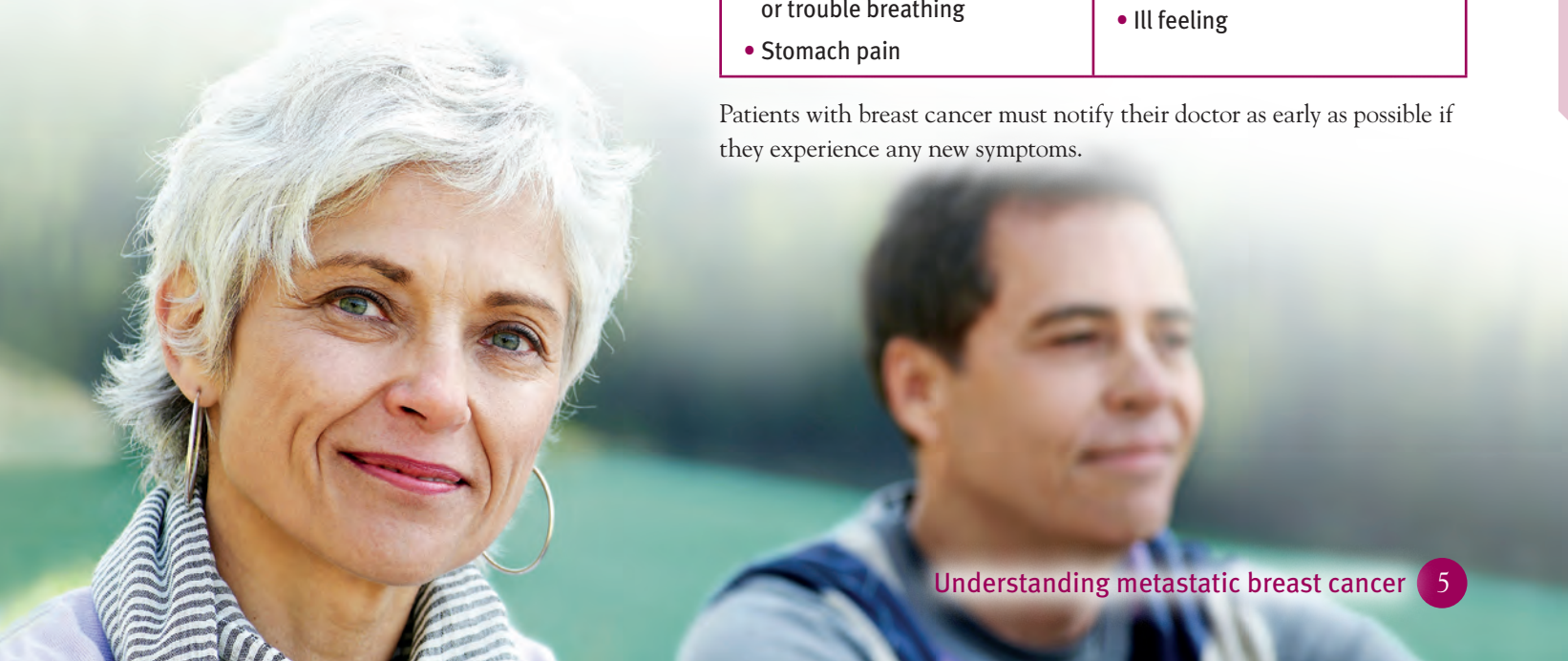


Signs and symptoms

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

- | | |
|--|---|
| <ul style="list-style-type: none">• Bone pain or fractures• Headaches or seizures• Coughing that will not stop or trouble breathing• Stomach pain | <ul style="list-style-type: none">• <i>Jaundice</i> (yellow skin)• Changes in vision• Extreme fatigue/tiredness• Ill feeling |
|--|---|

Patients with breast cancer must notify their doctor as early as possible if they experience any new symptoms.





Common tests

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

▶ **PHYSICAL EXAM.** The doctor gives the patient a complete physical examination


▶ **BIOPSY.** In many cases, a *biopsy*, which involves removing a small piece of tissue, is done to confirm the diagnosis and to determine if characteristics of the metastasis are different from the original cancer

▶ **BLOOD TEST.** Blood tests can help check a patient's general health and see how the cancer may be affecting the body

▶ **CHEST X-RAY.** A chest x-ray may be done to see if the breast cancer has spread to the lungs

▶ **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 with bone changes 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 a magnet and radio waves instead of x-rays to create a clear 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 in looking for 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 healthy cells. A special camera detects these areas of increased radioactivity, which is then used to form an image showing where cancer may have spread in the body



Types of metastatic breast cancer

Metastatic breast cancer has different characteristics that include *hormone receptor* status and *HER2* (human epidermal growth factor receptor 2) status. These characteristics are used to determine which treatment approach the doctor uses. Below are examples of different subtypes of breast cancer.

- *Hormone receptor-positive* breast cancer
- *Hormone receptor-negative* breast cancer
- *HER2-positive* breast cancer
- *HER2-negative* breast cancer
- *Triple-negative* breast cancer

► HORMONE-RECEPTOR POSITIVE BREAST CANCER

Some breast cancer tumors with *estrogen* and/or *progesterone* receptors are fueled by the female hormones, estrogen and/or progesterone, for growth. These are called hormone receptor-positive breast cancers. The presence of these receptors helps determine if the cancer may respond to *hormonal therapy*, a treatment that is discussed in the “Treatment Options” section.

Bone is the most common area for metastases in patients with breast cancer, and it is more common with hormone receptor-positive breast cancer.

Hormone receptor-positive breast cancer occurs in about 2 in 3 patients with breast cancer.

► HORMONE 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.

About 1 in 3 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.

About 1 in 5 patients with 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. Four out of 5 breast cancers are HER2-negative.

It may be possible to be diagnosed with any combination of receptor status (ie, HER2-positive or negative and hormone receptor-positive or 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 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:

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

Understanding treatment options

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 well they worked. The treatment used for *metastatic* breast cancer often depends on how the cancer was first treated
- 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
- Possible side effects of cancer therapy

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There are different options for the treatment of metastatic breast cancer, and if your cancer gets worse or you experience side effect-related problems, there are often other treatment options that your doctor may suggest.

Your own preferences may also play a role in the treatment decision-making process, so be sure to talk to your doctor about your concerns and goals of treatment. Learning about the disease and the treatment options will help you have a more informed conversation with your doctor.

Talk to your doctor about all the treatment options to decide which choices may be best for you.

Treatment options

On the next few pages, you can read more about treatment options for metastatic breast cancer.



Metastatic breast cancer has improved chances of responding to certain *systemic therapies* if the *estrogen receptor*, *progesterone receptor*, or *HER2* status is positive. Systemic therapy uses medications that travel 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*





In hormone receptor-positive breast cancer, hormonal therapy blocks the effect of estrogen.



Hormonal therapy


Hormonal therapy, sometimes called endocrine therapy, is a way of treating breast cancer with medication to block the effect of *estrogen* or to lower the level of estrogen in the body. Hormonal therapy is the main treatment for many women with *hormone receptor-positive* breast cancer. Hormonal therapy slows down or stops the growth of the cancer.

Hormonal therapy for breast cancer is NOT the same as *hormone replacement therapy*. Hormone replacement therapy is different because it gives *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 is often 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. If it is determined that the cancer is the type that is estrogen sensitive, hormonal therapy may be capable of stopping estrogen from helping tumor cells grow and divide. The best way to predict a woman's response to hormonal therapy is to check for the presence of estrogen or progesterone receptors in the cancer cell. Your doctor can perform a test to find out your tumor's hormone receptor status.

If hormonal therapy worked for you initially but then the cancer progressed (grew or spread), you may be given a different type of hormonal therapy. Several different types of hormonal therapies are approved by the US Food and Drug Administration (FDA) to treat hormone receptor-positive metastatic breast cancer.



Your doctor may choose different types of hormonal therapy depending on whether you are premenopausal or postmenopausal. 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 comorbidities (when 2 or more conditions/ diseases are present at the same time)
- 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 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
- Mood swings
- Muscle pain and joint stiffness and/or pain
- Bone thinning

Possible serious side effects may include:

- Blood clots, which may lead to a stroke
- Cancer of the uterus
- Loss of bone strength that can lead to osteoporosis and bone fractures

Be sure to talk to your doctor about any side effects you may have. There may be ways to help manage side effects.

Here are some questions you can ask your doctor to help you better understand your 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 long will I need to take it?
- How will I take the hormonal therapy?
How often will I take it?
- What are the side effects of hormonal therapy?
Will these side effects last a long time?
- How can I help manage the side effects of hormonal therapy?



Chemotherapy

Chemotherapy uses drugs to kill cancer cells. These drugs move throughout the body in 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*, where the
 - Cancer does not respond to/or has stopped responding to hormonal therapy
 - Metastatic disease that causes symptoms and threatens the function of vital organs

There are many chemotherapy drugs available. If the cancer gets worse or if treatment-related side effects are a problem, patients may be able to try another.

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

- How aggressive or fast-growing the cancer is
- The types of chemotherapy the patient already had
- Chemotherapy side effects
- Comorbidities
- Patient preferences



What to expect with chemotherapy

Drugs used for chemotherapy come in many different forms. Some chemotherapy drugs are taken by mouth as pills while others are given into a vein (*intravenously*) in a doctor's office or clinic. Patients may receive one chemotherapy drug or a combination of chemotherapy drugs.

It may take several hours to have chemotherapy at a clinic or hospital. Depending on the type of chemotherapy, the patient may take medications before the chemotherapy. These are called premedications and can help stop or reduce certain side effects, such as nausea.

Chemotherapy treatments are given in cycles. Different chemotherapy drugs have different cycles. For example, some chemotherapy drugs are given once a week, while others are given every three weeks. Patients may not always get the same drug(s) on treatment days. Patients take breaks between cycles and this may help reduce side effects.

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:

- Anemia (low red blood cell count)
- Extreme tiredness
- Hair loss
- Increased chance of bruising, bleeding, and infection
- Nausea and vomiting
- Neutropenia (low white blood cell count)



Other possible effects on the body include:

- Intestinal and stomach problems
- Appetite and weight changes
- Sore mouth, gums, and throat
- Nerve and muscle problems
- Dry and/or discolored skin
- Kidney and bladder irritation
- Sexual and fertility issues

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 resolve.

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 I could have?
- How will the chemotherapy be given to me?
- 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. In recent years, scientists have been working to develop targeted therapies for the treatment of some cancers. Targeted therapies work differently from traditional chemotherapy medications because they affect the genetic changes that cause cancer.

HER2-targeted therapy

These medications work against breast cancer cells that make too much of the *protein HER2*.

HER2-targeted therapy currently works through 2 different methods. One method interferes with HER2 by preventing the breast cancer cell from receiving growth signals. Another approach blocks signaling inside the cell.


Even if your HER2-targeted therapy stops working, you may continue to receive your HER2-targeted therapy or you may receive an additional HER2-targeted medication.

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 some liver problems.

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.



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:

- Treatments for bone metastases
- Surgery
- *Radiation* therapy

► TREATMENTS FOR BONE METASTASES

If breast cancer has spread to the bones, patients may be at higher risk for fracture, and may experience bone pain. Also, some treatments for breast cancer can cause bone thinning. In these cases, a doctor may give the patient medication to treat the bone along with a calcium supplement and vitamin D.

Bisphosphonates are drugs that strengthen bones and lower the risk of a bone fracture, minimizing the need for surgery or radiation to treat bone pain.

Patients usually take bisphosphonates with other cancer medications. Bisphosphonates are usually given into a vein (intravenously) every 3 to 5 weeks for patients with breast cancer metastases in the bones.

Side effects of bisphosphonates may include flu-like symptoms, bone pain, and osteonecrosis (damage to the jaw).

Another option for a drug that strengthens bones and prevents bone-related problems targets the cycle of bone breakdown and works differently than bisphosphonates.

This type of drug is given as an injection under the skin (subcutaneously) to patients with breast cancer metastases in the bones. It is usually administered in combination with calcium and vitamin D. Common side effects of the drug include nausea, diarrhea, and fatigue. Rare or serious side effects include infections, low blood calcium levels, and osteonecrosis.



► SURGERY

Surgery is relatively uncommon for patients with metastatic breast cancer, but it may be used for patients who need symptom relief after initial systemic treatment.

► RADIATION THERAPY

Radiation therapy uses x-rays to kill breast cancer cells. In metastatic breast cancer, it may be used to help with symptoms such as pain, or to improve breathing.

Sometimes, radiation may be used as *local therapy* to treat *metastases* that are causing problems in areas such as the spine, brain, bones, or liver.

Possible side effects of radiation therapy

Side effects of radiation therapy may depend on the area that is having the radiation treatment. The side effects usually lessen in time. However, sometimes they may continue for several months after treatment is finished. Your doctor may be able to provide recommendations for coping with some of the side effects. Some side effects of radiation therapy include:

- Skin redness, tenderness, or sensitivity
- Extreme tiredness
- Inflammation inside the mouth after radiation therapy to the head and neck area

Make sure to tell your doctor if you experience any side effects.



Here are some questions you can ask your doctor to help you better understand your treatment options:

Treatments for 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 long will treatment take?
- 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

Your doctor can help you decide if a clinical trial is an option for you. Clinical trials, also known as research studies, are used to test a new treatment to determine if it is safe, effective, and possibly better than standard treatments. Talk to your doctor to determine if a clinical trial might be an option for you.

Each clinical trial has a specific policy on what type of patients should be included and excluded. Factors such as age, gender, type of disease, prior treatments, or medical history may determine if the patient is appropriate for a given clinical trial. In addition, every trial has specific rules and guidelines for when patients need to have tests and procedures, as well as when they will receive medications and at what doses. In addition, patients will be seen regularly by the research team to monitor and 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 in a small group (20 to 80) of people
- ▶ **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
- ▶ **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
- ▶ **PHASE IV TRIALS** are conducted after a new treatment has been approved 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, talk to your doctor, healthcare team, friends and family and consider all the potential risks and benefits. You can find information about current clinical trials and search for trials at the National Cancer Institute's trial registry available at <http://www.cancer.gov/clinicaltrials/search>.





Things to consider when choosing to participate 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 as well as current treatment options
- Additional tests and doctor visits may be required

Here are some questions you can ask your doctor to help you better understand clinical trials:

- Is a clinical trial an option for me?
- What types of clinical trials can I join?
- What are my other treatment options if I don't enroll in the trial?
- What is the purpose of the trial?
- Why is this approach being tested? Why do researchers think this treatment might be better than the treatments that are already available?
- What are the pros and cons of clinical trials?
- What are the possible short- and long-term risks and side effects?
- How long will the clinical trial last?
- How and how often will the safety and effectiveness of the treatment be checked?
- What other kinds of extra tests, treatments, or doctor's visits are needed during the trial?
- What are the costs for participating? Will insurance cover the costs of the clinical trial?
- Will I still be able to take my other medications during the trial?

Living with metastatic breast cancer

Living with metastatic breast cancer

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Breast cancer patients with *metastatic* breast cancer face many issues. These issues may affect many parts of their lives, including the physical, psychological, social, and spiritual aspects. These issues with which patients have to cope include symptoms of their disease, changes in relationships with family and friends, ability to perform daily activities, and financial concerns. For many women, working through the psychological aspect may be challenging as it may lead to depression, anxiety, fear, and loss of independence. Loved ones and caregivers share the burden of these issues as well.



Coping with side effects and symptoms

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

Many effects of the cancer and its treatment can be managed, so it's important to talk to your health care team about any side effects, pain, or discomfort. For example, some treatments can help:

- Relieve pain
- Fight infections
- Treat anemia (low blood counts) that can make patients feel tired
- Strengthen bones
- Treat diarrhea and constipation
- Reduce nausea and vomiting
- Decrease hot flashes
- Treat depression

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



Improving overall health and wellness

Patients with breast cancer should take the time to make healthier choices. Staying active may help alleviate fatigue, boost stamina, and increase appetite. However, it is important to talk to your doctor before beginning any exercise program.

Good nutrition can help keep up patients' strength and help them cope better with side effects. Additionally, a healthy diet may help lower the risk of infection. Patients may wish to talk to a dietitian or nutritionist to help find a diet that works for them.

Exercise may help with fatigue and stress. It may also improve mood, self-esteem, and your sense of well-being.


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

Many women feel a range of emotions—shock, disbelief, fear, anxiety, sadness, anger, and depression.

Getting support from friends, family, and other patients can help. Some patients join a support group or online community for breast cancer patients. Other patients find groups focusing on certain stages of cancer, such as metastatic disease, especially helpful. They may find that talking with other breast cancer patients eases some of their fears as they learn how others have coped.



Some women find comfort in spirituality. Patients may wish to work with a religious leader to help them with the feelings they have about the disease.

Others may also wish to talk to a mental health professional. Patients should ask their doctor if he or she has any recommendations.

Everyone is different. Take time to find something that works for you.

Taking control

Communication is an essential part of learning about the disease and understanding treatment options. 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 with which you are not comfortable



You and your health care team

Your health care team is an important part of your cancer care. The team is made up of health care professionals, such as physicians, oncologists, nurses, nutritionists, psychologists, and social workers, who 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. Be sure to share your concerns and decisions with everyone involved in your care.

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

- Asking your oncologist for a treatment summary with your medical history and cancer treatment. 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 your doctors



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
 - Keep a medicine calendar near your pills and make a note every time you take your 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
- Talk to your health care provider if you are having trouble paying for medications. You may be able to get assistance from organizations that help patients pay for medication





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 to learn about additional resources that can help you pay for treatment.

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

National Cancer Institute (NCI)

<http://www.cancer.gov/cancertopics/coping/financial-legal>

American Cancer Society (ACS)

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

American Association for Cancer Research (AACR)

<http://www.aacr.org/home/survivors--advocates/information-about-support-groups,-clinical-trials,-financial-help-and-fundraising/how-to-find-financial-aid-and-advice.aspx>

Cancer Financial Assistance Coalition (CFAC)

<http://www.cancerfac.org/>

CancerCare

http://www.cancercare.org/get_help/assistance/cc_financial.php

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Here are some of the breast cancer organizations with Web sites that offer information, as well as support and help for patients, family, and friends. They are grouped by the type of service they provide most often, but many of these organizations offer many kinds 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 resources 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

American Cancer Society

www.cancer.org
1-800-ACS-2345

Association of Cancer Online Resources (ACOR)

Metastatic Breast Cancer Online Support Group
listserv.acor.org/SCRIPTS/WA-ACOR.EXE?SUBED1=CLUB-METS-BC&A=1

Association of Oncology Social Work

www.aosw.org
1-215-599-6093



Breastcancer.org

www.breastcancer.org

BCMets Mailing List

www.bcmets.org

Breast Cancer Care & Research Fund

www.breastcancercare.org
1-310-927-7606

CancerNet (American Society of Clinical Oncology)

www.cancer.net
1-888-651-3038

Cancer Care

www.cancercare.org
1-800-813-HOPE

**Cancer Support Community (formerly known as
The Wellness Community)**

www.cancersupportcommunity.org
1-888-793-9355

HER2 Online Support Group

her2support.org



Living Beyond Breast Cancer

www.lbbc.org
1-610-645-4567
1-484-708-1550

Mothers Supporting Daughters with Breast Cancer

www.mothersdaughters.org
1-410-778-1982

National Cancer Institute

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

Sisters Network Inc

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

Susan G. Komen for the Cure

ww5.komen.org
1-877 GO KOMEN

Young Survival Coalition

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



Treatment options

American Cancer Society

www.cancer.org
1-800-ACS-2345

American Society of Clinical Oncology

www.cancer.net
1-888-651-3038

Breastcancer.org

www.breastcancer.org

Living Beyond Breast Cancer

www.lbbc.org
1-610-645-4567
1-484-708-1550

Cancer survivorship

National Coalition for Cancer Survivorship

www.canceradvocacy.org
1-877-NCCS-YES

Lance Armstrong Foundation

www.livestrong.org
1-877-236-8820

Glossary

A

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.

ANGIOGENESIS (an-gee-o-JEN-i-sis): the making 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 new blood vessels from forming.

B

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

BISPHOSPHONATE (bis-FAS-fa-nate): a type of medicine used to help strengthen bones and lower the risk of a bone fracture.


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-mow-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 (ku m-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.

E

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.

G


GONADOTROPIN-RELEASING HORMONE (goh-NA-doh-TROH-pin-rih-LEE-sing hor-MOWN): a hormone produced by the hypothalamus (part of the brain), which causes the pituitary gland to make luteinizing hormone and follicle stimulating hormone, which are involved in reproduction.

H

HER2 (her two): a protein involved in the growth of normal cells and is found in excess on some breast 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 hormone receptor-positive 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.

I

INTRAVENOUS (in-tra-VEE-nis): in the vein.

J

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

L


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, which carry lymph (see lymph above). Lymph nodes may play a role in fighting cancer.

M

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): when cancer cells break off from the tumor where they started and spread to other areas of the body via the blood and/or the lymph, they are said to metastasize.

METASTATIC (met-uh-STAT-ik): something that has metastasized.

MRI: See magnetic resonance imaging.

O

OVARY (OW-vah-ree): the female sex organ that contains the eggs. It is the main source of estrogen in premenopausal women. The plural for ovary is ovaries.

P

PET: See positron emission tomography.


POSITRON EMISSION TOMOGRAPHY (PO-zi-tron i-MI-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. A small amount of a radioactive material is used. 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 (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.

R

RADIATION (ray-dee-AY-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 physiologic effect in the cell.

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

S

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.

T

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 that does not have hormone receptors (ER-, PR-) or excess of the receptor for HER2 (see HER2).

TUMOR (TOO-mor): abnormal tissue caused from cells growing more quickly than normal tissue.

Notes





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