

Breast Cancer Awareness



Living with Metastatic Cancer

For many years, a diagnosis of metastatic breast cancer was often discussed primarily in terms of life expectancy. Today, advances in treatment are changing that conversation.

Metastatic breast cancer, also known as Stage IV breast cancer, occurs when cancer spreads beyond the breast and nearby lymph nodes to other parts of the body, such as the bones, liver, lungs or brain. While metastatic breast cancer is not considered curable, new therapies are helping many patients live longer and maintain a higher quality of life than ever before.

As a result, more people are learning how to live with metastatic breast cancer as an ongoing condition rather than viewing it solely as an end-of-life diagnosis.

TREATMENT OPTIONS CONTINUE TO EXPAND

The treatment landscape for metastatic breast cancer has changed dramatically over the past two decades.

Physicians now have access to a growing number of targeted therapies, hormone therapies, immunotherapies and precision medicines that can slow disease progression while often causing fewer side effects than traditional

chemotherapy.

Treatment plans are tailored to the biology of the cancer. Factors such as hormone receptor status, HER2 status and genetic mutations help guide decisions about which therapies are most likely to be effective.

Many patients move through

several lines of treatment over time. When one therapy becomes less effective, another may be available. Researchers continue to develop new medications and combinations that extend survival and improve quality of life.

Clinical trials are providing access to promising emerging

treatments and contributing to ongoing advances in care.

Living Beyond the Diagnosis
For many patients, metastatic breast cancer becomes part of everyday life.

Individuals may continue working, traveling, caring for family members and participating in activities they enjoy



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while receiving treatment. Some people remain on the same therapy for years with stable disease and manageable side effects.

That does not mean life is free from challenges. Ongoing scans, treatment appointments and uncertainty can create emotional stress. Patients often live with the reality that treatment is intended to control the disease rather than eliminate it completely.

Mental health support, counseling, peer support groups and palliative care services can play important roles in helping patients navigate those challenges.

Importantly, palliative care is not the same as hospice care. It focuses on symptom management, comfort and quality of life and can be provided alongside active cancer treatment.

A FOCUS ON QUALITY OF LIFE

As survival improves, attention is increasingly shifting toward helping patients live well.

Managing pain, fatigue, sleep problems and treatment side effects can help individuals remain active and engaged in their daily lives. Nutrition, exercise, rehabilitation services and emotional support may contribute to overall well-being.

While the diagnosis remains serious, many patients today are living longer and fuller lives than would have been possible just a generation ago.

Treatment and Early Menopause

For many women, menopause arrives gradually as part of the natural aging process. For some breast cancer patients, however, treatment can bring menopause on suddenly and years earlier than expected.

Chemotherapy, hormone-blocking medications and surgical removal of the ovaries can all affect the body's estrogen production. The result may be a range of symptoms that can significantly impact quality of life, including hot flashes, sleep disturbances, mood changes and vaginal dryness.

Understanding why these changes occur and knowing what options are available can help patients manage symptoms while continuing lifesaving treatments.

WHY TREATMENT CAN CAUSE MENOPAUSE

Menopause occurs when the ovaries stop producing significant amounts of estrogen and progesterone. Some breast cancer treatments can disrupt or permanently halt that process.

Chemotherapy may damage the ovaries, particularly in women who are closer to natural menopause. Some women experience temporary



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menopause during treatment, while others enter permanent menopause.

Hormone therapies, including aromatase inhibitors and ovarian suppression medications, intentionally reduce estrogen levels because many breast cancers rely on the hormone to grow. Surgical removal of the ovaries also causes immediate menopause.

MANAGING COMMON SYMPTOMS

Hot flashes and night sweats are among the most frequently reported complaints. These symptoms can interfere with sleep, contribute to fatigue and affect daily activities.

Patients may find relief by dressing in layers, keeping bedrooms cool, avoiding known triggers such as alcohol

or spicy foods and practicing stress-reduction techniques. Some nonhormonal prescription medications may also help manage hot flashes.

Sleep disruption often becomes a challenge as well. Establishing a consistent sleep schedule, limiting caffeine late in the day and creating a relaxing bedtime routine may improve sleep quality.

Vaginal dryness and discomfort are common but are sometimes overlooked. These symptoms can affect comfort, intimacy and overall well-being. Water-based or silicone-based lubricants and vaginal moisturizers may provide relief. Health care professionals may be able to suggest additional treatment options.

Other possible symptoms include mood changes, joint pain, decreased libido, memory concerns and changes in bone health.

FINDING SUPPORT AND SOLUTIONS

Many women are surprised by the emotional effects of treatment-induced menopause. The experience can be particularly difficult for younger patients who had not expected to face menopause for many years or who are coping with fertility concerns.

Because some breast cancers are hormone-sensitive, treatments commonly used for natural menopause may not be appropriate for breast cancer survivors. That makes communication with the oncology team especially important.

The good news is that patients do not have to simply endure their symptoms. Physicians, gynecologists, menopause specialists, physical therapists and mental health professionals can all play a role in helping women manage treatment-related changes.

Hormone Receptor Status

A breast cancer diagnosis often comes with a flood of unfamiliar medical terms.

Among the most important are hormone receptor status and HER2 status, which help doctors determine how a cancer is likely to behave and which treatments may be most effective.

Patients may hear terms such as ER-positive, PR-positive or HER2-positive when discussing pathology reports. While the terminology can seem overwhelming, these markers play a critical role in developing a personalized treatment plan.

WHAT DO ER-POSITIVE AND PR-POSITIVE MEAN?

Some breast cancer cells have receptors, or proteins, on their surface that allow them to use hormones as fuel for growth.

ER-positive breast cancers contain receptors for estrogen, while PR-positive cancers contain receptors for progesterone. A tumor may be positive for one hormone receptor, both or neither.

Hormone receptor-positive breast cancers are the most common type of breast cancer. Because these cancers depend on hormones to grow, treatments can be designed to block that process.

Medications such as tamoxifen work by preventing estrogen from attaching to cancer cells. Other treatments, including aromatase inhibitors, reduce the amount of estrogen produced in the body.

Hormone therapy is often prescribed for several years after primary treatment to reduce the risk of recurrence. For many patients, these medications significantly improve long-term outcomes.

Pathology reports typically indicate



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whether receptors are present and may include the percentage of cancer cells that test positive.

UNDERSTANDING HER2-POSITIVE BREAST CANCER

HER2 stands for human epidermal growth factor receptor 2, a protein involved in cell growth.

HER2-positive breast cancers produce excessive amounts of this protein, causing cancer cells to grow and divide more rapidly. In the past, HER2-positive cancers were often associated with poorer outcomes.

Today, however, targeted therapies have dramatically changed the outlook for many patients.

Medications specifically designed to

target HER2-positive cancer cells can slow or stop tumor growth while minimizing damage to healthy tissue. These treatments are often used in combination with surgery, chemotherapy or other therapies.

HER2 testing is routinely performed on breast cancer tissue because it helps determine whether these targeted treatments may be beneficial.

HOW THESE RESULTS GUIDE TREATMENT

Hormone receptor status and HER2 status help physicians tailor treatment to the specific biology of a patient's cancer.

For example, a cancer that is ER-positive may respond well to hormone-blocking medications, while a

HER2-positive cancer may benefit from targeted therapies. Some tumors are both hormone receptor-positive and HER2-positive, requiring a combination of approaches.

Other cancers are classified as triple-negative, meaning they lack estrogen receptors, progesterone receptors and HER2 overexpression. These cancers require different treatment strategies.

Understanding receptor status allows doctors to move beyond a one-size-fits-all approach and select therapies most likely to be effective for each patient. For individuals facing a breast cancer diagnosis, these laboratory findings provide valuable information that helps shape treatment decisions and improve outcomes.

Cognitive Effects of Treatment

Many breast cancer survivors describe a frustrating experience that can linger long after treatment ends.

They forget appointments, lose track of conversations, struggle to find the right word or have difficulty concentrating on tasks that once felt routine.

Often referred to as chemo brain, these cognitive changes are common and very real.

Researchers continue to study exactly why they occur, but experts agree that cancer treatment can affect memory, attention, processing speed and executive functioning. Fortunately, many people see improvement over time and can benefit from strategies that help them manage symptoms.

MORE THAN SIMPLE FORGETFULNESS

Despite its nickname, chemo brain is not limited to chemotherapy patients. Cognitive changes can occur during or after chemotherapy, hormone therapy, radiation therapy and other cancer treatments.

Patients often describe symptoms such as difficulty concentrating, trouble multitasking, forgetting names or appointments, losing their train of thought and struggling to find familiar words during conversations. Cancer treatments can affect brain



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function directly, but fatigue, sleep disruption, anxiety, depression, stress and hormonal changes may play a role.

The experience varies widely. Some notice mild symptoms that resolve within months, while others continue to experience cognitive challenges for years after treatment.

PRACTICAL STRATEGIES FOR DAILY LIFE

While there is no single cure for chemo brain, experts

recommend a variety of techniques that can help improve day-to-day functioning.

Keeping a calendar, planner or smartphone reminder system can reduce the mental burden of remembering appointments and tasks. Writing down important information, making to-do lists and establishing routines can help compensate for memory lapses.

Many survivors find it useful to focus on one task at a time rather than attempt-

ing to multitask. Reducing distractions, such as background television or phone notifications, may improve concentration.

Physical activity often helps. The National Institutes of Health cite evidence that regular exercise may support cognitive function while improving mood, sleep and fatigue levels. It does so because exercise provides neuroprotection, reduces fatigue and promotes the release of endorphins.

In 2016, the Centers for Disease Control and Prevention released a study saying that breast cancer survivors who experienced memory impairment, distress and fatigue had lesser symptoms when they exercised. They also scored better on memory tests.

Getting adequate rest is equally important. Sleep problems are common during and after cancer treatment and may worsen concentration and memory difficulties.

WHEN TO TALK WITH YOUR HEALTH CARE TEAM

Patients should discuss cognitive symptoms with their oncologist or primary care physician, particularly if problems interfere with work, relationships or daily activities.

Health care providers can help identify other possible causes, including medication side effects, sleep disorders, depression, anxiety, thyroid conditions or vitamin deficiencies.

Researchers continue to explore ways to prevent and treat cancer-related cognitive impairment, but survivors should know they are not alone. Chemo brain is a recognized medical issue experienced by many cancer patients.

Although recovery timelines differ, awareness, support and practical coping strategies can help survivors navigate the challenges while maintaining their quality of life.

Blood Tests to Monitor Cancer

For decades, monitoring breast cancer has relied on imaging tests, tissue biopsies and physical examinations.

While those tools remain essential, researchers are increasingly exploring a newer technology that may provide important information through a simple blood draw.

Known as a liquid biopsy, this emerging approach analyzes cancer-related material circulating in the bloodstream. Scientists hope the technology will help physicians detect changes in cancer activity earlier, monitor treatment effectiveness and identify potential recurrences more precisely.

WHAT IS A LIQUID BIOPSY?

Unlike a traditional biopsy, which requires removing tissue from a tumor, a liquid biopsy examines blood samples for evidence of cancer. It is less invasive and can be done repeatedly.

As cancer cells grow and die, they release small fragments of genetic material into the bloodstream. These fragments, known as circulating tumor DNA (ctDNA), can sometimes be detected and analyzed through specialized laboratory testing.

This information can help identify genetic mutations as-



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sociated with a patient's cancer. In some cases, liquid biopsies may reveal how a tumor is changing over time or whether it is developing resistance to specific treatments. Scientists are studying other blood-based markers, including circulating tumor cells and proteins that may provide additional information about cancer activity.

Right now, according to BreastCancer.org, liquid biopsies are being done routinely only on people who have been diagnosed with metastatic breast cancer because it looks for circulating tumor DNA and can monitor changes.

In 2024, researchers reported that these tests might show promise for early stage breast

cancer screening, but there are still questions to be answered. The Journal of Liquid Biopsy continues to publish research on the investigations.

MONITORING TREATMENT AND RECURRENCE

One of the most promising uses of liquid biopsies is mon-

itoring how well treatment is working.

In some cases, changes in circulating tumor DNA may appear before tumors become visible on imaging scans. This could potentially help physicians determine whether a treatment is effective or whether a different approach should be considered.

Another line of investigation is whether liquid biopsies can identify minimal residual disease, meaning tiny amounts of cancer that remain in the body after treatment but are too small to detect through conventional methods.

The ability to detect these microscopic traces of disease could eventually help physicians better understand recurrence risk and personalize follow-up care.

For patients with metastatic breast cancer, liquid biopsies may help identify new genetic mutations that could influence treatment decisions.

PROMISE AND LIMITATIONS

Despite the enthusiasm surrounding liquid biopsies, experts caution that the technology is still evolving.

Not all breast cancers release enough circulating tumor DNA to be detected reliably. Results must be interpreted carefully and within the context of other medical information. As testing becomes more sophisticated, liquid biopsies may play an increasingly important role in personalized cancer care.

Tamoxifen and Uterine Cancer

For many people diagnosed with hormone receptor-positive breast cancer, tamoxifen can be a lifesaving medication.

The drug has been used for decades to reduce the risk of breast cancer recurrence and improve survival rates. However, patients taking tamoxifen should be aware of a lesser-known side effect: an increased risk of uterine cancer.

WHY TAMOXIFEN AFFECTS THE UTERUS

Tamoxifen belongs to a class of drugs known as selective estrogen receptor modulators or SERMs. Its unique ability to act differently in various parts of the body is what makes it so effective.

In breast tissue, tamoxifen blocks estrogen from attaching to cancer cells. Because many breast cancers use estrogen as fuel for growth, blocking those receptors can significantly reduce the chance of recurrence.

In the uterus, however, tamoxifen behaves differently. Rather than blocking estrogen, it can act more like estrogen itself. This stimulation may cause the lining of the uterus, known as the endometrium, to thicken over time.



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Most women who take tamoxifen will never develop uterine cancer. However, the medication is associated with an increased risk of endometrial cancer and, less commonly, uterine sarcoma. The risk generally rises with longer use and increasing age. According to the National Institutes of Health, the risk for developing endometrial cancer is about two to seven times higher than the general population, a risk of about 1 in 500.

Despite this risk, experts emphasize that the benefits

of tamoxifen usually far outweigh the potential harms for women who need the medication. BreastCancer.org points out that women who forgo endocrine therapy such as tamoxifen can double their risk of breast cancer recurring, depending on such factors as whether the breast cancer spread to the lymph nodes.

It is also worth noting that the survival rate for uterine cancer is 81% — and as high as 95% if it is confined to the uterus.

KNOW THE WARNING SIGNS

Because there is no routine screening test proven effective for women taking tamoxifen who do not have symptoms, awareness is especially important.

The most common warning sign of endometrial cancer is abnormal vaginal bleeding. Postmenopausal women should report any vaginal bleeding immediately. Pre-menopausal women should notify their physician about unusually heavy periods,

bleeding between periods or other unexpected changes.

Additional symptoms may include pelvic pain, pelvic pressure or unusual vaginal discharge.

Patients should not assume these symptoms mean cancer is present. Many benign conditions can cause similar issues. However, any unusual symptoms should be evaluated promptly.

MONITORING YOUR HEALTH

Women taking tamoxifen should continue regular gynecologic care and discuss any symptoms with their health care team. Physicians may recommend diagnostic testing such as a pelvic ultrasound, endometrial biopsy or other evaluations if concerns arise.

Routine ultrasounds or biopsies are not generally recommended for women without symptoms because studies have not shown that such screening improves outcomes.

For breast cancer survivors, the key message is balance. Tamoxifen remains one of the most effective tools available for reducing the risk of breast cancer recurrence and improving long-term survival. Being informed about potential side effects does not mean avoiding treatment.

Instead, it means partnering with health care providers, staying attentive to changes in the body and seeking evaluation when symptoms occur.

Challenges Beyond Treatment

Breast cancer is often thought of as a disease that primarily affects older adults, but thousands of younger people are diagnosed each year.

While breast cancer is less common in people under 40, those who receive a diagnosis during their 20s, 30s or early 40s often face challenges that differ significantly from those experienced by older patients.

In addition to making treatment decisions, younger patients may be navigating careers, raising children, planning families or establishing financial independence. These competing priorities can add layers of complexity to an already difficult journey.

BALANCING TREATMENT WITH LIFE MILESTONES

A breast cancer diagnosis often arrives during a period when many young adults are building careers, pursuing education, buying homes or starting families.

Treatment schedules can interfere with work responsibilities, career advancement and financial goals. Some patients may need extended time away from work, while others face concerns about maintaining health insurance coverage or managing treatment costs.

For parents of young children, treatment can present additional challenges. Fatigue,



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medical appointments and recovery periods may make it more difficult to keep up with caregiving responsibilities. Many families rely on support from relatives, friends and community organizations during treatment.

Young adults may also experience feelings of isolation.

Because breast cancer is less common among their peers, they may struggle to find others their age who understand what they are experiencing.

FERTILITY AND FAMILY PLANNING CONCERNS

One of the most significant concerns for many younger

patients is fertility.

Certain chemotherapy drugs can affect ovarian function, sometimes leading to temporary or permanent infertility. Hormone therapies commonly prescribed for hormone receptor-positive breast cancer may need to be taken for five to 10 years, potentially delaying

pregnancy plans.

For patients who hope to have children in the future, fertility preservation discussions should occur before treatment begins whenever possible. Options may include freezing eggs, embryos or, in some cases, ovarian tissue.

These decisions often must be made quickly after diagnosis, adding emotional stress during an already overwhelming time.

Patients should not assume fertility is no longer possible after treatment. Reproductive specialists and oncology teams can help individuals understand their options and develop plans that align with their personal goals.

ADDRESSING EMOTIONAL AND LONG-TERM NEEDS

Beyond physical treatment, younger survivors often face concerns about body image, intimacy, dating and relationships. Hair loss, surgical scars and treatment-related menopause can affect self-confidence and emotional well-being.

Because younger patients may live for decades after treatment, they often need ongoing monitoring for treatment-related side effects, bone health, heart health and recurrence risk. Support groups, counseling services and organizations specifically focused on young adults with cancer can provide valuable resources and connections.