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CANCER GUIDE

→ Choose your path forward

JOHN TESH

EMMY AWARD-WINNING ENTERTAINER & PROSTATE CANCER SURVIVOR



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Luminosity Study: A study in patients with previously treated locally advanced or metastatic c-Met+ Non-Small Cell Lung Cancer

Non-Small Cell Lung Cancer Research Study

Do you or someone you know have Non-Small Cell Lung Cancer? Consider the Luminosity Study.

This research study is evaluating the safety and effectiveness of an investigational study medication, called telisotuzumab vedotin (ABBV-399), in Non-Small Cell Lung Cancer patients (NSCLC).

Patient Population

Subjects with locally advanced or metastatic c-Met+ NSCLC, who have progressed on systemic cytotoxic therapy (or are ineligible) and an immune checkpoint inhibitor (as monotherapy or in combination with systemic cytotoxic chemotherapy, or ineligible), and prior anti-cancer therapies targeting driver gene alterations (if applicable).

Patients Must Meet the Following Criteria

- 18 years of age or older
- Diagnosed with locally advanced or metastatic non-small cell lung cancer
- Has histologically documented non-squamous cell NSCLC
- Tumor must not carry an EGFR mutation
- Completed one or two rounds of chemotherapy and the cancer has gotten worse during or after treatment
- Test positive for c-Met protein expression as assessed by an AbbVie designated IHC laboratory (AbbVie will perform this test at any time during previous treatments, even before the cancer has gotten worse)
- Does not have adenosquamous histology
- Has not received prior c-MET-targeted antibody-based therapies
- Other criteria apply*

*The study doctor will tell you about additional requirements to be able to participate in this study.

For more information, ask your doctor about the Luminosity Study or visit <https://ClinicalTrials.gov> (NCT03539536) to learn more about this study.

ABBV-399 is an investigational drug that is not approved by the FDA or other global health authorities. Safety and efficacy have not been established.



CANCER GUIDE



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A positive mindset will guide your way

When you receive a cancer diagnosis, it is easy to become overwhelmed with the amount of information you receive. As you begin to digest the news and make plans, consider these 10 suggestions for moving forward more confidently. They are lessons learned from cancer survivors, medical professionals and other people whose lives have been affected by cancer.

1 Be a student of your disease. Educate yourself about your diagnosis. It will help you be more confident in the decisions you make in the future. Knowing the resources to use makes a big difference. To ensure you get information from reputable and legitimate sources, start with the resources listed in this guide or visit PatientResource.com. Ask your health care team about recommended advocacy groups, support groups and other reputable resources.

2 Second opinions are encouraged. You will benefit from seeking the input of a doctor or cancer center that has extensive experience treating your specific type of cancer. Pursuing another opinion does not mean you doubt your doctor's capabilities. Every doctor's experience is different, and you deserve to learn as much as you can about your diagnosis and treatment options, especially if you have a rare diagnosis. A second (or third or fourth) opinion will either confirm the diagnosis or offer additional information for you to consider.

3 Genomic/molecular testing offers valuable insights into ways your cancer may be treated. The dramatic progress being made in the diagnosis and treatment of many types of cancer is due to this specialized testing (see *Genomic & Genetic Testing*, page 3). The results reveal specific information about the genes, proteins and other factors involved with your cancer. As a result, doctors are able to select therapies based on the tumor's DNA. Depending on the gene alteration your cancer has, a drug that is designed to target that abnormality may be available, providing you with a more personalized treatment plan. Ask your doctor whether this testing has been (or can be) done.

4 Open and honest communication is vital. Maintaining a good relationship with your health care team paves the way for a better treatment experience. Remember that you are a key part of your medical team. The team will rely on you to share how you are feeling, keep your appointments and stay on schedule with treatments. Determine the best way to contact your nurse navigator and others with your questions between appointments, such as by phone or through the online portal. Also make sure a caregiver or loved one has signed the appropriate forms to be able to communicate with the medical team.

5 Your treatment plan may change. Cancer can be unpredictable, so do not be surprised if your original plan changes. Your doctor will monitor you closely at regularly scheduled follow-up appointments to ensure your therapy is producing the expected results and for a possible recurrence or other health issue. Diagnostic lab and imaging tests may indicate a change in your diagnosis. Between appointments, be sure to alert your medical team if symptoms occur.

6 Clinical trials should be explored. These research studies could offer a valuable treatment option to consider. In some cases, a clinical trial may be your best first treatment option, especially if your diagnosis has few or no approved therapies. A trial may also be desirable if your current treatment becomes less effective, stops working or has side effects that disrupt your quality of life. Sometimes, when cancer progresses, genomic testing may reveal a new mutation that could make you eligible for clinical trials. Flip over this guide to read *Cancer Clinical Trials*.

7 Your treatment will include side effect management. Many side effects can be prevented, and most can be managed to help you maintain your desired quality of life. Your health care team will rely on a group of services known as supportive care to address the physical, emotional, practical, spiritual, financial and family-related challenges associated with cancer (see *Supportive Care*, page 6).

8 Telehealth may be available. Medical appointments by computer and phone do not replace in-person appointments but may be a convenient option if you live far from your doctor's office, do not feel well enough to go to an appointment or are at risk for infection. Ask your medical team about telehealth and whether it is covered by your insurance.

9 Surround yourself with support. Start by drawing on the support of your family, friends, neighbors and spiritual community. They can offer practical help, such as running errands, carpooling or making meals. Don't forget to take care of your emotional well-being, too. Find a support group for cancer survivors online or in your area. Many offer peer-to-peer counseling. Opening up to people who have had a similar experience can offer valuable comfort and support. Talking with a licensed counselor may also help you work through these and other difficult emotions.

10 Never lose hope. Advances in cancer treatment happen all the time. Connect with a resource who can help you stay tuned in to the latest developments. Find something that you want to live for, and make it a priority to live each day to the fullest. ■

New tests are key to unlocking the mysteries of cancer

Advances in genomic testing technologies are allowing scientists to better understand cancer and the mutations that drive it. This is possible through various types of testing that analyze each person’s cancer at a deeper level. Doctors use this information to diagnose and stage as well as find treatments that may be approved for those mutations. As a result, treating cancer is no longer “one size fits all.”



What are Mutations?

Cancer forms when genes begin to change, or mutate, within the structure of normal cells. Therefore, cancer is ultimately a disease of our genes, which are pieces of DNA — the information plan for the growth and control of cells. Genomic testing is built on finding mutations that occur in the DNA of a cell.

Just as every person has a specific, unique blend of genes, cancers are driven by a mixture of specific mutations, which are generally described as one of two types. They can be acquired during a person’s lifetime from environmental factors, such as tobacco use, ultraviolet radiation, viruses and age; or they are hereditary (inherited from a parent).

Acquired mutations may be caused by mistakes during cell division or by exposure to DNA-damaging agents in the environment. They can be harmful, beneficial or have no effect. Certain mutations may lead to cancer or other diseases. A mutation is sometimes called a variant.

Although the words “genomic” and “genetic” are often used interchangeably, they have different goals and outcomes.

Understanding Genomic Testing

Also known as molecular testing or tumor profiling, genomic testing is performed in a laboratory on samples of tumor tissue or blood. Genomic testing allows doctors to learn about the tumor’s genome, which is a complete set of its DNA. By unlocking the DNA code of the tumor, doctors can better understand its unique characteristics.

Genomic testing may not be necessary or beneficial for all patients to have, but it should be routine in all younger patients.

There is not one type of genomic test. A variety of tests are used to discover key pieces of information that could affect treatment options. The tests your doctor chooses may depend on the type of cancer you have and the known mutations associated with it. This testing is usually performed on tumor tissue (biopsy) and sometimes blood (liquid biopsy). Liquid biopsies test a sample of blood to identify circulating cancer cells shed from the tumor or pieces of DNA from the tumor, and check those cells for mutations.

It is typically performed during the diagnostic process to detect biomarkers, which are substances such as genes or molecules that can be measured in the blood, plasma, urine, cerebrospinal fluid or other body fluids or tissues (see Table 1). Biomarkers are produced by cancer cells or other cells of the body in response to cancer.

Genomic testing can also be done during treatment or if the cancer returns. When a tumor returns, it may have different mutations than before, which may affect treatment options.

Not every tumor has known mutations, and some are identified that do not yet have a specialized treatment. In addition, not all cancer centers offer molecular testing, so it is important to determine whether it has been performed on your blood or tissue samples. If it was, ask your doctor to explain which biomarkers were tested for and the results. If the testing has not been performed, request it to find out whether you may have access to drug therapies that may target the cancer.

Basics of Genetic Testing

Genetic testing helps determine whether you have inherited a mutation that increases your risk for developing certain types of cancer — even if you have not been diagnosed with cancer.

Several types of cancer are known to run in families. If you have a family history of a particular type of cancer, you may consider genetic testing to find out whether you carry the corresponding gene. However, it is important to understand that if you have inherited a mutated gene, it does not mean you will automatically develop cancer; it only means the risk is increased and you can explore ways to lower it, such as surgery, medication, frequent screenings or lifestyle changes.

Choosing to have genetic testing is a decision that affects your entire family. Knowing and sharing the information could help them be screened and monitored closely if they have a gene mutation associated with cancer. Preventing or detecting a cancer early offers the best chance of a successful treatment outcome. ■

▲ TABLE 1
HOW BIOMARKERS ARE USED

Purpose	Description
Screen for cancer	Most biomarkers are not useful for screening; only 1 biomarker (prostate-specific antigen) is used for screening.
Aid in diagnosis	Biomarkers can help identify the type of cancer when considered along with other clinical factors, such as symptoms and findings on imaging studies.
Determine prognosis	Some biomarkers are factors considered when determining prognosis (outcome).
Guide treatment	Some biomarkers can provide information about the types of treatment that are more likely to produce a response.
Monitor response to treatment	Biomarkers can be tested to monitor the effectiveness of treatment, especially for advanced cancers.
Detect recurrence or progression	This is one of the primary uses of biomarkers. If the level of a tumor marker is elevated before treatment or is low after treatment and then begins to increase, it is likely that cancer is recurring or progressing.

Partner with your doctor to understand your treatment options

Significant progress in diagnosing and treating cancer has been made in recent years. New classes of drugs, drug strategies and combination treatments have changed how doctors approach this disease. As a result, more options are available, offering patients hope for living longer.

Your treatment plan will be based on many factors: whether you are newly diagnosed or are experiencing a recurrence; the presence of symptoms; your overall health; the aggressiveness of the cancer; and your goals of treatment, which often include curing the cancer, controlling tumor growth and pain, and improving your quality of life. Your doctor will look at the characteristics that make your diagnosis unique, such as your staging and pathology results, the presence of biomarkers and the potential response to certain types of treatment.

Depending on your diagnosis, it may benefit you to seek out a specialist, especially if you have a rare type of cancer or one that does not have many available treatments. Specialists are typically leaders in research and more aware of cutting-edge treatments, including clinical trials. If a specialist is not nearby, you can request that one consult with your local oncologist. The second opinion is valuable, and it is wise to gather all the information you can.

The goal is for you to receive the best level of care possible. For that to happen, the treatment plan you start with may change if test results or symptoms indicate the need. Your doctor will monitor you regularly, and you will be responsible for communicating with your health care team and keeping follow-up appointments.

Treatment Types

Treatment plans often include one or more approaches.

Surgery is the primary method for treating a solid tumor. Removing it may offer the best chance of controlling the disease and preventing it from spreading, especially for people with early-stage disease. Your doctor may also perform a surgical procedure to stage the cancer or to relieve or prevent symptoms that may occur later.

Radiation therapy uses high-energy radiation to destroy cancer cells and shrink tumors. Other uses include targeting specific parts of the body for localized disease or bone pain, and giving it prior to a stem cell transplant. It may also be delivered as neoadjuvant therapy to shrink

▲ FIGURE 1
RADIATION THERAPY



tumors before surgery and as adjuvant therapy to kill remaining cancer cells after surgery.

External-beam radiation therapy (EBRT) delivers radiation from a machine outside the body (see Figure 1). Types of EBRT include three-dimensional conformal radiation therapy, stereotactic body radiotherapy and intensity-modulated radiation therapy. A newer type of radiation called proton therapy uses charged particles called protons.

Brachytherapy, also called internal radiation therapy, uses a radioactive substance sealed in needles, seeds, wires or catheters placed directly into or near the cancer. Radiation may be delivered at a high dose rate over several hours or at a low dose rate over a longer period.

Alpha emitter radiation therapy uses radiopharmaceuticals, which are drugs that give off targeted radiation, to suppress cancer in the bones and reduce pain.

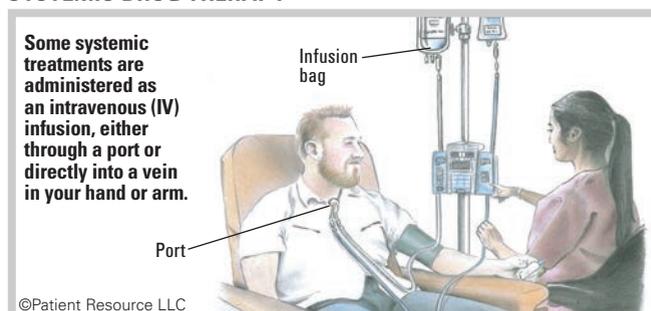
Systemic therapy may be given through an IV into a vein or a port in your body (see Figure 2). It may also be given as an injection (shot), subcutaneously (injection under the skin) or orally as a pill or liquid. The goal is to destroy microscopic cancer cells thought to be hiding in other organs of the body (such as the liver, lungs, bones), and these treatments therefore lower the risk of future metastatic cancer.

Chemotherapy uses drugs to kill rapidly multiplying cells throughout the body. It is typically delivered in cycles, with treatment periods followed by rest periods to give your body time to recover. Chemotherapy may be used alone or with other drug therapies and forms of treatment, such as stem cell transplantation or chimeric antigen receptor (CAR) T-cell therapy, a type of immunotherapy.

Immunotherapy stimulates your immune system to find and attack cancer. This strategy trains the immune system to respond to cancer, giving it the potential for a response that can extend beyond the end of treatment. Different types of immunotherapy approved to treat the types of cancer are discussed in this guide. Some are used alone or with other therapies.

Targeted therapy kills cancer cells or stops the progression of disease. The drugs travel throughout the body via the bloodstream looking for specific proteins and tissue environments to block cancer cell signals and restrict the growth and spread of cancer. This therapy targets genes, proteins or other substances that support the tumor. Some of these drugs may be given alone or in combination with other drug therapies. Different types of targeted therapy may be available depending on your diagnosis.

▲ FIGURE 2
SYSTEMIC DRUG THERAPY



Hormone (endocrine) therapy blocks the stimulating effect of hormones. It slows or stops the growth of cancer and is used because hormones that occur naturally in the body promote the growth of some cancers. Both drug treatment and surgery can function as hormone therapy.

Corticosteroids are drugs that can help reduce inflammation and may offer other benefits. They can be used alone or in combination with other drug therapies.

Bone-modifying drugs can treat bone problems caused by some cancers and therapies. These drugs can also prevent further bone damage from occurring.

Active surveillance, also called watchful waiting or watch and wait, may be recommended for very slow-growing cancers. Postponing treatment allows you to avoid potential treatment side effects for as long as possible while your doctor closely monitors you for signs that active treatment is necessary. Regularly scheduled imaging tests and blood tests will be crucial. Treatment should begin as soon as cancer progression occurs.

Stem cell transplantation, also known as bone marrow transplantation, is an infusion of healthy blood stem cells into the body. The two main types are autologous (auto) and allogeneic (allo) transplants.

An auto transplant uses the patient's own stem cells, which are collected, filtered, processed and frozen. Chemotherapy and sometimes full-body radiation (conditioning) are given to destroy cancer cells. The reserved stem cells are thawed and infused back into the patient's body. An allo transplant uses stem cells donated by a family member or unrelated donor. It may be used for patients with a high risk of relapse, those who are not responding fully to other treatments or those who have relapsed disease.

Radiofrequency ablation (RFA) may be used to treat a tumor that is inoperable or when surgery is not an option for another reason. The minimally-invasive, image-guided procedure kills cancer cells by inserting a needle through the skin directly into the tumor and running electrical current through it to subject the tumor to extreme temperatures. Other types of therapy include microwave ablation (MWA) and cryoablation, also called cryosurgery or cryotherapy.

Plasmapheresis may be used if the blood becomes too thick. It uses a machine to filter plasma out of the blood.

Clinical trials are medical research studies that may offer the opportunity to try an innovative treatment before it is widely available. Flip over this guide to learn more in *Cancer Clinical Trials*. ■

WORDS TO KNOW

First-line therapy is the first treatment used.

Second-line therapy is given when the first-line therapy does not work or is no longer effective.

Standard of care refers to the widely recom-

mended treatments known for the type and stage of cancer you have.

Neoadjuvant therapy is given to shrink a tumor before the primary treatment (usually surgery).

Adjuvant therapy is additional cancer treatment given after the primary treatment.

Systemic treatments travel throughout the body and are typically drug therapies.



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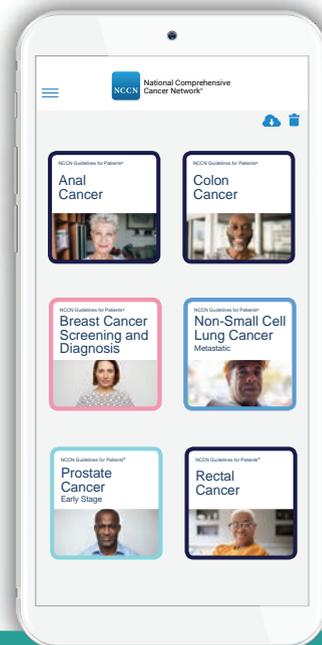
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Whole person care for the mind and body

Advances being made in cancer treatment also focus on better ways of managing the side effects that accompany the diagnosis. As a result, people facing cancer have access to services that are designed to help improve their overall well-being before, during and after treatment. These services are known as supportive care or palliative care.

Palliative care is often confused with hospice care, but they are not the same. Palliative care can begin immediately after diagnosis and last throughout the cancer care continuum. Hospice care is more often used toward the end of life; however, it also has a key component of palliative care included in the services and programs that are offered.

Though most people use supportive care to address the physical side effects of cancer treatment, resources are available for the many other challenges associated with cancer, and can assist with mental health, nutrition, fitness, spirituality, finances and more.

You will work closely with palliative care specialists or other members of your health care team who are trained in side effect and symptom management. These services may be offered at a hospital, cancer center or medical clinic and can be adjusted as your needs change throughout treatment. Your family members, caregivers and others close to you can also benefit from this support. Palliative care specialists should be viewed as quality-of-life coaches who strive to preserve or restore your quality of life, which needs to be the priority for care.

Physical Side Effects

One of the most common concerns with cancer treatment is the physical side effects. It is recommended that you talk with your medical team before treatment begins about possible severe and common side effects and what to do if they occur.

Potentially severe side effects, also known as adverse effects, are usually uncommon, but they can occur with certain treatments. Ask your doctor whether you are at risk from the therapies in your treatment plan, how to identify the symptoms and when to seek emergency care. Report symptoms immediately so they can be treated right away. Prompt treatment can be life-saving.

- **Infection** can occur as a result of a low white blood cell count (neutropenia) or other factors. Contact your doctor immediately – do not wait until the next day – if you have any of these symptoms: oral temperature over 100.4 °F, chills or sweating; body aches, chills and fatigue; coughing, shortness of breath or painful breathing; abdominal pain; sore throat; mouth sores; painful, swollen or reddened skin; pus or drainage from an open cut or sore; pain or burning during urination; pain or sores around the anus; or vaginal discharge or itching. If you cannot reach your doctor, go to the emergency room.
- **Immune-related adverse events** (irAEs) may occur with certain immunotherapy drugs if the immune system becomes overstimulated by treatment and causes inflammation in one or more organs or systems in the body. Some irAEs can develop rapidly, becoming severe and even life-threatening without immediate medical attention.

- **Cytokine release syndrome** can occur with chimeric antigen receptor (CAR) T-cell and other drug therapies if immune cells affected by treatment rapidly release large amounts of cytokines into the bloodstream. Symptoms may include headache, fever, nausea, rash, low blood pressure, rapid heartbeat and difficulty breathing.
- **Infusion-related reactions** most frequently occur with treatment given intravenously (IV) through a vein in your arm, usually soon after exposure to the drug. Reactions are generally mild, such as itching, rash or fever. More serious symptoms such as shaking, chills, low blood pressure, dizziness, breathing difficulties or irregular heartbeat can be serious or even fatal without medical intervention.
- **Tumor lysis syndrome** (TLS) may occur after treatment of a fast-growing cancer, especially certain blood cancers. Symptoms

▲ TABLE 1
SOME COMMON SIDE EFFECTS OF CANCER AND ITS TREATMENT

Side Effects	Symptoms
Anemia	Low energy, weakness, dizziness, shortness of breath, light-headedness, rapid heartbeat
Bone loss and pain	Weakened bone caused by the cancer or treatment
Breathing problems	Shortness of breath (dyspnea) with or without cough (may be caused by anemia, a lower-than-normal red blood cell count), upper respiratory infections
Bruising and bleeding	May be caused by thrombocytopenia, a lower-than-normal number of platelets in the blood
Chemo brain (cognitive dysfunction)	Brain fog, confusion and/or memory problems
Constipation	Difficulty passing stools or less frequent bowel movements compared to usual bowel habits
Decreased appetite	Eating less than usual, feeling full after minimal eating, not feeling hungry
Diarrhea	Frequent loose or watery bowel movements that are commonly an inconvenience but can become serious if left untreated
Fatigue	Tiredness that is much stronger and harder to relieve than the fatigue a healthy person has
Fever	Raised body temperature that could signal an infection
Hair loss (alopecia)	Hair loss on the head, face and body
Headache	Pain or discomfort in the head
Hypercalcemia	Excessive thirst and/or urination, headaches, nausea/vomiting, severe constipation, confusion, depression or decreased appetite
Lymphedema	Swelling where lymph nodes have been removed or damaged
Nausea and vomiting	The feeling of needing to throw up and/or throwing up
Neuropathy	Numbness, pain, burning sensations and tingling, usually in the hands or feet at first
Neutropenia	Low white blood cell count that increases the risk of infection
Pain	Pain and aches that occur in the muscles, bones, tendons, ligaments or nerves
Skin reactions	Rash, redness and irritation or dry, flaky or peeling skin that may itch
Weight changes	Unintentionally gaining or losing weight

may include vomiting, diarrhea, muscle cramps or twitches, neuropathy and decreased urination. TLS can potentially cause damage to the kidneys, heart, liver or other organs.

Common physical side effects can occur with many types of cancer treatment. Keep in mind that every person's reaction is unique, even when the diagnosis and treatment are similar. Learn to recognize the symptoms of the most common physical side effects so you can let your doctor or palliative care team know if they occur (see Table 1, page 6).

Emotional Side Effects

A cancer diagnosis affects more than just your body. It also affects your well-being, making it important to take advantage of the various mental health services available. Support is accessible in many forms, both in person and online. Some organizations offer one-on-one buddy programs that pair you with another person who has the same type of cancer as you. Sharing your feelings with people who can relate because they have been through something similar can be very satisfying.

Following are some emotions you may experience and suggestions for ways to feel better.

Anxiety can begin as soon as you receive your diagnosis. Moderate to severe anxiety is often treated with medication, therapy or a combination of both. Explore relaxation techniques, such as meditation, muscle relaxation, yoga or guided imagery.

Depression is a psychological reaction to your situation as a whole. Certain ongoing treatments, such as chemotherapy or hormone therapy, can cause or contribute to depression. Don't avoid talking to your doctor about it because you think depression is just part of having cancer — it isn't. If you feel hopeless, helpless or numb for more than a few days or if you have thoughts of death or of attempting suicide, seek medical attention immediately.

Doubt can lead to confusion and questions about the meaning of life and its purpose. Some people find strength in support from family, friends, the community or spirituality. It may also help to open up to a counselor or support group.

Fear is common. Making plans may become difficult because every ache and pain triggers a concern. Do your best to stay focused on the present.

Guilt may occur if you feel you've been a burden to loved ones or if you wonder why you survived when others with similar conditions didn't. Talk with a therapist about these feelings.

Scanzxiety describes the anxiety that can happen when you are awaiting results from imaging scans or laboratory tests. It is normal to feel this way. It may help to set up expectations with your medical team so you can know when to expect results instead of being left waiting and wondering. Keep your mind occupied with things you enjoy, such as reading, exercising or meditating. Staying busy gives you less time to worry. ■



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Make a game plan for navigating childhood cancer

Learning your child has cancer can leave you feeling numb. As you digest the news, know that it will be easier to move forward once you realize you are not alone. Along with the support system you may already have in place, you will be guided by your child's health care team. This varied group of professionals is specially trained to lead your child and your family through this unexpected journey.

It is often difficult to know what to do first. Begin by identifying an oncologist or cancer center with extensive experience treating your child's type of cancer. Treating your child's illness requires the expertise of a specialist because treating cancer in children is not the same as in adults. Your child will benefit from a pediatric oncologist who stays abreast of the latest advances. Keep in mind that although you are likely very emotional and may feel uneasy leaving the care of your trusted family doctor, the goal is for your child to have access to the best care possible. Your child's pediatrician can give you a referral and then stay involved to the degree appropriate.

Seeking a second opinion is also encouraged. Traveling to get one is not always necessary. You can request that your child's test results be sent to another doctor or hospital at any time, even after treatment has started. Seek out a pediatric oncology specialist who specifically treats and has extensive expertise in the type of cancer your child has. There may even be a clinical trial that may benefit your child that such an expert could give you access to.

A pediatric cancer diagnosis affects the whole family. Once you have determined the course of treatment, turn your attention to these important areas.

Communicating with your child. How to talk with your child about their cancer diagnosis and treatment depends on their age. Infants and toddlers will not understand much. Elementary school-aged children can best learn with simple explanations and sometimes the use of dolls provided by social workers who may tell them, "This doll also has cancer and is getting the same treatments, injections, etc." Teenagers can be the most challenging to communicate with, not because they don't understand but because they understand too much. They may feel angry and project that anger onto you when they miss out on activities, look and feel ill, and are not able to do the things their classmates do. They also may be worried about dying. Honesty is important. Don't create an untrusting situation at this critical time. Explain the diagnosis and help your child understand what it means to them, such as how treatment may make them feel, why they may not be able to attend school or see friends for a while, and the potential for hair loss. Hair loss typically accompanies chemotherapy, which is a common treatment for childhood cancer. It can be a traumatic experience. Plan ahead for how to cope with it. Explore ball caps, hats, scarves and wigs if hair loss is likely. Your child's nurse navigator or the child-life specialist on staff can help ensure you have an age-appropriate discussion about what to expect. They also can provide online and community resources, including support groups for teens dealing with cancer.



Supportive care. You also have access to resources that help you cope with the emotional, nutritional, financial and other effects of your child's illness. Your pharmacist can help you understand how to manage the side effects of your child's medications, along with how to store them and dispense them if that becomes your responsibility.

Sibling needs. Maintaining normalcy as best you can for your entire family, including your child who has cancer, is key. It reduces stress and anxiety. Keep your kids on the same school and activity schedule. Enlist the help of other parents and friends for carpooling. Have regular meal times. Give each of your children time with you to talk about their daily lives and about their fears related to their sibling's illness. They are likely feeling the same anxiety as you. Recognize that they may not want to burden you with their feelings. In that case, set up a time for them to talk with a social worker or child-life specialist.

Your child's network. Let your child's teachers know about your situation and determine whether school work can be done remotely. When your child can return to school, discuss accommodations to make the transition smooth. Socialization can do a lot for morale. If in-person visits aren't possible, encourage your child and their friends to keep up with phone calls, video games and social media.

Support resources. Advocacy groups and local and national organizations can recommend a variety of activities designed for everyone in the family, including peer-to-peer counseling; camps for kids with cancer and for their siblings; and spiritual guidance.

Your well-being. Find an outlet for your emotions. Share your feelings with a close friend, enlist the aid of a therapist, or connect with a support group for parents of a child with cancer. Relax, whether it is reading a book, watching a movie or just having some alone time. Take care of yourself physically, too. Exercise regularly, eat right and keep up with your medical appointments and regular screenings. You will not be able to care for your child if your health suffers. ■

Explore All Treatment Options

Now enrolling children and adolescents for an Ewing sarcoma treatment study.

About the Study

The Pfizer A5481092 study is comparing the effectiveness of the study medicine palbociclib when taken in combination with chemotherapy medicines irinotecan (IRN) and temozolomide (TMZ) versus IRN and TMZ chemotherapy alone for the treatment of Ewing sarcoma.

Who Can Participate?

This study may be an option for children and young adults who:

- Are 2 to 20 years old
- Have been diagnosed with recurrent or refractory Ewing sarcoma
- Have not received prior treatment with a CDK4/6 inhibitor

There are other requirements to join this clinical study. A study team member will help determine if this study is right for you or your child based on all participation criteria.

What to Expect

If you decide to participate in this study, you or your child will be randomly assigned to receive the study medicine palbociclib in combination with IRN and TMZ, or IRN and TMZ alone. You or your child is twice as likely to receive palbociclib than not, and you will know what you or your child has been assigned to receive.

The study medicines are taken in 21-day treatment cycles. The number of treatment cycles completed will vary for everyone. You or your child may continue receiving treatment for as long as it is of benefit.

You will need to attend regular visits so the study team can monitor how you or your child is responding to treatment.

Learn More

To learn more or connect with a member of the study team, please visit www.EwingSarcomaStudy.com or call **800-887-7002**. If you are a physician interested in referring a patient, please call **833-751-4343**.

Breast Cancer

Breast cancer can occur in women and men, and it develops when genes in normal cells change or mutate. As cancer cells grow and divide, they form a disorganized mass composed of billions of abnormal cells called a tumor.

Cancer cells can penetrate and damage nearby organs and tissues. They can also break away from a tumor and spread to other parts of the body through the bloodstream or lymphatic system, a process known as metastasis.

Multiple types of breast cancer exist. Non-invasive breast cancer lacks the ability to spread beyond the ductal or lobular walls. Invasive breast cancer spreads beyond the ductal or lobular structures into surrounding fatty and fibrous breast tissue and has the ability to spread to other organs.

The results of a biopsy, imaging scans, immunohistochemistry and genomic testing are used to classify and stage breast cancer, according to the American Joint Committee on Cancer (AJCC). Immunohistochemistry on the initial biopsy material will include the tumor's estrogen receptor (ER), progesterone receptor (PR) and human epidermal growth factor receptor-2 (HER2) status to determine the presence or absence of these protein biomarkers. Tumor grade, biomarkers and molecular and genetic changes in cancer tissue identified in multi-gene panels are also considered.

TREATMENT OPTIONS

One or more of the following may be used.

Surgery is the most common treatment for many breast cancers. It removes the tumor in the breast and it may be used to prevent or treat symptoms or complications of breast cancers that have metastasized to distant organs.

Lymph node surgery is usually necessary to stage an invasive breast cancer or to control cancer that has spread to the nodes. A sentinel lymph node biopsy removes a few nodes, and an axillary lymph node dissection removes most of the underarm fatty tissue containing many lymph nodes. The lymph node surgery is usually performed at the same time as the breast surgery.

A **lumpectomy**, also called breast-sparing or breast-conserving surgery, removes the tumor and a small margin of normal-appearing tissue around it. It is usually followed by radiation treatments to kill microscopic cancer cells hiding in other parts of the breast.

A **mastectomy** involves removal of the entire breast. Total mastectomy is the surgical removal of the entire breast without removing muscle. In a modified radical mastectomy, a total mastectomy is performed along with removal of a block of underarm (axillary) lymph node tissue (axillary dissection). Reconstructive surgery may also be an option (see PatientResource.com/Breast_Cancer_Treatment).

Survival rates for breast-conserving surgery plus radiation therapy compared to total mastectomy (with or without reconstruction) are essentially the same.

Radiation therapy is almost always delivered after lumpectomy to destroy hidden cancer cells. Post-mastectomy radiation therapy is sometimes necessary. For patients with a high risk of the cancer growing back on the chest wall area (after mastectomy and/or axillary surgery), this treatment can lower this risk.

Chemotherapy drugs are medications that destroy rapidly-dividing cells such as those within breast tumors. Surgical pathology results will determine whether this treatment is necessary in the adjuvant (post-operative) setting. Some patients will be recommended to receive chemotherapy in the neoadjuvant (preoperative) setting. Neoadjuvant chemotherapy may be considered to shrink a large, bulky tumor so it can be removed surgically or to improve surgical options such as lumpectomy. Neoadjuvant chemotherapy also offers the advantage of helping your doctor determine how well the chemotherapy drugs work and whether additional therapy is needed post-operatively.

Targeted therapy uses drugs or other substances to identify, attack and destroy specific types of cancer cells or to slow disease progression. Types include anti-HER2 drugs, kinase inhibitors and monoclonal antibodies. It can be given before or after surgery, based upon disease size and stage.

Hormone (endocrine) therapy is used to treat ER+/PR+ tumors. Several types may be used depending on the stage of the cancer and menopausal status of the female patient. Drugs that lower or block estrogen may be used, or the

SOME COMMON DRUG THERAPIES FOR BREAST CANCER

These therapies may be used alone or in combination. For some combination therapies your doctor might suggest, go to PatientResource.com/Breast_Cancer_Treatment

CHEMOTHERAPY

- ▶ capecitabine (Xeloda)
- ▶ carboplatin (Paraplatin)
- ▶ cisplatin
- ▶ cyclophosphamide
- ▶ docetaxel (Taxotere)
- ▶ doxorubicin (Adriamycin)
- ▶ epirubicin (Ellence)
- ▶ eribulin (Halaven)
- ▶ fluorouracil (5-FU)
- ▶ gemcitabine (Gemzar)
- ▶ ixabepilone (Ixempra)
- ▶ liposomal doxorubicin (Doxil)
- ▶ paclitaxel (Taxol)
- ▶ protein-bound paclitaxel (Abraxane)
- ▶ vinorelbine (Navelbine)

HORMONE THERAPY

- ▶ anastrozole (Arimidex)
- ▶ ethinyl estradiol
- ▶ exemestane (Aromasin)
- ▶ fluoxymesterone
- ▶ fulvestrant (Faslodex)
- ▶ goserelin acetate (Zoladex)
- ▶ letrozole (Femara)
- ▶ leuprolide acetate (Eligard, Lupron, Lupron Depot)
- ▶ megestrol acetate (Megace)
- ▶ tamoxifen
- ▶ toremifene (Fareston)

IMMUNOTHERAPY

- ▶ pembrolizumab (Keytruda)

TARGETED THERAPY

- ▶ abemaciclib (Verzenio)
- ▶ ado-trastuzumab emtansine (Kadcyla)
- ▶ alpelisib (Piqray)
- ▶ entrectinib (Rozlytrek)
- ▶ everolimus (Afinitor, Afinitor Disperz)
- ▶ fam-trastuzumab deruxtecan-nxki (Enhertu)
- ▶ lapatinib (Tykerb)
- ▶ larotrectinib (Vitrakvi)
- ▶ margetuxumab-cmkb (Margenza)
- ▶ neratinib (Nerlynx)
- ▶ olaparib (Lynparza)
- ▶ palbociclib (Ibrance)
- ▶ pertuzumab (Perjeta)
- ▶ pertuzumab, trastuzumab and hyaluronidase-zzxf (Phesgo)
- ▶ ribociclib (Kisqali)
- ▶ ribociclib and letrozole (Kisqali Femara Co-Pack)
- ▶ sacituzumab govitecan-hziy (Trodelyv)
- ▶ talazoparib (Talzenna)
- ▶ trastuzumab (Herceptin)
- ▶ trastuzumab and hyaluronidase-oysk (Herceptin Hylecta)
- ▶ tucatinib (Tukysa)

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ovaries may be removed with surgery or suppressed with medication or radiation therapy.

Immunotherapy stimulates the body's immune system to treat certain breast cancers.

Clinical trials may be another option. ■

STAGING

Staging is an important part of developing your treatment plan. To learn more, visit PatientResource.com and search for breast cancer to find detailed tables and illustrations.

Just past the 5-year mark from treatment for triple negative breast cancer (TNBC), Lori Beth Miller received a second primary TNBC diagnosis. A strong personality with even stronger faith, she faced both situations head on and continues to help other cancer survivors along the way.

Navigating cancer with faith and Support



Both of my diagnoses were what I consider circumstantial and easily could have been overlooked. Luckily, mine were not. I share my story to encourage others to listen to their bodies and trust their instincts.

I first noticed something was wrong when my husband, Miller, and I were traveling for a sporting event. The hotel bathroom required that I turn to the right to get into the shower. At home, I turn to the left. Moving in a way that was not the norm enabled me to notice a lump on the outside of my left breast near the armpit.

I was connected with an oncologist who set in motion the beginning of a relationship with a health care team that has been crucial — not just to my treatment but to my life. After saying the awful words, “You have cancer,” the doctor told me a nurse navigator would call within 45 minutes. She not only called, but she also had a plan. She asked me if I was available to come in for something called Super Thursday. Her approach was so warm and comforting. It was so nice that she asked if I was available instead of just talking at me and telling me what I would be doing.

It was easy to see why she called it Super Thursday. It was a very full day. I had an MRI, met with a radiologist, listened to what the tumor board had to say about my specific diagnosis, talked with a geneticist and made plans to get a chemo port. Then Miller and I left for a planned vacation in Florida. When we returned, I learned my diagnosis: Stage II triple negative breast cancer (TNBC). I was 45 years old.

Nothing in the results of my genetic testing showed that I had inherited a gene that predisposed me to breast cancer. Other results showed the recurrence risk was very low. I had a “grab the bull by the horns” attitude and was ready to get rid of the cancer.

My treatment plan included chemotherapy, but before I got started my nurse navigator arranged for us to attend a chemo class at the clinic. I learned what to expect, what to eat, when I would likely lose my hair and more. I was given lemon drops for dry mouth and special mouthwash for mouth sores and so much more, like legacy gift care bags from other survivors.

After chemo, I had a lumpectomy and radiation therapy. Fortunately, by the time I had the lumpectomy, the tumor had shrunk to the size of a pencil eraser. I rang the bell that signaled the end of my treatment after completing radiation.

As I managed neuropathy and hair loss during the five months of treatment, I became very active in the breast cancer community. I started a support group at my church called the Bosom Buddies. I volunteered for Friend for Life (FLL) Cancer Support Network in a peer-to-peer support role. Later, I joined the team as the Assistant Director.

Cancer can give you many “aha” moments, and I had one as a peer navigator with FFL. The idea behind peer support is that you’re matched with someone because of all the things you could have in common, such as diagnosis, treatments and side effects. For some reason, I was matched with a woman who had a different type of cancer but shared the side effect of neuropathy. I soon realized that some connections run much deeper than cancer support. Our cancer relationship turned into a lasting friendship.

A few months after reaching the five-year mark with no recurrence, my underarm on the same side of where I had breast cancer was tender. I gave it a week before contacting my nurse navigator, who brought me in to see my surgeon. Though he couldn’t feel anything during the exam, he took my concern seriously and ordered an ultrasound. The image showed nothing. He recommended coming back in a few months for a re-check.

A few weeks later we were visiting my in-laws for Thanksgiving. Instead of lying on my back in bed like I do at home, I crawled into the bed and laid on my chest. I absolutely felt something. After the holiday, I texted my navigator again and she reminded me that they treat the patient, not the image. This time, an MRI showed a tumor.

Strangely enough, after more tests including a bone scan, we learned it wasn’t a recurrence but a second primary case of TNBC. That just must be the kind of cancer my body makes.

This time, my treatment plan combined chemotherapy with immunotherapy followed by a bilateral mastectomy. Having almost all the same players on my team was comforting. And 10 of them sent me handwritten letters before my treatment began. Today, I am cancer-free.

Along with my health care team and fellow survivors, Miller and my parents provide me with phenomenal support. My parents have devoted their lives to serving others through our faith, and that is why I am so grounded. They have always made me feel I can face anything, and I know I can. ■

Colorectal Cancer

You may hear “colon cancer,” “rectal cancer,” or even “colorectal cancer.”

All are correct depending on where in the body the cancer started. The colon makes up the first six feet of the large intestine, and the rectum and anal canal are the last six inches.

These cancers typically begin as benign polyps that may become cancerous. During a screening procedure called a colonoscopy, polyps or small tumors are removed (polypectomy).

The tumor, node and metastasis (TNM) system developed by the American Joint Committee on Cancer (AJCC) is used to classify and stage colorectal cancer. Doctors categorize the tumor (T) according to its depth of invasion in the bowel wall, whether cancer cells are found in nearby lymph nodes (N) and whether the cancer has metastasized (M) – or spread – to other parts of the body. Once the cancer is classified, an overall stage is assigned. Staging provides essential information for describing the extent of the cancer, predicting treatment outcomes and helping guide the treatment plan.

TREATMENT OPTIONS

Your doctor will create a treatment plan tailored specifically to you. It will be based on many factors: diagnostic test results, including imaging, blood work, genetic tests and biopsies; your age and general health; and tumor size and biomarkers.

Surgery is the most common treatment for all stages of colorectal cancer. Depending on the tumor’s size, stage and location, different procedures are used to remove the part of the colon or rectum containing the tumor and to reattach the ends. Nearby lymph nodes may also be removed (lymphadenectomy) to allow a pathologist to determine whether the cancer has spread and, if so, how far. Several different surgical procedures may be done.

Open surgery involves operating through a large incision in the abdomen.

Laparoscopic surgery allows the surgeon to operate through a few small incisions in the abdomen, guided by a laparoscope (a special lighted instrument with a tiny video camera attached).

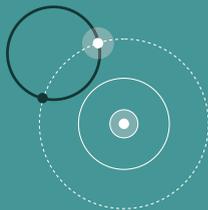
Robotic-assisted laparoscopic surgery is performed by a surgeon with specific training and experience who controls robotic arms that operate the surgical tools.

Your surgeon will try to preserve normal bowel function whenever possible. However, sometimes a different pathway for bowel function must be created. The surgeon attaches one end of the small intestine or colon to an opening created in the abdomen called a stoma. A pouch is attached to the stoma to collect waste. This procedure is called a colostomy, ileostomy or simply an ostomy, depending on the part of the intestine used to form the stoma.

Chemotherapy may be used alone or combined with targeted therapies. Chemotherapy can be given before surgery (neoadjuvant) to shrink a tumor for easier removal and/or after surgery (adjuvant) to kill any remaining cancer cells. It may also be given for metastatic disease.

Hepatic arterial infusion (HAI) may be used when the cancer has spread to the liver. It is chemotherapy delivered into the liver through

Exploring potential treatment options for metastatic colorectal cancer





Metastatic colorectal cancer (mCRC) is a form of colorectal cancer that has spread to other parts of the body. By taking part in a clinical study, you may help advance a potential treatment option for people with mCRC across the globe.

The SEAMARK study is investigating whether a combination of 3 study medicines would work better than a single study medicine in people with mCRC who have MSI-H/dMMR and BRAF V600E mutations.

You may be able to take part in this study if you:

- Have mCRC with **MSI-H/dMMR** and **BRAF V600E** mutations
- Are aged **16 years or older**
- Have not received prior systemic therapy for **metastatic disease**
- Have not been diagnosed with immunodeficiency or active autoimmune disease that required systemic treatment in the **last 2 years**.

Other requirements apply and the study team will explain these to you.

To find out more, please visit the study website:

www.SEAMARKSTUDY.com

its main blood vessel, the hepatic artery.

Targeted therapy may be used if certain mutations are present in the tumor. Types include angiogenesis inhibitors to prevent the tumor from making new blood vessels, monoclonal antibodies for epidermal growth factor receptor (*EGFR*) and vascular endothelial growth factor (*VEGF*) inhibitors to slow the cancer's growth, protein kinase inhibitors for the *BRAF V600E* gene mutation, and tumorigenic treatment for the *NTRK* gene fusion.

Immunotherapy in the forms of immune checkpoint inhibitors and monoclonal antibodies are approved for colorectal cancer. Single immunotherapy drugs or a combination of two immune checkpoint inhibitors are approved for people who have microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR) colorectal tumors.

Radiation therapy is typically given to treat rectal cancer and cancer that has metastasized to a localized area of the body, such as a liver lesion or bone lesion. It is frequently given with chemotherapy (chemoradiation).

SOME COMMON DRUG THERAPIES FOR COLORECTAL CANCER

These therapies may be used alone or in combination. Possible combination therapies are listed below.

CHEMOTHERAPY

- ▶ capecitabine (Xeloda)
- ▶ fluorouracil (5-FU)
- ▶ irinotecan (Camptosar)
- ▶ trifluridine and tipiracil (Lonsurf)

IMMUNOTHERAPY

- ▶ ipilimumab (Yervoy)
- ▶ nivolumab (Opdivo)
- ▶ pembrolizumab (Keytruda)

TARGETED THERAPY

- ▶ cetuximab (Erbix)
- ▶ entrectinib (Rozlytrek)
- ▶ larotrectinib sulfate (Vitrakvi)
- ▶ panitumumab (Vectibix)
- ▶ regorafenib (Stivarga)

SOME POSSIBLE COMBINATIONS

- ▶ bevacizumab (Avastin) with fluoropyrimidine and irinotecan (Camptosar)

- ▶ bevacizumab (Avastin) with fluoropyrimidine and oxaliplatin (Eloxatin)
- ▶ bevacizumab (Avastin) with fluorouracil (5-FU)
- ▶ cetuximab (Erbix) with irinotecan (Camptosar)
- ▶ cetuximab (Erbix) with leucovorin calcium, fluorouracil (5-FU) and irinotecan (Camptosar)
- ▶ encorafenib (Braftovi) with cetuximab (Erbix)
- ▶ ipilimumab (Yervoy) with nivolumab (Opdivo)
- ▶ irinotecan (Camptosar) with fluorouracil (5-FU) and leucovorin
- ▶ levoleucovorin (Fusilev, Khapzory) with fluorouracil (5-FU)
- ▶ oxaliplatin (Eloxatin) with fluorouracil (5-FU) and leucovorin
- ▶ panitumumab (Vectibix) with leucovorin, fluorouracil (5-FU) and oxaliplatin (Eloxatin)
- ▶ ramucirumab (Cyramza) with leucovorin, fluorouracil (5-FU) and irinotecan (Camptosar)
- ▶ ziv-aflibercept (Zaltrap) with fluorouracil (5-FU), leucovorin and irinotecan (Camptosar)

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Radiofrequency ablation (RFA), microwave ablation (MWA) or cryoablation may be used to treat colorectal cancer that has spread to the liver or lungs. RFA uses radiofrequency waves to heat the tumor; MWA uses microwave energy to heat the tumor;

and cryoablation freezes the tumor.

Clinical trials may be your best treatment option. Researchers continue exploring new treatment options or combinations of treatments for all stages of colorectal cancer. ■

STAGING

Staging is an important part of developing your treatment plan.

▶ To learn more, visit PatientResource.com and search for colorectal cancer to find detailed tables and illustrations.

Could a targeted therapy potentially be your first line of defense against mCRC?

Introducing the BREAKWATER clinical research study

The BREAKWATER study will help us learn if two study drugs—encorafenib plus cetuximab—can be safe and effective when given alone or with chemotherapy in people with metastatic colorectal cancer who have the *BRAF V600E* gene mutation.

This study is enrolling people who (among other criteria):

- ▶ Have been diagnosed with metastatic colorectal cancer (Stage 4) and have not received prior treatment (exceptions apply)
- ▶ Are 16+ (where applicable)

All participants will receive the study drugs or standard of care chemotherapy. The study drugs and any study-related procedures are generally covered at no cost.

Ready to learn more?

Visit www.BreakwaterCRCstudy.com



 BREAKWATER STUDY



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Clearing the path for survivors who follow

After receiving a diagnosis of metastatic colon cancer at 52, Tim McDonald discovered that advocating for himself makes an enormous difference in his life. He joined the cancer support community to educate and help colon cancer survivors realize they don't have to go through this alone.



Not many people get to say they've saved two dozen lives. So far, that's how many people I know who have heard me promote early detection, gone for their colonoscopies and had polyps removed — polyps that could have become cancerous.

I share my story wherever I can. I've been called a pioneer who is paving a path, figuring out how to get around the obstacles to show others the way. I fully supported moving the age for the first colonoscopy to 45, and I'm committed to helping others as they go down that same path.

After pain in my right flank forced me to walk in to an urgent care near our home, I learned I had a major blockage in my colon. The doctor told me it was cancer. I simply smiled and asked what we needed to do. The doctor was taken aback by my smile, but I'm a realistic person and that is how I handle things.

Because this happened during the pandemic, the first step was to get a COVID-19 test, then a colonoscopy. After the procedure, the doctor and nurses came back to the recovery area to wish me well. I could tell they assumed it was cancer. I wasn't in denial, but I wanted to wait for the biopsy results to know for sure. It was Stage IV cancer.

I was referred to an oncologist who ordered a PET scan that made my liver look like the night sky on the Fourth of July. The treatment focus he suggested would be to keep the cancer from spreading farther than my liver by using chemotherapy.

My doctor referred me to another oncologist who was much closer to home, and before I left he gave me the best advice I've had throughout my journey: get a second opinion, or a third, fourth or fifth.

The new oncologist didn't agree with my treatment plan because, in her opinion, I only had three years to live. She just wanted to keep me comfortable. I didn't agree with her plan, and her prognosis devastated my wife Lori. I reminded Lori that was the doctor's story, but it wasn't mine. It encouraged me to advocate for myself.

I shared my story on Facebook and, in return, received a huge positive response along with a connection to a nearby cancer center and oncologist who focused on me. He recommended chemotherapy and surgery to remove the primary tumor. I didn't realize that I'd had biomarker testing as part of my diagnostic tests earlier on, but according to this doctor, I did and it didn't reveal anything that would change his plan.

My colon resection was successful, and the pathology showed no signs of cancer other than in the liver. My next step is to focus on the liver, and the goal is a transplant.

Because it is fairly unusual to do a metastatic cancer liver transplant, my oncologist is working with a liver surgeon in another part of the country. I continue to be on chemotherapy to keep the cancer from spreading outside of the liver. I am cancer-free everywhere else in my body and hope that continues so I can be a candidate for a liver from a living donor.

Finding a liver, however, isn't easy. Several registries exist, but they are not connected. Additionally, very specific criteria must be met. So, I'm trying to find one on my own. I started a website, TimsLiver.com, that explains what donating a liver entails and who might be the best fit for me. I've also created <http://ShareMyLiver.com> to make it easier for other metastatic colorectal cancer patients to find their donors. ■

» I've learned many things that I hope help others.

- 1 Just because someone is considered an expert doesn't mean they have all the answers.** Get a second, third, fourth or fifth opinion. Doctors don't always have the same recommendations. Listen to your gut. I do it with every step in my treatment.
- 2 Find your source of support.** I've been involved with many groups, including Man Up to Cancer, Fight Colorectal Cancer and a podcast called "We have cancer." As a Fight Colorectal Cancer ambassador, I talk with patients and caregivers and let them know I understand how overwhelming this is.

3 Be your own expert. I research to determine whether something I hear is a fact or just good marketing.

4 Cancer impacts everyone in your family. Be patient with others just as you hope they are patient with you. When I was first diagnosed, my wife Lori would get teary thinking about life without me, and that would upset me. I didn't want to waste the time we had together crying. I came to realize that I wasn't always the easiest person to be around either because of my "chemo mood swings." I knew I needed to understand where she was coming from. Now, I look at every situation as a way for us to come together.



Prostate Cancer

Prostate cancer, one of the most common cancers diagnosed in men, begins in the prostate, a gland that is located below the bladder and in front of the rectum. It makes seminal fluid, which carries and protects sperm in semen.

Most prostate cancers are adenocarcinomas, meaning they arise from the cells lining the ducts in the prostate.

The TNM system developed by the American Joint Committee on Cancer (AJCC) is used to classify and stage prostate cancer. The tumor (T) is categorized by its size, including how much of the prostate is occupied by cancer and whether it has spread to adjacent structures such as the seminal vesicles, rectum, bladder and/or pelvic wall; whether cancer has affected nearby lymph nodes (N); and whether the cancer has metastasized (M) to other parts of the body. TNM classification, Gleason grade group (how abnormal the cancer cells look under a microscope), and PSA level (the amount of prostate-specific antigen in the blood) are considered in assigning a stage.

TREATMENT OPTIONS

Your doctor may recommend one or more types of therapy and should discuss all potential short- and long-term side effects of each option with you.

Watchful waiting enables your doctor to minimize any symptoms or serious medical consequences from the cancer. It is often recommended for much older men.

Active surveillance delays active treatment while closely monitoring the cancer. This may be an option for men who have complicating illnesses that make therapy risky or men in whom the cancer has a low stage.

Surgery is a common option and may be used alone or with another therapy.

The standard surgery is a radical prostatectomy, which removes the entire prostate, surrounding tissues and the seminal vesicles. Ask your doctor whether a nerve-sparing approach, in which the surgeon attempts to preserve the prostate nerves that control erection capability, is an option for you.

A pelvic lymph node dissection may be performed along with a prostatectomy to remove lymph nodes. An orchiectomy surgically removes both testicles. It is a surgical form of

hormone therapy used to reduce testosterone levels. Orchiectomy is not a part of a standard radical prostatectomy but may be used if the cancer spreads and is an alternative to medical treatments to suppress testosterone.

Radiation therapy may be given to cure the cancer or simply to prevent or relieve symptoms. Several forms are available.

External-beam radiation therapy (EBRT) involves a large machine that aims radiation at the prostate and surrounding tissues.

Brachytherapy, also called internal radiation therapy, involves placing tiny radioactive “seeds” or needles directly into the prostate.

Alpha emitter radiation therapy uses radiopharmaceuticals, which are drugs that are administered into the vein and travel throughout the body, targeting the bones to give off radiation, to suppress cancer in the bones and reduce pain.

Thermal ablation uses extreme cold or heat to treat cancer cells. Cryoablation, or cryotherapy, kills cancer cells by freezing them with a probe that is super-cooled with liquid nitrogen or a similar substance. Radiofrequency ablation (RFA) places needles in the area of the prostate tumor. High-frequency electric waves generate heat at the tips of the needles to destroy the tumor. High-intensity focused ultrasound (HIFU), uses high-energy sound waves to create heat to kill cancer cells.

Hormone therapy adds, blocks or removes hormones. Androgens are male hormones, and prostate cancer cells need them to grow. The main male androgen is testosterone. A type of hormone therapy called androgen-deprivation therapy (ADT) slows tumor growth by preventing the body from producing androgens or by blocking the effect the androgens have on the tumor. Types include luteinizing hormone-releasing hormone (LHRH) agonists and LHRH antagonists, anti-androgens, androgen synthesis blockers and orchiectomy, which surgically removes both testicles to reduce testosterone levels.

Chemotherapy may be used alone or with other forms of treatment.

Targeted therapy uses drugs to target

SOME COMMON DRUG THERAPIES FOR PROSTATE CANCER

These therapies may be used alone or in combination. For some combination therapies your doctor might suggest, go to PatientResource.com/Prostate_Cancer_Treatment

CHEMOTHERAPY

- ▶ cabazitaxel (Jevtana)
- ▶ docetaxel (Docefrez, Taxotere)
- ▶ mitoxantrone hydrochloride (Novantrone)

HORMONE THERAPY

Androgen synthesis blocker

- ▶ abiraterone acetate (Zytiga)

Anti-androgens

- ▶ apalutamide (Erleada)
- ▶ bicalutamide (Casodex)
- ▶ darolutamide (Nubeqa)
- ▶ enzalutamide (Xtandi)
- ▶ flutamide (Eulexin)
- ▶ nilutamide (Nilandron)

GnRH receptor antagonists

- ▶ degarelix (Firmagon)
- ▶ leuprolide mesylate (Camcevi)
- ▶ relugolix (Orgovyx)

LHRH agonists

- ▶ goserelin acetate implant (Zoladex)
- ▶ histrelin acetate (Vantas)
- ▶ leuprolide acetate (Eligard, Lupron, Lupron Depot)
- ▶ triptorelin pamoate (Trelstar)

IMMUNOTHERAPY

- ▶ sipuleucel-T (Provenge)

RADIOPHARMACEUTICALS

- ▶ lutetium Lu 177 vipivotide tetraxetan (Pluvicto)
- ▶ radium Ra 223 dichloride (Xofigo)

TARGETED THERAPY

- ▶ olaparib (Lynparza)
- ▶ rucaparib (Rubraca)

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genes, proteins or other factors that support the tumor.

Immunotherapy in the form of a vaccine may be used. White blood cells are collected, modified in a lab to recognize prostate cancer cells and then infused back into the body to find and destroy the cancer. Sometimes drugs are used to enhance the body’s ability to recognize and kill cancer cells.

Radiopharmaceuticals are drugs that contain a radioactive substance used to kill cancer.

Bone-modifying (strengthening) therapy uses drugs to strengthen the bones and help relieve bone pain. This may also reduce the risk of bone fractures. This therapy may be recommended when cancer metastasizes (spreads) to the bone and androgen-deprivation therapy (ADT) is taken for a year or more, as ADT increases the risk of osteoporosis.

Clinical trials may be a valuable option. ■

STAGING

Staging is an important part of developing your treatment plan. To learn more, visit PatientResource.com and search for prostate cancer to find detailed tables and illustrations.

➔ *Emmy award-winning entertainer, author, radio host and musician John Tesh has been sharing his talents with international audiences for years. With the launch of his 24/7 live streaming platform, TeshTV, he and wife Connie Sellecca and son Gib Gerard are able to share the messages of hope and inspiration that are guiding him through the biggest challenge of his life: managing a rare Stage IV non-PSA producing prostate cancer diagnosis.*



Embrace the promise of health and wellness

John Tesh has experienced firsthand that cocktail party conversations can turn to the topic of cancer when someone is aware of his diagnosis. But, each time a friend tells him he just had his PSA tested and everything is fine, John always asks a very important follow-up question.

"I ask if that PSA was accompanied by a digital rectal exam (DRE)," he explained. "Men typically don't want to do that part of the exam, but it is necessary. And, for me, it was lifesaving."

John was diligent about regular checkups, and his PSA was never elevated. But, during an annual physical, his doctor felt a difference during the DRE that prompted him to order an ultrasound and a biopsy.

"Had my doctor not been so thorough, I firmly believe I wouldn't be here today," John said.

The ultrasound showed six tumors, and the pathology report identified three as being Gleason 9s. Because John had no symptoms and wasn't expecting to have any issues, the diagnosis of adenocarcinoma of the prostate at 63 was even more shocking.

The urologist explaining the diagnosis basically told John to get his affairs in order. He and Connie didn't accept that.

Researching is second nature to them, and they immediately started digging. John found a book written by an internationally recognized expert on prostate cancer who is affiliated with a well-known hospital across the country.

"He talked about nerve-sparing robotic surgery," John said. "It was very interesting, and I needed to learn more. I took a chance and called him but introduced myself as a journalist."

After fielding John's very pointed questions for a few minutes, the specialist said, "You sound like a journalist who has prostate cancer." A little ashamed for not having been completely honest in his approach, John said, "Yes, sir, I am."

"Graciously, he continued to talk with me. I told him my PSA hadn't risen, assuming that was a good thing. On the contrary, he said that meant it was a rare, non-PSA producing prostate cancer and suggested I get to his hospital as soon as possible. I asked if he would be my surgeon, and my heart sank when he told me he no longer performed surgery. However," John went on, "he said the man he trained could save my life. Connie and I flew out immediately."

John had a nerve-sparing radical prostatectomy. Although he had post-surgical complications that were challenging, the surgery itself was successful. Still, the experience of receiving such a grim diagnosis took its toll on him emotionally. He admits he leaned more on alcohol and painkillers than he should have. It took an ultimatum from Connie to bring him out of it.

"She told me in no uncertain terms that I had to shape up. She had been working so hard to keep me alive, and I seemed to be doing the opposite. I came to my senses, got into therapy and focused on healing."

Visualizing success

Healing took on a new meaning when John combined his faith with his reliance on medical science.

"Connie and I have both believed in the word of God since we were children. God wants us to be well, and we live with that promise of health and wellness. Granted, life is not without suffering. That is just part of the deal."

Though fearing for his life and managing the severe complications post-surgery were incredibly difficult, he tried to put his own experiences into perspective. Reading books by Holocaust survivors Viktor Frankl and Elie Wiesel helped immensely. "That," he emphasized, "is suffering."

Visualization – imagining that he already has what he is praying for – is another powerful tool John uses.

"In my days at CBS Sports, I covered many of the world's top athletes in skiing, swimming, ice skating and other sports. They were all extremely talented but the common bond shared by those who won was that they could close their eyes and see every gate on the ski slope or every lap in the pool, all the way to the finish line. I visualize what I pray for – a long and healthy life for myself – 98 to be exact!"

After John's prostatectomy, his surgeon gave him advice he didn't truly understand at the time.

"He said that having prostate cancer is a journey. That began to sink in several months after the surgery when cancer was found in one of my lymph nodes. Six months after that, another was found. I needed an oncologist and more treatment. After more research, Connie and I traveled to a leading cancer center in a different part of the country."

Another leg of the journey

There they met with an oncologist who became the newest member of John's medical team. He ordered a PET, and the affected lymph nodes lit up. The doctor shared his approach, which was to treat John's quality of life, not just the cancer. They discussed treatment options and potential side effects, and John and Connie asked many questions. It was obvious they had done their research.

"More than once, the doctors we met with asked Connie if she had a medical background," he said.

Because John's prostate cancer was hormone-driven, his oncologist recommended hormone therapy and chemotherapy. The goal was to slow the spread of cancer to a crawl.

"The hormone therapy gave me night sweats, and I couldn't sleep." He joked that he basically turned into a menopausal woman but admitted that hormone therapy, though it was effective, was the toughest part of his treatment.

"I never thought it'd be this long of a journey," John admitted. "I thought I'd have surgery and be done with cancer."

But, that hasn't been the case. Over several years, the cancer has returned three times. Each time, John and his medical team have treated it successfully. He has witnessed the advances happening in prostate cancer treatment and is confident that as he continues follow-up appointments, he will have more options in the future.

"It's important to recognize the difference between worry and vigilance. Worry will keep you up at night, thinking about the 'what ifs.' Vigilance is knowing your plan and sticking to it, which means never ignoring your follow-up exams. When you have prostate cancer, you can't fall asleep at the wheel."

To stay fit, John gets to the gym. "Working out is a great equalizer for me."

Support and an advocate are necessary

John is grateful for Connie and the family, friends and medical team that make up his strong support system. Through their journey, they discovered that some of their friends weren't comfortable with how to react in the face of suffering and grief. On the flipside, they were amazed at the selflessness displayed by others.

"We had many friends who dropped off food on the doorstep or sent prayers. My college roommate, Steve, texts every three or four days just to check on me. These are friends that see we're on a victorious mission, and they support us."

He stresses the importance of having an advocate standing by you, whether it is a spouse, loved one or friend. That support helps because prostate cancer is more than just a physical ailment.

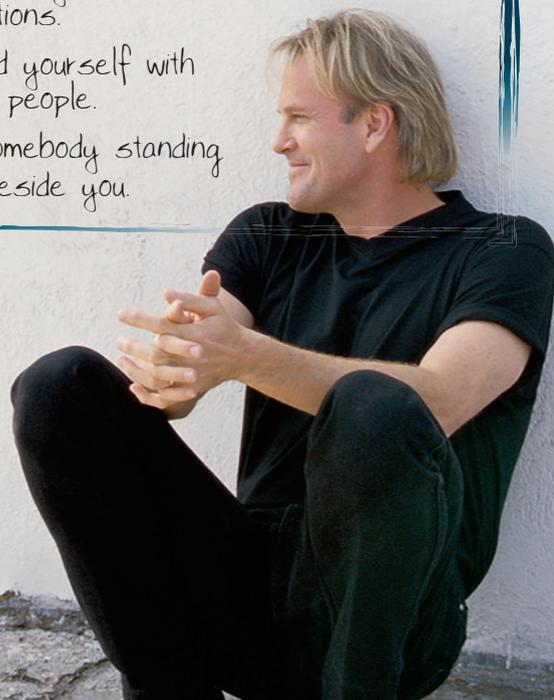
"Prostate cancer is a couple's disease," John explained. "It may take place in a man's engine room, but it tests both of you. Connie was already focused on managing 24-hour care for her mother as well as on her career, yet she gave up everything to help me. She stood by my side unconditionally, and we worked together with a constant vision of healing."

As they continue the ups and downs involved in a cancer journey, they find that humor helps. John recently battled sepsis, a condition that could have been deadly, and Connie deflated the tense conversation with the doctor by responding with a Monty Python quip, "Well, that's cast rather a gloom over the evening, hasn't it?"

"I think the doctor didn't know how to react," John laughed. ■

ADVICE FROM THE HEART

- ▶ Have faith.
- ▶ Insist that your doctor perform a DRE with a PSA. It's serious, and it's necessary.
- ▶ Make informed decisions. Get a second opinion. Do your homework, and explore all your options.
- ▶ Surround yourself with positive people.
- ▶ Have somebody standing close beside you.



Lung Cancer

Lung cancer incidence and mortality rates are declining as a result of new therapies being approved by the Food and Drug Administration. This has led to a dramatic shift in how patients are diagnosed and treated.

Over time, abnormal cells in the lining of the airways can accumulate to form a tissue mass (primary tumor). A primary tumor may grow into the lining around the lung and form secondary tumors nearby. The cells may spread through the lymphatic channels to lymph nodes and through the blood to the opposite lung and distant sites such as the liver, brain or bones. These are known as metastases. They are still considered lung cancer and are treated as such.

To diagnose and stage lung cancer, many tests are performed, including biopsies, biomarker tests, routine scans such as a CT of the chest, a CT/PET scan, MRI of the brain, and more. Pulmonologists often assist in assessing lung function because many lung cancer patients also have chronic pulmonary disease in the non-cancer tissues of the lung, which may interfere with lung function and alter therapeutic options.

Pathologists identify and examine biopsy tissue to determine the pathologic type of the cancer, then classify the cancer into four main pathologic groups based on the appearance of cells under the microscope and analysis of the proteins they express. The results of the scans and biopsies are used to define the clinical stage. If the patient has undergone surgery, a pathologic stage is also assigned.

Lung cancer is described as either non-small lung cancer (NSCLC) or small cell lung cancer (SCLC).

NSCLC accounts for the majority of lung cancer diagnoses and has several subtypes, including adenocarcinoma and squamous cell and large cell lung cancer. SCLC is an aggressive form that often metastasizes before it is found.

To classify and stage the cancer, doctors use the TNM (tumor, node and metastasis) staging system developed by the American Joint Committee on Cancer (AJCC) and the International Association for the Study of Lung Cancer. Commonly, doctors also use it to stage SCLC. Sometimes SCLC is identified as limited-stage, in which the cancer is confined to one part of the chest, in just one part of the lung and in nearby lymph nodes.

Extensive-stage SCLC means the cancer has spread to other parts of the body, such as the bone, brain or other lung.

TREATMENT OPTIONS

Your doctor will develop your treatment plan using one or more of the following therapies. The goal is for you to receive the best level of care possible. For that to happen, the plan you start with may change if test results or symptoms indicate the need. Your doctor will monitor you, and you will be responsible for communicating regularly with your health care team about any symptoms and keeping follow-up appointments.

Surgery, also called a resection, is typically the primary treatment for Stages I, II and some IIIA lung tumors. Ideally, a board-certified thoracic surgeon experienced in lung cancer should determine whether the tumor(s) can be successfully removed. The procedure will depend on how much of your lung is affected, tumor size and location, and your overall health.

The procedure used most often is video-assisted thoracoscopic surgery (VATS), which may be done robotically. VATS procedures may help preserve muscles and nerves, reduce complications and shorten recovery time. Finding a surgeon with extensive training and experience in robotic surgery is highly recommended.

Open surgery with a large chest incision may be necessary:

- Wedge resection removes the tumor with a triangular piece of a lobe of the lung.
- Segmental resection (segmentectomy) removes a larger section of a lobe.
- Lobectomy removes one of the five lobes.
- Pneumonectomy removes an entire lung.
- Sleeve resection (sleeve lobectomy) removes part of the bronchus (main airway) or pulmonary artery to the lung, along with one lobe.

Chemotherapy is typically part of the treatment plan for most stages of NSCLC and is the primary treatment for all stages of SCLC. It may be given alone or in combination with surgery, radiation therapy or immunotherapy. In early stages, it may be used before surgery (neoadjuvant therapy) to help shrink the tumor, after surgery (adjuvant therapy) to kill remaining cells, as maintenance therapy or as palliative care to relieve symptoms.

Your doctor will monitor the effectiveness of your treatment by conducting periodic physical exams and imaging tests. Chemotherapy is usually stopped when the tumor is no longer shrinking, at which point maintenance chemotherapy may be recommended.

Immunotherapy is standard first-line therapy for Stage IV NSCLC without specific molecular alterations. It is approved in combination with chemotherapy as neoadjuvant therapy for early-stage NSCLC. It is standard after chemotherapy and radiotherapy for unresectable Stage III NSCLC and with chemotherapy for extensive-stage SCLC. Ongoing studies are examining its role before or after surgery in early stages.

Immune checkpoint inhibitors are the type of immunotherapy approved to treat NSCLC and SCLC. These drugs prevent the immune system from slowing down, allowing it to keep up its fight against the cancer.

Checkpoints keep the immune system “in check.” When the correct proteins and cell receptors connect, a series of signals is sent to the immune system to slow down once an immune response is finished. Three checkpoint receptors that slow down the immune system have been identified for their roles in lung cancer treatment:

- PD-1 (programmed cell death protein 1) is a receptor involved with telling T-cells to die and to reduce the death of regulatory T-cells (suppressor T-cells). Both slow down an immune response. PD-1 can tell the immune system to slow down only if it connects with PD-L1.
- PD-L1 (programmed death-ligand 1) is a protein that, when combined with PD-1, sends a signal to reduce the production of T-cells and enable more T-cells to die. When PD-1 (the receptor) and PD-L1 (the protein) combine, the reaction signals that it is time to slow down.
- CTLA-4 (cytotoxic T-lymphocyte-associated protein 4) is another checkpoint like PD-1. CTLA-4, however, can connect with more than one protein.

These intravenous (IV) drugs prevent these connections by targeting and blocking PD-1, PD-L1 or CTLA-4 so the immune cells continue fighting the cancer.

Some immune checkpoint inhibitors are also approved as tumor-agnostic treatment, which means they are approved to treat any

type of cancer that has the molecular alterations known as microsatellite instability-high (MSI-H), deficient mismatch repair (dMMR) or a high tumor mutational burden (TMB-H). When cancer cells have any of these features, they are more sensitive to destruction by immune checkpoint inhibitors. MSI is also tested to determine which tumors may have developed because of a deficiency in correcting cellular errors made when the cancer cells divide.

Molecular therapy is personalized treatment that may be available if the tumor contains a known abnormality. It is recommended as first-line therapy for NSCLC. If the first-line therapy is not effective, another one may be considered. The most common abnormalities with available treatments are epidermal growth factor receptor (*EGFR*) and anaplastic lymphoma kinase (*ALK*). Others include certain *BRAF* mutations, *KRAS* mutations, *MET* exon 14 skipping mutations, neurotrophic tyrosine receptor kinase (*NTRK*) fusions, *RET* fusion-positive alterations and *ROS1* fusions.

Targeted therapies are directed at proteins involved in making cancer cells grow but that do not have proven biomarkers.

Monoclonal antibodies (mAbs) and angiogenesis inhibitors are the types of targeted therapy approved to treat lung cancer.

The mAbs are laboratory-made antibodies designed to target specific tumor antigens, which are substances that cause the body to make a specific immune response. They can work in different ways, such as flagging targeted cancer cells for destruction, blocking growth signals and receptors, and delivering other therapeutic agents directly to targeted cancer cells. The mAbs approved to treat lung cancer block the *EGFR* or vascular endothelial growth factor (*VEGF*) abnormality or its receptor and are always given with chemotherapy. A specific type of mAb known as an antibody-drug conjugate (ADC) may also be used. A new ADC was recently approved to treat the human epidermal growth factor receptor-2 (*HER2*) mutations. It contains a mAb linked to a drug. The mAb binds to specific proteins or receptors found on certain types of cells, including cancer cells. The linked drug enters these cells and kills them without harming other cells.

Angiogenesis inhibitors shut down *VEGF*, a protein that is essential for creating blood vessels. With no vessels to supply blood, the

tumor eventually “starves” and dies. Angiogenesis inhibitors are often given in combination with chemotherapy.

Radiation therapy, also called radiotherapy, is often used with other treatments and may be used as palliative care to help relieve pain when cancer spreads to the bone. The most common form used is external-beam radiation therapy. Three-dimensional conformal radiation therapy, stereotactic body radiotherapy, intensity-modulated radiation therapy and proton therapy may also be used. In some instances, radiation is delivered to persisting sites after response to initial systemic therapy. This is often referred to as consolidative therapy.

Radiofrequency ablation (RFA) may be used to treat small tumors when surgery is not an option. A needle placed directly into the tumor passes a high-frequency electrical current to the tumor that destroys cancer cells with intense heat.

Cryosurgery, also called cryoablation and cryotherapy, kills cancer cells by freezing them with a probe or another instrument that is super-cooled with liquid nitrogen or similar substances. An endoscope, which is a thin tube-like instrument, is used for this procedure to treat tumors in the airways of the lungs.

Photodynamic therapy kills cancer cells by injecting a drug that has not yet been exposed to light into a vein. The drug is drawn to cancer cells more than normal cells. Fiber optic tubes are then used to carry a laser light to the cancer cells, where the drug becomes active and kills the cells. It is used mainly to treat tumors on or just under the skin or in the lining of internal organs. When the tumor is in the airways, therapy is directed to the tumor through an endoscope. It may help relieve breathing problems or bleeding in NSCLC and can also treat small tumors.

Clinical trials may offer the opportunity to try an innovative treatment that is testing drug therapies or types of surgery or radiation therapy before they are widely available. Other trials evaluate new methods for improving disease prevention, patient screen-

SOME COMMON DRUG THERAPIES FOR LUNG CANCER

These therapies may be used alone or in combination. For additional combination therapies, go to PatientResource.com/Lung_Cancer_Treatment

CHEMOTHERAPY

- ▶ carboplatin (Paraplatin)
- ▶ cisplatin (Platinol)
- ▶ docetaxel (Docefrez, Taxotere)
- ▶ etoposide (Etopophos)
- ▶ gemcitabine (Gemzar)
- ▶ lurbinectedin (Zepzelca)
- ▶ methotrexate
- ▶ paclitaxel (Taxol)
- ▶ paclitaxel protein-bound (Abraxane)
- ▶ pemetrexed (Alimta)
- ▶ topotecan (Hycamtin)
- ▶ vinorelbine (Navelbine)

IMMUNOTHERAPY

- ▶ atezolizumab (Tecentriq)
- ▶ cemiplimab-rwlc (Libtayo)
- ▶ durvalumab (Imfinzi)
- ▶ ipilimumab (Yervoy)
- ▶ nivolumab (Opdivo)
- ▶ pembrolizumab (Keytruda)
- ▶ tremelimumab (Imjudo)

MOLECULAR THERAPY

- ALK rearrangement*
- ▶ alectinib (Alecensa)
- ▶ brigatinib (Alunbrig)
- ▶ ceritinib (Zykadia)
- ▶ crizotinib (Xalkori)
- ▶ lorlatinib (Lorbrena)
- BRAF mutation*
- ▶ dabrafenib (Tafinlar)/trametinib (Mekinist)
- EGFR mutation*
- ▶ afatinib (Gilotrif)
- ▶ amivantamab-vmjw (Rybrevant)
- ▶ dacomitinib (Vizimpro)
- ▶ erlotinib (Tarceva)
- ▶ gefitinib (Iressa)
- ▶ mobocertinib (Exkivity)
- ▶ osimertinib (Tagrisso)
- KRAS mutation*
- ▶ sotorasib (Lumakras)
- MET exon 14 skipping mutation*
- ▶ capmatinib (Tabrecta)
- ▶ tepotinib (Tepmetko)
- NTRK gene fusion*
- ▶ entrectinib (Rozlytrek)
- ▶ larotrectinib (Vitrakvi)
- RET fusion-positive alteration*
- ▶ pralsetinib (Gavreto)
- ▶ selpercatinib (Retevmo)
- ROS1 fusion*
- ▶ crizotinib (Xalkori)
- ▶ entrectinib (Rozlytrek)

TARGETED THERAPY

- EGFR mutation*
- ▶ amivantamab-vmjw (Rybrevant)
- ▶ necitumumab (Portrazza)
- HER2 mutation*
- ▶ fam-trastuzumab deruxtecan-nxki (Enhertu)
- VEGF inhibitors (angiogenesis inhibitors)*
- ▶ bevacizumab (Avastin)
- ▶ ramucirumab (Cyramza)

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ing and diagnostic tools and procedures, along with reducing side effects and identifying genetic risk factors or behavioral changes that may contribute to a healthy lifestyle. Some are even underway to find improved methods to quit smoking. ■

STAGING

Staging is an important part of developing your treatment plan. To learn more, visit PatientResource.com and search for lung cancer to find detailed tables and illustrations.

When Danielle Williams (aka Diva Danielle) was diagnosed with Stage IV non-small cell lung cancer, it came as a shock. As a non-smoker who has always taken care of her health, she felt as though her body had betrayed her. A former broadcast journalist, the stand-up comedian and entrepreneur now shares her perspective and encourages others with her positivity and humor.

Lung cancer survivor is #DivaStrong

Before I took a special trip to Miami to celebrate my 50th birthday, I wanted to be in the best shape of my life. I altered my workouts, exercised six days a week and shifted what I ate. After the trip, I began to lose weight and my lower back started hurting, but I attributed the pain to my extra workouts.

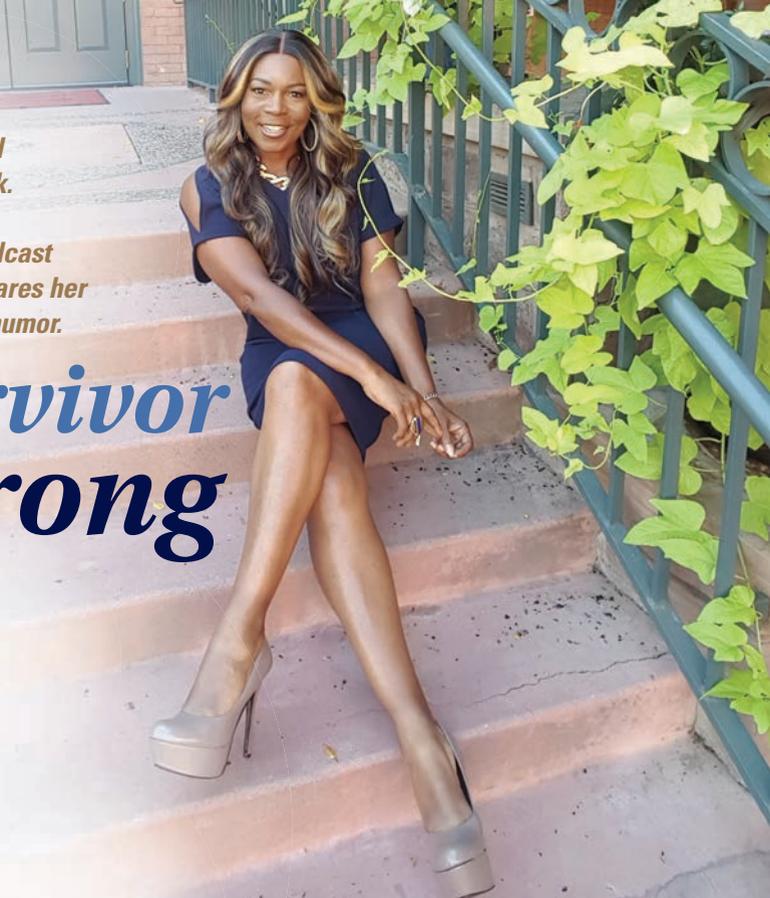
As the months passed, my back pain worsened and my weight continued to drop. At a routine dental checkup, the dentist noticed my gums were not healing as they should from a recent procedure. He thought something was seriously wrong and recommended I see my doctor. By then I was in so much pain that I could barely bend over to tie my shoes or pick up a laundry basket.

I saw my doctor who suggested an MRI. The results showed Stage IV cancer with metastases in my spine, pelvis and shoulder. It was later confirmed to be non-small cell lung cancer.

I was devastated by the news but also bewildered. I didn't drink alcohol or coffee, I worked out, stayed healthy and never smoked. How do you get lung cancer when you never smoked? I took a couple of days to process the news and cry over the diagnosis before sharing it with my family. I chose to approach the situation as mind over matter. I'm a firm believer that when you have a strong mental attitude, positive thoughts will trickle down throughout the body and aid in the healing process.

Treatment began with 30 days of intense radiation therapy followed by a chemotherapy regimen consisting of five different types of medication. As I went through treatment, my doctor tested for mutations, but results showed I didn't have any. After two years of chemotherapy, my doctor changed my treatment plan to a targeted therapy that I still take today. My treatment also includes a bone-strengthening drug that is administered through my port every two months.

My television career as a journalist ended as I took time to heal. Then I had an epiphany that gave me insight on how to take my career in a new direction, on a bigger stage than just television. I realized I could reach people through multiple media platforms. I already had the equipment and experience as a broadcast journalist, so I decided to be my own news story. I began recording videos and sharing them on social media to inspire others. Every Wednesday, which I called Chemo Wednesday, I recorded and posted live videos of me getting chemotherapy on Facebook and Instagram. I also created a series of YouTube videos that highlighted various aspects of my lung cancer journey in a humorous and positive way.



Throughout everything, I stayed focused on the positive and always looked for something good. I did my hair and makeup and wore beautiful dresses and my favorite jewelry. I also wore a good wig. I've been wearing wigs for years. They are fun and make me feel good. I wanted to show others that your experience is what you make of it.

Another outlet that was very therapeutic was doing stand-up comedy. Sharing my humor with the world helped me stay positive. Just because you have cancer doesn't mean you have to be sick and sad all the time.

By sharing my videos and comedy, a whole new world opened up for me. Friends, family and even people I'd just met referred to me as Diva Danielle, or just Diva. The name stuck so I incorporated it into my new company, Diva Strong Media LLC, where I work as a professional corporate emcee, motivational speaker and founder and facilitator of the Junior Public Speaking League, a workshop program designed for leadership groups, team building and educational institutions.

Part of my passion includes volunteering and connecting with various businesses in the community. The American Lung Association invited me to speak at a breakfast a few years ago. I started working alongside the organization, and in 2020 I became the Lung Force Hero for the state of Arizona. I was invited to share my story in Washington, D.C., to speak before Congress to help create change for non-smokers who get lung cancer and to help secure funding for lung cancer research.

I am so grateful to have been surrounded by the support of my mom, my brother and the comedy community, which performed benefit shows to help me pay for treatment.

My advice to others is to give yourself time to take in your diagnosis. Scream, yell, fuss, cuss and then take a deep breath. Turn away from the negative and become your own cheerleader.

The power of positivity is so important. My motto is "Positivity is the root of my business." I am killing my cancer with kindness. ■

P A T I E N T
R E S O U R C E

Where information equals hope