

WITH AN INTERVIEW Expert

TREATMENT UPDATE*

Q&A with Brian Wolpin, M.D., MPH

What should the patient know about his or her pancreatic adenocarcinoma (PDAC) diagnosis?

Patients should know to act reasonably quickly to identify a treatment team with significant experience caring for patients with pancreatic cancer. It requires a multidisciplinary team to optimally care for patients with pancreatic cancer and patients should seek out centers with the necessary experience and expertise. Patients with pancreatic cancer are feeling better and living longer than they have in the past, but this remains a difficult disease to treat. Having an experienced team working with the patient is important to defining how to best approach the patient's pancreatic cancer care.

The National Comprehensive Cancer Network publishes guidelines focused on classifying pancreatic cancer and planning treatment based on the results of imaging and other tests done at diagnosis. This system divides cancers into groups based on whether or not the tumor can be removed surgically. What is the difference between resectable cancer, borderline resectable cancer, locally advanced cancer, and metastatic cancer?

The staging of pancreatic cancer is a standardized way to classify a tumor based on its size, whether it involves nearby lymph nodes, and whether it has spread beyond the pancreas to other parts of the body. Knowing the stage of a patient's cancer is important in determining a personalized treatment plan. The clinical staging for pancreatic cancer is commonly divided into resectable cancer, borderline resectable cancer, locally advanced cancer and metastatic cancer. These categories also approximately fit within the commonly employed American Joint Committee on Cancer staging system, where resectable and borderline resectable cancer are generally within stage I and II disease, locally advanced cancer within stage III disease, and metastatic cancer within stage IV disease.

Resectable cancer means the tumor does not have large involvement of the blood vessels and tissues around the pancreas and most often can be removed surgically. In patients with borderline resectable disease, the cancer hasn't spread to other organs in the body, but there's a greater degree of involvement of blood vessels around the cancer. Studies have suggested that patients with borderline resectable cancer are more likely to have the successful full removal of their tumor if therapy such as chemotherapy and sometimes radiation are administered prior to surgery. Therefore, this is a stage of disease where preoperative therapy, also known as neoadjuvant therapy, is generally recommended. Between 15% to 20% of patients have resectable or borderline resectable tumors at diagnosis.

The next stage along this continuum of disease is called locally advanced disease. At this stage, a tumor has larger involvement of blood vessels and tissues around the pancreas and may have invaded surrounding organs so that surgery is not always possible. Recent research funded by the Pancreatic Cancer Collective, a partnership between the Lustgarten Foundation and Stand Up To Cancer, has demonstrated that some patients with locally advanced pancreatic cancer can undergo treatment to shrink their tumors so they become eligible for surgery. These decisions are best made at an experienced cancer center, where complicated pancreatic surgeries are commonly performed. Approximately 30% of patients have locally advanced disease at diagnosis. Metastatic disease includes cancer that has spread to distant organs, such as the liver or lungs, or other areas of the abdomen. More than 50% of patients with pancreatic cancer are diagnosed at this stage. Chemotherapy remains the most common therapy employed for patients with this stage of disease.

*This discussion focuses only on pancreatic ductal adenocarcinoma (PDAC), the most common type of pancreatic cancer, which is thought to arise in the pancreatic ducts.

When should genetic sequencing to identify inherited mutations be used to inform treatment decisions? When should tumor testing, also known as somatic testing, be used to inform treatment decisions?

We think that all patients with pancreatic cancer should have genetic testing performed to look for inherited mutations related to their cancer, regardless of their age at diagnosis or family history of cancer. At Dana-Farber, where I work, this testing usually happens on the same day as patients' initial visit. Patients will see the doctors, and then they'll meet with our genetic counselors to discuss genetic testing.

We recommend genetic testing because we now realize that 8% to 10% of pancreatic cancer patients will have an inherited mutation that we can detect by sequencing. Finding these mutations is important for two main reasons. First, different treatments may specifically be effective in patients who have one of these mutations, such as immunotherapy drugs for patients who inherited a mutation in a mismatch repair gene leading to microsatellite unstable tumors. This is often referred to as Lynch Syndrome and these mutations cause tumors to be more responsive to therapies that harness the immune system to attack the cancer. Another class of mutations related to how DNA is repaired may cause pancreatic cancers to be more sensitive to either platinum-based chemotherapy or to PARP inhibitors. These mutations can be seen in genes such as BRCA1, BRCA2, and PALB2. Therefore, identifying these mutations can change how we treat patients in the clinic.

The other benefit to identifying an inherited mutation is utility for the patient's family. If a mutation is found, a patient's first-degree relatives (parent, child, or sibling) each has a 50% chance of also having inherited that same mutation. Knowing the presence of this mutation may make these family members eligible for new approaches to screen for and detect pancreatic cancer earlier. Furthermore, many of the identified gene mutations predispose individuals to other types of cancer, beyond pancreatic cancer. With this knowledge, intervention programs can be implemented for family members to identify cancers earlier and to counsel individuals on cancer risk reduction strategies. The goal of these programs is to prevent cancers or diagnose them at a very early stage so they are highly likely to be cured.

We also routinely perform sequencing of the DNA extracted from our patients' pancreatic tumors. The goal of this sequencing is to identify DNA changes that are present in the tumor but were not inherited. Several studies have shown that 20% to 30% of patients will have a "targetable" alteration in their tumor upon DNA sequencing, meaning that newer drugs are available from the treatment of other cancers or from clinical trials that target the specific mutation in the DNA. Therefore, having the tumor tested for genetic mutations can help identify, in some cases, additional therapy options for our patients. The National Comprehensive Cancer Network guidelines were recently updated to encourage physicians to consider tumor sequencing in patients with advanced pancreatic cancer who are candidates for therapy.

Questions to Ask Before Making Treatment Decisions*

- Do I need any more information before I begin treatment?
- Do I have confidence in my diagnosis?
- Do I have confidence in my doctors?
- Is this facility considered a high-volume pancreatic cancer center?
- Have I checked that the treatment center offers multidisciplinary care?
- Do I have confidence in this facility?
- Do I feel comfortable at this facility?
- Do I understand what will happen before, during, and after treatment?
- How far from home am I willing to travel to be treated?
- Do I want the "standard of care" (surgery, chemotherapy, and/or radiation therapy) or am I interested in participating in a clinical trial?
- Does this facility accept my insurance? If not, how much is the out-of-pocket cost?

*Excerpted from *Navigating Pancreatic Cancer: A Guide for Patients & Caregivers*.
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Why should patients seek out a second opinion upon learning their diagnosis? How quickly do you recommend that patients get a second opinion, and how quickly should they begin treatment after diagnosis?

Most patients with pancreatic cancer should start treatment within two to three weeks after having a biopsy that shows the cancer is present. It is important that patients start therapy in a relatively short interval, because this is often an aggressive kind of cancer. Waiting a month or longer to get started with therapy is usually not advisable as the cancer is likely to worsen during that time.

It is important that patients feel comfortable with the team of people taking care of them and the services available to support them. It is also beneficial to visit a place that has specific expertise and resources to care for patients with pancreatic cancer, as this is a complicated disease to manage and treat. Second opinions are reasonable to consider, particularly if patients can travel to a larger center that may have access to more specialized services, including genetic evaluations, clinical trials, and advanced radiation and surgical approaches. When possible, it is preferable that the second opinion comes before patients start their treatment, as some clinical trials will not allow enrollment once treatment has been initiated.

It is important to note that a standard treatment plan prescribed by a doctor at a larger center can often be implemented at a smaller facility closer to the patient's home. This cooperative care model can allow for the combination of specialized input from a larger academic center with compassionate and convenient care delivered closer to home. For clinical trials, travel to the larger center will often be necessary for participation, but this depends on the specific trial.

What benefits does a multidisciplinary treatment center provide?

The multidisciplinary aspect of pancreatic cancer care is quite important, since surgeons, radiation oncologists, and medical oncologists work together to make the most integrated and personalized treatment plan. Beyond these team members, the team also needs outstanding radiologists because staging and treatment decisions are often based on scans, such as CT or MRI scans. The team needs skilled gastroenterologists because they often perform a biopsy with endoscopic ultrasound to help confirm the diagnosis or intervene if the biliary system is blocked by the tumor. You need excellent interventional radiologists to perform biopsies, for example, of metastases in the liver. You also need several other specialists who help our patients, including palliative care physicians, nurse practitioners, infusion nurses, nurse navigators, nutritionists, social workers, and geneticists. Caring for patients with pancreatic cancer truly takes a team effort.

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What advice would you give to newly diagnosed patients who are about to begin treatment?

First, it is helpful for patients to be treated by doctors at a center that has a dedicated effort and resources focused on pancreatic cancer. As patients begin treatment, I would encourage them to ask questions and not be hesitant to call their doctor's office if they have new symptoms or concerns. Many symptoms and complications are easier to deal with when they're identified early on and treated promptly. Patients should develop a support system and take care of their emotional health by maintaining daily routines, participating in activities they find enjoyable, and seeking help from mental health professionals and/or joining a support group if needed.

Surgery to remove the tumor is generally needed for the cancer to be cured. Which patients are candidates for surgery? What are the different types of pancreatic cancer surgery and when should each be used?

For the most part, people who have metastatic disease where the cancer has spread to other organs in the body are not eligible for surgery, because removing the tumor in the pancreas does not cure them of the cancer.

Approximately 55% of patients have metastatic disease when they first present with pancreatic cancer. The other 45% of patients have a tumor that's localized to the pancreas and hasn't spread to other organs. The utility of surgery for these patients depends in part upon how much the tumor has invaded into the surrounding tissues and into the blood vessels adjacent to the pancreas.

Some patients with localized disease are good candidates for surgery because the tumor remains quite confined to the pancreas and the full tumor can successfully be removed during surgery. For others, even though they don't have metastatic disease, the tumor can be very locally invasive into the blood vessels and tissues around the pancreas, such that they are not candidates for surgery. This can be a complex decision, and it is one best made at a high-volume cancer center with an experienced multidisciplinary team of doctors, including those with substantial experience with pancreatic imaging and surgery. Importantly, chemotherapy and sometimes radiation can be delivered prior to surgery, making a successful surgery more likely. Because of improvements in the effectiveness of chemotherapy and radiation, more patients are eligible for surgery today than in the past.

Some Complications of Surgery*

- Problems digesting different foods
- Insufficient pancreatic enzymes or hormones
- Leaking from the various connections made by the surgeon
- Infection
- Bleeding
- Diabetes

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If the patient's doctor determines that the patient is not a candidate for surgery, there are several other "first-line" treatment options available that are considered standard of care. What is "first-line therapy," and how is chemotherapy incorporated as a "first-line" treatment option?

Two primary chemotherapy programs are commonly used to treat patients with pancreatic cancer. One treatment is called FOLFIRINOX, which is 5-fluorouracil, leucovorin, irinotecan and oxaliplatin. The second is a two-drug treatment program comprised of gemcitabine (Gemzar) and nab-paclitaxel (Abraxane). Both of these treatment programs have been shown to be beneficial in terms of reducing patient symptoms and helping patients live longer compared to using gemcitabine alone. When these programs are used as a patient's first treatment, they are commonly referred to as "first-line therapy."

In some instances, the choice between FOLFIRINOX or gemcitabine plus nab-paclitaxel is based on findings

of genetic testing, since some mutations in DNA repair genes, such as BRCA1 or BRCA2, may lead to particular effectiveness for platinum-based therapy. In other instances, this decision will depend on the patient's health, other medical problems and the location and size of the tumor. Currently, studies are ongoing to understand if there are additional ways to determine which chemotherapy treatment program may be better for one patient over another based on features of the person's cancer.

In addition to standard chemotherapy programs, clinical trials may also be available, which are evaluating experimental medicines. In some instances, these experimental medicines are added to gemcitabine plus nab-paclitaxel or FOLFIRINOX. In other trials, experimental medicines may be given on their own without concurrent standard chemotherapy. Patients should feel comfortable asking their providers what clinical trials may be available to them as first-line treatment options and throughout their treatment course.

Common Side Effects of Chemotherapy*

- Fatigue
- Hair loss or thinning
- Loss of appetite
- Mouth sores
- Nausea
- Vomiting
- Diarrhea
- "Chemo brain," which is the mental cloudiness that patients sometimes notice before, during, or after cancer treatment, affecting daily life
- Bleeding or bruising
- Low blood cell counts
- Infection
- Peripheral neuropathy, a condition that can cause numbness and tingling, typically in the hands and feet, and is a result of damage to peripheral nerves

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Radiation therapy, which uses high-energy X-rays to shrink tumors by killing cancer cells, may be included as part of the treatment plan. How and when is radiation therapy used to treat patients with pancreatic cancer? Is radiation therapy used in conjunction with chemotherapy?

The benefits of radiation for patients with pancreatic cancer are still not entirely clear. For patients who have metastatic disease, it's uncommonly used, because the radiation can focus on one spot in the body, but it can't treat the totality of the different metastases. In contrast, when the tumor is localized to the pancreas and hasn't spread yet, radiation may be used to prevent progression

of the tumor in the pancreas or help shrink the tumor so that surgery becomes a viable option. Radiation may also be used to reduce pain or other symptoms caused by the pancreatic tumor.

Common Side Effects of Radiation Therapy*

- Skin changes
- Nausea
- Vomiting
- Diarrhea
- Fatigue
- Loss of appetite
- Weight loss
- Worsening of chemotherapy side effects

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Radiation is delivered on a number of different schedules that generally last one to six weeks. In shorter radiation courses, the radiation may be delivered on its own without chemotherapy. With longer radiation courses, it is commonly delivered with low-dose chemotherapy to help sensitize the tumor to the radiation. This is often referred to as chemoradiation therapy. It is not clear whether short or longer course radiation therapy is "better," and the choice is often based on tumor location, patient characteristics, and the setting and when in the treatment plan it is being used. New radiation strategies are currently being evaluated in the clinic with the goal of increasing the radiation dose to the tumor, while better protecting the normal tissues that are nearby.

What is the difference between neoadjuvant and adjuvant therapies? What are the benefits of these therapies, and when is it appropriate to use each?

Neoadjuvant therapy means therapy given prior to surgery. Adjuvant therapy means that the therapy is delivered after surgery. Given the difficulty in removing a pancreatic tumor due to invasion of surrounding tissues, a greater percentage of patients than in the past are being treated with chemotherapy prior to surgery. However, large studies have not yet clearly demonstrated whether neoadjuvant or adjuvant therapy is superior. Decisions regarding sequencing of therapy for patients with non-metastatic disease can be complex. These decisions are best made at high-volume cancer centers with experienced multidisciplinary teams of doctors who have substantial experience in pancreatic imaging and surgery. That being said, almost all patients who undergo surgery for pancreatic cancer should receive chemotherapy; whether this therapy is delivered before or after surgery is individualized to each patient's circumstances.

Targeted therapy is a type of cancer treatment that targets the changes in cancer cells that help them grow, divide, and spread. Which targeted therapies are used for treating pancreatic cancer patients?

Potential targeted therapy approaches can be identified during genetic testing for inherited mutations or when tumors are profiled. We advocate that all patients should have their tumors tested for microsatellite instability status. Microsatellite instability (MSI) is found in approximately 1% of pancreatic cancers, and the Lustgarten Foundation supported research that resulted in the FDA's approval of Keytruda (pembrolizumab) as an immunotherapy treatment for patients with MSI-high pancreatic cancer. We also advocate for inherited and tumor DNA sequencing for patients with pancreatic cancer. Mutations that can be targeted are particularly prevalent in the 8% of patients with no KRAS mutation in their tumor. Furthermore, we look for mutations in genes that control DNA repair, such as BRCA1, BRCA2, and PALB2. Mutations in these genes confer sensitivity to platinum-based chemotherapy and may confer sensitivity to a new class of targeted drugs known as PARP inhibitors.

Additionally, we examine tumors for gene fusions, where two genes are fused together to create a new protein that drives tumor growth. As an example, NTRK gene fusions have been rarely identified in pancreatic cancers and can confer sensitivity to NTRK inhibitors. Clinical trials are currently ongoing to evaluate targeted therapies in patients with pancreatic cancer. Patients should ask their treatment team whether targeted therapy trials would be appropriate within their care plan.



NEW TREATMENTS ARE BECOMING AVAILABLE FOR PATIENTS WITH PANCREATIC CANCER, AND OUR PATIENTS ARE FEELING BETTER AND LIVING LONGER THAN THEY HAVE IN THE PAST.



Immunotherapy uses the body's immune system to fight diseases like cancer and has proven effective in cancers of other organs. Which immunotherapy treatment is currently being used for pancreatic cancer, and is there additional research taking place on immunotherapy as a viable treatment?

Currently, the primary immunotherapy drug that has shown to be effective is the anti-PD-1 antibody Keytruda (pembrolizumab) that can be given to the approximately 1% of patients that have MSI-high pancreatic cancer. In patients who have microsatellite-stable pancreatic cancer, immunotherapy treatment so far has not been effective. Many clinical trials are ongoing to evaluate new ways to

harness the immune system to attack pancreatic tumors, and these are a major class of clinical trials that our patients enroll in.

A clinical trial is performed to determine if the treatment being tested is safe and if it is more effective than the current standard of care treatment. What role do clinical trials play in pancreatic cancer treatment, and when should patients consider joining a clinical trial?

There are many different types of clinical trials, which are studies to find better ways to prevent, screen, diagnose, and treat disease. Clinical trials may involve surgery, chemotherapy, radiation, or combinations of these, and patients with all stages of pancreatic cancer may be eligible for clinical trials. Currently, less than 5% of patients nationally with pancreatic cancer enroll in clinical trials. However, clinical trials provide patients with opportunities to try new therapies and receive treatments beyond the standardly available chemotherapy programs. Clinical trials are the primary way that new therapies are brought from the laboratory to the clinic to help patients.

Patients can consider joining a clinical trial at multiple points in their care, including from the time of first initiating their therapy. Many clinical trials are testing the addition of new drugs to standard chemotherapies, so enrolling in a clinical trial does not necessarily mean that patients won't also receive standard treatments. Clinical trials can play a role through the full continuum of treatment from first-line therapies to second-line treatments and beyond. Patients should discuss clinical trials with their care team at their initial visit and then periodically during their therapy. Trials may not be right for all patients and they may not be available at all treatment centers.

Where can patients find information about clinical trials? Can patients participate in clinical trials that are offered outside of their treatment center?

Patients and their loved ones can get information through clinical trial finders, including the ones available at ClinicalTrials.gov and through the Pancreatic Cancer Collective (pancreaticcancercollective.org), the partnership between Stand Up To Cancer and the Lustgarten Foundation. Patients and their loved ones can also access the Lustgarten/Let's Win Clinical Trial Matching Service (app.emergingmed.com/lustgarten/home), which offers free and unlimited access to current, verified clinical trial information. Additionally, the Pancreatic Cancer Action Network offers a Clinical Trial Finder (clinicaltrials.pancan.org/) that gives patients free and easy access to a comprehensive and up-to-date database of pancreatic cancer clinical trials available in the United States.

For most clinical trials, you must receive care at the centers where the specific trial is open. Some trials are open at multiple centers, but others may be specific to a particular cancer center. The large cancer centers that specialize in pancreatic cancer will often have information about their clinical trials listed on their website or will provide phone

numbers to discuss the available clinical trials with their research staff. Nurse navigators and research nurses specializing in the care of pancreatic cancer patients are excellent resources for clinical trial information.

What is personalized medicine, and how is this approach helping patients today?

The main principle of personalized medicine is not to treat everyone the same, but to understand the specific drivers of a patient's cancer and tailor therapy in a way that addresses those unique drivers. In approximately one-third of patients, we find a mutation or genetic alteration that can be treated with a therapy being tested in clinical trials or currently being used for other types of cancer. As doctors, we want to personalize the patient's care plan, so that we treat each patient based on the unique characteristics of his or her tumor and with the therapy that has the highest likelihood of success.



MANY OF THE IMPORTANT ADVANCES WE'VE SEEN IN THIS DISEASE TRACE BACK TO SUPPORT FROM THE LUSTGARTEN FOUNDATION.



What can patients do to cope with treatment and minimize side effects?

There are many ways to help manage side effects and assist patients and their family members with coping with this disease. Having trained professionals as part of the care team, including nutritionists, social workers, nurses, psychiatrists, and palliative care specialists, can help patients cope with the diagnosis and also with the side effects that can come from the treatment or from the cancer itself.

I encourage people not to be bashful about bringing any concerns to their treatment team. It's the job of the doctors to not only treat the cancer, but to maximize the patient's quality of life while the cancer is being treated. There are many more medicines available today to treat conditions like nausea, diarrhea, rashes, or other disease or treatment side effects that can occur. It should be a partnership between the patient and the treating team to address these issues and concerns.

How are organizations like the Lustgarten Foundation contributing to the research on treatment?

The field has advanced significantly because of the support of the Lustgarten Foundation. If one looks back even 10 years ago, very little research was being conducted in pancreatic cancer, in large part because minimal grant support was available for laboratories or clinicians to study this disease. The Lustgarten Foundation stepped in and filled this important void, providing grants and a community for scientists and clinicians to study this disease. Without the Foundation serving in these critical functions, we would understand so much less about this disease and have fewer treatment opportunities for our patients. In fact, many of the important advances that we've seen in this disease trace back to support from the Lustgarten Foundation. Most recently, the Foundation established dedicated pancreatic cancer research laboratories at Cold Spring Harbor Laboratory, Johns Hopkins, Massachusetts Institute of Technology and at my institution, Dana-Farber Cancer Institute. With these dedicated laboratories working together, even more resources, time and talent are now being put toward new advances in earlier detection and better treatments for pancreatic cancer.

What advances in treatment are on the horizon that you find the most promising?

The treatment advances that I find the most promising are identifying immune-based approaches to attack pancreatic cancer; discovering smarter ways to use targeted therapy by understanding the unique underlying drivers of each patient's cancer; finding more effective approaches to therapy around the time of surgery so that we can cure more patients who undergo removal of their pancreatic tumor; and finding the cancer earlier in its development, which would again allow us to cure more patients. The scientific community is working hard on each of these areas, and we are optimistic that we will see tangible advances for our patients in the next several years.

Checklist for Newly Diagnosed Patients*

As overwhelming as a pancreatic cancer diagnosis can be, it is important to act quickly and put a treatment plan into place, as there are therapies available that you can benefit from. The checklist below outlines immediate steps that you and your loved ones should take upon receiving this diagnosis.

1. UNDERSTAND YOUR DISEASE.

Thoroughly understand what stage of pancreatic cancer you have. Staging cancer is a standardized way to classify a tumor based on its size, whether it has spread, and where it has spread. Staging measures the extent of the disease and will impact treatment.

2. GET GENETIC TESTING.

Ask about having your blood or saliva tested to identify possible genetic predispositions to cancer. This testing can have implications for family members and can guide your pancreatic cancer treatment program. According to the 2019 National Comprehensive Cancer Network guidelines, all patients with pancreatic cancer should undergo genetic or germline testing for inherited genetic mutations, regardless of family history. Under these new recommendations, this testing should be done by your physician and should be covered by insurance. There are also companies, such as Color Genomics (color.com) and Myriad Genetics (myriad.com), that can do the testing. Additionally, Invitae's (invitae.com) Detect Hereditary Pancreatic Cancer genetic testing program provides no-charge genetic testing and counseling to patients with pancreatic cancer.

3. GET TUMOR TESTING.

Inquire about having tumor testing, also known as somatic testing, if you are being treated at a major cancer center. Still in the early stages of being studied, having your tumor tested for genetic mutations can help identify, in some instances, additional therapy programs.

4. SEEK OPINIONS FROM EXPERTS.

Get two opinions and make sure that one is from a large academic institution that specializes in treating pancreatic cancer.

5. KNOW YOUR HEALTHCARE TEAM.

Treating pancreatic cancer requires an interdisciplinary approach that includes your oncologist and other specialists who will be involved in your care. Continue to see other doctors who are involved in your overall care, such as your internist.

6. CONTACT YOUR INSURANCE COMPANY.

Thoroughly understand your health insurance policy. Know what services are covered and what your out-of-pocket obligation will be per calendar year. Request a case manager to help you optimize your benefits and to navigate the intricacies of your policy.

7. GET ORGANIZED.

Record your questions in a notebook and bring it with you to all doctors' appointments. Use it to keep track of test results and appointment dates. Write down the contact numbers of all your doctors in one place or save them in your cell phone. Additionally, know the number to call if you have a problem or concern after hours or on a weekend.

8. DEVELOP A SUPPORT SYSTEM.

Have someone accompany you to oncology appointments for support and clarification of the proposed plan of care.

9. DELEGATE RESPONSIBILITIES.

Enlist the help of family members, friends, and neighbors who want to assist with errands or chores, meal preparation, and driving.

10. CONTROL WHAT YOU CAN.

Closely monitor your nutrition, physical activity, and pain level and provide feedback to your healthcare team. Utilize complementary therapy such as Reiki therapy, yoga, meditation, acupuncture, and pet therapy.

11. INITIATE GOALS OF CARE.

Incorporate the palliative care team to help you control your symptoms so that you can have a better quality of life. Proper symptom management will help you stay on your treatment plan. Palliative care doesn't mean you are giving up.

12. TAKE CARE OF YOUR EMOTIONAL HEALTH.

Maintain daily routines and continue to partake in activities you enjoy as much as possible. If needed, seek out supportive services such as counselors, social workers, and support groups.



ABOUT BRIAN WOLPIN, M.D., M.P.H.

Dr. Wolpin is a medical oncologist and translational scientist at Dana-Farber Cancer Institute and Harvard Medical School. He obtained his M.D. from Harvard Medical School and completed a residency in internal medicine at Brigham and Women's Hospital. He completed fellowship training in medical oncology at Dana-Farber Cancer Institute and returned to Brigham and Women's Hospital to serve as chief medical resident. Subsequently, he received a M.P.H. from Harvard School of Public Health. His research group is focused on understanding the factors that promote initiation and progression of pancreatic ductal adenocarcinoma, with the goals of identifying new screening tests and therapeutic approaches for pancreatic cancer.

Dr. Wolpin is Director of the Gastrointestinal Cancer Center and Director of the Hale Family Center for Pancreatic Cancer Research at Dana-Farber, and an Associate Professor of Medicine at Harvard Medical School. He also serves as Chair of the NCI Pancreatic Cancer Detection Consortium Steering Committee, co-Principal Investigator for the Pancreatic Cancer Cohort Consortium, Vice-Chair of the NCI Pancreas Task Force, and co-Director of the Pancreas and Biliary Tumor Center at Dana-Farber/Brigham and Women's Cancer Center. Additionally, Dr. Wolpin leads the dedicated Lustgarten Foundation Pancreatic Cancer Research Laboratory and serves as the Robert T. & Judith B. Hale Chair in Pancreatic Cancer at Dana-Farber Cancer Institute. His research has been funded by the National Cancer Institute, Howard Hughes Medical Institute, Lustgarten Foundation, Stand Up To Cancer, ASCO Conquer Cancer Foundation, Pancreatic Cancer Action Network, and U.S. Department of Defense. Dr. Wolpin's clinical practice involves the care of patients with gastrointestinal cancers, with a particular focus on pancreatic cancer. He holds multiple leadership positions related to clinical expertise, including membership on the Alliance/CALGB Gastrointestinal Cancer Committee, NCCN Guidelines Committee for Pancreatic Adenocarcinoma, and NCI Pancreas Task Force.



Let's Win!
Pancreatic Cancer

Let's Win! Pancreatic Cancer (www.letswinpc.org), an affiliate of the Lustgarten Foundation, is an online community that connects doctors, researchers, and patients to the latest science-driven treatment options through a dynamic website and a robust social media program in both English and Spanish. Let's Win also introduces experienced physicians who do not specialize in pancreatic cancer to emerging treatments to combat the disease. The site features an interactive patient and family forum where patients describe their treatment plans; information on promising science; highlights from the latest clinical trials; information about managing care during treatment; current pancreatic cancer news, and inspiring videos from survivors.

ABOUT THE LUSTGARTEN FOUNDATION

The Lustgarten Foundation is the largest private funder of pancreatic cancer research in the world. Based in Woodbury, N.Y., the Foundation's mission is to cure pancreatic cancer by funding scientific and clinical research related to the diagnosis, treatment, and prevention of pancreatic cancer; providing research information and clinical support services to patients, caregivers and individuals at high risk; and increasing public awareness and hope for those dealing with this disease. Thanks to separate funding to support administrative expenses, 100% of your donation goes directly to pancreatic cancer research. For more information, please visit www.lustgarten.org.

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