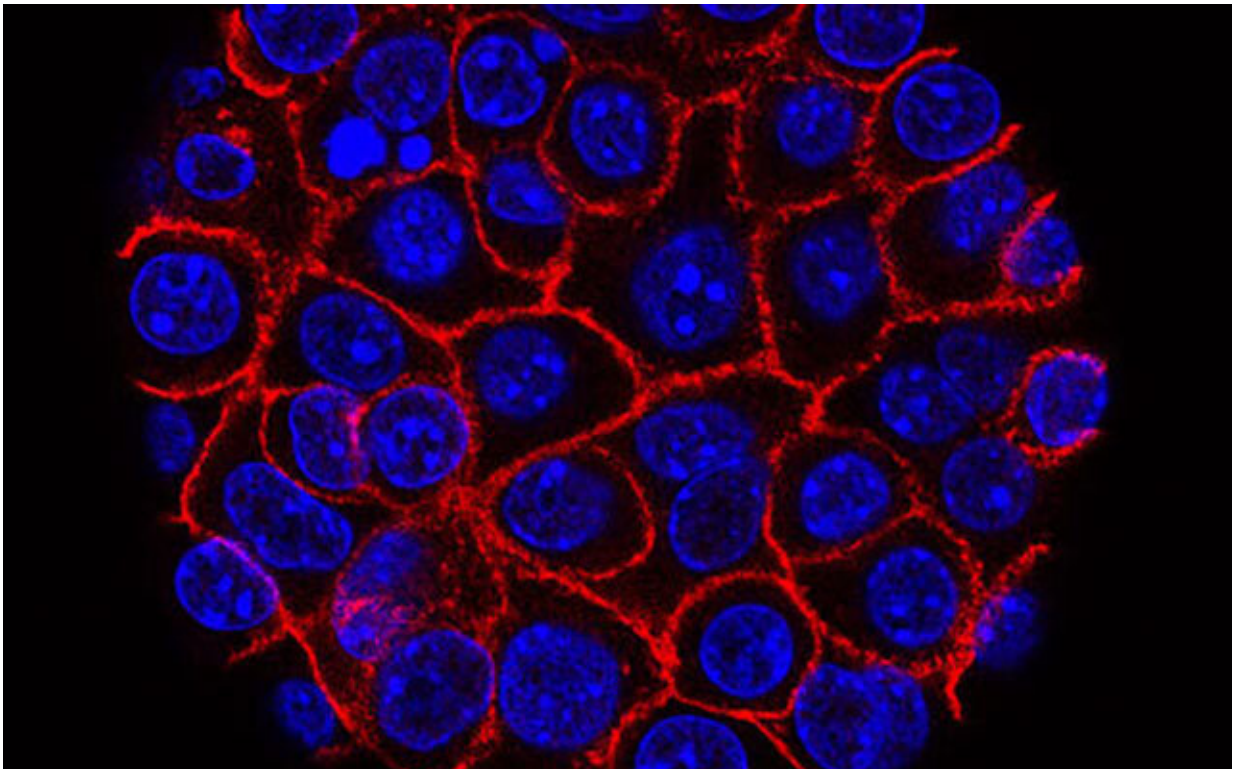


People with pancreatic cancer are living longer, thanks to improved approaches

November 30 2022



Pancreatic cancer cells (blue) growing as a sphere encased in membranes (red).
Credit: National Cancer Institute

A diagnosis of pancreatic cancer is almost synonymous with hopelessness. As the least survivable type of cancer, the perception is understandable. "As soon as patients were diagnosed, they were often

told by their physician to start making arrangements," says Mark Truty, M.D., a surgical oncologist at Mayo Clinic who specializes in pancreatic surgery.

But the tides are turning, thanks to new and improved treatment methods that are helping people with [pancreatic cancer](#) live longer. Dr. Truty and Robert McWilliams, M.D., a medical oncologist at Mayo Clinic, talk about Mayo Clinic's approach to pancreatic cancer care, and how it's leading to improved survival and quality of life.

Capturing the full picture from the time of diagnosis and beyond

Before moving forward with treatment, Dr. Truty says it's critical to understand as much about each person's cancer as possible. "When a patient is first diagnosed, they need really good imaging and molecular testing to see, not just where the tumor is, but if there's any evidence of spread. We do a lot of tests at the beginning and throughout to make sure that the cancer is truly localized and has not spread."

In most instances, a CT scan or MRI scan is used to identify the location of the cancer and possible spread, but Dr. Truty says standard scans are just one piece of the puzzle. "Historically, patients have gotten a scan where the tumor appears to be localized, and then they underwent surgery. But that paradigm has not resulted in the outcomes we wanted."

This is where PET scans and additional molecular testing play an important role.

Dr. Truty says that PET scans and newer genetic testing are key to staging the cancer and assessing its behavior accurately. They can help determine if treatment is working effectively to shrink the tumor,

whereas traditional CT scans have distinct limitations in assessing response in pancreatic primary tumors.

"If we see a response we're anticipating on the PET scan, those are the patients that do very well. If we're not seeing a response, then we have to pivot and switch their therapy to see if we can achieve a better outcome," he says. "We've also been using novel genetic testing developed at Mayo Clinic to test the blood of patients, as well as the fluid of the abdomen through laparoscopy, to see if we can pick up some cancer DNA."

This method is helping cancer experts at Mayo Clinic determine who might be at risk for pancreatic cancer recurrence and individualize their treatment to reduce the risk of the cancer returning. "We're the first center to do this routinely for every single patient we see," Dr. Truty says.

Tailoring testing and treatment for each person

Initial testing and staging of pancreatic cancer can help uncover weaknesses or potential threats for each unique pancreatic cancer case. "As we've learned more about the genetics of pancreatic cancer—and how to find patients who can benefit—we've been able to tailor therapies according to the patient's genetics and their DNA, or the DNA changes that are specific to the cancer itself," says Dr. McWilliams.

In a study led by Mayo Clinic Center for Individualized Medicine, researchers found that nearly 1 in 6 people diagnosed with pancreatic cancer had an inherited cancer-related gene mutation that may have predisposed them to pancreatic cancer. The most common genetic mutation in those patients was the BRCA2 gene, which is linked to breast cancer.

Niloy Jewel Samadder, M.D., a Mayo Clinic gastroenterologist and hepatologist, and the study's senior author, said that patients with mutations had a 50% longer survival. Data from this study and others have led to recent changes in guidelines that advocate for genetic testing for all pancreatic cancer patients, regardless of their cancer stage or family history of cancer.

Though the majority of people with pancreatic cancer do not have a germline mutation, Dr. McWilliams says it's important to use all the tools available for each patient. While it may not achieve a cure, it can help select therapies to improve quality of life so patients can live longer and more comfortably.

"There's a national trial, called the POLO Trial, which showed that patients on chemotherapy with BRCA1 or BRCA2 mutations are eligible for a maintenance therapy with just a pill, rather than IV chemotherapy, which is really good from a side effects standpoint," says Dr. McWilliams.

Redefining what is considered inoperable

Dr. Truty says patients who are able to have surgery to remove their pancreatic cancer can live significantly longer, but in cases where the tumor has grown outside of the pancreas to encase critical blood vessels, pancreatic cancer has been considered inoperable.

About one-third of pancreatic cancer tumors grow to surround blood vessels outside the pancreas. "Those patients have historically not been considered for surgery," he says. "Theoretically, 50% of patients with diagnosed pancreatic cancer have the potential to undergo an operation. The question is: How do we get them to surgery? And how do we optimize their outcomes to make sure that they live as long as they possibly can?"

Drs. Truty, McWilliams and pancreatic cancer experts at Mayo Clinic use an approach called neoadjuvant therapy, which delivers chemotherapy—or a combination of chemotherapy and radiation—to destroy microscopic cancer cells in the body before surgery. By combining this method with personalized surgery for each patient's anatomy, they can remove tumors entirely and reconstruct blood vessels as needed. This has resulted in the ability to operate on patients who previously did not have that option, leading to better results than ever before.

"We're creating custom surgeries for each patient that aren't being done anywhere else on the planet. That's why so many people come to us after they've been told their tumors are inoperable," says Dr. Truty.

Though surgery can lead to the best outcomes in many cases, Dr. Truty emphasizes that the goal of pancreatic cancer treatment is not surgery. "The goal for anyone with cancer is to extend their life and maintain a reasonable quality of life. Sometimes an operation is necessary to achieve this, and sometimes it will decrease the likelihood of one or the other, or both. That's why before we even consider an operation, we have to make sure that operation has the highest probability that we'll achieve both of those goals."

Pancreatic cancer continues to have the highest mortality rate, but Dr. McWilliams says there's plenty of reason for patients to be hopeful. "It's a very serious cancer. It's something that is life-threatening for a lot of people, but it's not necessarily a death sentence," he says. "It's something that we have treatments for, and our treatments are only getting better."

And this progress, he says, is driven by [clinical trials](#). "Clinical trials are how we advance the science. For patients who are looking for the latest and greatest, and want to help advance the options for their cancer, participation in clinical trials is crucial."

Dr. Truty says he hopes more people with pancreatic cancer seek out second opinions from cancer centers who are leveraging new approaches and providing patients more options. "Historically, it's been such a nihilistic disease, but things have really changed. We have not settled for the standard of care—this results in standard outcomes which have not been good. We have to treat patients differently—starting from the beginning," he says. "And if you can do that all the way through treatment, then those patients really do have exceptional outcomes."

Provided by Mayo Clinic

Citation: People with pancreatic cancer are living longer, thanks to improved approaches (2022, November 30) retrieved 3 May 2024 from <https://medicalxpress.com/news/2022-11-people-pancreatic-cancer-longer-approaches.html>

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