A NEW APPROACH

Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program

COLUMBIA UNIVERSITY
College of Physicians and Surgeons

The Pancreas Center

NewYork-Presbyterian Hospital
Columbia University Medical Center

The Pancreas Center

The Pancreas Center of Columbia University is founded on the principle that treatment of pancreas disorders demands a commitment to collaboration in patient care. In addition to upholding a standard of highly coordinated, compassionate, and dedicated patient care at the Pancreas Center, we deeply value the insights of medical research and continually pursue new avenues of diagnosis and treatment. This is why patients come to us from all over the world.

As part of NewYork-Presbyterian Hospital and the Herbert Irving Comprehensive Cancer Center, we are fortunate to have some of the best practitioners in every medical discipline. Pancreas Center patients have access to a highly experienced, multi-disciplinary team of gastroenterologists, oncologists, surgeons, radiologists, nurse practitioners, geneticists, genetic counselors, and nutritionists. Together, we collaborate to meet the diagnosis, intervention, prevention, and treatment needs of every patient. Our commitment to championing the health of our patients is our defining characteristic.

The expertise of the practitioners at the Pancreas Center, together with the benefits gained from being part of a large institution with a track record of excellence in research and patient care, make it possible for us to maintain our position at the forefront of imaging applications, surgical techniques, risk stratification, genetics, screening, and early detection of pancreas disorders.

Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program

Here at the Pancreas Center we understand that a diagnosis of pancreatic cancer can be incredibly stressful and discouraging for patients and families. Throughout our many years of treating this disease, we have shared the emotional burden with our patients and therefore are committed to finding new ways to fight pancreatic cancer.

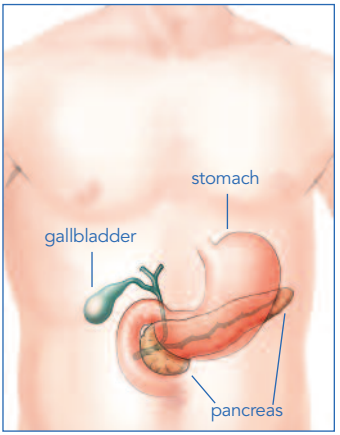
We believe identifying and treating individuals at the highest risk for pancreatic cancer prior to development of advanced disease poses the greatest opportunity in the battle against pancreatic cancer. While these topics are a focus in only a handful of the very best institutions in the country, prevention, genetics, and early detection are priorities at the Pancreas Center.

The Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program combines a patient-centered clinical practice with a robust research program. Consistently on the leading edge of the prevention and early detection field, our clinical and research programs are integrally related. This allows the lessons learned from basic and translational research to be incorporated into clinical action quickly and effectively.

For more information or to make an appointment, please call Joanna Martinez-Gomez at 212.305.9337

Pancreatic Cancer Basics

Pancreatic cancer accounts for about 3% of new cancer diagnoses each year and is the fourth most frequent cause of cancer death in both men and women in the United States. In 2006, 33,730 people in the United States were diagnosed with pancreatic cancer with an estimated five-year survival rate of 5%–the lowest of all cancers (ACS Facts and Figures, 2006).



Pancreatic cancer is known as a "silent disease" because identifiable symptoms are not usually present in its early stages. Many symptoms of pancreatic cancer are mild at first, so patients often ignore them. Due in large part to the position of the pancreas deep in the abdomen, a pancreatic tumor can grow for years before causing pressure, pain, or other signs of illness. This can make it difficult for a patient or doctor to recognize a problem.

The cause of pancreatic cancer remains unclear and our knowledge of its biology is incomplete. At present, surgery offers the best chance for a cure and long-term management of pancreatic cancer. However, due to the rapid progression of the disease, the best way to clinically impact its course will be through prevention and early detection.

Pancreatic Cancer Risk Factors

The main risk factor for cancer of the pancreas is a past or present history of cigarette smoking with up to a third of all pancreas cancers attributed to a cigarette smoking history. This means individuals who currently smoke, or have in the past, have an increased risk of developing pancreatic cancer. The cancerous tumors that form as a result of cigarette smoking grow at an accelerated rate and develop approximately 10 years earlier than tumors not related to smoking.

Inherited gene mutations are also a significant risk factor and play a role in up to 15% of all cancers of the pancreas. Family members of patients with pancreatic cancer may have a dramatically increased risk of developing the disease. It is now known that at least five distinct cancer syndromes account for a portion of inherited pancreatic cancers:

- Familial Breast and Ovarian Cancer Syndrome (BRCA)
- Familial Atypical Multiple Mole Melanoma Syndrome (FAMMM)
- Peutz-Jeghers Syndrome (PJS)
- Hereditary Non-Polyposis Colorectal Cancer Syndrome (HNPCC)
- Hereditary Pancreatitis

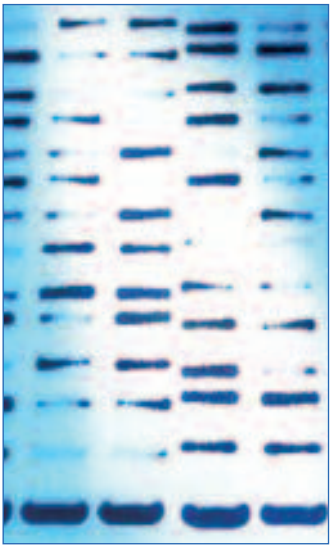
A family history of pancreatic cancer not related to these inherited gene mutations is also significant and increases the risk of developing pancreatic cancer at least fivefold.

It is important to note that having one or more of these conditions does not mean you will definitely develop pancreatic cancer. Also, some people who do develop pancreatic cancer do not have any of the conditions listed above. If you believe you are at increased risk for developing pancreatic cancer, it is important to discuss this with your doctor and to schedule a comprehensive medical visit that includes a process called risk stratification.

Risk Stratification at the Pancreas Center

Risk stratification is a process in which an individual's likelihood of developing pancreatic cancer is assessed. During the process, specialists at the Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program take into consideration all factors known to contribute to the development of the disease. This includes a thorough physical exam as well as detailed analysis of the personal and family medical history of each individual. If it is deemed appropriate, we provide genetic counseling and genetic testing for our patients and their families.

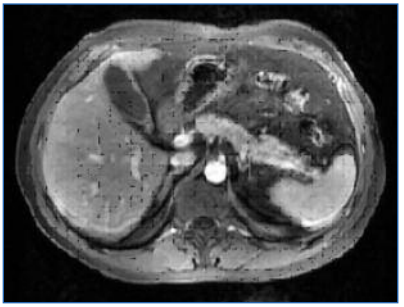
If a patient learns there is significant risk of developing pancreatic cancer, we provide guidance and recommend an ongoing testing regimen so that they may ultimately avoid the disease. Known as "screening," this testing regimen involves imaging the pancreas with sensitive instruments to detect pre-cancerous abnormalities or small cancers that are surgically curable.



Gel electrophoresis — a process used in genetic analysis

High-Risk Screening Program

Screening begins approximately 10 years prior to the earliest age of onset of cancer in the family. Yearly screenings may be recommended as the individual approaches the age at which their family member developed cancer.



MRI of the pancreas

Because many high-risk individuals will never develop pancreatic cancer, every effort is made to minimize the risk of the diagnostic procedures. Therefore, magnetic resonance imaging (MRI/MRCP) is one of our preferred techniques for screening. It is a non-invasive imaging method that allows the physician to visualize the pancreas and its surrounding organs in detail. In many instances we also recommend endoscopic ultrasound (EUS). In those cases where either MRI/MRCP or EUS show an abnormality, endoscopic retrograde cholangiopancreatography (ERCP) will be considered for further evaluation. In all cases, patients undergo close and continued surveillance by the Pancreas Center team.

If screening tests are abnormal, patients may be referred to a Pancreas Center surgeon. The surgical team of the Pancreas Center is comprised of highly skilled and highly experienced specialists. Studies have shown that patients who undergo pancreas surgery at a high-volume center, one that performs more than 16 pancreas operations per year, experience fewer operative complications and enjoy more successful outcomes. Here at the Pancreas Center, we perform nearly 200 pancreas resections per year.

Patient Experience

Once you have made an appointment with us for risk analysis, we understand that you will have a lot of questions. We want to make sure your visit is as comfortable, informative, and convenient as possible. Therefore you will meet several specialists during your initial appointment. Below is a summary of what you should expect during your visit to the Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program.

I. Physician Consultation

—The first person you will meet during your visit will be a physician. The medical team will perform your physical and discuss your medical history.

II. Genetic Counselor Consultation

—You will then meet Mary Kay Dabney, our genetic counselor. She will discuss your family medical history with you and build a pedigree. A pedigree is a family tree used by genetic counselors to visually depict any significant family history of cancer.

III. Risk Stratification Analysis

—Dr. Harold Frucht, Mary Kay, and the prevention team will then discuss your personal risk factors for developing pancreatic cancer with you and give you the opportunity to ask questions.

IV. Action Plan Development

—Once all factors are considered, the team will recommend genetic testing and/or imaging for early detection, if appropriate.

V. Continued and Close Surveillance

The Prevention Program Team

Harold Frucht, MD – Medical Director

Mary Kay Dabney, MS – Genetic Counselor

Joanna Martinez-Gomez – Administrative Coordinator

Please feel free to call us to make an appointment or to ask any questions you may have: 212.305.9337

Current Clinical Trials

Here at the Pancreas Center, advancing the early detection, care, and treatment of pancreatic cancer through research is part of our core mission. Already intrepid in our current treatment tactics, we believe there are still opportunities for novel and improved detection and therapeutic options yet to be developed. The Pancreas Center team is committed to being on the leading edge of developing these breakthroughs by better understanding the causes of pancreatic cancer through basic research and exploring innovative screening techniques and treatments through translational research and clinical trials.

There are several open clinical trials that you may be asked to participate in as a patient at the Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program. It is important to understand that participation in any clinical trial is completely voluntary. Common reasons for joining a clinical trial include:

- Playing a more active role in your own health care
- Gaining access to innovative screening and therapies before they become widely available
- Helping others by contributing to advances in medical research

These are some of the clinical trials available for patient enrollment:

I. Pancreatic Cancer Prevention Program Registry and Tissue Bank for High-Risk Individuals

—The backbone of the Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program, this registry combines de-identified blood and tissue samples with epidemiologic, clinical, and family history data to establish an infrastructure that will allow future clinical, basic, and translational research.

II. Secretin-Stimulated MRCP as an Early Screening Modality for Pancreatic Ductal Abnormalities in Patients at High Risk for Pancreatic Adenocarcinoma

—Secretin is a naturally produced hormone that stimulates the pancreas to release pancreatic juices. A secretin-stimulated MRCP may enable better visualization of abnormalities in the pancreatic ducts, where most pancreatic cancers are thought to originate.

III. Secretin-Stimulation for the Evaluation of Pancreatic Endocrine and Exocrine Function Following Surgical Resection for Pancreatic Adenocarcinoma

—This study is an attempt to understand endocrine and exocrine function in post-operative patients through a non-invasive technique in order to better predict which patients may develop glucose intolerance or diabetes after surgery.

IV. Molecular Genetics (BRCA1, BRCA2) and Epidemiology of Pancreatic Cancer in Ashkenazi Jewish Patients

—Up to 15% of pancreatic cancers have an inherited component. Several gene abnormalities and inherited cancer syndromes have been shown to increase the risk of developing pancreatic cancer, including the breast ovary cancer syndrome (BRCA mutations). This study aims to determine the frequency of the three most common BRCA1 and BRCA2 mutations in Ashkenazi Jewish pancreatic cancer patients. We also hope to look for other genetic mutations which may affect pancreatic cancer.

Research Initiatives

We are currently exploring the topics listed below and hope to translate our findings into clinical trials that will benefit our patients in the near future.

- Germline Mutation of the Rb Tumor Suppressor Gene Causing Pancreatic Cancer
- Germline Mutation of the p16 Tumor Suppressor Gene (FAMMM Syndrome Variant) Causing Pancreatic Cancer
- Incidence of Pancreatic Adenocarcinoma in Young Individuals with a History of Genetic Syndromic Cancers Using the SEER Database
- PanIN Lesions as a Risk Factor for Local Pancreatic Cancer Recurrence

If you are interested in enrolling in any of our open clinical trials or would like more information, please call Joanna Martinez-Gomez at 212.305.9337

The Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program is named in loving memory of Muzafar "Muzzi" Mirza. Beloved father, husband, son, and best friend to many, Muzzi passed away much too young in 2007 after a courageous battle with pancreatic cancer.

Muzzi exemplified Rudyard Kipling's ideal man, equally comfortable "talking with the crowds and walking with kings." His huge heart allowed him to embrace everyone he touched. His simplicity, warmth and legendary zest for life were contagious and changed many lives for the better. His passions included golf, cars, music, the ocean, and "the art of the deal." He was a great host and loved the company of family and friends. People loved being with Muzzi because he would inspire them with his own joy for life, lifting them beyond their own capabilities.

A unique combination of intelligence, sharp wit, and persuasive charisma led to his extraordinary success. Muzzi was born in Lahore, Pakistan in 1958 and moved to the U.S. in 1976. He was a founding partner of Odyssey Investment Partners, LLC, a leading private equity investment manager, and a principal in the firm's predecessor, Odyssey Partners. Prior to joining Odyssey, Muzzi was the head of the Merchant Banking Group at GE Capital Corporation. Muzzi began his career at Marine Midland Bank after graduating from Claremont McKenna College and obtaining a graduate degree from the American Graduate School of International Management.

As the parents of three young children, Muzzi and his wife, Susan, wanted to ensure that the Pancreas Center developed a program focused on prevention techniques and the role of genetics as it relates to the development of pancreatic cancer. Through the generosity of Muzzi, his family, and his many friends and colleagues, and through their dedicated faith in the mission of the Pancreas Center, we were able to establish this program in his honor. We are grateful for this opportunity to deliver valuable, life-changing, patient-centered care. One of Muzzi's personal mantras was "Dare to be great!" With the Muzzi Mirza Pancreatic Cancer Prevention & Genetics Program, we aspire to capture his indelible spirit and save others from the devastation of this terrible disease.

The Pancreas Center

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