

SIDNEY KIMMEL CANCER CENTER | NCI-designated

PANCREATIC CANCER

**and Related Diseases
Programs**

2023 Update



Jefferson

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Jefferson



Pancreatic Cancer and Related Diseases Multidisciplinary Team

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Wilbur B. Bowne, MD, FACS
Hien T. Dang, PhD (with joint SKCC
appointment)
Elda Grabocka, PhD (with joint SKCC
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Aditi Jain, PhD
Harish Lavu, MD, FACS
Warren R. Maley, MD
Avinoam Nevler, MD
Nicole Pocetti, CRNP
Charles J. Yeo, MD, FACS
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SKCC Support and Welcome Center:

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Gregory Garber, MSW, LCSW
Molly Vocino, MSW, LCSW



Dear Friend:

Throughout the past year, Jefferson Health's Pancreas, Biliary and Related Cancer Center (the Center) has continued its bold vision to transform pancreatic cancer care—from creating new treatment options to enhancing postoperative practices. Research has been, and continues to be, the backbone of this work. With each new discovery, we are working towards our ultimate goal: finding a cure for this aggressive disease.

Reflecting on the past year, I am most proud of our high clinical volumes and contributions to scientific discourse. As the Sidney Kimmel Cancer Center (SKCC) is a premier academic medical center and an NCI-designated cancer center, we bring together the experts and resources needed to perform groundbreaking discoveries. Clinical trials are vital to creating better therapeutics and caring for our patients. Jefferson's high patient enrollment numbers reflect the dedication and care we put into our work, as well as the promise of creating treatments that will help everyone affected by pancreatic cancer. By publishing and presenting the results of our work in high impact journals and at meetings, we are connecting with and learning from other field leaders while simultaneously generating collaborations with other clinicians and companies that promise to accelerate our life-changing work.

Such excellence is due to the wonderful, multidisciplinary team that comprises the Center. In that vein, I would like to thank and congratulate two of our excellent nurse practitioners on their recent retirements: Theresa P. Yeo, PhD, MPH, AOCNP, FAANP and Eleanor Vanderklok, CRNP, AOCNP. Their compassion, dedication to their patients, and work advancing clinical research over many decades were critical to the growth and success of our oncology services. Terry and Eleanor's legacies of care here at Jefferson continue to serve as a model for us all.

At the heart of everything we do is you: our community. We are working to create a brighter future for our pancreatic cancer patients and their loved ones, one discovery at a time.

Sincerely,

Charles J. Yeo, MD, FACS
Samuel D. Gross Professor and Chair of Surgery
Senior Vice President and Chair,
Enterprise Surgery, Jefferson Health
Co-Director, Pancreas, Biliary and Related Cancer Center

SUCCESS: BY THE NUMBERS

The multidisciplinary team that comprises the Pancreas, Biliary and Related Cancer Center continues to be sought after by patients and experts alike, as our clinical volumes and research are defining the field and transforming care.

SKCC is the **47th** Cancer Hospital in America according to *U.S. News & World Report*

Thomas Jefferson University Hospital is the **31st** in the nation for Gastroenterology and GI surgery according to *U.S. News & World Report*

SKCC is in the top **5%** of cancer centers nationwide for clinical trial enrollment

SKCC is one of only **72** cancer centers in the nation to be a Designated Center of Excellence from the National Cancer Institute (NCI)

Last year, more than **\$350,000** raised in philanthropy for pancreatic cancer research and an additional **\$5 million+** in documented bequests to our program

As of August 2023, the Jefferson Pancreas Tumor Registry has enrolled **1,082** participants

JEFFERSON ON THE NATIONAL STAGE

In May 2023, members of the Center traveled to Chicago to share their cutting-edge research at the Pancreas Club, a premier organization that promotes collaboration and a fruitful exchange of research among pancreatologists. Our expert researchers presented on the following topics:

- “Major Pancreatic Resection is Associated with Accelerated Bone Mineral Density Loss and Increased Rates of Osteoporosis and Fractures”— Saed Khalilieh, MD
- “The Financial Implications of Pancreatic Surgery—The Hospital is the Big Winner, Not the Surgeon!” — Nitzan Zohar, MD
- “Long-term Pancreaticobiliary Morbidity is Increased in Patients after Colonic Resection”— Saed Khalilieh, MD
- “Impact of Antecolic versus Transmesocolic Reconstruction on Delayed Gastric Emptying Following Pancreaticoduodenectomy” — Avinoam Nevler, MD
- “COPD is Associated with Worse Oncologic Outcomes in Early-stage Resected Pancreatic Cancer” — Carolyn Ream, Medical Student-3rd year
- “Solid Pseudopapillary Neoplasms of the Pancreas: Clinicopathologic Features and Surgical Outcomes” — Rehana Persaud, Medical Student-3rd year
- “Incisional Hernia After Major Pancreatic Resection: Long Term Risk Assessment From Two Disparate Sources—A Large Multi-Institutional Network and A Single High Volume Center” — Nitzan Zohar, MD



Medical student Carolyn Ream with mentors Drs. Avinoam Nevler, Saed Khalilieh, and Nitzan Zohar attending Pancreas Club. Nevler, Khalilieh, and Zohar all have the distinction of being Halinski Fellows at one point in our research lab.

Our major presence at national gatherings—as well as securing funding from external organizations like the American Society for Therapeutic Radiology and Oncology and ECOG-ACRIN Medical Research Foundation—reinforces the vital, field-defining work we are doing at Jefferson.



Excitingly, in August 2023 Hien Dang, PhD, Vice Chair for Surgical Research and a lead researcher for the Jefferson Molecular Profiling of Pancreatic Cancer initiative, was announced as one of the 11 inaugural cohort members of President Biden’s Cancer Moonshot Scholars and awarded nearly \$2 million in research funding for her work in liver cancer. This program supports and promotes exceptional early-career researchers, like Dr. Dang, from diverse backgrounds who are poised to increase prevention and early detection, create new cancer treatments, and advance our understanding of hard-to-treat cancers.



“The Cancer Moonshot Scholars program is an important investment in cancer research and advances that can deliver hope for cancer patients across the nation.”

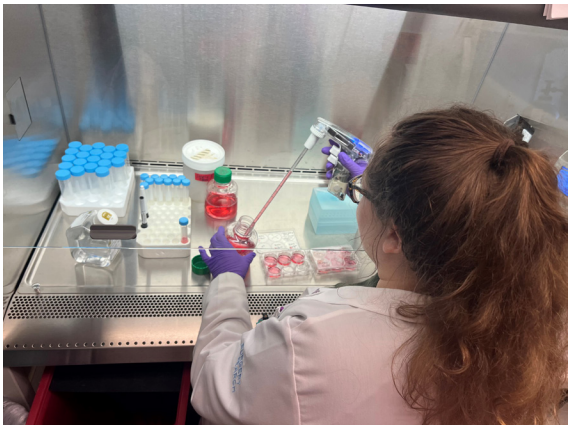
**— Danielle Carnival, PhD
Deputy Assistant to the President for the Cancer Moonshot**

TRANSFORMING CARE, ONE DISCOVERY AT A TIME

Through their groundbreaking discoveries, our experts are transforming pancreatic cancer care at the international level. Publishing in field-defining journals like *Medical Oncology*, *Clinical Journal of Oncology Nursing*, *Translational Oncology*, *Immunotherapy*, and *JCO Oncology Practice*, they are shaping and advancing the discussion around pancreatic cancer, launching Jefferson into a new phase of research and innovation.

ENHANCING TREATMENTS

The innovative **Jefferson Molecular Profiling of Pancreatic Cancer (JMP PaC)** initiative unites the Center’s paired foci on research and patient care by gathering the information needed to transform future treatment options while also making real-time improvements possible to our current patients’ healthcare. Through molecular profiling, researchers examine an individual cancerous tumor to identify biomarkers that illuminate how the tumor responds to treatment. By analyzing these tumors on a large scale, they aim to find structural patterns and test hypotheses about the best way to treat pancreatic cancer. For our current patients, our clinicians can identify actionable targets following surgery to improve an individual patient’s outcome, further personalizing treatment. This year, our profiling team expanded, with Wei Jiang, PhD of Pathology, and Babar Bashir, MD of Medical Oncology, coming on board as collaborators.



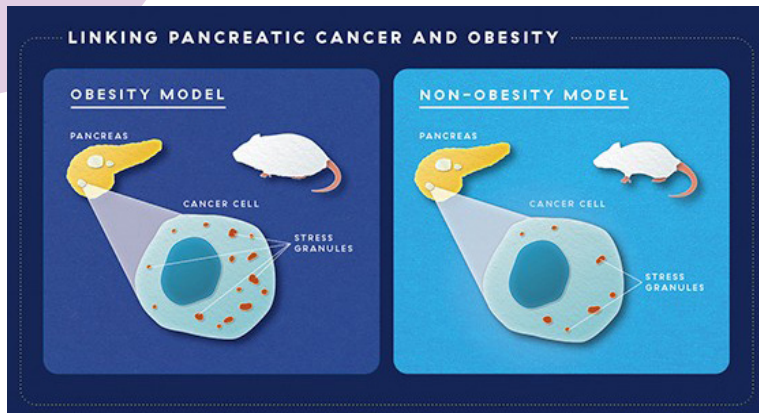
We rely on philanthropy to cover for patients what insurance will not—approximately \$1,500 per patient—including patient testing, specimen collection and processing, storage, and also down-stream research projects driven by the information gathered through this initiative.

In 2022, we surpassed our initial philanthropic goal of \$150,000 to get the project off the ground. As of summer 2023, more than 80 patient samples have been sent out for sequencing, and we estimate an additional 15 samples per month moving forward. Following this pace, we expect that within two years we will have enough data to identify significant trends, which will further guide our research projects.

Dr. Aditi Jain’s laboratory has been studying **new drug targets and developing new treatment strategies** for pancreatic cancer. Her lab’s focus is targeting DNA repair pathways in pancreatic cancer cells. She is also working with Cardiff Oncology to test their novel drug in combination with PARP inhibitor therapy. Additionally, along with Dr. Babar Bashir and in partnership with Syros Pharmaceuticals, Dr. Jain is looking forward to testing a novel cyclin dependent kinase inhibitor, a drug designed to interrupt cancer cell growth, in pancreatic cancers. Through this work, Dr. Jain is building new pathways and treatment options that could improve patient outcomes.

Dr. Adam C. Mueller is continuing to discover why **radiation and immunotherapy** are less effective when treating pancreatic cancer in order to create ways to improve these treatment outcomes. Dr. Mueller theorizes that pancreatic cancer’s fibrous tumor microenvironment suppresses the effectiveness of radiation and immunotherapy. By inhibiting Notch signaling—a pathway that promotes cell development and, when dysfunctional, is linked with many cancers—in the microenvironment, his laboratory hypothesizes that radiation and immunotherapy will be made more effective. He has presented this exciting research to the American Society for Therapeutic Radiology and Oncology; this society also awarded Dr. Mueller a five-year development grant to further this promising work.

Drs. James A. Posey, III and Flemming Forsberg are leading a **Phase II Clinical Trial** which aims to improve the standard of care (SoC) chemotherapy treatment by adding sonoporation, a method to enhance therapeutic efficacy of co-administered chemotherapy by localized contrast enhanced ultrasound imaging (CEUS) of gas-filled microbubbles. In partnership with Haukeland University Hospital in Norway, they will enroll 120 pancreatic cancer patients (stage 2 or higher), prior to starting SoC chemotherapy. The primary objective is to evaluate the safety and therapeutic efficacy of sonoporation based on local progression and overall survival.



Pancreatic cancer's high mortality rate is fueled by metastasis, or when cancer cells travel to other organs where they form new, cancerous tumors. Dr. Elda Grabocka and her lab's current research aims to limit this specific metastatic ability. Funded by a W. Kim Foster Pilot Grant, her team recently made **an exciting, novel discovery** that promises to transform our understanding of pancreatic cancer. They learned that stress granules—a group of pancreatic cancer cells that aid the growth of the primary tumor and make the cells resistant to chemotherapy—

are essential to metastasis of the liver. When blocking the formulation of stress granules in mouse models, Dr. Grabocka saw **an incredible 50% reduction in cancer growth**. Her team further explored how stress granules specifically impact obesity-associated pancreatic cancer, which accounts for 33% of all pancreatic cancer cases; in obese mice whose stress granules were blocked, 40% were cancer free after 300 days—a remarkable finding. To capitalize on these highly promising results, Dr. Grabocka is working to expand her animal testing and eventually begin human trials.

Advancing Surgery

The **WASH Trial**, run by Dr. Harish Lavu and with assistance from Dr. Avinoam Nevler, continues to register more patients, with 680 enrolled by August 2023. This trial, which assesses the impact of using distilled water or saline at high volumes after surgery, has the potential to **transform the standard practices of pancreatic cancer surgery**. Most experts agree that one primary cause of cancer recurrence is cell shedding during surgery; with cancer cells still present in the body, recurrence is high. By aggressively washing the area after surgery, Dr. Lavu believes that these additional cancer cells will be flushed out of the body, thereby preventing recurrence and lowering the mortality rate. In the past year, Dr. Lavu and his collaborators published on this trial in *the Journal of the American College of Surgeons*. Over the course of this trial so far, Dr. Lavu has observed that we can detect shed cancer cells and that patients who do not shed cancer cells have better outcomes. Once the trial is at full accrual, he will be able to explain more robustly how beneficial the WASH protocols can be for patients.

In other surgical advances, Drs. Avinoam Nevler, Wilbur B. Bowne, and Nitzan Zohar, as well as Dr. Jesus Esquivel from the Beebe Healthcare Center in Delaware, created an international consensus regarding the criteria for oncological outcomes of cytoreduction surgery and hyperthermic intraperitoneal chemotherapy. When paired together, surgeons use these techniques to reduce the amount of cancer cells in the abdominal cavity by bathing it in a highly concentrated chemotherapy solution, with the aim of preventing cancer recurrence. Due to the dedicated efforts of our team, the medical community now has the first international consensus regarding this treatment.

IMPROVING RECOVERY

Our team—including Drs. Harish Lavu, Charles J. Yeo, Theresa P. Yeo, and Avinoam Nevler—recently concluded an **opioid reduction clinical trial**, which worked to address the ongoing concern of opioid abuse following surgery. Nationwide, opioids are significantly overprescribed, with the VA estimating that 71% of pills are unused and available for diversion (i.e. when pills are prescribed to one person and “diverted” to another). Jefferson replicated past pill-reduction studies, applying them to pancreatic surgery patients for the first time. Throughout this trial, our team significantly reduced the median number of opioids prescribed at discharge and the median number consumed by patients during the postoperative period. Yet, they still observed that only 20% of opioids prescribed were consumed, meaning surgeons will need to further personalize their prescriptions based upon patients’ individual needs.

Euglycemic diabetic ketoacidosis (**EDKA**) is a diabetic complication that arises from fasting; as pancreas-related surgeries require patients to abstain from food for a prolonged period, Drs. Yeo, Nevler, and Bowne examined the frequency of EDKA in pancreatic cancer patients and investigating ways to diagnose it early. They are working to ensure our patients will not need to navigate a severe EDKA diagnosis while also recovering from surgery. In this study, around 11% of patients suffered from EDKA post-operation and required new or increased insulin at discharge. Through this trial, our researchers discovered potential markers that will help those at Jefferson and beyond identify and treat this disease promptly, improving patient outcomes.

HOLISTIC APPROACH TO CARE

At Jefferson, we take a multifaceted approach to health. Our patients need the most up-to-date clinical treatments and compassionate assistance while navigating all the implications of a cancer diagnosis.

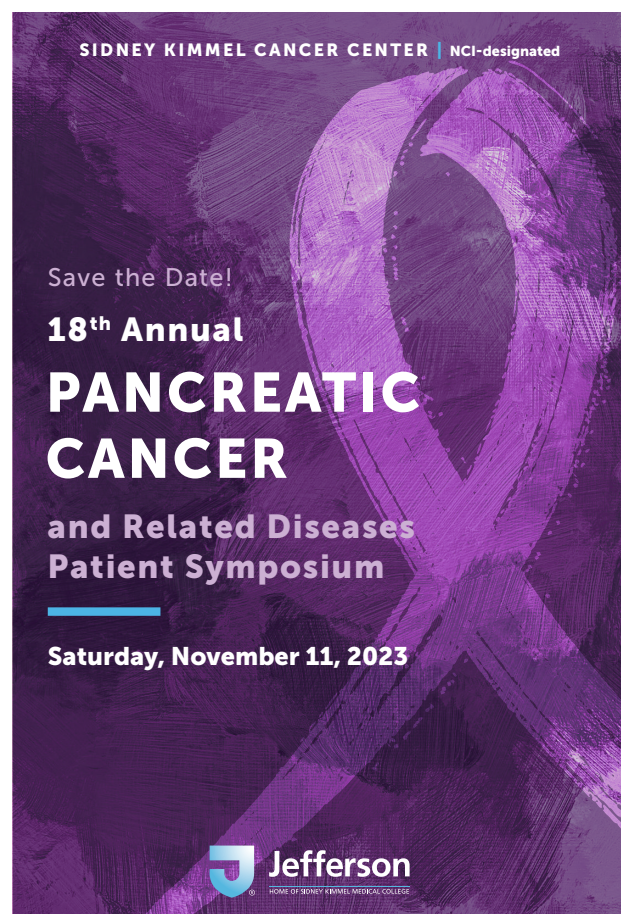
Supported by a W. Kim Foster Pilot Grant, Dr. Theresa P. Yeo and team finalized their *Preparing for Pancreas Surgery & Recovery* booklet. Written for patients and their caregivers, this comprehensive resource not only educates our community about the pancreas and various procedures, but also teaches them how to best navigate their healthcare journey—from scheduling a surgery to caring for themselves after discharge.

In addition to this written resource, patients are assisted by our **Cancer Support and Welcome Center**, which ensures they have access to nutritional seminars, psychosocial support, financial consultations, clinical trial and research information, support groups, and the like. In particular, the Welcome Center and its associates help remove any barriers that may prevent patients from accessing their lifesaving treatments.



We know from research done here at Jefferson that a patient's economic status impacts clinical outcomes and vice versa. To ensure that all patients—regardless of their economic status—receive the best care, our donor-supported **Patient Assistance Fund** provides financial relief, ensuring our patients can focus less on navigating the finances of a cancer diagnosis and more on what matters most: healing. Two of our community partners, Tester Construction Group (TCGives) and the Pancreatic Cancer Cure Foundation (PCCF), generously supported such efforts last year, which has had an immediate impact on our pancreatic cancer patients. For example, when one of our patients stopped her physical therapy due to cost – care that was critical to helping her gain strength to continue with chemotherapy – this assistance fund ensured she had the resources needed to get back to PT.

We have also **built community ties** by supporting other organizations' fundraising events, like PanCAN's PurpleStride and PCCF's Amy's Ride Run Walk. This past year, Jefferson was a sponsor of both events, which raised awareness, support, and funds for pancreatic cancer research.



Our annual Pancreatic Cancer and Related Diseases Patient Symposium is the cornerstone of our community-building efforts. Bringing together survivors, family members, clinicians, and other team members, this event serves as a space to foster hope, spread awareness, and learn best practices for managing pancreatic-related diseases. It also provides Jefferson the opportunity to recognize some of our most stalwart supporters. Last year, we honored the Wanda Bilec Foundation with the Pancreatic Cancer Community Impact Award, recognizing their fundraising efforts for our research programs.

We hope to see you at this year's symposium!

Please visit Attend.Jefferson.edu/PancreaticSymposium or scan the QR code below to register or for more information.



THE HONICKMAN CENTER—BUILT TO HEAL

Jefferson's Honickman Center is designed around a philosophy of care that embeds our patients' needs into its every facet. From state-of-the-art clinical spaces to a beautiful rooftop terrace that provides a sense of serenity, the Honickman Center is built to heal. With the SKCC occupying three of its 19 floors, we are creating **a new model of care** for our oncology patients.

The Honickman Center will bring our key specialties and support services into one outpatient tower. Not only does this make all our services more accessible, but it also limits patient travel, giving them more time with their loved ones. When this innovative building opens in Spring 2024, our cancer patients will find their specialists, infusion spaces, outpatient laboratories, pharmacy, support groups, and financial counseling services all in one place. Traveling to their appointments will be easier as well, as our patients will have navigators ready to help them schedule appointments, wayfinding technology that ensures they arrive to their lifesaving appointments on time, and welcoming staff ready to help them navigate this new center.

This cutting-edge facility will also help us write a new chapter in oncological care by **advancing clinical trials**. Clinical trials are vital to the health of our patients, allowing us to make groundbreaking discoveries that have the promise of transforming treatments. Jefferson is already the largest Phase 1 clinical trial program in the region, and the Honickman Center will advance such vital work. This new dedicated Phase 1 Center will meet the rigorous standards for trial protocol while also providing a comfortable, healing environment for our patients. This in turn will increase our patient volumes and strengthen the cycle of discovery. By enhancing our bench to bedside pipeline, we hope to develop new evidence-based medications that improve patients' lives for generations to come.



The exterior of Honickman Center at 11th and Chestnut Streets in Philadelphia is now complete.



Artist Rendering - Family Gathering Area

The background of the image is a solid purple color with a visible, textured pattern resembling thick, expressive brushstrokes or a marbled effect. The texture is more pronounced in some areas, showing darker and lighter shades of purple, while other areas are more uniform.

**Thank you for your support
of our pancreatic cancer
community at Jefferson.**



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