

Surgical Solutions

HIPEC Program Combines Surgery and Heated Chemotherapy to Treat Advanced Abdominal Cancers



Over 6 years ago, Mary Johnson was referred to Dr. Wilbur Bowne with a rare and concerning diagnosis—pseudomyxoma peritonei (PMP).

Six years ago, when Mary E. Johnson began experiencing a change in bowel habits, she didn't hesitate to schedule an appointment with her primary care physician, Katie M. Dougherty, DO. Now 73, Johnson recalls hoping Dr. Dougherty would prescribe medication and send her home. Instead, the physician ordered a battery of tests that led to a serious and rare (approximately one in a million) diagnosis: pseudomyxoma peritonei (PMP), a slow-growing cancer of the appendix.

In 2019, Kathleen Neider, now 66, was suffering from recurring pains in her abdomen. After months of pushing through the pain, Neider's sister, a nurse, insisted she be seen at the hospital. After testing by a gastroenterologist, she, too, was diagnosed with cancer of the appendix. Neider was initially treated with bowel surgery followed by a course of chemotherapy. After a year of remission, follow-up scans showed cancer recurrence on her ovaries and near the site of the earlier resection.

Historically, patients with PMP and other advanced abdominal cancers faced a poor

prognosis, with treatment largely focused on alleviating symptoms rather than preventing disease progression and increasing survival rates. Johnson and Neider were able to take advantage of an effective treatment option: cytoreductive surgery with hyperthermic intraperitoneal chemotherapy (HIPEC), a newer treatment available at only a few institutions in the Delaware Valley.

Both women underwent the procedure with surgical oncologist Wilbur B. Bowne, MD, who has been performing this treatment for over a decade and established the Jefferson HIPEC Program in January 2020. As Dr. Bowne explains, HIPEC surgery is a two-part treatment. The first step is cytoreductive surgery to remove all visible tumors in the abdominal cavity. The second part involves administering high doses of heated chemotherapy to eliminate remaining microscopic cancer cells. The solution is circulated throughout the patient's abdomen and pelvis for at least 90 minutes at a temperature of 41 to 43 degrees Celsius (106 to 109 degrees Fahrenheit).

"That's the range that scientific research has shown is optimal for chemotherapeutic drugs to penetrate and kill any remaining cancer cells," says Dr. Bowne. "This regional perfusion enables us to deliver a much higher concentration of chemotherapy than a patient could tolerate in the bloodstream."

HIPEC is an effective treatment option for selected patients with appendiceal/PMP cancer as well as other abdominal conditions, such as peritoneal mesothelioma and cancer of the colon, ovaries and stomach.

Dr. Bowne notes that Jefferson's HIPEC Program relies on important partnerships and multidisciplinary collaboration with a range of specialists, including gynecologic oncology surgeons, anesthesiologists, surgical oncologists, urologists, medical oncologists, operating room staff, and nurse practitioners. Madison Halder, RN, and clinical coordinator Angela Owens, in particular, are essential team members who help patients navigate their pre- and post-op experience.

HIPEC is a lengthy and complex procedure and not suitable for every patient (Johnson's and Neider's HIPEC procedures lasted 13 and 10 hours, respectively). Dr. Bowne explains that a patient typically needs to demonstrate a favorable treatment response to traditional chemotherapy, along with sufficient stamina to undergo and recover from the procedure.

Two months after HIPEC treatment, Neider is still navigating her recovery and praises Dr. Bowne and the team for her care.

"Dr. Bowne and his staff have been amazing. I have called him, and he always takes my calls and answers my questions. We always decide together what we're going to do," she says.

For Johnson, it's been over six years since she met Dr. Bowne and underwent her HIPEC procedure. She remains "ecstatic" about her outcome, adding that she takes minimal medication and is "feeling good."

"I thank God that the scientific and medical brains came together to save my life," Johnson says.

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Overview



Charles J. Yeo, MD, FACS

Samuel D. Gross Professor and Chairman
Department of Surgery
Senior Vice President and Chair, Enterprise Surgery
Jefferson Health

Over 500: A Grim Statistic

I am writing this on the last day of November, 2021. This time of year is embedded in my mind. Just before my tenth birthday, on Friday, November 22, 1963, our 35th president, JFK, was assassinated in Dallas, TX. Sadness, shock, tears, and disbelief overtook my classroom. Suddenly, the power of firearms, and their destructive nature was real to a fifth grader.

Fast forward to 2021. The number 500 is a reality in Philadelphia. If you bat .500 in baseball you are an all-star. If you hit 500 home runs you have a place in Cooperstown—the Hall of Fame. What if your city exceeds 500 homicides by firearm? Such is the reality in Philadelphia in 2021. What if a co-worker at your hospital is one of the victims, shot in your own hospital?

Amidst the COVID pandemic we have another epidemic in America. Death by firearms. There are nearly 40,000 firearm-related deaths annually in the U.S. Over 110 victims per day. The U.S. firearm fatality rate has risen in recent years. The number of guns in America exceeds the number of people. Here at Jefferson, with the closure of Hahnemann Hospital, we have seen a sharp up-tick in patients being brought to our emergency room, victims of firearm violence. Today at the Oxford High School in Michigan a 15-year-old sophomore killed four fellow students with a handgun, and injured seven others.

Dr. Stanton Miller and other members of the Jefferson Center for Injury Research and Prevention (JCIRP) recently participated in a city-wide march from Amtrak's 30th Street Station to City Hall, to raise awareness of the tragedy of firearm violence in our city. My wife and I participated, as did others from Jefferson, Penn, Temple and Einstein. A public health approach to prevent firearm-related injuries and deaths is much needed, and is underway. There are data-driven studies being conducted and published on the topic. JCIRP is involved and actively working on this topic. Our city is vibrant, diverse, historic, and an exciting place to live. Five hundred victims are far too many.

To learn more about the Jefferson Center for Injury Research and Prevention, please visit: [Jefferson.edu/JCIRP](https://www.jefferson.edu/JCIRP)

New Faculty



Seye Adekeye, MD, PhD, has joined the Division of General Surgery. Dr. Adekeye completed the General Surgery Residency Program at the University of North Dakota followed by a Breast Oncology Fellowship at the University of Pennsylvania in 2021. She currently sees patients at the Jefferson Breast Care Center in Center City and will soon see patients at Jefferson Health – Washington Township in New Jersey.



Avinoam Nevler, MD, has joined the Division of General Surgery and Division of Surgical Research. Dr. Nevler spent 13 years serving as an army physician in the Israeli military. In 2018, he completed his surgical residency at Sheba Medical Center in Israel. During the program he spent two years as a bench researcher in the Department of Surgery at Jefferson and is a 2020 graduate of our Advanced GI Surgery Fellowship Program. He sees patients at the Jefferson Pancreas, Biliary, and Related Cancer Center in Center City.



Deviney Rattigan, MD, has joined the Division of Acute Care Surgery. Dr. Rattigan is a 2014 graduate of Jefferson Medical College. She then completed the General Surgery Residency Program at Cooper University Hospital followed by the Trauma Surgical Critical Care Fellowship Program at Rutgers New Jersey Medical School. She sees patients at Thomas Jefferson University Hospital in Center City.

Meet the Interns

Last June, the following 16 categorical interns began their training in our 3 General Surgery Residency Programs.

Thomas Jefferson University Hospital



Subhadra Acharya, MD
Sidney Kimmel Medical College
at Thomas Jefferson University



Lindsay Edwards, MD
Chicago Medical School



Sneha Alaparthy, MD
Frank H. Netter School of Medicine
at Quinnipiac University



Isheeta Madeka, MD
Wake Forest School of Medicine



Archana Babu, MD
Rutgers New Jersey
Medical School



Nayeem Nasser, MD
Georgetown University
School of Medicine



Wissam Nasser, MD
Rutgers New Jersey
Medical School

Abington – Jefferson Health



Urooj Khalid, MD
Drexel University
College of Medicine



Adam Scanlan, MD
Lewis Katz School of Medicine
at Temple University



Nicholas Taylor, MD
Lewis Katz School of Medicine
at Temple University



Jasmine Walker, MD
SUNY Downstate College
of Medicine



Christina Wohler, MD
Sidney Kimmel Medical College
at Thomas Jefferson University

Rowan University School of Osteopathic Medicine & Jefferson Health System



Jason Barfuss, DO
Lake Erie College of
Osteopathic Medicine



Christopher Noty, DO
A.T. Still University of Health
Sciences Kirksville College of
Osteopathic Medicine



Liam Trimble, DO
William Carey University College of
Osteopathic Medicine



Camden Zemp, DO
Edward Via College of Osteopathic
Medicine - Virginia Campus

Four Faculty Members Receive Grants, Awards for Innovative Research

Congratulations to these Department of Surgery faculty for receiving significant grants to support innovative research projects.

Jain awarded 2021 PanCAN Career Development Award



In July, the Pancreatic Cancer Action Network named Aditi Jain, PhD, one of seven recipients of its 2021 Career Development Award.

The two-year, \$200,000 grant will help Dr. Jain advance her project, "Targeting BARD1 in Pancreatic Ductal Adenocarcinoma." In 2020, she was appointed as Research Instructor at the Jefferson Pancreas, Biliary and Related Cancer Center, and newly founded Pancreatic Cancer Research Institute (PCRI).

Dr. Jain's research involves understanding the role of BARD1 (BRCA1-Associated Ring Domain 1) in pancreatic cancer growth, progression, and therapy resistance. Her focus is targeting this protein and potentially uncovering novel therapeutic strategies.

To learn more about the Jain Laboratory, visit: Jefferson.edu/JainLab

Okusanya named an inaugural recipient in clinical trials diversity program



A review by the U.S. Food & Drug Administration found that nearly 80 percent of clinical trial participants are white.

To address this lack of diversity, the Bristol Myers Squibb Foundation, together with the National Medical Fellowships and the American Association for Cancer Research, launched the Diversity in Clinical Trials Career Development Program.

Thoracic surgeon Olugbenga T. Okusanya, MD, has been selected as a recipient and awarded a two-year grant of \$120,000 per year. He is one of 52 physicians from across the U.S. selected for the inaugural cohort of the five-year, \$100 million initiative.

Through the program, Dr. Okusanya will be trained with additional knowledge, skills and competencies in effective community outreach and engagement.

Tchantchaleishvili honored with translational research award



In July, the International Society of Heart and Lung Transplantation awarded Vakhtang Tchantchaleishvili, MD, the lauded ISHLT/

O.H. Frazier Award in Mechanical Circulatory Support (MCS) Translational Research. The \$65,000 grant supports the project entitled "Impact of Continuous-Flow Mechanical Circulatory Support on Cerebrospinal Fluid Motility" that he designed in collaboration with Amy Throckmorton, PhD, (on sabbatical from Drexel University).

The team is investigating the impact of blood pumps on the brain and spinal fluid flow. With the funding, Dr. Tchantchaleishvili's team will build an accurate model of the cardiovascular system, brain, and spinal fluid flow to better understand conditions that arise while using a blood pump and devise new treatment solutions for patients with heart failure.

To learn more about the Tchantchaleishvili laboratory, visit: Jefferson.edu/VTLab



Miller recognized with provost award

Earlier this year, Thomas Jefferson University recognized Stanton B. Miller, MD, MPH, with a

Provost Award. Dr. Miller serves as Executive Director of the Jefferson Center for Injury Research and Prevention (JCIRP). This award supports the Center's progress in the following major program areas: geriatric injuries, firearm violence, traffic injury, violence against the LGBTQ+ community, and suicide.

The award also enabled the conversion of the Center's physical space on the 7th floor of the Curtis Building into a modern state of the art facility that will function as a Computer Science and Engineering Lab with the mission of scientific study and prevention of unintentional and intentional societal injuries.

To learn more about the Center, visit: Jefferson.edu/JCIRP



Wound Healing Centers Offer Specialized Expertise & Resources

The Wound Healing Centers of Jefferson Health provide a focal point for multidisciplinary evaluation and treatment of patients with non-healing wounds and those who have had or will have a bowel or bladder ostomy surgery.

According to Regional Director Lisa Hill, MSN, RN, CWOCN, the program traces its roots to 1999, when Abington Hospital created its first wound care center. Today the Centers offer easily accessible care at locations throughout the Delaware Valley.

Care is delivered by medical and nursing professionals specially trained in evaluating wounds and ostomies and recommending an individualized treatment plan for each patient. The team includes certified wound, ostomy and continence nurses, certified wound care nurses and physician specialists trained in hyperbaric oxygen therapy.

Jefferson's program has emerged as a leader not only in patient care but also in research related to wound care. Clinicians have conducted research and presented national data on the positive impacts of hyperbaric oxygen therapy on radiation tissue injury. Active studies are exploring treatment of diabetic foot wounds and interrelationships between stroke and hyperbaric oxygen therapy.

The Wound Healing Centers attracted national recognition for the treatment of a cardiac catheterization patient with a non-healing wound. As Hill explains, the patient had been seeing a primary care physician, who was unable to determine why the wound was not healing.

"Our team figured out it was actually a burn wound caused by radiofrequency

from her cardiac catheterization procedure," she recalls. "We were able to treat the wound because we understood the cause. For every patient we treat, we perform a thorough assessment to identify root causes and then establish the course of treatment that will best heal the wound."

The centers offer a full complement of outpatient services, including hyperbaric oxygen therapy to treat 13 conditions (diabetic foot wounds, radiation tissue injuries, osteomyelitis and osteoradionecrosis are the most common). Clinicians at the centers also support a smooth continuum of care for ostomy patients.

"When a patient is scheduled for a bowel or bladder diversion, our team marks the patient's abdomen for the location of the ostomy," Hill says. "Following surgery, we support post-operative healing starting in the hospital and continuing after the patient is discharged."

Most insurance plans cover care by the Wound Healing Centers of Jefferson Health. To schedule an appointment, call the most convenient location (see below).

Scheduling an Appointment

Center City and South Philadelphia – 215-955-7400
 Lansdale and Warminster – 215-481-HEAL
 Langhorne – 215-949-5030
 North Philadelphia – 215-456-9604
 Northeast Philadelphia – 267-587-9533
 Plymouth Meeting – 484-622-7900
 New Jersey: Cherry Hill & Washington Township – 866-KHS-HEAL



W. Kim Foster

Finding a 'Philanthropic Home'

W. Kim Foster and Lisa Whitney met in the late 1970s as graduate business students at the University of Virginia. In the decades that followed, they explored the world and built a life together. There was plenty of motion, with frequent moves to new cities, trips around the world (including five to Africa) and a shared passion for scuba diving. There was also a strong, steady foundation: their 40-year marriage, Kim's 34-year career with FMC Corporation and, most importantly, daughter, Amy, and sons, Will and Sam.

In February 2016, Kim and Lisa were four years into one of their most exciting adventures – retirement – when Kim developed jaundice. After being referred to Charles J. Yeo, MD, Samuel D. Gross Professor and Chair of Surgery, Kim received a diagnosis of pancreatic cancer. Within days, Dr. Yeo performed a mini-Whipple procedure, which was followed by radiation therapy with P. Rani Anné, MD, and chemotherapy with James A. Posey, MD, and Ashwin R. Sama, MD.

Nine months later, the family was participating in the 11th Annual Pancreatic Cancer and Related Diseases Patient Symposium at Jefferson, where Kim spoke candidly about his experience as a patient. A highly successful businessman and former nuclear submariner in the U.S. Navy, he was a natural leader and problem solver. As Lisa recalls, "One of the hardest things for him was accepting that he could not manage or control it all himself. He realized he had to put his faith in the intellect and experience of the team at Jefferson."

Despite that team's valiant medical efforts, Lisa, Amy, Will, and Sam said goodbye to Kim in August 2018. In the face of this immeasurable loss, Lisa has chosen to honor her husband by recommending generous contributions to Jefferson. The first gift established an endowed research fund and named the W. Kim Foster Pancreatic Cancer Collaborative Research Space, which was dedicated in June 2019. Lisa also directs annual gifts in support of the W. Kim Foster Pancreatic Cancer Pilot Grants.

The program has already helped the 2020 inaugural recipient, radiation oncologist Adam C. Mueller, MD, PhD, obtain additional funding from the Radiological Society of North America. Now in its second year, the program continues to fund innovative research, education, and programs related to pancreatic cancer. [See News in Brief for 2021 recipients.]

Lisa views the relationship with Jefferson as an unexpected silver lining of everything she and her children have been through: "Kim and I often talked about giving back and longed to find the place where the institutional goals aligned with our family goals. The Foster family has found a philanthropic home."

To learn more about supporting cancer research in the Department of Surgery, contact Kelly Austin at **215-955-6383** or **kelly.austin@jefferson.edu**.



Surgical Solutions

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1015 Walnut Street
Philadelphia, PA 19107
JeffersonHealth.org/Surgery

Jefferson Surgical Solutions
is published by
Thomas Jefferson University and
Thomas Jefferson University Hospital.
Jennifer Brumbaugh, MA, Editor-in-Chief
Susan Murphy, Writer

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News in Brief



In July, **Scott D. Goldstein, MD**, retired following 37 years as a faculty member in the Division of Colorectal Surgery – including over 17 years as division chief. We thank him for the decades of clinical excellence, patient care, teaching, and leadership he provided our patients, trainees, faculty and staff.



Benjamin R. Phillips, MD, has been named Chief of the Division of Colorectal Surgery following a national search. Dr. Phillips is a graduate of our Colorectal Fellowship Program and joined the faculty in 2013. He has received numerous teaching awards, including the Dean's Award for Excellence in Education, and is a Past President of the Pennsylvania Society of Colon and Rectal Surgeons.



Alliric Willis, MD, MSPH, has been named Associate Dean for Faculty Affairs. He also recently completed his Master of Science in Population Health (MSPH) degree.



On November 13, **Steven Copit, MD**, Enterprise Chief of Plastic Surgery, was honored with the Founders Award from Living Beyond Breast Cancer at the Butterfly Ball held at the Loews Philadelphia Hotel.



Joshua Marks, MD and **George Koenig, DO**, (Division of Acute Care Surgery) have been named Medical Co-Directors of the Center for Operational Resource Efficiency (CORE) and the Transfer Center.



In November, 2 W. Kim Foster Pilot Grants were awarded to (1) **Avinoam Nevler, MD** for his work entitled "Targeting CO2 chemoresistance and radioresistance in pancreatic ductal adenocarcinoma" and (2) **Shawwna Cannaday, MSN, FNP-BC**, and **Theresa P. Yeo, PhD, MPH**, for their project entitled "Implementing Educational Videos to Enhance Preparedness for Surgery." For background on this grant program, see *Those Who Give*.

