

RUTGERS

Cancer Institute
of New Jersey

Autumn ■ 2016

CANCER Connection



When Opportunity Knocks:

Five years
after a unique
back-to-back
stem cell
transplant
for a rare form
of leukemia,
Mark Cicon
is finding
'normal' again.

Director's Corner



NICK ROMANENKO

Earlier this fall, along with other cancer center directors, leaders from industry, government, foundations, societies and other stakeholders in the war against cancer, I attended a White House briefing to learn of the task force recommendations put forth as part of Vice President Joseph Biden's 'Cancer Moonshot' initiative. Among the strategic goals is to shift how cancer researchers share and access scientific information so that a 'silo' mentality no

longer exists. Other aims include strengthening clinical and research collaborations and expanding access to cancer care.

As a National Cancer Institute-designated Comprehensive Cancer Center, Rutgers Cancer Institute has always had a focus on collaboration – internally amongst our faculty members as well as externally with our colleagues around the state, nation and the world. For instance, we recently launched a partnership with University Hospital in Newark, New Jersey, to expand oncology services to the greater Essex County region (*page 2*). This includes enabling access to clinical trials that may only be available through NCI-designated centers, enhancing the focus on cancer prevention and education efforts, and understanding barriers to cancer prevention, screening and care in the diverse population of Newark.

Mark Cicon's story (*page 8*) illustrates the importance of access to comprehensive care and the critical need to expand research on what drives rare cancers like plasma cell leukemia. Increasing access to such specialized care, the Hematologic Malignancies and Blood

and Marrow Transplant Programs, in conjunction with our flagship hospital Robert Wood Johnson University Hospital (RWJ), are opening up new clinical space in early 2017 right across the street from Rutgers Cancer Institute's New Brunswick facility. Also in conjunction with RWJ, our Neuro-oncology Program is in the final stages of opening its new location later in 2016 on nearby Plum Street.

As evidenced by the Cancer Moonshot Task Force, there is strength in collaboration when it comes to the scientific advancement of cancer. As you'll learn in our Clinical Trials Corner, our membership in the Oncology Research Information Exchange Network® (ORIEN) is resulting in the contribution of health information from our center and from cancer centers around the United States to a centralized database containing clinical and molecular data that researchers can use to explore new ways to treat cancer. Rutgers Cancer Institute is also part of the Big Ten Cancer Research Consortium which fosters scientific collaboration between cancer centers at universities that are part of the athletic conference known as the Big Ten. Ongoing collaborations with academic centers, industry and other entities also are helping us develop new clinical trial opportunities and advance treatment discoveries.

As Rutgers Cancer Institute further commits to meeting and exceeding the aims of the Cancer Moonshot initiative, we hope we will have your continued support in order to drive and accelerate that progress.

Sincerely,

Bruce G. Haffty, MD

Interim Director
Rutgers Cancer Institute of New Jersey

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Linda Tanzer
Chief Administrative Officer
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Administration and Planning

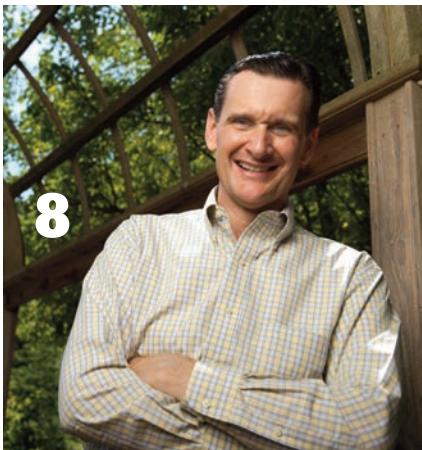
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Eileen White, PhD
Deputy Director and
Associate Director for
Basic Science

Steven Zheng, PhD
Division Chief,
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Mark Cicon never imagined that a broken rib from a simple sneeze was an indicator of a rare form of leukemia. A lifesaving back-to-back stem cell transplant and comprehensive care from Rutgers Cancer Institute of New Jersey are helping him find 'normal' five years later.

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Expanding Our Reach

A new partnership between Rutgers Cancer Institute of New Jersey and University Hospital in Newark has resulted in the expansion of National Cancer Institute (NCI)-designated Comprehensive Cancer Center services to the greater Essex region. The multidisciplinary service line now includes care provided by Rutgers Cancer Institute medical oncologists, which augments radiation oncology services that have been provided by Rutgers Cancer Institute for the past seven years and surgical oncology services provided by Rutgers faculty members. An infrastructure to bring additional cancer clinical trials to patients in the region is also part of the new partnership, as is the expansion of community outreach, education and screening programs. The new entity is known as Rutgers Cancer Institute of New Jersey at University Hospital, and was celebrated earlier this fall at the Newark facility at a special event that included state, local and university dignitaries.



"As the state's only NCI-designated Comprehensive

Cancer Center, Rutgers Cancer Institute of New Jersey has a mission to provide patients with advanced care, including clinical trials, some of which are only available at NCI-designated centers. This new partnership with University Hospital will expand access to these novel cancer therapies."

— Rutgers Cancer Institute of New Jersey at University Hospital Interim Director Susan Goodin, PharmD (above, left)

To schedule an appointment at Rutgers Cancer Institute of New Jersey at University Hospital in Newark call 973-972-5108 for general oncology services or 973-972-5053 for radiation oncology services. Learn more at cinj.org/universityhospital.

The changing healthcare environment requires that a more progressive approach be taken to provide access to the most advanced treatment options for the greater Newark community and all of northern New Jersey. We are pleased that this partnership will address this significant need."

— University Hospital President and CEO John N. Kastanis, MBA, FACHE
(below, center)

PHOTOS BY: NICK ROMANENKO



Local state Assemblywoman Sheila Oliver (right in photo at left) shares a moment with breast cancer survivor and Newark resident Felicia Macklin at the event. Ms. Macklin shared her journey with the audience and applauded the new partnership.



Enhancing the access to care to cancer patients in the Essex County area is a major achievement. Bringing these services to Newark through this partnership with University Hospital reflects an understanding of the need for the types of care the Rutgers Cancer Institute of New Jersey can provide as one of the leading cancer centers in the country."

— Rutgers Biomedical and Health Sciences Chancellor Brian L. Strom, MD, MPH
(above, left)

Forefront

*News from the front lines
at Rutgers Cancer Institute
of New Jersey*

Kudos!

Janice M. Mehnert, MD

(below), director of the Phase I/Investigational Therapeutics Program at Rutgers Cancer Institute of New Jersey and associate professor of medicine at Rutgers Robert Wood Johnson Medical School, is a co-principal investigator on a \$2,271,427 grant (R01CA 193970-01A1) awarded by the National Cancer Institute. She is collaborating with **Ryan J. Sullivan, MD** (left, bottom), at Massachusetts General Hospital Cancer Center in examining the safety and efficacy of the investigational drug navitoclax when combined with other therapies in the treatment of BRAF-mutant melanoma and other BRAF-mutant solid tumors.

When compared to chemotherapy, anti-cancer therapies designed to block the BRAF and MEK pathways that are known for promoting tumor growth improve response rate, progression free survival and overall survival in more than 50 percent of patients with BRAF-mutant melanoma that has spread to other parts of the body. While these drugs have become standards of care, patients still experience disease progression and die of their disease. Drs. Mehnert and Sullivan and colleagues aim to improve the effectiveness of BRAF-directed therapy by targeting the death of cancer cells. ■



Fishing for Answers

Three large laboratories and a set of tiny fish at **Rutgers Cancer Institute of New Jersey** are shining new light on a treatment alternative for those with prostate cancer whose disease is resistant to therapy. Treatment resistance is common in advanced prostate cancer due to remaining stem cells called tumor-initiating cells (TICs) that defy anti-cancer therapy. With funding from the Department of Defense Prostate Cancer Research Program and other support, the laboratories of **Hatem Sabaawy, Joseph Bertino** and **Isaac Kim** identified a novel therapy for prostate cancer.

The team focused on finding a drug that would specifically affect the "on-off switch" of a protein known as BMI-1. This protein is essential for cellular self-renewal and survival of TICs. Investigators identified drug compounds that block BMI-1, using tissue samples from prostate cancer patients. This was done through laboratory cell culture and animal models, including zebrafish, which were used as a novel, rapid and inexpensive drug screen.

The zebrafish were used as living incubators to house human prostate cancer cells from each patient to allow for the testing of different doses and combinations of BMI-1-blocking drugs. This screening mechanism also indicated how toxic the compounds were and allowed the team to focus on safer drugs. Once an effective drug and regimen were identified, the work was confirmed using mouse models.

"The antitumor activities of this BMI-1 blocking drug were independent of hormonal or prior treatment conditions; therefore, it could be utilized as

a single agent or combined with other therapies for more effective prostate cancer treatment. Our studies provide the best possible treatment strategy for using these novel BMI-1 inhibitors in human clinical trials," notes Rutgers Cancer Institute researcher **Hatem Sabaawy, MD, PhD**, who is also an assistant professor of medicine at Rutgers Robert Wood Johnson Medical School. Rutgers Cancer Institute Deputy Director and Associate Director for Basic Science **Eileen White, PhD**, notes the collaboration across multiple disciplines "paints a true picture of translational science." ■

The work, supported by grants from the Department of Defense (W81XWH-12-1-0249), National Cancer Institute (P30 CA072720), Rutgers Cancer Institute, Wellcome Trust (#092687) and New Jersey Health Foundation, appeared in the June 2016 edition of 'Clinical Cancer Research' (DOI: 10.1158/1078-0432.CCR-15-3107).



Recovering Beyond Disease

Social

strains and lack of social competence are common in children recovering from malignant brain tumors, but there are few interventions available to support these youngsters. With that, **Rutgers Cancer Institute of New Jersey** behavioral scientist **Katie Devine, PhD, MPH**, assistant professor of medicine at Rutgers Robert Wood Johnson Medical School and colleagues from across the U.S. and Canada, examined a peer-mediated intervention at the schools of brain tumor survivors to see how the public school setting might help these children with the social aspects of recovery.



The intervention initially designed for children with autism spectrum disorders was adapted to children recovering from brain tumors. A dozen brain tumor survivors in first through eighth grades and 217 of their classmates were enrolled. Peer leaders were selected for small group instruction and

encouraged to include socially isolated children, including the brain tumor survivor, in their everyday interactions. The instruction focused on topics such as noticing and tolerating differences and initiating and responding to interactions with potential new friends. The authors say while results show the intervention was feasible to carry out in a public school setting there is a need for a larger randomized trial to determine its effectiveness. ■

The work appeared in the July 2016 edition of the 'Journal of Developmental & Behavioral Pediatrics' (doi: 10.1097/DBP.0000000000000315) and was

funded by the St. Baldrick's Foundation and grants from the National Cancer Institute at the National Institutes of Health (NIH) (K07CA174728 & P30CA072720) to Dr. Devine. The content does not necessarily represent the official views of the NIH.

Reaching for the Moon

Earlier this summer, **Rutgers Cancer Institute of New Jersey** partnered with Cancer Support Community of Central New Jersey to host the state's only regional Cancer Moonshot summit. After viewing a live stream of Vice President Joseph Biden's remarks, a panel of experts – including Rutgers Cancer Institute's Chief Medical Officer **Deborah Toppmeyer, MD** – addressed topics such as access to treatments and clinical trials as well as identifying areas of potential research collaboration. ■



Teen Tanning Trends

Indoor

tanning exposes users to damaging ultraviolet rays, which can lead to skin cancer. According to the Centers for Disease Control and Prevention, this practice is particularly dangerous for those who begin indoor tanning in their teens or early adulthood, as it puts them at a higher risk of developing melanoma, the deadliest of all skin cancers. In October 2013, commercial indoor tanning was banned in New Jersey for those under 17 years of age. Investigators from **Rutgers Cancer Institute of New Jersey** and Rutgers School of Public Health examined whether there was a difference in indoor tanning use by New Jersey high school students after the state restriction was enacted.

The team reviewed data from the 2012 and 2014 New Jersey Youth Tobacco Surveys, which captured responses on tobacco, tanning and other lifestyle factors from a combined 5,700 high school students. Researchers found no significant decline in indoor tanning rates among children under age 17 following the 2013 ban on such use by this age group. Lead author and Rutgers Cancer Institute behavioral scientist **Elliot J. Coups, PhD**, associate professor of medicine at Rutgers Robert Wood Johnson Medical School, says the finding "underscores a need for monitoring of adherence to the restrictions in tanning facilities as well as continued surveillance of indoor tanning rates among teens." ■

The work appeared in the July 20, 2016 edition of the 'Journal of the American Academy of Dermatology' (<http://dx.doi.org/10.1016/j.jaad.2016.03.040>). The 2012 and 2014 New Jersey Youth Tobacco Surveys were funded by a contract from the New Jersey Department of Health to the Center for Tobacco Studies at Rutgers School of Public Health.



After earning his doctoral degree in clinical psychology from Roosevelt University in Chicago, Dr. Hundal completed a neuropsychology internship at the Mount Sinai School of Medicine in New York, followed by a neuropsychology residency and fellowship at the JFK-Johnson Rehabilitation Institute's Center for Head Injuries in Edison, New Jersey. He was recruited to Rutgers Cancer Institute earlier this year from the Henry Ford Health System in Detroit to help launch and grow the Cancer Institute's new Neuropsychology Program.

Neuropsychology is a field of study that aims to understand how the brain influences behavior—in particular, how the abnormal brain impacts a person's ability to do every day activities such as work, attend school, or function independently. Cancer and cancer treatment can have an impact on cognition. Neuropsychology aims to understand the

Having a strong interest in clinical research, Dr. Hundal publishes on a range of topics within the field of neuropsychology, neurology, and neuro-oncology. His more recent work has focused on the development and validation of virtual reality-based systems for a single-point delivery of neurorehabilitation therapy.

degree of cognitive impact and which domains are affected, such as attention, memory or language. As a clinical neuropsychologist, Dr. Hundal explores cognitive impact on cancer patients in order to gain knowledge that can help with prognosis, treatment alternatives, and remediation of cognitive difficulties.

Dr. Hundal also helps in the evaluation of epilepsy, movement disorders, multiple sclerosis, dementia, and other complex diagnostic differentials and has been actively involved in the training of residents and fellows in neuropsychology, psychiatry and neurology. He also has interests in epilepsy surgery outcomes as well as applying neuro-rehabilitation principles to the treatment of individuals with acquired and neurodegenerative disorders. His treatment philosophy emphasizes a comprehensive integrative approach in the diagnosis and management of brain-based disorders,

which fits well with the culture of integrative medicine at Rutgers Cancer Institute.

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Jasdeep S. Hundal, PsyD, ABPP, is a board certified clinical neuropsychologist and director of neuropsychology at Rutgers Cancer Institute of New Jersey. He holds a joint appointment in the Rutgers Robert Wood Johnson Medical School Departments of Medicine and Neurology as an assistant professor.

validation of virtual reality-based systems for a single-point delivery of neurorehabilitation therapy. Dr. Hundal and colleagues recently published an article (House et al., *British Journal of Pain*, 2016) examining the use of a virtual reality-based system for cancer pain in patients who underwent a mastectomy and demonstrated improvements in pain, cognition, range of motion and depression. The team is looking to expand this research to a Phase II clinical trial.

Dr. Hundal also is involved with local and national organizations. He currently serves on the National Academy of Neuropsychology's Culture and Diversity Committee, which works to increase the knowledge of diversity issues and to promote the inclusion and affirmation of diversity through science and human understanding. He is also fluent in English and several Indian dialects including Punjabi and Hindi. ■

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Managing Editor / Writer: Michele Fisher
Contributing Writer: Mary Ann Littell
Cover Photo: Nick Romanenko
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Mapping Out New Treatment Avenues

Cancer researchers have applied a comprehensive set of analytical tools to lethal cases of advanced prostate cancer, yielding a detailed map of the complex networks of interactions among genes and proteins that enable prostate cancer cells to proliferate and evade treatment. The team also developed a computational approach for analyzing patient-specific data to help doctors choose the most effective drugs for individual patients. The study, published August 4, 2016 in *Cell* (doi:<http://dx.doi.org/10.1016/j.cell.2016.07.007>), was a collaborative effort involving teams at UC Santa Cruz and UCLA, including

Rutgers Cancer Institute of New Jersey re-

searcher **Justin Drake, PhD**, an assistant professor of medicine at Rutgers Robert Wood Johnson Medical School, who was a postdoctoral investigator in the Witte Laboratory at UCLA at the time the work was conducted.

Investigators began with clinical tissue samples obtained at autopsy from patients with metastatic prostate cancer, then performed a range of sophisticated analyses to characterize the cancer cells from each patient in unprecedented detail. A novel computational analysis of the resulting datasets produced personalized diagrams of signaling pathways in the cancer tissues of each patient. These pathways are involved in cell growth, proliferation, and other hallmarks of cancer biology. By mapping these pathways, researchers were able to identify "master switches" that could be targeted with drugs to disrupt the disease. ■

Grants from the Department of Defense Prostate Cancer Research Program (W81XWH-14-1-0148) and Prostate Cancer Foundation Young Investigator Award to Dr. Drake helped support this work.

The research also was supported by grants from the National Institutes of Health, American Cancer Society, and Stand Up to Cancer. (Text courtesy of UC Santa Cruz).



Clinical Trials Corner:

Total Cancer Care®

Rutgers Cancer Institute of New Jersey

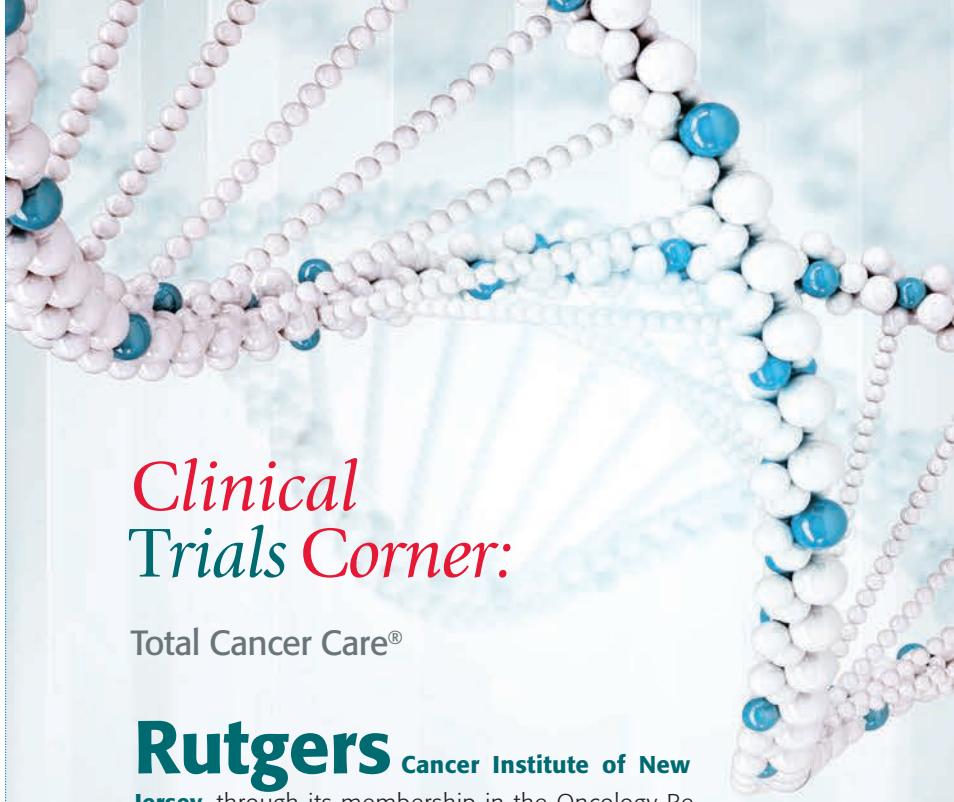
Rutgers Cancer Institute of New Jersey, through its membership in the Oncology Research Information Exchange Network® (ORIEN), is taking part in a unique non-treatment study called the Total Cancer Care® Protocol designed to create a centralized database of clinical and molecular data that can be utilized to find better ways to treat cancer.

More than 150,000 patients from several collaborating centers across the nation have consented to have their health information included in this database. The aim is to use this data for future research, which could include DNA and genetic testing to determine if there are particular combinations of genes that are associated with the presence of cancer. By combining genetic information with health information, researchers say it may be possible to identify the genetic changes that are associated with a particular type of cancer.

Part of this effort includes the ORIEN Avatar™ Research Program, which is a "first-of-its-kind collaboration that brings together patients, physicians, researchers and pharmaceutical companies to speed clinical development and discovery of treatments for advanced-stage cancers." Through the Avatar component, some of the de-identified data from the Total Cancer Care® database will undergo genomic sequencing in an effort to provide specific genetic information about cancer tumors.

"By collecting and further examining this valuable data, investigators may be able to pinpoint genetic mutations and better understand what is driving a particular cancer. Armed with this knowledge, there's an opportunity to develop targeted treatments that can be examined in human clinical trials," notes **Lorna Rodriguez, MD, PhD**, director of precision medicine, interim chief of gynecologic oncology and principal investigator of ORIEN at Rutgers Cancer Institute and professor of obstetrics, gynecology and reproductive sciences at Rutgers Robert Wood Johnson Medical School. ■

To learn more about clinical trials offered at Rutgers Cancer Institute, visit cijnj.org/clinical-trials.



When Opportunity Knocks

Committed to a fit and active lifestyle, Mark Cicon says he was a picture of health when he started a new position as a technology recruiter for a banking firm in September 2009. Working 15 hour days sometimes to accommodate West Coast clients, the extended schedule chipped away at his ability to keep up with the gym and a decent night's sleep. When he felt continued bone pain and chronic fatigue a year later he chalked it up to the demands of the job, but his boss at the time took him aside and let Cicon know he really didn't seem like himself lately. Soon after, a simple fall set off a chain of events that quickly led to the realization for the 42-year old Cicon that he had a rare form of leukemia.

The fall on his back resulted in a compression fracture in his spine, but he didn't know it at the time and was treated for inflammation and pain after touching base with his primary care physician. Surprisingly, it was a simple sneeze a week later that sent Cicon to the hospital with a lower vertebra fracture. Another sneeze shortly after broke a rib. Various X-rays were taken and clearly showed the fractures — but nothing more.

Suspecting something else, Cicon's doctor sent the scans to an oncologist at Robert Wood Johnson University Hospital Hamilton. Given the nature of the images, it was thought at first that Cicon was involved in a car accident, but further tests revealed he had a blood cancer known as plasma cell leukemia. He immediately was referred to Rutgers Cancer Institute of New Jersey.

BY MICHELE FISHER ■ PORTRAITS BY NICK ROMANENKO



Plasma cell leukemia is a rare and aggressive form of multiple myeloma that involves high levels of plasma cells (part of the white blood cells – the body's infection fighters) circulating in the blood. Too many plasma cells prevent other blood components, including red blood cells and platelets, from doing their job. Abnormal plasma cells known as myeloma cells can cause tumors on the bone – weakening them and causing them to break. To determine if one has plasma cell leukemia, abnormal plasma cells must infiltrate the bone marrow with more than 20 percent of cells circulating in the blood. In Cicon's case, his blood counts confirmed 37 percent of these cells were plasma cells.

"Mark's fall was a blessing in disguise, as it prompted evaluation much sooner," says Rutgers Cancer Institute hematologist/oncologist Mecide Gharibo, MD, who is Cicon's doctor and a member of the cancer center's Blood and Marrow Transplant Program. "Had more time passed, the disease could have been worse with high white blood cell counts possibly causing additional complications with bleeding, infection and organ failure." There are two forms of plasma cell leukemia. 'Secondary' disease is end-stage multiple myeloma that progresses into plasma cell leukemia. Cicon presented with 'de novo' disease, meaning there was no previous myeloma diagnosis. "Less than one percent of multiple myeloma patients present with newly diagnosed plasma cell leukemia," notes Dr. Gharibo, who is also an associate professor of medicine at Rutgers Robert Wood Johnson Medical School. The prognosis is very poor, with median survival of less than a year (Liedtke, *Expert Review of Hematology*, 2014).

Where to Start

"Unfortunately, there is limited data on this patient population to help drive treatment options," Gharibo reflects. "Proteasome inhibitors and chemotherapy can help achieve remission in a certain subset of patients for a short period of time. Usually we try to give chemotherapy, then perform an autologous transplant to optimize outcome." But given Cicon's age and the fact that he was in good health prior to being diagnosed, Gharibo recommended a less common treatment regimen – an autologous transplant (in which a patient's own peripheral blood stem cells are collected and reinfused in the body) followed by an allogeneic transplant, which utilizes stem cells or bone marrow from another donor. "Time is of the essence," she says – noting the reason why this strategy is not widely pursued for plasma cell leukemia is that some patients don't have the advantage of being treated at a Na-

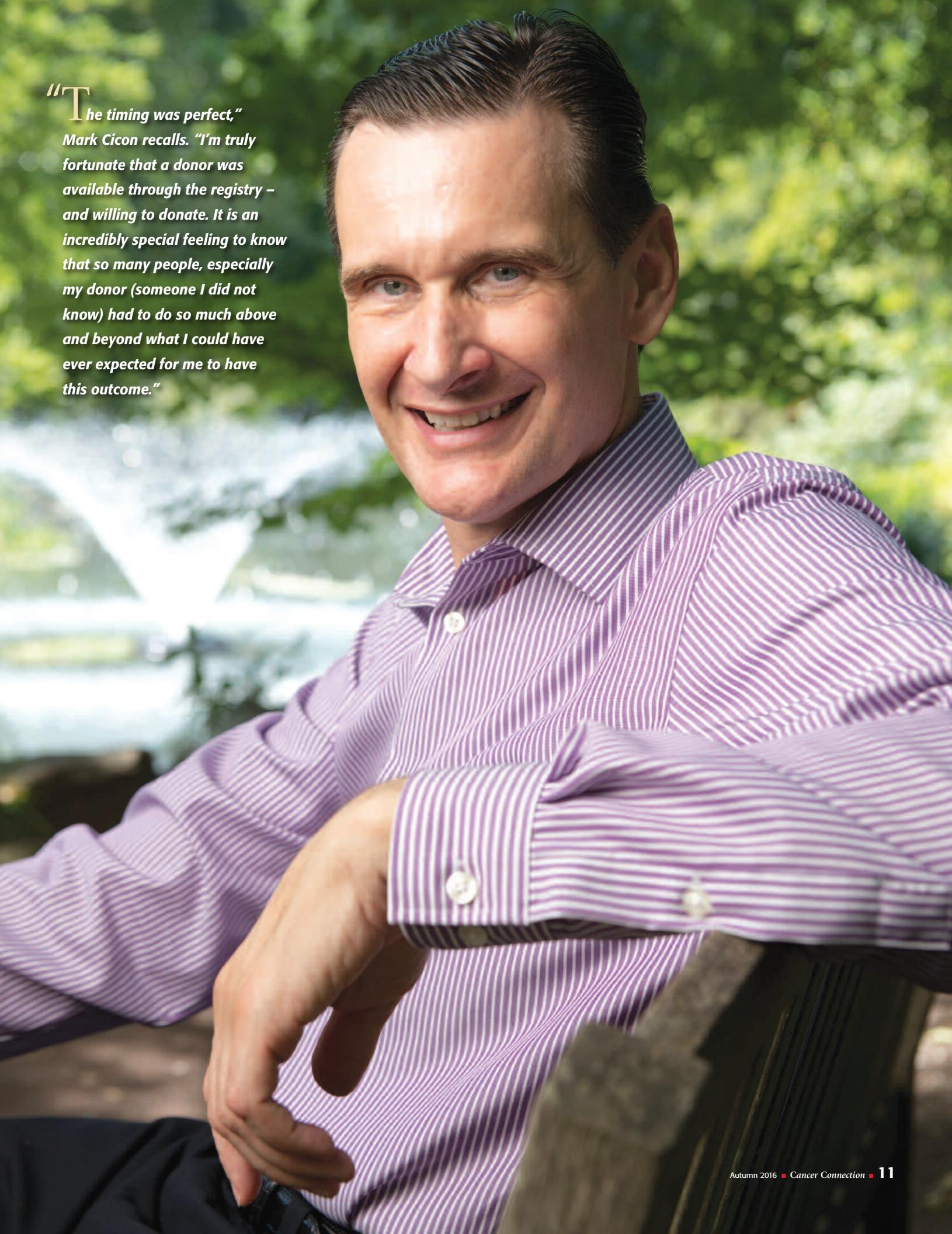
tional Cancer Institute-designated Comprehensive Cancer Center like Rutgers Cancer Institute. "It is beneficial for patients to have access to the numerous specialists and resources afforded through a program like the Blood and Marrow Transplant Program at Rutgers Cancer Institute and our flagship hospital Robert Wood Johnson University Hospital. In some cases, it's critical for patients with rare hematologic disorders to be treated at such a center because of the ability of the physicians there to evaluate patients for transplant in a timely manner where remission in aggressive blood cancers may only last for a short period of time, as well as the ability to refer them to the National Cancer Institute or collaborate on therapy options with other Comprehensive Cancer Centers," adds Gharibo.

Cicon began to accept his diagnosis. "It's a law of averages," he says. "There's the good and the bad. I knew I needed to focus on things that would get me to the good end of things." He educated himself about the transplant process and knew the risks involved – including the possibility of not finding a match for the second transplant. "I was committed to doing this and knew a positive attitude would help me get through it." Cicon's father, a former triathlete who is approaching 80 and has been a quadriplegic for the past two decades due to an accident, has been a great source of inspiration for him. "Seeing my dad's attitude and his ability to stay positive all of these years really helped me. Despite the risks and possible complications, I looked at the transplant process as a long-term gain – an opportunity – and felt it would put me back to where I wanted to be."

This back-to-back, or tandem, transplant procedure starts with induction therapy – chemotherapy that is administered to deplete the body of as many cancer cells as possible causing a temporary remission. For Cicon that meant hospitalization for two weeks at the end of September 2010 immediately after being diagnosed. His own stem cells were collected through a process similar to a blood transfusion. They would later be reinfused into his body. A steroid and a chemotherapy combination were prescribed to get his disease under control. During this time, Gharibo started looking ahead to the more difficult part of the process – finding a donor for the second transplant. She asked Cicon's only sibling, his older brother, to get tested to see if he would be a match. He wasn't. The Blood and Marrow Transplant team then began a search through the National Marrow Donor Program registry to find a suitable candidate. Time really was of the essence.

Cicon responded well to induction therapy. "So well that I really didn't want to endure an invasive treatment," he recalls. But he

"The timing was perfect," Mark Cicon recalls. "I'm truly fortunate that a donor was available through the registry – and willing to donate. It is an incredibly special feeling to know that so many people, especially my donor (someone I did not know) had to do so much above and beyond what I could have ever expected for me to have this outcome."





Mark Cicon's medical oncologist Mecide Gharibo, MD, believes given the limited patient population, the best way to enhance current data on plasma cell leukemia will be through multi-center collaboration and through research efforts like precision medicine taking place at Rutgers Cancer Institute. "Genomic sequencing may offer new therapy options now," says the doctor.

apply knowledge of similar diseases to this research, often resulting in treatments typically used for other types of plasma cell conditions." But she notes there is positive news. "We have more treatments available now for multiple myeloma patients and often we can use similar treatments for patients with plasma cell leukemia. In addition, transplant still remains an option for patients with plasma cell leukemia either using an autologous stem cell transplant to maintain and prolong remission and/or consider tandem allogeneic stem cell transplant with options of a donor source from a matched or half-matched sibling or parent and/or from an unrelated matched donor."

Gharibo believes given the limited patient population, the best way to enhance current data on plasma cell leukemia will be through multi-center collaboration and through research efforts like precision medicine. Researchers at Rutgers Cancer Institute already are learning about mutations that are driving different forms of leukemia. Plasma cell leukemia does have some genetic mutations associated with it, but these mutations also are common in other plasma cell disorders, meaning there are none that are specific to plasma cell leukemia. "Genomic sequencing may offer new therapy options now," says Gharibo. ■

To learn more about precision medicine oncology at Rutgers Cancer Institute, visit: cimj.org/precision-medicine.

Eye on the Future

Through residency, fellowship and faculty as a hematologist/oncologist, **Mecide Gharibo, MD**, has been with Rutgers Cancer Institute of New Jersey for 20 years helping those like Mark Cicon (see adjacent feature story) with rare blood cancers.

Cicon's presentation of de novo plasma cell leukemia in 2010 was Dr. Gharibo's first experience with this rare form of multiple myeloma. To put it in perspective, the center sees about one of these cases every two to three years.

"The challenge with this disease," Gharibo explains, "is that few people are diagnosed, so there aren't many appropriate candidates to undergo a clinical trial to establish new treatments for such a rare disease. For right now, we

felt the tandem transplant still was the best option for him. With temporary remission achieved, Cicon's own peripheral stem cells were reinfused in January 2011. He spent a little more than two weeks in the hospital. To achieve the best results with a tandem transplant, the procedures must be performed within six months of each other. The search continued for a donor.

Needle in a Haystack

With an allogeneic transplant, it is important to find as many donor qualities as possible that are similar to the recipient including having the youngest donor candidate and same sex if possible," says Gharibo. Having the same blood type and matching as many elements as possible for tissue typing is important too. Cicon is of Eastern European descent, and having similar ancestry is important to optimize finding a matched donor, adds the doctor. Through the national registry, three possible candidates materialized. Only one met enough criteria and was available for the transplant.

"The timing was perfect," recalls Cicon. "I'm truly fortunate that a donor was available through the registry – and willing to donate. It is an incredibly special feeling to know that so many people, especially my donor (someone I did not know) had to do so much above and beyond what I could have ever expected for me to have this outcome." Due to confidentiality policies, donors and recipients are not permitted to know each other's identity until after a one-year period and consent given, but each case is unique and waiting periods may vary. In this case, Cicon was grateful to connect with the Ohio mother who was inspired to put herself on the registry after knowing two people who suffered from a blood cancer. They write and call one another. "I would like to meet her one day," Cicon projects.

After receiving a stem cell infusion from the donor (harvested through apheresis — a process involving collection of circulating stem cells from the blood circulation), Cicon spent 29 days in the hospital, which is a typical post-transplant stay. He did experience a common complication known as graft-versus-host disease (GVHD), in which Cicon's new immune system from the donor cells began to attack parts of Cicon's organs such as the skin and liver. Extreme cases of GVHD result in potential life threatening organ failure and severe skin rashes, but with Cicon the slight case of GVHD indicated to Gharibo and team that everything was functioning normally and the marrow was doing its job in boosting his immune system. Outside of a mild skin rash (which is also common post-transplant), Cicon says he came through just fine.

Finding Normal

For the first few months following a transplant, it's necessary to have someone else handle the regular domestic chores many of us take for granted, such as cleaning, cooking, and grocery shopping, as some of these errands can be physically taxing and unnecessarily expose the patient to viruses and infections. To avoid crowds, Cicon found a quiet sanctuary at the picturesque, park-like setting of Sayen Gardens near his Mercer County home. He was able to limit his interaction with people while still being able to get out of the house, stroll around and enjoy his love of nature. Driving and working usually aren't an option for several weeks to months for most transplant patients, and they can experience a mental fog and emotional ups and downs. Cicon admits finding some sense of 'normal' wasn't easy. "There's a challenge with transitioning from fulltime patient to recovery – about a year or longer. It took me about three years not to think about the possibility of a relapse," he recalls. In the meantime his recovery from the transplant was slow and steady. "The recovery was a positive period as I really appreciated the activities I could start doing again," Cicon reflects.

With an autologous transplant for plasma cell leukemia, the few retrospective studies available show an overall survival of at least three years. The data are even more sparse for plasma cell leukemia patients who undergo an allogeneic stem cell transplant, showing limited survival data beyond three years as well. Now 48-years old, Cicon is beyond that. Follow-up visits to Rutgers Cancer Institute are part of the routine for him but not any post-transplant cancer treatments. "Due to a lack of data regarding maintenance therapy, our team recommended to watch him. We make it a point to individualize everyone's care. Mark's case is an illustration of that," notes Gharibo. Cicon remains on bone strengthening medication to prevent skeletal complications, but he still needs to be mindful not to be too hard on his body. He doesn't second guess any part of his journey. "Sometimes you regret the choices you didn't make, but thanks to Dr. Gharibo and team, I am absolutely confident I did everything I could to prevent a relapse. I am grateful to have been afforded this opportunity." ■

Gharibo admits the type of care Cicon received truly requires a team effort — doctors, nurses, transplant coordinators, infectious diseases physicians and those with varied oncology expertise, among others. But a true part of the 'team,' she says are the patients who commit themselves to a transplant procedure and the donor. Additional information on becoming a stem cell donor can be found at BeTheMatch.org.

A New Space

Soon there will be a new home for the **Hematologic Malignancies and Blood and Marrow Transplant (BMT) Programs at Rutgers Cancer Institute of New Jersey**. The BMT Program continues to be conducted in conjunction with our flagship hospital Robert Wood Johnson University Hospital. In 2017, both programs formally will open new space across the street from Rutgers Cancer Institute on the New Brunswick campus.

The new floor is designed to bring clinical care under one roof along with numerous patient services including social work assistance and financial counseling. "This new space will greatly improve the logistics of care for those with hematologic malignancies, especially for BMT patients, who previously endured a lot of movement in order to go between inpatient and outpatient locations. With all aspects of care available in a central location, we're making the overall patient experience easier for them," notes **Roger Strair, MD, PhD**, who is the chief of both programs.

As you read in Mark Cicon's story (see adjacent feature), "having access to numerous specialists and comprehensive treatment options through a National Cancer Institute-designated Comprehensive Cancer Center like Rutgers Cancer Institute is critical for those with a hematologic malignancy — especially a rare one," notes hematologist/oncologist **Mecide Gharibo, MD**, who is part of both programs. She notes the new facility will provide for expanded treatment offerings, including a 'half match' (haploidentical) transplant program in which a parent or sibling of a transplant recipient may not meet 'full' matching requirements. "A half match transplant can provide similar outcomes as a full match transplant in some cases. It's reasonable to offer but only to the right candidate — it's not for everyone," she says.

The new facility also will enable the team to accomplish more outpatient transplants, adds Dr. Gharibo. Designed mostly for autologous cases (in which the donor is receiving stem cells from his or her own body) in multiple myeloma and non-Hodgkin's lymphoma patients, the procedure shaves off nearly a week of the routine 17 day inpatient peritransplant care. ■



The new East Tower building where the Hematologic Malignancies and Blood and Marrow Transplant Programs will be housed.





A Day at a Time

With a thriving family plumbing business, her only child in high school and her family settled in their dream home, Lisa Schepisi already looked at life as a gift. What she didn't know at that time in 2004 was that for the next 12 years, each day would become a precious treasure. Diagnosed with appendix cancer that year at the age of 40, she began an unexpected journey of multiple recurrences and treatments including a major, invasive surgery only offered at a handful of specialty centers across the country. Drawing on personal strength and humor, her loving husband, daughter, close family and friends, and a care team involving her community oncologist and specialists at Rutgers Cancer Institute of New Jersey, she had the support she needed to undergo that unique procedure not once – but twice.

BY MICHELE FISHER



"I wasn't going to let my cancer be in control of me. I was going to be in control of it," recalls Lisa Schepisi in deciding on a second HIPEC cancer treatment.

After learning the extreme abdominal pain she was having was a result of appendiceal carcinoma, her appendix and surrounding tissue were removed and she began chemotherapy under the care of local oncologist James Salwitz, MD. A routine CT scan during a follow-up visit in 2009 showed a pelvic mass. She was referred to Rutgers Cancer Institute, where she had a full hysterectomy, temporary colostomy and partial colon removal and was set on another course of chemotherapy. While she resumed normal activity like going back to work as a weight loss coach and helping with the family business, she suffered the loss of her mother shortly after. "Throughout this whole experience, people have said that I'm so strong. It's really a type of survival instinct I have. But given everything that was happening, 2009 was a difficult time for me," shares Schepisi, who had to draw upon that survival instinct again and again over the next few years.

In 2010, Schepisi was met with another suspect CT scan, which revealed masses consistent with the presence of cancer in a thin layer of tissue in the abdominal cavity known as the peritoneal lining. Returning to Rutgers Cancer Institute, surgeons deemed Schepisi would benefit from a unique combination procedure known as cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy — or HIPEC — but it wasn't being offered at the facility at that time. In fact, the procedure was only available at a few northeast locations. After learning someone in her family circle had undergone this specialized surgery at a Baltimore hospital, that is where she decided to go.

HIPEC 101

Around for about two decades, CRS – HIPEC treats cancers of the abdominal cavity and abdominal lining including appendix, colon, and stomach cancers, as well as some cases of ovarian cancer and mesothelioma. The procedure, which can take anywhere from six to 15 hours, involves removing all or most of the tumor and even affected organs if they are not critically needed. Chemotherapy heated to 107 degrees Fahrenheit is then administered directly into the abdominal cavity, bathing the area for an average of 90 minutes before it is drained and the area stitched closed.

While the surgery itself is very involved, so is post-surgery recovery, with an average hospital stay of seven to 14 days. Schepisi awoke to multiple tubes inserted in her body for breathing, nutrition, draining of fluids, medication and waste excretion. She stayed in the hospital for 10 days, then another 10 days in a nearby hotel so she could be close to the Baltimore care team for immediate follow-up visits.

PHOTO BY: NICK ROMANENKO

The many weeks that Schepisi and her husband Ken spent in Baltimore away from their business took its toll in many ways including emotionally and physically. After coming home to New Jersey, Schepisi was soon hospitalized for dehydration and couldn't eat or drink for nearly a week but was eventually released. The events had a financial impact on the family as well. For years their plumbing business was successful, but around the time of the surgery, the economy started to decline. They sold their dream house in Monroe Township and downsized to another home in the same town. "Every day Ken would ask me how I felt, and I would simply go through the motions and just tell him I was 'okay.' But one day after about three months,



"Those with slow growing cancers and disease that is responding to chemotherapy are good candidates for HIPEC. Patients who are also young and healthy like Lisa tend to have better outcomes," notes Lisa Schepisi's surgeon Timothy Kennedy, MD.

I really did feel 'okay' and started to rebuild our life," she says. This included workouts at the gym and going out with friends. Schepisi also took stock in everyday activities such as curling up on the couch with Ken and their dog Juicy, as well as spending time in her recently

PHOTO BY: DEBBIE VOGEL

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renovated kitchen baking — a pastime she enjoyed with her late grandmother.

Taking Control

Things remained calm for the next few years and follow-up visits remained status quo until January 2016 when Schepisi experienced the uncomfortable sensation of food getting stuck in the top of her stomach. After calling her local oncologist, she was instructed to go to the emergency room where a CT scan was taken. It showed a blockage, but there was uncertainty as to whether a shadow that presented was the result of surgical scar tissue or was an indication of cancer. Her doctor immediately referred her to Timothy Kennedy, MD, a surgical oncologist in the Gastrointestinal/Hepatobiliary Oncology Program at Rutgers Cancer Institute. Dr. Kennedy came to see Schepisi in the ER and informed her that what they were seeing was indeed cancer. He also told her she needed a second HIPEC surgery — a procedure Kennedy was more than familiar with, having performed about 70 of the operations over the past five years. But he shared that she didn't need to have the procedure right away, since the new malignancy appeared to be slow growing.

Schepisi didn't hesitate. "I wasn't going to let my cancer be in control of me. I was going to be in control of it," she recalls. It was a matter of whether going back to Baltimore since she was already familiar with the procedure and team there or working with a new doctor and having the benefit of being close to home. The Schepisis decided that proximity was important, plus, having been at Rutgers Cancer Institute in previous years, there was also a level of comfort and trust with the expertise there. Schepisi's blockage resolved and she immediately arranged to have HIPEC later that month with Kennedy at Robert Wood Johnson University Hospital, the flagship hospital of Rutgers Cancer Institute.

A second HIPEC surgery is not unusual, notes Kennedy, who quickly points out that the procedure — whether a first time or second time — is not for everyone. "Looking at the biology of the disease is most important. If it's a slow growing cancer like low-grade appendiceal, there is more benefit in removing the disease and treating with HIPEC, because it can take many years for the cancer to grow back. For more aggressive cancers like colorectal and gastric, we would treat with sys-



"My quality of life is great. I really can't complain," says Lisa Schepisi, who is taking things one day at a time."

temic chemotherapy first to assess response before considering patients for aggressive surgery. Those with slow growing cancers and disease that is responding to chemotherapy are good candidates for the procedure. Patients who are also young and healthy like Lisa tend to have better outcomes," notes the doctor, who is also an associate professor of surgery at Rutgers Robert Wood Johnson Medical School. "The risks outweigh the benefits in some cases, but it really needs to be taken on a case by case basis. There is a survival benefit for many patients," he says. Kennedy adds that unfortunately, study on CRS and HIPEC has been extremely limited, but points out "those who have the procedure at a specialty center tend to have better outcomes," adding that about 100 facilities across the country currently perform HIPEC, with about 20 to 30 of those locations being some type of spe-

cialty center. With the arrival of the program's newest surgical oncologist Miral Grandhi, MD, an assistant professor of surgery at Rutgers Robert Wood Johnson Medical School, Kennedy is looking to build on HIPEC offerings at Rutgers Cancer Institute and develop a HIPEC center of excellence for central New Jersey.

Step by Step

While pre-surgical assessment through a tiny incision can be utilized to determine which patients will benefit from CRS and HIPEC, Kennedy says it's not common to do CRS and HIPEC through a minimally invasive approach unless the disease is very limited. Mostly, patients have extensive disease throughout the peritoneal area. With that, an incision is made at the top of the abdomen down to the pelvic region. The aim, says the surgeon, is to achieve complete cytoreduction — either no disease or having all tumors remaining under 2.5 millimeters. The debulking — or surgical procedure to remove disease — can take four to 12 hours on its own. Some of this time can be spent just getting through scar tissue, but much of it involves peritonectomy procedures and intestinal re-connections following the removal of any involved organs. Kennedy approaches each case by dividing up the needed surgical removals into multiple, smaller operations. One thing he believes is unique to his technique is that he tries to focus on disease removal and spares affected organs as much as he can. "It may be easier to remove an entire organ, but that could lead to a poor quality of life for the patient or risk of complications," he shares. Kennedy also tries to limit the number of bowel connections to limit complications and risk of infection.

Following the actual surgical debulking, catheters are placed in the abdomen and the abdomen is stitched closed. Subsequently, saline is administered into the abdominal cavity and heated to 107 degrees. The chemotherapeutic agent is then added. Mitomycin C is given in most HIPEC procedures, as this particular drug doesn't absorb in the body as much as other chemotherapies that might cause toxicity to organs at high doses. The heated solution is then manually agitated through the cavity using a pump that is monitored by specially trained circulating nurses. Kennedy notes the heat is important, as it's been shown that cancer cells are more sensitive to heat, thus more of them are destroyed. He adds HIPEC requires a comprehensive team, from nurses and scrub techs, to pharmacists, uro-oncologists, gynecologic oncologists, and plastic/reconstructive surgeons. Perfusion specialists who handle the chemotherapy pumps are key, as well as a nutritionist

to help patients with dietary intravenous needs since it takes an average seven to 14 days for normal digestive function to resume.

Back in the Saddle

Schepisi was ready for the second HIPEC — and even knew the risk of the doctor going in and realizing he may not be able to proceed. A seriousness came over the surgical team as they prepared her in the operating room. "I just looked at them and told them 'this isn't my first rodeo.' I think I may have scared them, but it's just my brand of humor," she muses. Her "humor helps" mantra has been evident through many aspects of her journey. For instance, Schepisi had her hair styled by daughter Nicole — a hairdresser — during one of her visits when she needed a blood transfusion. This is also the woman who misinterpreted the immediate need for a stool sample and ended up bringing one in her designer handbag to be evaluated. After jokingly calling out Kennedy on that misunderstanding, patient and doctor shared a hearty laugh.

Following the procedure, it took Schepisi about a month for her to feel "normal" again as compared to three months the first time. "I was back at the gym doing spin classes and eating and drinking again — all in a short amount of time," she happily recalls. Schepisi attributes a quicker recovery to having an epidural for pain management after the second surgery versus more powerful post-operative medications given after the first procedure. Kennedy was more than pleased. "There's no formal study on this, but I believe a positive attitude and outlook are important and are associated with an easier recovery," says the surgeon.

Schepisi was offered systemic chemotherapy after both procedures — anti-cancer medication designed to circulate throughout the entire body instead of just a targeted area. She decided against it both times. "For low-grade appendiceal cancer, it's less known if systemic chemotherapy provides a survival benefit. We do know this follow-up treatment provides some benefit and improves survival for those with more aggressive cancers like colorectal and gastric. It's really a quality of life issue," notes Kennedy. Schepisi is on a schedule to follow up with Kennedy and team every few months, and she's not on any medication.

Married 31 years in October 2016, Schepisi and her husband "put a lot of things on hold" while she endured each leg of her cancer journey, but she knows life is good. "My quality of life is great. I really can't complain," Schepisi notes. She's been keeping up with the gym and going on vacation. The couple even took in a recent Bruce Springsteen concert complete with limo and dinner — overall, just taking things "one day at a time." ■

Life After Lung Cancer

We've all heard the proverb: "All work and no play makes Jack a dull boy." Resa Condit has a work ethic that puts Jack's to shame. The Metuchen resident works two jobs, 72 hours a week. At 61 years of age she has remarkable energy and a "Can Do!" spirit, living life to the fullest, whether it's work or play.

Six days a week Condit manages the front end of a pharmacy, ordering gifts and merchandise for the shelves, handling prescriptions, selling lottery tickets, and running the cash register. "I've been there 39 years and I do it all," she says matter-of-

factly. Her second job is at a group residence for six adults with cerebral palsy. "We get them showered and dressed, cook their meals, take them shopping, help them with everything. It's hard work, but satisfying."

BY MARY ANN LITTLE





With much of her life focused on helping others, Condit herself needed help when she was diagnosed with stage II lung cancer in August 2015. She got the expert care she needed at Rutgers Cancer Institute of New Jersey.

Condit's cancer was discovered when she had a chest X-ray as a part of a pre-operative checkup for elective hernia surgery. She developed a slight cough and asked her doctor to postpone the surgery. "He said my problem was much more serious than a hernia," she says. "I had a mass in my left lung." He referred her to a pulmonologist, who agreed the mass looked suspicious. A biopsy was performed and Condit waited anxiously for the news. The results confirmed everyone's worst fears: she had lung cancer.

"Thank goodness I had that X-ray," says Condit. "I had no symptoms, so I never would've seen a doctor until it was too late. Having cancer was a shock, almost surreal. But I consider myself lucky. I had an early diagnosis, which improves my chances for recovery. And I was referred to Rutgers Cancer Institute. They gave me great care and their expertise saved my life."

Condit was treated by Todd Demmy, MD, FACS, a leader in minimally invasive surgery for treatment of thoracic cancers, who is part of the Lung Cancer/Thoracic Oncology Program at Rutgers Cancer Institute and a professor of surgery at Rutgers Robert Wood Johnson Medical School. He is known for his work in video-assisted thoracoscopic surgery (VATS), a less invasive procedure used to remove tumors in the chest, esophagus, and lungs. This surgery is done through three or four small incisions. This complex operation involves removal of a lung, part of the diaphragm, the heart lining and lymph nodes. It's used to treat patients with mesothelioma, the deadly asbestos-related cancer. In contrast, the traditional approach, thoracotomy, requires a 10 to 15 centimeter incision, opening the chest and cutting through muscle to gain access to the lungs.

Many people are not aware that lung cancer is the leading cause of cancer deaths in the U.S. and worldwide. It kills more women each year than breast cancer, according to the American Cancer Society. Condit had smoked for years, but was a light smoker having smoked just four or five cigarettes a day. There is no way of knowing if smoking caused her cancer. However, research shows that smoking contributes to 80 percent of lung cancer deaths.

While the VATS technique is not new, it's taken more time to catch on than other minimally invasive procedures. VATS requires a great deal of training and technical skill, both to do the procedure and avoid complications, including excessive bleeding and the risk of incomplete



lymph node resection, which could result in the cancer's spread. For these reasons, VATS remains in the domain of large academic centers, like Rutgers Cancer Institute and its flagship hospital Robert Wood Johnson University Hospital (RWJ) that specialize in cutting-edge cancer therapies.

VATS offers several advantages to patients, the main one being much less postoperative pain, because the surgeon does not have to open the chest. Patients undergoing traditional open surgery have debilitating pain that can last for months. Other advantages of VATS include a shorter hospital stay and recovery time.

In its early iteration VATS was considered a good option for patients who were otherwise healthy and strong, but that thinking has evolved. Done by skilled surgeons, it is an excellent option for high-risk patients such as those with weak hearts or lungs. In weaker patients, open-chest surgery often triggers a chain of events that leads to their decline. A minimally invasive procedure may significantly improve their odds.

Condit remembers her first consultation as a "blur," due to her anxiety. But she did hear the most important news: she was a candidate for VATS. Overall she was healthy and had good lung function, measured before surgery to be sure a patient can tolerate the removal of

I see many people with cancer. Some of them feel sorry for themselves and sit around and cry. I won't be like that. Attitude and perseverance get you through the tough stuff. You must be a fighter. So that's what I'm doing," notes Resa Condit (left) with regard to her battle with lung cancer.

a lung. Even though she'd been a smoker, it was moderate and hadn't impaired her breathing.

"I knew there was no guarantee, but my fingers were crossed that I'd have the minimally invasive procedure," Condit says. A friend of hers had been treated for lung cancer with open surgery. "He was in tremendous pain, even months later," she adds. "At the same time, he was having chemo and really struggling. I did not want that to be me."

On November 17, 2015, Condit had the first VATS pneumonectomy performed at RWJ. First an endobronchial ultrasound was performed. In this diagnostic test for staging cancer, a thin tube with a camera was guided down her throat to take images of the tumor and surrounding area. After that, three small incisions were made in the chest and side to accommodate a long tube with an attached camera and tiny surgical instruments.

Condit's tumor was large, 5.5 centimeters. It involved the aorta and much of the central portion of her lung and was growing into her ribs. The original plan was to remove half the lung. However, because of



the size and location of the tumor, her entire lung had to be removed. The outer layer of the rib was also peeled off so no cancer remained. The difficult procedure took seven hours.

She awoke in the recovery room a bit woozy from the anesthesia. Her grown children, son Dale and daughter Christine, a nurse, were with her. She was amazed to find she had no pain. "In my room later on, a nurse asked why I wasn't using my morphine drip," she says. "I said, 'What for? I'm fine!'"

After three days in the hospital, Condit went home, chafing at her inactivity. "I'd been told to rest but what I really wanted to do was clean the house," she says. "I satisfied myself with a little dusting." Condit's daughter supported her during her recovery. The two had restaurant reservations for Thanksgiving dinner but weren't sure if

Condit would be up for it. She was, and they had a wonderful time. Both agreed they had much to be thankful for.

When you work as a team to provide cancer care, especially lung cancer care, the team collaboration is vital to planning future treatment," explains radiation oncologist Salma Jabbour, MD (left), who is a member of Resa Condit's vast care team.

Condit's cancer was stage II. She was fortunate it was detected early. There are so few warning signs for lung cancer that it can be difficult to detect before it spreads. The worst, stage IV, is unfortunately what surgeons see the most. Typically, lung cancer grows from marble-size to incurable within six months.

Condit returned to work two weeks after her surgery. Her follow-up care would involve both chemotherapy and radiation. It was mapped out with the combined expertise of the Rutgers Cancer Institute medical team caring for her—surgeons, radiologists, medical and radiation oncologists, pulmonologists, pathologists, nurses, social workers, and a nutritionist.

"When you work as a team to provide cancer care, especially lung cancer care, the team collaboration is vital to planning future treat-

Welcoming Igor Brichkov, MD, FACS

Adding to the expertise of the comprehensive Lung Cancer/Thoracic Oncology Program at Rutgers Cancer Institute of New Jersey, thoracic surgeon **Igor Brichkov, MD, FACS**, is now part



of the team, serving as Director of Advanced General Thoracic Esophageal and Robotic Surgery. A clinical educator in the Division of Surgical Oncology at Rutgers Robert Wood Johnson Medical

School, he comes from Albert Einstein College of Medicine and Maimonides Medical Center in New York, where he helped build the largest minimally invasive thoracic surgery program in Brooklyn and helped start a lung cancer screening program for high-risk patients.

Since completing his training at the University of Pittsburgh Medical Center, Dr. Brichkov focuses on minimally invasive techniques in treating common thoracic surgical problems and has an expertise in cancerous and non-cancerous disorders of the esophagus.

As you read in Resa Condit's story (see page 20), minimally invasive thoracic surgery leads to shorter hospital stays, less postoperative pain, and a quicker recovery. In addition to conventional laparoscopic and thoracoscopic surgical options, there are other less invasive options for patients with benign and malignant thoracic diseases including robotic surgery, incisionless techniques for ablation of lung tumors and endoscopic natural orifice treatments for esophageal tumors, all of which are available through the Lung Cancer/Thoracic Oncology Program at Rutgers Cancer Institute. ■

Brichkov speaks fluent Russian and Spanish and is able to communicate well with patients who speak these languages. To make an appointment with him or any other physician from the Lung Cancer/Thoracic Oncology Program, call 732-235-8515.

ment," explains Rutgers Cancer Institute radiation oncologist Salma Jabbour, MD, an associate professor of radiation oncology at Rutgers Robert Wood Johnson Medical School. "We meet to discuss patients who need multidisciplinary involvement. After we review all the information at hand—medical history, operative findings, pathology, PET scans, CT scans—we plan the best approach."

Condit suffered a setback with her chemotherapy, which is standard of care for stage II tumors. "I was very sick, like I had a virus blown up 1,000 percent," says Condit. "It was much worse than the surgery." Her reaction could have been chemo-related or viral, says Rutgers Cancer Institute medical oncologist Jyoti

Malhotra, MD, MPH, an assistant professor of medicine at Rutgers Robert Wood Johnson Medical School, who administered the chemotherapy.

In the past, patients with stage II lung cancer were given a 50 percent chance of recovery. With advances in treatment, the odds are continuing to improve for lung cancer patients.

Following the chemotherapy, she had 28 doses of radiation therapy, without complications. "Radiation therapy was given because of concerns over possible mediastinal lymph node involvement," says Dr. Jabbour. "These lymph nodes are found in the center of

the chest, between the lungs. Because her tumor invaded that area, radiation was a precautionary measure. We'll monitor her closely to watch for recurrence."

In the past, patients with stage II lung cancer were given a 50 percent chance of recovery. Patients at Rutgers Cancer Institute are encouraged to focus on quality of life rather than statistical odds. With advances in treatment, the odds are continuing to improve for lung cancer patients.

Condit, now a non-smoker who avoids even second-hand smoke like the plague, embraces that approach. She's back to doing everything she enjoys: movies, dinners out, exercise, family time, trips to Atlantic City. And of course, working. Apart from occasional slight shortness of breath, she feels great. She believes attitude is a vital part of recovery.

"I see many people with cancer in the pharmacy. Some of them feel sorry for themselves and sit around and cry," she says. "I won't be like that. Attitude and perseverance get you through the tough stuff. You must be a fighter. So that's what I'm doing." ■

Making A Difference

Investing in our Future

Making a transformative impact on the future of cancer care, supporters of this year's **Rutgers Cancer Institute of New Jersey Gala** came together to raise more than \$2 million for



Guests of the Rutgers Cancer Institute gala were treated to an elegant dining experience with locally grown produce and natural decorations. This year's event was held on the Rutgers University Cook Campus.



PHOTOS BY: NICK ROMANENKO

Above: Retired Johnson and Johnson executive Robert E. Campbell (right), who sits on Rutgers Cancer Institute's Director's Advisory Board, co-chaired this year's gala event. He joins New Brunswick developer Omar Boraei, who recently made a \$1.5 million pledge to support the Omar Boraei Chair in Genomic Science at Rutgers Cancer Institute.

research efforts. A special thank you to **Robert and Joan Campbell** for issuing a \$1 million challenge gift to Rutgers Cancer Institute for the occasion. The couple's generous gift was not only leveraged to ensure the success of the event but also the strategic priorities of the Rutgers Cancer Institute, which include genomic science, immunotherapy, cancer metabolism and cancer disparities. ■



Above: Janssen Pharmaceuticals Global Head of Research and Development and Rutgers Cancer Institute founding Director William N. Hait, MD, PhD (center), served as the event's other co-chair. He is joined by his wife Sung (left) and current Rutgers Cancer Institute Interim Director Bruce Haffty, MD.

Linked Together

It was a busy summer on the golf course for a number of entities that share a common goal in supporting the efforts of

Rutgers Cancer Institute of New Jersey through a favorite pastime. With the incredible support of the DelGrande

and Chiarello families, the 2016 Charity Golf Outing (left) raised approximately \$100,000 for leukemia and lymphoma research at Rutgers Cancer Institute, while the annual Westlake Men's



Golf Association raised \$21,500 for prostate cancer research. Pictured above are event organizers Larry Vaccarino (left) and John Kline (right) at last year's check presentation with Rutgers Cancer Institute Urologic Oncology Chief Isaac Yi Kim, MD, PhD, associate professor of surgery at Rutgers Robert Wood Johnson Medical School, whose research benefits from the event. ■

Making A Difference

Beyond the Classroom

A longtime supporter of breast cancer programs and research at **Rutgers Cancer Institute of New Jersey**, the **Val Skinner Foundation** is celebrating one of its "best moments," according to its namesake LPGA veteran and LIFE Founder **Val Skinner**, as the foundation recently launched a new partnership with Discovery Education that is bringing an interactive cancer biology and genetics education curriculum created by the **Rutgers Cancer Institute LIFE Center** and the Rutgers School of Public Health to potentially millions of students.

Funded through \$750,000 from the Val Skinner Foundation, the new platform known as *Decoding Cancer* (*DecodingCancer.org*) offers a collection of standards-aligned, interactive classroom resources developed to help students and their families understand the science behind cancer, enhance science literacy and increase cancer awareness among youth. *Decoding Cancer* is powered by BioCONECT, a curriculum developed by the **LPGA** (Ladies Professional Golf Association) pros **In the Fight to Eradicate** breast cancer (LIFE) Center at Rutgers Cancer Institute and Rutgers School of Public Health with support from the Val Skinner Foundation. Through the curriculum, teachers have access to nine different highly interactive lessons focusing on basic cancer knowledge and genetics, pathology and treatment, learning how to navigate results and reducing cancer risks and exploring career options.

"BioCONECT has proven to be an incredibly effective tool in classrooms in pilot programs in New Jersey, South Carolina and Florida. By reaching kids at a young age and educating them on the science of cancer, we are also helping them become aware of



the critical importance of early detection, which is a cornerstone message of my foundation. I'm extremely pleased to see the generous giving by our donors to the Val Skinner Foundation translate into this partnership with Discovery Education to propel *Decoding Cancer* to a national platform," said Skinner.

"With online content being more integrated as an educational tool for all ages, the *Decoding Cancer* platform driven by the BioCONECT curriculum is a natural extension of the traditional classroom setting, providing access to those who may not have had an opportunity to receive such vital information about cancer prevention and awareness previously," notes Laura Liang, DrPH, CHES, associate dean for education and assessment at Rutgers School of Public Health, who was a co-developer of the original BioCONECT curriculum.

Where teachers once had to come to a 'train the trainer' type of course in order to learn the BioCONECT curriculum, *Decoding Cancer* provides an easy to use and informative platform for educators, students and families. "A key component is the 'Virtual Lab' which offers an answer to the age old question every student asks: when will I ever use this again? They have the chance to step into the shoes of a doctor and apply biology to a real patient situation. Putting it in this context not only makes the science understandable, but

also makes it engaging, relatable, and fun," notes Rutgers Cancer Institute breast medical oncologist **Kim Hirshfield, MD, PhD**, an assistant professor of medicine at Rutgers Robert Wood Johnson Medical School, who has been involved in delivering the original BioCONECT curriculum to local teachers in New Jersey.

"Cancer touches and deeply affects millions of people across the nation each and every day," said Mark Case, science teacher at North Carolina's Guilford County Schools who uses the *Decoding Cancer* curriculum in his classroom. "That's why it's essential that we support the study of cancer in the classroom today and empower educators with engaging, dynamic tools they can easily integrate into instruction to teach their students about this topic and help them understand the emotional affects. I'm looking forward to using these cutting-edge resources in my classroom to help deepen my students' understanding of the science behind cancer."

Before taking part in the BioCONECT curriculum, a number of New Jersey students thought having cancer always meant a poor outcome: "Now, I'm much more knowledgeable about the genetics of cancer and the treatments that are available," noted one. And others felt the curriculum increased their overall knowledge of cancer and how to prevent it: "I learned that breast cancer is curable and that for many

cancers there are many risk factors that affect your chance of having cancer like age, tobacco or alcohol use, diet, etc."

Rutgers Cancer Institute Chief Medical Officer **Deborah Toppmeyer, MD**, who is also the director of both the LIFE Center and **Stacy Goldstein Breast Cancer Center** at the institute, notes *Decoding Cancer* serves as a national model for public health education. "As a National Cancer Institute (NCI)-designated Comprehensive Cancer Center, Rutgers Cancer Institute has always

made cancer education part of its mission. In recent years, the NCI has been placing more of an emphasis on enhancing cancer literacy. With *Decoding Cancer*, Rutgers Cancer Institute is demonstrating its leadership in upholding and advancing this cancer education mandate," notes the doctor, who is also a professor of medicine at Rutgers Robert Wood Johnson Medical School and was a co-developer of the original BioCONECT curriculum. ■

By the end of 2016, the Decoding Cancer platform is expected to reach an estimated 500,000 students who are using the resources inside and outside the classroom. Through a partnership with Discovery Education, the leading provider of digital content and professional development for K-12 classrooms, the platform has garnered more than seven million potential social impressions and more than 12 million impressions via DiscoveryEducation.com.

'LIFE'long Support

In addition to making a multi-year commitment to fund *Decoding Cancer*, the **Val Skinner Foundation** brings the LPGA Tour's top players to the annual LIFE Event charity outing to raise money for scientific research, early detection programs and clinical support for those affected by cancer. This year's LIFE Event marked the announcement and creation of 'The Marsh Grant for LIFE,' from insurance giant Marsh, LLC, which is a long-time supporter of the Val Skinner Foundation. The \$25,000 gift will support triple-negative breast cancer research at the **Rutgers Cancer Institute of New Jersey LIFE Center** that uses a precision medicine approach.

The project led by Rutgers Cancer Institute Associate Director for Translational Science, Chief of Molecular Oncology and Omar Boraei Chair in Genomic Science **Shridar Ganesan, MD, PhD**, aims to validate a new genomic sequencing approach that may help identify a sub-set of triple-negative breast cancers. At focus are powerful drivers of cancer growth known as 'fusion genes' that are often missed by standard sequencing approaches.



ROBERT MITCHELL

"With funding from the Val Skinner Foundation and Marsh for this project, we have an opportunity to further pinpoint certain nuances of one of the most aggressive and lethal forms of breast cancer, potentially saving more lives. Our team is grateful for this support," notes Dr. Ganesan, who is also an associate professor of medicine and pharmacology at Rutgers Robert Wood Johnson Medical School.

Through the **LIFE Event**, the Val Skinner Foundation to date has contributed nearly \$5 million to Rutgers Cancer Institute LIFE Center. The LIFE Center is named in recognition of

Val Skinner (top row, fifth from right) and LPGA players during the 2016 annual LIFE Event.

the advocacy of the Val Skinner Foundation and LIFE (LPGA pros In the Fight to Eradicate breast cancer). The LIFE Center provides treatment and programs designed to educate young women and their families about breast cancer and breast health. Other gifts from the Val Skinner Foundation have supported research tools and precision medicine oncology research at Rutgers Cancer Institute. ■

Making A Difference

Education Boost

The Hematologic Malignancies Program at Rutgers Cancer Institute of New Jersey will benefit from a \$500,000 endowment from **Subha and Jim Barry** — longtime supporters of Rutgers Cancer Institute — to fund a research fellowship in blood cancers.

"Designed to provide supplemental funds to support novel components of physician and/or scientist training, the **Ruth Strair Fellowship Award** will allow the recipient new experiences and education in areas that will enhance their skills and further their career development," notes **Roger Strair, MD, PhD**, chief of both the Hematologic Malignancies and Blood and Marrow Transplant Programs at Rutgers Cancer Institute and son of Ruth Strair for whom the fellowship is named. Mrs. Strair was treated for lymphoma at the National Institutes of Health in the early 1960s but lost her battle with the disease.

Since that time, the doctor notes there have been "amazing advances" in the diagnosis, categorization and treatment of lymphoma. "What was diagnosed as lymphoma as re-



DAN KOMODA

cently as five years ago is often now given a more refined diagnosis. There is now a much better understanding of the biology, how any individual patient's disease has developed and how it is likely to respond to different treatments," he shares. "With this information in hand, there are new chemotherapeutic, immunotherapeutic and molecularly targeted therapies which have been developed and are used alone and in combination to greatly improve outcomes in lymphoma therapy. These advances result from the application of new age molecular and immunologic techniques to build upon results of clinical trials of the past.

"Thanks to the generosity of donors, there are now fewer battles that can't be won. And as we expand the interests, skills and focus of fellowship trainees there will be even faster progress and more successes."

— Roger Strair, MD, PhD

"I extend a very special thanks to Subha and Jim Barry for their gracious generosity and leadership in developing this award and many other philanthropic, administrative and patient care initiatives at Rutgers Cancer Institute of New Jersey," offers Dr. Strair, who is also a professor of medicine at Rutgers Robert Wood Johnson Medical School. "Subha and Jim understand fully the dynamics of patient care, the nature of the patient experience, the benefit of new age diagnosis and guided treatment, the role of physicians and scientists who 'translate' laboratory results into potential therapies, and the role of clinical trials in developing these new therapies. We are grateful for their efforts."

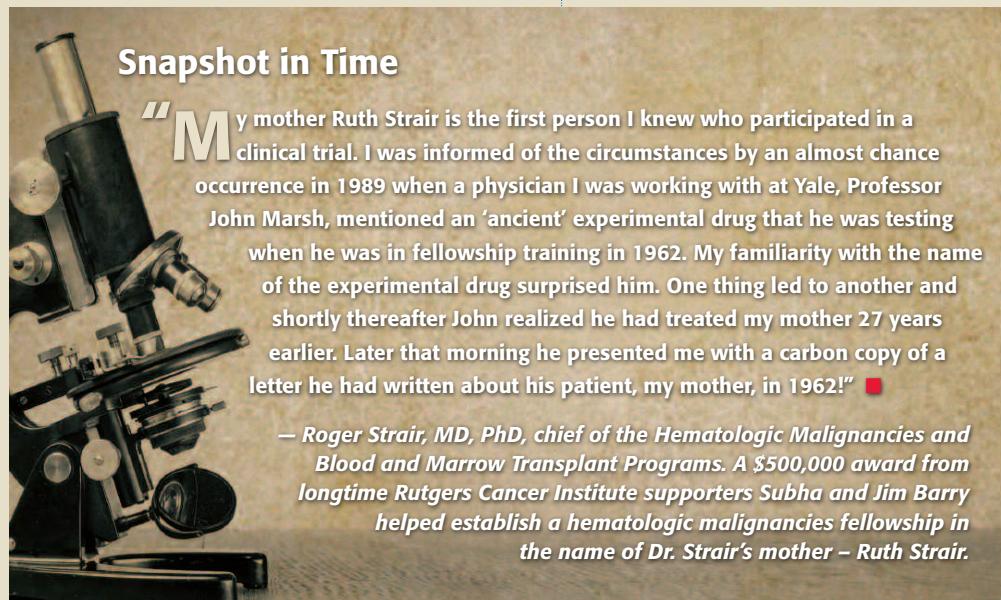
"I am lucky enough to be a cancer survivor, and Jim and I are fortunate enough to have the financial resources. It is our obligation — actually, our privilege to help the brilliant scientists and clinicians at Rutgers Cancer Institute of New Jersey find the cures that will create many more survivors like me," shares Subha Barry, who is the general manager and vice president of Working Mother Media.

Strair adds there is special appreciation for all donors who help move the development of new treatments forward. "Thanks to the generosity of donors, there are now fewer battles that can't be won. And as we expand the interests, skills and focus of fellowship trainees there will be even faster progress and more successes."

Snapshot in Time

"My mother Ruth Strair is the first person I knew who participated in a clinical trial. I was informed of the circumstances by an almost chance occurrence in 1989 when a physician I was working with at Yale, Professor John Marsh, mentioned an 'ancient' experimental drug that he was testing when he was in fellowship training in 1962. My familiarity with the name of the experimental drug surprised him. One thing led to another and shortly thereafter John realized he had treated my mother 27 years earlier. Later that morning he presented me with a carbon copy of a letter he had written about his patient, my mother, in 1962!" ■

— Roger Strair, MD, PhD, chief of the Hematologic Malignancies and Blood and Marrow Transplant Programs. A \$500,000 award from longtime Rutgers Cancer Institute supporters Subha and Jim Barry helped establish a hematologic malignancies fellowship in the name of Dr. Strair's mother — Ruth Strair.



Hello, Fellow!

As you read in our adjacent story, fellowship opportunities at **Rutgers Cancer Institute of New Jersey** help train the next generation of cancer researchers and clinicians to enhance our understanding of this collection of diseases. Rutgers Cancer Institute is grateful for other fellowship support through the years — helping to advance our overall mission of eradicating cancer.

Breast Cancer Alliance

The **Breast Cancer Alliance** has awarded \$375,000 to Rutgers Cancer Institute for the **Breast Surgical Oncology Fellowship** for the past five years. This year's fellow is **Maria Ham Kowzun, MD**.

Dr. Kowzun graduated from Yale University with honors and received her MD from University of Hawaii John A. Burns School of Medicine. Her general surgery internships include Beth-Israel Deaconess, a general surgery residency at Rutgers New Jersey Medical School and a post-doctoral research fellowship at New York University Institute of Reconstructive Plastic Surgery.

The Breast Cancer Alliance works to improve the survival rates and quality of life for people impacted by breast cancer by investing in breast surgery fellowships, education, research, and providing support and screenings for those who are uninsured.

C.R. Bard Foundation, Inc.

The **C.R. Bard Foundation** has donated more than \$550,000 in the past 16 years to Rutgers Cancer Institute. As part of that figure, the Foundation has generously donated \$150,000 to various fellowships over the last five years. In addition to providing support for the Breast Surgical Oncology Fellowship, its grant this year will also support the inaugural **Precision Radiation Oncology**



Fellowship. There is only a handful of precision radiation oncology fellowships offered in the United States and very few offer the breadth and depth for the specific purpose of providing subspecialty training in this field solely for graduates of international radiation oncology training programs. The international fellow will have hands on experience and direct patient care in highly advanced modalities of radiation oncology. The fellowship also works in partnership with the All India Institute of Medical Sciences, giving the recipient a unique global opportunity.

Steven A. Cox Charity Classic

The **Cox Classic** charity golf event, which was formed in 1990 in support of Steve Cox who was battling cancer, has raised \$500,000 through the years for various initiatives at Rutgers Cancer Institute. One of these



is **The Steven A. Cox Scholarship in Cancer Research** which was created to provide financial assistance to a post-doctoral student in support of their research. Recipients work in collaboration with a faculty member from Rutgers Cancer Institute or other Rutgers University units, as well as with a research member from the Cancer Institute. **Liza Rodriguez, BSc**, was named as the latest scholarship recipient. Her research focuses on understanding how DNA repair is regulated in normal cells, and she is working under the guidance of Rutgers Cancer Institute Associate Director for Translational Science, Chief of Molecular Oncology and Omar Boraie Chair in Genomic Science, **Shridar Ganesan, MD, PhD**. ■



Emotional Reward

A huge thank you to Scott and Aileen Glickman (center), their daughters (also pictured) and to everyone who participated in this year's Century for the Cure bike ride! Thanks to the efforts of 100 volunteers and 140 riders who pedaled up to 100 miles, the cumulative amount raised for Rutgers Cancer Institute of New Jersey research through the years has surpassed \$2 million. ■

Rutgers Cancer Institute of New Jersey

The Network Spotlight

Rutgers Cancer Institute of New Jersey Network of hospitals offers its patients access to the latest cutting-edge cancer therapies and state-of-the-art cancer care available only at NCI-designated Cancer Centers and their networks, while helping patients remain close to home. For more information, visit cijnj.org/network.

Flagship Hospital:

- Robert Wood Johnson University Hospital

System Partner:

- Meridian Health (Jersey Shore University Medical Center, Ocean Medical Center, Riverview Medical Center, Southern Ocean Medical Center, and Bayshore Community Hospital)

Affiliate Hospitals:

- JFK Medical Center
- Robert Wood Johnson University Hospital Hamilton (Rutgers Cancer Institute of New Jersey Hamilton)
- Robert Wood Johnson University Hospital Somerset

JFK Medical Center Earns Outstanding Achievement Award



INSIGHT PHOTOGRAPHY

JFK Medical Center in Edison recently was awarded the 2016 Outstanding Achievement Award by the Commission on Cancer (CoC) of the American College of Surgeons (ACS). JFK is one of a select group of 20 U.S. accredited cancer programs to receive this national honor for surveys performed January 1 through June 30, 2016.

The purpose of the award is to encourage cancer programs to raise the bar on quality cancer care, with the ultimate goal of increasing awareness about high quality, patient-centered care. In addition, the award is intended to:

- Recognize those cancer programs that achieve excellence meeting the CoC standards
- Motivate other cancer programs to work toward improving their level of quality cancer care
- Facilitate dialogue between award recipients and health care professionals at other cancer facilities for the purpose of sharing best practices

JFK Medical Center's Cancer Committee celebrates its Outstanding Achievement Award from the Commission on Cancer. "We are proud of this award," says JFK's Cancer Committee Chairman Richard Schuman.

- Encourage honorees to serve as quality-care resources to other cancer programs

"JFK's cancer program was evaluated on 34 program standards categorized within five cancer program activity areas: cancer committee leadership, cancer data management, clinical services, patient outcomes, and data quality," explains JFK's Cancer Committee Chairman Richard Schuman. "Our cancer program was further evaluated on seven commendation standards. We are proud of this award and for receiving commendation ratings in all seven commendation standards." ■

Breast Surgery Fellowship Now Offered at Meridian Cancer Care

As the only system partner of **Rutgers Cancer Institute of New Jersey, Meridian Cancer Care**, part of **Hackensack Meridian Health**, is now collaborating with the institute in its first fellowship program to provide board-eligible surgeons an opportunity to learn about a variety of breast cancer treatments and practices. **The Breast Surgery Fellowship Program**, in collaboration with Rutgers Cancer Institute and Rutgers Robert Wood Johnson Medical School, begins with a one-month rotation at **Jersey Shore University Medical Center** and includes one year of clinical studies at Rutgers Robert Wood Johnson Medical School and other affiliated hospitals.

Year one of the rotation will allow for the comprehensive learning and experience of a multidisciplinary approach to diagnosing, treating and rehabilitating breast cancer patients. The fellow will work with a variety of breast care specialists including medical, radiation and surgical oncologists and will have the opportunity to learn from and work alongside these experts in pre-and post-operative cases in multiple clinics. Participants also will be exposed to advanced techniques and approaches from working with breast cancer specialists from Meridian Cancer Care.

"It's a 360-degree learning experience where fellows will receive quality experience from Meridian's Cancer Care team and,



DEBBIE VOGEL

Denise Johnson Miller, MD, FACS, (right) medical director of breast surgery at Meridian Cancer Care and breast surgical fellow Maria Ham Kowzun, MD.

in turn, the team can acquire and implement new techniques of treatment and diagnosis," says **Denise Johnson Miller, MD, FACS**, medical director of breast surgery at Meridian Cancer Care. Plans are being explored to add a second breast fellow in 2018. ■



Kudos!

Congratulations to Mark Krasna, MD, medical director of Meridian Cancer Care, part of Hackensack Meridian Health, who received a \$1.9 million grant from the National Cancer Institute and Leidos Biomedical Research. The funding will support Dr. Krasna's work with The Clinical Proteomic Tumor Analysis Consortium, sponsored

by the Office of Cancer Clinical Proteomics Research and The Frederick National Laboratory for Cancer Research, which is dedicated to the understanding of cancer biology. Samples will be collected to conduct proteogenomic analyses on certain cancer types. The purpose of this integrative approach is to provide the broad scientific community with knowledge that links genotype to proteotype and, ultimately, phenotype. ■

Survivors' CORNER

Standing Strong

More than 100 cancer survivors turned out for Rutgers Cancer Institute of New Jersey's annual National Cancer Survivors Day 'Celebrate Life' event at the Hyatt Regency in New Brunswick this past June.



Survivors and their families attended a luncheon where 'The Real Housewives of New Jersey' TV star and two-time breast cancer survivor Amber Marchese (top right in bottom photo) gave an inspirational talk and shared some laughs with the guests.



PHOTOS BY JODY SOMERS

Homefront

*A close up look
at the lives
of faculty and
staff members
at Rutgers
Cancer Institute
of New Jersey
and what is
important and
of interest to
them outside
of work.*



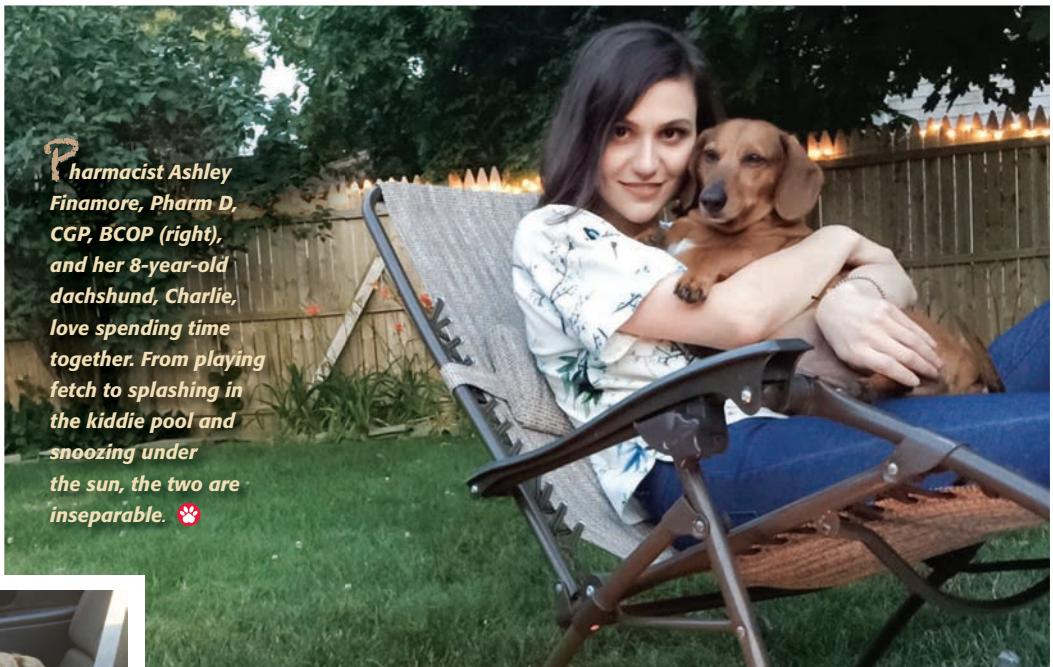
Lillian Ruth, clinic services manager in the Ambulatory Services Department, is the owner of five friendly giants, but these two really know how to show off for the camera. Mugsie (above), an 11-and-a-half-year old English mastiff, waits patiently by the window for 'mom' to come home from work, while King (above, right), a 1-and-a-half-year old cane corso goes for a ride in the back of the family convertible. 



Mugsie (above), an 11-and-a-half-year old English mastiff, waits patiently by the window for 'mom' to come home from work, while King (above, right), a 1-and-a-half-year old cane corso goes for a ride in the back of the family convertible. 

furry FRIENDS

When times get 'ruff' and we just want to roll over, these furry best friends are always there to lend a helping paw and brighten the day. Check out some of our staff with their adorable four-legged families!



Pharmacist Ashley Finamore, Pharm D, CGP, BCOP (right), and her 8-year-old dachshund, Charlie, love spending time together. From playing fetch to splashing in the kiddie pool and snoozing under the sun, the two are inseparable. 



Clinical dietitian Kristin Waldron, RD, CSO (left), loves spending time with husband Dan, son Benjamin and pooches 9-year-old Harry (center) and 2-year-old Catie. A "spoiled" Harry, a Westie/Chihuahua mix, was "king of the castle" since 2007 until baby brother Ben and pup sister Catie, a Lab/Feist mix, recently came along. Baby Ben loves playing with both dogs now that he can walk and throw their toys to them — and he often serves as referee, getting in the middle of the pups' tug-of-war games! 

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National Cancer Institute

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An Artist's Flare

Faculty, staff, patients and caregivers participated in PaintFest America at Rutgers Cancer Institute of New Jersey. PaintFest America is a non-profit group seeking to brighten the lives of cancer patients and cancer centers in all 50 states through art. Over the summer, the group visited one cancer center in each state over a 50 day period and selected Rutgers Cancer Institute to represent the Garden State. One of the panels painted is being included as part of a national mural to be displayed in New York.

PHOTOS BY: DEBBIE VOGEL