STAY IN THE LIGHT

FACES OF CANCER
A photo essay from Duke photographer Jared Lazarus.
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NEW HOPE
An emerging treatment for bladder cancer helps a mom when she needs it most.
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This team helps thousands.
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How Cancer Tumors Hijack the Body’s Defense System

In the May 10 issue of the journal *Science Immunology*, researchers unveiled a previously unknown tactic used by cancer tumors to dodge the body’s immune system.

The analysis by cancer researchers at Duke University School of Medicine and University of North Carolina at Chapel Hill is a step forward in understanding why some cancers do not respond to immunotherapy.

They discovered that a specific type of cell that usually relies to help the body fight foreign invaders can suddenly operate differently, and instead allow cancer to grow unchecked. Using mouse models, the team found dendritic cells can be successfully manipulated to prevent their rogue transformation.

“By disrupting the mechanisms that enable tumors to evade immune detection, we aim to expand the cancer patient population who can benefit from immunotherapy,” said senior study author and medical oncologist at Duke Cancer Institute Brent A. Hanks, MD, PhD, who has appointments in the Department of Medicine and Department of Pharmacology and Cancer Biology at Duke.

What causes the dendritic cells to shift roles starts with a strategy employed by tumors. Cancer tumors produce high levels of lactate that can reprogram healthy dendritic cells into what scientists termed “mregDCs.”

Unlike their healthy counterparts, mregDCs act as traitors, suppressing the body’s immune response, making it harder for the body to attack cancer cells.

“Probably the most surprising finding was that mregDCs aren’t just poor stimulators of T cells needed for an immune response, but they are also capable of blocking other conventional cells from doing their job of initiating an immune response,” said lead study author Michael P. Plebanek, PhD, a postdoctoral associate and cancer immunologist at Duke School of Medicine.

Authors note that tumors likely employ a variety of strategies to evade immune detection. But the discovery could lead to a new approach for targeted cancer therapies.

Palliative Care Improves Quality of Life for Bone Marrow Transplant Patients

A clinical trial has found that palliative care — relief from symptoms — significantly improves a patient’s quality of life and eases fatigue, depression, and postsurgical stress symptoms while they are hospitalized for bone marrow transplant.

The findings of the trial were presented during the American Association of Hospice and Palliative Medicine conference in March 2024.

“Patients undergoing hematopoietic stem cell transplantation face a significant burden of treatment-related symptoms and issues that lead to impaired quality of life and reduced function,” said co-investigator Thomas LeBlanc, MD, a hematologic oncologist and chief patient experience and safety officer for the Duke Cancer Institute.

“Standard transplant care may not optimally address these patient-experience issues.”

Researchers tested the effectiveness of an integrated palliative care intervention across diverse settings. They enrolled 360 adults undergoing bone marrow transplants at three academic medical centers, including Duke University Hospital, Massachusetts General Hospital, and the Fred Hutchinson Cancer Center at the University of Washington.

Half of the adults received usual care. The other half met with a palliative care clinician at least twice a week during their transplant hospitalization to monitor symptom management, quality of life, depression, anxiety, fatigue, coping, and PTSD symptoms.

Patients receiving the palliative care intervention reported better quality of life, defined by the degree to which an individual is healthy, comfortable, and able to participate in life events. They also had lower depression, PTSD, and fatigue symptoms compared to those receiving usual care.

“Integrated specialist palliative care yielded impressive improvements in the patient and caregiver experience of stem cell transplantation,” Leblanc said. “This should be considered a new standard of care.”

—Alexis Porter
“Confronting cancer is an odd, threatening, and scary thing for each of us. But we maintained a level playing field by not anticipating the future but rather forming a team with the great doctors at Duke, cancer support staff, and then with family and friends. From there we just take what comes and deal with it.”

CLIFFORD CHIEFFO, PATRICIA CHIEFFO, and NINA CHIEFFO, Cary, NC

Clifford was diagnosed in 2017 with a rare form of pancreatic cancer and now is disease free. His wife Patricia was diagnosed in 1999 with breast cancer and then metastatic breast cancer in 2010, on the same day that her daughter Nina was diagnosed with breast cancer. Nina is now cancer free. The lifelong art lovers enjoy a winter afternoon together here at the North Carolina Museum of Art in Raleigh.
Photographer Jared Lazarus of Duke University first launched the Many Faces of Cancer Project in 2017. This is the second installment of his images and narratives featuring people at all stages of their journey with cancer.

The portraits are hung at the first-floor entrance to the Duke Cancer Center to serve as a source of comfort, empowerment, and a celebration of the individual’s strength. This project is sponsored by Duke Cancer Institute’s Supportive Care and Survivorship Center in collaboration with Duke University Communications and Marketing.

A NGELA BROCK, Clayton, NC
Angela was diagnosed with Stage III colon cancer in 2020. She found a network of support at Duke and encourages those who have not to utilize cancer support services, such as medical family therapy. But Angela’s faith in God has helped her the most.

“There is hope, don’t always look at your situation as ‘this is the end.’ Nobody knows the end story but you and Christ.”

NICHOLAS MELOMO, Raleigh, NC
Nicholas was diagnosed with osteosarcoma in 2020. He found support with the DCI Teen and Young Adult Oncology Program during chemo treatments, leg amputation, and numerous surgeries. Here, he plays with his Star Wars Lego sets in his space-themed bedroom. Nicholas passed away on Oct. 29, 2023, embraced by the love of his family.

“I realized that at any time something horrible could happen like what happened to me. It’s best instead of worrying about these things to just do what we can to make sure we’re enjoying ourselves and living our best life.”
**RAQUEL FERREYRA, Willow Springs, NC**

Raquel was diagnosed with stage 3 endometrial cancer in April 2023. Through Duke Cancer Patient Support Program’s Child and Adolescent Life services, she found the help she needed for her children while undergoing six sessions of chemotherapy and six weeks of daily radiation. On a recent visit, her doctors found no evidence of cancer. Here, Raquel enjoys time with her kids, Victoria, 18, Amelia, 16, and Mateo, 14.

“When I got the news, I didn’t think about myself or what I was going to go through. My first thought was, ‘Oh, my kids.’ They were my goal. I’m going to get out of this because of them. Cancer made the four of us super strong.”

**MATT CROSS, Raleigh, NC**

Matt was diagnosed with stage 2B testicular cancer in 2019. Driven by a new sense of purpose after his battle with cancer, Matt established the Raleigh Testicular Cancer Foundation to create a community of support for men ages 15 to 35. Here, on the Duke Cancer Center campus, Matt plays with his three-year old dog Rocky beneath an oak tree he donated as a living tribute to his foundation (their tagline is Check Your Acorns).

“Focus on the things you can control, try to burn off the rest, and give yourself grace when needed. Accept the help that other people want to give around you. Cancer is not easy, but through your suffering, you can find a lot of positive things and a lot of growth.”

**OVESTER GRAYS, Durham, NC**

Ovester was diagnosed with lymphoma in 2019. As the long-time girls’ basketball coach at Hillside High School, Ovester focuses on imparting life’s lessons rather than x’s and o’s. Still cancer free, he takes a break from practice here with his students.

“No matter what life does, no matter what man does, my mind and soul will stick to what keeps me strong. And that’s my faith and belief that there’s too much good in this world... You’ve got a choice everyday: stay in the dark space or stay in the light.”
New Hope for Bladder and Other Urothelial Cancers

BY D’ANN GEORGE

TALIA ARON, MD, WASN’T ALARMED AT FIRST WHEN SHE STARTED TO FEEL SOME NASTY LOWER BACK PAIN. Last September, the medical director at a telehealth company had been traveling to professional conferences for days, sitting on airplanes and in hard-backed chairs. But instead of getting better when she returned home to Greensboro, North Carolina, the pain got worse. “Looking back at a picture of me [at a conference] in Nashville, I was kind of a grey color,” Aron said. By the time she saw her OB-GYN, the pain was so bad that her physician sent her straight to the emergency department in Greensboro. Doctors at first thought that Aron had a kidney stone or infection. Then she was diagnosed with kidney cancer. When she sought a second opinion at Duke, she received what would turn out to be the correct diagnosis: a urothelial cancer that had already clawed its way into her kidney. Urothelial cancers include all cancers that grow out of cells that line the bladder and the ureters (tubes that drain urine from the kidneys to the bladder). Historically, people with advanced urothelial cancer live, on average, for sixteen months, with only 10% surviving five years or more on standard-of-care therapy.

But doctors at Duke had a new treatment in mind for Aron that offered her much better odds. The only problem was, the combination therapy, developed by a medical oncologist at Duke Cancer Institute, was approved at that time only for a select population of patients. She would need help from friends and physicians at Duke and beyond to get the best treatment for her.

GETTING THE RIGHT DIAGNOSIS

After Aron returned home, imaging showed a mass on her kidney, and it was growing rapidly. A urologist in Greensboro scheduled her for surgery to remove the kidney. But just a few days before the scheduled surgery, James Wantuck, MD, one of her senior colleagues, encouraged her to seek a second opinion through 2nd MD, one of the health benefits offered by their employer, Accolade. That virtual consult — with David Braun, MD, PhD, a genitourinary medical oncologist at Yale School of Medicine — led her to Duke.

“I’M A LITTLE TEARFUL WHEN I TALK ABOUT IT. IF IT WASN’T FOR DUKE AND DR. GEORGE BEING WILLING TO TAKE ME ON, I DON’T KNOW IF I’D BE HERE FOR MY TWO DAUGHTERS, WHO ARE 9 AND 15.”

Talia Aron
“Dr. Braun told me, ‘You are an hour away from Duke. You need to see the best,’” she said.

Braun reached out to Dr. Daniel George, MD, a genitourinary medical oncologist at Duke Cancer Institute and co-leader of the center for Prostate and Urologic Cancers. Braun asked that George be on the lookout for Aron. Meanwhile, Aron arranged a meeting with Deborah Kaye, MD, a Duke urologic oncology surgeon, to get a biopsy of her tumor.

Even before seeing the biopsy results, Kaye suspected that Aron’s tumor might not be kidney cancer. Kaye asked Aron the location of her pain. “When I pointed to my side, Dr. Kaye said that I should not be having pain there if this were kidney cancer. Then Kaye looked very carefully at my previous images and said that she thought I might have urothelial cancer. And she was the first one to have said that,” said Aron.

While Aron was waiting in the clinic for her biopsy results, she started feeling worse. “I was getting word — shaker, I couldn’t get warm. I had a very high fever, which I now know is not uncommon with very aggressive cancers, but I didn’t know it then.”

The biopsy confirmed an upper-tract urothelial cancer that appeared like a kidney cancer because it had already spread there.

“Nailing down the specific type of tumor that someone has is critical, because the drugs we use to treat urothelial cancers are completely different from kidney cancer drugs,” said Daniel George.

The therapy that Aron would ultimately receive is a combination of pembrolizumab, an immunotherapy agent, and enfortumab vedotin, an antibody drug conjugate. Duke medical oncologist Christopher Hoimes, DO, had been studying this combination since 2017.

Hoimes reasoned that the two agents would work well together because, he booted down his thinking to this: targeting the cancer’s surface adhesion receptors, which is what enfortumab binds to, could potentially enhance the immune response.

But the odds were against Hoimes in a field where hundreds of cancer therapies and combinations had been tested and failed. Another matter threatening to hinder progress: the drugs he wanted to study were owned by two different companies.

“Companies are typically reluctant to combine their investigational products with an agent owned by another company because the new combination can limit their indications and increase side effects,” said George, who was not involved in the trials. “They must be convinced that a collaboration is worth the risk, extra time, and resources.”

Hoimes was motivated to push for a study of the combination because he was frustrated at watching patients suffer. For years he had seen patients get months of grueling chemotherapy and life-altering surgery that rewarded them with only a small increase in survival. And too many of his patients weren’t even eligible to get the chemotherapy due to other health issues, he said.

After Hoimes and the team of investigators convinced the two companies to work together on a phase 1 study, he led a trial of patients who could not receive standard chemotherapy. Positive data from that trial spawned a phase 2 study, which Hoimes also led.

It was 2019 when George heard Hoimes present data about the new combination at the European Society for Medical Oncologists and decided to recruit him to Duke. “Medical oncologists who specialize in urothelial cancer are rare. We’re lucky to have Chris here, where he is teaching a new generation of young oncologists to manage urothelial cancer patients and conduct clinical research in this space,” said George.

RACE WITH THE CLOCK
When Aron landed on Duke’s doorstep, Hoimes’ phase 2 clinical trial was already backed with an earned FDA approval for the promising combination, but only for people who could not otherwise receive chemotherapy or who had their cancer progress on other treatments. It was not approved for patients like Aron.

Hoimes and George had seen the new phase 3 data for the combination at the October 2023 European Society of Medical Oncologists, showing convincing evidence that the drug dramatically improved survival for people like Aron, who have not had any prior therapy. The FDA seemed poised to fast track an expanded approval in months or even weeks. The problem was, Aron didn’t have weeks.

George ordered the combination treatment. When her insurance denied the coverage, he called Aron’s insurance arbitrator, who was himself an oncologist, to discuss the unpublished phase 3 data and try to secure Aron a chance to take the new combination before the FDA approval. “At the end of the conversation, he was just as impressed by the data as I was. He actually thanked me for sharing the data and approved coverage for her treatment,” George said.

Aron’s first scan after starting the new treatment showed that tumors in her kidney had shrunk, while tumors in her lung and lymph nodes had disappeared. And her pain diminished to the point where she no longer needed narcotics to manage it. “Not even a Tylenol,” she said. “I’m a little tearful when I talk about it. If it wasn’t for Duke and Dr. George being willing to take me on, I don’t know if I’d be here for my two daughters, who are 9 and 15.”

OUTLOOK MAY IMPROVE EVEN MORE
The outlook for people with advanced urothelial cancer may improve even more in the future, after completion of a phase 3 study of the amselimumab therapy used at an earlier stage: before and after people undergo surgery to try to stop the cancer from spreading. Hoimes is the global lead principal investigator and on the scientific committee for the international study, called Keynote-B15, which fully enrolled patients in the fall of 2023.

“This trial raises the stakes even more. This is the curative-intent setting, where a greater proportion of patients with urothelial cancer who are candidates for surgery may be cured of their disease,” he said. “I’m certainly hopeful for similarly stunning results as what we just had for patients who are metastatic, but we need to wait for the data to guide us.”

To provide hope for more patients, please use the enclosed envelope or visit duke.is/OCDSummer24 to give online.

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QUIT at DUKE

THIS TEAM CHAMPIONS SMOKING CESSATION AND HELPS THOUSANDS.

James Davis, MD, was a third-year medical student when he realized he wanted to help people beat tobacco addiction. On his first night working in the hospital, he was called to the emergency room to see a patient he had previously admitted to the inpatient unit for chronic obstructive pulmonary disease. “I walked in, and her face had turned black with ash,” Davis said. “At first, I had no idea what had happened.” Then he realized that she had lit a cigarette while using high-flow oxygen, and it had exploded.

JAMES DAVIS feels a calling to find creative ways to help people break the grip of tobacco addiction.

BY ANGELA SPIVEY
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Davis had gotten to know this patient, spending an hour conducting her history and physical. “She struck me as someone who was bright and capable. She was educated, had a career, and a family who loved her. But her tobacco addiction was so strong that she risked doing something dangerous to smoke a cigarette,” he said. “That experience was a wake-up call that it doesn’t matter how smart, well-adjusted, or successful you are. Addiction is an innate biological vulnerability, and it can impact anyone.”

Today, he leads one of the largest smoking cessation programs in the United States: Quit at Duke. This team of 12 specially trained providers helps more than 6,000 people each year.

In 2014, Steven Patierno, PhD, deputy director of Duke Cancer Institute (DCI) recruited Davis to Duke to start a smoking cessation program for cancer patients. The team has since expanded it to serve all patients at Duke University Health System. “Drs. Steve Patierno, Mike Kastan, Cheyenne Corbett and others at DCI have provided the support necessary to turn this into a world-class smoking cessation program,” Davis said.

Today, with the health dangers of cigarettes undisputed, most people who smoke have tried many times to quit but can’t. “They need more than a patch and a pep talk,” said Davis, associate professor of medicine. Cancer patients who smoke are often fighting for their lives. “If we’re going to ask them to quit smoking during one of the most stressful periods of their lives, we better give them some highly effective tools,” he said.

“Dr. Davis is very excited about what he does, and that is infectious,” said Quit at Duke program manager Jillian Dirkes, MSW, LCSW. “He always has energy and excitement to say, ‘Let’s find a new way to do this.’ That energy passes along to the rest of the team.”

The providers at Quit at Duke live and breathe this work, with most of them dedicated to it full time. They create highly personalized plans, which often combine two or more medications with intensive behavioral treatment, Davis said. Quit at Duke receives referrals from doctors in North Carolina, South Carolina, and Virginia, and the program also reaches out to Duke patients who use tobacco, Dirkes said. The outreach specialists making these calls have trained with and shadowed providers so that they can talk to patients knowledgeably. Understandably, patients can be hesitant, but the Duke team is prepared to meet them where they are. “A lot of times patients are afraid they’re going to come to their first appointment and we’re going to take their cigarettes away,” Dirkes said. “Our outreach specialists are so important to help patients feel comfortable that they can move at their own pace in our program.”

Often, the team uses “adaptive pharmacotherapy,” in which the patient is started on an individualized medication regimen, then a few weeks later the team changes the treatment based on the patient’s response. Only after the patient shows a reduction in smoking are they asked to try to gradually quit. “This is a new approach for tobacco treatment, and it really works,” Davis said. The approach roughly doubled quit rates compared to traditional medical therapy in a randomized, controlled clinical trial of Duke patients led by Davis and published in September 2023 in the journal JAMA Network Open.

Tailoring medication is crucial for people with biological nicotine dependence, Davis said. “If a person with severe nicotine dependence is unable to get nicotine for a couple of hours, they develop withdrawal symptoms.” These include restlessness, irritability, and lack of concentration. “These people will often wake up in the middle of the night because of withdrawal symptoms and will need a cigarette to reduce withdrawal so they can get back to sleep,” Davis said.

While a lot of research has focused on nicotine withdrawal, people who smoke often talk about “triggers” as the cause, Davis said. These are everyday behaviors like drinking a cup of coffee that have become neurologically paired with smoking. Inhaling a cigarette floods the brain with nicotine, which produces a surge of dopamine (a brain chemical associated with pleasure). “If a person smokes while drinking coffee, the dopamine surge pairs coffee with smoking,” he said. Once that happens repeatedly, coffee becomes a trigger to smoke. “We can actually see a person’s brain activity respond to smoking triggers during functional imaging studies. A person who smokes may have 100 triggers. They can’t go through their day without experiencing one trigger after the next.”

Mindfulness training helps smokers become more aware of triggers, so they can create strategies to manage them. “For instance, if driving is a trigger, and the patient normally smokes in the car with the windows rolled up and the radio off, we might recommend they roll the windows down and turn the radio on,” Davis said. In addition, mindfulness can help smokers become more aware when smoking is intertwined with stress, anxiety, or depression. “Mindfulness techniques can help a person change their relationship to stress and strong emotions, so they can experience those emotions without smoking,” he said.

Dirkes said that she was drawn to this work because it empowers patients to take control. “What I really love about tobacco cessation work is that it’s a component of health that patients can really grab onto, and they can choose to make change and make big impacts on their health.”

For information, patients can call 919-613-QUIT (7848) or visit dukehealth.org/quit. Quit at Duke offers visits in-person at clinics in Durham and Raleigh or by telehealth to anyone in North Carolina, South Carolina, and Virginia.

Clinical social worker MEGAN KEITH, LCSW, MSW, program manager JILLIAN DIRKES, MSW, LCSW, and physician assistant BOLU ABE-LATHAN, PA-C, are part of the team that helps more than 6,000 people each year quit tobacco.

YOU CAN HELP
To support DCI’s life-changing research, use the enclosed envelope or visit dukeis/DCIsummer24 to give online. Every gift makes a difference!
HEATHER PARADIS KEYSER (second from right) at the awards ceremony.

HEATHER PARADIS KEYSER, THE WILLIAM W. SHINGLETON AWARD. Keyser cared for hematology-oncology patients at Duke University Hospital as a nurse practitioner for 27 years. When she found her professional and personal world colliding after her late husband was diagnosed with leukemia, she leaned on Duke Cancer Institute and its Cancer Patient Support Program. In her late husband’s memory, she has given back through philanthropy and through volunteering.

MOLLY MALLOY GOLF TOURNAMENT ORGANIZERS, THE SHINGLETON AWARD FOR COMMUNITY PARTNERSHIP. This tournament in Chesapeake, Virginia, was started by family and friends of Molly Malloy Smith, who was treated at Duke Cancer Institute in 2015. Tournament organizers wanted to support DCI because Molly's family was so impressed with care she received during her short time here. This October they will host their 8th annual tournament.

TRACY BERGER, MS, LMFT, THE SHINGLETON AWARD FOR CAREGIVER PARTNERSHIP. Berger, a medical family therapist with the Duke Cancer Patient Support Program, began her career at Duke as an intern in 2001. Since becoming a full-time therapist she has provided countless hours of therapy to thousands of patients and their family members.

DONNA BERNSTEIN, THE SHINGLETON AWARD FOR DISTINGUISHED SERVICE. Bernstein is an active DCI Board of Advisors member and has been a champion and a tireless advocate for the DCI and for the cancer cause. She and the Bernstein family donated the Bernstein Garden at the Duke Cancer Center.

“I’ve been impressed with the overall institution,” Wigser said. Patterson earned her bachelor’s degree as well as two law degrees at Duke. As an undergraduate, she attended the annual holiday parties at Duke Children’s and volunteered at the Ronald McDonald House. Carrying that connection forward, she now serves on Duke Children’s National Leadership Council and became vice chair of the council July 1.

All those experiences drove home the value of philanthropy. “Without unrestricted gifts, the progress Duke has made using the poliovirus to treat glioblastomas would never have happened,” Wigser said. “A lot of really interesting research is too early phase to get grants.”

To learn more about planned giving to Duke Cancer Institute, please contact Executive Director of Development Michelle Cohen, 919-385-3124, or michelle.cohen@duke.edu.
YOU CAN SUPPORT THE FIGHT

Gifts to Duke Cancer Institute help us develop new treatments and provide compassionate care.
To make a gift, visit duke.is/DCIsummer24, or use the enclosed envelope. Thanks for your support!

DCI Office of Development
Debra Taylor, Interim Assistant Vice President
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BULL CITY RACE FEST

Join DCI colleagues and friends at the 12th Annual Bull City Race Fest and Food Truck Rodeo on Sunday, October 20. The festival has something for everyone: fast or slow runners, cheering supporters, and hungry families.

Runners can choose from the half marathon or a five miler. Enjoy a fall morning of running through downtown Durham and the surrounding historic neighborhoods. After you cross the finish line, enjoy delicious eats from a variety of local food trucks!

Visit capstoneraces.com/bull-city-race-fest to register. Use the code DUKECANCER, and a portion of your registration fees will benefit Duke Cancer Institute. Questions? Contact Susan George James, 919-385-3126 or skg17@duke.edu.