

Christine's Story

You're Not Invincible: Taking Control of Your Health

Summer brings warmer weather, longer days, and plenty of time spent outside. But that extra sunlight and sun exposure can lead to an increased chance of skin damage. This reality hit home for Christine Kelly in 2015, when she found out that a lump on top of her head was melanoma.

Melanoma is the leading cause of skin cancer-related deaths in the United States. While the exact cause of melanoma is not clear, the American Cancer Society states that factors such as ultraviolet light exposure, the presence of moles, and a family history of melanoma can increase a person's risk of developing melanoma.

Christine sought care at the Abramson Cancer Center with surgical oncologist, **Giorgios C. Karakousis, MD**, and medical oncologist, **Tara C. Mitchell, MD**.

During her treatments, Christine attended Penn's annual Focus on Melanoma Conference for patients, family members, caregivers, and healthcare professionals affected by melanoma. Currently in its 19th year, the conference provides information about advances in research and treatments, details about how patients can be involved in their care decisions, and strategies for preventing skin cancer.

Christine found the educational aspect of the conference incredibly empowering. "I think most people assume they can remove it and you're fine, but you have to really stay on top of it."

Almost five years after her original diagnosis, one of Christine's biannual scans showed that the cancer had returned and spread to her lymph nodes. Her care team recommended including immunotherapy in her next treatment plan—to combat this more advanced stage of her melanoma.

Christine traveled to Penn's campus once a month for more than a year to receive her infusions—intimately getting to know our wonderful infusion team.

Now a year after her therapies have ended, Christine is doing well and being closely monitored with biannual scans and appointments with Dr. Mitchell.



“Being cared for at Penn, where my team is involved in the very research that is helping me now, it just makes me feel more confident and helps me persevere.”

—Christine Kelly

Penn's Tara Miller Melanoma Center provides patients a team of melanoma specialists, experienced in immediate and ongoing treatment for a variety of melanomas and other skin cancers. Treatment is tailored to the specific needs of the patient, taking into account genetic makeup, family history, and medical history. The Center also focuses on research related to preventing, diagnosing, and treating melanoma—offering patients an opportunity to be part of transformative clinical trials that help pave the way for future innovations in care.

What does Christine want others to know about melanoma? First, be sure to protect your skin if you'll be outside and exposed, especially for extended periods of time. And second, do not hesitate to see a doctor if you notice anything unusual.

“Do not sit back and ignore anything abnormal. It's your life you're talking about here,” she says.



A MESSAGE FROM THE DIRECTOR

Tremendous strides are being made in cancer research, care, and prevention, and the Abramson Cancer Center continues to be a driving force in that progress.

It's an honor to lead a center whose cancer programs were once again ranked amongst the top 10 in the nation by *US News & World Report*—and a privilege to bring this level of care to our patients and families.

Teams working together, across disciplines, sharing knowledge—and very generous philanthropy that provides flexible resources to pursue high-risk, high-reward concepts—help us transform ideas into reality. Penn's remarkable 18 FDA approvals are a testament to a model of discovery that works, and with many more promising therapies in the pipeline, this is only the beginning.

In this issue of *Penn's Abramson Report*, you will be introduced to members of our community who give back through events, philanthropy, and advocacy—such as Christine Kelly, the Braid family, Craig Super, and the Tara Miller Melanoma Foundation. Their efforts are an inspiration.

You will learn more about efforts being made to empower patients and families with knowledge to improve cancer outcomes, through initiatives like ACC's Clinical Trials Ambassador Program and Bassler Center for BRCA's Parents Leadership Council.

You will also read more about an innovative approach for diagnosing cancer and determining effective treatments: liquid biopsy. This technique is a game changer; it is less invasive, often more accurate, and can detect cancers earlier. Yet another example of how ACC develops and integrates the most advanced technologies to benefit patients.

It is our community—our researchers, physicians, and staff; our partners and advocates; our donors, supporters, and friends; our campus and culture—working together that makes all of this possible. Thank you.

Robert H. Vonderheide, MD, DPhil

Director, Abramson Cancer Center

John H. Glick, MD, Abramson Cancer Center Director's Professor

Vice Dean, Cancer Programs, Perelman School of Medicine

Vice President, Cancer Programs, University of Pennsylvania Health System

TRANSLATING DISCOVERY INTO CANCER CARE

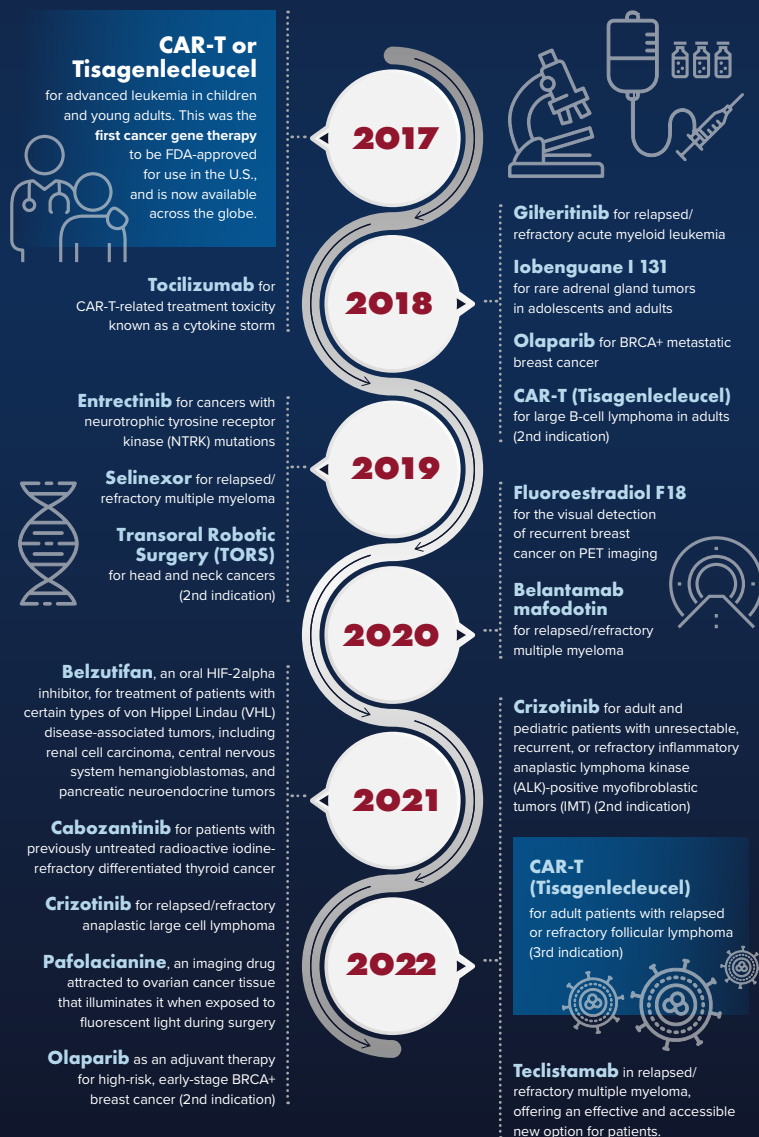
19 FDA APPROVALS, AND COUNTING...

Developing new treatments for cancer is a lengthy and arduous process.

It takes years of research and thousands of hours to develop and test new therapies, many of which never make it to FDA approval.

Penn's model of discovery is working—with 19 FDA-approvals in oncology since 2017 based on studies led or co-led by Abramson Cancer Center

Investigators. Here's a closer look at the therapies that are now available to patients all over the country, thanks to research that was done right here.



Remembering Cathy

When Ellen Fernberger first met her husband Gary's family, she was instantly drawn to her soon to be sister-in-law, Cathy.

"Cathy was warm and caring; she was beautiful, and not just physically, but in every way. She made me feel at home with their family right away from Cathy, her husband Steven Braid, and their two daughters Jennifer and Ashley, like the sister I never had growing up," says Ellen.

With Ellen and Gary living only a few blocks away, their families celebrated every holiday and birthday together—and grew even closer.

So when Cathy was diagnosed with glioblastoma, an aggressive type of cancer that can occur in the brain or spinal cord, the family was devastated. Ellen started to do some research and found it less than promising. "Especially 10 or so years ago when she was diagnosed, there were very few options available. We are so inspired by the advances at places like Penn," says Ellen.

Cathy was treated at Penn Medicine by **Steven Brem, MD**, and a team of nurses and staff that helped their family feel confident they were in the right place and doing everything possible. Ultimately, the family faced an uphill road with Cathy's disease, with each of them working together and taking turns serving as her caregivers.

"It was such a hard time for us, but looking back we knew Penn was giving Cathy the best shot and we trusted her team. At home it was amazing how we all rose to the occasion, especially her daughters and Steven. They were always there," remembers Ellen, "it's emblematic of the love they shared with their mother. It was a dark time, but all of this care and love shined through."

After several surgeries and a recurrence, Cathy passed away



Ellen and Gary Fernberger created a legacy for their loved one.



Cathy and Steven Braid with their daughters, Jennifer and Ashley.

in 2013. In her memory, Ellen and Gary, Steven, Jennifer, and Ashley have created a legacy for Cathy by giving back to help others. To them, she is part of a bigger story of advancing cancer care and research, and they want to share the hope that they have for a better future for people with this aggressive cancer.

Ellen makes a gift every year, in memory of Cathy, in honor of her nieces and brother-in-law, and for a positive change. She is considering contributing through IRA rollover options, and other avenues to make an even bigger impact.

Unrestricted funds, like those that Cathy and her family support, provide essential resources that have an extraordinary impact across Penn Medicine in basic science, clinical trial development, and collaborative and innovative research. These funds are uniquely positioned to support cancer breakthroughs and interventions of the future—helping patients facing all types of cancer. From revelatory discoveries, to the simple kindness amongst our staff and patients, the Abramson Cancer Center is an institution that provides hope and healing.

Cathy's daughter Ashley, and her husband Joseph, have also established a fund in honor of Cathy, as well as Ashley's mother-in-law. For this family, and Cathy's legacy—it's a family affair.

“It was such a hard time for us, but looking back we knew Penn was giving Cathy the best shot and we trusted her team. At home it was amazing how we all rose to the occasion, especially her daughters and Steven. They were always there.”

—Ellen

WE SEE YOU CANCER

THERE'S NO HIDING FROM THESE INNOVATIONS IN DETECTING CANCER

Until recently, the standard test for a cancer diagnosis and treatment has been a tumor biopsy, which often requires surgery and can be invasive and inconclusive. Now, researchers at the Abramson Cancer Center have shown that a new blood test called liquid biopsy can be faster, less invasive, and even more accurate than traditional methods. This exciting new test requires only a few drops of blood, and can provide real-time monitoring of therapy throughout treatment, predict when a patient may develop drug resistance months earlier than conventional methods, and has the potential to increase cancer survival gains through precision mutation targeting.

Led by **Erica L. Carpenter, MBA, PhD**, the Liquid Biopsy team at Penn Medicine collaborates with clinicians and researchers across areas to develop innovative clinical trials and research studies. Each year these teams process thousands of liquid biopsies, screening for over 15 types of cancers, and conduct dozens of clinical trials. For example, a recent study showed that liquid biopsies can almost double the rate of detection for treatable mutations in non-small cell lung cancer. This offers patients more treatment options and precise care with minimal discomfort — and is leading to liquid biopsies rapidly becoming a cornerstone of personalized cancer medicine.



“With a simple blood test, we can now get information that can change the course of a patient's cancer treatment, all without the invasiveness of surgery.”

—Erica L. Carpenter, MBA, PhD,
Director, Circulating Tumor
Material Laboratory
Research Assistant Professor of Medicine



“If our findings are validated by further studies, it would mean that these patients may be able to get a simple blood test that would give us a more accurate assessment than imaging of whether their disease has progressed or not, as well as more data on the mutations in their tumors.”

—Stephen J. Bagley, MD,
MSCE, Assistant Professor
of Hematology-Oncology

Brain Cancer

Researchers at the Abramson Cancer Center have shown that liquid biopsies correlate with how patients will progress after they are diagnosed with glioblastoma (GBM), the deadliest and most common primary brain tumor in adults with a five-year survival rate between 5 and 10 percent.

One of the challenges in treating GBM is that trying to track tumor mutations over time requires getting a new tissue sample, which involves a repeat brain surgery and continual monitoring. This can be difficult and invasive for patients. Liquid biopsy shows promise to empower clinicians to more closely monitor disease and appropriate therapies.

Pancreatic Cancer

One of the biggest challenges of pancreatic cancer is catching the disease before it has progressed or spread. When caught early, patients are more likely candidates for curative intent surgery. But for patients whose disease has spread, there are currently no long-term curative treatment options.

Penn research is showing that liquid biopsies may be more accurate at detecting disease than any other known biomarker alone, and was also more accurate at staging disease than when using only imaging alone.



“Pancreatic cancer is a tough disease because catching it early is so difficult. Novel advances such as liquid biopsy promise to be a game changer. Finding pancreatic cancer sooner opens the door to more effective, targeted treatments, and ultimately a better quality of life for our patients.”

—Mark O'Hara, MD

Liquid Biopsy Brings a Second Breath for Summer

More young women are getting lung cancer—but a team of committed doctors at Penn is offering new hope.

Two and a half years ago, Summer Farmen began to have trouble breathing. She had never smoked a day in her life, so the mom of three was shocked when she learned the reason for her sudden symptom. "The doctors said there were tumors all over my lungs," she recalls.

A local specialist recommended treating her stage 4 disease with chemo as soon as possible. But Farmen decided to get a second opinion at Penn Medicine in Philadelphia, and the medical oncologist there had a different, more personalized plan: "When I meet a young woman who's never smoked, my initial thought is, 'There has to be a genetic target for treatment, and the first thing we need to do is find it,'" says **Charu Aggarwal, MD, MPH**, Leslye M. Heisler Associate Professor for Lung Cancer Excellence

Dr. Aggarwal and her colleagues at Penn are racing to elevate lung cancer care as they see more patients like Farmen. "The rate of lung cancer in nonsmokers has been increasing—especially among women," says **Sunil Singhal, MD**, William Maul Measey Professor in Surgical Research. Researchers are investigating possible explanations, including viruses like HPV and the influence of sex hormones.

In some cases when lung cancer is detected early, a scan might show gray, hazy spots in the lungs called ground-glass opacities. Dr. Singhal is currently leading a clinical trial on a new surgical approach to removing these precancerous lesions (as well as tumors) using an injectable fluorescent dye; when atypical tissue absorbs the dye, it becomes easier for surgeons to see.

The team at Penn is also running trials on immunotherapies as well as studying liquid biopsy methods, because they're less invasive than traditional tissue samples. In addition, researchers are improving technologies that detect genetic mutations tied to lung cancer—tests that will hopefully lead to earlier diagnoses and more effective treatments. (Another of the team's goals: developing new screening protocols for genetically based lung cancers, since the current guidelines only apply to smokers.)

After Farmen underwent a thorough genetic workup, she learned some good news. It turned out her cancer was caused by a rare DNA mutation that responds well to several oral medications. "Summer has experienced a complete response to treatment," says Dr. Aggarwal, who now sees Farmen every three months for follow-up scans.

With the gift of more time, Farmen is counting on the promise of research and future discoveries. "My cancer is still there, lurking," she says. "[Patients like me] have a median life expectancy of 7.5 years, which is why research is so important. I for sure want to push that envelope. And I am truly hopeful."

**This article originally appeared in April 2022 Issue of Health Magazine.*



Research helped doctors identify a genetic mutation to help better treat Summer Farmen's lung cancer.



“The challenge is that most women being diagnosed are healthy, young, and they haven't smoked—so why would a doctor send them for a CAT scan of the chest? "Their cancers can get pretty far along [before they're caught].”

— Sunil Singhal, MD

A BRCA FAMILY AFFAIR:

The Emotional Realities of a Lifelong Journey

“We hope you will recognize that you are not alone. It’s an opportunity for you to realize that there is a community out there [of BRCA mutation carriers], and hopefully you can glean some comfort and resources from our shared experiences.”

—Shari Potter, co-chair, Basser Center for BRCA Parents Leadership Community



The Parents Leadership Community (PLC) of the Basser Center for BRCA is a group of parents supporting their children who are, or may be, faced with a *BRCA1* or *BRCA2* mutation. The PLC also serves as a resource for parents to stay informed about the latest advances in BRCA research and care.

On May 24, 2022, the PLC hosted a panel discussion focused on the emotional realities and impact a BRCA mutation brings to families. The panel featured Basser Center Executive Director **Susan Domchek, MD**, Basser PLC co-chair and Basser Center Advisory Board (BCAB) member **Susan Getz**, BCAB member **Heidi Rieger**, Basser Young Leadership Council co-chair **Jenny Sorin**, and Associate Professor at the University of Pennsylvania's School of Social Policy and Practice **Allison Werner-Lin, PhD**. The discussion was moderated by journalist and bioethicist **Jill Werman Harris**.

The event was held at the Jonathan Adler Studio in SoHo, NYC; in addition to hosting the panel discussion, Jonathan Adler donated \$2,500 from the evening's purchases in support of the Basser Center's mission.

Parents often experience a range of emotions about their child's BRCA status. As moderator **Jill Werman Harris** stated, *“To talk about the lived experiences of BRCA mutation carriers – there are so many complex aspects of genetic predisposition and the tremendous impact that BRCA can have on family dynamics and between family members.”* The panel featured personal and compelling stories of experience, strength, and wisdom.

Heidi Rieger learned that she carried a *BRCA2* mutation in early 2016 and subsequently underwent a prophylactic double mastectomy and removal of her ovaries. She is a mother of three daughters – and shared her experience as a parent living with a BRCA mutation. For many people, the heaviest burden of having a BRCA mutation is passing it on to one's children.

Allison Werner-Lin, PhD drew upon her nearly twenty years of research on the experiences of young adults with BRCA mutations and other inherited cancer risk variants, as well

as her mental health practice as an oncology social worker specializing in children and families affected by cancer. Dr. Werner-Lin shared, *“This is one thing among millions that your children will inherit from you. They will inherit so much of your personality, your love, your passions, your interests, proclivities, and sensitivities. This is one piece of a very large, complicated, ever evolving puzzle about how your children will experience the world— and something we can also help them navigate.”*

Susan Getz has been active in various philanthropies focused on empowering women and teens to take responsibility of their own breast health over the years, in addition to her work with the Basser Center. Susan was initially diagnosed with breast cancer at 32 years old in 1990, before the *BRCA1* and *BRCA2* gene mutations were discovered. Susan learned years later she has a *BRCA2* mutation and shared how this has affected her daughter. *“My daughter, Anabel, really grew up in the context of my second breast cancer diagnosis, and she was always a curious, pragmatic child, so from an early age she was involved with advocacy and fundraising [for breast cancer causes]. It was part of her DNA, but I don't think she realized what the potential of a hereditary mutation like this could mean for her until later in her teen years. It's created anticipatory anxiety, for which the Basser Center's community is helping to address.”*

Jenny Sorin learned in 2018 that she carries a *BRCA1* mutation, and after watching her mother, BCAB and PLC co-chair **Helene Sorin**, battle breast cancer not once — but twice — Jenny elected to undergo a prophylactic double mastectomy followed by reconstruction. Jenny openly shared the ups and downs of her journey with a BRCA mutation. *“My entire life from what I can remember has really been colored by my family's experience with breast cancer, and that in a way helped prepare me for my own BRCA mutation diagnosis. For such a long time I had been carrying this fear and vulnerability based on my mom's breast cancer journey. Gaining knowledge through the Basser Center community has helped me find a sense of relief and options.”*

Watch the full panel and learn more at basser.org/parents-leadership-community.

Scan to Watch Basser
@Jonathan Adler



SPOTLIGHT Community Empowerment

A model for advocacy, education and outreach to improve access to cancer research in underserved communities

Clinical trials give patients an opportunity to receive the most advanced care and be part of the development of the next generation of cancer therapies. In many cases, a clinical trial may be a patient's best hope to manage cancer. Yet, Black people have been historically underrepresented in these efforts.

To address gaps in cancer care and improve access and treatment, the Abramson Cancer Center has expanded their community outreach and engagement efforts to increase the enrollment of Black participants into cancer clinical trials. These efforts include:

- Tailored outreach such as partnerships with faith-based organizations serving Black communities to host educational events
- Pilot programs with ride share companies
- Patient education regarding cancer and clinical trials

Clinical Trials Ambassador Program

Penn Medicine has also piloted a new program—the Clinical Trials Ambassador Program—designed to educate lay volunteers on cancer and cancer research and train them to be ambassadors for clinical trials in their communities. **Armenta Washington, MS**, Senior Research Coordinator, in collaboration with **Carmen Guerra, MD, MSCE, FACP**, Associate Director



Armenta Washington, MS



Carmen Guerra, MD, MSCE, FACP

of Diversity and Outreach at the Abramson Cancer Center, developed the curriculum for the cancer center's inaugural program. Its first cohort of 19 ambassadors graduated in October 2021—and they are now out there in the community actively engaging friends, family, and colleagues with life-saving information and resources.

Despite this success, the Abramson Cancer Center has not remained complacent. This is just one of several new programs developed to ensure that patients have equitable access to participating in cancer clinical trials. One such effort is based on a partnership with the **Lazarex Cancer Foundation** to establish the Improving Patient Access to Cancer Clinical Trials (IMPACT) program, which provides lower income patients with financial reimbursement for cancer clinical trial travel and lodging related expenses.

MEET AMBASSADOR ROBIN EVANS:



“I want to help open the door to these life-saving opportunities, for my community and the larger Black community. Often people know all of the negative things about research, but they know nothing of the successes. This is an important area that we need to focus on to improve access, knowledge, and participation.”

—Robin Evans

- 13-year survivor of stage IV triple negative metastatic breast cancer
- Retired – Senior Training and Development Specialist, Department of Behavioral Health & Intellectual Disability Services (DBHIDS)
- Serves as a Cancer Research Advocate for ECOG-ACRIN Research Group - Working with research teams nationwide and providing input into research studies, protocols for the implementation and advocating for clinical trials for communities of color

These efforts reached more than **15,000 individuals** in Philadelphia-area churches, neighborhoods Philadelphia-area churches, neighborhoods, and community centers. The percentage of Black participants in cancer treatment trials at the Abramson Cancer Center doubled— from **12% to 24%**.

THANK YOU to all our partners who continue to help us intercept and decode cancer by donating their time, money, advocacy, and dedication to expand our community—you inspire us every day.

The 8th Annual Steps to Cure Sarcoma brought together more than 1,000 people and furry friends—and raised \$200,000 for collaborative research at Penn Medicine, ACC, CHOP, and Penn Vet.



The Tara Miller Melanoma Foundation's 9th Annual Make the Best of It Bash raised \$820,000 in support of innovative melanoma research at the ACC and beyond—and in the spirit of Tara, they continue to always look for the silver linings!



Craig Super wanted to celebrate his "1st birthday" cancer anniversary by giving back to his team at Penn. With friends and family by his side, he hosted a Beef and Brew at his local VFW, raising almost \$5,000 for the ACC.



The 12th Annual Roberts Proton Therapy Center Alumni Celebration brought together family, staff, and former patients to share stories of hope and find additional inspiration from legendary La Salle Basketball Coach Fran Dunphy.

WAYS TO GIVE

Support the Abramson Cancer Center's mission to advance cancer research, education, patient care, and to fuel hope.

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