

catalyst

PHILANTHROPY SPARKS INNOVATION | DECEMBER 2018

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CARE**



TELEMEDICINE HELPS PATIENTS ACCESS THE CARE THEY NEED WHEN AND WHERE THEY WANT IT.

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INSIDE:
ANNUAL GIVING
ADVANCES RESEARCH AND SUPPORTS PATIENTS

Weinberg Family Champions Research

SKYWAY NAMING HONORS THEIR GENEROUS COMMITMENT



Ronald and Terri Weinberg

Cleveland entrepreneur Ronald E. Weinberg, his wife, Terri, and their family, have made a \$30 million commitment to Cleveland Clinic's Lerner Research Institute.

The Weinbergs have a long history of philanthropic support that includes VeloSano, a year-round fundraising initiative with a flagship "Bike to cure" weekend for which 100 percent of contributions go toward cancer research at Cleveland Clinic.

Mr. Weinberg is a member of Cleveland Clinic's Board of Directors and chairs its Research and Education Committee. He says that the family's commitment supports new initiatives advancing medical research launched by Serpil Erzurum, MD, Chair of the Lerner Research Institute, who holds the Alfred Lerner Memorial Chair in Innovative Biomedical Research.

The gift will accelerate the work that Cleveland Clinic researchers are doing on behalf of patients, Dr. Erzurum says. "It will help us think and act more strategically. By prioritizing where and how we invest in research, we are more likely to make the most impact," she says.

Mr. Weinberg says his family is pleased to have a role in advancing research. "It is really inspirational to think that research projects right here in Cleveland will springboard to help patients around the world," Mr. Weinberg says.

Mrs. Weinberg adds, "The knowledge attained from lab to bedside improves treatment and cures, and I like to remind myself that today's research is often tomorrow's cure."

In recognition of the Weinberg family's gift, the skyway connecting much of Cleveland Clinic's main campus has been named the Weinberg Family Skyway.



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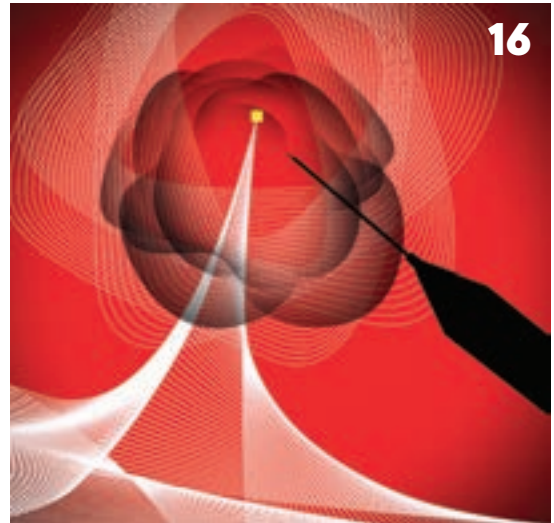
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Game Changer

- **Aaron Fleischman, PhD**, a staff scientist in the Lerner Research Institute Department of Biomedical Engineering, is developing tiny devices that improve patient outcomes while lowering costs.

Katie Stubblefield's story details her remarkable journey from attempted suicide at 18 to receiving a second chance at a normal life through a face transplant at 21. The story was a nearly three-year undertaking by writer Joanna Connors, photographers Maggie Steber and Lynn Johnson, and others at *National Geographic*. Throughout the project, they had unprecedented access to Katie's family, medical team and clinical areas.

Now, more than a year and a half after the May 2017 surgery, Katie says she feels whole again. She has achieved her goal—to be able to go out in a crowd and not be seen “as some kind of monster.”

How the story began

The article's genesis was a chance meeting between Toby Cosgrove, MD, then CEO and President of Cleveland Clinic, and Susan Goldberg, editor of *National Geographic* and former editor of Cleveland's *Plain Dealer*. The meeting led to the idea of an article that would show how innovation, research and the work of a highly skilled medical team can dramatically improve a life.

Coincidentally, Cleveland Clinic's face transplant team was about to begin working with Katie to do their third transplant.

Surgeons Frank Papay, MD, and Maria Siemionow, MD, approached the family to seek their interest and approval. The Stubblefields readily agreed, in hopes of educating and encouraging others.

When Ms. Connors was asked to write the article, she was told that *National Geographic* editors “wanted it to be more



BEHIND THE SCENES:

NATIONAL GEOGRAPHIC'S

STORY OF A FACE

TRANSPLANT



A YOUNG WOMAN'S LIFE-CHANGING FACE TRANSPLANT SURGERY AT CLEVELAND CLINIC, THE SUBJECT OF NATIONAL GEOGRAPHIC'S SEPTEMBER COVER STORY, MADE HEADLINES AROUND THE WORLD.

MAGAZINE COVER COURTESY OF NATIONAL GEOGRAPHIC

Katie Stubblefield and her mother, Alesia Stubblefield, at Ronald McDonald House in Cleveland, Ohio.



than medicine and science,” she says. “They wanted a human-interest story, and I knew I’d be spending a lot of time with the family. Katie really wanted to do it, and that made it easier.”

As a full-time writer for *The Plain Dealer*, Ms. Connors dedicated her nights, weekends and vacation days to numerous interviews and intensive research for the story. “One year was spent getting to know the Stubblefields,” she says.

In conducting background research, “I read a lot of medical journals,” Ms. Connors says, noting that it reminded her of her childhood, when her father was managing editor of *JAMA*®, *The Journal of the American Medical Association*. “He would bring home the issues, and I loved looking through them.”

She and her colleagues were given an unusual opportunity to observe the medical team’s transplant practice sessions leading up to the surgery as well as be in the operating room for Katie’s 31-hour procedure with over 100 Cleveland Clinic caregivers involved in Katie’s journey.

What made Katie’s story special

“This is really not just one story but multiple, hard-hitting stories,” says Dr. Papay, Chair of the Dermatology & Plastic Surgery Institute. “It’s about the incidence of teenage suicide attempts, the story of a beautiful girl coming back into society, of being the youngest face transplant patient ever, and how the family, despite all of the terrible things that happened, is probably the most amazing family I have ever met. And the last part is the technical aspect, bringing a team

together and getting it charged up for a complex surgery.”

Having journalists following the team was a new experience, Dr. Papay says. “At first it was a little strange, but after a while, we got used to it because the focus was on the patient.”

For him, the magazine article was impactful because of not only the Stubblefields’ experience, but also that of the donor’s family members, who were interviewed about her struggles and eventual death from a drug overdose. “This was the first time I’ve ever seen a publication cover both the donor and recipient side of a face transplant,” Dr. Papay says.

Ms. Connors, who has written *Plain Dealer* articles and a book about her own traumatic story of being raped, says that “what affected me was watching the Stubblefields’ process of opening up and realizing that they were sharing their pain, and things that they wouldn’t necessarily have wanted people to know about. It helped me change how I deal with petty things, more so than thinking about my own trauma. This was trauma to that whole family. It showed how little we actually need, if we have the closeness of family.”

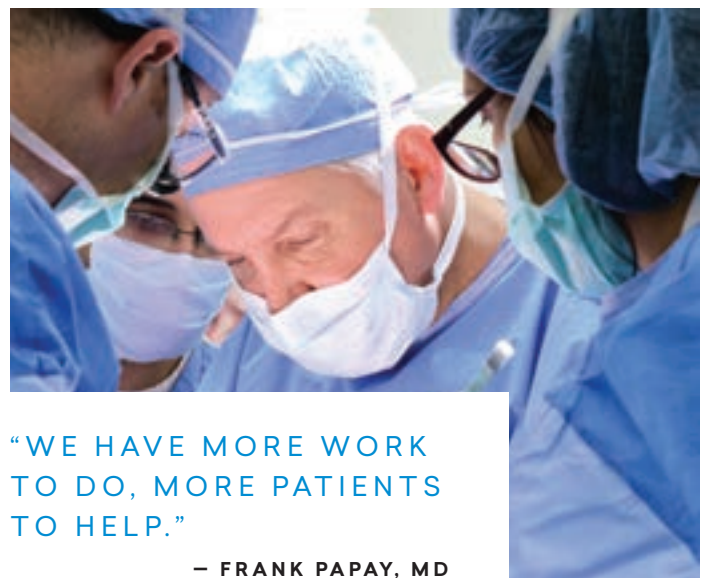
Dr. Papay says that his team has received numerous kudos from other medical professionals. While he says he is gratified by that, he also expresses concern that while Katie’s transplant surgery was covered by a research grant from the U.S. Department of Defense, that grant has since ended.

“Everybody congratulates us on the success of the surgery, but the day goes on. We have more work to do, more patients to help,” he says. “We have been applying feverishly for grants, and we would love to have philanthropic support to advance our work.”

For Katie, the second chance she’s been given is very exciting, she says: “Life has been given back to me. I see how beautiful life is.”

—ELAINE DEROSA LEA

Read more about Katie’s story and view a video at newsroom.clevelandclinic.org/2018/08/14/road-to-recovery-woman-is-youngest-patient-in-united-states-to-receive-face-transplant



“WE HAVE MORE WORK TO DO, MORE PATIENTS TO HELP.”

— FRANK PAPAY, MD

campaign update



The Power of Every *One*.
CENTENNIAL CAMPAIGN

The Power of Every One campaign is only three years away from our Centennial celebration with over \$1.4 billion raised toward our \$2 billion dollar goal. Leaders, volunteers and grateful patients are contributing to our goal. At the State of Philanthropy event on July 18, we were excited to announce a very generous gift from Sheila and Eric Samson naming the centerpiece 485,000-square-foot Foster + Partners building on the new Health Education Campus. It will be known as The Samson Pavilion.

For years, the Samsons have been passionate supporters of Cleveland Clinic, demonstrating a deep understanding of the challenges of 21st century healthcare. In 2010, they made a gift that launched Cleveland Clinic's Samson Leadership Academy, which transformed healthcare executive training and allowed Cleveland Clinic to share its hospital management expertise with clinicians and administrators from around the world. The healthcare community at home and abroad has benefited tremendously from their vision and generous support.

Also announced at the State of Philanthropy event was the annual George W. Crile, Sr. Award, which honors members of our Pyramid Legacy Society who make planned gifts and contribute their time to further Cleveland Clinic's mission. This year's recipients, Salma and Sam Gibara, support the Lerner College of Medicine and serve as valued mentors to our medical students. We thank them for their compassion and generosity.

We are thrilled to note that our new Cleveland Clinic Children's Outpatient Center had its grand opening

on Saturday, Sept. 15, welcoming the community and launching a brand-new era in caring for our youngest patients and their families. The building features centralized check-in, an education center, pharmacy, lab facilities, 65 exam rooms and much more.

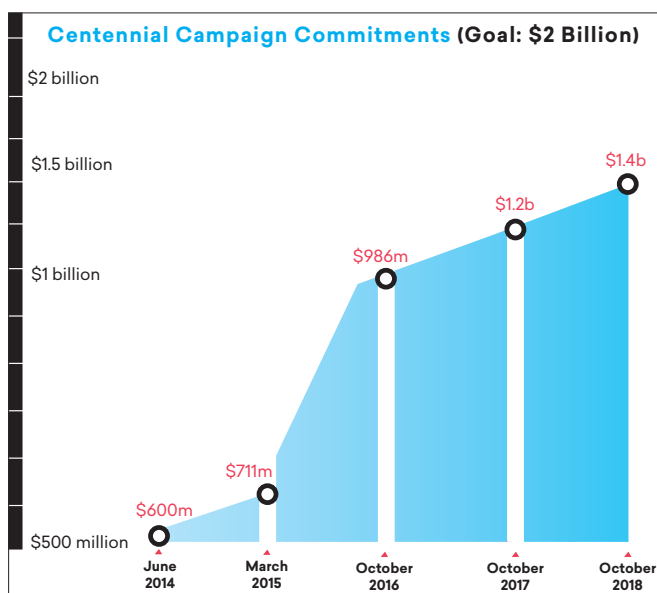
On the horizon is the opening of the new Samson Pavilion on the Health Education Campus, a partnership between Cleveland Clinic and Case Western Reserve University (CWRU). Designed by London's Foster + Partners architects, the state-of-the-future campus, scheduled to open in summer 2019, will include the Lerner College of Medicine and CWRU's School of Medicine, Dental School and Frances Payne Bolton School of Nursing. Students will learn, study and collaborate together on the 11-acre campus, located between Euclid and Chester avenues at Cleveland Clinic.

You can learn more about both of these wonderful new projects, representing the future of healthcare and healthcare education, in our next issue.

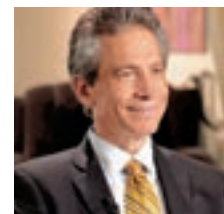
And on July 31, a beautiful, new Emergency Department opened to patients at Cleveland Clinic Akron General. The 60-room, Level 1 trauma center connects the surgery center and main hospital through a new second-floor bridge. The department includes a 19-bed observation unit and dedicated treatment areas for trauma.

It is truly the "power of every gift" that propels our campaign, "The Power of Every One." Through this campaign, your important contributions will have a dramatic impact on research, education and, most importantly, our patients. As you read the stories in the magazine, we hope you share our sincere interest in helping an organization that helps so many. Your participation, your commitment, has the power to make a difference. We are grateful to each and every individual who has provided their support, which means so much to patients, families and caregivers.

Thank you for all that you do.



Larry
Larry Pollock
Campaign Co-Chair



Stewart
Stewart Kohl
Campaign Co-Chair

SPOTLIGHT:

‘Unsurpassed Commitment’ – Robert J. Tomsich’s Legacy

•• Robert J. Tomsich, who passed away on Aug. 6 at the age of 87, was a longtime friend and benefactor of Cleveland Clinic. His leadership and vision were critical to establishing the Sydell and Arnold Miller Family Pavilion for innovative heart care and the Robert J. Tomsich Pathology & Laboratory Medicine building.

Mr. Tomsich founded Nesco Inc. as a small firm providing engineering services, and it grew into a global manufacturing, marketing and service conglomerate, which he led as Chairman and CEO. He drew on his vast experience to provide invaluable insights, advice and expert guidance in his role as a Cleveland Clinic Trustee. In addition, he and his wife, Suzanne, made significant gifts to Cleveland Clinic, endowing chairs and supporting the work of the Miller Family Heart & Vascular Institute, the Lerner Research Institute, the Taussig Cancer Institute, the Digestive Disease & Surgery Institute and the Robert J. Tomsich Pathology & Laboratory Medicine Institute.

Mr. Tomsich joined Cleveland Clinic’s Board of Trustees in 2000 and served with distinction on the Executive Committee. His support and participation spanning all three Cleveland Clinic fundraising campaigns helped raise over \$3 billion.

He founded the Medallion Society at Cleveland Clinic, which spearheaded a successful \$350 million campaign to fund the Heart & Vascular Pavilion. In recognition of his leadership and personal philanthropic commitments, the Department



Suzanne and Robert Tomsich

of Cardiovascular Medicine at Cleveland Clinic in Ohio, the Department of Cardiac Surgery at Cleveland Clinic Florida, and the Health and Medical Center at Cleveland Clinic Florida in Palm Beach all were named for Mr. and Mrs. Tomsich.

When the Robert and Suzanne Tomsich Distinguished Chair in Cardiovascular Medicine was established in 2008, chair holder Mehdi Razavi, MD, said: “Mr. Tomsich is a very wonderful person whom I have known for many years as a patient and a friend. Mr. and Mrs. Tomsich are supporting this chair because of their belief in helping patients and communities. It will go a long way in allowing our physicians and fellows to continue their work.”

Mr. Tomsich once explained his and his wife’s commitment to Cleveland Clinic. “Since they cared for my mother years ago, I know they have always focused on putting patients first,” he said.

“That’s why Suzanne and I are passionate about helping to provide the tools they need to fulfill their mission.”

In 2003, Mr. Tomsich was named a Distinguished Fellow by the Board of Trustees, the institution’s highest honor.

“Robert Tomsich was a generous friend and valuable advisor to Cleveland Clinic,” says Toby Cosgrove, MD, Executive Advisor and former CEO and President of Cleveland Clinic. “He held our organization to the highest standards, and inspired us all by his commitment to excellence.”

Robert E. Rich Jr., Chair of Cleveland Clinic’s Board of Directors, concurs. “Bob was one of the greatest volunteer leaders I have ever known,” he says. “Whether it was an individual needing heart surgery or a pathology specialist in the laboratory, he demonstrated unsurpassed commitment for the benefit of our patients.”

—ELAINE DEROSA LEA



From left: Jack and Kristina Boykin; Paula Jo and Bob Boykin.

Boykin Family's Gift Benefits Cancer Patients

Kristina and Jack Boykin; Paula Jo and Bob Boykin

- A family with deep ties to Cleveland has pledged \$10 million to support Cleveland Clinic's Taussig Cancer Institute.

The Boykin family—Paula Jo and Robert (Bob) Boykin; and Kristina and John (Jack) Boykin—made their gift in honor of Bob and Jack's mother, Audrey M. Boykin, who passed away from cancer in 1990.

Their father, William Boykin, worked in his family's real estate business (which co-developed Cleveland's Westgate Shopping Center), before starting a hotel company in 1958. The new company was a success and expanded over time. Bob and Jack, having grown up in the business, eventually became its leaders and built it to the point where it employed 5,000 workers at locations across the United States. In 2006, the brothers sold the public company, Boykin Lodging, and relocated their headquarters to Charlotte, North Carolina.

Although the Boykins now live in North Carolina and Florida, they have lifelong friends in Northeast Ohio, and they continue to use Cleveland Clinic as their primary source for healthcare.

"Ours is a Cleveland story," Bob Boykin says. "Three generations did business there. The town was good to us, and Cleveland Clinic was always a part of it. It's a piece of our fabric."

The Boykins appreciate Cleveland Clinic's brand of healthcare. "In the hotel business, we focused on 'let's do the best we can to make the

noticeable difference,'" Jack says, noting that Cleveland Clinic does the same in all aspects of its care.

Adds Bob: "You only have to go somewhere else for healthcare to find out how good Cleveland Clinic is."

The family's gift will go toward supporting clinical care, inspiring innovation, and promoting research, education or capital priorities to improve the patient experience at the Taussig Cancer Institute.

In gratitude for their gift, the main lobby at the Taussig Cancer Center will be named in honor of the Boykin family.

"Taussig is a beautiful facility, and we're glad to be a part of it," says Jack, who notes that he had surgery for melanoma in December and is now cancer free.

Brian J. Bolwell, MD, Chair of the Taussig Cancer Institute and holder of the M. Frank Rudy and Margaret Domiter Rudy Institute Chair in Translational Cancer Research, stresses the importance of the gift. "The Boykin family's gift will support a number of services that help patients throughout their cancer journey," he says. "In addition to outstanding clinical care, we must support our patients as they navigate through what can be a daunting diagnosis. Patients experience various levels of hardship during their treatment, and the Boykins are providing us with the resources to do something about that. For this, we are truly grateful."

"CLEVELAND CLINIC IS A PIECE OF OUR FABRIC."

Bob Boykin expresses his family's gratitude as well: "We are deeply proud of this gift that we're able to make. And in so doing, we get to stand in the shadow of this institution and in the shadow of the great men and women who do their work there. We thank you."

—KATHRYN DELONG

Award Advances Innovation at Cleveland Clinic

Hickey Family Foundation

•• Frank Hickey built a career on innovation. For 16 years, he was Chairman and CEO of General Instrument Corp., a leader in cable television electronics, and later he founded Manhattan Partners Inc., a company focused on servicing the cable television industry. He also was a dedicated philanthropist. After decades of giving to organizations in the name and memory of his family and serving as a board member for an international medical training and rescue organization, in 2004, he established the Hickey Family Foundation to further the causes he cared about.

Along the way, Mr. Hickey, who lived in Scottsdale, Arizona, met Willem Kolff, MD, PhD, a world-renowned physician and inventor on the staff of Cleveland Clinic from 1950 to 1967. Dr. Kolff is known for establishing the first blood bank in Europe and creating the first heart-lung and kidney dialysis machines. He also was a pioneer in developing artificial organs, including the artificial heart.

“They became friends,” says Hickey Family Foundation Executive Director Nancy Baldwin. “Frank believed that Dr. Kolff would change medicine for so many people. He sought out these kinds of people who could make a difference through technology in medicine.”

Mr. Hickey passed away in 2006 at the age of 79, but the Hickey Family Foundation continues his legacy. It recently made an \$8 million gift to Cleveland Clinic Innovations that includes the new Innovation Impact Award, an annual grant of \$25,000 supporting the work of a researcher who is developing promising medical technology.

On May 16, Hani Najm, MD, became the first recipient of the Innovation Impact Award at Cleveland Clinic’s annual Innovators Awards Reception.

“We always try to recognize and show our appreciation for Cleveland Clinic inventors throughout the year,” Pete O’Neill, Executive Director of Cleveland Clinic Innovations, said in his remarks at the event. “National Inventors Month and our annual reception, however, give us a special opportunity to reflect on the incredible privilege to work with such world-class thought leaders across the enterprise.”

The Innovation Impact Award will advance development of a device that could lead to improved outcomes for children who have congenital mitral valve disease and very few treatment options. Dr. Najm, Chair of Pediatric and Congenital Heart Surgery at the Sydell and Arnold Miller Family Heart & Vascular Institute, is working on a stented pulmonary autograft. This device is a partially absorbable valve prosthesis that can expand and “grow” with the mitral valve as a child grows, extending the time before a replacement is needed.

Dr. Najm’s work fits the mission of the Hickey Family Foundation, Ms. Baldwin says. In his philanthropic giving, Mr. Hickey was passionate about three main areas: medical technology, medical training and programs to help at-risk youth.

“Cleveland Clinic represents a very interesting cross-section of these categories,” Ms. Baldwin said in presenting the award to Dr. Najm. “We launched the Hickey Innovation Impact Award this year to seek out and support the caregivers who also are innovating to bring better care to regions around the globe and to bring about better care to our youngest, most vulnerable patients.”

Dr. Najm demonstrates “a passion for using technology and innovation to improve the lives of very vulnerable patients,” she said.

“MR. HICKEY SOUGHT OUT PEOPLE WHO COULD MAKE A DIFFERENCE THROUGH TECHNOLOGY IN MEDICINE.”

—ELAINE DEROSA LEA

Nancy Baldwin and Hani Najm, MD





Support for Medical Education Inspired by Doctor's Skills and Empathy

Barbara R. Isaacs

• Barbara R. Isaacs, MDiv, PhD, of Rockville, Maryland, supports the work of Cleveland Clinic internal medicine physician Andrea Sikon, MD, not only for the medical care she provides but also for how she relates to patients.

"She leads a department that is trained to be empathetic to everyone who enters it," Dr. Isaacs says. "I have had the privilege of being cared for by someone who appears to read your heart and life story without much needing to be said."

Dr. Isaacs, who retired in 2013 from leading the Program Ministries for the General Commission on Religion and Race of The United Methodist Church, has taught at the university level and served as a college chaplain. Her

"WHEN I FIRST SAT DOWN WITH DR. SIKON, I EVEN FORGOT I WAS THERE FOR A PHYSICAL."

professional life nurtured a commitment to compassionate listening and inspired her respect for Cleveland Clinic's "patients first" approach, she says. She notes that she and her mother, Ruth Isaacs-Buckley, who passed away in 2016 at the age of 97, experienced

exceptional clinical care and personal warmth from physicians in the Internal Medicine Department.

"When I first sat down with Dr. Sikon, I even forgot I was there for a physical," she says.

In honor of Dr. Sikon, Dr. Isaacs recently made a \$1 million bequest establishing the Barbara R. Isaacs Fund for Education Initiatives. Dr. Sikon is Chair of the Department of Internal Medicine and Geriatrics in the Medicine Institute and on the staff of the Center for Specialized Women's Health in the Women's Health Institute. The gift will advance faculty development, student training and staff recruitment.

At the age of 70, Dr. Isaacs' mother, Ruth, fell while gardening, couldn't get up and felt extreme weakness in her legs. Only the night before she was happily dancing with her husband.

In 2004, after more than a decade of seeking a diagnosis, she was referred to Cleveland Clinic.

"It turned out to be a suspected rare motor sensory disease," Dr. Isaacs says. At Cleveland Clinic, "I sat with my mother for the first time in a physical exam and saw the doctor's exceptional respect, compassion and transparency."

Once diagnosed, her mother felt empowered to begin a disciplined physical therapy routine. "She began pumping exercise machines as if she wanted an 'A,'" Dr. Isaacs says. "She now understood what she could do to address the deterioration of her muscle mass."

Her mother's 2004 consultation at Cleveland Clinic proved to be life-changing. "It led to her maintaining a sense of independence, and her experience also led me to making Cleveland Clinic's Internal Medicine Department my site for primary medical care," Dr. Isaacs says.

Dr. Isaacs' gift to Cleveland Clinic arises from the example her mother always set in thinking of others, she says. "During the last few days of her life, Mother stated a few concerns. One was, 'bury me in purple, old purple not new—give these pieces to someone else to enjoy.' Like my mother, I want to pass it on, to pay it forward." She says she hopes that her gift helps ensure that the next generation of physicians will be trained to provide the kind of care that she and her mother received.

"I want to create a legacy in honor of Dr. Sikon because of what I saw in her department—and what I felt," Dr. Isaacs says. "When my mother came to Cleveland Clinic, she risked learning difficult news that also could give her wisdom. We are called to pay it forward, to give new wisdom, new hope. Even if it isn't the best of news, there is always hope, and the promise that I'll be right there beside you—Cleveland Clinic is like that."

—ELAINE DEROSA LEA



PHOTO BY DON GERDA

Thankful Ovarian Cancer Patient Makes Gift to Support New Treatments

Jackie Ross

•• In the summer of 2016, Jackie Ross, 59, fainted from severe stomach pain while behind the wheel of her parked car. At the emergency room of a local hospital, she was diagnosed with a digestive disorder, prescribed medication and advised to follow up with her primary care physician.

When the symptoms disappeared, she thought she was fine. However, a few months later, she noticed bloating, tiredness and stomach pain. By the spring of 2017, crippling back pain led her to follow her primary care physician's recommendation of a colonoscopy.

She scheduled the procedure at Cleveland Clinic Hillcrest Hospital in June 2017, where she met with gastroenterologist Michael Pollack, MD. He listened intently as she described her symptoms, and then said, "I'm not worried about your colon, but I am worried about cancer." He arranged for her to have a CT scan.

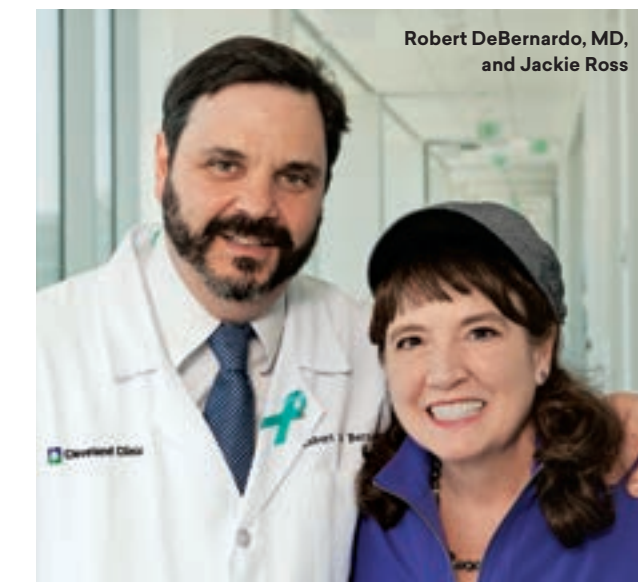
"He called me the next day, at 8 in the morning, so I knew it was bad," Ms. Ross says. "He asked, 'Would you be able to come in?'" At his office, he delivered the news that her scan showed ovarian cancer. With her sister present, he reassured them both.

"This is not a death sentence," he said. "We're going to get you the best treatment." He then added, "I recognized your symptoms because my mom has gone through this."

Dr. Pollack made an appointment for her right away with Robert DeBernardo, MD, Director of the Peritoneal Surface Malignancy Program, Section of Gynecologic Oncology, who diagnosed Stage 3 ovarian cancer.

"When you meet with Dr. DeBernardo, you feel like you are his only patient," Ms. Ross says. "He spent so much time with me. He brought up the CT scan and showed me every angle and told me his plan."

Plan A was surgery to remove the tumor, followed by chemotherapy. However, during surgery, Dr. DeBernardo



Robert DeBernardo, MD,
and Jackie Ross

saw that numerous cancer "grains" had spread to Ms. Ross's organs. Rather than remove the tumor, he ended the procedure and moved to Plan B, in which Ms. Ross would be treated with chemotherapy for 12 weeks to shrink the tumor and kill the cancer grains, followed by surgery to remove the tumor and treat the spots where the cancer grains had been. After surgery, she would have another 12 weeks of chemotherapy.

Throughout her treatment, Ms. Ross was supported and cared for by friends and family including her brother and two sisters, one of whom is a nurse. She did so well that she was able to complete the Summit Metro Parks Fall Hiking Spree, in Summit County, Ohio, while still in her ninth week of post-surgical chemotherapy.

A Twinsburg, Ohio, native and successful businesswoman in San Jose, California, where she lives, Ms. Ross recently made a gift supporting the work of Dr. DeBernardo. He is investigating new treatment approaches that could improve outcomes for ovarian cancer patients.

"Ovarian cancer is the fifth-leading cause of cancer death in women in the U.S., despite the fact that only 22,000 per year are diagnosed, and the second most common gynecological cancer in the U.S., in terms of frequency,

behind uterine cancer," Dr. DeBernardo says, citing American Cancer Society statistics. "We are very grateful for Jackie's generous gift, which will help us further our knowledge as we continue working to improve patient outcomes."

For her part, Ms. Ross is grateful for the excellent care that led to her receiving a correct diagnosis and effective treatment. "I couldn't have had a better medical team," she says. "I am grateful to both Dr. Pollack and Dr. DeBernardo, as well as my chemotherapy nurses at the Taussig Cancer Center. They saved my life."

—ELAINE DEROSA LEA

"WHEN YOU MEET WITH DR. DEBERNARDO, YOU FEEL LIKE YOU ARE HIS ONLY PATIENT."



campaign update

Events Provide Many Ways to Demonstrate the ‘Power of Every One’

EVENTS THROUGHOUT THE YEAR SUPPORTING CLEVELAND CLINIC AND THE POWER OF EVERY ONE CAMPAIGN DRAW ENTHUSIASTIC PARTICIPANTS LOOKING FOR FUN AND MEANINGFUL WAYS TO CHAMPION MEDICAL RESEARCH, EDUCATION AND PATIENT CARE. FOLLOWING ARE SOME RECENT HIGHLIGHTS.



VeloSano “Bike to cure” Weekend

•• VeloSano, a year-round, community driven initiative, concluded its fifth year on Nov. 8 at the VeloSano Bash, where it was announced that over \$4.5 million was raised for the 2018 campaign. 100% of dollars raised goes to cancer research at Cleveland Clinic. The flagship fundraising platform, “Bike to cure” weekend, took place July 20–22, with 2,023 riders pedaling over 90,000 miles, supported by over 1,000 volunteers. Funds also were raised via the year-long VeloSano Kids initiative for pediatric cancer research at Cleveland Clinic Children’s, including community Trike & Bike cycling events for ages 3 to 12.

VeloSano provides “Pilot and Impact Awards” to Cleveland Clinic cancer researchers. Beyond the \$17 million raised over five years, over \$12.4 million in external grants has been received because of the promise shown by VeloSano-funded projects.

To learn more, visit velosano.org. We hope you will join us for “Bike to cure” weekend July 19–21, 2019.



Champions for Cleveland Clinic Children’s

•• Umberto Fedeli and Lorraine Dodero co-chaired the 28th annual **Cleveland Clinic Children’s Gala** on May 12. It was Mr. Fedeli’s 15th year and Ms. Dodero’s fifth heading up the successful event. More than 700 guests came to honor Courage Award recipients Tye’rell Simpson and Jack Sparent for their bravery and perseverance throughout difficult medical journeys. Nearly \$1.6 million was raised to advance innovative pediatric research and patient care.

With the leadership of Mr. Fedeli and Ms. Dodero, the event breaks fundraising records each year. Cleveland Clinic is grateful for their many years of service on behalf of patients and their families and their generous gifts to the new Children’s Outpatient Facility, which opened in September on Cleveland Clinic’s main campus. The Cleveland Cavaliers 2018 Legacy Project helped support the facility, which provides advanced pediatric services with the highest level of comfort, safety and convenience. The Cavs also have been a Presenting Partner of the Children’s Gala since 2015.

The next Children’s Gala will be Saturday, May 4, 2019. Children’s pediatric palliative care program relies almost entirely on philanthropy, which is why the annual **Cleveland Clinic Children’s Golf Outing** continues to be an important event. The 24th Annual Children’s Golf Outing on Aug. 13 at Kirtland Country Club hit all-time highs for attendance and fundraising: 132 golfers raised more than \$252,000. Jacoby Arnold, age 5, participated in the Canon “First Shot.”

Co-chairs were David Dickenson II, President of Dickenson & Associates, and R.J. Nemer, Senior Vice President, Global Head of Golf Clients, IMG Golf. New for 2018, the Leadership Foursome included Victor Alexander, Treasurer, KeyBank; Ryan Crane, Partner, Clutterbuck Funds; TJ Gliha, Director of Private Client Services, Sequoia Financial Group; and Mike Howley, Managing Partner, Bratenahl Capital Partners. Christine Traul, MD, FAAP, Director of Pediatric Palliative Care at Cleveland Clinic, was the Honorary Physician Chair.

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CHILDREN’S GALA: PHOTO BY STEPHEN TRAVARCA

The Social: An Evening of Hope

•• On Oct. 12, cancer patients, caregivers and Champions of Hope Zack Bruell, Norma Geller and the Rhonda's Kiss—Marc Stefanski Family came together to share their personal stories. Also making the event special was fabulous food by Chris Hodgson, local chef and Food Network star.

The event celebrates the Champions of Hope and raises funds for Patient Services, a Cleveland Clinic department that helps address the emotional, mental and financial needs of patients and their families. These services, which are not covered by insurance, are provided free to patients thanks to generous supporters. The services include appointment navigation, community resources, family planning, lodging and transportation, hardship funds, financial assistance, the 4th Angel Mentoring Program, the wig boutique, art and music therapy, as well as massage, reiki and yoga, and psychosocial support.

PHOTOS COURTESY OF CLEVELAND CLINIC



Power of Love® Gala

•• About 1,600 people attended the 22nd annual Power of Love® gala on April 28 at the MGM Grand Garden Arena in Las Vegas, enjoying an exclusive menu from iconic chefs Wolfgang Puck and Jean-Georges Vongerichten, entertainment by Grammy Award-winner Michael Bublé, and live and silent auctions.

Presented by Keep Memory Alive, the gala supports Cleveland Clinic Lou Ruvo Center for Brain Health, dedicated to helping patients and families affected by Alzheimer's, Huntington's and Parkinson's diseases, as well as multiple system atrophy and multiple sclerosis. For more than two decades, the Power of Love gala has raised millions of dollars to support patient care, research and diverse education programs at the Lou Ruvo Center for Brain Health, and it's become one of Las Vegas' signature events.

Arts & Medicine Institute's 10-Year Anniversary

•• An event in May at the Taussig Cancer Center featuring artist Spencer Finch celebrated the 10th anniversary of Cleveland Clinic's Arts & Medicine Institute.

Throughout Cleveland Clinic, contemporary artworks are on display, hundreds of free musical performances take place each year, and patients benefit from both art and music therapy that help them cope with illness. All of this is accomplished under the auspices of the Arts & Medicine Institute.

"Hardly a week goes by without patients saying how meaningful and healing the art has been," says Joanne Cohen, Executive Director and

Curator of Cleveland Clinic's art program, who oversees a collection of more than 6,500 works by local, national and international artists. With the support of Martin Solomon and Ben Post, eight works by Brooklyn, New York, artist Spencer Finch were acquired for this collection.

Mr. Solomon and Mr. Post were excited to meet the artist at the event in the Taussig Cancer Center outpatient building, where Mr. Finch's colorful light boxes representing different views of Going-to-the-Sun Mountain in Glacier National Park are exhibited on all seven floors.



PHOTO BY DON GERDA

TELEMEDICINE: EXPERT CARE AT HOME

EXPANDED ACCESS TO CLEVELAND CLINIC CAREGIVERS HELPS ENSURE PATIENTS GET THE CARE THEY NEED WHERE AND WHEN THEY NEED IT MOST

BY ELAINE GOTTLIEB

Fifteen minutes was all it took for Lara Jehi, MD, a neurologist at Cleveland Clinic's Epilepsy Center, to solve her patient's problem.

It didn't concern Dr. Jehi that she was in Ohio and her patient, Alexandra Zilch, was on a couch at home in Michigan. From a medical standpoint, the virtual visit was just as effective as an office visit.

Ms. Zilch, 25, has a history of seizures, which began after brain tumor surgery in 2009. In an effort to control the seizures, Ms. Zilch's surgeons in Michigan operated twice more, but her condition worsened. By January 2018, the seizures were frequent, severe and long-lasting, requiring her to be placed in intensive care.

"I was desperate for help," Ms. Zilch says. An ambulance took her to Cleveland Clinic, where she was monitored for nearly two weeks and then had surgery.

A few months later, the seizures, though milder, began again. In Ms. Zilch's virtual visit, Dr. Jehi determined that medication was the cause.

"In the end, I adjusted her dosage, entered an order for monthly blood level checks, and told her we could schedule another virtual visit should the need arise," Dr. Jehi says.

Since then, Ms. Zilch has had no seizures or other issues. "I feel like a new person," she says. And she appreciates virtual follow-ups after her office appointments. "I'm a big fan of technology, and the process was super simple and straightforward," she says.

Other patients also like accessing care from home. In the past three years, the number of virtual visits at Cleveland Clinic has increased 300 percent annually.

And that's just one aspect of an extensive and growing telemedicine program, which includes remote monitoring of functions like blood pressure, physician-to-physician and physician-to-patient consultations, real-time alerting systems for high-risk patients, virtual family visits and more.

"I ADJUSTED HER DOSAGE, ENTERED AN ORDER FOR MONTHLY BLOOD LEVEL CHECKS, AND TOLD HER WE COULD SCHEDULE ANOTHER VIRTUAL VISIT SHOULD THE NEED ARISE."

— LARA JEHI, MD





Virtual Visits: The Doctor Will See You Online

Given the options of driving to an appointment or staying at home to “see” their doctor on their smartphone or laptop, unsurprisingly, many patients choose the latter.

In the past year, 500 Cleveland Clinic physicians representing 60 clinical areas have offered such visits to 2,000 patients a month. More than 90 percent of these patients save from one to more than three hours of travel time and they are happier with their care: 93 percent rate their virtual visits a nine or 10 out of 10, compared with 86 percent who feel that way about their office visits, according to a Cleveland Clinic study.



“MY PATIENTS HAVE ABSOLUTELY EMBRACED VIRTUAL VISITS. THEY LOVE THE CONVENIENCE.”

— JULIAN PESKIN, MD



OB/GYN

When asked to initiate a virtual visit program in his practice two years ago, Cleveland Clinic OB/GYN Julian Peskin, MD was excited by the challenge and quickly began enrolling patients. Virtual visits are popular among his younger, technology-oriented patients. Today, he sees 77 patients online, mostly women with low-risk pregnancies.

Dr. Peskin introduces the concept of virtual visits at a pregnant patient’s first office visit. If everything is normal at visit 16, he gives the patient an at-home blood pressure device and a Doppler fetal heart monitor. Before their virtual visits, patients record their blood pressure, weight and the baby’s heartbeat.

“My patients have absolutely embraced virtual visits,” Dr. Peskin says. “They love the convenience, especially those with young children and working mothers who can see me before work or at the office.”

Cleveland Clinic Pediatric ICU Nurse Julie Intihar, a patient of Dr. Peskin who is pregnant with her fourth child, initially was hesitant about virtual visits, fearing that the technology would be hard to use. But she was pleasantly surprised.

“It was super easy to click on a link and download an app,” she says. “Virtual visits are a big advantage for busy moms—dragging three young children to the doctor is chaotic. I was able to check in with Dr. Peskin while on vacation and then go on with my day.”

Dr. Peskin also sees patients remotely for postoperative follow-ups for minor surgical procedures and for infertility consultations.



Neurology

A telemedicine pioneer with the Telestroke Network, the Neurological Institute was among the first Cleveland Clinic departments to offer virtual visits. Many neurological conditions, such as Parkinson’s disease, affect mobility and other functions, making office visits difficult. However, certain neurological symptoms resulting from Parkinson’s and strokes, for example, are clearly visible on a screen.

“Virtual visits, besides Parkinson’s, also are a good fit for one of the most common neurological complaints: headache. Today, many headache patients at Cleveland Clinic are seen online for their first visit and some follow-ups. Virtual visits allow our clinicians to provide the same quality of care remotely,” says Hubert Fernandez, MD, Director of the Center for Neurological Restoration at the Neurological Institute and holder of the James and Constance Brown Family Endowed Chair in Movement Disorders. “They’ve transformed the way I practice medicine. When I prescribe a medication or treatment, I know I can easily follow up with my patient and make any changes that are needed.”



Heart and Vascular

The most technology-oriented cardiac subspecialty, electrophysiology, an early adopter of digital medicine, focuses on heart rhythm disorders that often require monitoring. Many patients need ablation procedures or implantable electronic devices, including pacemakers and defibrillators. With advancing technology, most of the care of arrhythmia patients can happen remotely.

“If any field is well-equipped and ready to move forward with distance health, it’s electrophysiology. Remote monitoring has been part of our daily practice for years, especially with cardiac implantable devices,” says Khaldoun Tarakji, MD, MPH, Director of Outpatient Electrophysiology and Remote Cardiac Monitoring at Cleveland Clinic.

Remote monitoring makes it easier to accommodate patients with implanted devices who need follow-up care. Today, data from these devices is sent wirelessly from patients in the comfort of their homes to their physicians’ offices.

“Millions of people have pacemakers or defibrillators,” Dr. Tarakji says. “Remote monitoring of these devices has evolved from telephone landlines sending data from the pacemaker, to a wireless, seamless process through a station in the patient’s bedroom using a cellular network, to direct communication between the pacemaker and the patient’s smartphone, which transmits data directly to the physician via a cellular or Wi-Fi connection.”

Remote monitoring also is valuable in diagnosing and managing arrhythmias that cause intermittent symptoms, such as atrial fibrillation. One of Dr. Tarakji’s patients, a man in his mid-40s, had cardiac symptoms, but his tests were normal, and he was told that he had anxiety. After two weeks of remote monitoring through a novel wearable device using the patient’s smartphone, Dr. Tarakji diagnosed atrial fibrillation that correlated with his symptoms. The patient was able to avoid an office visit by having a virtual discussion with Dr. Tarakji to determine the best treatment plan. “Virtual visits, when we are equipped with the right tools, can be more beneficial and productive than in-person visits with one single electrocardiogram done at the time of the visit,” Dr. Tarakji observes.

Increasingly, electrophysiologists are embracing telemedicine, as are cardiologists in other specialties. Heart failure patients often have difficulty breathing, which impedes traveling to appointments. Now, these patients routinely see their cardiologist remotely and visit the office only when necessary.

“Digital health and wearable technologies are here to stay,” Dr. Tarakji says. “Smart devices are only smart if used intelligently. As an institution, it’s important for us to be creative, assess different new technologies, and adopt those that can provide benefit and value for our patients. What started as an exotic way to provide care is becoming something that patients expect.”



“NEW TECHNOLOGIES ARE TRANSFORMING THE CARE OF OUR ARRHYTHMIA PATIENTS.”

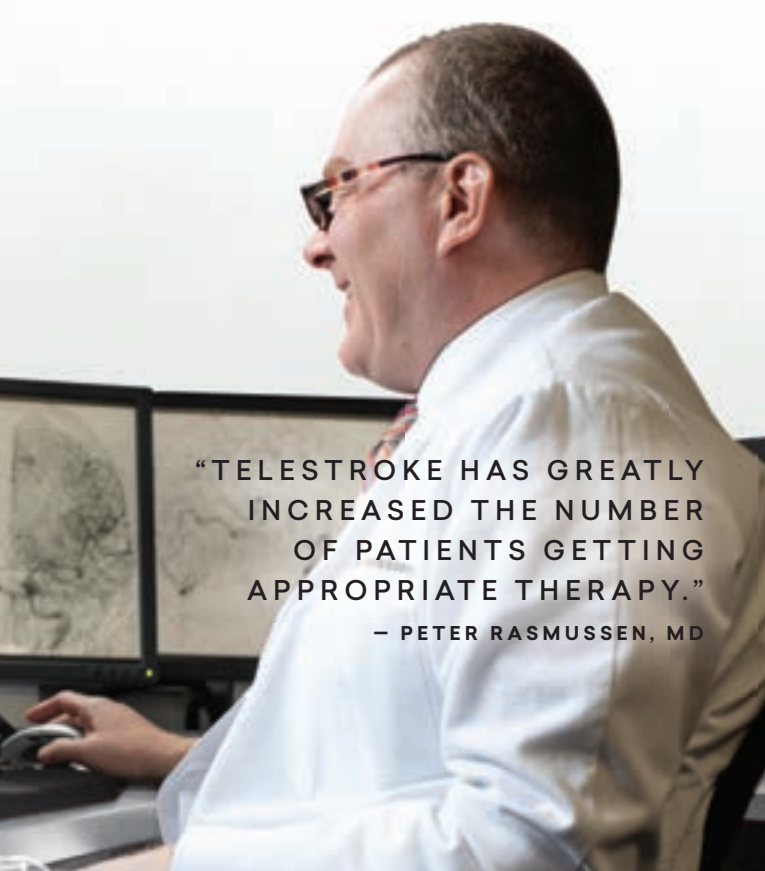
— KHALDOUN TARAKJI, MD



Telegenetics

Medical geneticists and genetic counselors are in increasing demand to diagnose, manage and counsel people with genetic disorders ranging from abnormal growth to cardiac disorders. But these specialists are in short supply: There are only 1,600 board-certified medical geneticists and 4,300 genetic counselors in the U.S. (There are 39 times more internists in the United States than medical geneticists.)

To meet the demand, Cleveland Clinic’s Center for Personalized Genetic Healthcare, the clinical arm of the Genomic Medicine Institute, recently added a full-time medical geneticist, David B. Flannery, MD, a physician leader with a national reputation for shaping the policy and practice of telemedicine and medical genetics. He will expand the center’s telegenetics and other digital services to enable Cleveland Clinic patients and their physicians to access genetic services wherever they are.



“TELESTROKE HAS GREATLY INCREASED THE NUMBER OF PATIENTS GETTING APPROPRIATE THERAPY.”

— PETER RASMUSSEN, MD



Telestroke Network

Among Cleveland Clinic’s first major telemedicine initiatives, the Telestroke Network launched in 2011. The network provides stroke consultations to emergency departments through video conferencing. With advances in stroke treatments, “it’s difficult for emergency room physicians and general neurologists to be up-to-date on stroke care, as the field is so rapidly evolving,” says Peter Rasmussen, MD, a neurosurgeon at Cleveland Clinic’s Neurological Institute Cerebrovascular Center and Medical Director of Digital Health at Cleveland Clinic. “Telestroke is an effective model that meets a compelling need.”

For example, Dr. Rasmussen says the Telestroke Network has improved the rate at which patients receive thrombolytic therapy, which uses the drug tissue plasminogen activator, or tPA, to dissolve blood clots that cause ischemic strokes, the most common type. It’s a race against time: tPA must be administered within three hours to be most effective and prevent brain damage.

“Emergency department doctors are occasionally reticent to prescribe thrombolytic medication. Telestroke has greatly increased the number of patients getting appropriate therapy, which has made an enormous difference for patients,” Dr. Rasmussen says.



Neonatology

For babies with medical conditions that require a stay at the neonatal intensive care unit (NICU), close monitoring during and after hospitalization is critical. Cleveland Clinic’s telemedicine services help both physicians and parents care for these fragile infants.

The Neonatology Department is set to consult with caregivers at Cleveland Clinic’s regional hospitals and other facilities, from birth through a baby’s entire stay at the NICU. “The neonatologist will see the baby on a screen and do a full evaluation before they arrive at the hospital,” says Hany Aly, MD, Chair of the Department of Neonatology at Cleveland Clinic. In addition, other specialties can provide consultations on the baby when needed.

The department is moving toward centralized monitoring at all Cleveland Clinic NICUs. “I will be able to listen to heart sounds and check the babies’ electronic medical records and know how they are doing,” Dr. Aly says.

For parents, attending virtual visits with their infant once they’ve returned home is reassuring. “Parents worry about how they’ll manage when they bring their baby home. This technology has provided a lot of reassurance and increased parent satisfaction,” Dr. Aly says. “On my screen, I can observe the baby’s breathing, see their level of activity and get the information I need to see if the baby is stable. If there is a problem, I can catch it early and provide a safe transition to the hospital.”

PHOTO BY STEPHEN TRAVARCA



Primary Care

With virtual visits through the Express Care app, patients can consult a medical professional on-demand, 24/7, for minor complaints (e.g., bad colds, flu, allergies, muscle strains) and not have to visit a doctor’s office when they’re sick, which also risks infecting others. Seeing the doctor virtually also keeps people from crowding emergency rooms, so ER staff can focus on true emergencies.

When his son was sick, Dr. Rasmussen used Cleveland Clinic’s online, on-demand urgent care service, Express Care Online. “It took two minutes to see a clinician, and my son was very comfortable with it—like FaceTime for him,” he says.

WHAT THE FUTURE HOLDS

Telemedicine is expanding. For example, bone marrow transplant patients, who are vulnerable to infections and other complications because of compromised immune systems, must see their doctor daily for the first three months following their transplant. That’s why Cleveland Clinic patients are equipped with thermometers, blood pressure cuffs and monitors for home use and can see their doctor remotely—convenient care that also is better for the patients.

At Cleveland Clinic, the driving force behind innovative use of medical technology is to provide opportunities for more effective, patient-centered healthcare. Cleveland Clinic Abu Dhabi is launching a unified patient experience app that brings together virtual visits, monitoring data, electronic health records and the online MyHealth patient information system. This app will be introduced at Cleveland Clinic’s U.S. locations in 2019.

In addition, Cleveland Clinic is developing artificial intelligence and machine learning applications to improve patient outcomes, including rating the severity of intensive care unit patients and increasing the ability to catch problems early, Dr. Rasmussen says.

In the midst of these changes, traditional office visits remain important and are complemented by virtual visits and remote monitoring. Technology helps physicians make the most of their in-person time with patients. “Virtual visits don’t replace traditional visits in situations when it’s necessary to have direct contact,” Dr. Tarakji notes. “There’s nothing better than human contact in caring for patients.”



game changer

Small Devices, Big Benefits

TINY COMPUTER CHIP TECHNOLOGY CONTAINS THE POWER TO TRANSFORM BIOMEDICAL SCIENCE AND IMPROVE PATIENTS' LIVES

By Aaron Fleischman, PhD

•• We've all heard the saying, "Good things come in small packages." This is especially true for a new field of medical research known as BioMEMS/NEMS. This exciting field, employing the same technology used in computer chips, applies micro and nano electromechanical systems (MEMS/NEMS) to biomedical devices that are on the same scale as a human cell—so tiny that they are invisible to the naked eye and even to most microscopes.

This combination can achieve greater function at less expense than is attainable in traditional medical diagnosis and therapy, enabling improved patient outcomes at lower costs.

For example, my laboratory at Cleveland Clinic's Lerner Research Institute is developing the following devices:

- A smart brain-pressure sensor that has multiple applications for headaches and brain health in both adults and children. Data can be translated directly to clinicians, helping patients avoid an emergency room visit.
- A smart contact lens that can detect and monitor glaucoma.
- Magnetic nanoparticles

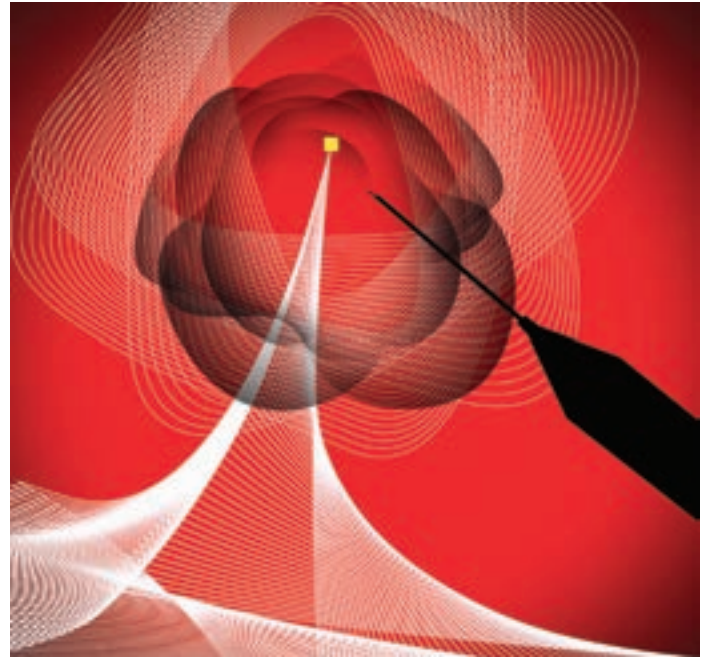
that find "floating tumors" in the bloodstream. This technology especially could benefit women with recurring and metastatic breast cancer because it would be less invasive and more economical than standard diagnostic testing.

In my laboratory, our research focuses on two broad categories of the science of miniaturization:

1. Investigating how to shrink high-functioning large systems into small, computer-like chips for implantation for use in minimally invasive procedures or into reliable self-monitoring systems.
2. Taking advantage of the physics that are unique to very small things, enabling new capabilities and technologies for unmet medical needs.

All of our work is geared toward improving patient outcomes.

BioMEMS technology can enhance catheter-based procedures by providing pressure sensing, imaging, drug delivery and tissue sampling, all via tiny biochips. Cell manipulation takes on new meaning with regard to these minuscule structures. We now are investigating miniature, high-performance, ultrasonic



BRIAN STAUFFER/THE I-SPOT

transducers, leading to development of a single minuscule chip to provide:

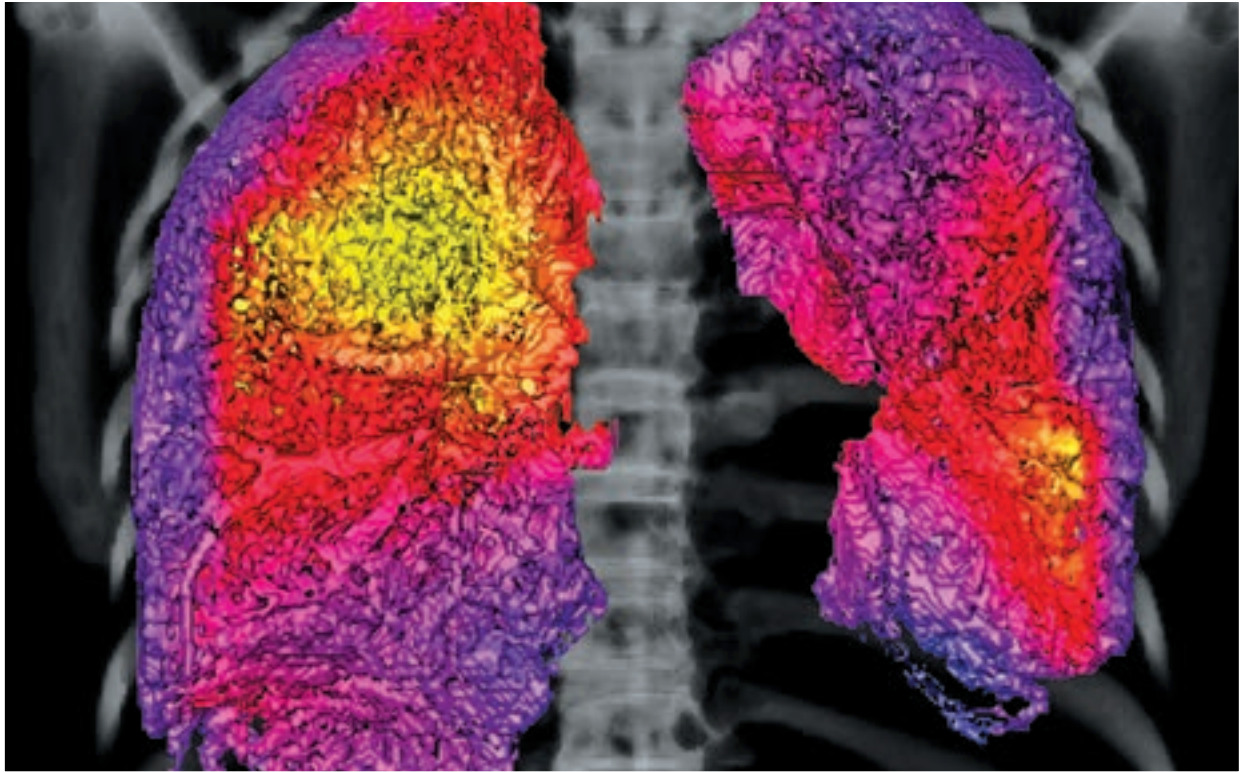
- High-quality ultrasonic images
 - Drug delivery systems, capable of delivering high concentrations of drugs to localized areas of tissue
 - Biochips for cell detection and manipulation
 - Surface textures and systems to enhance tissue engineering of bioartificial tissues and organs
 - Sensors for pressure, temperature strain and flow for minimally invasive and noninvasive surgical procedures and post-surgical follow-up
- One of the most compelling

and revolutionary aspects of BioMEMS technology is its great promise in bridging the gap in healthcare inequality. Devices being developed will not only improve patient outcomes in our communities but will improve global health by allowing us to provide cost-effective healthcare to low- and middle-income populations, as well.

Philanthropic support would allow us to expedite our investigations and move these devices onto the market more quickly, improving diagnosis and treatment for patients in our region, across the country and around the globe.



Aaron Fleischman is a staff scientist in the Lerner Research Institute Department of Biomedical Engineering



4Dx Scanner Accelerates Asthma Studies

With funding from the National Institutes of Health (NIH), Cleveland Clinic's Lerner Research Institute has acquired a 4Dx Limited scanner, which it is using to investigate the causes and treatment of asthma.

Cleveland Clinic is the second institution in the world to own the scanner and the first to use it in the study of asthma, a chronic lung disease that is on the rise.

Asthma, which inflames and obstructs the airways, is currently diagnosed through a breath test that measures the average air flow in all airways. Though accurate, this approach cannot identify sub-regions of the disease process. The 4Dx scanner analyzes X-ray images to measure air flow through each individual airway. This

may transform how asthma severity is evaluated, says the NIH grant's principal investigator, Kewal Asosingh, PhD, of the Department of Inflammation and Immunity.

"It will help physicians monitor the specific airways involved in asthma accurately, which will enable us to understand and treat the disease in a more targeted manner," says Dr. Asosingh. The scanner will help the team evaluate the effects of both approved drugs and new compounds.

While the NIH has covered the cost of the scanner, philanthropic support is needed to conduct a range of studies with the technology, including investigations into severe asthma, pulmonary fibrosis and chronic obstructive pulmonary disease, Dr. Asosingh says.

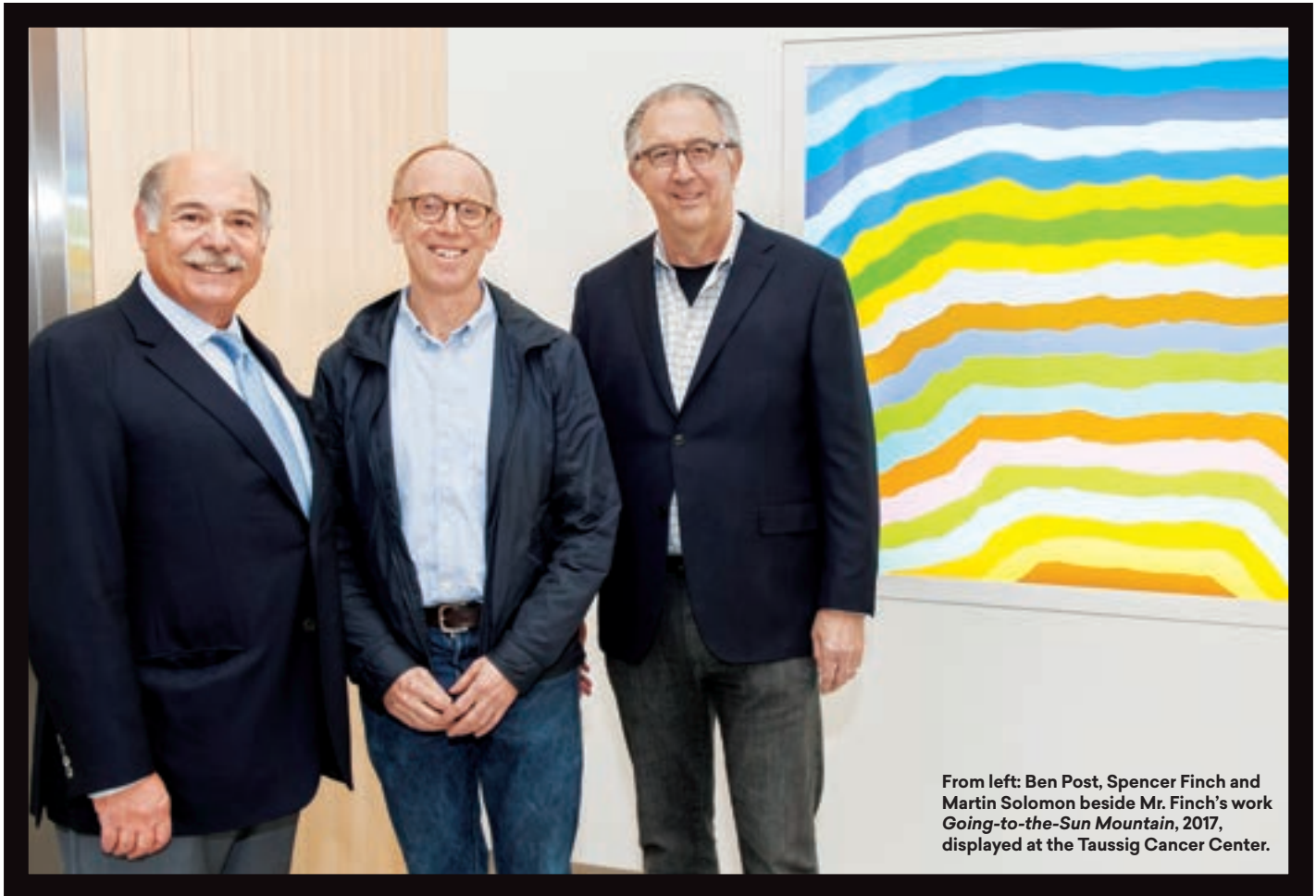




The Power of Every *One.*

CENTENNIAL CAMPAIGN

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From left: Ben Post, Spencer Finch and Martin Solomon beside Mr. Finch's work *Going-to-the-Sun Mountain, 2017*, displayed at the Taussig Cancer Center.

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