Study Shows Blood Test Can Detect 8 Types of Cancer

New CancerSEEK Test Greater Than 99% Specific for Pancreatic Cancer

Lustgarten Foundation funded researchers at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins have designed a multi-analyte blood test called CancerSEEK that can detect the presence of pancreatic cancer as part of a panel of eight common cancers (pancreas, ovary, liver, stomach, esophagus, colorectum, lung and breast). The test utilizes combined assays for genetic alterations and protein biomarkers and has the capacity not only to identify the presence of relatively early cancer, but also to localize the organ of origin of these cancers. This groundbreaking research was reported in the online edition of Science on January 18th.

“The potential this has for pancreatic cancer is unprecedented,” says Anne Marie Lennon, M.D., Ph.D., Associate Professor of Medicine, and Director, Pancreatic Cyst Center of the Ludwig Center at the Johns Hopkins Kimmel Cancer Center. “We know that in 80-85 percent of pancreatic cancer cases, it’s detected too late, leaving the patient with few options. Developing a blood screening test for pancreatic cancer has been an urgent goal, because catching the disease early will be the way we get to long-term survival.”

The test results for pancreatic cancer were very promising. The sensitivity of the detection method was 70% and the specificity was greater than 99%. Sensitivity and specificity are terms used to evaluate a clinical test. Sensitivity is the ability of a test to correctly identify those with the disease (true positive), whereas test specificity is the ability of the test to correctly identify those without the disease (true negative). New blood tests for cancer must have very high specificity; otherwise, too many healthy individuals will receive positive test results, leading to unnecessary follow-up procedures and anxiety.

The CancerSEEK test was evaluated in over 1,000 patients with one of eight common cancers. These included 93 patients with stage I-III pancreatic cancer who were enrolled in the study and compared with 812 healthy control individuals with no known history of cancer, high-grade dysplasia (enlargement of an organ or tissue due to growth of abnormal cells), autoimmune disease, or chronic kidney disease. Scientists were able to identify 72% of these patients with pancreatic cancer.

STUDY SIGNIFICANCE

This test is so critical because these eight cancers account for more than 60 percent of cancer deaths, and five of these types (pancreas, ovary, liver, stomach and esophagus cancers) have no screening test available. This study builds upon more than three decades of cancer genetics research and lays the foundation for a single, blood screening test for multiple cancers that could be offered as part of routine medical checks. The estimated cost for the test will eventually be less than $500, which is comparable to or lower than other screening tests for single cancers, such as a colonoscopy. To actually establish the clinical utility of CancerSEEK and to demonstrate that it can save lives, prospective studies of all cancer types in a large population will be required, which we are currently helping to fund.

“We are incredibly grateful to our dedicated, passionate supporters, who make it possible for us to fund unprecedented early detection research like the CancerSEEK test,” says Kerri Kaplan, President & CEO. “While further research is needed, this test marks a significant first step toward a new era in how pancreatic cancer is diagnosed. We are confident that by identifying the disease at an earlier, more treatable phase, our community of survivors will multiply.”
Dear Friends,

We are proud to report that we funded $22 million in 2017 as part of our commitment to invest an unprecedented $40 million by the end of 2018 through our new Translational Clinical Program, expanded Research Investigator Award Program, and other partnerships. In addition to funding the most accomplished scientists in pancreatic cancer research, the Foundation is attracting new researchers to the field, including David Sabatini, M.D., Ph.D., Whitehead Institute for Biomedical Research, and David Pellman, M.D., Dana-Farber Cancer Institute. Bringing in new thinking from respected researchers such as these, as well as geneticists, biochemists and cell biologists, will enable us to tackle this disease from every angle and enhance our progress.

Understanding the basic biology of pancreatic cancer enables the Foundation to get to the very core of the disease. Every aspect, from a cancer cell’s genes to the tumor’s environment, is under investigation. Lustgarten Foundation funded researchers are exploring the molecules that make up a cancer cell, how and why it transitions from normal to abnormal and why tumors react differently to various treatments. From basic science to the clinic, Lustgarten Foundation funded researchers are investigating ways to detect the disease earlier, personalize treatment and develop better therapies. We are continuing to make large-scale commitments to leading pancreatic cancer researchers, funding studies that seek to continually stretch the boundaries of science.

In an effort to serve patients, we launched an online support community, Pancreatic Cancer Connections (https://www.inspire.com/groups/pancreatic-cancer-connections). Pancreatic Cancer Connections provides a safe space for pancreatic cancer patients and their loved ones to share their experiences, get valuable coping resources, and support one another. Patients and loved ones can sign up for Pancreatic Cancer Connections at no cost and will be welcomed into an engaging and supportive community to discuss topics including treatment options, nutrition, and coping with the disease. We hope you’ll join us!

As always, thank you for your ongoing support. By joining the fight, you are helping to find a cure.

Warm regards,

Kerri Kaplan
President and CEO
Dr. Brian Wolpin: Focused on Personalized Medicine

Lustgarten-funded researcher Brian Wolpin, M.D., MPH, Dana-Farber Cancer Institute, is challenging the way that pancreatic cancer patients are being treated, offering an innovative new approach with promising preliminary results. Dr. Wolpin and his team employ personalized medicine to study the disease and treat patients. Therapy is tailored to the individual patient, based on his/her genetics and tumor characteristics. By working to give each patient treatment that is tailored to his/her tumor, Dr. Wolpin's team is identifying new therapy options for patients with advanced pancreatic cancer.

DNA SEQUENCING

Dr. Wolpin and his team take a two-pronged approach to implementing personalized medicine. Their first approach focuses on genetic sequencing of both the tumor DNA and the inherited DNA. All of Dana-Farber’s patients with pancreatic cancer are given the opportunity to have their tumors genetically sequenced and their inherited DNA sequenced. The goal is to have all of the sequencing data available in six to eight weeks, the point at which follow-up CT scans show if the current treatment is working. The sequencing findings are then used to identify new treatment programs for patients, which may include off-label use of medications that treat other cancers, since FDA-approved treatment options for pancreatic cancer are so limited, and enrollment in clinical trials testing new therapies.

“In approximately one-third of patients, we find a mutation or genetic alteration that can be treated with a therapy that is either in clinical trials or used for other types of cancer,” said Dr. Wolpin.

ORGANOID TESTING

The second personalized medicine approach Dr. Wolpin uses involves growing organoids in the laboratory from fresh tissue biopsies, which provides an opportunity to go beyond DNA sequencing to identify new therapy approaches. Organoids are three-dimensional cell culture systems which reproduce a patient’s tumor in a dish in order to test it repeatedly with different drugs, with the aim to identify new potential treatments for a particular patient. Pancreatic cancer organoids were first developed by the Foundation’s Director of Research, Dr. David Tuveson, at the Lustgarten Foundation Pancreatic Cancer Research Laboratory at Cold Spring Harbor Laboratory. Dr. Wolpin is collaborating with Drs. Andrew Aguirre and William Hahn at Dana-Farber to determine whether drugs that are effective in treating a patient’s organoid in the laboratory also work to treat the cancer when given to the patient. As pancreatic cancer patients are often not diagnosed until their disease is at an advanced stage, efficiently identifying new treatment approaches that can improve quality and length of life is extremely important. Furthermore, finding out in advance if a particular treatment is more likely to work would be a significant milestone.

“Understanding the biology behind the disease, what drives it, and what makes a particular therapy effective, is critical to treating and fighting this disease,” said Dr. Wolpin. “We are moving away from a one-size-fits-all treatment approach, with the goal of providing patients with the treatment options that have the best chance of improving their outcomes.”

STAND UP TO CANCER AND THE LUSTGARTEN FOUNDATION COLLABORATE ON NEW IMMUNOTHERAPY RESEARCH

We are reinforcing our promise to fund the best research by expanding our collaboration with Stand Up To Cancer (SU2C) on a new long-term survivor study. We have committed $1.76 million in funding for a project led by Benjamin Greenbaum, Ph.D., Icahn School of Medicine at Mount Sinai Hospital, and Vinod Balachandran, M.D., Memorial Sloan Kettering Cancer Center. The team will build on the work of an earlier grant co-funded by the Lustgarten Foundation and Stand Up To Cancer to understand how a patient’s immune system could lead to long-term survival. Our own immune system is able to unmask and destroy cancer cells. Researchers have observed that patients with long survival rates have 12 times more active immune cells responsible for recognizing and killing the tumor. Using DNA sequencing, computer science and immunological techniques, researchers will work to understand why immune cells from long-term survival patients recognize specific and unique mutations called neoantigens. They will then use this information to develop a method for creating vaccines to treat pancreatic cancer.
CREATIVE BATH PRODUCTS, INC. DONATES NEARLY $4 MILLION FOR RESEARCH

We are honored to announce that the Foundation received nearly $4 million from Long Island, NY-based Creative Bath Products, Inc. As explained by Bob Weiss, Creative Bath Products’ chief operating officer and executive vice president of sales and marketing, “Through the sale of one of our buildings, we are able and delighted to be supporting the leader in pancreatic cancer research. We have seen firsthand the devastating impact of pancreatic cancer and understand that funding the very best research is the way to truly make a difference.” Mathias “Mat” Meinzinger, former president, CEO and founder of Creative Bath Products, Inc., passed away from pancreatic cancer in 2010. Christa Meinzinger, Mat’s wife of 52 years, said, “Mat was a hard-working and generous man. He would be proud of our support.” We are extremely grateful for this generous gift and look forward to funding research that will significantly impact patients and their loved ones.

THE STADTMUAUER FAMILY SUPPORTS EARLY DETECTION RESEARCH

In 2015, Clare Stadtmauer, then 82, was diagnosed with pancreatic cancer, the same disease that took her mother’s life. As a pancreatic cancer registry participant, Clare had been routinely monitored by oncologists and gastroenterologists. By the time her cancer was discovered, her tumor was inoperable, and she underwent chemotherapy and radiation. According to her son, Dr. Gary Stadtmauer, she faced the disease head-on, with the same bravery, tenacity and practicality that characterized her life.

Clare was married to Rabbi Murray Stadtmauer for 59 years. Clare learned generosity, charity, and the importance of taking care of others at an early age when her family welcomed relatives who were Holocaust survivors into their Cleveland home. Clare went on to have a thriving career as a social worker for the New York City Board of Education, advocating for children with special needs. Clare was also a gifted artist, poet and pianist.

When Clare passed away in 2016, Murray was devastated, yet committed to memorializing Clare in a meaningful way that paid tribute to her talents, interests, and love for her family and friends. The idea for a memoir came just before Clare died, when she asked Murray if their twin grandchildren, then only four years old, would remember her. He decided to record her life story so their grandchildren would get to know their talented, loving grandmother. He collected her art, music, poetry, Yiddish writings, love letters between himself and Clare dating back to his army days, and other mementos related to their life together in New York and to raising their children, Gary and Rhea. Writing the memoir was therapeutic and cathartic for him.

It was Clare’s wish that her children not suffer the same fate. She wanted her children to get genetic testing and screening for pancreatic cancer, something that Gary and Rhea now do. She also asked that donations in her memory go toward the advancement of pancreatic cancer research.

In 2017, the Stadtmauers established the Clare Stadtmauer Memorial Fund, generously contributing $50,000 for Lustgarten-funded early detection and early intervention research. “I would like to see a treatment within the next decade that would prolong patients’ life expectancy. It’s a neglected cancer that has slowly become a major cancer,” said Rabbi Stadtmauer. With the support of donors like the Stadtmauer family, we are committed to advancing our research program that will propel us toward even more promising scientific breakthroughs.
HOLIDAY ROCK & ROLL BASH
On December 13th, The Madison Square Garden Company and AMC Networks hosted the 17th annual Holiday Rock & Roll Bash at famed New York City hotspot TAO Downtown to benefit the Lustgarten Foundation. The Bash attracted 800 people and raised more than $825,000. Since its inception in 2001, the Holiday Rock & Roll Bash has raised nearly $24 million for pancreatic cancer research. Entertainment for the event included a special DJ set from Grammy Award-winning music producer and recording artist Swizz Beatz, along with an exclusive performance from the Christmas Spectacular by the world-famous Radio City Rockettes.

Photo Credit: Angela Cranford/MSG Photos

RACE 4 A CURE
Race 4 A Cure was held on February 9th at Grand Prix New York, a family and corporate entertainment complex in Mount Kisco, New York. The event raised $157,000 for our research program, bringing the total raised since this event began to nearly $600,000. Race 4 A Cure’s family-driven format brought together more than 450 children, teens and adults committed to finding a cure.

The event featured a silent auction, entertainment and music from Total Entertainment, indoor go-kart racing, arcade games, bowling, bounce houses, and a delicious menu from highly acclaimed restaurants.

Mark your calendar for Beating The Odds
Join us for an exciting night of casino games, delicious food and drinks, and the chance to win incredible raffle prizes! Together, let’s start beating the odds against pancreatic cancer and changing the outcomes for thousands of patients and their loved ones.

For more information, contact Ann Walsh at awalsh@lustgarten.org or 516.737.1559 or visit www.lustgarten.org/2018-beating-the-odds.
Our Lustgarten Walk program continues to expand across the country, now encompassing 40 walks across 17 states, including four inaugural walks this year in Boca Raton, FL (February 25th); Atlanta, GA (March 31st); Easton, MA (May 12th) and Seattle, WA (June 3rd). Because of our dedicated walk leaders, volunteers, participants and sponsors, nearly 15,000 participants walked with us in 2017. Our walk program has raised more than $38 million to date, including more than $4.3 million in 2017 alone, all of which funds our research. Join us in 2018 and help us keep our momentum going!

**LONG ISLAND, NY**
Even the pouring rain couldn’t dampen the spirits of the thousands of pancreatic cancer patients, survivors, and loved ones who joined us for our Long Island Walk – our largest walk of the year – and raised $1 million.

**LEHIGH VALLEY, PA**
Walk leader Todd Wendling brought together hundreds of walkers to honor his mother’s legacy and support patients and their loved ones in Lehigh Valley who are fighting pancreatic cancer. The 2017 walk raised more than $82,000.

**CEDAR RAPIDS, IA**
One of our longest-running Midwest walks, last year’s Cedar Rapids walk raised nearly $6,500 for critical research. Marlene Lenoch organizes this event in memory of her brother.

**GREATER PHILADELPHIA (Pennsauken, NJ)**
Several hundred participants from Greater Philadelphia joined us last fall for a day of progress and hope, raising over $70,500 and honoring loved ones lost to pancreatic cancer and those currently fighting. Michael Brown organizes this event in memory of his brother-in-law.

**MILFORD, CT**
Walk leader and pancreatic cancer survivor Sharon Varga celebrates with family and friends, helping to raise nearly $95,000 last year and spreading awareness about the disease throughout the Milford community.

For more information and to register for an upcoming walk, visit www.lustgarten.org. Don’t see a walk near you? Learn how you can start a walk in your community by contacting Ann Walsh, Director of Events, at 516.737.1559 or awalsh@lustgarten.org.
JOIN IN OUR COMMUNITY MOMENTUM!

Our community events program is flourishing! From bake sales and pancake breakfasts to golf outings and marathons, nearly 300 events throughout local communities are held annually, raising nearly $1 million for research in 2017 alone. Thank you to our community events organizers, whose commitment to finding a cure is unparalleled. We couldn’t accomplish all that we do without you, and we look forward to working together throughout 2018!

For more information on organizing an event in your area, please contact Susanne Igneri, Special Events Coordinator, at 516.737.1560 or signeri@lustgarten.org.

YOU'RE NEVER TOO YOUNG TO MAKE AN IMPACT!

Thank you to all of the inspiring children and teenagers who have boldly taken the initiative to organize fundraisers in their communities, including those pictured below. You are role models and true leaders in our quest to raise awareness and find a cure.

**ARTBOOM!:** Annabelle Furh organized an art show featuring her work, along with over 200 professional and student-created works, in memory of both of her grandparents.

**SISTER DUO WORKS TO PUNCH OUT PANCREATIC CANCER:** Samantha Handler donates a portion of profits from her company, Kicksby Sammy, and Karyn Handler has raised several thousand dollars with her Coins for a Cause campaign, in honor of their grandmother, Karen Magidson.

**RAISE YOUR VOICE FOR RESEARCH:** Grace Ain sang songs online and challenged others to raise their voices and/or donate in honor of her grandmother.

**COASTERS FOR CANCER:** Bode and Reese created coasters and sold them to friends and family, in honor of their uncle.

**ARTBOOM!**

Susiepalooza is an annual charity backyard show on Long Island, featuring the music of several live bands and held in memory of Sue Marchetti. Since 2015, Susiepalooza has raised nearly $22,000 for the Foundation’s research program.

**POUND THE PAVEMENT FOR PURPLE**

The Neptune Township and the Monmouth County Board of Chosen Freeholders host the annual Pound the Pavement for Purple 5K Run/Walk in Neptune, NJ to raise critical funding for pancreatic cancer research. The event has raised nearly $145,000 to date.

**MASSAPEQUA HIGH SCHOOL BASKETBALL ALUMNI GAME CHARITY FUNDRAISER**

Head basketball coach Martin Voigt has organized this Long Island event with high school alumni for the past four years, raising nearly $11,000 for crucial research.

**POUND THE PAVEMENT FOR PURPLE**
2018 CALENDAR OF EVENTS
Be sure to check the calendar of events at www.lustgarten.org for updates.

MARCH
18 United Airlines NYC Half Marathon
New York, NY
24 10th Annual Scacia: A 5K for Pancreatic Cancer Research
Athens, OH
31 Inaugural Lustgarten Walk: Atlanta
Atlanta, GA

APRIL
5 Stout & Chop 2018 at Shoreline Brewery
Michigan City, IL
15 Lustgarten Walk: Westchester
Westchester County, NY
21 Luau for Lustgarten
Rochester, NY
22 Lustgarten Walk: New York City
New York, NY
29 Lustgarten Walk: Westborough
Westborough, MA

MAY
3 Beating the Odds – Casino Night Gala
Bethpage, NY
6 Lustgarten Walk: Staten Island
Staten Island, NY
6 Lustgarten Walk: Mechanicsburg
Mechanicsburg, PA
12 Inaugural Lustgarten Walk and Run: Easton
Easton, MA
12 Lustgarten Walk and Run: Colorado Springs
Colorado Springs, CO
19 Lustgarten Walk: Butler
Butler, PA
19 Lustgarten Walk: Milford
Milford, CT

JUNE
2 Lustgarten Walk: Monmouth County
Monmouth County, NJ
2 Dash for Detection
Chicago, IL
3 Inaugural Lustgarten Walk: Seattle
Seattle, WA
9 Lustgarten Walk: Syracuse
Syracuse, NY
9 Pumping Up for Purple
Hillsborough, NJ
16 Fight Like a Warrior
White Plains, NY
24 Cromwell 18-Hole Stroll
Cromwell, CT

JULY
15 Lustgarten Walk: Naperville
Naperville, IL
15 Lustgarten Walk: Brooklyn
Brooklyn, NY
12 Lustgarten Walk: Howard County
Howard County, MD
19 Lustgarten Walk: Pembridge
Pembroke, OH

AUGUST
12 Lustgarten Walk: St. Louis
St. Charles, MO
8 Village Cup Regatta
Port Jefferson, NY
TBD Lustgarten Walk: Annapolis
Annapolis, MD
15 Dan’s 5K Fun Run/Walk
Brooklyn, NY
16 Lustgarten Walk: Albany
Albany, NY
16 Lustgarten Walk: Cedar Rapids
Cedar Rapids, IA
16 Lustgarten Walk: Paramus
Paramus, NJ
TBD Lustgarten Walk: Fremont
Fremont, CA

SEPTEMBER
12 Lustgarten Walk: Boston
Boston, MA
8 Lustgarten Walk: Jacksonville
Jacksonville, FL
13 Lustgarten Walk: Louisville
Louisville, KY
20 Lustgarten Walk: New England
Boston, MA

OCTOBER
6 Pound the Pavement for Purple
New Haven, CT
7 Lustgarten Walk: Long Island
Wantagh, NY
13 Lustgarten Walk: Dutchess County
Poughkeepsie, NY
14 Lustgarten Walk: Louisville
Louisville, KY
20 Lustgarten Walk: Hannibal
Hannibal, MO

NOVEMBER
4 Lustgarten Walk: Greater Philadelphia
Pennsauken, NJ
4 Lustgarten Walk: Denver
Denver, CO
16 Haymakers for Hope
New York, NY

DECEMBER
15 Lustgarten Walk: San Francisco
San Francisco, CA
TBD Lustgarten Walk: Silicon Valley
Silicon Valley, CA

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