CYCLE FOR SURVIVAL

MEMORIAL SLOAN KETTERING | EQUINOX

cycleforsurvival.org

What You Fund 2019 Allocations

Thanks to this extraordinary community, $42 million was raised in 2019—bringing the total to more than $220 million in thirteen years. Cycle for Survival funding opens doors for hundreds of MSK physicians, scientists, and research teams pursuing bold ideas. It takes every one of us, from first-year riders to Decade Riders, to continue this momentum and move the needle on rare cancer cures.

Within six months of the close of fundraising, donations are allocated to support a wide-reaching research enterprise that empowers scientists and doctors to make lifesaving discoveries. Their common theme: to advance trailblazing innovations that will help patients everywhere.

$42 MILLION
RAISED IN 2019

$2,000,000
SARCOMA

$5,000,000
HOPP

$1,500,000
CENTER FOR HEMATALOGIC MALIGNANCIES

$1,500,000
PRECISION PATHOLOGY BIOBANKING CENTER

$3,500,000
IMMUNOTHERAPY

$1,000,000
PANCREATIC CANCER

$3,000,000
COMPUTATIONAL ONCOLOGY

$1,500,000
MSK ACCESS LIQUID BIOPSY RESEARCH

$1,000,000
ORGANOIDS

$2,500,000
PEDIATRICS

$2,000,000
NORTH PROGRAM FOR BRAIN CANCER RESEARCH

$3,000,000
CENTER FOR MOLECULAR ONCOLOGY

$3,500,000
DIRECTED SUPPORT

$2,000,000
SLOAN KETTERING INSTITUTE

$9,000,000
EQUINOX INNOVATION INITIATIVE

TRANSLATIONAL RESEARCH PROGRAMS
+
GRANT PROGRAMS

cycleforsurvival.org/2019-funding-allocations

Cycle for Survival 2019 Grants

We're thrilled to announce the 2019 grant recipients and proud to support these enterprising endeavors to discover lifesaving treatments.

The grants are an integral part of the **Equinox Innovation Initiative**—named in honor of Cycle for Survival's longtime founding partner—to fuel game-changing research that embodies the innovative spirit of Equinox.

These coveted grants are awarded to MSK physicians and scientists annually through a highly competitive process that enables them to pursue cutting-edge research with speed and agility.

Blood Cancer

Drawing on MSK's trove of clinical and genetic research, **Dr. Ed Reznik** is analyzing the metabolism of cancer cells to pinpoint which patients will respond to new therapies for acute myeloid leukemia (AML) and which have an innate or acquired resistance to the medicines. This work will pave the way for doctors to better match AML patients with the most appropriate drug and to devise new strategies to keep those treatments working.

Bone Marrow Transplants

To help strengthen kids' immune systems after bone marrow transplants, **Dr. Jaap Jan Boelens** is turning to the gut. Since a healthy gut microbiome is necessary for normal immune development in children, Dr. Boelens is sequencing their stool samples to identify the ideal mix of microorganisms and viruses for optimal immune recovery—research that could lead to gut-altering strategies capable of helping kids quickly recover a balanced immune system after this powerful lifesaving procedure.

Leukemia

Dr. Jacob Glass is seeking to identify the characteristics of mixed phenotype acute leukemia—a rare and difficult-to-treat subtype in which multiple forms of the disease occur at the same time. Using a combination of computational biology and genomics, he is working to better characterize the features of each cancer, potentially leading to a better prediction of how MPAL would respond to different treatments.

Lymphoma

To diagnose—and prevent—recurrent primary central nervous system lymphoma, **Dr. Christian Grommes** is using MSK-IMPACT, a test developed by MSK that identifies 468 different cancer-causing genes, to detect the presence of circulating tumor DNA in the cerebral spinal fluid to diagnose brain lymphomas and monitor response treatment. He will identify patients with persistent circulating tumor DNA despite response to initial treatment on conventional imaging—those patients at high risk of recurrence—to offer additional immunotherapy using the drug nivolumab to prevent recurrent disease.

Metastasis

Using zebrafish models of human metastatic melanoma, a particularly aggressive form of cancer, **Dr. Richard White** is investigating whether certain genes can predict if cancers will spread, or metastasize. He has teamed up with two other well-known melanoma researchers, Leonard Zon and David Adams, to identify how these genes get altered in humans, before using the fish to distinguish their function. Because zebrafish are small and grow quickly, they allow scientists to study how cancer cells change over time. Dr. White even developed a transparent strain of zebrafish, *casper*, to monitor every step of cancer progression. This could lead to new therapies that target metastasis—the cause of 90 percent of cancer deaths—before it even happens.

Metastatic Sarcoma

Dr. Michael Roehrl is mapping out how patients' proteins (i.e. the "machines of life") impact disease progression and outcomes in sarcomas. The goal is to find new ways to control metastasis and help patients fight the disease with treatments tailored to their individual needs. For the first time, his team will analyze patients' sarcomas simultaneously at both epigenetic and deep protein levels to gain insight into the pathways that cause these rare cancers to spread. They aim to identify new subtypes of sarcomas and learn how and why these diseases metastasize.

Pancreatic Cancer

To improve immunotherapy treatments for patients with pancreatic cancer, **Dr. Tuomas Tammela** is building on previous research that revealed a promising new way to promote anti-tumor response. Knowing that cancer cells hijack signals from normal stem cells, his team is working to block those signals to make the cancer more vulnerable—potentially leading to a first-of-its-kind therapy for patients who currently have no treatment options.

Recurrence

A patient's risk of cancer recurrence increases when traces of the disease remain in the bloodstream after surgery. **Dr. Yelena Janjigian** is using MSK-ACCESS, a blood test that detects DNA shed from tumors, to study whether combination immunotherapy treatments can improve outcomes for people whose cancers have been surgically removed. The goal: to eradicate this circulating tumor DNA, which predicts a patient's chance of recurrence, and if detected and treated early, may maximize the chances of a cure.

Sarcomas

Dr. Edmund Bartlett is studying whether immunotherapy drugs become more effective when combined with chemotherapy delivered directly to an arm or leg affected by sarcoma. This approach attempts to limit the side effects of chemotherapy while triggering an inflammatory response in sarcoma tumors. The goal is to enhance the efficacy of PD-1 inhibitors, drugs that release the immune system's natural brakes, so it can mount a stronger attack against cancer.

Soft Tissue Sarcoma

Soft tissue sarcomas are frequently treated with surgery followed by radiation therapy, which kills cancers cells or slows their growth by damaging those cells' DNA. **Dr. Atif Khan** is studying whether this DNA damage can be enhanced with drug combinations to trigger immune responses in sarcoma cell lines that can be exploited to improve outcomes. His research could pave the way for the development of new drug treatments and combinations to better control local cancers as well as those that have spread.

Thyroid Cancer

Dr. Laura Boucai is examining whether radioactive iodine—frequently used as a targeted therapy for thyroid cancer—may lead to clonal hematopoiesis, a rare blood condition associated with a higher risk of cardiovascular disease as well as certain forms of leukemia. If the relationship is confirmed, the result would provide crucial new information to inform treatment decisions for patients.

Treatment Resistance

Too often, cancer cells adapt to a drug that initially worked, forcing patients to change their course of treatment. For rare cancers, there is often no "Plan B." **Drs. Marc Ladanyi** and **Romel Somwar** are focused on overcoming treatment resistance for a group of rare cancers that share fusions of the gene NRG1. By studying cell lines of these tumors in the laboratory, his team hopes to further understand the mechanisms driving resistance to medicines that target the proteins HER2 and HER3—leading to better outcomes for patients.