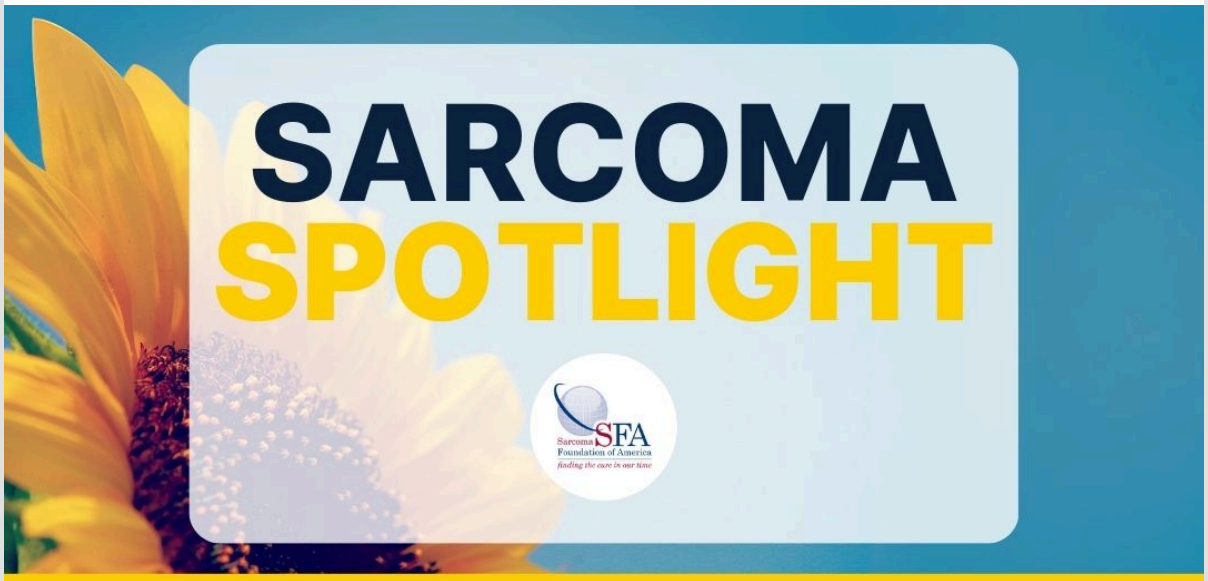


AUGUST 2024

Research Roundup

by Dean Frohlich, PhD

This month I am glad to start by highlighting a paper, the research for which was partly funded by SFA entitled, ”Single cell transcriptomic profiling identifies tumor-acquired and therapy-resistant cell states in pediatric rhabdomyosarcoma.” For this paper, the researchers investigated the variety of cell subtypes and the similarities those cell types share with undeveloped muscle cells within Rhabdomyosarcoma (RMS). To do this, they sequenced RNA from individual cells from RMS patient tumors, patient-derived xenografts, primary in vitro cultures, and cell lines. Following analysis of these data they were able to classify the tumor cells into four different cell states based on when in muscle development the RNA expression occurs. They also found that for one subtype of RMS, Fusion-negative RMS (FN-RMS), the tumor cells have a distinct progression that resembles fetal muscle development and contains cell types that are resistant to therapy. Additionally, they found that a different subtype, Fusion-positive RMS (FP-RMS), have cells in tumors that do not resemble those in muscle development one of which is more like a neuron. This research has identified various tumor cell states including those that are treatment resistant and are RMS subtype specific that may be responsible for tumor recurrence and may be the targets of future therapies.

The second study, “Palbociclib in Patients With Soft Tissue Sarcoma With CDK4 Amplifications: Results From the Targeted Agent and Profiling Utilization Registry Study, is an example of how precision medicine is making inroads in sarcoma. This report is part of a larger study in which the investigators are studying the use of FDA approved, commercially available drugs that target specific genes in patients with advanced cancer whose tumors harbor those specific genomic alterations outside of the drug’s approved indication. Here, the genomic alteration is amplification of a protein called cyclin-dependent kinase 4 (CDK4), which increases the levels of CDK4 in patients with sarcoma, who were treated with a CDK4 inhibitor called palbociclib. The main outcome being investigated was disease control (DC), defined as objective response (OR) or stable disease (SD) of at least 16+ weeks duration (SD16+). Of the 42 patients enrolled, 1 patient had on objective response and 18 had stable disease of at least 16 weeks for a DC of 46% meeting the prespecified criteria for an antitumor activity signal. This data indicates that further research is warranted for the treatment of CDK4 amplified sarcomas with Palbociclib.

In Ewing sarcoma, two proteins are fused together into what is called a fusion protein (FP), which then drives tumor growth. In the last publication, "Open-Label, Multicenter, Phase I/II, First-in-Human Trial of TK216: A First-Generation EWS::FLI1 Fusion Protein Antagonist in Ewing Sarcoma, the researchers use a new drug called Tokalas (TK)216 to disrupt the ability of the FP to interact with other key proteins and inhibiting tumor cell growth. Of the 44 patients in the treatment groups of what was determined to be the recommended phase 2 dose, two patients had a complete response, one had a partial response. This early study demonstrates that this FP can be targeted and may be able to be combined with other drugs for the treatment of Ewing sarcoma.

Clinical Trials Corner

by Kristi Oristian, PhD

This month SFA is highlighting a randomized Phase III trial of Doxorubicin + Pembrolizumab versus Doxorubicin alone for the treatment of undifferentiated pleomorphic sarcoma (UPS) and related poorly differentiated sarcomas. This is a multi-center study for patients with undifferentiated pleomorphic sarcoma (UPS) or a related poorly differentiated sarcoma that has spread from where it first started to other places in the body (metastatic) or that cannot be removed by surgery (unresectable). This study, sponsored by the National Cancer Institute is open to people ages 18 and older in the United States. All patients enrolled in the study will receive doxorubicin, and will have the option to receive pembrolizumab.

Patients eligible for this trial will be randomized to one of two groups. In one group, patients will receive doxorubicin by infusion into a vein over 3-10 minutes or up to 3 hours and pembrolizumab by infusion into a vein over 30 minutes on day 1 of each cycle. Treatment repeats every 21 days for 6 cycles of doxorubicin and up to 2 years of pembrolizumab until disease progresses or patients experience unacceptable toxicity.

In another group patients will receive doxorubicin by infusion into a vein over 3-10 minutes or up to 3 hours on day 1 of each cycle. Treatment repeats every 21 days for 6 cycles of doxorubicin until disease progresses or patients experience unacceptable toxicity. At the time of disease progression, patients may begin receiving pembrolizumab by infusion into a vein over 30 minutes on day 1 of each cycle. Cycles of pembrolizumab treatment will repeat every 21 days for up to 2 years until disease progresses or patients experience unacceptable toxicity.

Patients in both arms will have regular standard imaging scans, blood sample collection, and testing to measure heart health.

This study will help doctors and scientists understand if adding immunotherapy (pembrolizumab) to chemotherapy (doxorubicin) helps patients with metastatic or unresectable UPS or other poorly differentiated sarcoma live longer without having disease progression.

There are additional eligibility and exclusion criteria, including minimum organ function requirements and a confirmed histopathologic diagnosis of UPS or a related poorly differentiated sarcoma. Patients interested in this study should review these criteria with their doctor. To learn more about this study, patients can talk to their doctor, contact the investigator at the site nearest you or your primary treatment center, or contact the study sponsor.

Sean Cincotta is this year's recipient of the 2024 Amira Yunis Courage Award. Sean was diagnosed with Osteosarcoma in his right arm in January 2023. In March 2023, Sean underwent a 14-hour shoulder and humerus resection to remove the tumor. Dr. Tae Won Kim of Cooper University Health Care's Orthopedic Oncology Center successfully removed the tumor and preserved the nerve function of his arm and hand. In May 2023, Sean started the next round of his fight: intense chemotherapy. With the support and guidance of Dr. Polina Khrizman and her team at MD Anderson at Cooper, Sean completed his chemotherapy in January 2024. Thanks to the efforts of his team of doctors and unyielding love and support from his family and friends, Sean is cancer-free today.

Sean grew up and currently resides in Ambler, PA. He graduated from La Salle College High School and subsequently Saint Joseph's University, and is a Vice President at Delancey Street Partners. Since his diagnosis, Sean has been active with the Race to Cure Sarcoma Philadelphia and SFA's Adolescent and Young Adult Committee, serving as an advocate for sarcoma patients and survivors.

YOU'RE INVITED

TUESDAY OCTOBER 1ST
583 PARK AVE NYC

Dinner Event
Cocktail Attire
6-10PM EST

HONORING

COMPASSIONATE CARE AWARD

JACLYN CARDARELLI-MATTE, LICSW
Massachusetts General Hospital
Sarcoma and Gynecological Social Worker

AMIRA YUNIS COURAGE AWARD

SEAN CINCOTTA

COURAGE AWARD

KELLY ELMLINGER
Paralympian and Sarcoma Survivor

EMILY OBERST
Paralympian and Sarcoma Survivor

NOBILITY IN SCIENCE AWARD

CRISTINA R. ANTONESCU, MD
Director, Soft Tissue and Bone Pathology
Memorial Sloan-Kettering

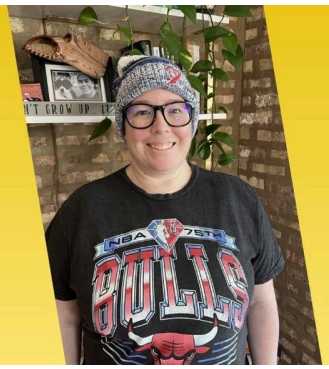
VISION OF HOPE AWARD

DAVID FAJGENBAUM, MD, MBA, MSC
Associate Professor of Medicine,
Translational Medicine & Human Genetics
Associate Director, Patient Impact, Orphan Disease Center, University of Pennsylvania
Co-Founder, Every Cure

BECOME A SPONSOR | PURCHASE A TICKET | PURCHASE A JOURNAL AD | MAKE A DONATION

MY SARCOMA STORY

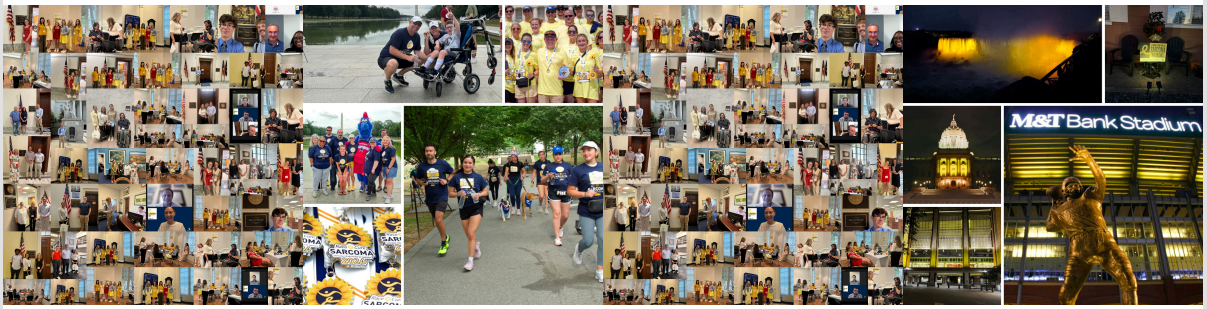
KATE DEFORGE



Kate DeForge, who shared her inspiring story with us in 2023, will be participating in Race to Cure Sarcoma Chicago on September 28. **You can join her and many other survivors and members of the community at McCormick Place - Lakeside Center.**

Kate underwent open heart surgery. That is not something most people are thankful for, but for Kate, it led to an unexpected discovery: a cardiac sarcoma diagnosis that may not have been found for a very long time otherwise. At 37 years old, and after recovering from heart surgery, Kate began her journey with sarcoma. One of Kate's biggest struggles has been managing her sarcoma treatment alongside a mechanical valve she received during heart surgery. A mechanical valve is a type of heart valve made with materials like titanium and carbon. The presence of the mechanical valve complicates her sarcoma treatment and necessitates careful monitoring of her platelet levels. During chemotherapy, there can be a temporary drop in various blood cell counts, including platelets. In Kate's case, she needs to be on an anticoagulant to help prevent blood clots for the rest of her life. "Once they [platelets] hit 50,000, I have to get off my anticoagulant and go on heparin drips, so it's led to a lot more in-patient visits on top of my treatment," says Kate.

Read the rest of Kate's story

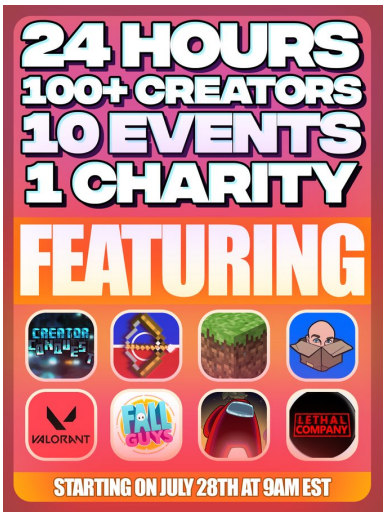


Thank you for your incredible participation in Sarcoma Awareness Month. Your dedication and hard work have helped bring awareness about sarcoma to people all around the world. This achievement wouldn't have been possible without your support and commitment.

However, our work doesn't stop here. We must continue our efforts to raise awareness, support research, and advocate for those affected by sarcoma. Together, let's continue to make an impact. Take a look at all of the great things we achieved throughout the month by clicking below.

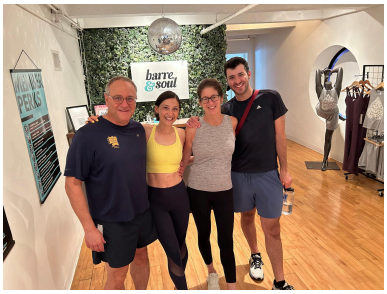
Sarcoma Awareness Month Highlights

Streamers Unite: Gaming for a Cure



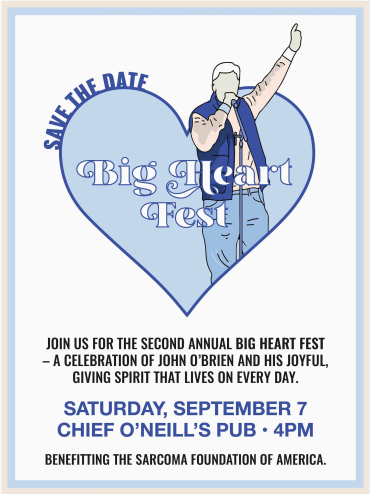
More than 150 members of the video game streaming community recently came together for the Streamers Against Cancer fundraiser, raising more than $2300 to help people affected by sarcoma. Throughout the day of Sunday, July 28. participants pitted their wits and gaming skills against each other as they streamed competitions in Minecraft, Among Us, Bedwars, Fall Guys and other games. SFA is grateful for all those who took part in or donated to the event. Read more about the event or help the streamers reach their final goal of $2500 **here**.

Barre & Soul hosted fundraiser for Sarcoma Awarness Month



On Saturday July 27th, Barre & Soul Yoga Studio in Cambridge, MA hosted a donation class for Sarcoma Foundation of America, raising $715 for Sarcoma Awareness Month. Class was sold out in person, with many participating virtually from East Coast to West Coast! Class was taught by instructor Tasha Nathan, who is also SFA's Program Manager of Engagement and Advocacy and a sarcoma survivor herself. The studio had hosted a donation class for Tasha to help with medical costs when she was undergoing treatment, and she had hoped from that moment that she would one day return to teaching and host a donation class to give back to the Sarcoma community and support others in their sarcoma journey. Thank you Barre & Soul for your contribution to improving outcomes for all those facing a sarcoma diagnosis.

Chicago Music Festival to Raise Funds and Celebrate John O'Brien's Big Heart

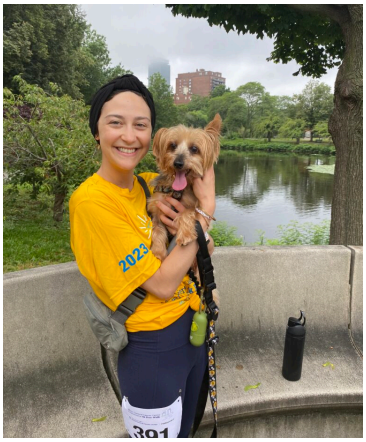


On Saturday, September 7, the John W. O'Brien Family Foundation is hosting the Big Heart Fest music festival and fundraiser to celebrate the life and joyful, giving spirit of John O'Brien, who passed from chondrosarcoma in July 2022. All are invited to attend.

This year's Big Heart Fest will take place from 4 to 10 p.m. at Chief O'Neill's Pub and Restaurant, located at 3471 North Elston Avenue in Chicago and will feature a variety of musical acts as well as unique and live auction items. Last year's inaugural Big Heart Fest raised more than $240,000 for SFA, helping to establish the John O'Brien Memorial Research Award, which was announced earlier this July.

Learn More & Register

Natasha Nathan Advances to New Role at SFA



Congratulations to Natasha Nathan, who has accepted a new position as SFA's Engagement and Advocacy Program Manager. In this role, Natasha will work to advance SFA's patient engagement and advocacy priorities, develop and coordinate education activities, ensure the patient voice is included in SFA's programs, and advance patient advocacy initiatives. Previously part of SFA's development team, Natasha brings a wealth of experience from both corporate and non-profit sectors with a rich and diverse background spanning program coordination, grant administration, and marketing across the education, travel, and health industries. Read more about Tasha and her work here.

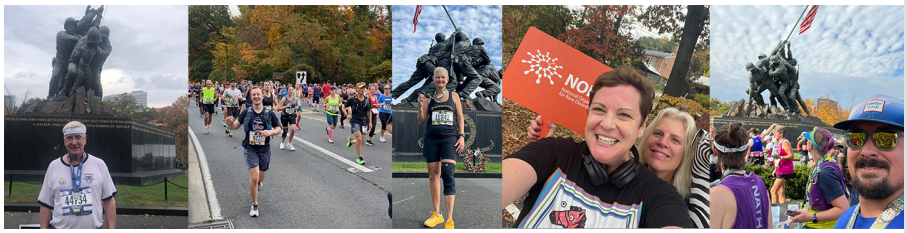
CLEVELAND PHOTOS

MILWAUKEE PHOTOS

NATIONAL DC PHOTOS

ADD YOUR NATIONAL VIRTUAL PHOTOS

Join SFA at the 2024 Marine Corps Marathon!



Sarcoma Foundation of America (SFA) is once again proud to partner with the 2024 Marine Corps Marathon (MCM) in Arlington, VA, on October 27, 2024! Run through the nation's most iconic landmarks, supported by the United States Marine Corps, and make a difference for sarcoma patients and their families.

By joining SFA's race team, you'll help drive innovative sarcoma research. Secure your guaranteed race entry now by committing to a personal fundraising goal. Already have entry? You can still join our team and fundraise for SFA's mission.

For more details or to join **click here** or email **Annie Blake.**

Race TO Cure SARCOMA
SARCOMA FOUNDATION OF AMERICA

Philadelphia - September 14
San Diego - September 21
Chicago - September 28

St. Louis - October 12
Denver - October 26
Tampa - November 2

New Jersey - October 6
Los Angeles - October 12

Nashville (Virtual) - November 2

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finding the cure in our time