

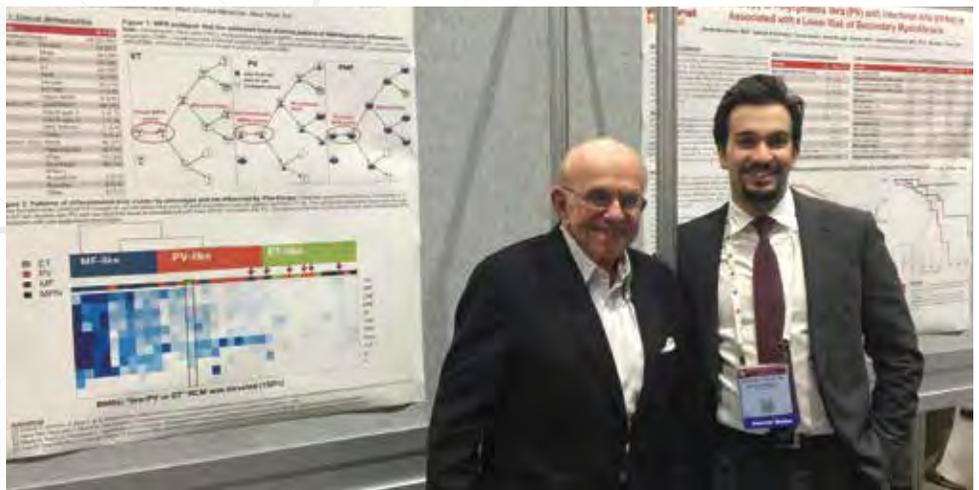
NEW STUDY: INTERFERON CAN PROMOTE LONGER, HEALTHIER LIVES FOR POLYCYTHEMIA VERA PATIENTS

The results of a new study, presented at the Annual Meeting of the American Society of Hematology (ASH) in December 2020, showed that patients with polycythemia vera (PV) who receive interferon had a significantly lower risk of developing myelofibrosis, the most severe of the myeloproliferative neoplasms (MPNs), a group of blood cancers. Further, when compared to other standard treatments for PV, interferon enables patients to live much longer.

This large study, supported by CR&T and conducted by investigators at the Richard T. Silver MD, MPN Center at Weill Cornell Medicine, is the culmination of years of pioneering research into the effectiveness of interferon by Dr. Silver, the Center's Director Emeritus, and colleagues. Based on an analysis of the records of 470 patients, this study represents the largest number of PV patients, with the longest follow-up period, from any single institution. Ghaith Abu-Zeinah, MD, Instructor in Medicine at Weill Cornell and one of the co-authors, presented the paper, which had been accepted by the Society after a highly competitive process. Preliminary results had been presented in 2019.

A mutation in the gene known as JAK2 causes PV patients to produce too many red blood cells, white blood cells, and platelets. The overproduction of red blood cells causes the blood to thicken, which can cause thrombosis (blood clots), putting patients at risk for heart attacks and stroke. Over time, the disease can progress to myelofibrosis, an MPN that causes scarring of the bone marrow and severe anemia. Rarely, myelofibrosis can lead to leukemia.

While a growing body of work underscores the effectiveness of interferon and many physicians worldwide have been using the drug to treat PV, the most common therapies are phlebotomy (bloodletting, which reduces the number of red blood cells) and hydroxurea (HU), a form of chemotherapy. However, when the Silver Center investigators compared the results of interferon treatment to the two standard therapies, they found a substantial improvement in the interferon group. Twenty



Drs. Ghaith Abu-Zeinah (r) and Richard T. Silver

years after diagnosis, 85% of patients who had been treated with interferon had not progressed to myelofibrosis, compared to 59% percent of the HU group and 51% of the phlebotomy group. In addition, overall survival for patients on interferon was 95%, compared to 63% for HU and 57% for phlebotomy.

The authors concluded that interferon is not only effective, but safe and well tolerated by most patients. They recommend that interferon should be strongly considered as a first-line treatment for patients diagnosed with PV—a change in the practice guidelines of the National Comprehensive Cancer Network (NCCN) and the European Leukemia Net (ELN).

In addition to Drs. Abu-Zeinah and Silver, the authors of the paper include Ellen Ritchie, MD, and Joseph M. Scandura, MD, PhD, the Scientific Director of the Silver Center. A manuscript pertaining to this research has been accepted for publication by the internationally renowned journal, *Leukemia*.

This project was funded by the Johns Family in support of Cancer Research & Treatment Fund and by The Applebaum Foundation.

To hear Dr. Abu-Zeinah discuss this study, visit www.crt.org/mpn-patient-symposium-videos and select Presentations, Part 1 under "11th International Patient Symposium on Myeloproliferative Neoplasms."

MESSAGE FROM THE PRESIDENT



Happy New Year from all of us at CR&T! We are all looking forward to happier, healthier days ahead. We are pleased to report that CR&T is beginning the year in a position of strength. During this challenging time, when so many worthy nonprofit organizations are struggling, we continue to pursue our ambitious research goals – all thanks to your generous support.

Over the past 53 years, CR&T has funded research into breast, lung, and prostate cancer, but our primary focus is on blood cancers, especially the myeloproliferative neoplasms (MPNs). In 2011, we made a multi-year pledge of more than \$6.2 million to build the world's leading center dedicated to MPN research and patient care: The Richard T. Silver, MD MPN Center at Weill Cornell Medicine (WCM) in New York City.

Last spring, when the city went into lockdown, everyone feared that the pandemic would have a devastating impact on this important work. By mid-April, when the disease reached its peak, all of the medical staff at WCM, including the doctors at the MPN Center, were involved in caring for COVID-19 patients. In addition to adapting to the enormous strain on the medical system, they had to take extraordinary precautions to avoid bringing the virus home to their families.

With all efforts focused on combating the virus, most research activities came to a halt. With Silver Center physicians devoting much of their attention to the COVID-19 crisis, sophisticated lab equipment was shut down. Half of the experimental mouse colony was sacrificed because the husbandry staff had very limited access and was unable to care for the animals. The impact to our research was significant.

But – thanks to the efforts of all healthcare professionals and the commitment of people from all walks of life throughout the city – the curve flattened, and by June, the MPN staff began to return to their normal activities.

Today, CR&T-funded physician-scientists continue to conduct basic research and clinical trials of promising new cancer therapies. As our cover story shows, they are publishing their findings in major scientific journals and presenting their data virtually at international medical conferences, including the 2020 Annual Meeting of the American Society of Hematology (ASH). This is a tribute to the quality of work accomplished at the Silver MPN Center.

Successful Events

Due to the pandemic, we also reimagined our two major fall events, the International Patient Symposium on MPNs and our signature fundraising event, the Cancer Survivors Hall of Fame Dinner. For the first time, we presented both programs in a virtual format, with great success. Importantly, holding these events online enabled us to reach a wider audience, including patients and families who were not previously familiar with CR&T's programs. While we greatly look forward to seeing our friends and supporters in person during our 2021 events, we will be sure to include a virtual component whenever possible.

Thanks to you, CR&T is emerging from this difficult time stronger and more determined than ever to fulfill our mission. We have been able not only to survive, but to thrive – as we have for more than 50 years. We hope that 2021 will be a year of health and happiness for you and yours, and look forward to the day when, together, we will celebrate our victory over cancer.

Thomas M. Silver
President

MEDICAL ADVISORY BOARD NEWS

CR&T's Medical Advisory Board (MAB) comprises prominent physician-scientists who guide the organization's research strategy. Here are some of their latest achievements.

Congratulations to **Anne M. Moore, MD**, on her appointment to the American Society of Clinical Oncology's Conquer Cancer Board of Directors. Dr. Moore, a professor of clinical medicine at Weill Cornell Medicine (WCM) and an attending physician at New York Presbyterian Hospital, is the director of WCM's Breast Cancer Survivorship.

The New York Times consulted **Jerry L. Spivak, MD**, Emeritus Professor of Medicine at Johns Hopkins Medicine and an expert on blood cancers, for an article about a patient who died

from a rare blood disorder, acute immune thrombocytopenia, after receiving the Covid-19 vaccine. Whether or not the condition was related to the vaccine is controversial, and Dr. Spivak noted that this "very rare" case should not stop people from receiving the vaccine.

Richard T. Silver, MD, who became an Emeritus Professor of Medicine at WCM last year, reflected on "A Relevant Retirement" in the January 2021 issue of *ASH Clinical News*. You can read the full article at www.ashclinicalnews.org/viewpoints/from-our-readers/guest-commentary/a-relevant-retirement. Named for CR&T's founder, the annual Richard T. Silver Visiting Professorship features a distinguished expert who lectures on an important topic. On January 13, **Laura C. Michaelis, MD** (Associate Professor of Medicine, Medical College of Wisconsin), gave a virtual presentation titled "Coronavirus and Cancer: What Have We Learned?"

CR&T'S 2020 HALL OF FAME



Virtual roundtable speakers during the Cancer Survivors Hall of Fame Gala

With the opening chords of The Pretenders' "I'll Stand by You," movingly sung by Diane Lutz, CR&T launched its first virtual Cancer Survivors Hall of Fame Gala on December 3. The program focused on CR&T's research achievements and the dedicated patients, volunteers, and physician-researchers who make them possible.

Tom Bergeron, two-time Emmy Award-winning host, brought warmth and humor to the evening as he introduced Tom Silver, CR&T's President, who thanked the audience for their support and introduced a roundtable featuring Drs. Richard T. Silver, Ghaith Abu-Zeinah, Joseph M. Scandura, and Andrew I. Schafer of the Silver Myeloproliferative Neoplasms (MPN) Center at Weill Cornell Medicine, CR&T's key research initiative. Two members of the organization's board of directors, Dr. Jeffery Puglisi and Terry Hermanson, spoke about the importance of CR&T's work and its impact on their MPN journeys. Terry was joined by the physician who performed his bone marrow transplant, Dr. Koen van Besien, Director of the Stem Cell Transplant Program at Weill Cornell Medicine.

A highlight of the program was a cooking demonstration by Fuller Goldsmith, the 2017 Chopped Junior Champion. Now 17, Fuller was first diagnosed with leukemia at the age of three. He endured three relapses at ages seven, 11, and 14, leading to intensive chemotherapy and a bone marrow transplant. Finally, in February 2019, he underwent a new treatment at Seattle Children's Hospital, which used his own immune system to put him into remission. Today, Fuller is a pioneer in the world of childhood cancer who uses his inspiring story and culinary talents to raise awareness and funds for research.

You can view the entire program, as well as Fuller's complete cooking demonstration, at <https://crthalloffamegala.com>.

COOKING WITH FULLER

Ingredients:

- 1 Head of Cauliflower, cored and
- 1 Jicama Root, julienned
- 1 Serrano Pepper, sliced
- 1 Green Apple, julienned
- 2 Small Sweet Peppers, sliced
- Juice of 1 Lime
- 1 T Cilantro, sliced
- 2 Green Onions, sliced
- 2 Filets of Chilean Sea Bass or a
- 1 Cup of Cream
- Olive Oil
- Butter
- Fresh Rosemary
- Fresh Thyme
- 2 Cloves Garlic
- 1 T Paprika
- 1 T Granulated Garlic
- Salt and Pepper

ME GALA GOES VIRTUAL



Dr. Jeffery Puglisi and Tom Bergeron

GOLDSMITH: CHILEAN SEA BASS OVER CAULIFLOWER PUREE TOPPED WITH JICAMA SLAW

cut into pieces

ny white fish



Fuller displays the finished dish.

Bring Cauliflower to a boil and cook until tender. Puree the cauliflower with any preferred method until of a desired consistency. Add 4 T butter and 1 cup heavy cream and mix. Add salt and pepper to taste. Keep warm.

For the slaw: Combine peeled and cut jicama root, apple, peppers, and green onion into a bowl. Add the juice of one lime and mix well.

For the fish: Season filets with paprika, salt and pepper. Warm 2 T of olive oil in a heavy pan; add fish filets and brown on all sides. After the fish has been browned, add 4 T butter, 2 cloves of garlic, sprigs of rosemary and thyme. Once butter has melted, baste the filets using a spoon. The filets will have more flavor with longer basting time. Butter can turn brown, but do not burn.

To plate: Scoop Cauliflower puree onto plate, top with fish, followed by the matchstick slaw. Garnish with cilantro. Enjoy!

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CR&T's work would not be possible without the generous support of our donors and grantors. We are deeply grateful for their commitment to our mission. The list below comprises supporters who provided gifts of \$500 or more in 2020. For the complete list, please visit www.crt.org.

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VIEW VIDEOS FROM OUR MPN PATIENT SYMPOSIUM

Our popular International Patient Symposium on Myeloproliferative Neoplasms (MPNs) is offered every fall, in conjunction with a two-day professional program, the International Congress on MPNs. While the pandemic prevented us from presenting a live Symposium in 2020, we were able to move the event to an online platform with great success. More than 330 patients and caregivers from around the world registered for the program, which took place on October 28. In addition to six pre-recorded presentations on key topics, the program featured a live Q&A session and three live, disease-specific break-out groups (polycythemia vera, essential thrombocythemia, and myelofibrosis).

You can view the presentations and the Q&A session here:
www.crt.org/mpn-patient-symposium-videos.

Our 2021 Symposium is scheduled for October 27. Look for more information on www.crt.org and sign up for updates by emailing info@crt.org.

We are grateful to our sponsors for making the Symposium program possible

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CR&T NEWS

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Since 1968, CR&T has funded the world's most promising physician-scientists, equipping them with the resources to advance the treatment of various types of blood cancers, including myeloproliferative neoplasms (MPNs), leukemia, non-Hodgkin's lymphoma, Hodgkin's disease and multiple myeloma, as well as other common cancers, such as breast and lung cancer.

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