



From Metastatic Cancer Survivor to Marathon Runner

A Bloomberg-Kimmel Institute Treatment Saves Another Life

As 37-year-old **Kristina** laced up her running shoes to begin the grueling 26.2-mile New York City Marathon in 2019, she knew where to find the grit, tenacity and determination it would take to make it to the finish line. Baum drew her inspiration from her 7-year battle with metastatic melanoma, a deadly skin cancer.

Her survival—and the ability to take on a marathon—are a testimony to Baum’s strength and the power of discoveries at the Kimmel Cancer Center’s Bloomberg-Kimmel Institute for Cancer Immunotherapy. Experts there researched and developed the treatment plans that saved Kristina’s life—twice.

Baum’s cancer story began in 2012 when she noticed a raised bump on her arm. At 30, cancer was the last thing on her mind.

“I thought cancer was an old person’s disease,” she said.

A biopsy of the bump revealed it was melanoma, and worse yet, it had already spread to nearby lymph nodes. At the time, there were not many effective treatments for patients with melanoma. It was a grim diagnosis.

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She received initial treatment at a hospital near her home in Washington, D.C., with a drug called interferon, a version of the body’s own natural protein that works by stimulating the immune system. Melanoma and other cancers sometimes respond to the treatment, but there

are many side effects, such as flu-like symptoms and severe fatigue.

Interferon might have been tolerable if it kept her melanoma in check, but in 2016, Kristina learned the cancer had spread to her kidney. She came to the Kimmel Cancer Center to see melanoma expert **Evan Lipson**.

“Learning you have metastatic cancer is not just life-altering, it’s life-shattering,” says Kristina

She didn’t believe she had many options, but Lipson told her about a clinical trial testing a new combination of medicines called immune checkpoint inhibitors. When cancer cells turn off natural immune regulators to avoid recognition by the immune system, these drugs re-ignite the immune response to the cancer.

The combination Lipson had in mind was based on research from the Kimmel Cancer Center’s Bloomberg-Kimmel Institute for Cancer Immunotherapy, demonstrating that blocking two of these immune checkpoints, called PD-1 and LAG-3, could work in synergy to boost the immune response.



LIPSON



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After two infusions, she was hospitalized with autoimmune meningitis—her own immune system was attacking and inflaming tissues surrounding her brain. Her skin felt like it was on fire. She was weak and had no energy. To add insult to injury, the prednisone given to control the side effects caused her to gain weight. The good news was that the tumor in her kidney was going away.

Kristina longed to feel well again. She started with long walks, gradually building her strength back. She wanted to try a triathlon, and she made that her goal.

By 2017, she was running five miles a day and was finally beginning to feel like herself again, so in December 2018, when she began experiencing extreme fatigue and vertigo, she chalked it up to over-training.

As part of her follow-up care for her cancer, she had an imaging test called an MRI. Lipson called her with the results.

“I knew it wasn’t good. I could hear it in his voice,” Kristina recalls.



She learned that the cause of her symptoms was her melanoma, which had appeared again and, this time, it was in her brain. The news was crushing.

“No matter how many times you go through it. It’s traumatic. It makes you emotional,” says Kristina.

Lipson had another clinical trial in mind for Kristina. This time, in collaboration with radiation oncologist **Lawrence Kleinberg**, he prescribed a treatment that included a course of immunotherapy given in combination with focused beams of radiation aimed at the brain tumor. Research at the Kimmel Cancer Center suggested that radiation therapy might prime the body’s immune system to respond better to immunotherapy and more easily recognize and attack cancer.

Less than a year later, after finishing treatment for cancer that had spread to her brain, Kristina was about to realize the goal she set for herself a few years earlier. As she approached the starting line of the New York City Marathon and joined a field of 55,000 other runners, she had a unique driving force, harnessing inspiration from her hard-fought battle against cancer.

“It was one of the hardest things I’ve ever done. You have to dig deep,” says Baum. “That’s where you find the reason to keep putting one foot in front of the other.”

Kristina, now in her forties, purchased her first home, finished her fifth marathon, and started a new job, leading strategic communications for the American Veterinary Medical Association. She also joined the board of directors of the Melanoma Research Foundation.

“I wanted to be an advocate for others in the trenches,” she says. “As a patient being able to have access to top research is so important. You want to be closer to advancements.”

Kristina says she has a special place in her heart for the physicians and nurses doing translational research.

“Being part of a clinical trial and playing an active role in advancing medicine felt very empowering for me,” says Kristina. “I want to help make a better journey for others.”