Pediatric Cancer Survivor to Go on Historic Space Mission

Hayley Arceneaux, who survived pediatric cancer, hopes her pioneering journey will inspire other patients.

March 1, 2021 By Caroline Tien

One of the four people on board a space shuttle slated for takeoff before the end of 2021 will be pediatric cancer survivor Hayley Arceneaux, a 29-year-old physician assistant at St. Jude Children's Research Hospital in Memphis. The mission, Inspiration4, will be crewed entirely by non-astronauts.

Arceneaux will become the youngest American—and the first person with prosthetic body parts—to orbit Earth. In an interview with The New York Times, she said she hopes her trailblazing feat will inspire pediatric cancer patients at St. Jude and other medical centers around the world.

"They'll be able to see a cancer survivor in space, especially one that has gone through the same thing that they have," she said. "It's going to help them visualize their future."

The historic opportunity comes courtesy of billionaire Jared Isaacman, who announced that he had bought the rocket launch from the space exploration company SpaceX in January. Of the four available seats, one will be filled by Isaacman, one by a frontline health care worker at St. Jude (Arceneaux), one by a donor to St. Jude and one by an entrepreneurial member of the public who wins a sweepstakes contest sponsored by Isaacman's financial software company Shift4. The donor and the sweepstakes winner have yet to be chosen, although the sweepstakes itself has ended. By the time of the launch, Isaacman hopes to have raised $200 million for St. Jude, $100 million of which is coming out of his own pocket.

"I truly want us to live in a world 50 or 100 years from now where people are jumping in their rockets like the Jetsons and there are families bouncing around on the moon with their kid in a spacesuit. I also think if we are going to live in that world, we better conquer childhood cancer along the way," Isaacman told The Associated Press of his decision to marry the mission with a fundraising effort for the hospital.

Arceneaux, a Louisiana native, was chosen in January to accompany Isaacman. She was 10 in 2002, when she developed a noticeable bump on her left knee and began experiencing severe local pain—symptoms that prompted her mother to seek medical attention.

Doctors at St. Jude eventually diagnosed her with bone cancer and surgically replaced her left knee and a section of her left thighbone with metal prostheses, according to the AP. While in treatment, Arceneaux attended fundraisers and won one of Louisiana Public Broadcasting's Young Heroes awards. The whole experience informed her desire to pursue a career in medicine. In a video shown at the 2003 awards ceremony, she said, "When I grow up, I want to be a nurse at St. Jude. I want to be a mentor to patients. When they come in, I'll say, 'I had that when I was little, and I'm doing good.'"

In 2020, Arceneaux fulfilled that longtime dream when St. Jude hired her to work with children with leukemia and lymphoma. In the intervening year, her personal experience with cancer and its treatment has helped her form a rapport with the kids and teenagers under her care.

"I shared with him that I also lost my hair," Arceneaux told the Times, recounting a recent encounter with a patient. "I told him, 'You can ask me anything. I'm a former patient. I'll tell you the truth, anything you want to know.' And he said, 'Will you really tell me the truth?' And I said yes."

Isaacman and Arceneaux have already paid three visits to SpaceX's headquarters in Hawthorne, California, to prepare for the launch. Per a SpaceX press release, the shuttle, Dragon, will take off from Launch Complex 39A at NASA's Kennedy Space Center in Florida, orbit Earth every 90 minutes for three or four days and touch down off the coast of Florida.

Some studies have found that space travel comes with an increased cancer risk, but others have disputed that conclusion. For more on both sides of the debate, read "Long-Term Space Travel Could Pose a Major Cancer Risk" and "Astronauts May Not Face Increased Risk for Cancer After All."

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