

# MAKING THE LEAP

An appointment to treat an orthopedic injury may have saved the life of one New York Methodist Hospital patient.





**THE MOMENT MATTHEW WERT, M.D.,** orthopedist at New York Methodist Hospital, heard Crystal Cardona speak, he knew that something was seriously wrong. The mother of two was having trouble catching her breath, and her voice was raw and scratchy. Dr. Wert suspected that a blood clot in her lungs was the cause and quickly urged her to go to the emergency room at NYM.

That was the first time Crystal met Dr. Wert. But her journey to his office, and ultimately, the Hospital ER, started far from her home in Flatbush.

### A SUDDEN INJURY

On July 12, 2015, Crystal, a supervisor teller at a local bank branch, traveled to New Jersey with her parents, Glenn Johnson and Jezebel Cardona, and her two daughters, Nalanie, ten, and Nysanie, five, to spend the day at a trampoline park.

"I'm the kind of mom who does all the fun, crazy stuff with her kids," Crystal says. "We run around. We dance. We go on roller coasters. So, of course, I was jumping with them on the trampolines."

Crystal and Nalanie were playing basketball on a trampoline when suddenly, Crystal fell to the surface of the trampoline, clutching her knee.

"One minute, I was jumping around with no problem. The next, my left knee just didn't bend, and I fell," she recalls.

The force of the fall tore the ligaments and tendons holding Crystal's knee together. "My left leg felt like a noodle below the knee," she says.

Emergency responders took Crystal to a local New Jersey hospital. When she left the hospital, her knee was braced in

an immobilizer. She was instructed not to put any weight on it or use it at all and to see an orthopedic specialist as soon as possible. She would need surgery to repair the injury.

The first doctor Crystal reached out to was Dr. Wert, an orthopedic surgeon and director of sports medicine at NYM, her local hospital. On the morning of her appointment with Dr. Wert, Crystal developed a sharp pain in her back, and she started to have trouble breathing. She decided to keep her knee appointment with Dr. Wert instead of rescheduling it and waiting at home for her back pain to pass. That's how she came to be in his office on July 20, 2015, struggling to speak.

### AN UNEXPECTED COMPLICATION

Crystal's appointment to consult with Dr. Wert about her leg was cut short when he recognized the signs of a possible blood clot in her lungs. Crystal's boyfriend, Miguel Cumberbatch, took her to the ER at NYM, where she was admitted and given oxygen. Imaging tests showed that Crystal had large blood clots in both her lungs.

"Clots aren't very common in young, healthy people like Crystal. She was only 28 at the time that the clots occurred," Dr. Wert says. "But there is a risk for blood clots when someone has an orthopedic injury. Because she'd been in the hospital and then told not to use the leg, she hadn't been moving very much, which can cause clotting. Later, we found out that her mother has a clotting disorder. It was a perfect storm."

After an initial evaluation in the ER, Crystal was moved to the seventh floor, where attending interventional pulmonologist **Keerthana Keshava, M.D.,** took over her care.

"These clots, called pulmonary embolisms, started elsewhere in her body and then traveled to the lungs, where they were big enough to block the small blood vessels that bring blood to the heart," Dr. Keshava explains. "If we hadn't found them and treated her, the clots could have gotten worse and caused her heart to fail."

Dr. Keshava started Crystal on blood thinners to keep more clots from forming. She explained to her that, over time, her body would naturally break up the clots in her lungs. The blood thinners helped the process by preventing further clot formation.

"I was scared about what was happening, but everyone at the Hospital was so helpful and amazing," Crystal says. "The doctors walked me through every detail about what was going on and how I was being treated, and the nurses made sure I was comfortable and got to see my family."

Chest pain from the clots caused part of Crystal's lungs to collapse (atelectasis) as she was unable to take deep breaths. Dr. Keshava prescribed medication to ease the discomfort and started Crystal on deep breathing therapy with NYM respiratory therapists to correct her collapsed lung. It took six days, but once Dr. Keshava said that it was safe, Crystal went home.

### GETTING BACK ON HER FEET

Thanks to the quick thinking of Dr. Wert





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and Dr. Keshava, Crystal's embolism was healing. But her knee was still nonfunctional. Because blood thinners make it challenging to control bleeding, surgery would have to wait. Dr. Wert and Dr. Keshava worked together to decide when it would be safe for Crystal to have the procedure.

“All of the soft tissue in Crystal's knee was damaged,” Dr. Wert says. “There was nothing holding it together, and she still couldn't put any weight on it. I started her on a prehabilitation physical therapy program to improve the range of motion in her leg joints because the better joints move before surgery then the better they do after surgery.”

After several weeks, Dr. Keshava and Dr. Wert decided that it was safe to take Crystal off blood thinners long enough to perform surgery for her knee injury. She was admitted to the Hospital on October

6, 2015, the night before her procedure, so she could be weaned off the medication and her clotting could be monitored. With the support of Dr. Keshava and the anesthesia team, Dr. Wert reconstructed Crystal's knee the next day.

He used small incisions and secured her leg with a tourniquet to minimize bleeding. All of Crystal's major ligaments were torn, allowing for absolutely zero stability. Dr. Wert rebuilt and replaced the ligaments and tendons through minimally invasive arthroscopic surgery.

“Each person's knees are balanced a little differently,” Dr. Wert says. “I looked at Crystal's right knee to find out how her left should be, and lined things up the same way so that it would feel natural when she walked.”

After surgery, Crystal started taking blood thinners again and continued

physical therapy to regain her strength. She spent time recovering at her parents' home in New Jersey and followed up with Dr. Wert regularly to make sure that her recovery was on track.

One year later, Crystal is back running around with her girls. She has a new commitment to being active and healthy, is going to school to become a radiology imaging technician, and is even wearing high-heeled shoes again.

“I loved working with Dr. Wert and Dr. Keshava,” Crystal says. “They're wonderful people. They explained what was going on each step of the way and helped me through this, even though it was scary. They really saved me. Now, I'm focused on being as healthy as I can be. Someday soon, I'm going to be able to dance again. I'm so thankful.”