

Life-Saving Balloon Valvuloplasty Performed At Eisenhower For First Time

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Darlene Beverage refers to her 80-year-old husband Jim as a combination of a Timex® watch and the Energizer® bunny because of the health challenges he's been able to withstand and "keep on ticking." Notably, due to blockages in his coronary arteries, he underwent a quadruple bypass at Eisenhower Medical Center in 2004, and he had a pacemaker implanted in April of 2011 to correct a sluggish heart rate. Plus, he has chronic obstructive pulmonary disease (COPD). But things took a dramatic turn for the worse this past October.

"Jim was admitted to the hospital in mid-October with extreme shortness of breath and low blood pressure," explains Cardiologist Barry Hackshaw, MD, Medical Director of Eisenhower's Cardiac Catheterization Laboratory (cath lab). "His ejection fraction — a measure of heart muscle strength — had fallen to 20 percent; normal is 55 to 70 percent. A week later, he was in the intensive care unit on intravenous [IV] medication to maintain his blood pressure. He couldn't even get out of bed or stand up."

An angiogram revealed that all of Jim's bypass grafts remained open, but he was now suffering from severe aortic valve stenosis, a narrowing that prevents the valve from opening fully. This obstructs blood flow from the heart into the aorta and on to the rest of the body. As a result, Jim's heart needed to work harder to pump blood, weakening his heart muscle and causing fatigue, dizziness and fluid build-up in the lungs. Left untreated, it would likely claim his life.

"The conventional treatment for severe aortic valve stenosis is open-heart surgery to replace the valve," Dr. Hackshaw says. "But due to Jim's COPD and need to be maintained on IV medication to keep his blood pressure up, he was too high-risk a candidate for this type of surgery."

"My partner Dr. Andrew Frutkin and I discussed the possibility of performing an aortic balloon valvuloplasty," he continues. "In this procedure, a narrowed heart valve is stretched open using a technique that doesn't require open-heart surgery. Instead, a thin tube (called a catheter) with a small, deflated balloon at the tip is inserted through the skin in the groin area into a blood vessel, and then threaded up to the opening of the narrowed heart valve. There, the balloon is inflated,



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which stretches the valve open, helping to restore blood flow. While effective, aortic balloon valvuloplasty is usually only a temporary solution because the stenosis often returns in three to six months.”

“But Jim’s life was at risk,” Dr. Hackshaw says. “He couldn’t leave the ICU, and he’d been on IV medication for five days; we couldn’t keep his blood pressure up without it. Our goal was to improve the valve enough to allow his heart muscle to improve, stabilize his blood pressure and get him off medication, then consider options for replacing his aortic valve.” This type of approach is often referred to as bridge therapy, an interim measure that builds a “bridge” to a more permanent solution.

While Drs. Hackshaw and Frutkin had experience performing the balloon valvuloplasty procedure when they practiced at other hospitals, it had never before been performed at Eisenhower. This meant that they needed to develop a protocol for performing the surgery as well as obtain the necessary equipment. That didn’t deter them.

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“Together with Cindy Olson, RN, Director of Cardiac Services, we got the protocol written, reviewed and walked through by the entire team, and obtained the appropriate catheters and balloons, all within three days that fell over a weekend,” Dr. Hackshaw notes. “It was a tremendous multidisciplinary team effort involving Eisenhower’s cardiologists, cardiac surgeons, cardiac anesthesiologists and cath lab staff working together to get this done. It was pretty incredible.”

Cindy notes that Eisenhower’s cath lab staff includes 11 registered nurses, cardiovascular and radiology technologists, with advanced training, and an average of 20 years of experience in cardiology in the cath lab environment — a depth of experience that is unparalleled in the desert.

Jim underwent the balloon valvuloplasty on Monday, as soon as the necessary equipment was delivered.

“He tolerated the two-hour procedure extremely well,” Dr. Hackshaw relates. “He didn’t have to be put to sleep with general anesthesia (an important consideration in high-risk patients), we were able to discontinue the IV medication to maintain his blood pressure within 24 hours, and he was discharged to home three days later.”

“Since then, he’s been on oxygen at home and comes into our heart failure clinic once a week,” he continues, referring to the Glickman Cardiac Care Clinic, the only hospital-based heart failure clinic in the Coachella Valley. “He was hospitalized for two days in December for a ‘tune-up’ — he had some fluid build-up in his lungs so we gave him diuretics to re-stabilize him. He has been evaluated and cleared for a percutaneous aortic valve replacement at Scripps Health in San Diego.”

This procedure — also called transcatheter aortic valve implantation (TAVI) — utilizes a

first-of-its-kind technology in the United States for patients like Jim who aren't eligible for traditional open-heart aortic valve replacement surgery. The device was recently approved by the Federal Drug Administration and is currently in use at only a handful of hospitals. As of this writing, Jim is slated to undergo the TAVI procedure in late February or early March.

“There were no other options before this,” Dr. Hackshaw says, referring to the newly approved TAVI procedure. “And if Jim had not undergone the balloon valvuloplasty at Eisenhower, TAVI would not have been an option. He couldn't have gotten out of the hospital bed unless we did something,” Dr. Hackshaw adds. “When conventional therapies don't work, we have the capabilities here to take it a step further to offer unique treatments to our patients.” [See Physicians Roundtable on page 34 for more information about this procedure.]

With Jim home again, he and Darlene — who have been married for 56 years and have two children and four grandchildren — continue to enjoy their desert lifestyle. Originally from Sequim, Washington, they have been fulltime residents of Thousand Palms for five years, and keep busy with a variety of interests.

Jim, in fact, took up counted cross-stitch, a form of embroidery, and today boasts a collection of more than 40 finished pieces. He even learned to make the frames that display his work. He and Darlene also love to play bridge, pinochle and cribbage. Their family also has expanded to include JJ, their beloved Shiffon, a dog breed that is a Brussels Griffon and Shih Tzu hybrid.

Jim and Darlene cannot say enough about the care Jim received at Eisenhower.

“I believe we wouldn't have Jim with us today if Dr. Hackshaw hadn't been able to do the balloon procedure,” says Darlene. “That he walked out of the hospital three days after that surgery, well, it's like a miracle. Thanks to Dr. Hackshaw and Eisenhower, Jim hopes to live as long as his parents, who made it to age 92 and 89.”

“If I were ever to move, I would first find out where the emergency vehicles go and would not move beyond the range of Eisenhower Medical Center,” Jim adds. “It's a fantastic hospital. And in my book, Dr. Hackshaw can do no wrong.”

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