



Thanks to successful minimally invasive treatments for two congenital heart defects, Austin Palmer is a healthy 5-year-old today.

Fresh start for a tiny HEART

TODAY, PEDIATRIC CARDIOLOGISTS CAN CORRECT MANY HEART DEFECTS WITHOUT MAJOR SURGERY

AUSTIN PALMER WAS A “MIRACLE BABY.”

That’s what his parents, John and Cyndi Palmer of Newburgh, called him when he was born on Easter Sunday 2004 at Vassar Brothers Medical Center in Poughkeepsie. After two miscarriages and an infant born prematurely who died at birth, they were parents at last.

The next morning, though, Cyndi noticed that the backs of Austin’s hands were black. Tests showed that the level of oxygen in Austin’s blood was far too low. An echocardiogram revealed a condition called pulmonary valve stenosis. The valve that controlled blood flow between his heart and lungs was not opening properly, so not enough blood was being oxygenated before it traveled to the rest of Austin’s tiny body. He also had an atrial septal defect (ASD), a hole between the two upper chambers of his heart.

The ASD was not critical, but Austin needed a pediatric interventional cardiologist to perform an immediate procedure to open the pulmonary valve. Specialists like this aren’t normally found at community hospitals, so Austin and his parents were taken by ambulance to the Hudson Valley’s only pediatric cardiac catheterization lab, at Westchester Medical Center. “We went from total joy to learning our miracle baby had a heart condition and then rushing to the best neonatal intensive care unit in New York,” says Cyndi Palmer, 36, a payroll accountant. “We were crushed.”

The Palmers arrived at Maria Fareri Children’s Hospital at Westchester Medical Center around midnight and were met by Markus Erb, M.D., Director of Pediatric Interventional Cardiology. “He was wonderful,” says Cyndi. “He took another echocardiogram, then explained everything in detail so we could understand it. He told us Austin would need a procedure that day.”

“When he said ‘procedure’ I thought he would have to open Austin’s chest,” says John, an athletic trainer who is also 36. “But Dr. Erb said, ‘No, it’s not surgery. I do it in the cath lab.’”

These days, interventional cardiologists like Dr. Erb use the latest technology to identify and treat children’s heart conditions assuring minimal discomfort for the kids. Dr. Erb enters the vessels in the groin area with a needle and then threads his tools through blood vessels and into the heart. Guided by real-time X-rays, he can perform a number of procedures on heart abnormalities caused by disease or, as in Austin’s case, genetic birth defects that previously would have required open-heart surgery.

“A wide range of abnormalities may be present at birth,” he says. “Valve problems like Austin’s are among the most common. Sometimes we know before birth if they’re coming, and sometimes we don’t know until the babies are born ‘blue’”—that is, showing skin discoloration from lack of oxygen, as Austin did.

Other common pediatric defects include transposition of the major arteries. “The arteries come off the wrong chambers of heart so that the blood goes from the body to the body and the lungs to the lungs without mixing,” the doctor says. “That requires a lifesaving procedure, in which we open the wall between the atria—the top chambers—so that blood and oxygen can mix.”

An ASD like the one Austin had is another birth defect often seen. “We can close it with a device such as a plug made of titanium/nickel alloy, which can expand to cover the hole,” he says.

That these sometimes lifesaving procedures can be done in a minimally invasive way in infants and young children may be surprising. But Dr. Erb says that many interventional heart procedures performed on adults were actually pioneered in children. “Most of this started with kids: balloons to open valves and arteries, closing holes in the heart—these were pediatric innovations,” he says.

In Austin’s case, Dr. Erb used a balloon to force open the pulmonary valve, much as a balloon angioplasty opens a clogged artery in an adult heart patient. He left the ASD open because that problem can’t be repaired in infants weighing less than 25 pounds. (Sometimes the holes close by themselves.) He also soothed the parents’ fears. “Dr. Erb kept telling us, ‘Austin is going to be fine. You are not going to lose this child—he will go home with you,’” says Cyndi. “He called him Austin Powers after the movie character.”

The roughly two-hour procedure went perfectly. “Afterward we got obsessed watching his oxygen levels on the monitor,” Cyndi says. “Dr. Erb said, ‘Stop looking at that! That’s my job. You focus on Austin Powers.’”

Austin’s oxygen levels steadily improved, and he was released in 10 days. He took a beta-blocker medication to help his heart for six months and saw Dr. Erb every three months until he was 1. He continued with yearly visits until this spring, when Dr. Erb decided that his ASD, which had not healed, needed to be closed.

In May, Austin returned to the cath lab, where Dr. Erb inserted an Amplatzer Septal Occluder. It consists of two discs of wire mesh connected by a middle “waist” and three polyester discs sewn inside the mesh. The discs fit over and cover both sides of the hole; over time, new heart tissue grows over the discs, effectively sealing the hole for good.

Austin spent one night in the hospital. “An adult would go home, but because he was only 5 we wanted to keep him quiet and calm so the plug would not dislodge,” Dr. Erb says. The boy recovered quickly. “Within a week he was playing T-ball,” John says. And he was



After his last procedure in May, Austin recovered quickly and was back to playing T-ball and entertaining his little brother within a week.

back playing with his new brother, 16-month-old Carson, who was born with no heart defects.

Now Austin needs only yearly checkups to monitor the pulmonary valve. At some point it may need to be re-ballooned if the opening doesn’t grow with his body. Otherwise, Austin should be fine.

“Dr. Erb said he may not be able to climb Mt. Everest, but everything else is unlimited,” says John. ■

Many interventional heart procedures now performed on adults were actually pioneered in children.

To find more information about the treatment of babies’ and children’s heart problems at Maria Fareri Children’s Hospital at Westchester Medical Center, please call 1-877-WMC-DOCS or visit www.worldclassmedicine.com/MFCH.