

Straight from the Heart:

Dr. W. Randolph Chitwood, cardiac surgery

by Karen A. Thomas, MD – Our State Magazine – January 2005

Some robots save the universe, but others save lives one heart at a time. Centered within a farming community, East Carolina University's Brody School of Medicine has grown into a world-renowned center of robotic cardiac surgery, and on May 3, 2000, Dr. W. Randolph Chitwood, chief of cardiothoracic and vascular surgery, became the first surgeon in North America to repair a damaged mitral valve using robotic technology.

Today, Dr. Chitwood's Minimally Invasive Surgical Training Center is the first site in the United States to offer formal training in the procedure. Several hundred cardiac surgeons from around the world have traveled to this unlikely mecca in Greenville to learn a new science that is no longer fiction.

Traditional open-heart surgery requires a foot-long incision, necessitating a long hospital stay and lengthy healing time. In contrast, robotic surgery is performed through three small incisions, resulting in less scarring and a quicker recovery for the patient. This less-invasive approach appealed to Dr. Robert Petrilli, an emergency room physician from the Charlotte area who was facing cardiac surgery.

"My cardiologist, Dr. K.D. Weeks, thought that robotic surgery would be a good option," says Dr. Petrilli. "I did a lot of research into the procedure and spoke with a lot of CT [cardiothoracic] surgeons. Dr. Chitwood's name kept popping up. I learned that if Dr. Chitwood did it, it was tested, tried, and true."

Indeed, Dr. Chitwood has performed more robotic-assisted mitral valve repairs than anyone else in the world. Through his efforts, the Cardiovascular Center, a part of University Health Systems of Eastern Carolina affiliated with the ECU Brody School of Medicine, earned the first full FDA approval for the procedure in November 2002. The robotic system, known as the daVinci Surgical System, is a computer-assisted tool controlled by a surgeon who sits at a console several feet from the operating table. The robot's three hands are inserted through small incisions — one hand holds the camera that allows the surgeon to view and magnify the surgical field, while the other two hands hold surgical instruments manipulated by the surgeon.

Concluding from his research that robotic-assisted surgery offered the best option, Dr. Petrilli's decision rested on one final criterion. Would Dr. Chitwood have the combined competence, confidence, and compassion for which he was searching? "Once I looked him in the eye, I knew that he knew he could fix it," says Dr. Petrilli, who opted for the procedure. In September 2003, Dr. Chitwood and his team performed their 100th robotic-assisted mitral valve repair on the 46-year-old emergency room physician. Today, he is taking care of patients himself and is pleased with his decision to undergo the innovative surgery. "I'm doing great," he says.

Starting with the basics

Resembling a middle linebacker in a suit and tie, Dr. Chitwood can be a formidable figure. His scalpel-sharp blue eyes can terrify unprepared medical students or flower with warmth as he lingers at a patient's bedside. Commanding respect, Dr. Chitwood, like the Brody School of Medicine, sprang from fertile yet unpretentious soil.

He grew up in the mountains of Wytheville, Virginia, where both his father and grandfather practiced medicine. "In that era, a physician was expected to do it all. My dad took care of everybody. The patients showed up at the office each day, and he took care of them, sometimes 70 a day."

As a child, the seeds of a focused work ethic took root in the younger Chitwood. "My dad had a lot of drive, and he was also very academic." With pride, Dr. Chitwood recounts how his father wrote an article that was published in *The New England Journal of Medicine*. The topic — myocardial infarction (heart attack) in young adults — proved to be the flint that sparked Chitwood's passion for medical research.

After attending medical school at the University of Virginia in Charlottesville, Dr. Chitwood went on to Duke University to do his surgical residency. During the next 10 years, he focused his interest on heart surgery, eventually earning the position of chief resident in general and thoracic surgery.

Dr. Chitwood credits Duke for teaching him to meet the demanding challenges of his profession. "It was a critical environment at Duke. You had to learn to defend yourself based on the medical data and to be self-effacing and self-critical."

Upon completing his surgical residency training in 1984, Dr. Chitwood accepted the position of chief of the division of cardiac surgery at East Carolina University School of Medicine (later to be named Brody School of Medicine) where he cultivated the cardiac surgery program into a blue ribbon winner. In 2002, ECU's associated teaching facility, Pitt County Memorial Hospital, was named one of the top 100 hospitals for cardiovascular care.

Driven by a desire to succeed, Dr. Chitwood recognizes that he is both dynamic and demanding. Chitwood acknowledges that he has high expectations of his staff and the residents he trains, but he knows that he is not the only one who will expect excellence from them. "I tell the residents that the patients and their families are always right. It's our job to meet their needs."

Dr. Petrilli agrees that Dr. Chitwood practices what he preaches. "I've called him before and after my surgery, and he always responds quickly," he says, adding that Dr. Chitwood is one of the most accessible and approachable physicians he has met. Recently named senior associate vice chancellor of the Health Sciences Division for Cardiovascular Diseases at ECU, Dr. Chitwood also heads up the North Carolina Cardiovascular Diseases Institute, signed into existence by Governor Mike Easley in August 2004. He continues to perform seven to eight cardiac surgeries a week, is a member of 25 professional societies including the rarely bestowed election of an

American to the Royal College of Surgeons of England, and lectures internationally on the techniques of robotic cardiac surgery.

Yet, within this teaching dynamo flows the blood of two generations of compassionate, small-town physicians who agree that it's the patients and their families that really count. Dr. Petrilli knows the heart of his surgeon. "My three kids wrote him a letter thanking him for doing [my] surgery. Dr. Chitwood wrote each child a letter in response. I'll never forget that."

Dr. Karen A. Thomas practices medicine, and writing, in Washington.