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Bartley Griffith Receives Bakken Scientific Achievement Award

STS award honors game-changers in cardiothoracic surgery research

SAN DIEGO (January 21, 2023) — Bartley P. Griffith, MD, a transformative surgeon in heart and lung transplantation and reconstruction—whose long career reached a pinnacle last year with the first porcine total heart transplant—was honored with the 2023 Earl Bakken Scientific Achievement Award from The Society of Thoracic Surgeons (STS) during the organization's 59th Annual Meeting.

Dr. Griffith's career has been marked by achievements that are genuinely astonishing not just in the cardiothoracic field, but throughout the world. His "dream big" perspective and practical dedication also led him to be a surgical pioneer of the Jarvik artificial heart, cardiac reconstruction using animal and human tissues, and improvements of anti-rejection therapies.

The implications of Dr. Griffith's work hold the potential to greatly reduce or even end the shortage of donor organs available for patients. Thinking innovatively, he has long been a major champion for development and implantation of artificial organs and addressing the gamut of difficulties that patients may face after the procedure.

Dr. Griffith is a cardiovascular surgeon at the University of Maryland Medical Center and Professor of Surgery and The Thomas E. and Alice Marie Hales Distinguished Professor in Transplantation at the University of Maryland School of Medicine, both in Baltimore. Over his career, he has directed more than 1,200 heart transplants and more than 600 lung transplants. One transplant performed January 7, 2022 was a remarkable leap forward: Following years of research, Dr. Griffith and his team performed the first transplant of a pig heart into a human.

Known as xenotransplantation, the highly experimental procedure took place with a genetically modified pig heart and a novel immunosuppressant for patient David Bennett, a 57-year-old with end-stage heart failure who did not qualify for a human heart. Dr. Griffith still wanted to help his patient and secured FDA emergency authorization for the xenotransplant procedure.

"It was kind of a pale heart coming out of the pig, and then we put it in our patient and it just took off like a rockstar. It was really quite remarkable. We had a moment of reflection in the OR, which we don't often do, but I think this situation called for it," Dr. Griffith recalled. Following the xenotransplant, STS published a video detailing Dr. Griffith's experience.

Bennett lived for two months afterwards with a strong-functioning heart that showed no signs of rejection. Although he sadly passed away due to other circumstances, the fact that Bennett survived for two months post-transplant was a testament that the porcine xenotransplant held real potential. Regulatory, clinical, and ethical questions remain, and physicians and scientists are further refining the procedure.

Dr. Griffith, who partners with Muhammad M. Mohiuddin, MD, professor of surgery for the University of Maryland School of Medicine's Cardiac Xenotransplantation Program, estimated that it will take another 10-15 years before xenotransplantation starts to make inroads into the practice of organ transplantation.

"I would never have guessed that this is where I would have landed as a surgeon, but if you keep an open eye and use all those creative genes for doing things different than you did them yesterday, you can make a difference," Dr. Griffith says to other surgeon-scientists.

About 105,800 Americans are currently waiting for an organ transplant, and more than 6,000 patients die each year before getting one, according to the federal government's organdonor.gov. In 2022 alone, the Health Resources & Services Administration showed 3,347 patients on the waiting list for donor hearts, while 810 patients received a heart.

Dr. Griffith received his medical degree from Jefferson Medical College in Philadelphia, Pennsylvania and completed a surgery internship, general and cardiothoracic surgery residency, and research fellowship at the University of Pittsburgh School of Medicine, also in Pennsylvania. He is a National Heart, Lung, and Blood Institute investigator and also is developing an artificial lung. A prolific researcher, he has published more than 500 articles and book chapters, has lectured at professional meetings nationally and internationally, and is the recipient of numerous honors and awards, including induction into the Royal College of Surgeons, Edinburgh, Scotland. He is also an adjunct professor in bioengineering at the University of Maryland.

In 2020, Dr. Griffith was honored as the invited speaker for STS' C. Walton Lillehei Lecture and addressed the remarkable progress and future possibilities in heart pump and oxygenator technology.

The Earl Bakken Scientific Achievement Award was established in 1999 through a grant from Medtronic, Inc., to honor individuals who have made outstanding scientific contributions that have enhanced the practice of cardiothoracic surgery and patients' quality of life. The award was named for Medtronic co-founder Earl Bakken. Among numerous other achievements, Bakken developed the first wearable artificial pacemaker.

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Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing more than 7,700 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society's mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research, and advocacy.