Innovative cardiovascular treatments offer new hope to patients around the world

At just 21 years old, Allyssa Smith was diagnosed with cardiomyopathy, a life-threatening disease affecting her heart muscle. She turned to the world-renowned physicians using pioneering research and technology at the Texas Heart Institute at St. Luke's Episcopal Hospital, where she received advanced treatment in time to celebrate her wedding last summer.

The left ventricular assist device (LVAD) that helped save Smith's life is just one of many innovative cardiovascular treatments at the Texas Heart Institute (THI). For more than four decades, physician scientists have worked on life-changing heart pump technology. Smith's LVAD, which was clinically developed and first used at THI, is smaller, more durable and has fewer moving mechanisms than older pumps. This device, and others like it, offers new hope to patients who need it as a "bridge" until transplant or as a destination therapy for those who may not qualify for transplant.

Denton A. Cooley, MD, founder and president emeritus, Texas Heart Institute at St. Luke's Episcopal Hospital, and James T. Willerson, MD, president and medical director, Texas Heart Institute at St. Luke's Episcopal Hospital.

THI researchers are working on ways to include internal power sources in the next generation of pumps, and are testing prototypes for a total artificial heart.

This is just one of many ways THI physician-scientists continue to advance medicine in the fight against cardiovascular disease – the world's number one natural killer. Another is adult stem-cell therapy. THI researchers, including THI president and medical director James T. Willerson, MD, were among the first in the world to use the stem cells of adult heart failure patients to create new heart muscle and vascular cells. The stem cells, derived from each patient's own bone marrow, are injected into the damaged areas of the heart, allowing the patient to heal his or her own heart without the need for anti-rejection drugs.

"In time, we hope to find an optimal stem cell regimen to help prevent and cure, rather than merely to treat, heart disease," said Dr Willerson. "To accomplish that, THI is always breaking new ground and because our research is physician-led, it leads to new, improved treatments more quickly."

For almost 50 years, the Texas Heart Institute at St. Luke's Episcopal Hospital has been a global leader in cutting-edge cardiac procedures and ground-breaking research. "Every day brings new discoveries to improve the lives and health of patients from around the world. That's our mission," said Denton A. Cooley, MD, who founded THI in 1962. "Heart disease never rests, and neither can we."

● To learn more about the innovative treatment options at St. Luke's Episcopal Hospital, visit *www.StLukesInternational.com*.

Patient Allyssa Smith receives a medical check-up with O.H. "Bud" Frazier, MD, following her heart surgery. Dr. Frazier serves as chief of the Center for Cardiac Support and director of Cardiovascular Surgery Research for Texas Heart Institute.