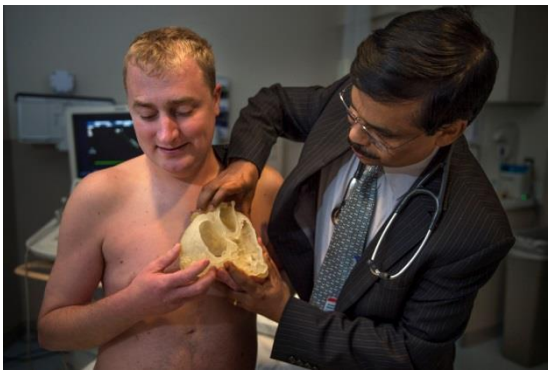
Congenital Heart Education, Research and Innovation at Spectrum Health (CHERISH)

Our March 15, 2017 LEAD Learning Session was led by Dr. Joseph Vettukattil, Division Chief of Helen DeVos Children's Hospital Cardiology and Spectrum Health Congenital Cardiology.



What does congenital heart patient Nicholas Borgman have in common with the Marianas Trench, Mammoth Cave and UNESCO World Heritage Sites?

This might seem like an odd question, but the answer is a fascinating glimpse at the crossroads of advanced imaging technology, human ingenuity, and the hope for better outcomes for congenital heart patients.

Just as oceanographers use multi-beam sonars to map the contours of the ocean floor, and geographers and archaeologists push boundaries to three-dimensionally map the earth's unknown frontiers and ancient sites, physicians and medical imaging specialists are working to map hidden secrets of the human heart.

"We are engineering for life," said interventional cardiologist Joseph Vettukattil, MD, co-director of the Spectrum Health Helen DeVos Children's Hospital Congenital Heart Center. "You want to have respect for the heart and cause minimum disturbance. Nicholas is the first patient with a 3-D heart to benefit from integrated imaging techniques."

Dr. Vettukattil and colleagues from Helen DeVos Children's Hospital made headlines in June when they announced the successful integration of computed tomography (CT) and three-dimensional transesophageal echocardiography (3DTEE) to print a hybrid 3-D model of a patient's heart. The 3-D model allows cardiovascular surgeons to make a more precise determination of what actually lies ahead before opening the chest of a patient like Nicholas.

Further research to propel innovative treatments and techniques, like the 3-D heart model, is the next step in the evolution of the Congenital Heart Center. Therefore, the CHERISH fund has been established to help provide philanthropy for this leading-edge work. Research and innovation can lead to new and better treatments for our patients and most of all, provide them hope.