

Dollars at Work

3D Heart Printing

Thanks to funding from Children's Miracle Network, our Children's Heart Group team is creating 3D anatomical replicas of the hearts of children with complex congenital heart defects. After a child undergoes imaging from a CT scan or cardiac MRI, data from the scans is used to design the model, which can take up to 80 hours to create with a 3D printer. The model can be built to scale or enlarged for improved viewing.

"You not only have the ability to see the anatomy as it is with a particular heart defect, but there is some potential to virtually plan what you'd do in the operating room," says Robert Tunks, M.D., pediatric cardiologist at Penn State Children's Hospital. The models also help in training medical students and educating family members.



Penn State Children's Hospital's outcomes for congenital heart surgery are among the best in the nation according to The Society of Thoracic Surgeons. Our hospital ranked among the top eight hospitals and received the society's prestigious three-star rating for congenital heart surgery.

Here's Miracle Child Henry, pictured on left, with a 3D printed model of his own heart! Doctors used the model to plan for his heart surgery.

View a video about 3D printing and more "dollars at work" examples at CMNHershey.org