

## Surgeons use 3D printer in pediatric heart surgery



A 3D printer is working on a vase. [File photo/Xinhua]

Chinese surgeons in a Central China hospital have succeeded in performing two complex pediatric heart surgeries using 3D printing technology.

The first patient was a 13-year-old girl suffering from hypertrophic obstructive cardiomyopathy, which causes her heart muscle to grow abnormally thick. The second was a 3-year-old boy with severe left ventricular outflow tract obstruction, said Yang Yifeng, a cardiologist with the Second Xiangya Hospital of Central South University in Hunan province.

Yang said the left ventricle is responsible for pumping oxygenated blood to tissues all over the body. Symptoms of left ventricular outflow tract obstruction include shortness of breath, sensation of rapid, fluttering heartbeats during exercise, chest pain, and fainting.

In either of the two cases, because of the complexity involved, doctors decided to use a 3D printer to produce a 1:1 replica of the patient's heart. The model allows doctors to carefully study the disease and plan their surgery, Yang said.

It is the first time 3D printing technology is used in Hunan for pediatric cardiovascular surgery. It proves quite successful and the two patients are recovering well, Yang added.

3D printing is being embraced by doctors in China's major hospitals for surgeries and training, as the technology greatly improves surgery precision and helps doctors to discuss the ailment with their colleagues and sometimes

their patients.