A New Treatment Option for Congenital Heart Defects, Phase 2

Reinhart, Justin (School: Guthrie Center High School)

One in one hundred children born in the United States alone is born with a congenital heart defect (or CHD). A CHD is any defect that is present at birth, which can vary from a hole in the septum to anatomical deformities. One treatment for certain CHDs is a right ventricular outflow tract reconstruction surgery. This uses a valved conduit to bypass blocked blood flow passages. Some biological valved conduits have been proven to have much higher rates of endocarditis. I believe that I can make a valved conduit that utilizes rubber silicone and has an efficiency rate of at least 99%. I cut out and roll up a piece of Neoprene rubber, which is held together by a silicone adhesive. I then use the adhesive to stick a metal ring inside the conduit. Afterward, I put the valve on the metal ring using the adhesive. I test the conduit’s efficiency rate by using a vacuum to open and close the valve. I test the valve's ability to open and close 200 times each. One hundred percent of the testing, the valve opened and closed on command. This proves my hypothesis correct.

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