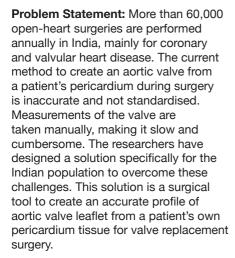
Aortic Valve Template



Uniqueness of the Solution: As this research offers a solution to use the patient's pericardium to create the heart valve leaflets, it avoids the need for artificial valves. Based on the age of a patient, different sizes of the tools designed are selected to cut the parabolic shape of the aortic valve leaflet. The use

of this tool reduces the manual error, need for high skill and time required for such a surgery. In addition, post-surgery medications (that have side effects) can also be reduced.

Current Status of Technology: The researchers have manufactured the functional prototype of the device. The preclinical testing of the aortic valve template has been carried out. The researchers have ensured the biocompatibility of the material used for manufacturing the device. Cardiac surgeons from renowned hospitals in Mumbai are currently testing this solution.

Societal Impact: The product reduces the surgery time, the cost of the surgery and also the number of medications required post-surgery. Thus the surgery is made more affordable for everyone. It also reduces the chances of infections as compared to mechanical valves as the patient's own pericardium is used. Thus the solution improves the well-being of



patients undergoing valve replacement surgery.

Patent(s): Filed

Relevant Industries: Healthcare, Medical Devices, Biomedical Engineering.

Faculty: Prof. Bhallamudi Ravi, Mechanical Engineering.