

**NOVEL VENTRICULAR CANNULAE DESIGN FOR USE WITH
VENTRICULAR ASSIST DEVICES. J. Cezo,**

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Ventricular Assist Devices (VAD) have been around since the 1980s and have helped thousands of people suffering from heart disease and chronic heart failure. They are implanted in parallel to the heart and supplement the heart's pumping. One of the drawbacks of VAD implants and removal surgeries is that it involves a lengthy open-heart surgery. One way this could be avoided is to implant the VAD through an incision in the abdomen. Cannulae serve the function of delivering blood to the VAD and then back into the circulatory system. In the case of the left ventricle (LV), the VAD typically attaches to the apex of the LV for the inflow to the VAD, and at the ascending aorta for the outflow of the VAD. This study aims to determine the engineering needs, to optimize the design, and to carry out testing of a cannula which facilitates implantation through the abdomen.