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A NEW TECHNOLOGIC ADVANCEMENT IN LEFT VENTRICULAR ASSISTIVE DEVICE FOR HEART FAILURE

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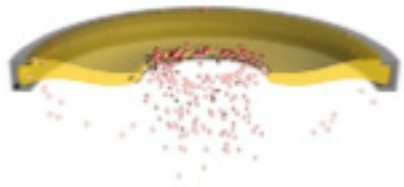
Since the development of Left Ventricular Assistive Devices (LVAD) technology in the early 1960s, it has become an invaluable device for bridging patients to heart transplant. Despitethe advancements in generations of LVADs, they have not become a reliable alternative toheart transplant. This is due to the high chances of lethal side effects that are having devastating consequences on patient's quality of life such as: blood coagulation (stroke),blood cell damage, and gastrointestinal bleeding. The current generations of LVADs are axial and centrifugal flow technology to provide continuous flow patterns for LVAD. However, Corwave is revisiting the effects of the 1st generation of LVADs where pulsatile flow was used. It is believed that pulsatile flow pumps reduced shear stress and reduced over activation of baroreceptors in the aorta. The fault in 1st generation pulsatile pumps were their unreliability due to mechanical failure but the concept of pulsatile and its effects on the heart may be crucial in LVAD success in heart failure treatment It is a theory that long standing continuous flow on the heart has caused new conditions to arise as a result of the lack of pulsatility. Corwave's pump design is using technology to support the heart with the help of an undulating wave, similar to the movement of a fish in water, propelling the blood forward. Corwave's mission is to bring back pulsatility, with increased reliability in a smaller pump in hopes to bring us back to our natural physiology

Keywords— *Cardiology, Heart Failure, Left Ventricular Assistive Device, Transplant.*



Biography

Michelle Johnson-Simmons has completed her Master's of Science Nursing and Acute Care Nurse Practitioner degree at the age of 30 years old from University of California, San Francisco. She is a Medical Research & Developer and Clinical Research Associate at Corwave company, helping to develop a new technological advanced LVAD (Left Ventricular Assistive Device). She has worked as a Nurse Practitioner in Electrophysiology and Trauma-Surgery. She has served more than 15 years in public health working with the trauma-surgical, psychiatric and underserved population. In total, she has worked in the healthcare field for 20 years.

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