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## **Innovations in Electrophysiology and Patient-Centered Care**

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Heart rhythm disorders are recognized as a major source of morbidity and mortality in the adult and pediatric population. Of these, AF and VT are two of most devastating cardiac diseases in the world with an expectation of affecting 35 million people in the world by 2030. From the initial diagnosis and detection of these arrhythmias to options for therapy and the early use of invasive techniques as well as post-operative care and surveillance, the arrhythmia space continues to be fraught with intense variability and a poor understanding of what defines value-based care. Procedural and technology related advancements have come in step with better understanding of the electrophysiology of the heart and the causes and effects of AF and other arrhythmias. The advent of the 3D electro-anatomical mapping systems as well as improved catheter and electrode designs have provided better visualization of the electrical activity of the heart which benefits patients and physicians in decreasing the time of the procedure, radiation exposure, and improving success rates. The computing power of microprocessors and further improvements to digital technology have markedly improved automation leading to the ability to detect the onset and frequency arrhythmias. Limitations still exist with therapy to eliminate the source of the arrhythmia with a multitude of energy sources being assessed for safety and efficacy. While all these advancements have increasingly improved outcomes the most diseased patient populations still have decreasing success rates from point of procedure as evidenced by randomized control trials such as EARLY AF and STOP AF. The next generation of improvements will need to implement more patient-specific and possibly consumer-led approaches that are multidisciplinary. This will require technical simplicity while solving complex multi-dimensional problems. These will eventually translate to better efficiencies in the operating room and decrease the burden on the healthcare system yet methodically giving patients

## **Biography**

Dr. Paras Parikh has completed his PhD at the University of Illinois-Chicago in 2017 in Biomedical Engineering with specific expertise in the fields of imaging and signal processing related to the detection of fibrosis and structural remodeling in patients with arrhythmias. He has over 15 years of experience in the field of electrophysiology focused on developing new technologies to improve patient care while holding prior positions in research & development and pre-clinical and clinical research at St. Jude Medical and Acutus Medical Inc. He is currently an Associate Director of Medical Affairs, at Biosense-Webster, a Johnson & Johnson Co. He has published more than 15 papers and abstracts in reputed journals and conferences and is a reviewer for the Journal of Cardiac Magnetic Resonance.

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