His-Bundle and Left Bundle Branch Pacing at Rush

Traditional pacemaker leads are placed in the top and bottom-right chambers of the heart. When the bottom-right chamber is stimulated with a high burden for a long period of time, it can lead to dyssynchrony in the bottom chambers. This can lead to adverse clinical outcomes, which include heart failure, cardiomyopathy and atrial fibrillation. His-bundle pacing has demonstrated superior clinical outcomes in comparison with conventional right ventricular pacing.

His-bundle pacing works by implanting a permanent pacing lead at the bundle of His, which is part of the atrioventricular conduction system, at a site that is distal to where the atrioventricular blockers are. This activates both bottom chambers in a synchronized fashion, thereby preventing some of the adverse effects of right ventricular pacing. The hope is to preserve normal biventricular activation with pacing or to potentially normalize biventricular activation in patients who have a bundle branch block.

Left bundle branch pacing is a newer option for placement of leads on the electrical conduction system distal to sites of disease that seems to have similar benefits as His-bundle pacing.

Our Capabilities

High Success Rate
One of the key benefits of His-bundle pacing and left bundle branch pacing is that there is very little chance of causing cardiac perforation. Rush has successfully implanted over 400 His-bundle and left bundle branch pacemakers since 2016 and has a 98 percent success rate.

Expert Care
Rush was one of the early adopters of His-bundle pacing in the United States. Our electrophysiologists are world leaders and provide patients with advanced treatment options for various heart conditions. Rush providers have published more than 80 studies on His-bundle and left bundle branch pacing and are investigators for some of the latest clinical trials.

Short Hospital Stay
After the procedure, patients stay in the hospital overnight. X-rays are done the following morning to ensure the leads are still in place. After the parameters on these leads are checked and stable, patients can be discharged.

His-Bundle Pacing Registry and Other Trials
This registry seeks to gain a broader understanding of the His-bundle pacing device implant and follow-up workflows, including device programming. There are currently 75 participating centers worldwide. In addition, Rush has many other ongoing trials on His-bundle and left bundle branch pacing to help understand the benefits of these pacing modalities.

Proctorship Program
Rush is one of the few centers across the United States that not only performs His-bundle pacing, but is a proctorship site where physicians from across the world come and train on this technique.
Our Providers

Parikshit S. Sharma, MD, MPH
Associate Professor of Medicine
Chief, Section of Electrophysiology
Director of Electrophysiology Laboratory
Department of Internal Medicine, Division of Cardiology

Kousik Krishnan, MD
Associate Professor of Medicine & Pediatrics
Director, Clinical Cardiac Electrophysiology Fellowship Program
Team Cardiologist- Chicago Bulls, White Sox, Fire
Department of Internal Medicine, Division of Cardiology

Timothy Larsen, DO
Assistant Professor of Medicine
Department of Internal Medicine, Division of Cardiology

Henry D. Huang, MD
Assistant Professor of Medicine
Director of Complex Ablation
Department of Internal Medicine, Division of Cardiology

Jeremiah Wasserlauf, MD, MS
Assistant Professor of Medicine
Department of Internal Medicine, Division of Cardiology

Sonal A. Patel, MMS, PA-C
Physician Assistant
Clinical Cardiac Electrophysiology
Certified Cardiac Device Specialist