Docket #: S22-161

Pulsed Field Atrial Fibrillation System

Stanford scientists developed a comprehensive, minimally invasive, dual-catheter pulsed field device that utilizes a rapid and simple integrated mapping/ablation strategy for the treatment of Atrial Fibrillation.

Atrial Fibrillation (AF), the most common arrhythmia, is an irregular and often rapid heart rhythm (arrhythmia) that can lead to blood clots in the heart. It affects approximately five million Americans for whom medications are ineffective and invasive surgeries to create Cox-Maze surgical lesions to treat AF are often undesirable. Catheter ablation is an alternative to treat AF that is plagued by recurrence of AF, which necessitates repeat catheter ablation to curb future arrhythmias, minimal success with persistent AF, and low long-term success overall. Therefore, a solution is needed that can either recreate the Cox-Maze surgical lesions minimally invasively, better identify critical sites of ablation, or both.

Stanford researchers, therefore, developed a pulsed field atrial fibrillation system that prevents AF recurrences after a single procedure. This simple system creates the set of transmural Cox-Maze surgical lesions and reliably identifies key AF ablation targets not addressed by the Cox-Maze lesion set. This system provides a unified solution absent in most recent AF treatment advances.

Stage of Development
Prototype

Applications

- Catheter ablation of atrial fibrillation

Advantages

- More comprehensive system for atrial fibrillation ablation

- Extensive lesion set
- Incorporates a system for mapping
- Minimally invasive
- Reduced procedure time
- Easy to use

Patents

- Published Application: WO2023244854

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