

INSEPTA- Coronary Sinus Electrophysiology Measurements Device and Methods

PI: Dr. Lior Yankelson

The Problem: Low resolution electrical signals in the Coronary Sinus (CS) and left atrium

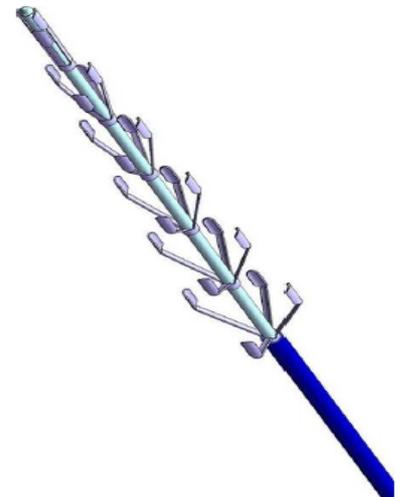
Determination of precise spatial activation sequence on the CS catheter is very challenging procedure since the diameter of the CS is significantly wider than the diameter of the typical CS electrode. Thus standard CS mapping may result in the wrong diagnosis and suboptimal therapy of common arrhythmias such as left atrial tachycardia and persistent atrial fibrillation. In addition, mechanical properties of currently available CS catheters may pose difficulty with insertion in cases of small or atypical CS ostium, as well as with providing catheter stability when used as a reference for electro-anatomical mapping systems.

INSEPTA – High Resolution CS Mapping System

The device includes 32 closely located multi-electrodes, which enable high-resolution mapping of the coronary sinus.

Advantages:

- Detailed activation map:
 - 360° cross-sectional signal localization
 - Local versus far field isolation for mapping
 - Bipolar and Unipolar mapping
- Improved reference stability for annotation with EA mapping systems
- Provides improved mechanical stability in the CS
- CS ostium localization sensing for easy insertion
- Handling similar to typical CS catheters



What's done so far?

- ✓ Detailed mechanical and electrical design
- ✓ Production of prototypes
- ✓ In-vitro and in-vivo testing

Intellectual property

- ✓ Patents pending