

# Non-Invasive Localization for Ablation in the Absence of Sustained or Inducible VT

## VIVO™ Case Review

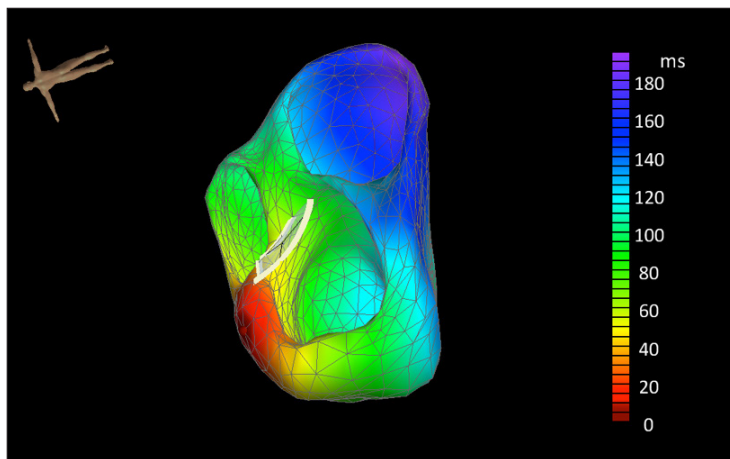
### Case History

A 76-year-old female with dilated cardiomyopathy presented with VT storm and ICD shocks.

### Pre-procedural Non-invasive Mapping Protocol

The patient underwent a standard cardiac CT routinely obtained for Ventricular Tachycardia. The CT and 3D photograph of the ECG leads were uploaded into the VIVO system. An ECG recording of a VT was uploaded into VIVO and an analysis was completed to determine the origin of the VT.

The origin of the VT was localized to the LV Summit and an activation map was created.



VT 1 - Target ablation



**PHYSICIAN**  
Ewan Shepherd, MD

**FACILITY DETAILS**  
Freeman Hospital,  
Newcastle, UK

**TECHNOLOGY**

- LABSYSTEM™ PRO  
EP Recording System,  
Boston Scientific
- RHYTHMIA™,  
Boston Scientific

## Ablation Procedure

The Rhythmia system was used to create a geometry of the patient's heart. The patient was unable to tolerate induced VT; thus, no pace mapping was done and only the VIVO activation map was used to localize the position of the VT.

The ablation catheter was guided to the LV summit, as indicated by VIVO, and RF energy was applied. After application of RF energy to the LV summit, VT could not be induced, and the ablation was considered a success.

## Results/Conclusions

- In the absence of VT, VIVO was used to accurately identify the origin of VT to the LV summit
- VIVO may improve patient safety by non-invasively identifying a VT, without the need to induce an intolerant VT

“Ablation is complex for VT arrhythmias, as the rhythm is usually not tolerable and patients quickly enter cardiac arrest during VT. Systems which allow for single beat mapping of VT would be of significant help in defining targets for ablation, particularly if these targets can be identified non-invasively prior to the ablation procedure.”

-Ewan Shepherd, MD

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