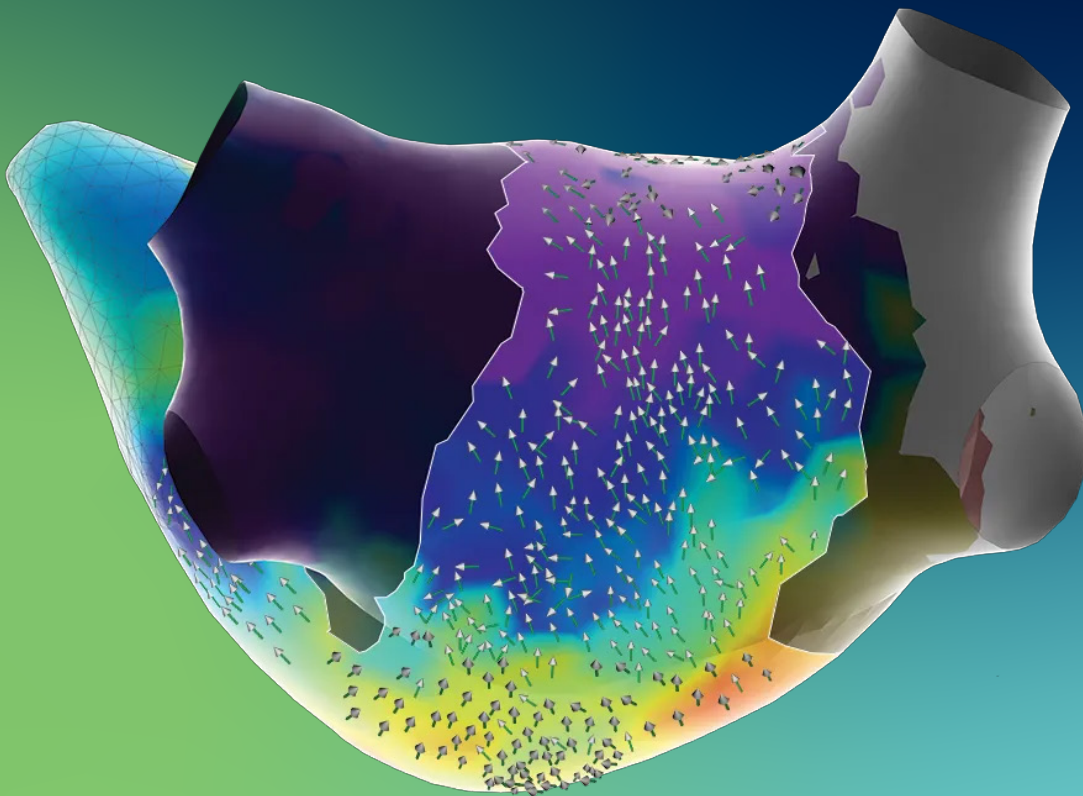




# Best Case Library

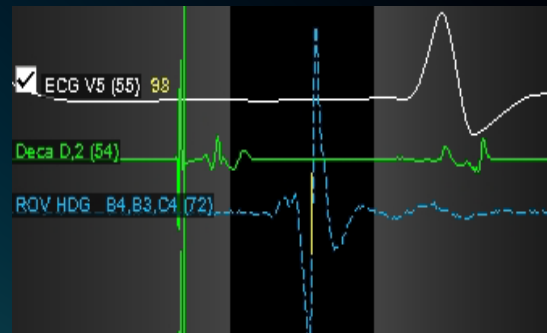
EnSite™ OT Near Field



# Atrial Fibrillation Pulmonary Vein Isolation (PVI): Post PVI Check

## OVERVIEW:

In this de novo PVI case, it is crucial to check for any possible gap(s) after isolation to prevent redo cases. OT Near Field helped identify real gap(s) by discriminating near versus far field signals.

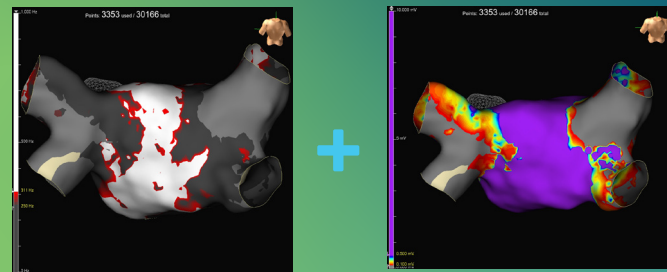


## MAP:

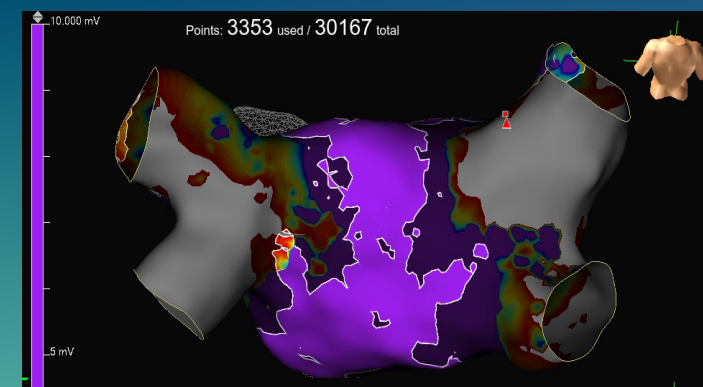
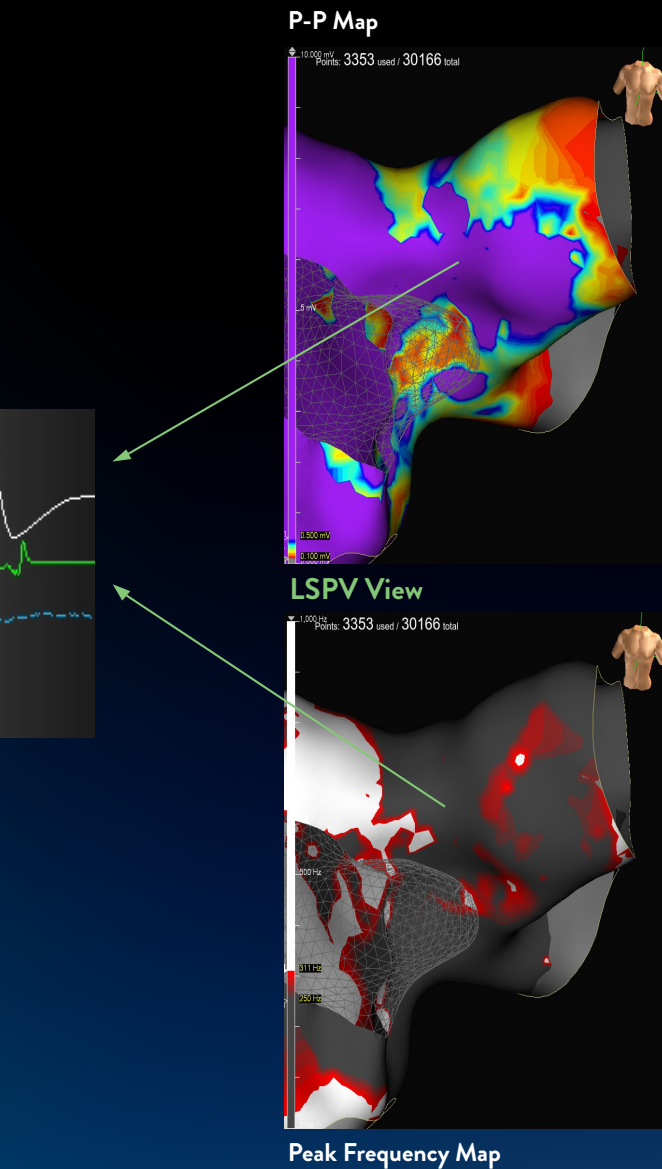
1. After mapping the left atrium, they selected the voltage map.
2. By using the Emphasis Map, they overlaid the Peak Frequency map with the voltage map to see the highlighted areas, which focused them more at the ostium and inside the pulmonary veins (PVs).

## ABLATION:

No highlighted zones were observed at the ostium and inside the PVs, indicating successful PVI. Pay attention to the left superior pulmonary vein (LSPV) in voltage map. By emphasizing Peak Frequency map over the voltage map, the LSPV colors (in voltage map) are shaded out, indicating that those are far field signals.



The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.



**300 Hz Frequency cut-off**

Case and images courtesy of Dr. João Primo, Dr. Paulo Fonseca, Hospital Vila Nova de Gaia, Porto, Portugal

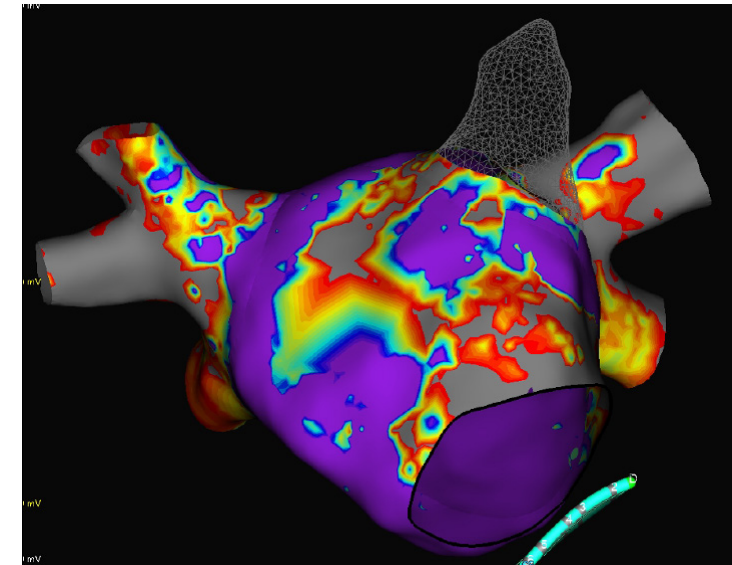
# Redo Atrial Fibrillation (AF)

## OVERVIEW:

In this redo AF case, it was crucial to identify real gaps by discriminating far field versus near field signal.

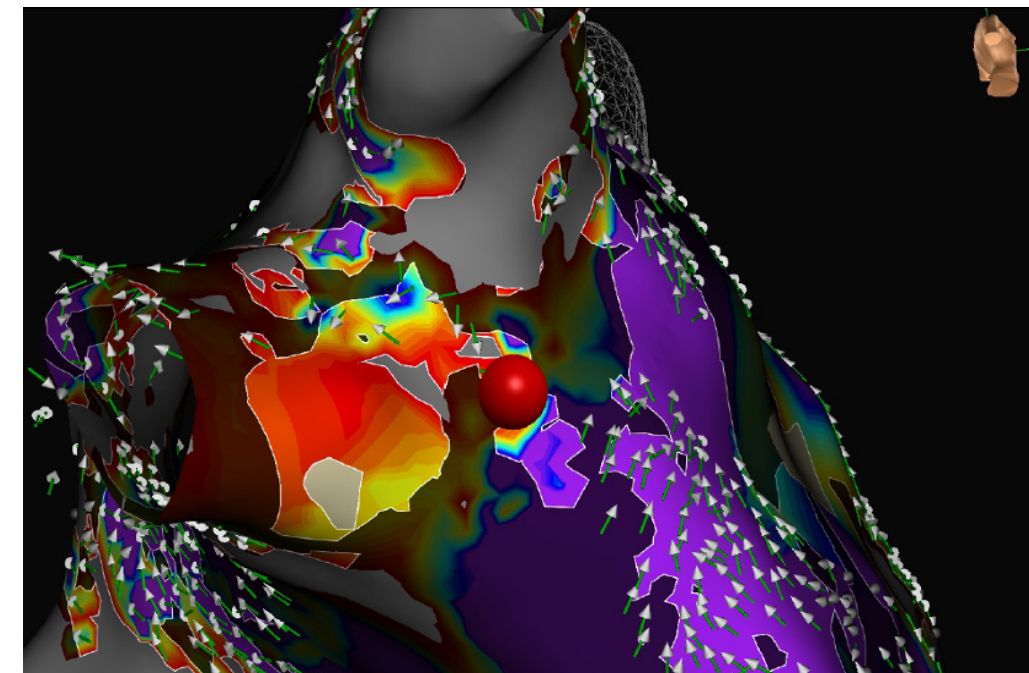
## MAP:

1. After mapping the left atrium, they selected the voltage map.
2. By using the Emphasis Map, they overlaid the Peak Frequency map with the voltage map to see highlighted areas, which focused them more at the ostium and inside the PVs.



## ABLATION:

Highlighted colored areas at the ostium and inside the PVs indicate possible residual tissue or gaps. They did not focus on the left sided veins, as the LSPV is shaded out, indicating far field signals coming from the left atrial appendage (LAA). They did, however, pay attention to the right carina area being highlighted. By emphasizing high frequency signals, a single ablation at this spot isolated the right veins.



**250 Hz Frequency cut-off**

The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.

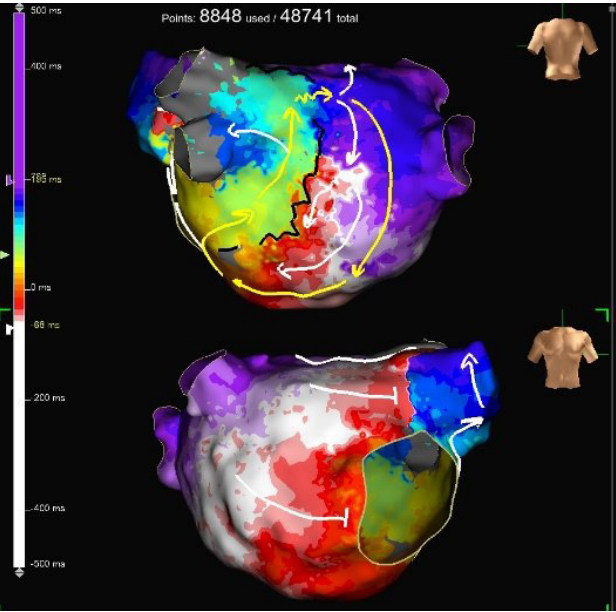
Case and images courtesy of Prof. Dirk Vollmann, Hospital Herz-und Gefäßzentrum am Krankenhaus Neu-Bethlehem, Göttingen, Germany.



# Atypical Atrial Flutter (AFL)

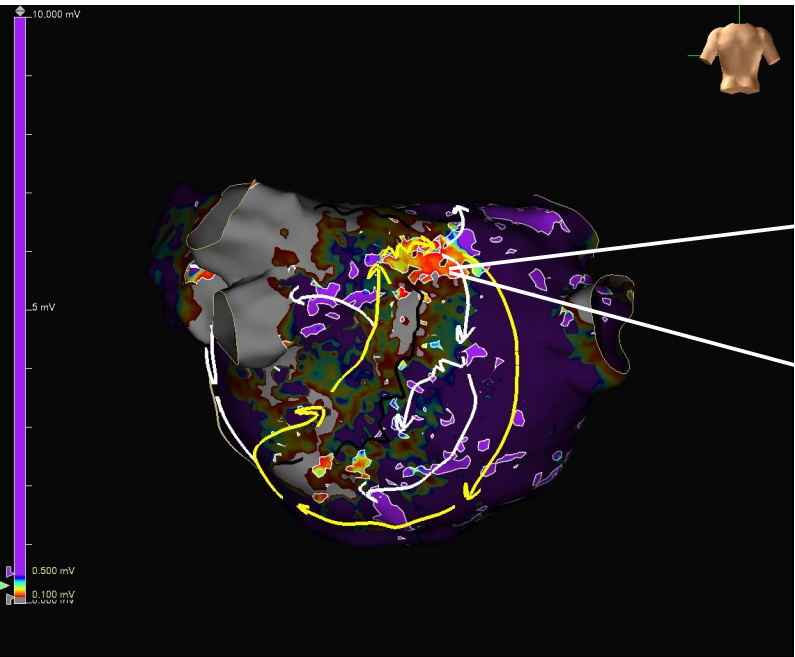
**OVERVIEW:**

In this left sided Atrial Flutter case, understanding the activation of the tachycardia, identifying loops, and checking the substrate were crucial.



**ABLATION:**

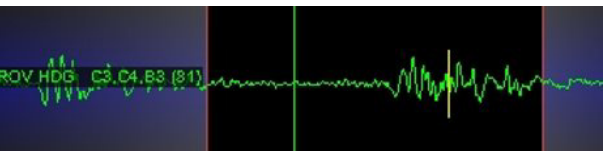
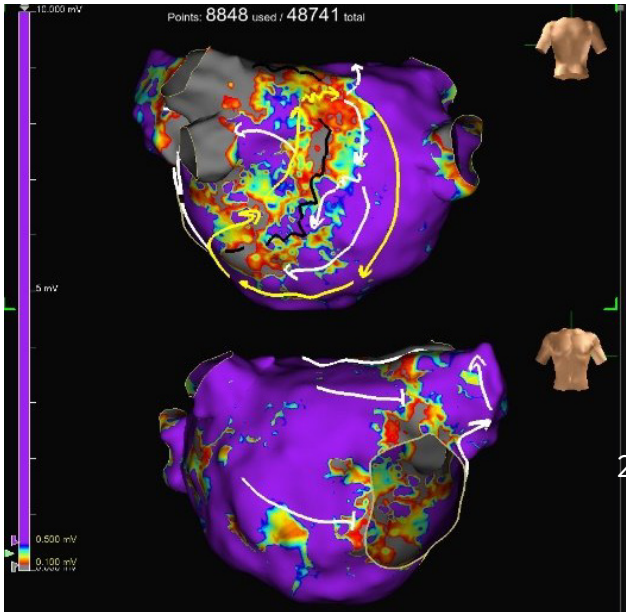
A highlighted, high frequency, low voltage zone was identified as the substrate for a slowly conducting area and critical isthmus site for the reentry.



400 Hz Frequency cut-off

**MAP:**

- 1. After mapping the left atrium, they selected the LAT map first to identify flutter circuits.
- 2. Then by using the Emphasis Map, they overlaid the Peak Frequency map with the voltage map to see highlighted areas, which focused them more at the ostium and inside the PVs.



The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.

Case and images courtesy of Prof. Nuno Cortez Dias, Prof. Gustavo Silva, Hospital Santa Maria, Lisbon, Portugal.

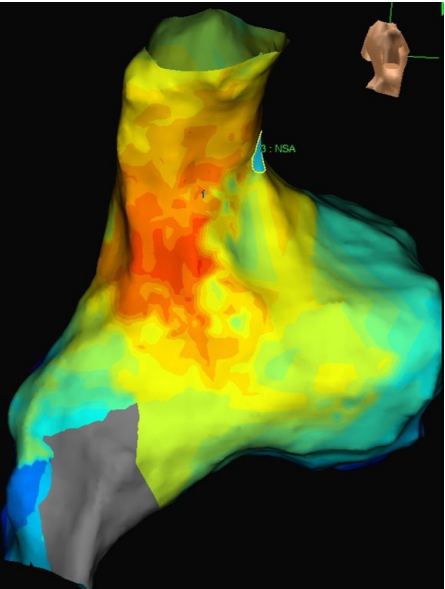
# Focal Atrial Tachycardia (AT)

**OVERVIEW:**

In this Focal AT case, finding a near field early activation site was the target.

**MAP:**

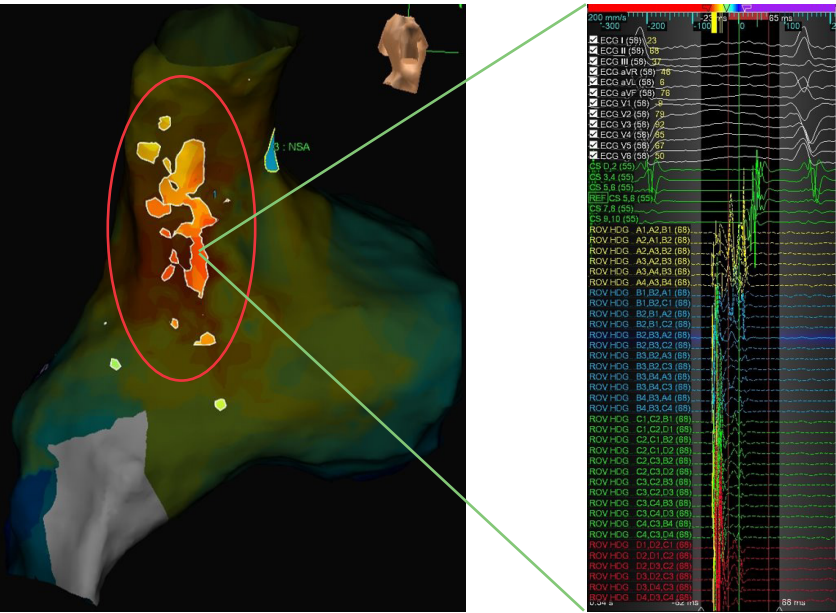
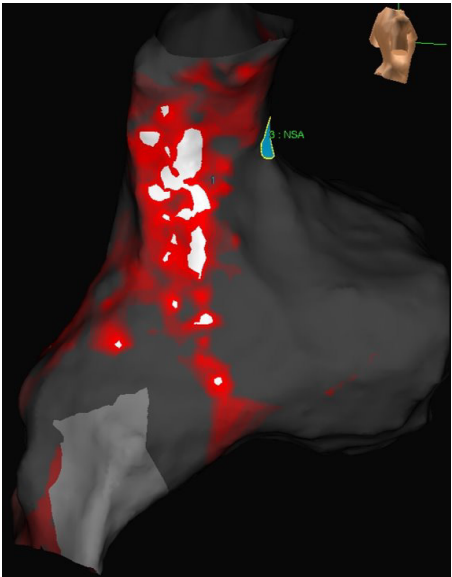
- 1. After mapping the right atrium, they first checked the local activation timing (LAT) map.
- 2. By using the Emphasis Map, they overlaid the Peak Frequency map with the activation map to see highlighted areas (high frequency zones).



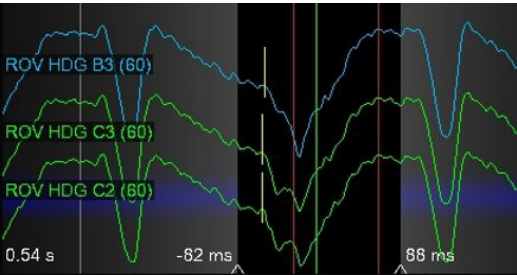
**ABLATION:**

A highlighted (high frequency) zone within the early activation site was targeted for successful ablation.

The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.



550 Hz Frequency cut-off



Case and images courtesy of Dr. Rita Miranda, Hospital Garcia de Orta, Almada, Portugal.



# Premature Ventricular Contraction (PVC)

## OVERVIEW:

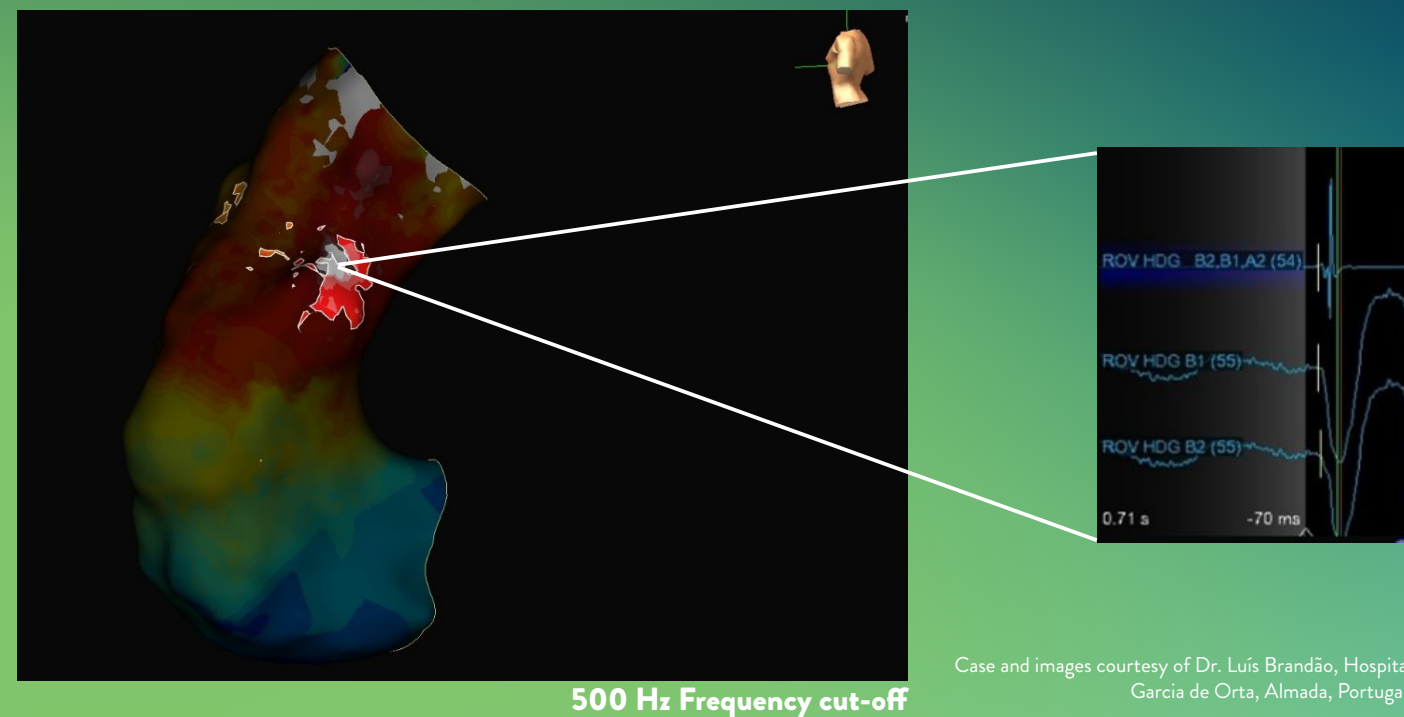
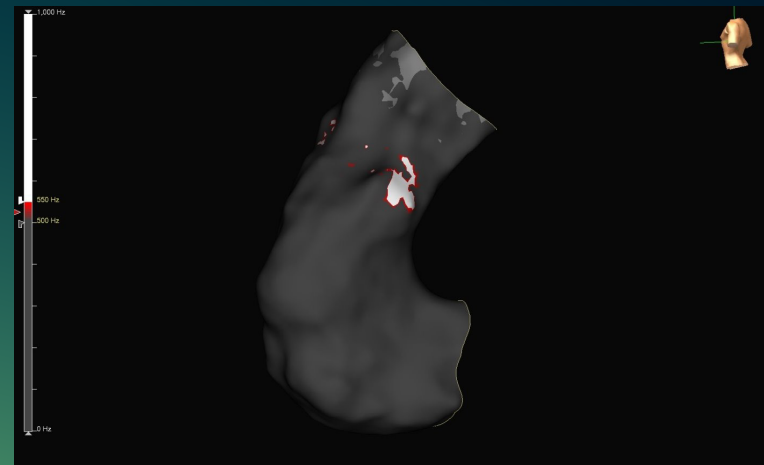
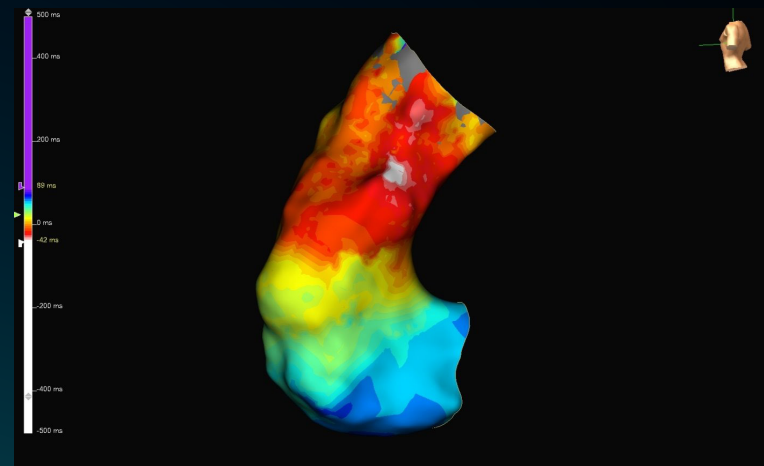
In this PVC case, finding a near field early activation site was the target.

## MAP:

1. After mapping the right ventricular outflow tract (RVOT), they first selected the LAT map.
2. By using the Emphasis Map, they overlayed the Peak Frequency map with the activation map to see highlighted areas (high frequency zones).

## ABLATION:

The highlighted, high frequency, white-colored spot was targeted as the origin of the PVC.



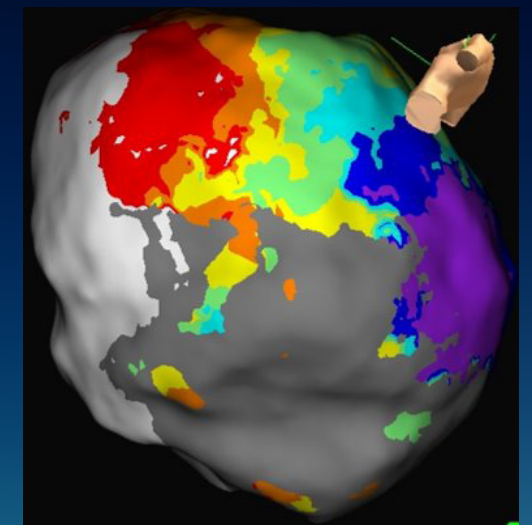
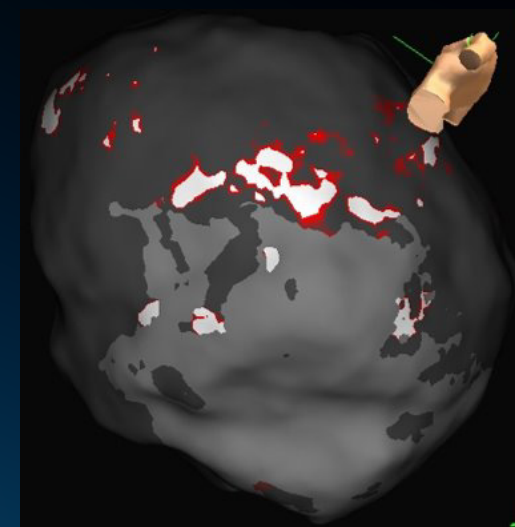
500 Hz Frequency cut-off

The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.

The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.

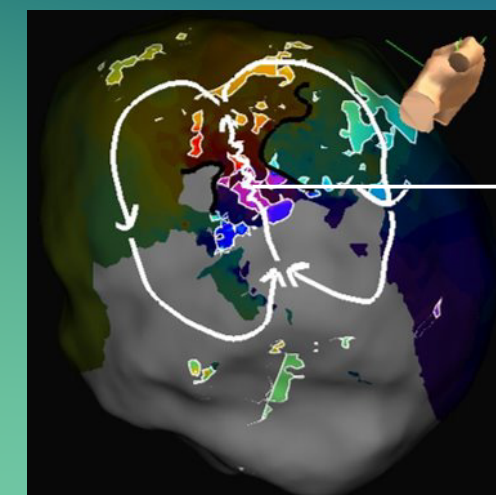
# Endocardial Ischemic Ventricular Tachycardia (VT)

**OVERVIEW:** In this endocardial ischemic VT case, it was crucial to have both isochronal late activation mapping (ILAM) and Late Potential maps during sinus rhythm. Mapping the clinical VT was a plus. In both sinus and VT maps, focusing on low voltage, high frequency areas within deceleration or late potential zones was a good indication of possible critical isthmus sites for VT.



## MAP:

1. After completing the full map in sinus, they selected the LAT map to identify late activation and ILAM areas.
2. Then they selected the voltage map to have an idea about the substrate
3. By using the Emphasis Map, they overlayed the Peak Frequency map with the LAT and the voltage map to find highlighted areas.



260 Hz Frequency cut-off



## ABLATION:

In the sinus map, they predicted the site of the VT isthmus utilizing a combination of low voltage, high frequency zones overlapping with late potential and ILAM zones. The size of the VT isthmus was confirmed with mapping in VT and the ablation was successfully applied.

Case and images courtesy of Dr. Pedro Carmo, Hospital de Santa Cruz, Lisbon, Portugal.



# Epicardial Ischemic Ventricular Tachycardia (VT)

## OVERVIEW:

In this epicardial ischemic VT case, it was crucial to have ILAM and Late Potential maps during sinus rhythm. Mapping the clinical VT was a plus. In both sinus and VT maps, focusing on low voltage, high frequency areas within deceleration or late potential zones was a good indicator of possible critical isthmus sites for VT.

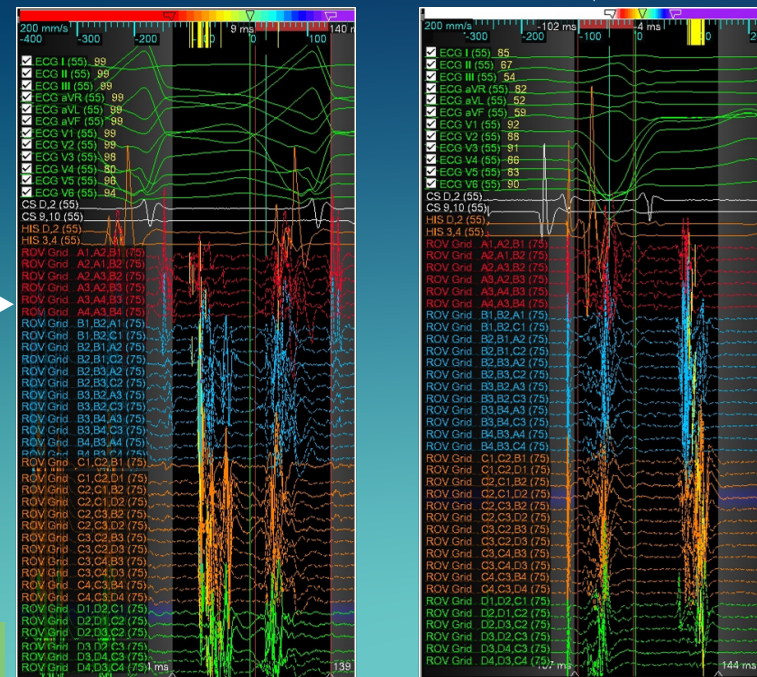
### 500 Hz Frequency cut-off

## MAP:

1. After completing the full map in sinus, they selected the LAT map to identify late activation and ILAM areas.
2. Then they checked the voltage map to have an idea about the substrate.
3. By using the Emphasis Map, they overlaid the Peak Frequency map with the LAT and the voltage map to find highlighted areas.

## ABLATION:

In the sinus maps, they predicted that the highlighted, high frequency zones within late activation and ILAM zones could be possible VT isthmus sites, which turned out to be true.



The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.

Case and images courtesy of Dr. Pedro Carmo, Hospital de Santa Cruz, Lisbon, Portugal.

# Open Window Mapping (OWM) of Accessory Pathways (AP)

## OVERVIEW:

In this AP case, when mapping with the OWM technique (focusing on both Ventricular and Atrial signals), EnSite™ OT Near Field objectively annotated local activation as the mapping catheter moved between the two chambers. A high frequency channel was highlighted between atrium and ventricle around the valve.

## MAP:

1. After mapping the left atrium around the mitral valve and a little bit of the left ventricle, they checked both the LAT and the P-P maps.
2. By using the Emphasis Map, they overlaid the Peak Frequency map with both maps to find a high frequency channel where the Pfreq and the LAT/Voltage maps overlap (highlighted colors across the valve).

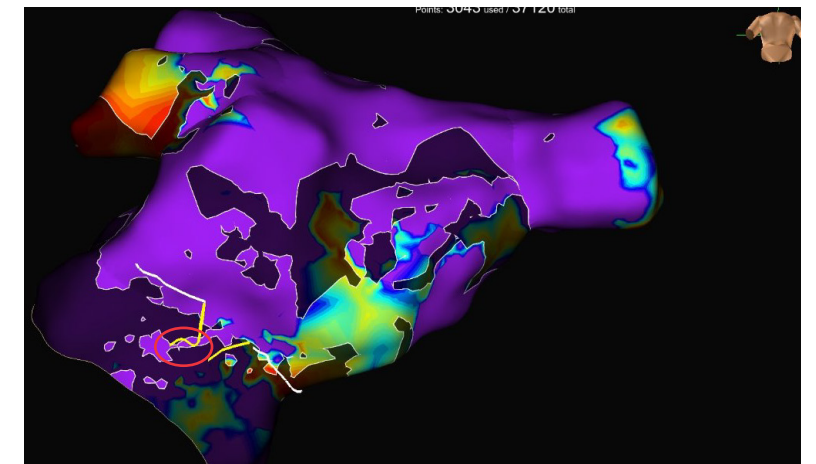
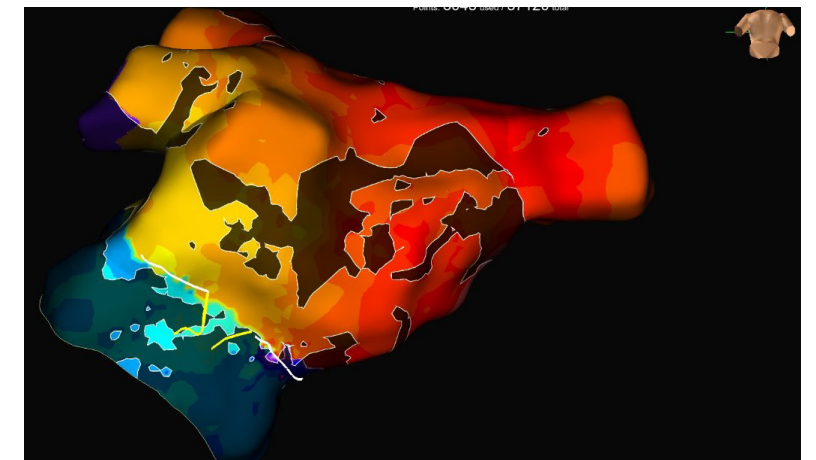
## ABLATION:

EnSite™ OT Near Filed highlighted a single corridor around the valve, which indicates a possible location of the AP, which was targeted during the case, and resulted in a successful ablation.

**PAY ATTENTION TO ANNOTATION CHANGES AS THE MAPPING CATHETER MOVES BETWEEN CHAMBERS.**



The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.



### 280 Hz Frequency cut-off

Case and images courtesy of Dr. João de Sousa, Prof. Nuno Cortez Dias, Prof. Gustavo Silva, Hospital Santa Maria, Lisbon, Portugal.



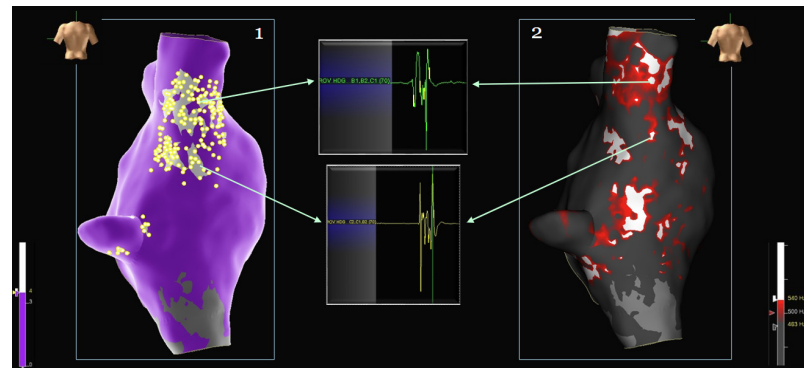
# CardioNeuroAblation (CNA)

## NOTES

### OVERVIEW:

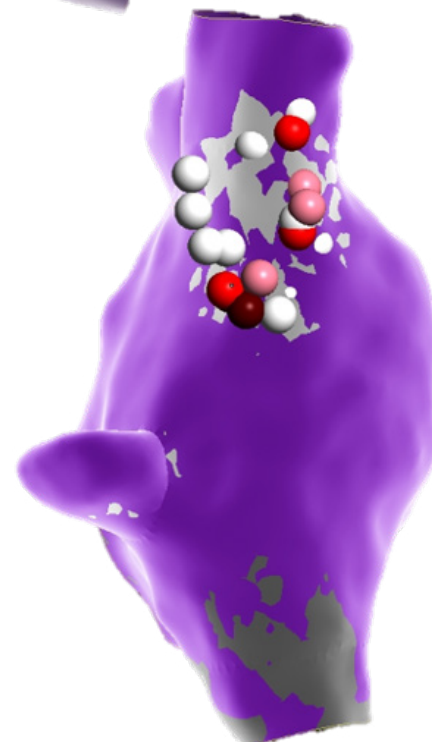
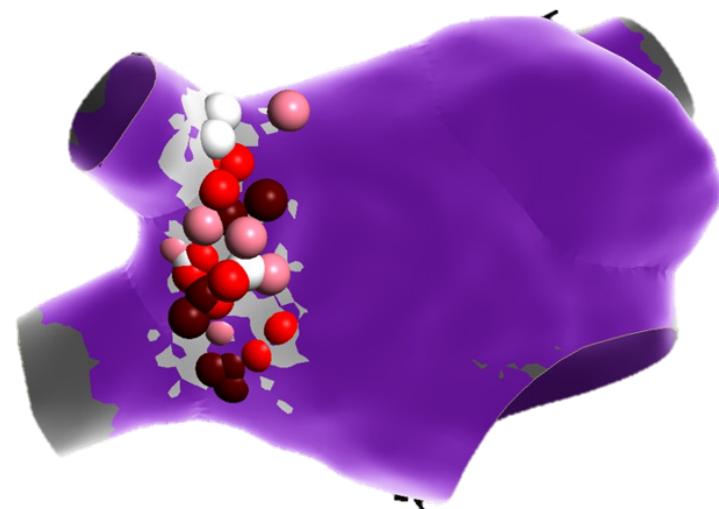
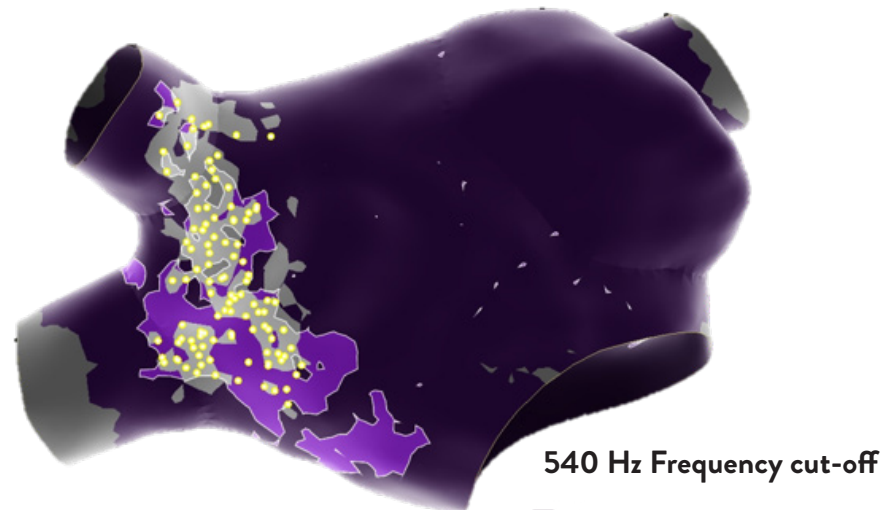
Mapping right and left atriums during sinus rhythm to identify ganglion plexi (GP) sites. The GP areas have fractionated high frequency signals are found on the posterior side of SVC and anterior part of the right PVs, could trigger AF.

The physicians conducted frequency scanning by adjusting the low threshold of the Pfreq parameter. This process continued until small regions of highlighted colors were observed.



### MAP:

1. After mapping both right and left atria, they checked Fractionation Map, in which the signals with a fractionation value more than 4 are shown in white.
2. By using the Emphasis Map, they overlayed the Peak Frequency map with the Fractionation Map to find highlighted areas.



Case and images courtesy of Dr. Bruno Valente, Hospital Santa Marta, Lisbon, Portugal.

## Abbott

The Corporate Village, Da Vincilaan 11 Box F1, 1935 Zaventem, Belgium, +32 2 774 68 11  
Cardiovascular.abbott

**Brief Summary:** Prior to using these devices, please review the Instructions for Use for a complete listing of indications, contraindications, warnings, precautions, potential adverse events and directions for use.

EnSite™ X EP System (Cardiac Mapping System). CE marked device. CE 2797.  
Abbott Medical, One St. Jude Medical Drive, St. Paul, Minnesota, 55117-9913, USA.

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