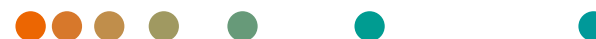


Clinical Case Study: Watchman™ Deployment with ACUSON AcuNav™ Volume ICE catheter



Case courtesy of Dr. Carlos Sanchez
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Hospital, Columbus, Ohio, USA

ACUSON AcuNav Volume catheter

Real-time volume (4D) imaging

4D Volume size 90° x 50°
90° Azimuthal Plane
50° Elevation Plane
Coronal plane

Specifications

12.5 F, 90 cm

Up to 40 vps (volumes per second) in volume (4D) B-mode
Up to 20 vps (volumes per second) in volume (4D) color flow Doppler

Imaging Modes

2D / 4D B-Mode & Color Doppler
PW / CW Spectral Doppler



Clinical Case Study

Left Atrial Appendage Closure

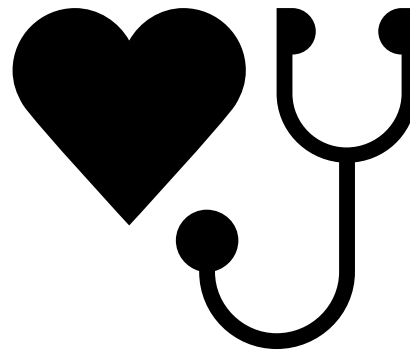
ACUSON AcuNav Volume catheter

Clinical Case Study

An 87 year old female with a past medical history significant for paroxysmal atrial fibrillation was referred for closure of Left Atrial Appendage.



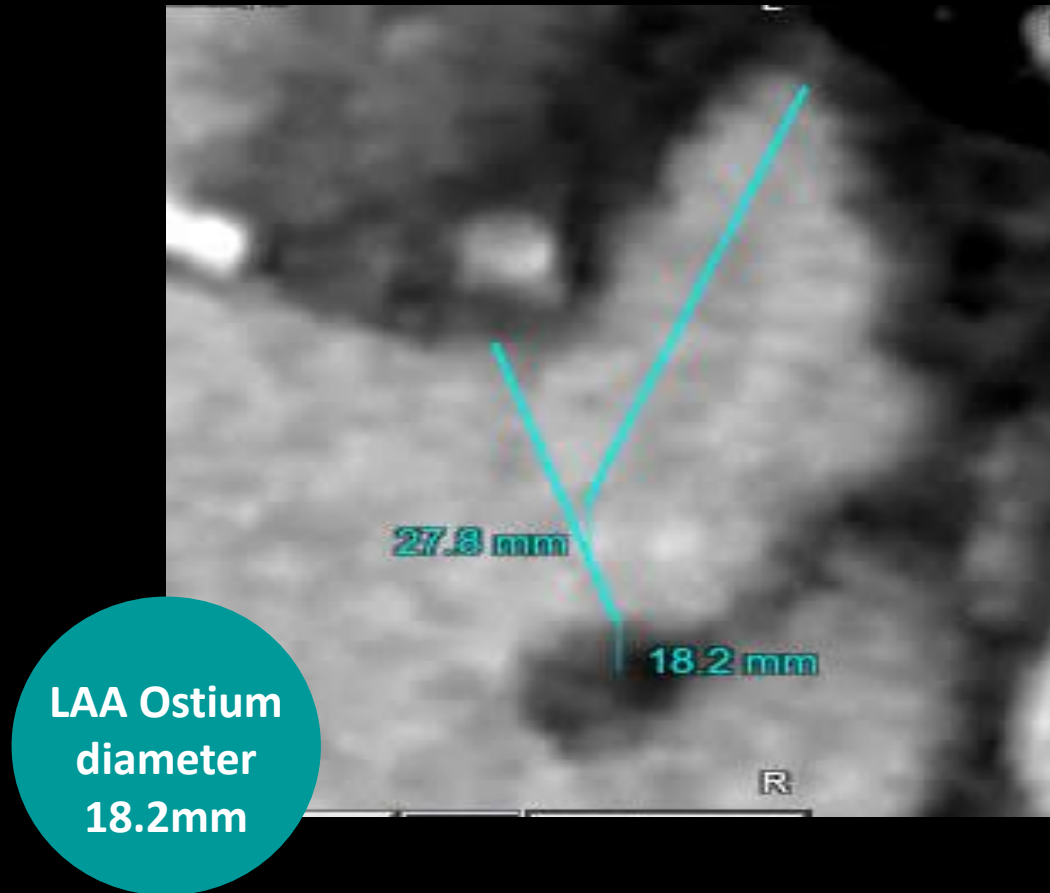
Additional history of ascending thoracic aortic aneurysm, hyperthyroidism s/p ablation, hypertension, hyperlipidemia, and bleeding related to ophthalmic hemorrhages.



A pre-procedure CT scan with contrast was completed to evaluate the Left Atrial Appendage.



Pre-Procedural CT Exam



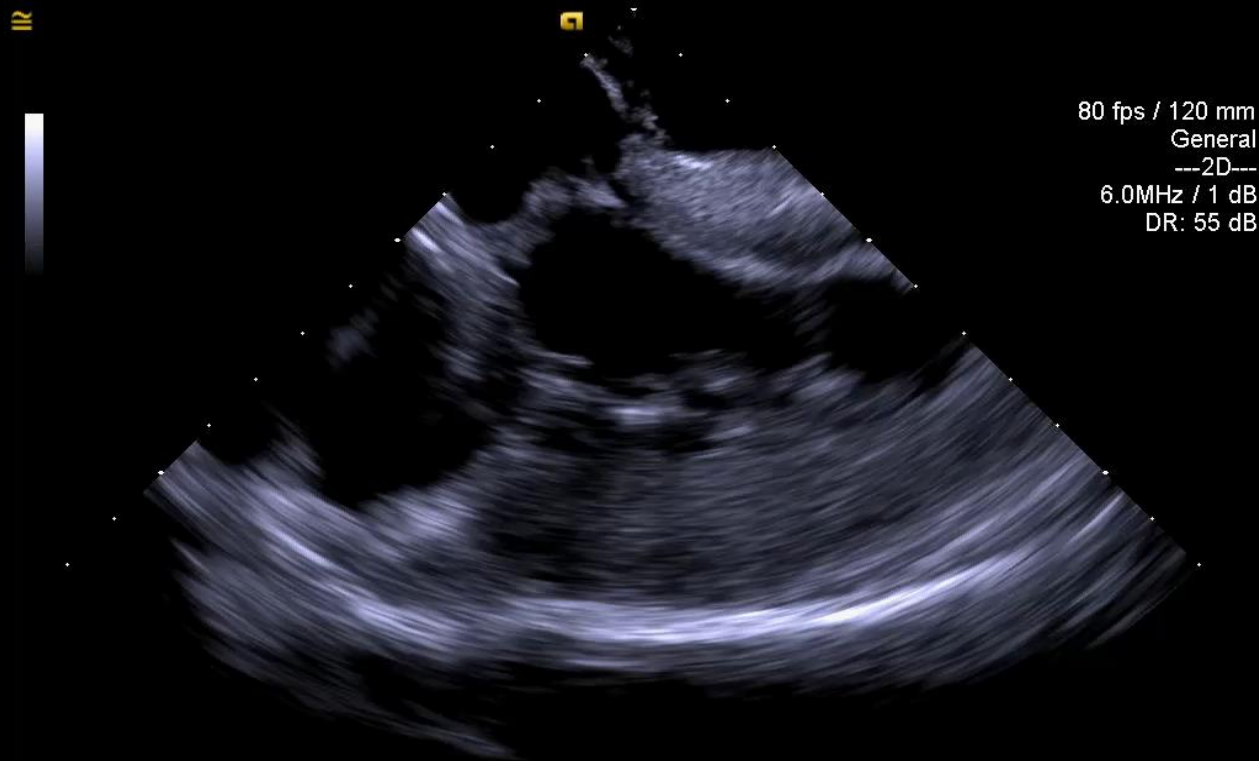
A pre-procedural computed-tomography (CT) exam with contrast was performed to evaluate the anatomy and dimensions of the Left Atrial Appendage (LAA).

CT scan reconstructions included multiplanar reformats according to left atrial appendage closure protocol.

The estimated LAA ostium measurement was determined to be 18.2 mm.

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Pre-deployment evaluation



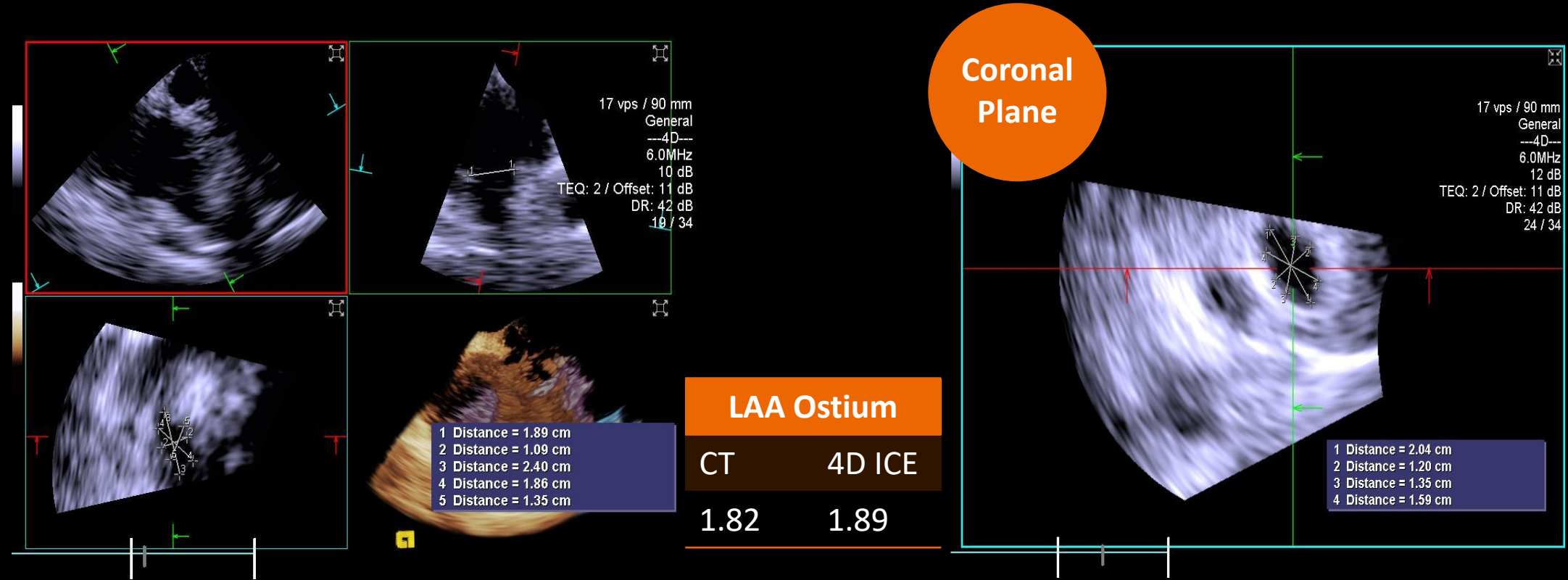
Prior to intervention, using the ACUSON AcuNav Volume catheter in the 2D imaging mode, baseline imaging and measurements were obtained of the Left Atrial Appendage.

An anatomical overview was conducted to include evaluation of the pericardial space to rule out effusion.

*This image should be obtained post deployment as well.

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LAA ostium measurements



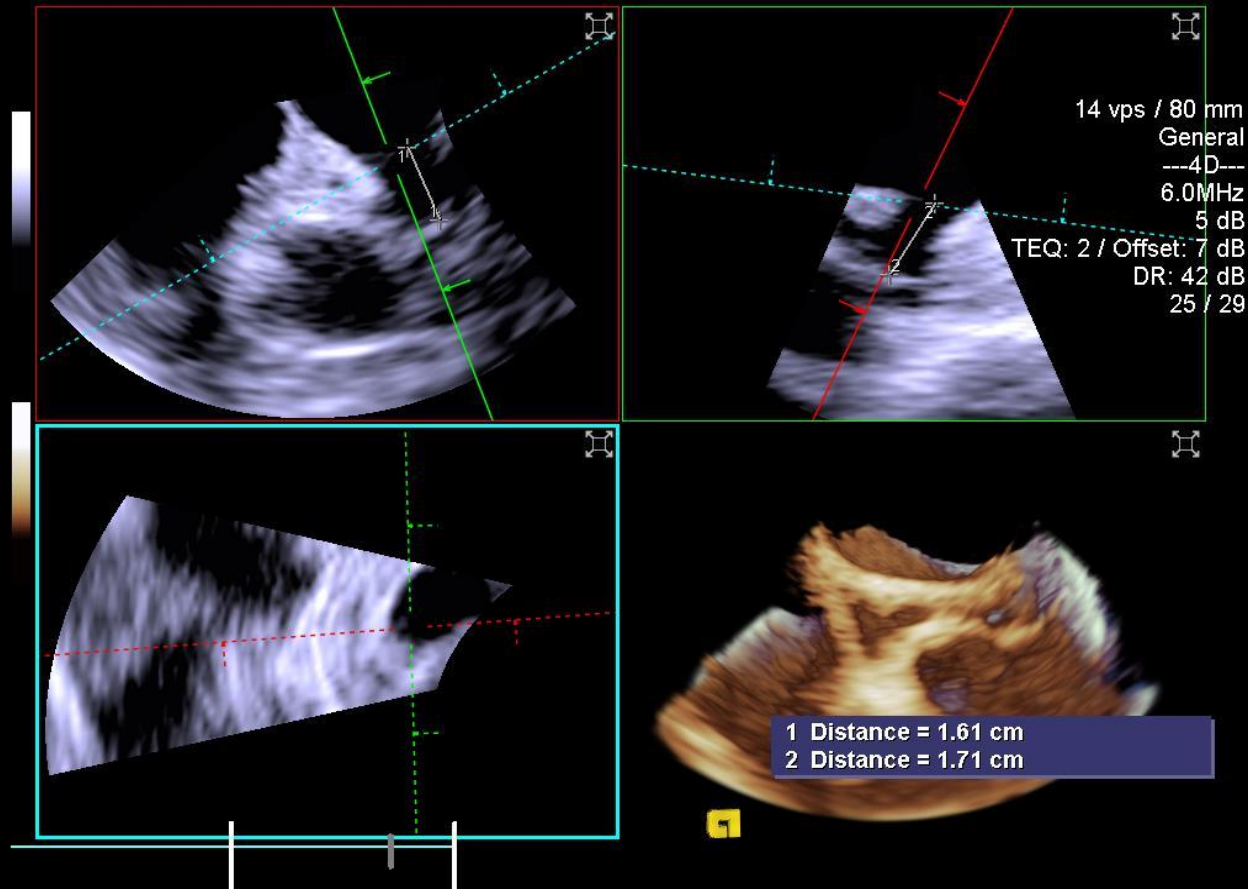
Measurements were then obtained using the multiplanar reconstruction planes (MPR). The coronal plane measurements were the most useful in helping determine device size.

ACUSON AcuNav Volume catheter

Additional measurements

The AcuNav Volume ICE catheter allows the clinician to obtain multiple measurements of the LAA efficiently, meeting the PASS criteria, reducing multiple angles in separate views. By comparison, the transesophageal (TEE) exam requires measurements be obtained in multiple angles from separate views.

To generate left atrial appendage ostium diameter and appendage depth measurements, multiplanar reconstruction planes were used to determine appropriate device size.

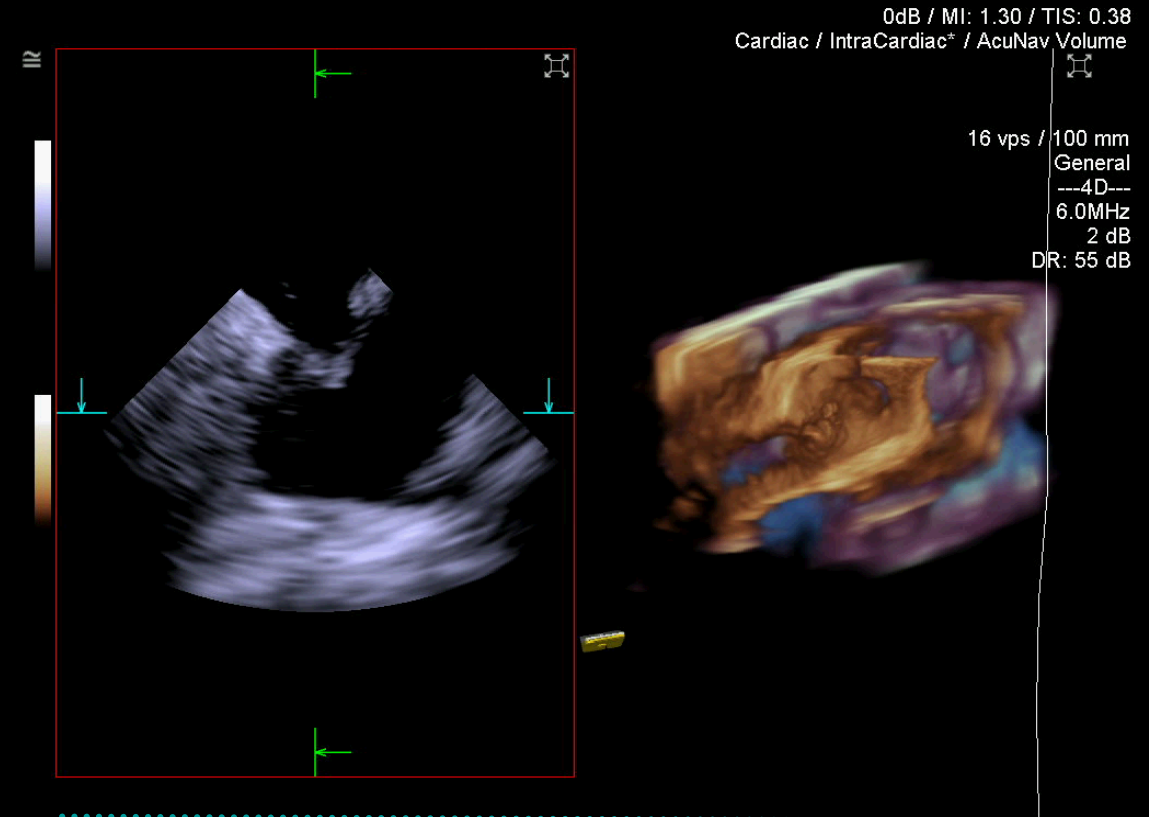


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Transseptal puncture

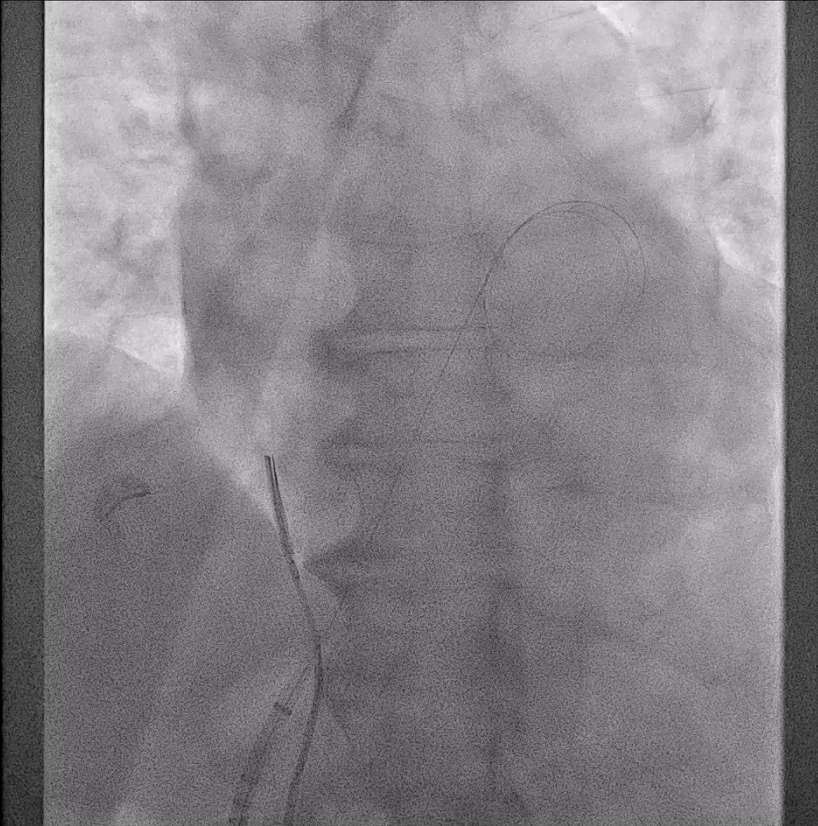
The ACUSON AcuNav Volume catheter was then positioned in the mid-right atrium in the “Home View.” The catheter was rotated clockwise to approximately the 4 o’clock position to obtain the atrial septal view.

The recommended septal location for a transseptal puncture, providing best access to the left atrial appendage, is in the posterior-inferior region of the atrial septum.



Depending on patient anatomy, a slight posterior tilt may be required to better visualize a greater portion of the septum.

Dilation of the septum



Upon completion of the transseptal puncture, a wire was then placed into the left atrium as a guide.

As demonstrated in this example, under fluoroscopy and Volume ICE guidance, the atrial septum was then dilated for insertion of the ACUSON AcuNav Volume catheter.

This workflow helped with the positioning of the Volume ICE catheter into the left atrium.

ACUSON AcuNav Volume catheter

Deployment criteria-PASS

Prior to deployment of the Watchman Left Atrial Occluder the PASS criteria must be met:

Position: device is distal to or at the ostium of the LAA and there is no tilt

Anchor: fixation anchors engaged and device is stable; “Tug Test” is performed

Size: device is compressed at least 8 – 20% of original size

Seal: device spans ostium and all lobes are covered; no paradevice leak

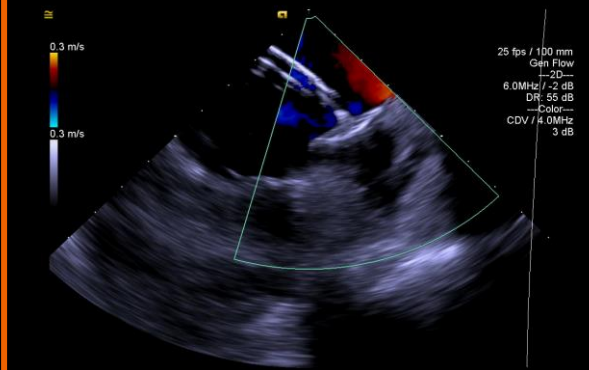
Position



Anchor



Size



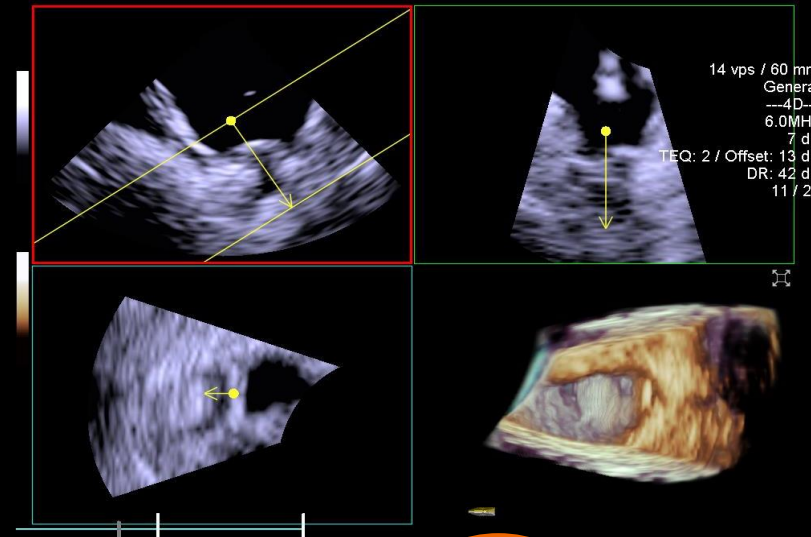
Seal

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4D device size with compression

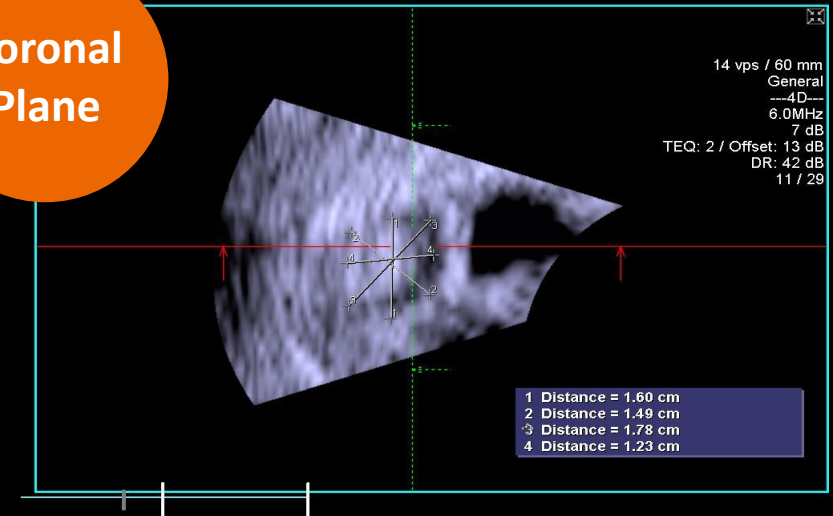
Once the device is opened in the LAA the MPR's were again used to align for the best measurement planes. This was used to determine compression of the device in the LAA prior to deployment.

Multiple measurements were then made in the coronal plane.



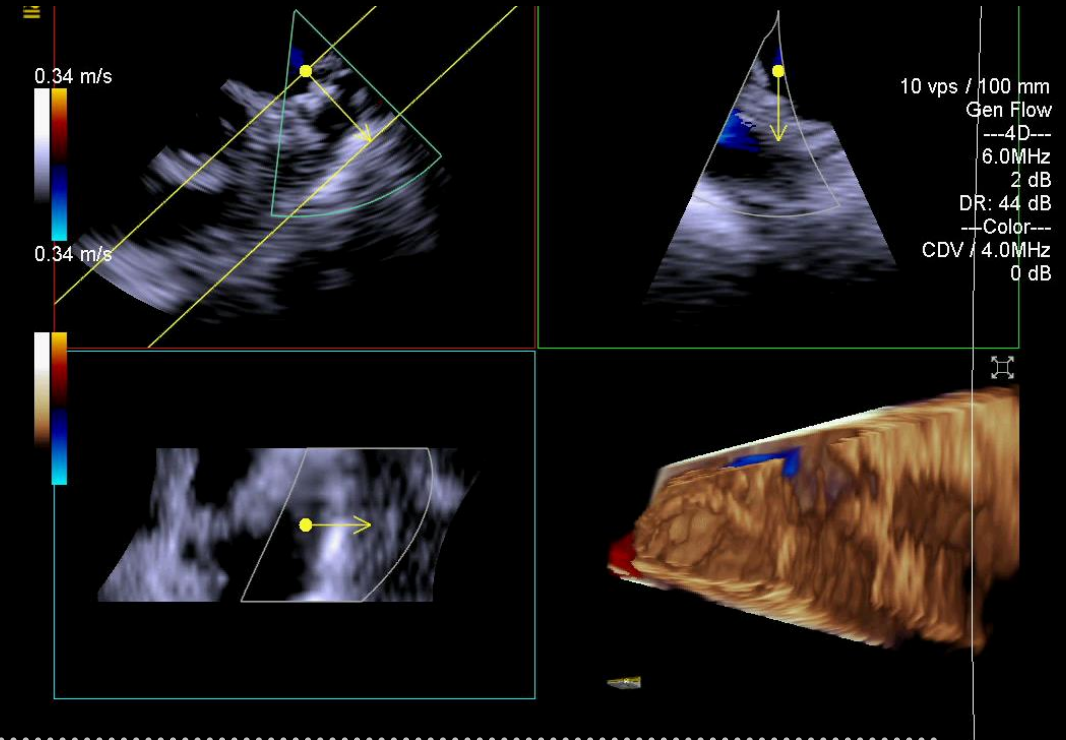
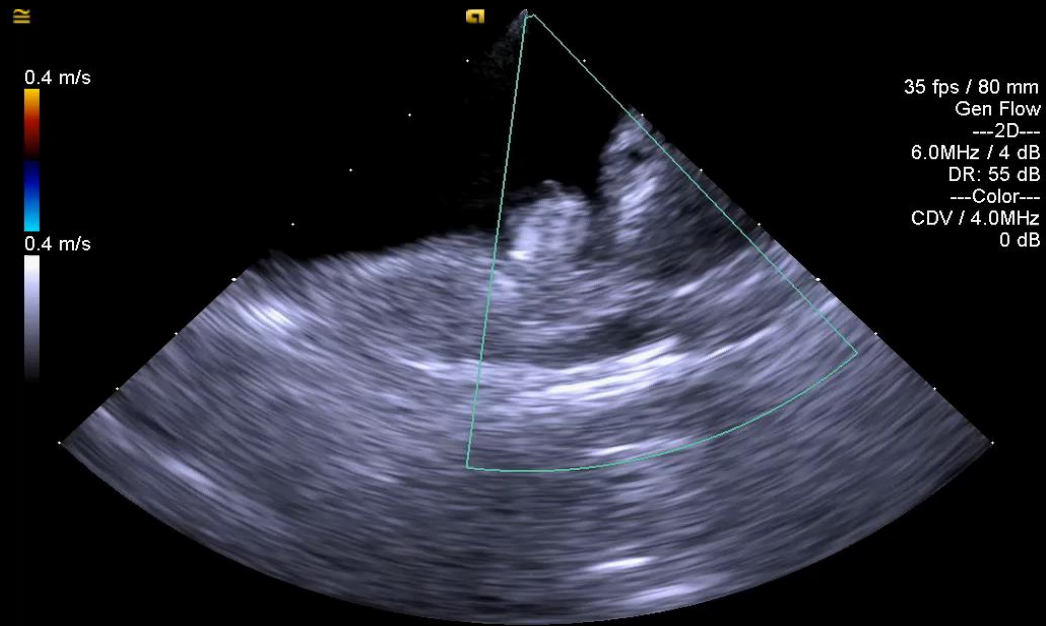
Using the D'art tool is also useful to evaluate device size and position.

Coronal
Plane



ACUSON AcuNav Volume catheter

Color flow Doppler analysis

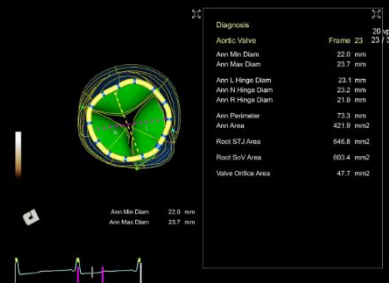


Both 2D and 4D color Doppler assessment were used to evaluate the presence of any residual leak around the device before and after deployment.

Increase your capability

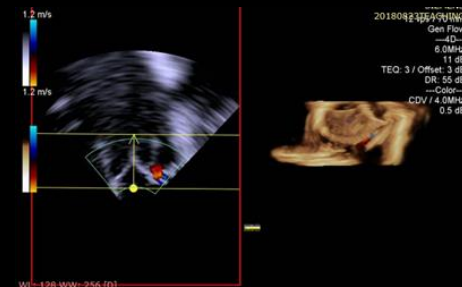
On the ONE platform for all your 4D TEE, TTE & ICE needs

Precisely Visualize / Measure



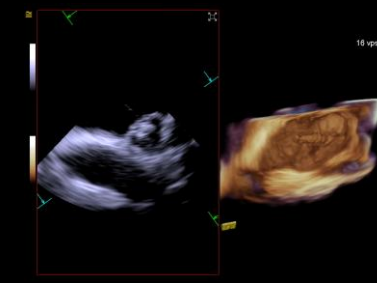
eSie Valves for 1-click TAVR sizing using the Z6Ms TEE Transducer

Accurately Guide / Navigate



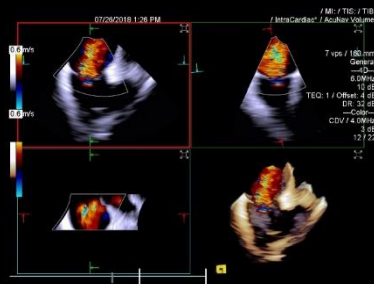
Valve implant (PV) with PVL acquired using the ACUSON AcuNav Volume catheter

Efficiently Deploy

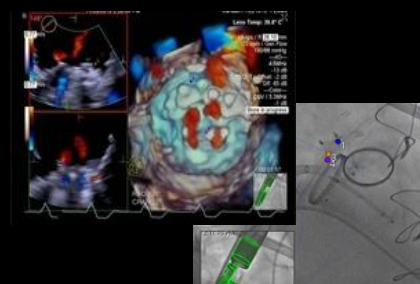


Confidently and efficiently deploy LAAC devices using ACUSON AcuNav Volume catheter

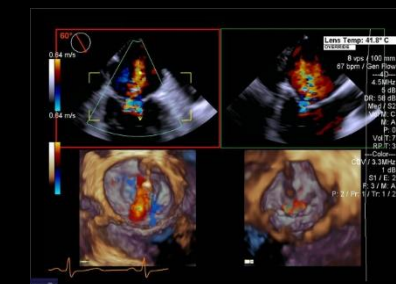
Visualize the tricuspid valve with ACUSON AcuNav Volume catheter



Accurately navigate to the location of the paravalvular leak with TrueFusion



Confidently deploy the MitraClip in the ideal position on the Mitral Valve



“The 4D Volume ICE is a novel alternative imaging modality for LAA occlusion especially in patients unsuitable for transesophageal echo or general anesthesia. It allows clear real time 3D/4D visualization and placement of left atrial appendage occlusion device. The Multiplanar Reconstruction functionality allows to reliably assess the PASS criteria necessary to safely implant the Watchman device.”

Dr. Carlos Sanchez
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