3mensio | Pre-op Planning

3mensio Structural Heart™

Dedicated to planning of aortic and mitral valve replacement and repair procedures and left atrial appendage closures

PIE MEDICAL IMAGING

solutions in cardiovascular analysis

OPTIMIZE YOUR PRE-OP WORKFLOW

Especially designed for and with cardiovascular specialists, 3mensio Structural Heart™ will let you plan aortic and mitral valve procedures anytime, anywhere.

Its intuitive graphical user interface simplifies your workflow, enabling you to quickly and accurately visualize and analyze the vasculature, aortic and mitral valve. You will obtain one report of each session with multiple series and multiple imaging modalities. With 3mensio Structural Heart™ you can gain better insight into your patient's pathology and ultimately complete less invasive and more precise procedures.

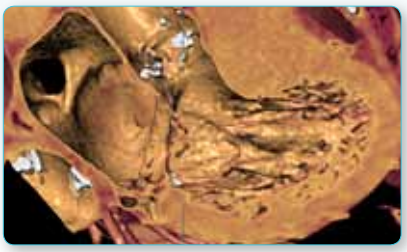
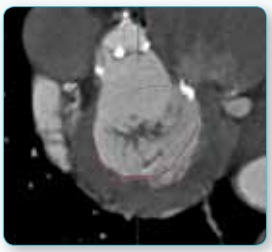
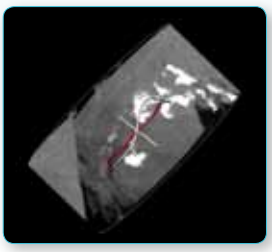
Mitral Valve

Assessment of Anatomy
Determine the anatomy and dimensions of your patient's mitral valve with this dedicated workflow.

After loading the data, you're only one mouse click away from a clear view of the mitral valve cross section. The ED and ES phase and volumes are automatically determined.

You will be able to trace and evaluate the contour of the valve with a few clicks, which gives a clear view of the saddle-like-shape.

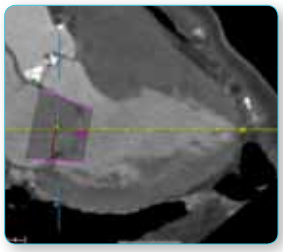
Calcification can be assessed by using the Hockey Puck.

Measurements
3mensio's Mitral Valve option provides practical tools to assess LV anatomy and perform measurements in 3D space.

A possible LVOT obstruction can be assessed using a virtual valve.

Simulate the optimal C-arm rotation with the Angio View.



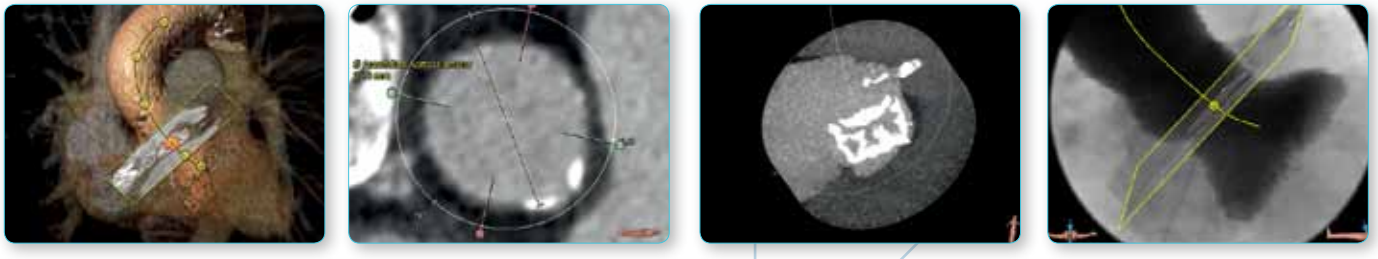

Aortic Root

Automatic Segmentation
Prepare for Aortic Root measurements within a few seconds due to automatic segmentation of the ascending aorta. Manually adjust the center lumen line and the annulus plane.

Assessment of Anatomy
3mensio Structural Heart™ offers several tools to efficiently assess the anatomy of the aortic valve.

> MinIP: inspect the anatomy of the valve without the obstruction of the calcifications
> Hockey Puck: assess calcifications from all sides
> Simulated Angio View

Measurements
> Diameters (perpendicular to the centre line), such as the aortic annulus, the sinotubular junction and the left ventricular outflow tract
> Lengths, for example the distance from the base of the valve to the coronary ostia
> The angulation of the aortic arch
> Calcium scoring

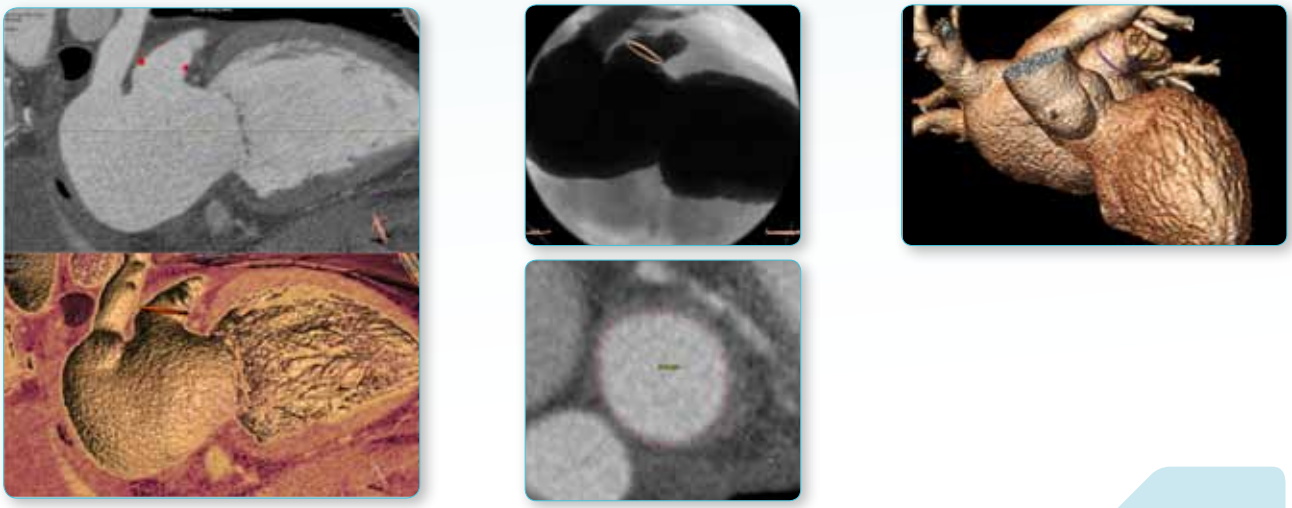


Left Atrial Appendage

Assessment of anatomy, location and size
The Left Atrial Appendage Workflow provides a fast view to assess the anatomical shape and orientation of the LAA in 3D. Simply place two landmarks to localize the ostium.

The application provides diameters along the LAA and lets you indicate a ring to mark the ostium of the appendage. The Angio View is essential for planning of the procedure.

Additionally, Volume Rendered and long-axis views help to understand the anatomical structures in the atrium. Thrombus will easily be recognized throughout the different views.



Approach routes

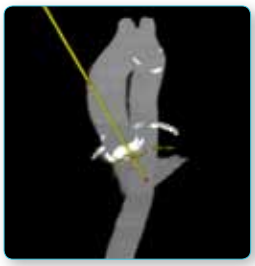
Femoral approach
At the touch of a button, the centre lumen line is presented as a straight line, allowing you to easily and precisely perform length measurements. Use the Stretched View to visualize calcification, vessel diameter and tortuosity of both iliacs in one single overview.

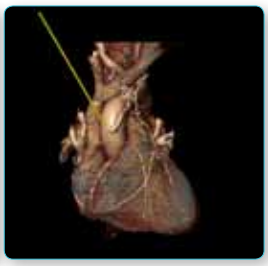
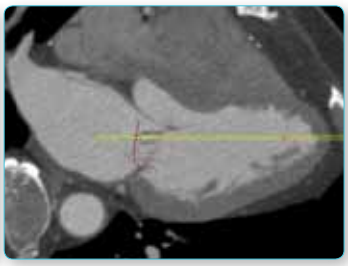
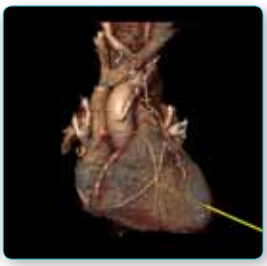
Enter the catheter's French size to see it instantly projected over the complete trajectory. The Angio View lets you simulate the optimal C-arm rotation.


Subclavian approach
Look into vessel diameters, calcifications and tortuosity, all combined in the Stretched View with this workflow dedicated to the subclavian. Have the software automatically draw a centre line through the lumen and simulate the optimal C-arm rotation using the Angio View. This workflow is what you need to enter the OR fully prepared.

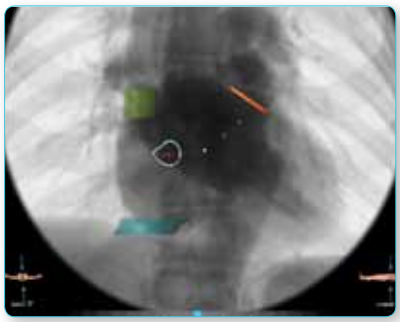
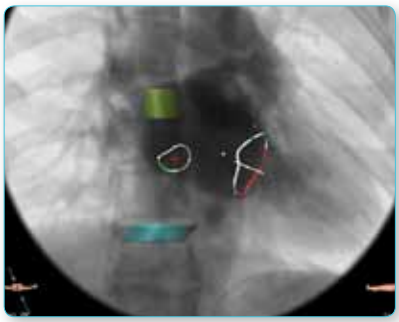

Direct Approach
The direct access creates automatically a perpendicular catheter to the aortic valve. The path of the catheter can be followed from valve plane to the skin. Calcifications of the ascending aorta can be assessed for transaortic access.

Skin, ribs, vessels can be visualized while planning the transapical access and can be used to perpendicularly access the mitral and aortic valve.
Important arteries like LIMA and RIMA can be traced and visualized in synchronized views as VR or simulated angio views.



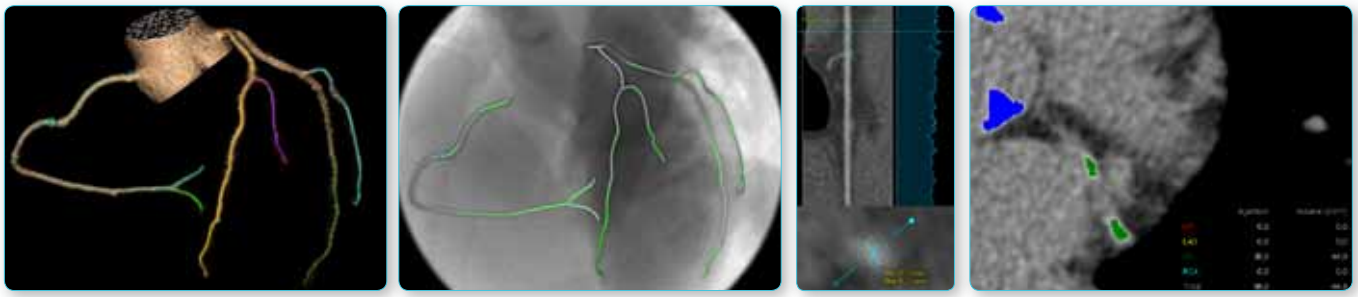
Septal Crossing
Appreciate and visualize anatomical structures of the heart on the simulated Angio View.
The structures that can be defined are the Aortic Valve, Intra-atrial Septum, Superior and Inferior Vena Cava, Mitral Annulus and/or LAA Ostium Rings.

Coronary

Coronary CTA
3mensio Coronary CTA can help to assess the coronary arteries for suspect coronary artery disease. Extract the coronary artery tree automatically. Display vessels using stretched and cross-sectional views. Quantify lesions by measuring the vessel diameter at different positions. Prepare your coronary procedures with 3mensio Coronary CTA. Use the simulated angio view to interactively determine the optimal C-arm projection before treatment. Better understanding of vessel overlap and foreshortening allows you to save contrast and radiation during the procedure.

Calcium Scoring
3mensio Calcium Scoring provides fast and easy quantification of calcifications in the coronary arteries. Classify calcifications with one click and obtain its Agatston score, volume and mass.



Usability is key

Dedicated workflow assistants
After selecting the desired workflow, you will be guided through the preparations for measurements.

Direct data import
3mensio Structural Heart™ works with all major medical imaging formats of US/echo, XA and CTA and can access multiple data stores on the network, CD, DVD, USB or the internet. Connecting to your PACS is as easy as can be.

Installation
The 3mensio Structural Heart™ software can be installed on virtually any modern Windows-based laptop or desktop, eliminating the need for specialized hardware and facilitating communication with your patients.

Speed up your workflow

- Practical workflow assistants
- Intuitive graphical user interface
- Easily compose your own reports
- Import CTA images from CD, DVD, USB or connect to PACS

Pre-op planning

- Mitral Valve assessment
- Aortic Root assessment
- Left Appendage assessment
- Coronary CTA and calcium scoring
- Femoral Approach planning
- Subclavian Approach planning
- Apex Approach planning
- Septal Crossing planning

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PIE MEDICAL IMAGING

solutions in cardiovascular analysis

Pie Medical Imaging stands for:

> 30 years of expertise in cardiovascular image analysis
> Extensive validation for both patient care and research
> Accurate and reproducible analysis results
> Fast and intuitive operation

Quality Assurance:

Pie Medical Imaging develops, produces and sells its products in accordance with international accepted standards. This product is CE marked and FDA 510(k) cleared.

Quality Management System complies with:

> ISO 13485
> FDA Quality System Regulation
> Canadian CAN/CSA ISO 13485

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