



INNOVATION BREAKING NEWS

SATURN PROJECT: a novel approach to transcatheter replacement

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Potential conflicts of interest

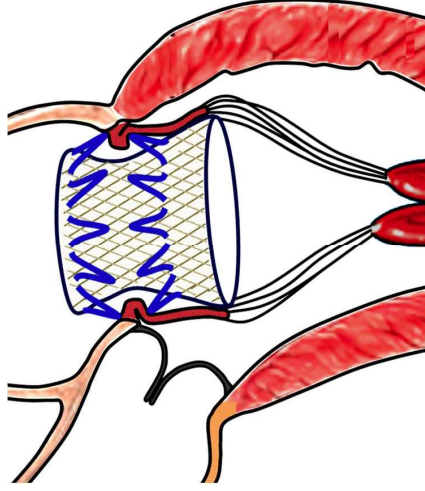
Paolo Denti is:

- Consultant for Valtech Cardio, Abbott, 4tech Cardio and Innovheart

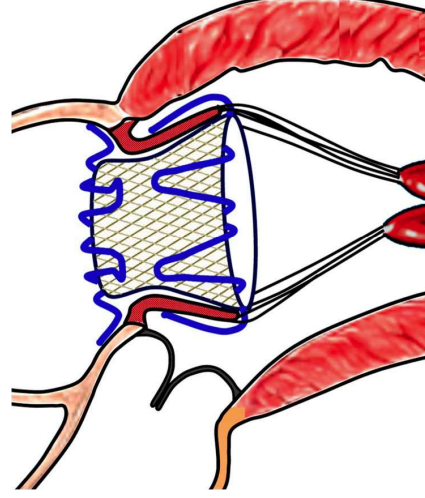
TMVI Anchoring Solutions

Several anchoring mechanisms have been developed up to now ...

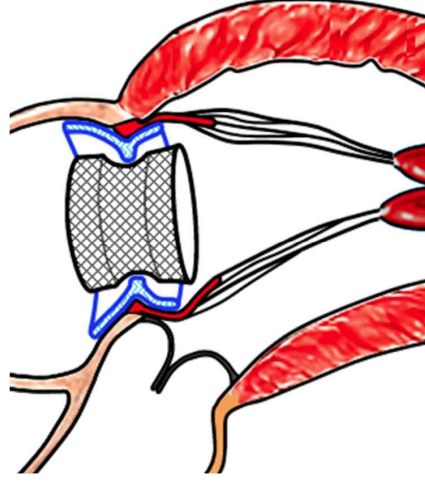
Hooking the Valve



Capturing the Leaflets



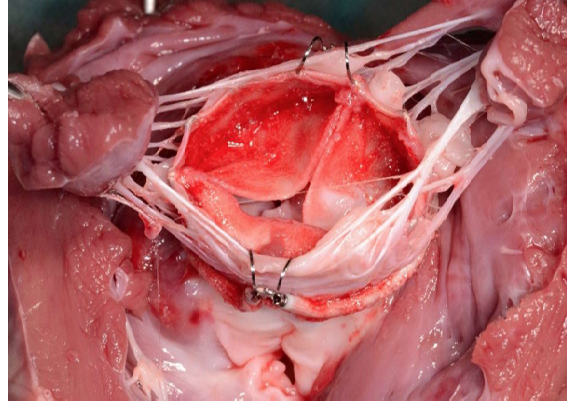
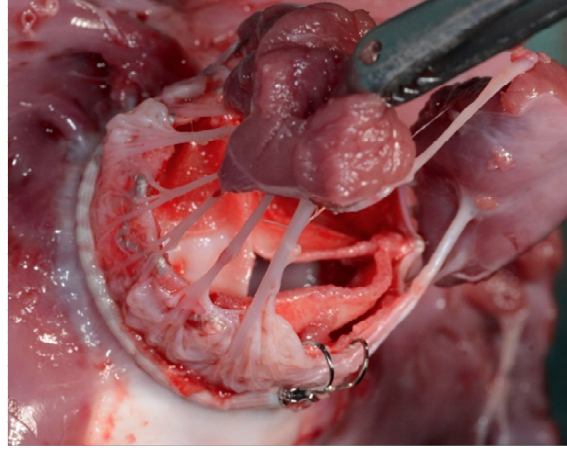
Docking the Annulus



... but the complex MV pathophysiology requires specific solutions

The Saturn Solution: think mitral!

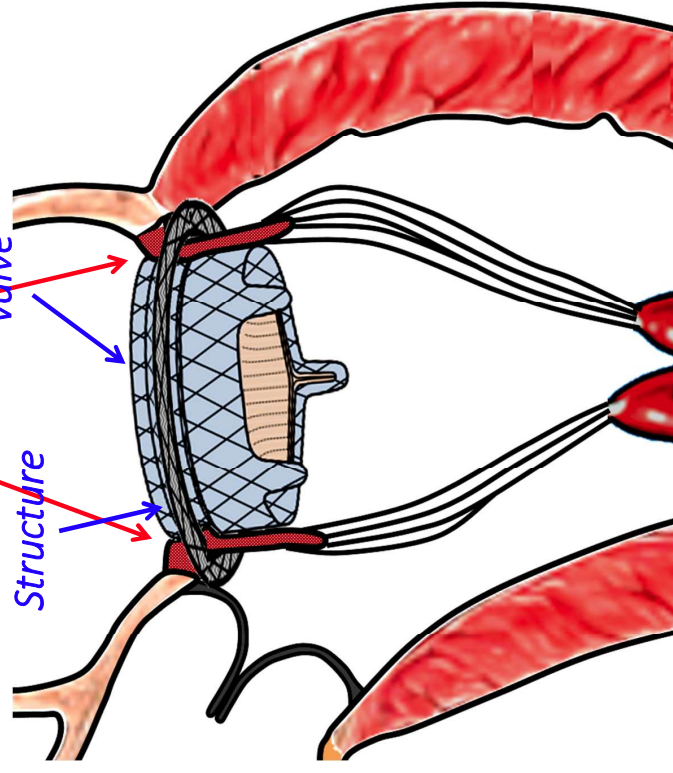
- An **annular structure** is positioned behind the leaflets, in contact with the annulus.
- The **valved central element** is expanded inside the mitral orifice, to lock the native leaflets in between.



*Native mitral leaflets are
entrapped between the valve and
the annular components*

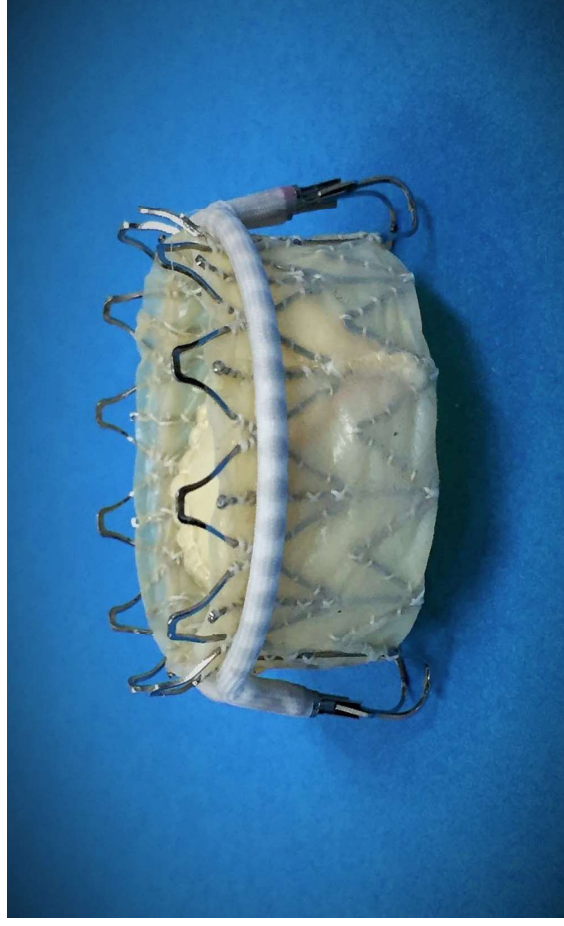
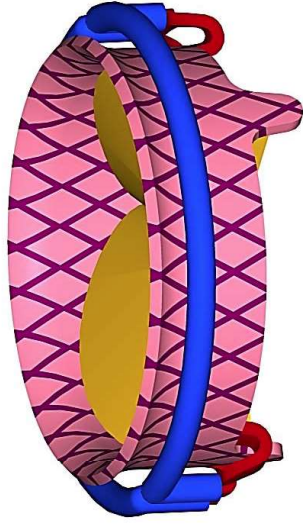
*Annular
Structure*

Valve



Saturn Prosthetic System

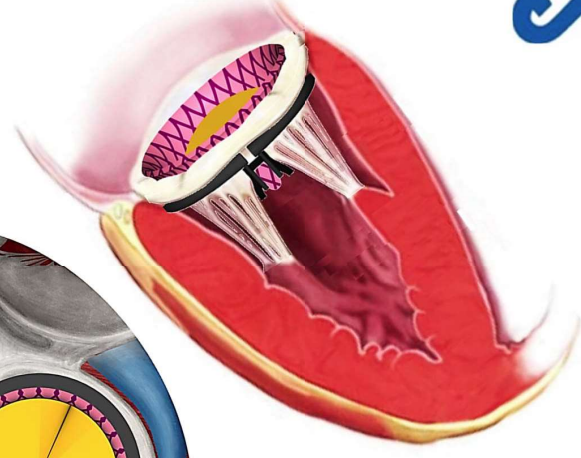
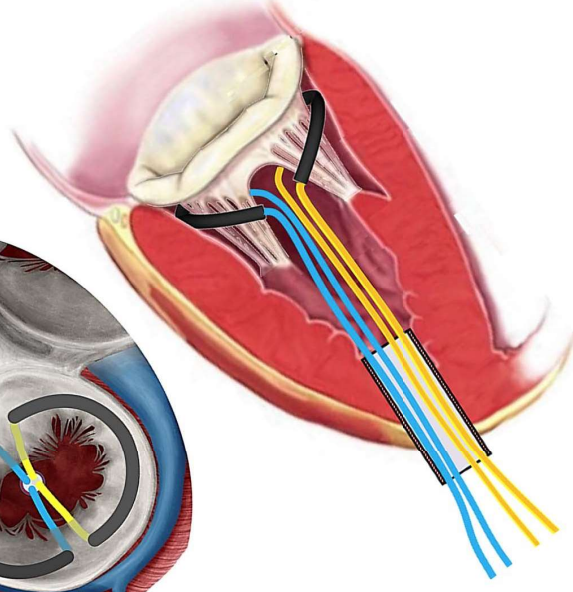
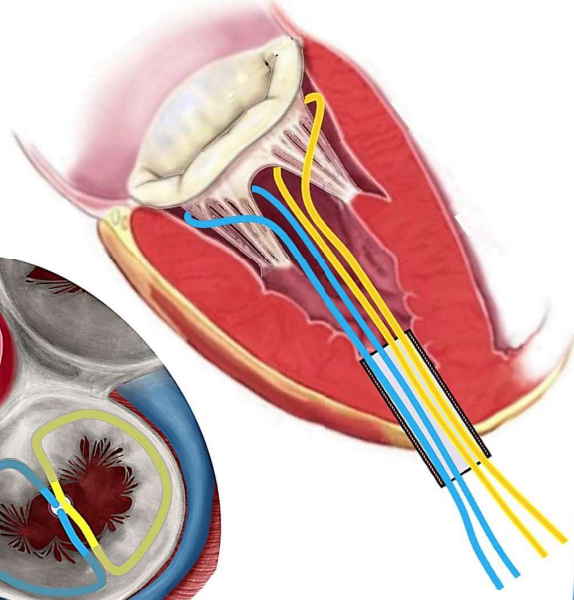
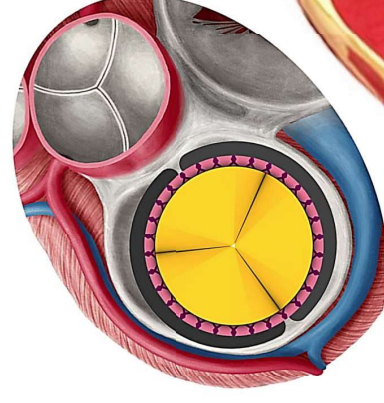
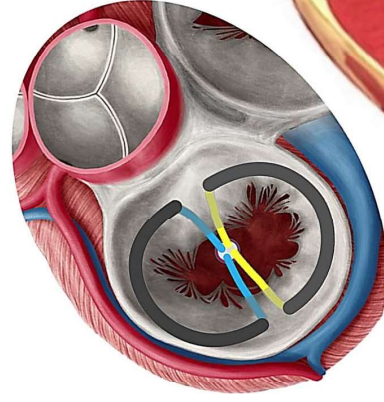
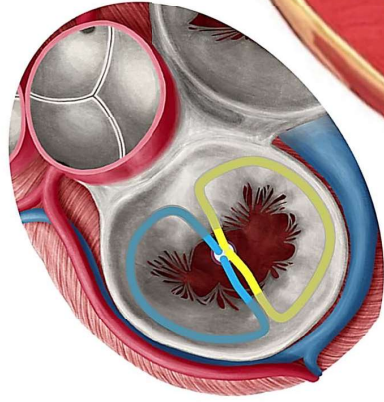
Saturn Design – single piece/functionally multi-components



suitable for intracardiac reassembling of the prosthesis
before final release

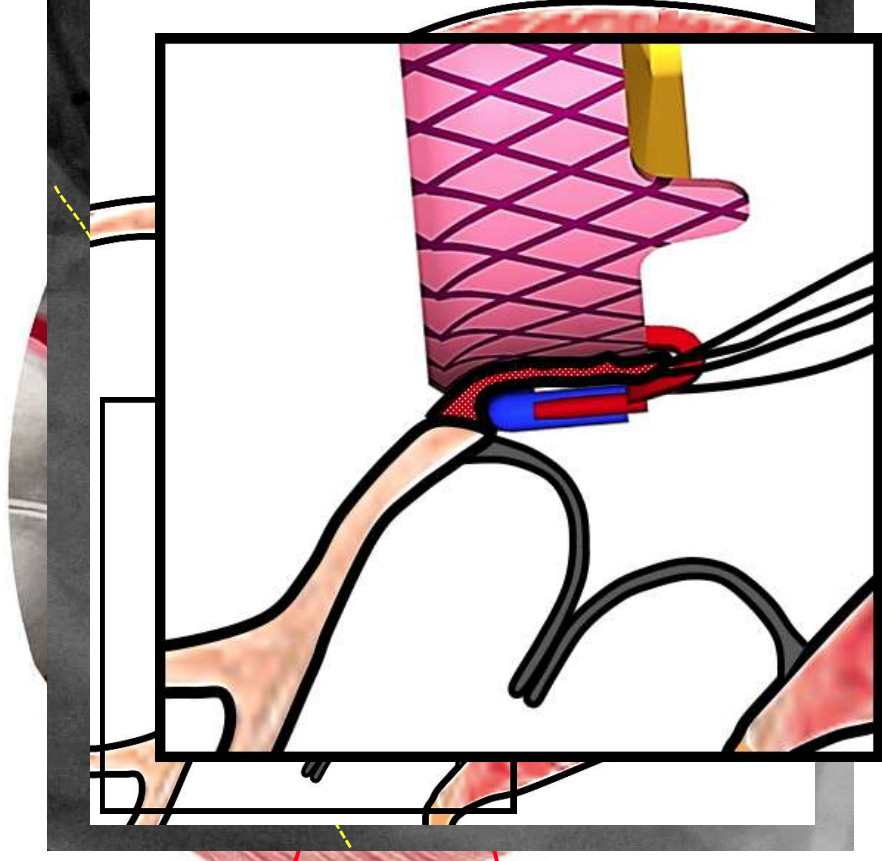
A Three-Step Procedure

- 1) Placement of a pair of **guidewires** to embrace the native mitral valve
- 2) Over the wire introduction and positioning of the **annular segments**
- 3) Introduction of the **central valve body**, intracardiac reassembling and release



Saturn: an Effective Technology

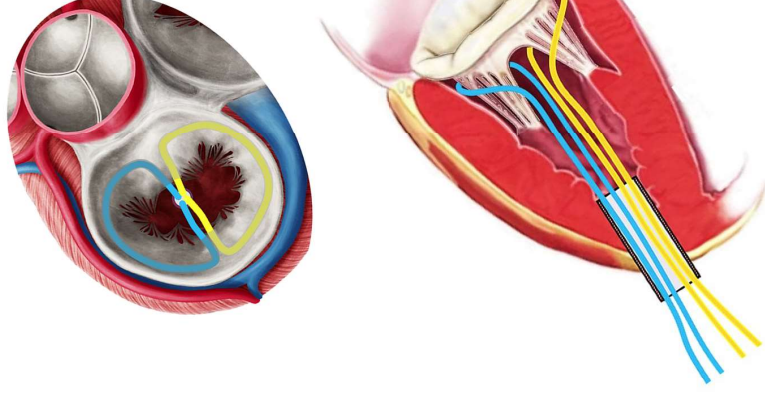
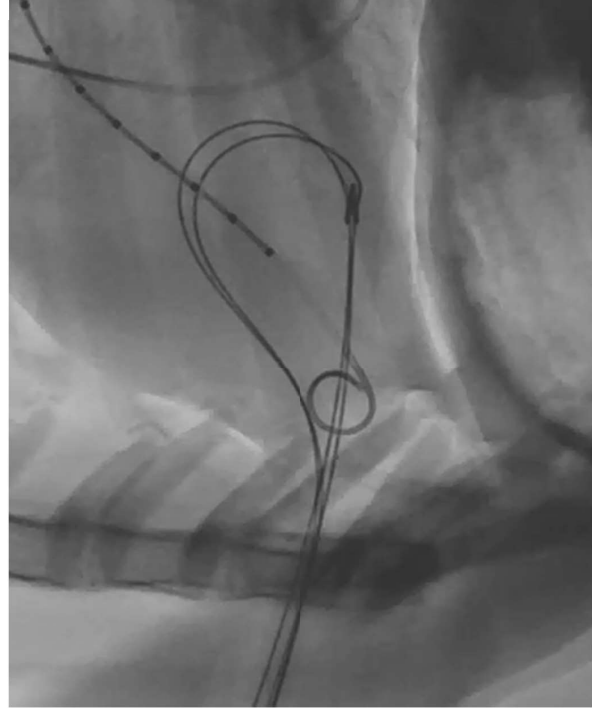
- **Inverse Remodeling of the Mitral Annulus**
Size reduction – Annuloplasty-like
- **Stabilization of the Mitral Annulus**
Surgical-like anchoring to the annulus
- **Low Profile Prosthesis**
Reduced risk of LVOTO
- **Anterior Leaflet gripped by Connecting Arm**
Reduced risk of SAM



Step 1: Guidewires Positioning

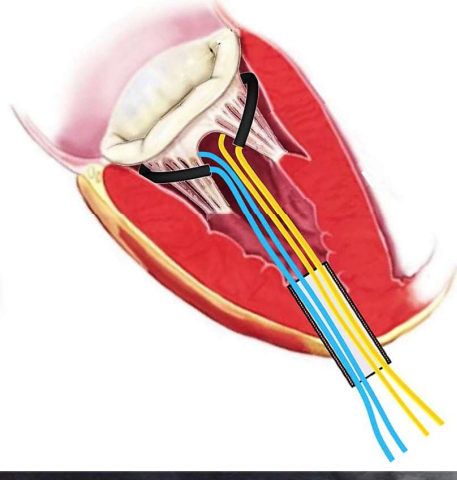
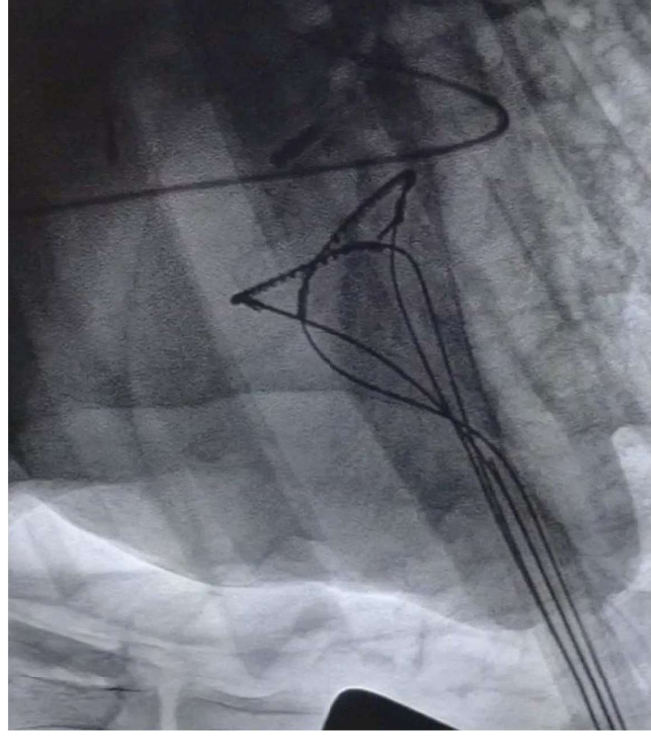
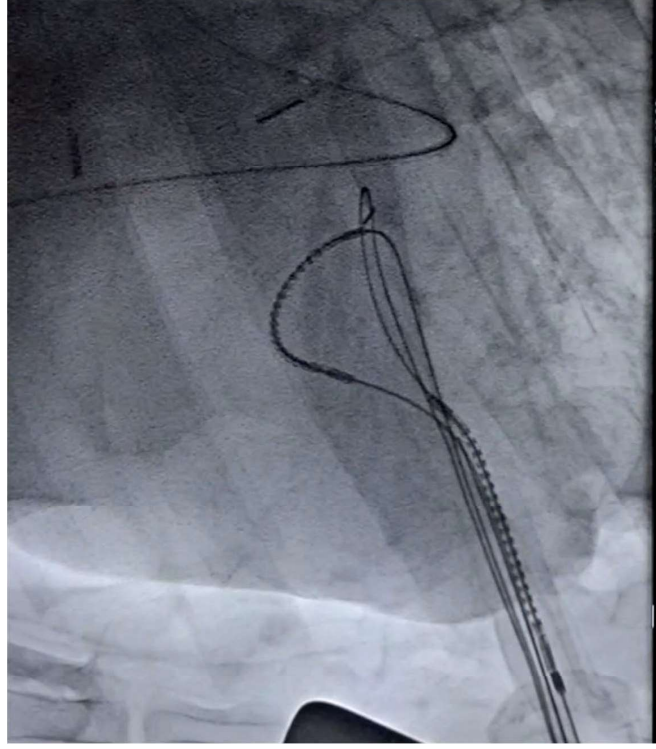
Target: Positioning two guidewires around the native mitral valve. Each guidewire embraces a commissural area.

As a final result, all four free ends of the guidewires are accessible to the operator.



Step 2: Annular Structure Positioning

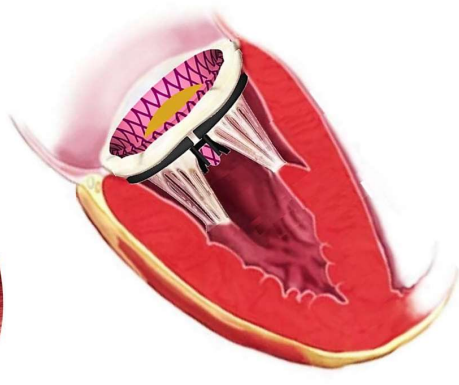
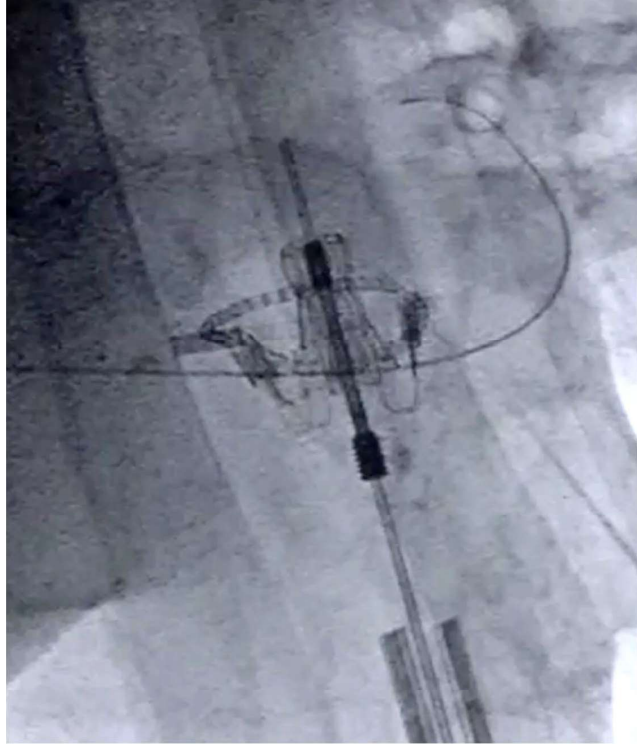
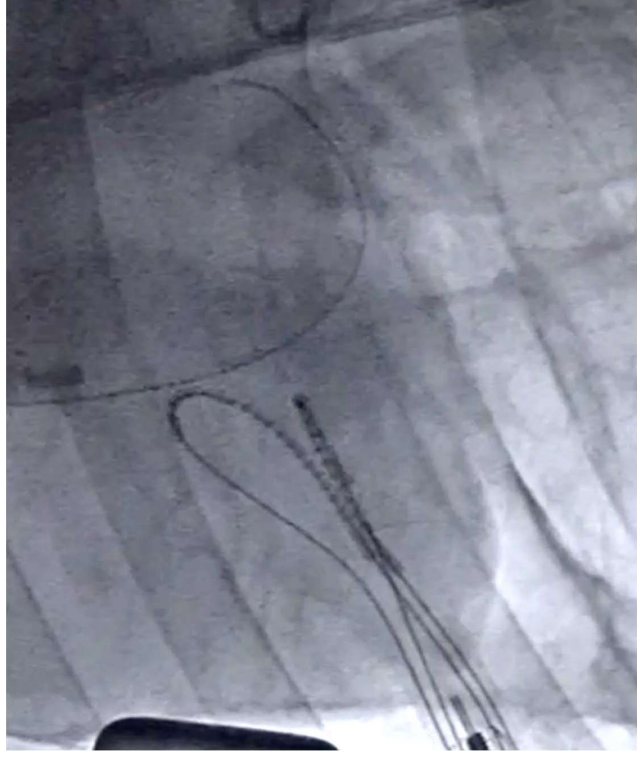
Target: Positioning of the two segments of the annular structure on the rear of the native mitral valve leaflet, in correspondence of the commissural areas, sliding over the previously positioned guidewires.



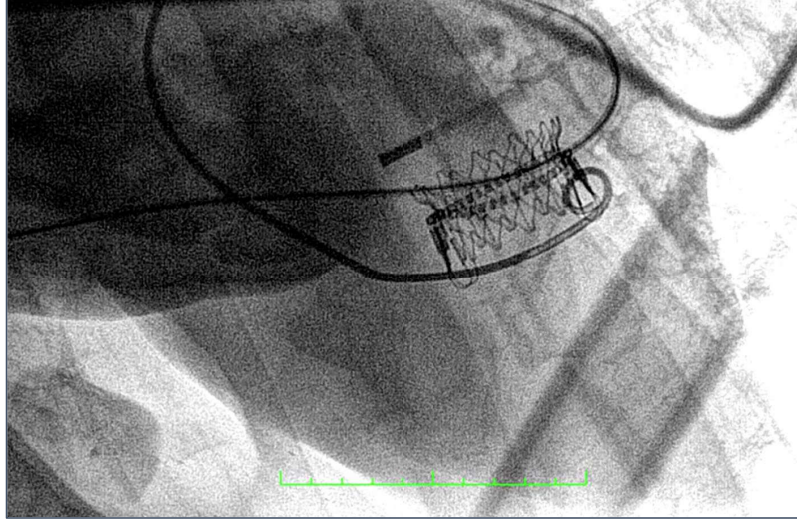
Step 3: Prosthesis Deployment

Target: Introduction of the stented valve inside the LV. The segments are connected to the stented valve.

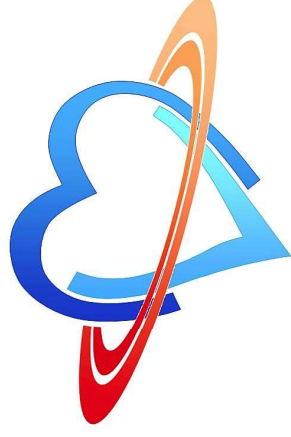
Final positioning and deployment of the prosthetic system.



Saturn Technology: Think mitral!



- Simple and accurate implant, based on daily used cathlab GuideWires
- Surgical-like anchoring to the mitral annulus, structure stabilization
- Annular size reduction, immediate remodeling
- Low profile prosthesis, low LVOT Obstruction risk
- No SAM risk



How to embrace the valve

