



UNIVERSITÄT LEIPZIG
HERZZENTRUM

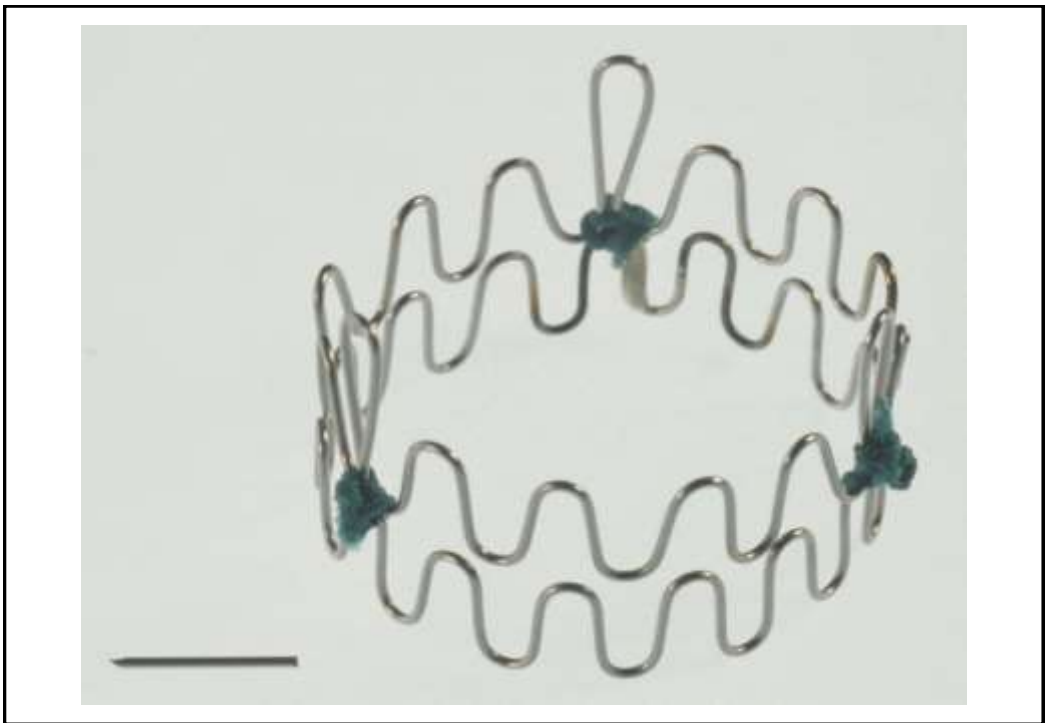
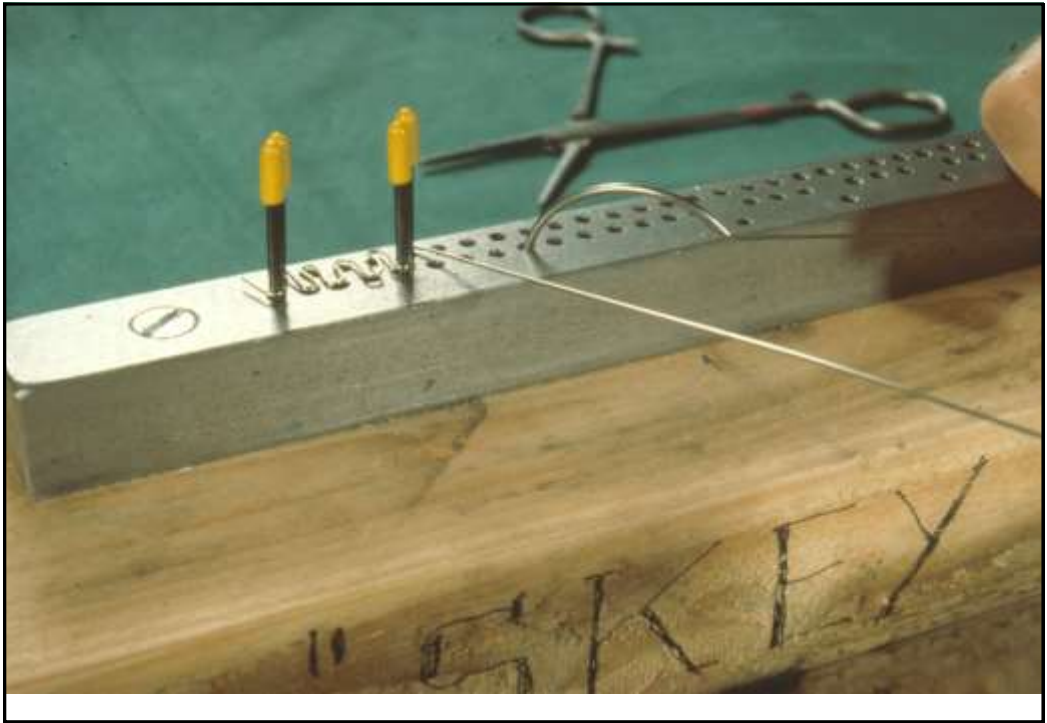


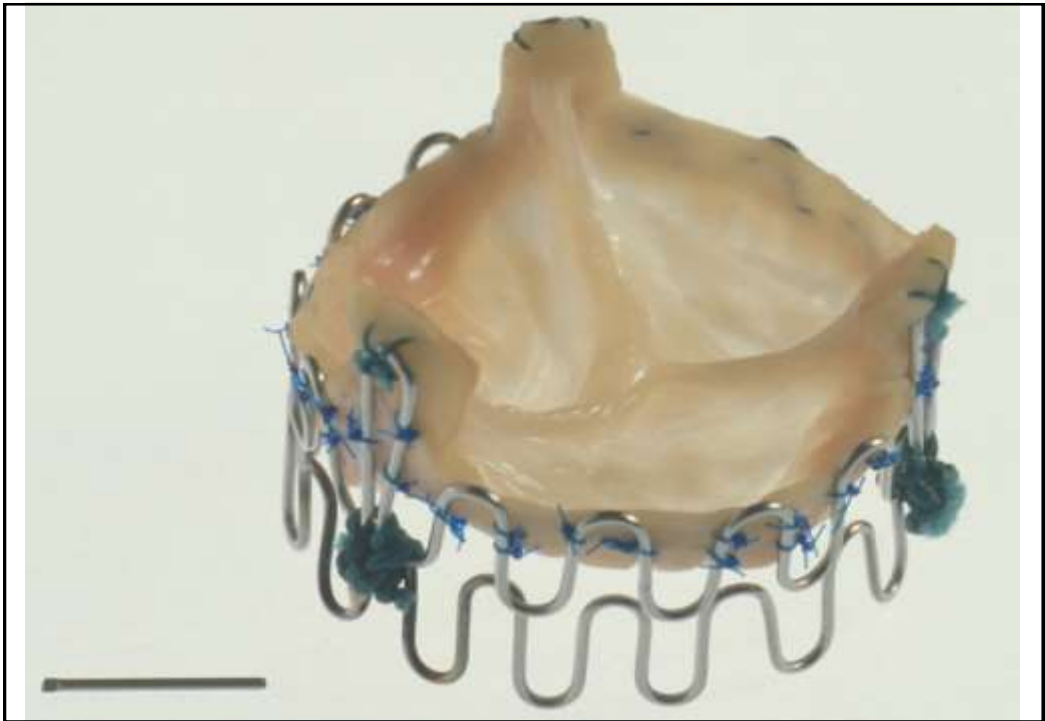
Differences in Valves

Gerhard Schuler
University of Leipzig – Heart Center



Dr Henning Andersen,
Arhus





Evolution of the Edwards Balloon-Expandable Transcatheter Valves



Cribier-Edwards

2002



SAPIEN

2006



SAPIEN XT

2009



SAPIEN 3

2013

24F

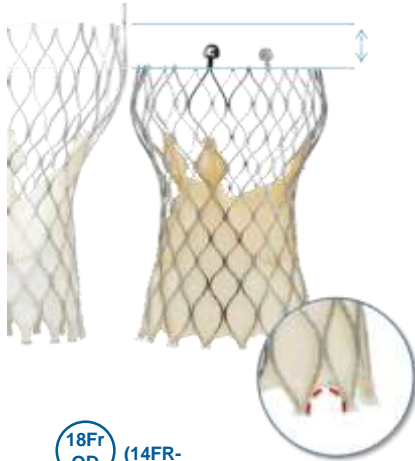
22F

16F

14F

* Sheath compatibility for a 23 mm valve

CoreValve Evolut R



4Fr Reduction In Delivery Profile

Improves Access and Reduces Risk of Major Vascular Complications

CoreValve	Evolut [®] R
with 18Fr Cook Sheath	with 14Fr-Equivalent InLine [™] Sheath
18Fr	18Fr
22 Fr (OD)	True 18Fr (OD)

Transfemoral Access



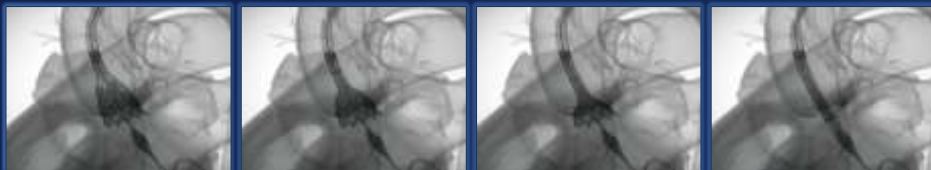
Resheath/Recapture Experience

CoreValve Evolut R CE Study

Used 22 times among 15 patients (25%); all for repositioning:

- 12 full recaptures among 10 patients
- 10 resheaths among 7 patients

All uses were successful



Valve too deep

Recapture begins

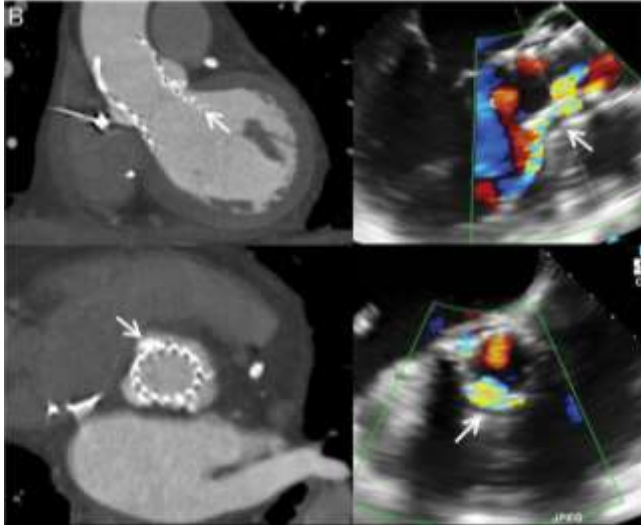
Partially recaptured

Valve fully captured

Source: Meredith IT, et al. Early Results from the CoreValve Evolut R CE Study [2101-295]. Presented at the Annual Meeting of the American College of Cardiology. March 14, 2015.

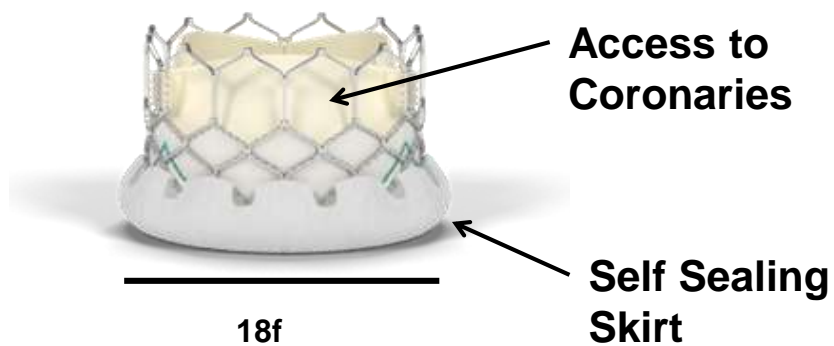
Why do we need new technologies?

Paravalvular Leakage

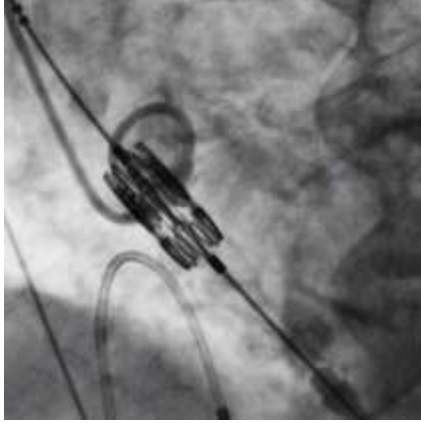


Bax et al., Eur Heart J. 2014

EDWARDS Sapien 3



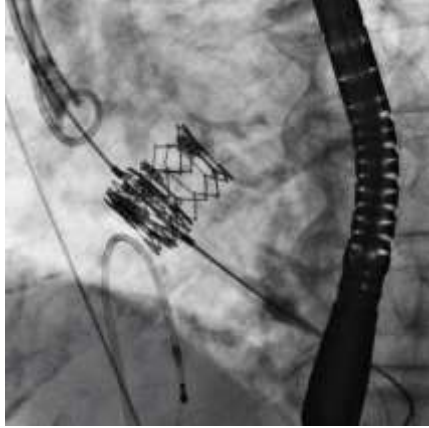
Annular Rupture



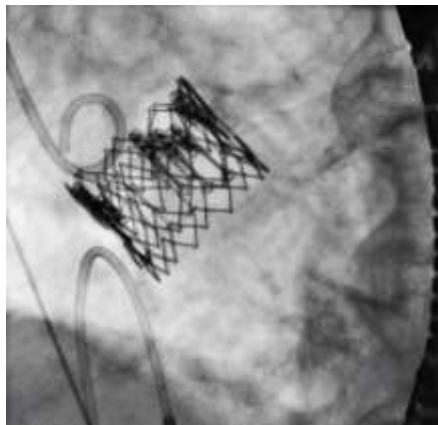
Annular Rupture



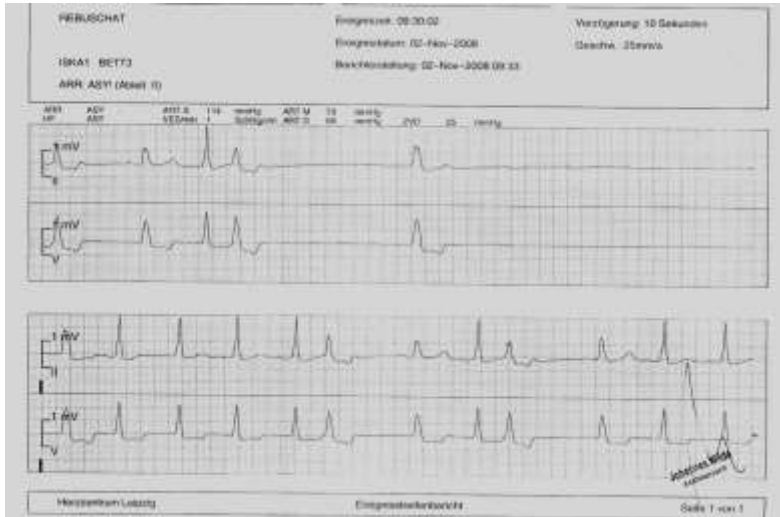
Annular Rupture



Annular Rupture

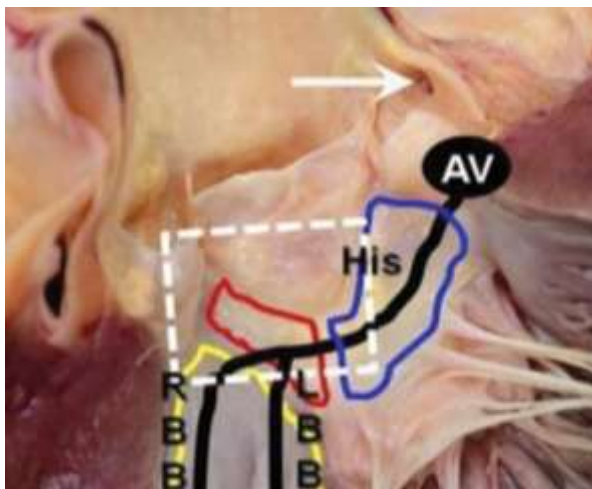


AV Block III° 4 Days Following COREVALVE



Why do we need new technologies?

Conduction Abnormalities

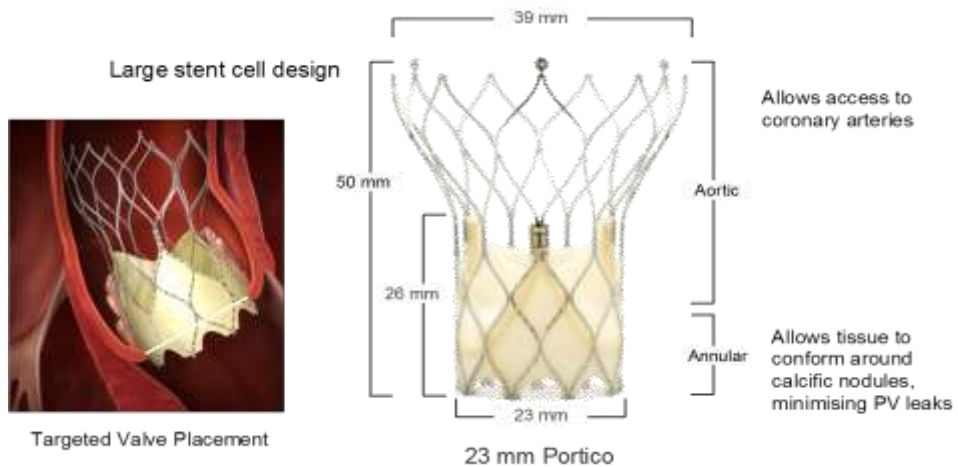


Portico Overview: Valve Design

- Self-expanding stent designed to be:
 - Fully resheathable*
 - Repositionable
 - Retrievable
- Designed to address conduction system interference
 - Valve placed low within the stent frame allows for sealing without the valve extending deep into the LVOT
 - Non-flared annulus section of the stent



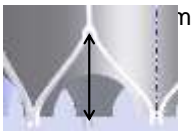
New Self Expandable Devices for the Treatment of Aortic Stenosis The St. Jude Medical Portico Valve



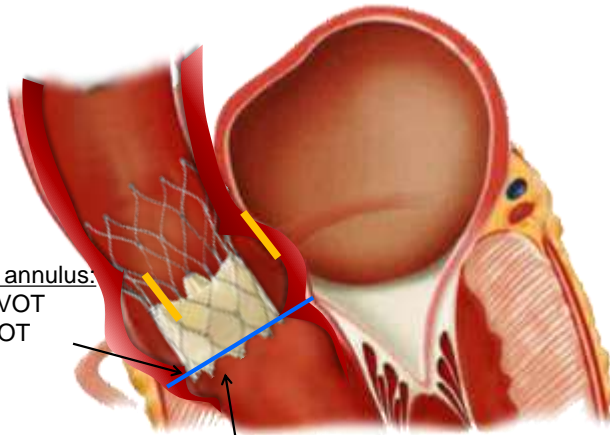
SJM Portico Valve Placement

Targeted placement in annulus:

- Nominal: 3mm into LVOT
- ~1-6mm max into LVOT

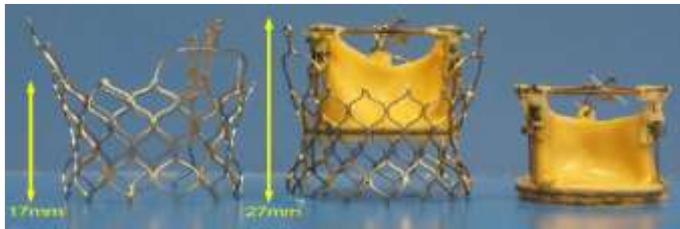


19



Minimal protrusion of valve into LVOT

2nd Generation Devices



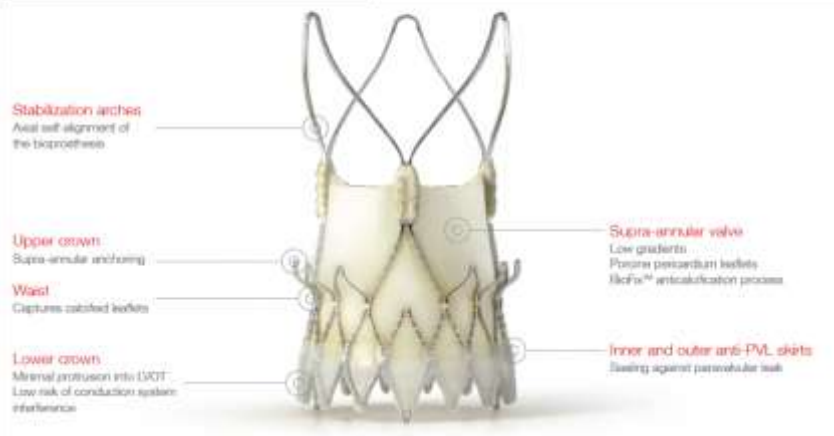
Valve Medical



Symetis

New Self Expandable Device: The Symetis ACURATeneo

ACURATeneo™
transcatheter aortic valve



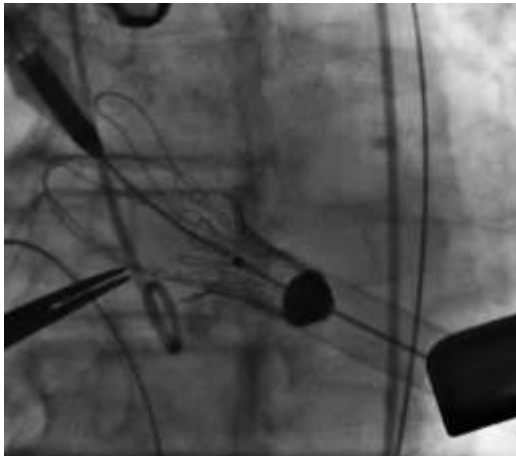
Symetis



Symetis



Symetis



Symetis



Symetis ACURATeneo



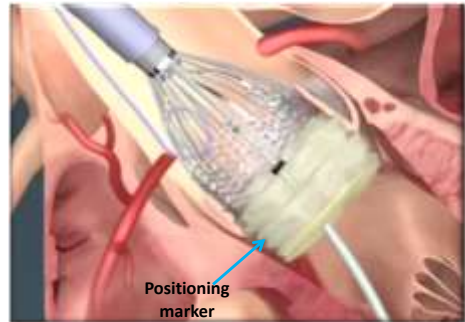
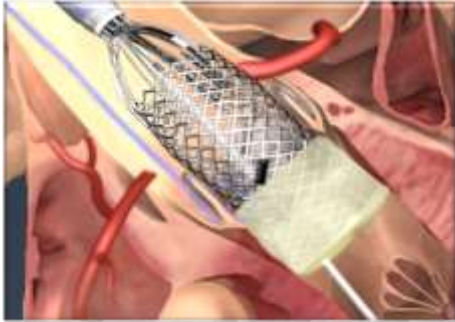
Symetis ACURATeneo



2nd Generation Devices: LOTUS



Boston LOTUS Valve



Central radiopaque positioning marker to guide placement

Valve is repositionable throughout entire deployment process

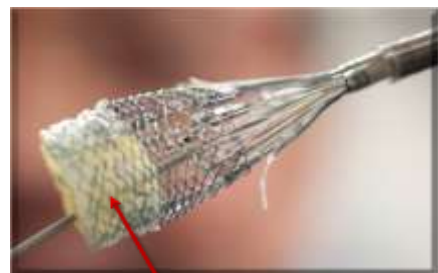
Fully retrievable prior to release, including after locking in final configuration

LOTUS Valve: Reduction of Paravalvular Leak



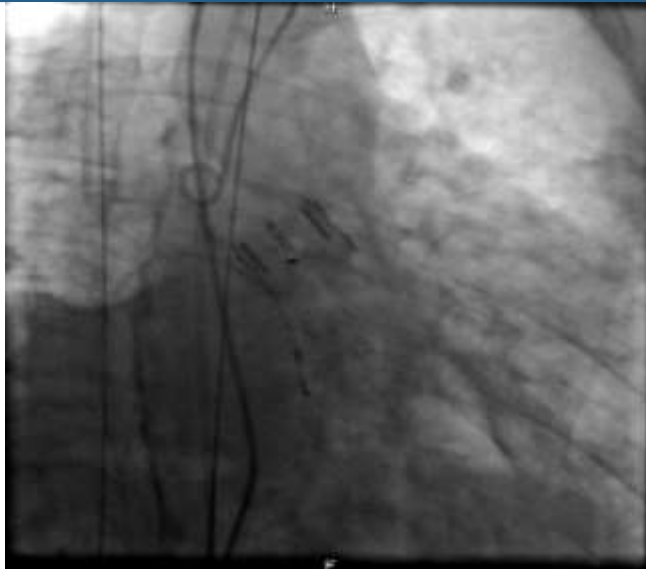
Non – Circular Annulus
+
Concentric Valve
=
PVL

Adaptive seal mitigates PVL

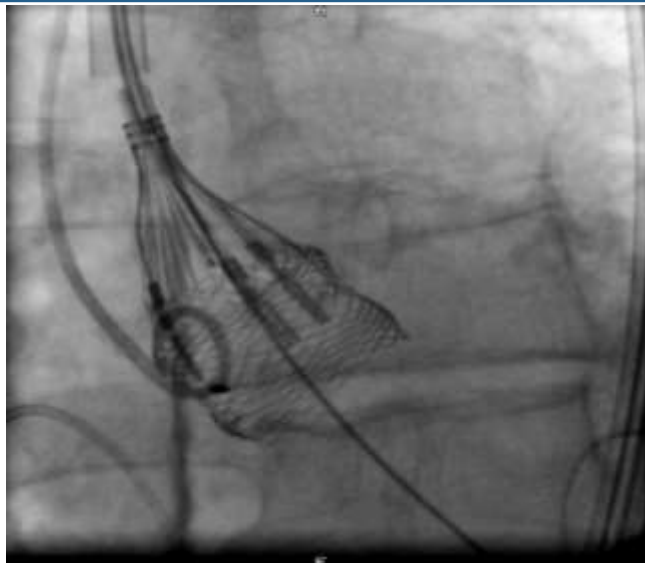


Adaptive
Seal

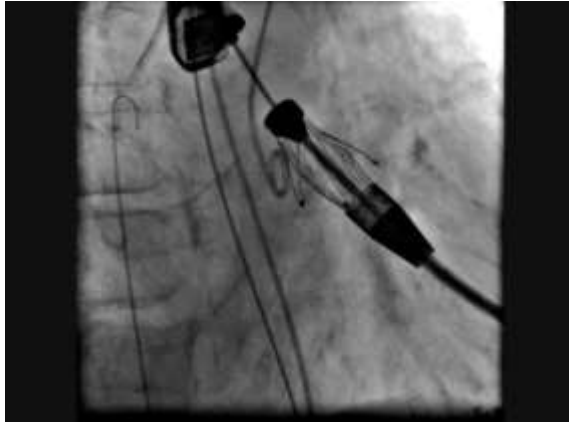
**New Self Expandable Devices for the Treatment of Aortic Stenosis
The Boston Lotus Valve**



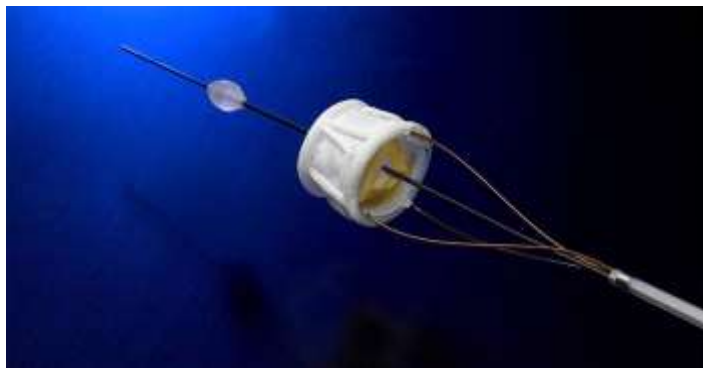
**New Self Expandable Devices for the Treatment of Aortic Stenosis
The Boston Lotus Valve**



2nd Generation Devices: Jena Valve



2nd Generation Devices



Direct Flow

2nd Generation Devices

Improvements in Design and Function

- **Elimination of PVLs**
- **Pacemaker rate <10%**
- **Full repositioning capability**
- **Access to coronary ostia**
- **Self positioning of device**