

Structural Cases: Show and Tell

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Schroeder Chair in Structural and Valve Innovation

St. Michael's

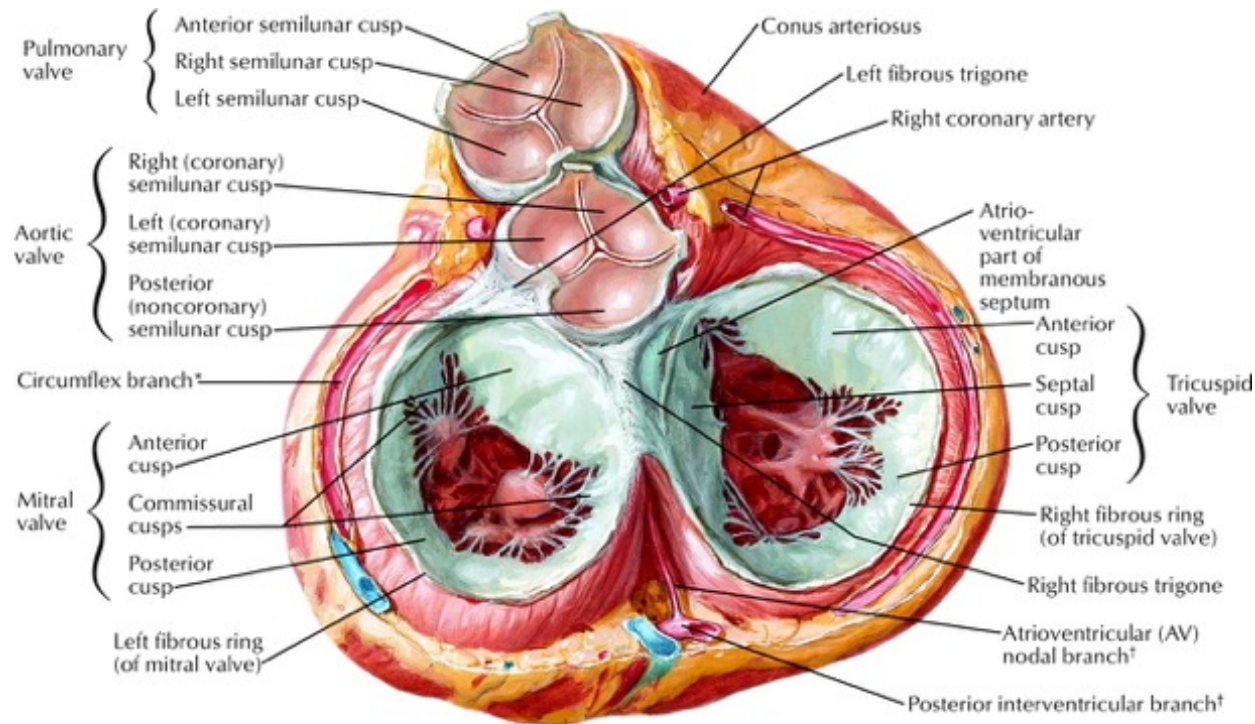
Inspired Care. Inspiring Science.



UNIVERSITY OF
TORONTO

Disclosures

- Consultant: Edwards, Abbott, Medtronic, Cardiovalve, Tricares, inQB8, Jenscare



**Heart in diastole:
viewed from base with atria removed**

Transcatheter Mitral Toolbox

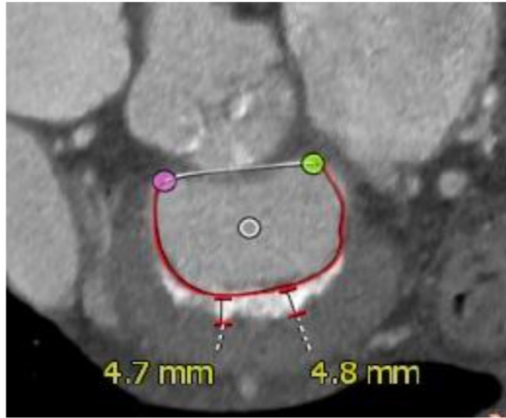
Repair



Replacement

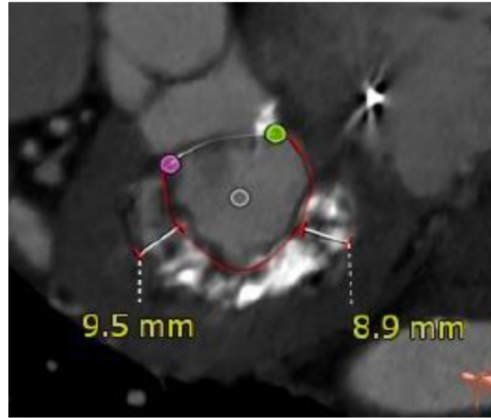


Mitral Annular Calcification (MAC)



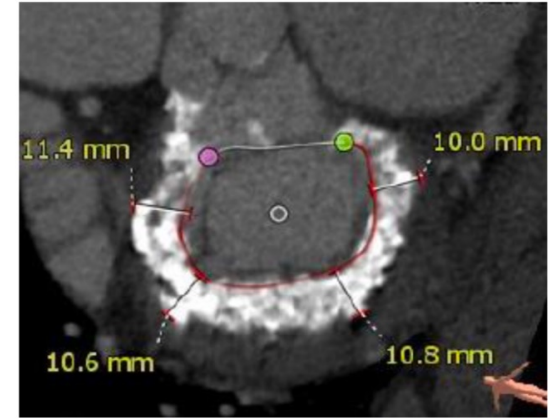
Mild MAC

MAC score ≤ 3



Moderate MAC

MAC score 4 to 6

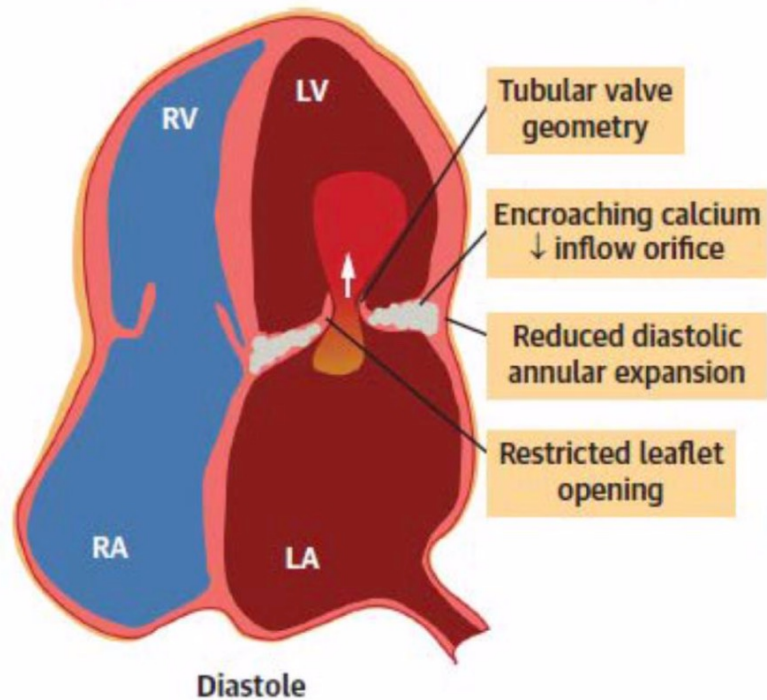


Severe MAC

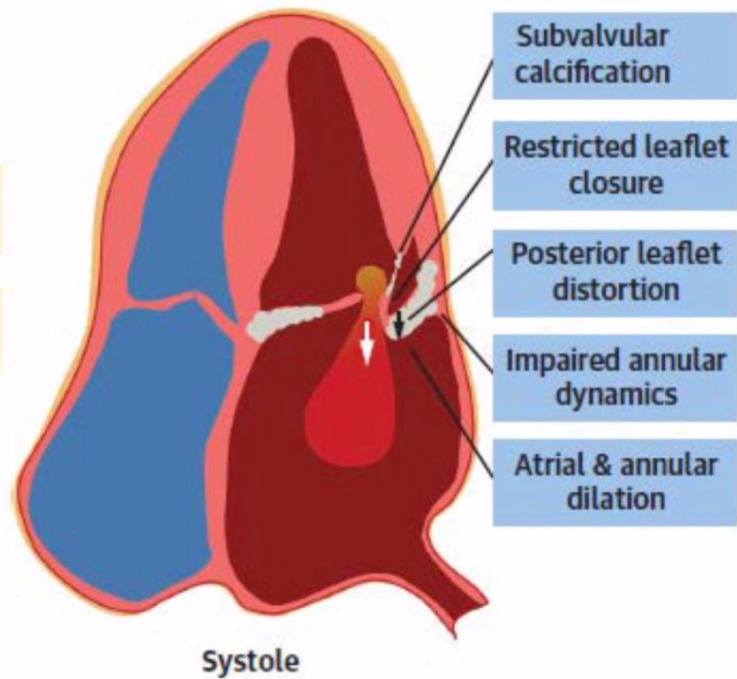
MAC score ≥ 7

- asymmetric, caseous, beaded, etc
- +/- invasion of leaflets, myocardium

MAC-Related Mitral Stenosis



MAC-Related Mitral Regurgitation



MAC Treatment Options

Surgical Repair

Standard for symptomatic primary MR



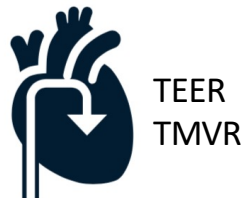
Surgical Replacement

Surgical option for complex mitral valve anatomy



Transcatheter Interventions

Treatment option for high-risk patients.



Guideline Directed Medical Therapy

Standard for symptomatic secondary MR

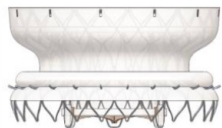


Dedicated TF-TMVR Devices

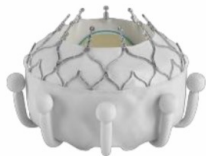
ANNULAR



Over-Expansion

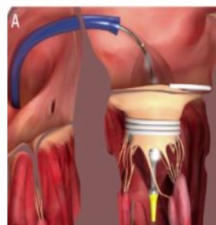


Axial
Compression

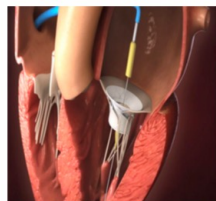


Over-Expansion
+ Sub-Annular
Anchoring

SUB-ANNULAR



Leaflet-Dependent



Chordal-Dependent

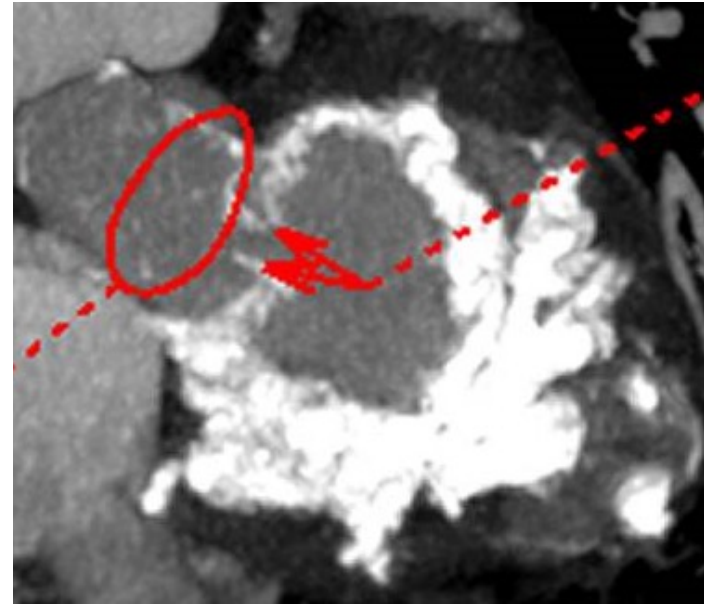
SUPRA-ANNULAR



Atrial Oversizing

Case

- 71F with recurrent HF hospitalizations, NYHA 3 despite GDMT
- AF, CKD, previous stroke. No CAD.
- HFpEF, moderate PAH



SMH TEE

TIS0.2 MI 0.5

X8-2t

53Hz

11cm

2D

50%

C 50

P Off

Gen



P

M4



PAT T: 37.0C
TEE T: 40.1C

80 bpm

SMH TEE

TIS0.6 MI 0.4

X8-2t

19Hz

11cm

2D

52%

C 50

P Off

Gen

CF

48%

6582Hz

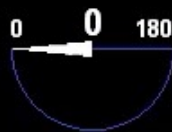
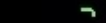
WF 592Hz

4.4MHz



PAT T: 37.0C

TEE T: 40.0C



M4 M4

+57.1



-57.1

cm/s



92 bpm

SMH INTERVEN TEE

TIS0.2 MI 0.3

X8-2t

3D Beats 1

16Hz

11cm

3D Zoom

2D / 3D

% 50 / 44

C 46 / 34

Gen

XRES 1



PAT T: 37.0C
TEE T: 40.5C

91 bpm

SMH INTERVEN TEE

TIS0.5 MI 0.3

X8-2t

3D Beats 1

8Hz

11cm

3D Zoom

2D / 3D

% 56 / 44

C 46 / 34

Gen

XRES 1

CF

% 51 / 50

5845Hz

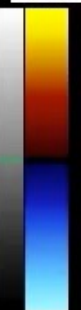
WF 584Hz

4.4MHz



M5M4

+50.7



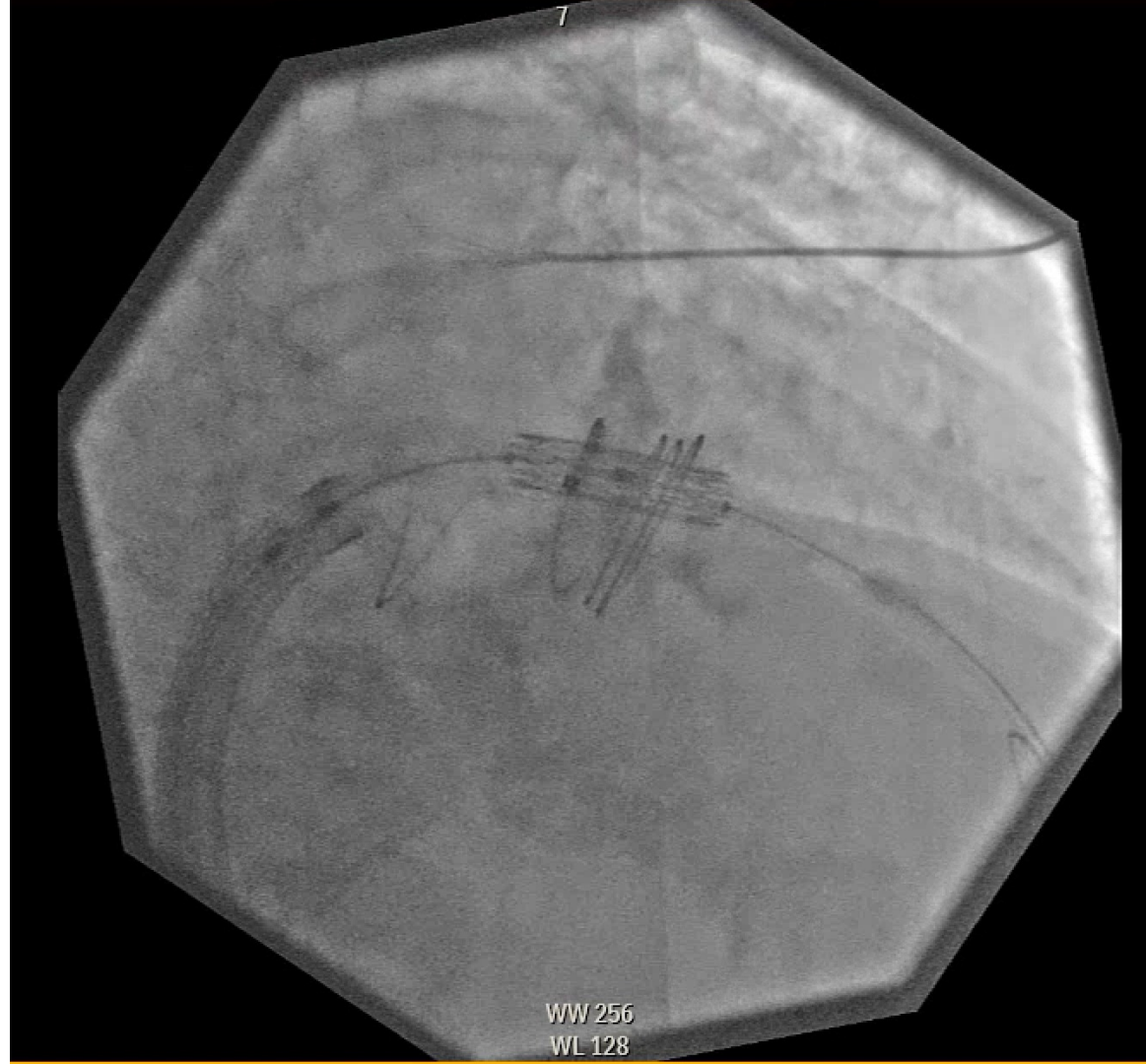
-50.7

PAT T: 37.0C
TEE T: 40.5C

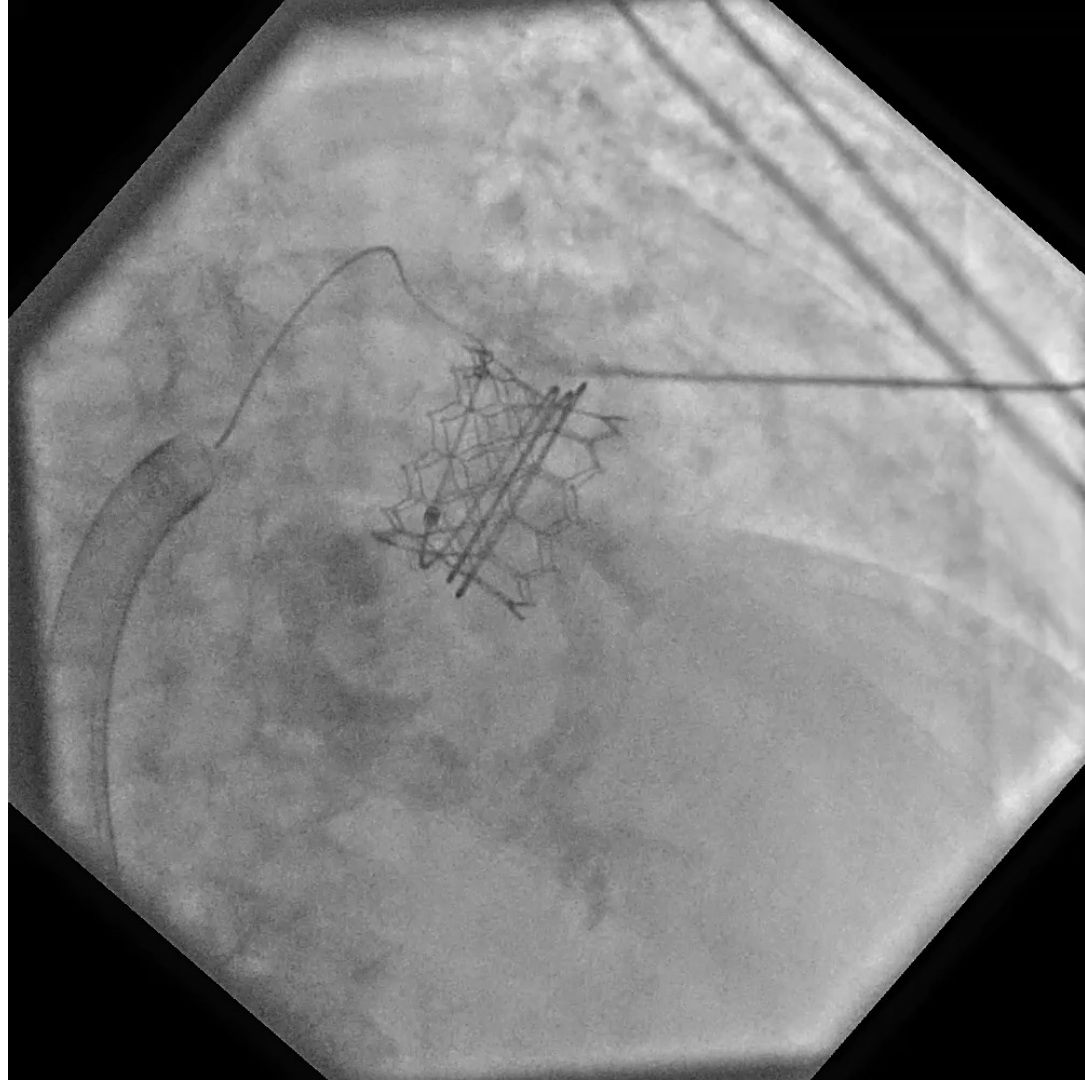


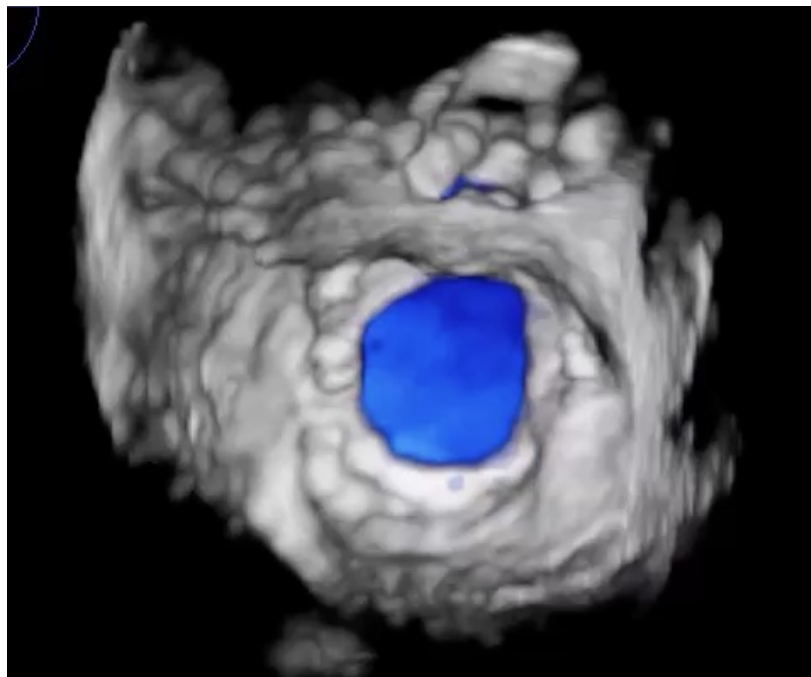
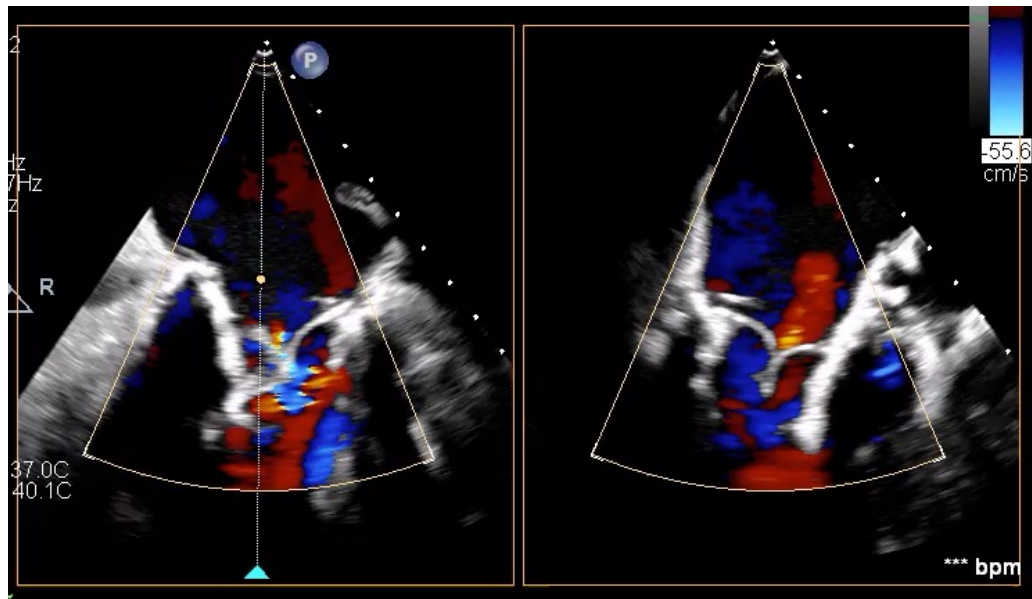
92 bpm



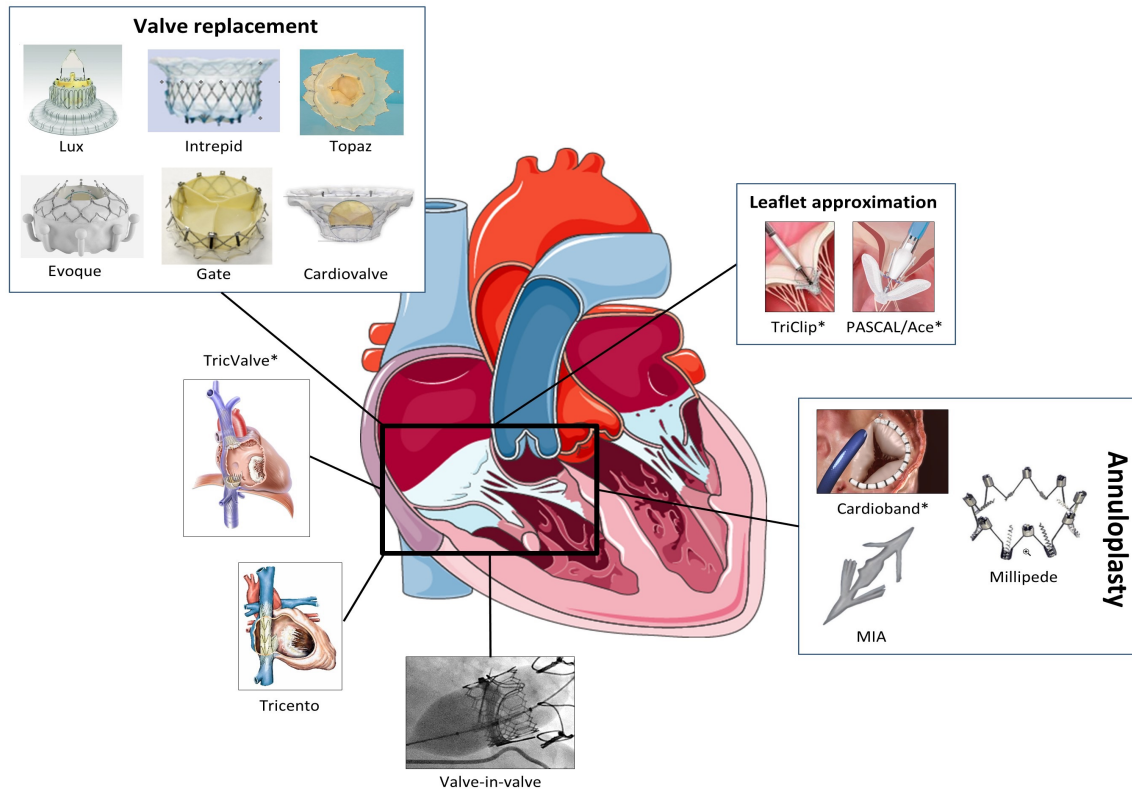


WW 256
WL 128





Current Tricuspid Device Landscape

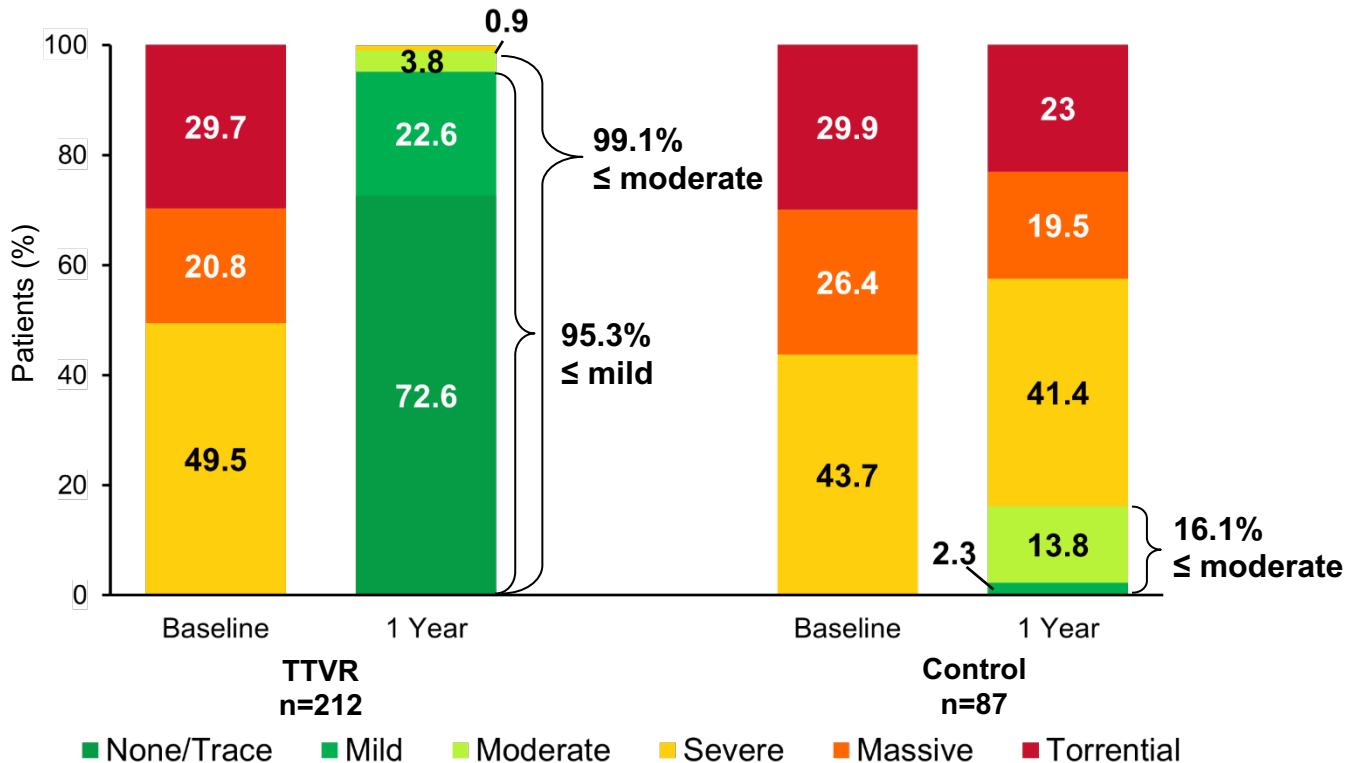


Transcatheter Valve Replacement in Severe Tricuspid Regurgitation

R.T. Hahn, R. Makkar, V.H. Thourani, M. Makar, R.P. Sharma, C. Haeffele, C.J. Davidson, A. Narang, B. O'Neill, J. Lee, P. Yadav, F. Zahr, S. Chadderdon, M. Eleid, S. Pislaru, R. Smith, M. Szerlip, B. Whisenant, N.K. Sekaran, S. Garcia, T. Stewart-Dehner, H. Thiele, R. Kipperman, K. Koulogiannis, D.S. Lim, D. Fowler, S. Kapadia, S.C. Harb, P.A. Grayburn, A. Sannino, M.J. Mack, M.B. Leon, P. Lurz, and S.K. Kodali, for the TRISCEND II Trial Investigators*

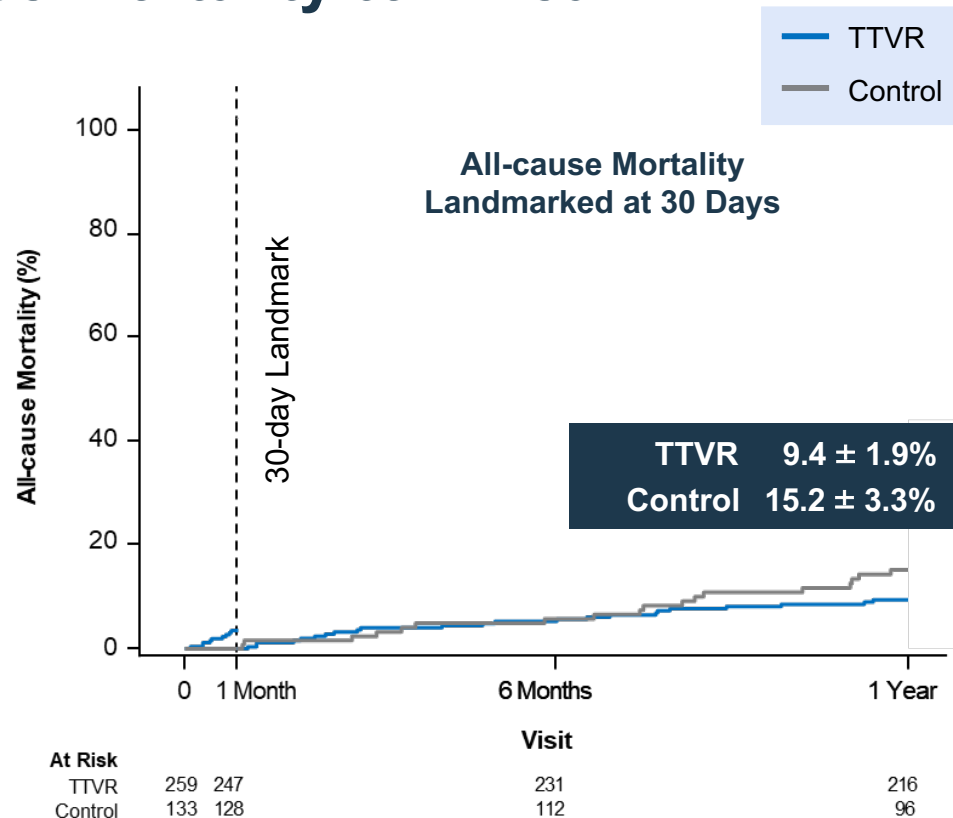
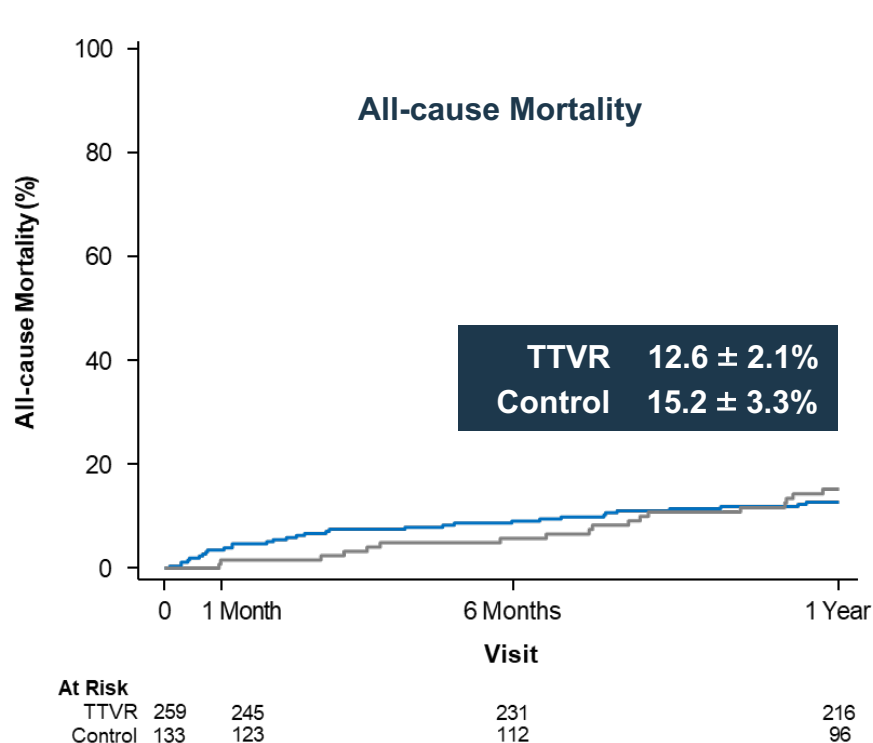


TR Grade Reduction at 1 Year with EVOQUE System

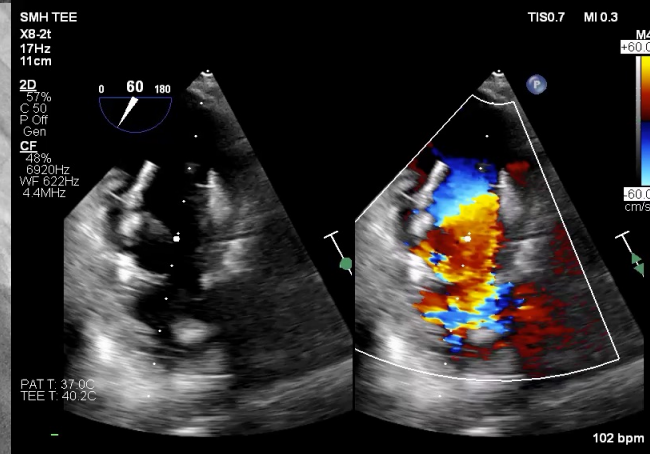
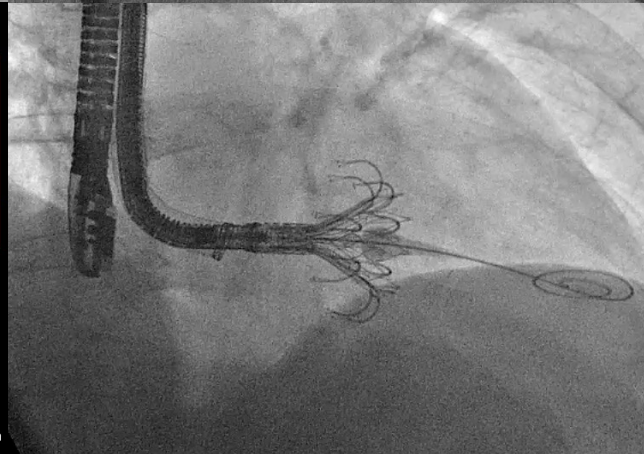
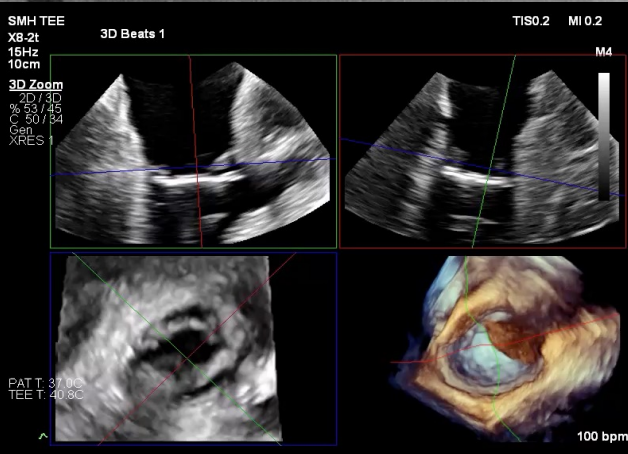
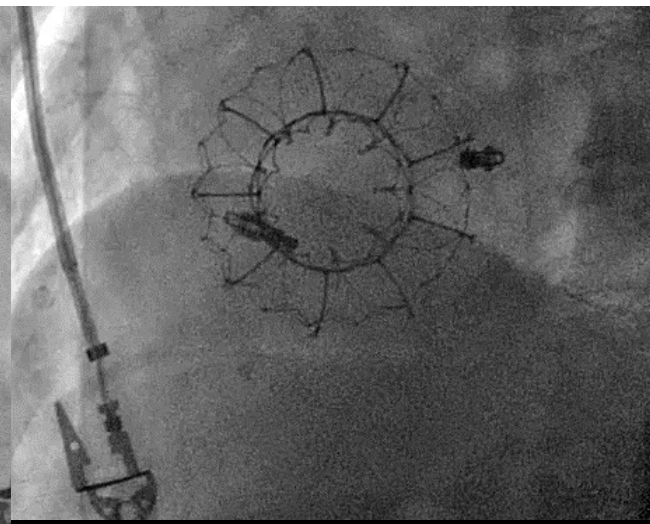
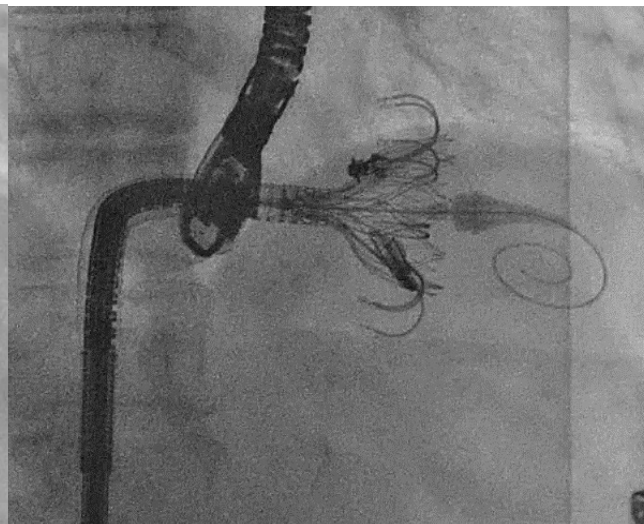
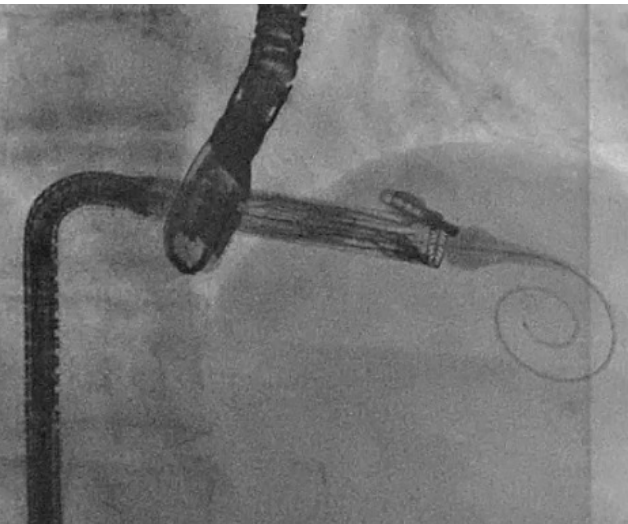


CEC-adjudicated All-cause Mortality to 1 Year

Kaplan-Meier Analysis



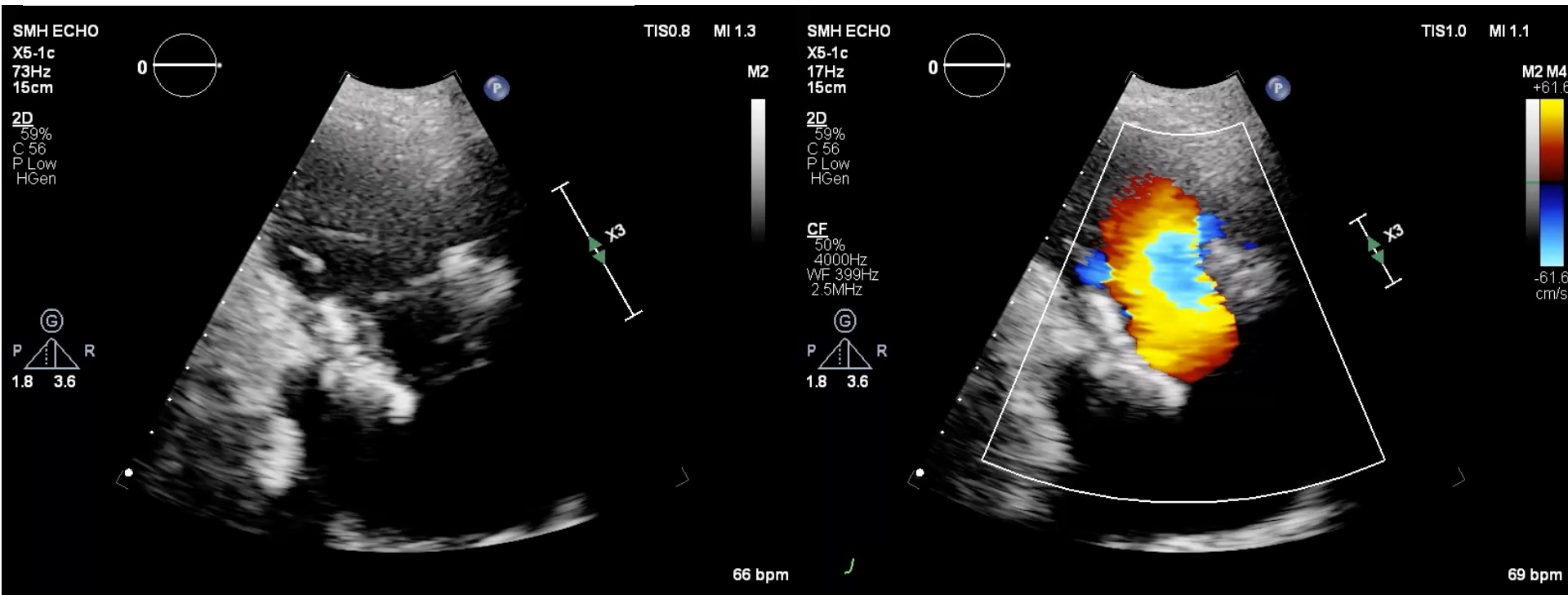
EVOQUE is Versatile



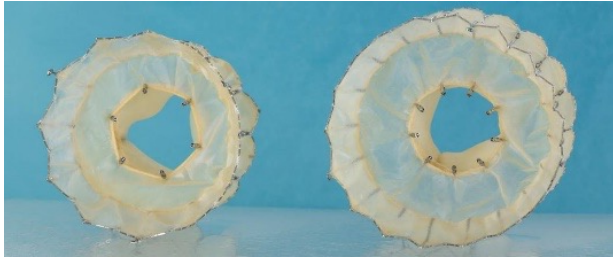
EVOQUE is Durable

EVOQUE Transcatheter Tricuspid Valve Replacement

5 Years On



TOPAZ Valve: 2-Stent Design, 2 Sizes



SOFT Outer Stent

→ Conforms to patients' native tricuspid anatomy,

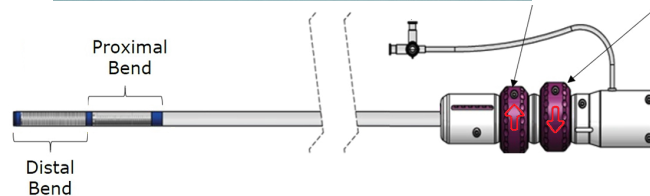
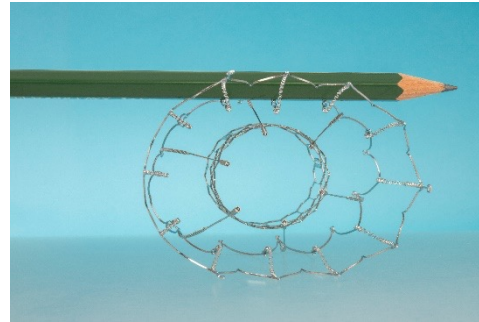
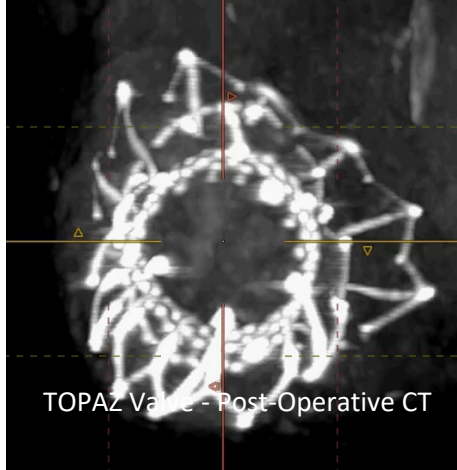
RIGID Inner Stent

→ Reliable valve hemodynamics, round and competent

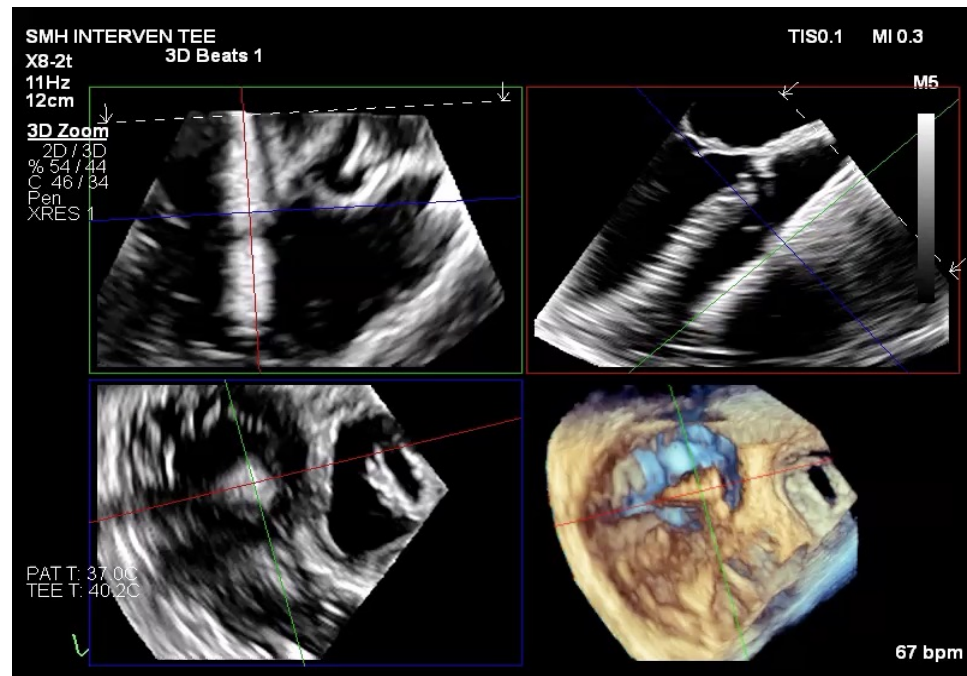
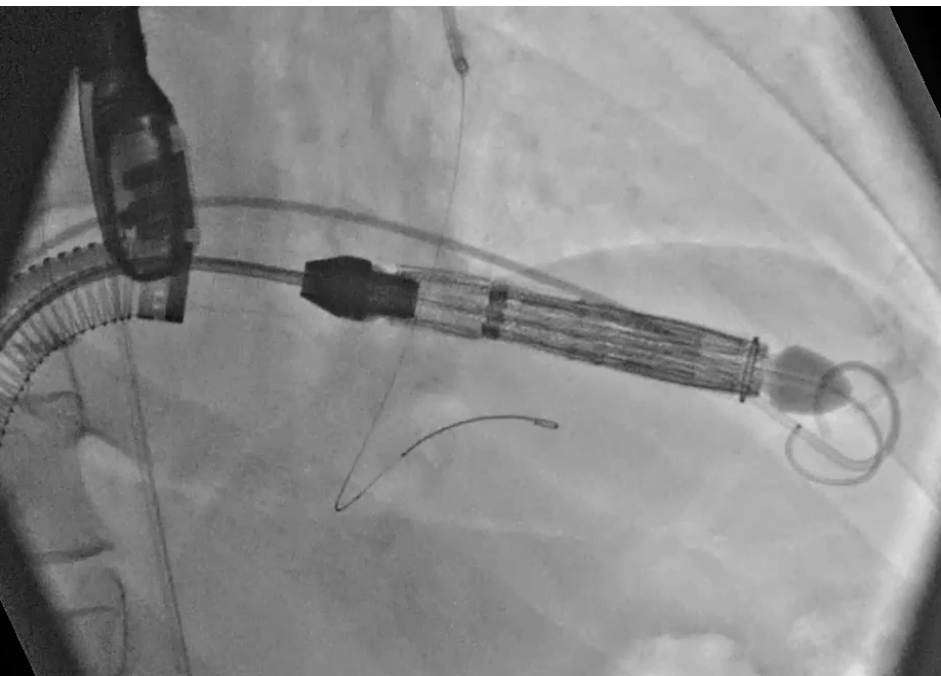
ATRAUMATIC Anchors

→ Secure and safe fixation to the native leaflets

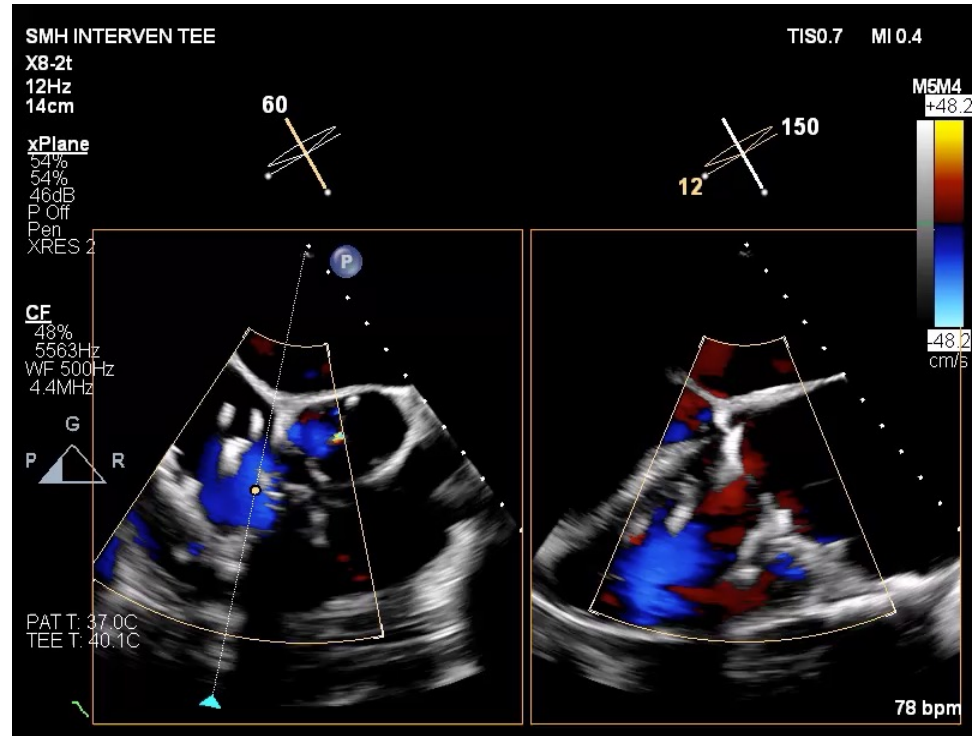
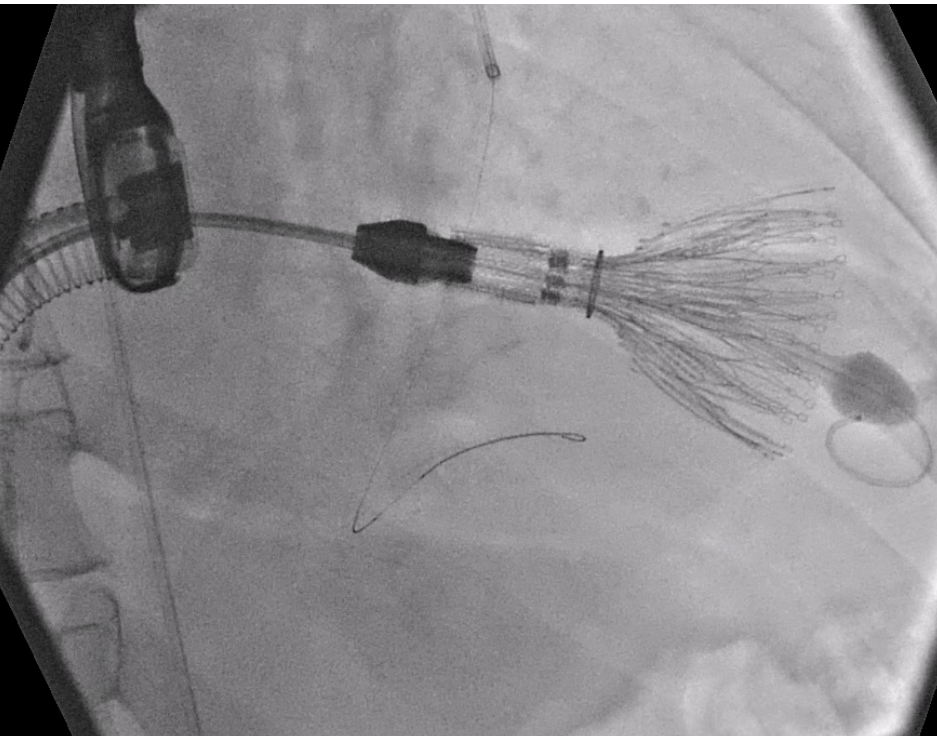
A Tricuspid Valve that FLEXES WITH EVERY HEARTBEAT



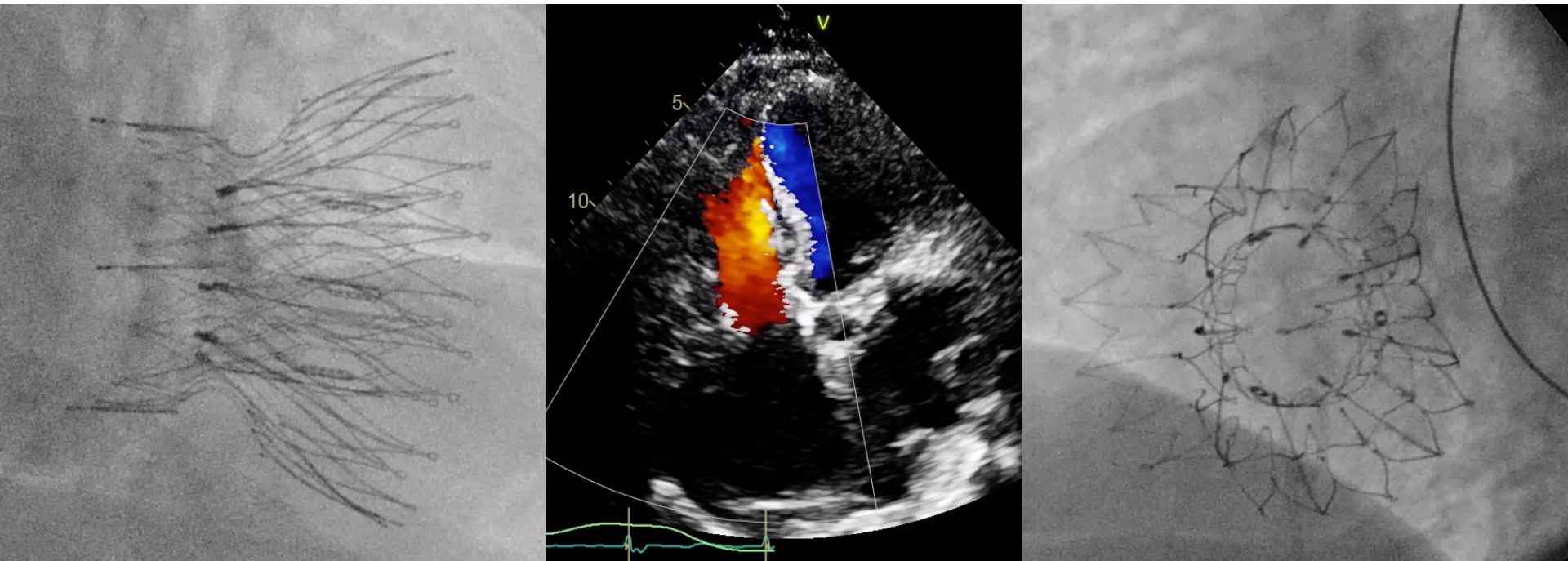
FIH TOPAZ TC-L: St. Michaels Hospital, Toronto



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Final Result



Summary

- Structural heart intervention continues to rapidly evolve to provide innovative catheter-based treatment options for our patients
- SMH Program uses Heart Team approach to make best decision for individual patients



St. Michael's

Inspired Care. Inspiring Science.

Structural Heart Program Referral Form

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TEL: 416-864-5442 FAX: 416-864-5768 Email: StructuralHC@smh.ca

Jenn Holmes, RN

Structural Heart Coordinator

Jennifer.holmes@unityhealth.to

Thank You!

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