TAVR Procedural Optimization for Asian Patients with Small Valve Size

11TH AP VALVES & STRUCTURAL HEART 2022

12/08/2022 1000 TO 1010

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TAVI in SAA - Definition of SAA

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Definition of Small Aortic Annulus (SAA)

- Many cutoffs
- Some use cutoff based on THV used

  Based on minimum size of BE-THV, Area < 330mm^2

3D Area-derived Diameter (mm)		18.0	18.2	18.5	18.6	18.9	19.0	19.2	19.6	19.9	20.0	20.2	20.5	20.7	21.0	21.1	21.4	21.7	22.0	22.3	22.6	22.8	23.0	23.1	23.4
3D Annular Area (mm²)		254	260	270	273	280	283	290	300	310	314	320	330	338	345	350	360	370	380	390	400	410	415	420	430
% Annular Area Over (+) or Under (-) Nominal by 3D CT	20 mm	29.1	26.2	21.5	20.1	17.1	15.9	13.1	9.3	5.8	4.5	2.5	-0.6	-3.0	-4.9	-6.3	-8.9								
	23 mm										29.3	26.9	23.0	20.1	17.7	16.0	12.8	9.7	6.8	4.1	1.5	-1.0	-2.2	-3.3	-5.6
	26 mm																				29.8	26.6	25.1	23.6	20.7
	29 mm																								

Puri R, Byrne J, Muller R, et al. Transcatheter Aortic Valve Implantation in patients with small aortic annuli using a 20mm balloon-expandable valve. Heart 2017; 103: 148-153

Okuyama K, Izumo M, Ochiai T, et al. New-generation Transcatheter Aortic Valves in patients with small aortic annuli. Cir J 2020; 84: 2015-2022

- Cutoff Area < 314mm^2

3D Area-derived Diameter (mm)		18.0	18.2	18.5	18.6	18.9	19.0	19.2	19.6	19.9	20.0	20.2	20.5	20.7	21.0	21.1	21.4	21.7	22.0	22.3	22.6	22.8	23.0	23.1	23.4
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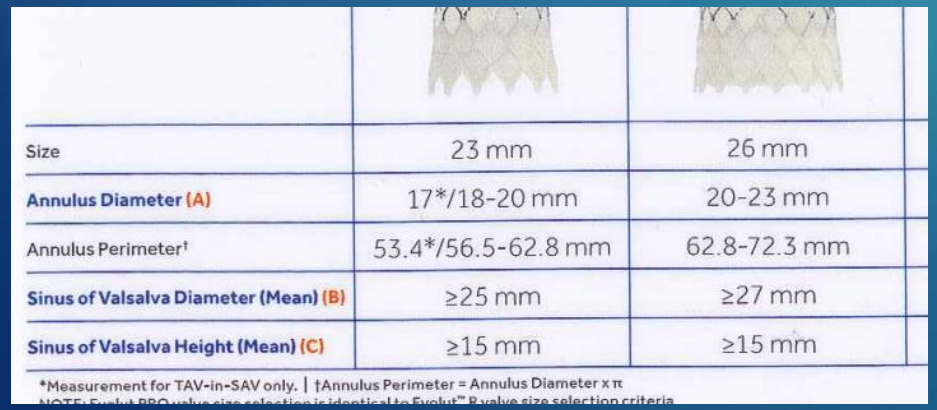
Meguro K, Kumamaru H, Kohsaka S, et al. Transcatheter Aortic Valve Replacement in patients with a small annulusc- from the Japanese Nationwide Registry (J-TVT). Circ J 2021; 85: 9670976

< 314mm^2 = "extremely small"

Yashima F, Yamamoto M, Tanaka M, et al. Transcatheter aortic valve implantation in patients with an extremely small native aortic annulus: The OCEAN-TAVI Registry. Int J Cardiol. 2017 Aug 1;240:126-131

- Mean Diameter <=23mm (small annulus), <= 21mm (extremely small annulus)



Size	23 mm	26 mm
Annulus Diameter (A)	17*/18-20 mm	20-23 mm
Annulus Perimeter†	53.4*/56.5-62.8 mm	62.8-72.3 mm
Sinus of Valsalva Diameter (Mean) (B)	≥25 mm	≥27 mm
Sinus of Valsalva Height (Mean) (C)	≥15 mm	≥15 mm

*Measurement for TAV-in-SAV only. | †Annulus Perimeter = Annulus Diameter x π

Meguro K, Kumamaru H, Kohsaka S, et al. Transcatheter Aortic Valve Replacement in patients with a small annulusc- from the Japanese Nationwide Registry (J-TVT). Circ J 2021; 85: 9670976

Abdelghani M, Mankerious N, Allali A, et al. Bioprosthetic valve performance after transcatheter aortic valve replacement with self-expanding versus balloon-expandable valves in large versus small aortic valve annuli – Insights from the CHOICE-Extend Registry. J Am Coll Cardiol Intv 2018; 11:2507-18

SAA in Asian Population

- Asian populations - significantly smaller AA diameter than European
  - 20.4±1.46mm vs 22.0±1.84mm, P< 0.01

Watanabe Y, Hayashida K, Takayama M, Mitsudo K, et al. First direct comparison of clinical outcomes between European and Asian cohorts in transcatheter aortic valve implantation: the Massy study group vs. the PREVAIL JAPAN trial. J Cardiol. 2015 Feb;65(2):112-6. doi: 10.1016/j.jjcc.2014.05.001

BSA – Asian (1.4m2) vs European (1.72±0.18m2)

TAVI in SAA -
Verifying "Truly" Small Annuli

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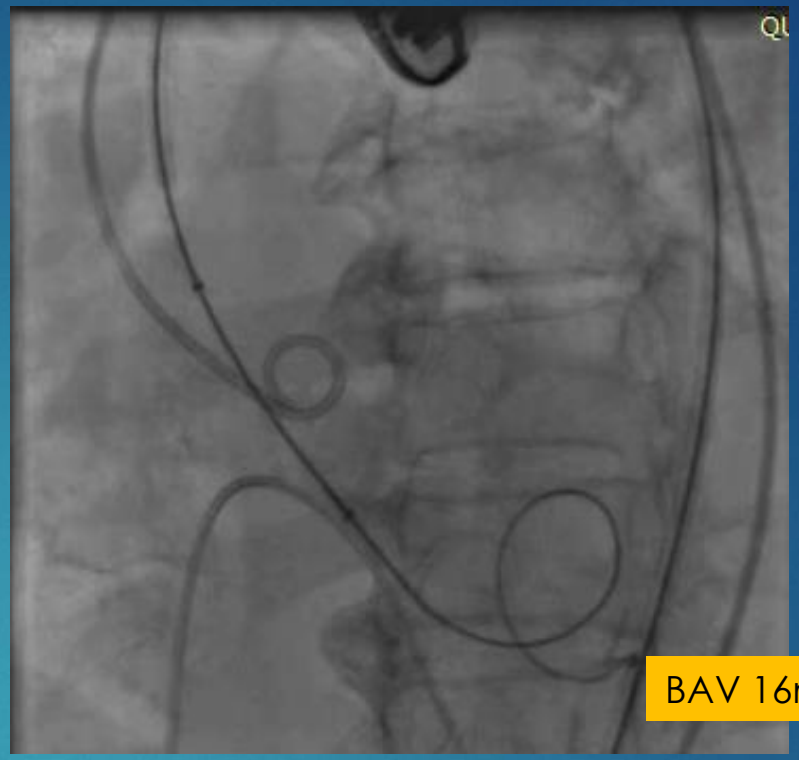

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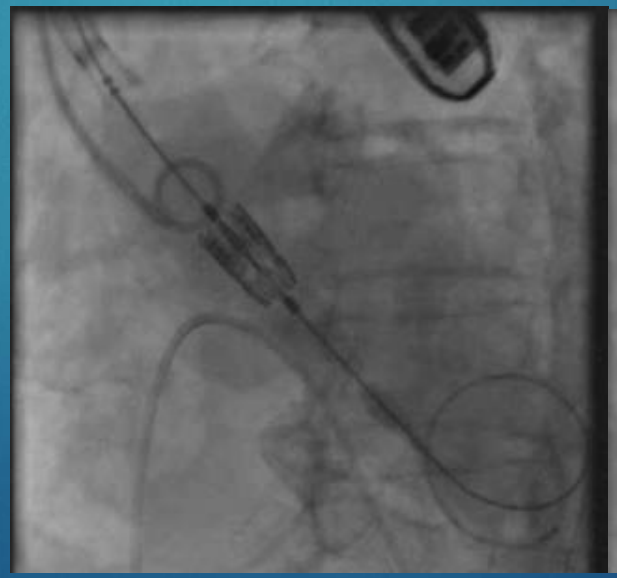
BAV 16mm 4cm X 20mm Balloon

F/82 DM IHD Severe AS

Area: 40% 245.9mm2
CT 20.6 mm X 14.5 mm
TEE 17mm



TAVI in SAA -
Clinical Challenges of SAA

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Problems associated with SAA

- Has been associated with poor outcomes after surgical AVR
  - Mortality
  - Ischaemic CV events and stroke
- Increased risk of Prosthesis-patient mismatch (PPM)
  - Increased risk of perioperative and overall mortality
    - Suboptimal valve haemodynamics
    - Less LV mass regression after AVR

Surgical Ways to tackle
Root enlargement
Stented prosthesis with supra-annular implantation
Stentless bioprosthesis
Sutureless valves

Circulation Journal
Circ J 2021; **85:** 967–976
doi:10.1253/circj.CJ-20-1084

ORIGINAL ARTICLE
TAVR

Transcatheter Aortic Valve Replacement in Patients With a Small Annulus

— From the Japanese Nationwide Registry (J-TVT) —

Kentaro Meguro, MD, PhD; Hiraku Kumamaru, PhD; Shun Kohsaka, MD, PhD; Takuya Hashimoto, MD, PhD; Ryota Kakizaki, MD, PhD; Tadashi Kitamura, MD, PhD; Hideyuki Shimizu, MD, PhD; Junya Ako, MD, PhD

Table 2. Clinical and Echocardiographic Outcomes Within 30 Days

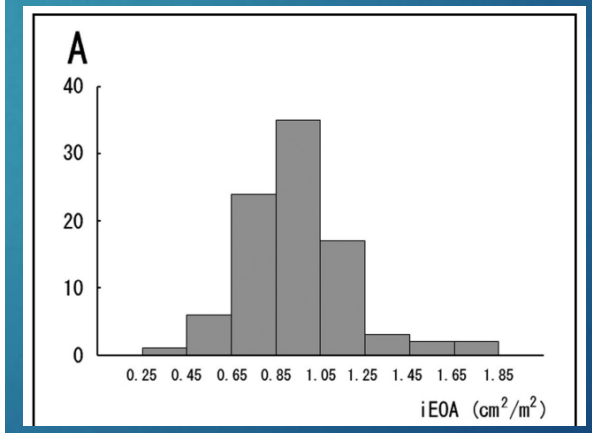
	Small annulus (n=647)	Normal-sized annulus (n=5,223)	P value
Clinical outcomes			
30-day mortality	9 (1.4)	35 (0.7)	0.05
New pacemaker implantation	42 (6.5)	287 (5.5)	0.30
Stroke	14 (2.2)	75 (1.4)	0.15
Echocardiographic outcomes			
Effective orifice area (cm^2)	1.5 (1.2–1.8)	1.7 (1.4–2.0)	<0.001
Indexed effective orifice area (cm^2/m^2)	1.10 (0.92–1.35)	1.16 (0.96–1.39)	<0.001
Mean pressure gradient (mmHg)	10.0 (6.9–14.2)	8.5 (6.0–11.5)	<0.001
Paravalvular leakage ≥moderate	112 (17.3)	1,272 (24.4)	<0.001
Prosthesis-patient mismatch			0.002
Severe	17 (2.6)	107 (2.0)	
Moderate	101 (15.6)	580 (11.1)	
Insignificant	529 (81.8)	4,536 (86.8)	

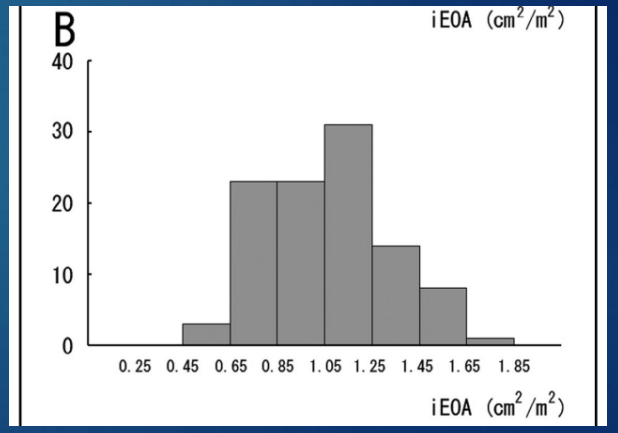
Data are presented as n (%) and continuous variables are presented as medians (interquartile range).

Table 5. Clinical and Echocardiographic Outcomes Within 30 Days in Patients With SAPIEN3 20 mm and Evolut R 23 mm

	SAPIEN 3 20 mm (n=90)	Evolut R 23 mm (n=103)	P value
Clinical outcomes			
30-day mortality	0 (0.0)	0 (0.0)	1.00
New pacemaker implantation	4 (4.4)	10 (9.7)	0.16
Stroke	1 (1.1)	2 (1.9)	1.00
Echocardiographic outcomes			
Effective orifice area (cm^2)	1.2 (1.0–1.4)	1.4 (1.1–1.5)	0.002
Indexed effective orifice area (cm^2/m^2)	0.94 (0.78–1.06)	1.07 (0.84–1.24)	0.001
Mean pressure gradient (mmHg)	14.0 (10.0–18.5)	11.0 (7.0–14.0)	<0.001
Paravalvular leakage ≥moderate	13 (14.4)	17 (16.5)	0.69
Prosthesis-patient mismatch			0.21
Severe	7 (7.8)	3 (2.9)	
Moderate	24 (26.7)	23 (22.3)	
Insignificant	59 (65.6)	77 (74.8)	

Data are presented as n (%) and continuous variables are presented as medians (interquartile range).





Received: 6 August 2020 | Revised: 20 August 2020 | Accepted: 21 August 2020
DOI: 10.1002/ccd.29259

ORIGINAL STUDIES

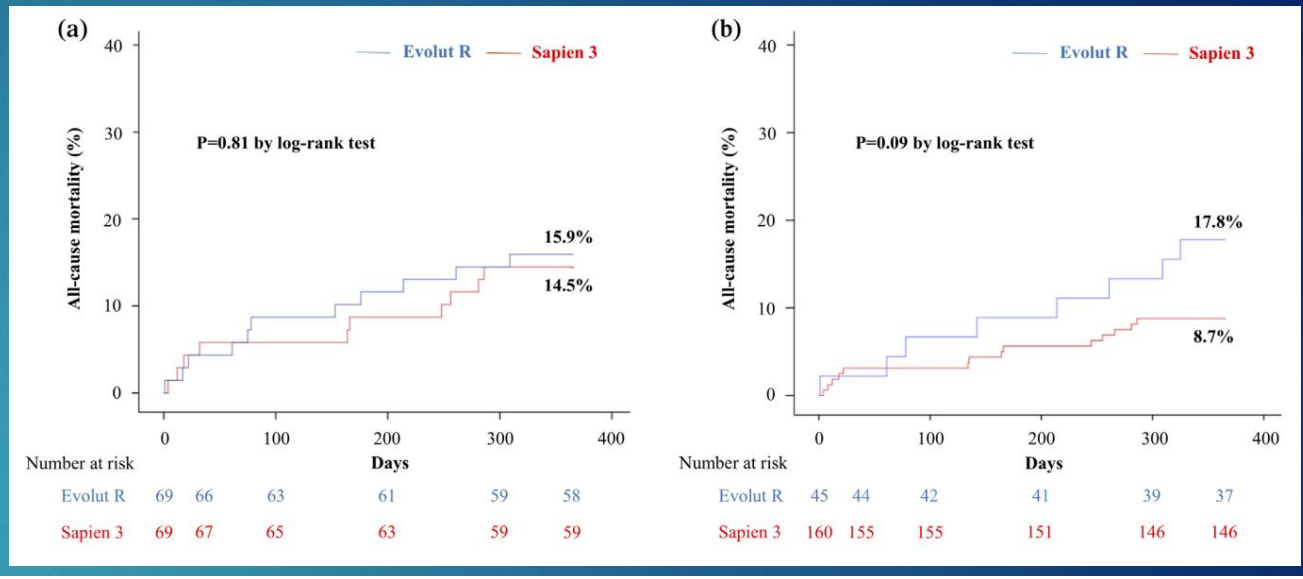
WILEY

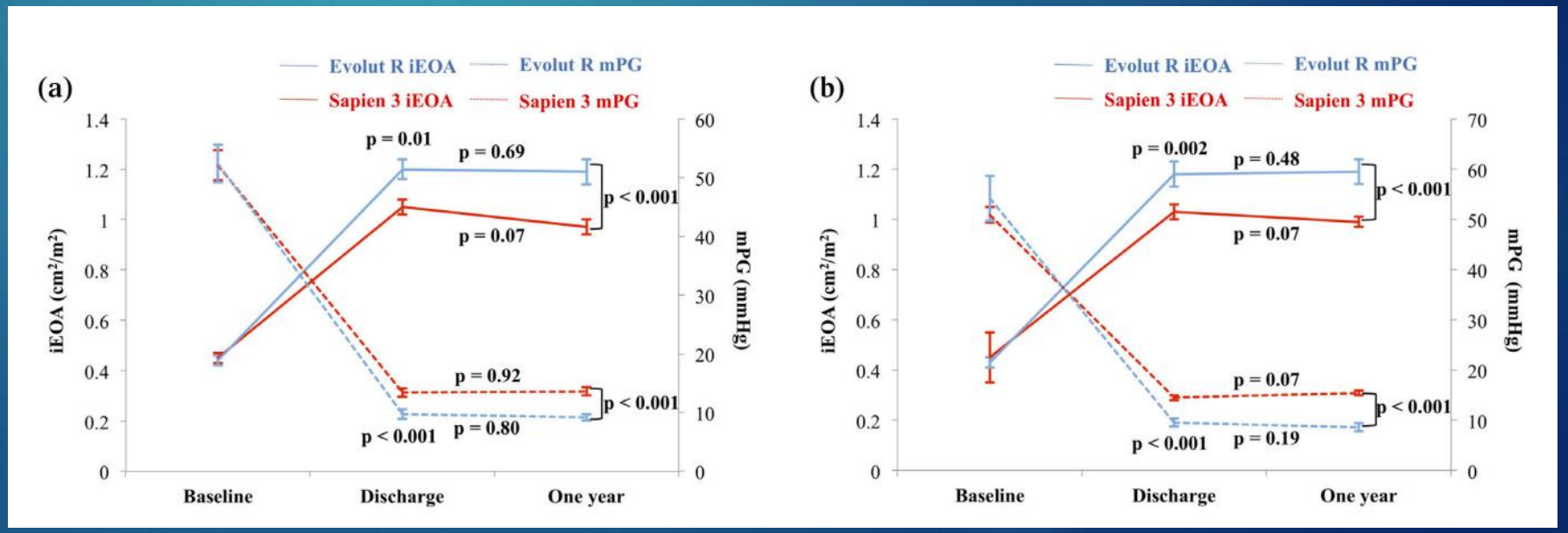
Transcatheter aortic valve replacement with Evolut R versus Sapien 3 in Japanese patients with a small aortic annulus: The OCEAN-TAVI registry

OCEAN-TAVI Investigators

Small Annulus with 3rd generation devices – Evolut R sees to be superior to Sapien 3 Haemodynamic performance, up to 1 year after TAVR

All-cause mortality – no differences





PPM

TABLE 5 Postprocedural echocardiographic data at discharge and at 1 year after TAVR in the matched cohort

	Discharge				One year			
	Overall (*N* = 138)	Evolut R (*N* = 69)	Sapien 3 (*N* = 69)	*p*-Value	Overall (*N* = 97)	Evolut R (*N* = 47)	Sapien 3 (*N* = 50)	*p*-Value
Indexed EOA, cm^2/m^2	1.12 (0.95–1.35)	1.20 (1.01–1.46)	1.08 (0.90–1.28)	.01	1.04 (0.87–1.26)	1.21 (0.92–1.35)	0.96 (0.83–1.12)	<.001
Moderate PPM (iEOA ≦0.85), *n* (%)	17 (12.9)	5 (7.7)	12 (17.9)	.08	21 (21.6)	7 (14.9)	14 (28.0)	.12
Severe PPM (iEOA ≦0.65), *n* (%)	3 (2.3)	1 (1.5)	2 (3.0)	1.00	2 (2.1)	0 (0.0)	2 (4.0)	.50
Mean PG, mmHg	11.0 (8.0–13.8)	9.0 (6.0–12.0)	12.0 (10.0–14.8)	<.001	10.0 (8.0–14.8)	9.0 (6.0–11.9)	12.0 (9.9–16.3)	<.001
AR				.05				.24
None, *n* (%)	25 (18.5)	15 (22.4)	10 (14.7)		20 (20.6)	11 (23.4)	9 (18.0)	
Trivial, *n* (%)	52 (38.5)	19 (28.4)	33 (48.5)		38 (39.2)	16 (34.0)	22 (44.0)	
Mild, *n* (%)	58 (43.0)	33 (49.3)	25 (36.8)		36 (37.1)	17 (36.2)	19 (38.0)	
≧Moderate, *n* (%)	0 (0.0)	0 (0.0)	0 (0.0)		3 (3.1)	3 (6.4)	0 (0.0)	

Note: Values are medians (25th-75th percentiles) or *n* (%).
Abbreviations: AR, aortic regurgitation; EOA, effective orifice area; PG, pressure gradient; PPM, prosthesis-patient mismatch.

TABLE 6 Postprocedural echocardiographic data at discharge and at 1 year after TAVR in the extreme small annulus cohort

	Discharge				One year			
	Overall (*N* = 205)	Evolut R (*N* = 45)	Sapien 3 (*N* = 160)	*p*-Value	Overall (*N* = 145)	Evolut R (*N* = 29)	Sapien 3 (*N* = 116)	*p*-Value
Indexed EOA, cm^2/m^2	1.07 (0.90–1.27)	1.17 (0.99–1.46)	1.04 (0.88–1.18)	.002	1.00 (0.86–1.19)	1.20 (1.01–1.37)	0.97 (0.82–1.14)	<.001
Moderate PPM (iEOA ≦0.85), *n* (%)	34 (17.0)	4 (9.1)	30 (19.2)	.11	35 (24.1)	2 (6.9)	33 (28.4)	.015
Severe PPM (iEOA ≦0.65), *n* (%)	4 (2.0)	1 (2.3)	3 (1.9)	1.00	5 (3.4)	0 (0.0)	5 (4.3)	.26
Mean PG, mmHg	12.5 (9.0–16.3)	9.0 (6.0–11.0)	13.6 (10.0–16.9)	<0.001	13.1 (10.0–17.8)	8.0 (5.0–11.2)	15.0 (11.3–18.0)	<.001
AR				<0.001				.31
None, *n* (%)	46 (22.5)	8 (17.8)	38 (23.9)		51 (35.2)	7 (24.1)	44 (37.9)	
Trivial, *n* (%)	93 (45.6)	13 (28.9)	80 (50.3)		42 (29.0)	9 (31.0)	33 (28.4)	
Mild, *n* (%)	61 (29.9)	20 (44.4)	41 (25.8)		38 (26.2)	11 (37.9)	27 (23.3)	
≧Moderate, *n* (%)	4 (2.0)	4 (8.9)	0 (0.0)		8 (5.5)	2 (6.9)	6 (5.2)	

Note: Values are medians (25th-75th percentiles) or *n* (%).
Abbreviations: AR, aortic regurgitation; EOA, effective orifice area; PG, pressure gradient; PPM, prosthesis-patient mismatch.

TAVI in SAA -
Other concerns of TAVI in SAA

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Additional Technical Concerns – TAVI in SAA

- Risk of Annulus Rupture
  - Relative valve oversizing
  - In particular dense calcifications
  - Low BSA
- Acute Coronary Obstruction
- Vascular Complications – Small femoral arteries
- Coronary reassess
- Future management of TAV bioprosthetic failure

Techniques to optimize TAVI in SAA

- Verify with multiple methods to ascertain small annulus size in the first place
- Enhancement in haemodynamic performance
  - Relatively higher implants for S3/Intra-annular valve platform
  - Use of supra-annular TAV
  - Optimization of TAV frame expansion (balloon pre dil/post dil, volume adj)
- Selection of BEV/SEV – take the whole aortic valve/annulus complex anatomy into considerations
  - STJ/Sinus/LVOT
- Device Size selection in borderline cases
- Coronary protection

TAVI in SAA - SAPIEN 3

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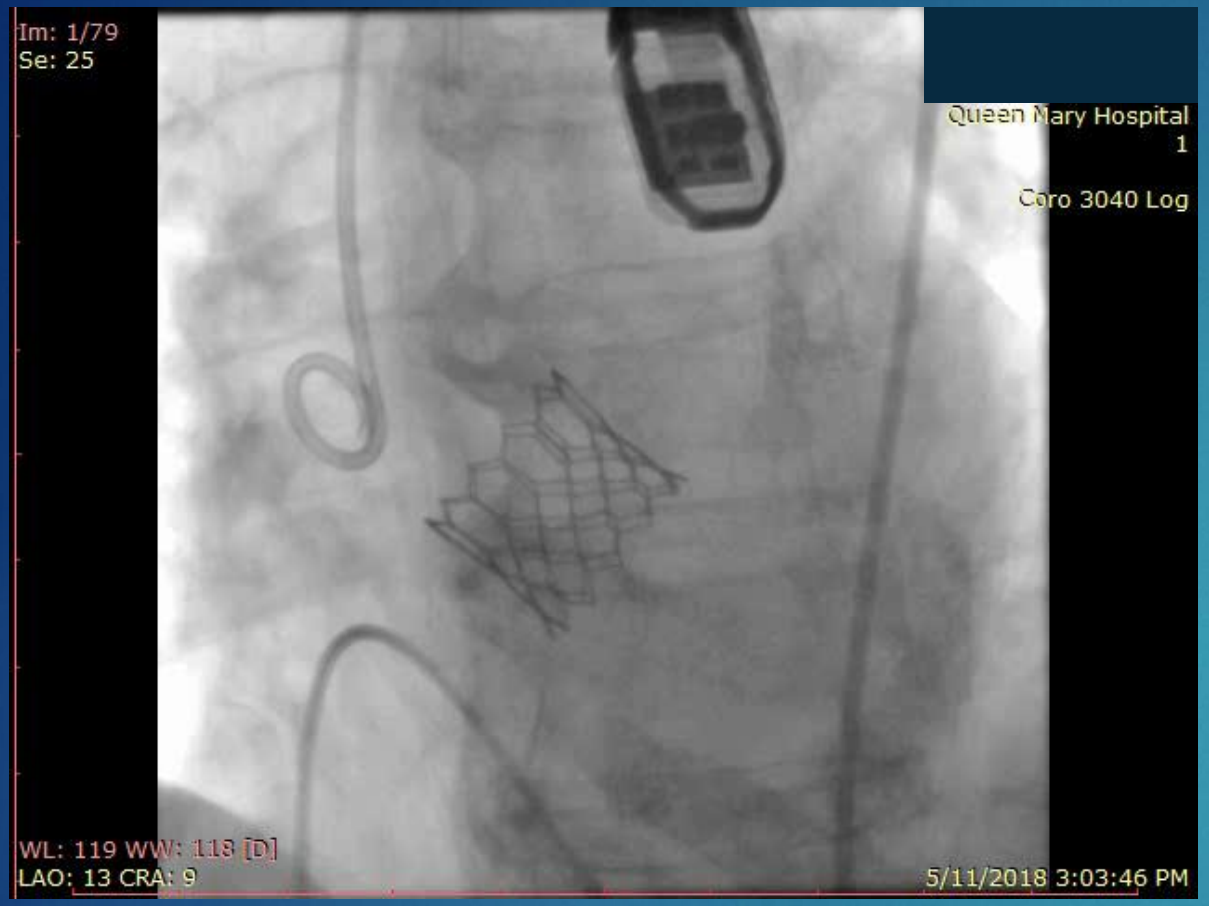


Area 311.1mm2
Perimeter 64.1mm

Average 20.3mm

2

SAPIEN 3 THV Sizing: Confirm Size

3D Area Sealing Zones

NOTE:
Systolic measurements are recommended

3D Area - derived Diameter (mm)		20.0	20.2	20.5	20.7	21.0	21.1	21.4	21.7	22.0	22.3	22.6	22.8	23.0	23.1	23.4	23.7	23.9	24.0	24.2	24.7
3D Annular Area (mm²)		314	320	330	338	346	350	360	370	380	390	400	410	415	420	430	440	450	452	460	480
% Annular Area Over (+) or Under (-) Nominal by 3D CT	23mm	29.3	26.9	23.0	20.1	17.3	16.0	12.8	9.7	6.8	4.0	1.5	-1.0	-2.2	-3.3	-5.6	-7.7	-9.8			
	26mm											29.8	26.6	25.1	23.6	20.7	18.0	15.3	14.8	12.8	8.1
	29mm																				

3D Area - derived Diameter (mm)		25.0	25.2	25.5	25.7	26.0	26.2	26.4	26.5	26.7	26.9	27.2	27.4	27.6	27.9	28.0	28.1	28.3	28.5	28.8	29.0	29.2	29.4	29.5	29.6	29.9	30.1	30.3
3D Annular Area (mm²)		490	500	510	520	530	540	546	550	560	570	580	590	600	610	615	620	630	640	650	660	670	680	683	690	700	710	720
% Annular Area Over (+) or Under (-) Nominal by 3D CT	23mm																											
	26mm	5.9	3.8	1.8	-0.2	-2.1	-3.9	-4.9	-5.6	-7.3	-8.9																	
	29mm		29.8	27.3	24.8	22.5	20.2	18.9	18.0	15.9	13.9	11.9	10.0	8.2	6.4	5.5	4.7	3.0	1.4	-0.2	-1.7	-3.1	-4.6	-5.0	-5.9	-7.3	-8.6	-9.9

NOTE:
Bold = recommended Sealing Zones relate only to valves that are deployed with nominal volumes

NOTE:
All values presented are based on nominal/recommended inflation volumes

Edwards

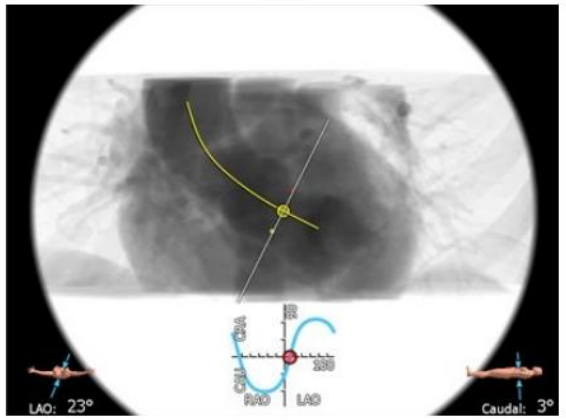
3

Area 288.7mm2
Perimeter 62.2mm

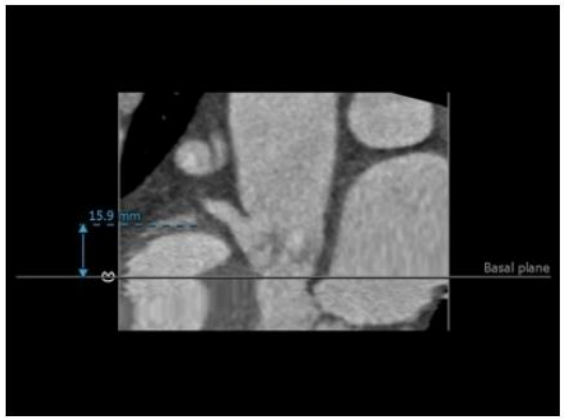
Average 19.5mm

Perpendicular Plane

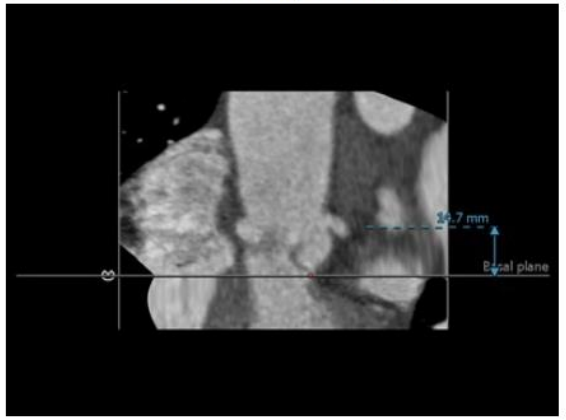
Angio



Stretched Vessel

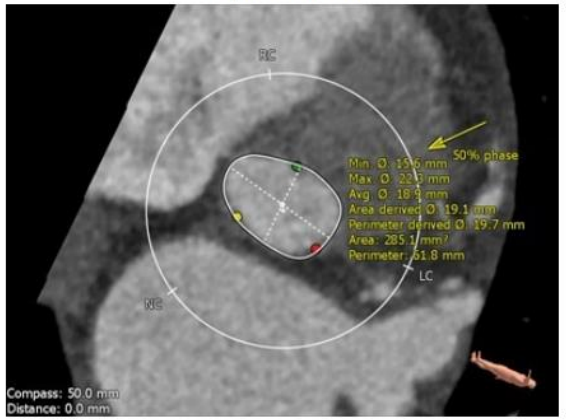


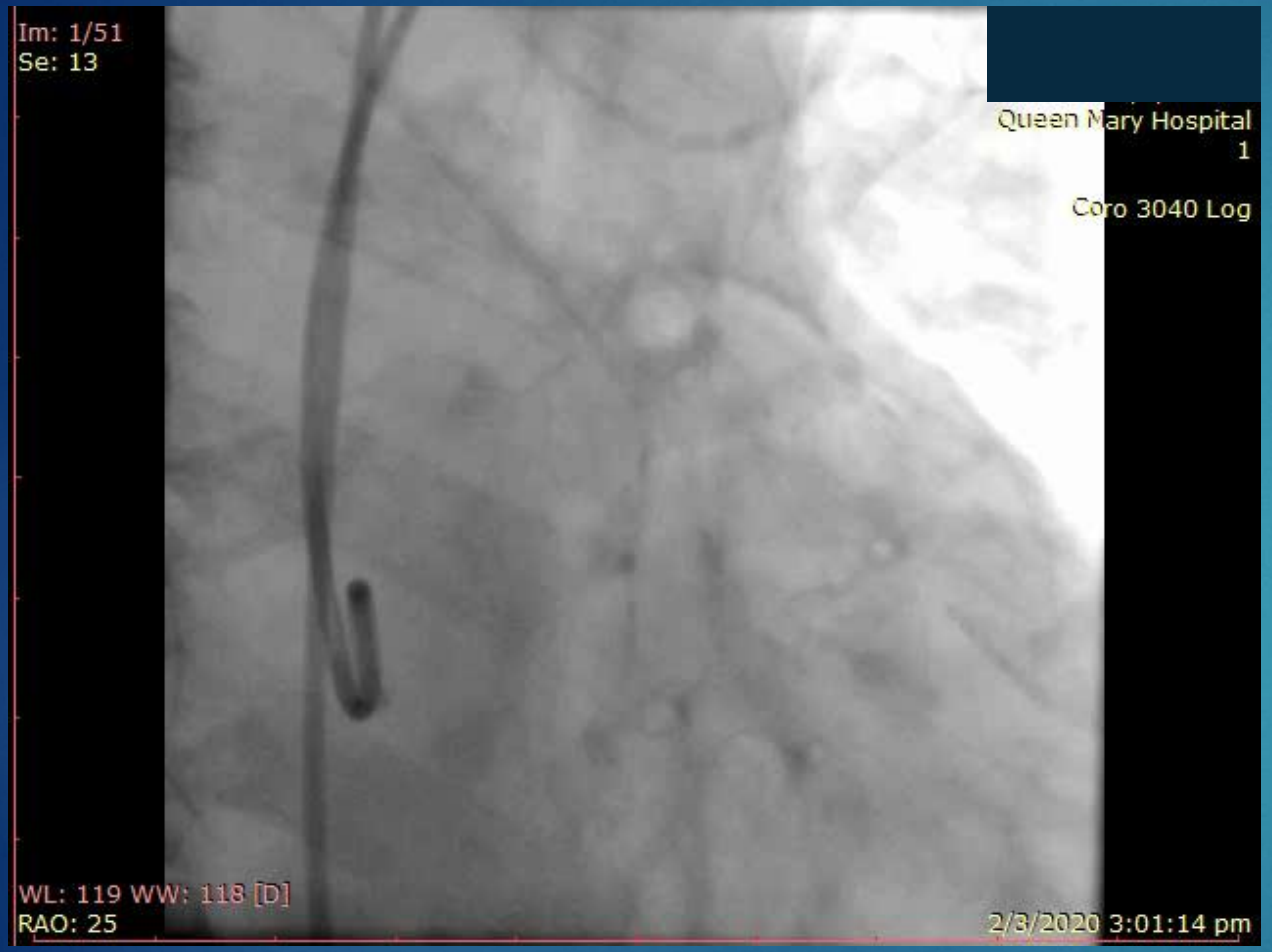
Stretched CMPR (Phase 40.0%)

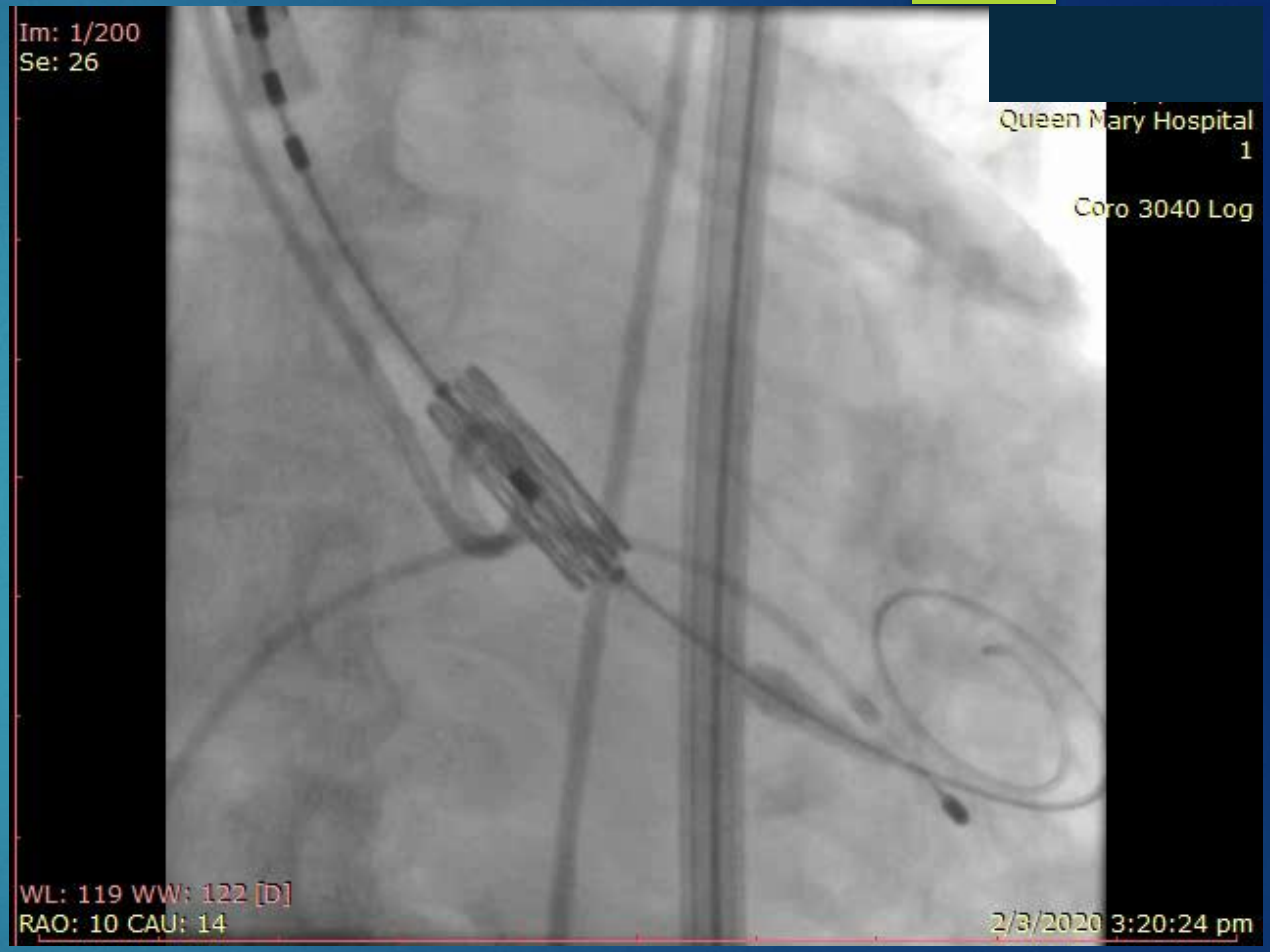


Perpendicular Plane

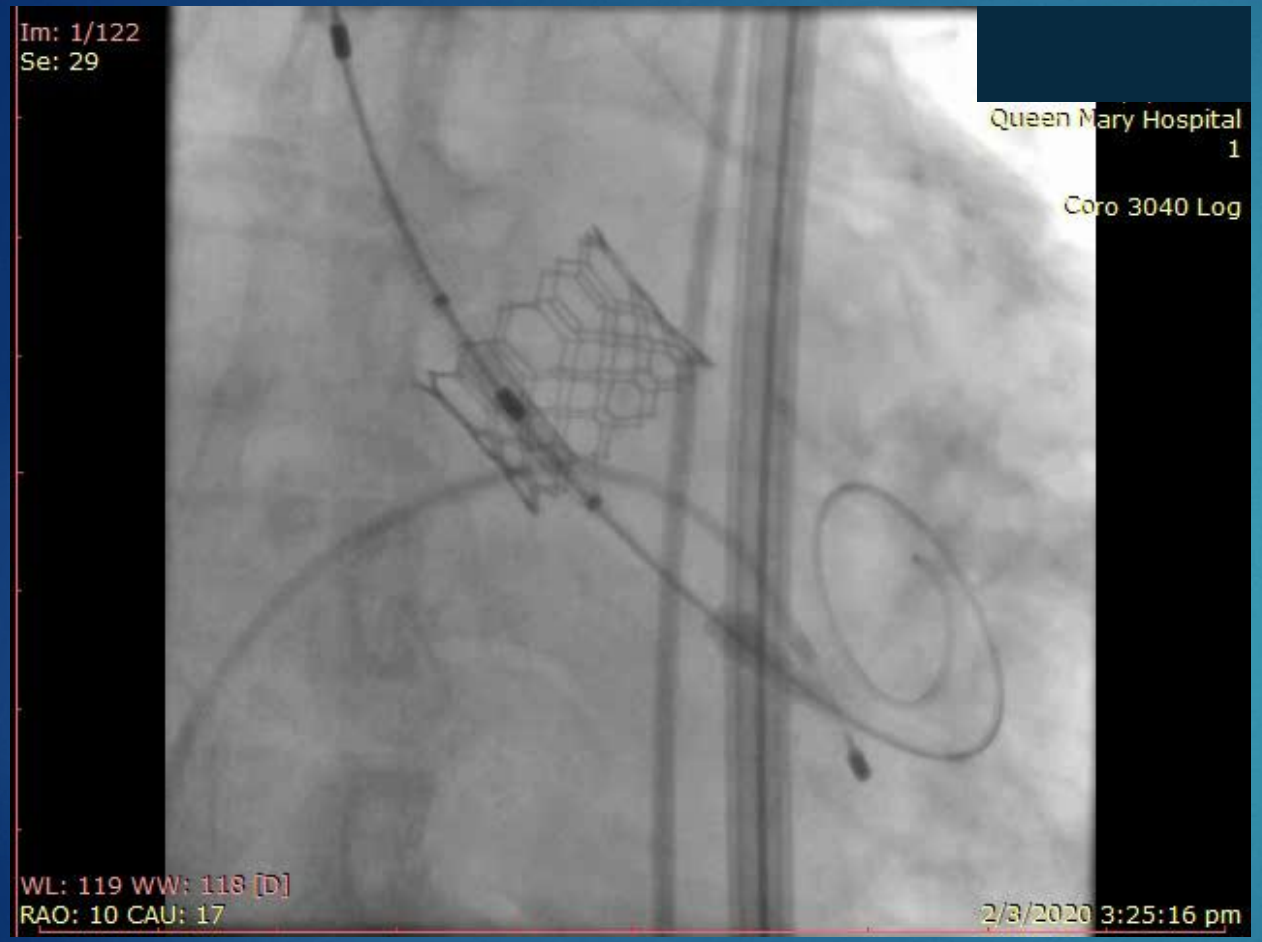
Perpendicular Plane

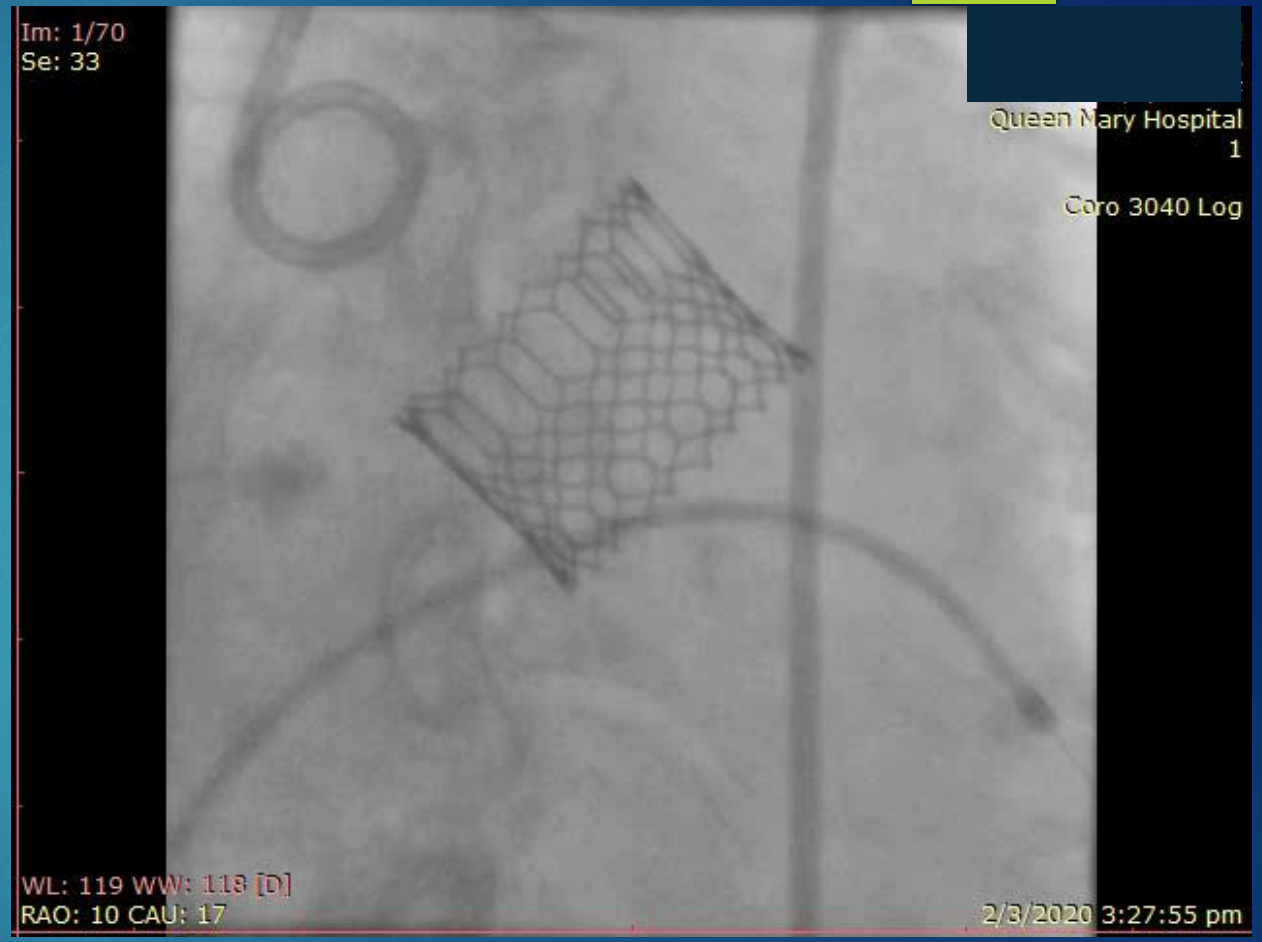






Delivery Nominal +1 ml





Post dilatation Delivery System Balloon additional +1 ml (Nominal + 2)

SAPIEN 3 Valve Sizing: Confirm THV Size

NOTE:
Systolic measurements are recommended

3D Area - derived Diameter (mm)		20.0	20.2	20.5	20.7	21.0	21.1	21.4	21.7	22.0	22.3	22.6	22.8	23.0	23.1	23.4	23.7	23.9	24.0	24.2	24.7
3D Annular Area (mm^2)		314	320	330	338	346	350	360	370	380	390	400	410	415	420	430	440	450	452	460	480
% Annular Area Over (+) or Under (-) Nominal by 3D CT	23mm	29.3	26.9	23.0	20.1	17.3	16.0	12.8	9.7	6.8	4.0	1.5	-1.0	-2.2	-3.3	-5.6	-7.7	-9.8			
	26mm											29.8	26.6	25.1	23.6	20.7	18.0	15.3	14.8	12.8	8.1
	29mm																				

3D Area - derived Diameter (mm)		25.0	25.2	25.5	25.7	26.0	26.2	26.4	26.5	26.7	26.9	27.2	27.4	27.6	27.9	28.0	28.1	28.3	28.5	28.8	29.0	29.2	29.4	29.5	29.6	29.9	30.1	30.3
3D Annular Area (mm^2)		490	500	510	520	530	540	546	550	560	570	580	590	600	610	615	620	630	640	650	660	670	680	683	690	700	710	720
% Annular Area Over (+) or Under (-) Nominal by 3D CT	23mm																											
	26mm	5.9	3.8	1.8	-0.2	-2.1	-3.9	-4.9	-5.6	-7.3	-8.9																	
	29mm		29.8	27.3	24.8	22.5	20.2	18.9	18.0	15.9	13.9	11.9	10.0	8.2	6.4	5.5	4.7	3.0	1.4	-0.2	-1.7	-3.1	-4.6	-5.0	-5.9	-7.3	-8.6	-9.9

NOTE:
Bold = recommended Sealing Zones relate only to valves that are deployed with nominal volumes

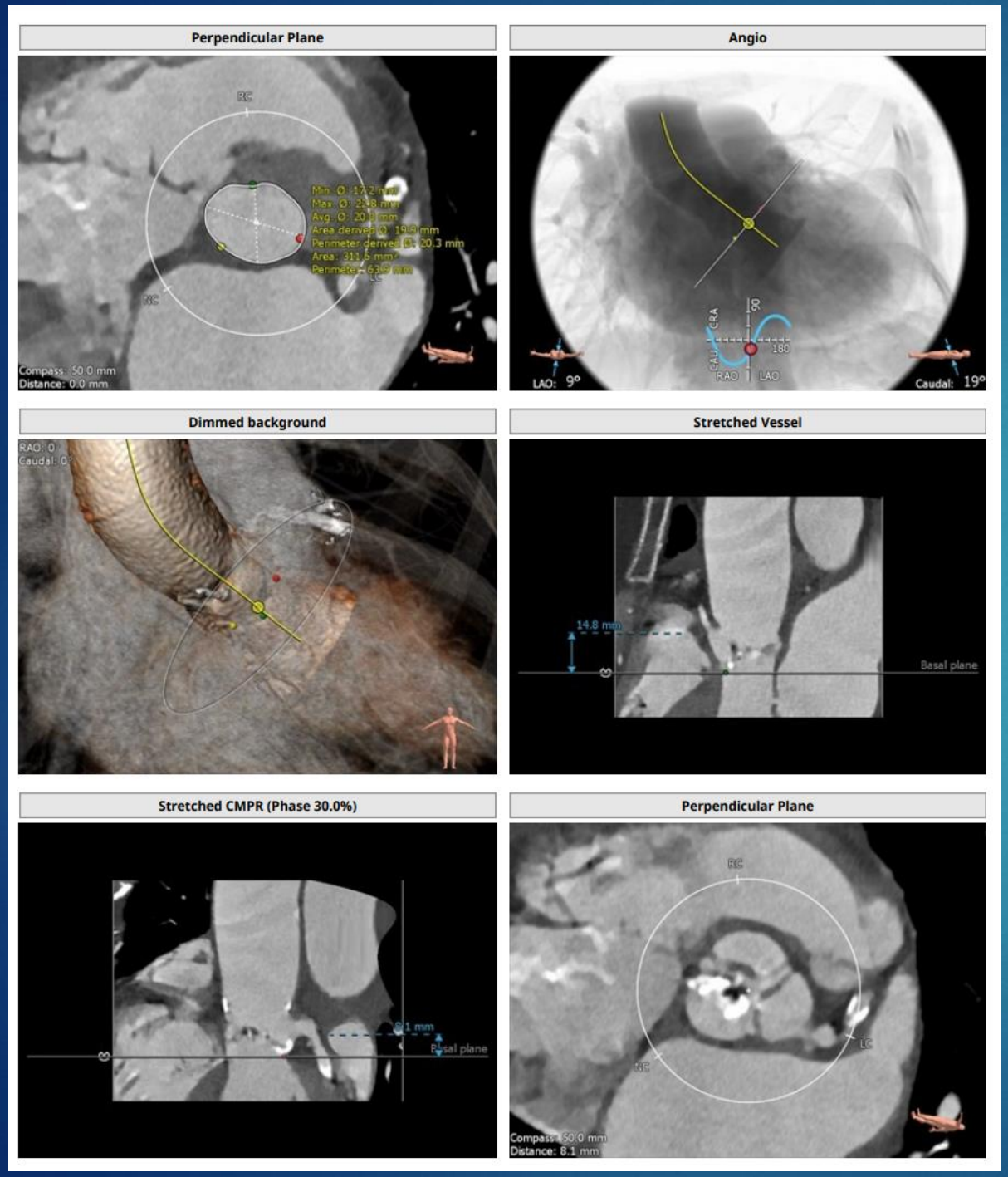
NOTE:
All values presented are based on nominal/recommended inflation volumes

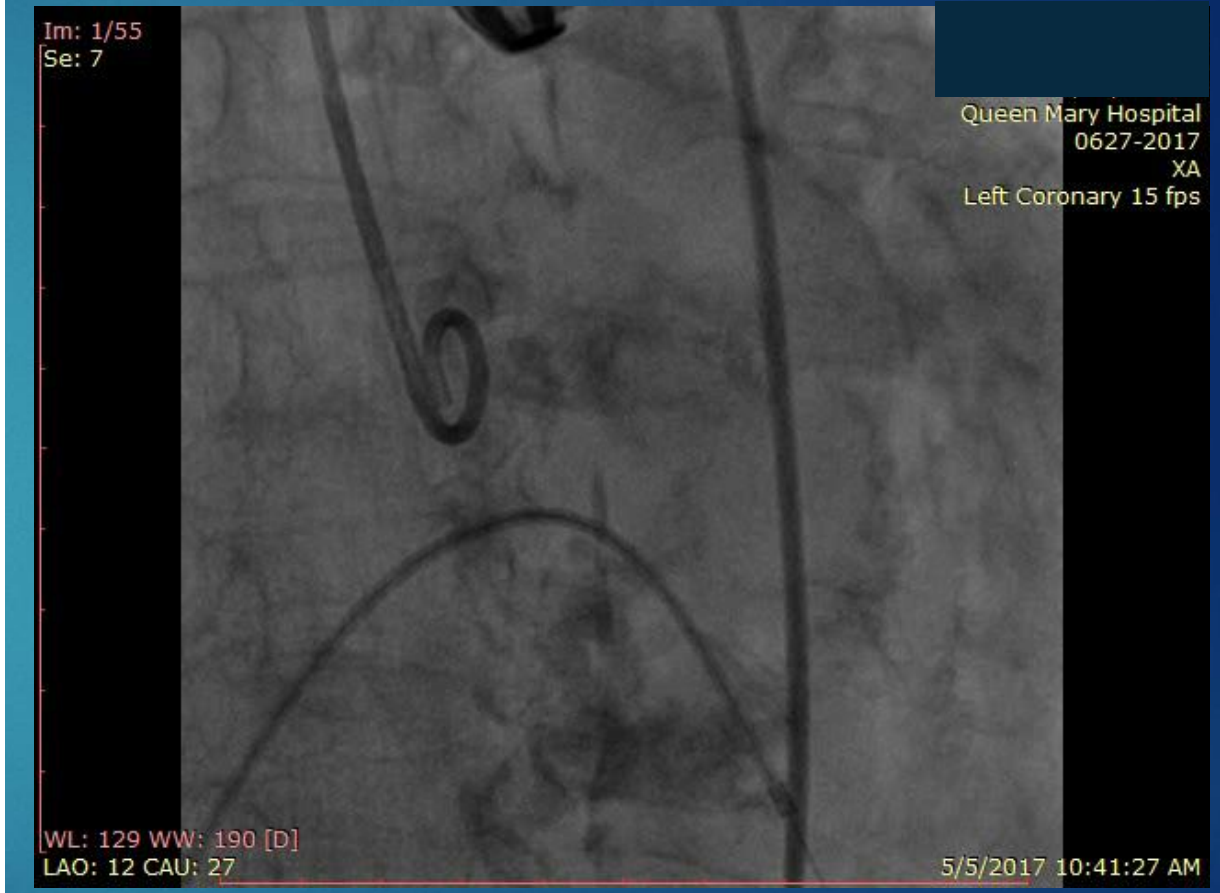
Edwards

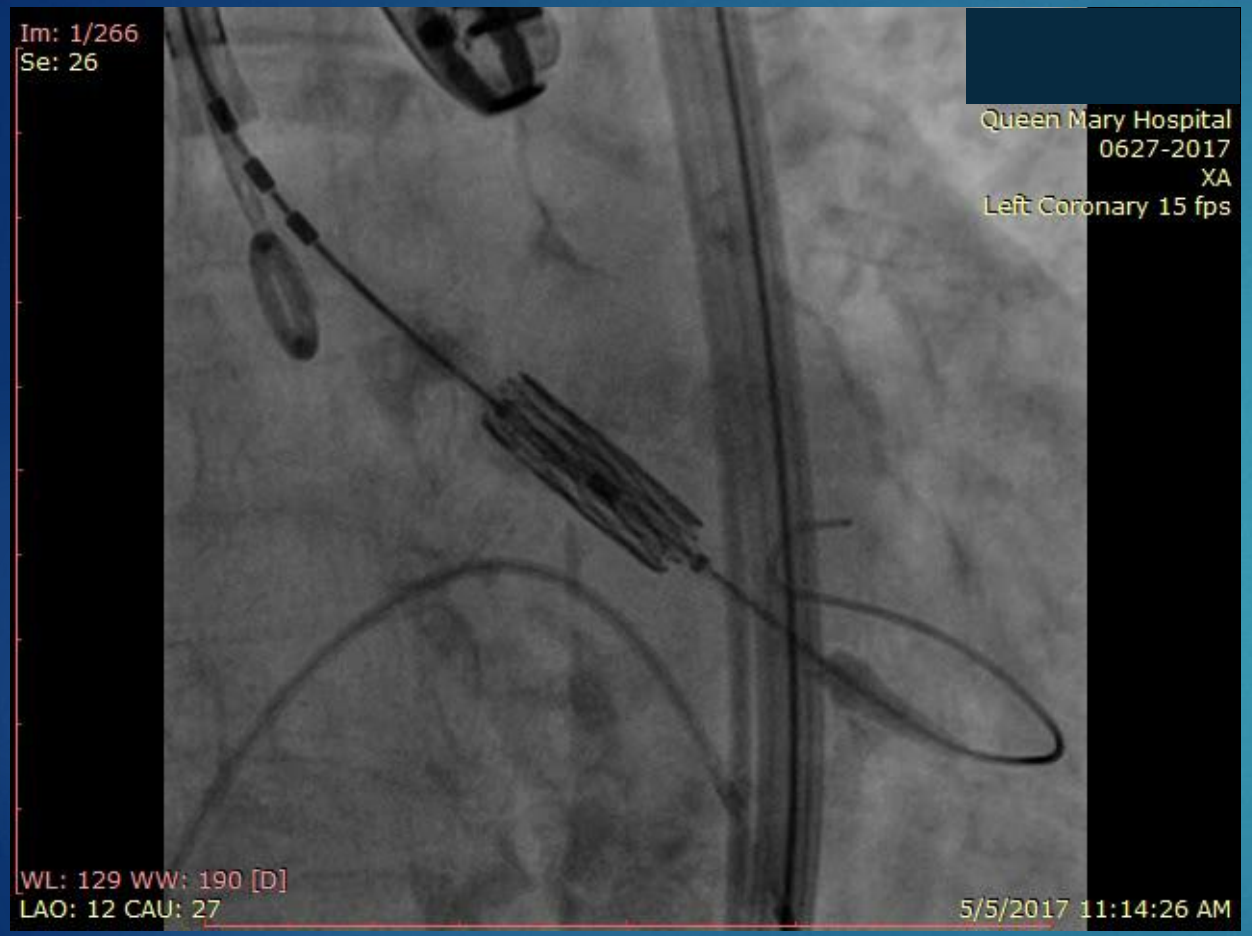
4

Area 311.6mm2

Average 20.0mm


Perpendicular Plane
Angio
Dimmed background
Stretched Vessel
Stretched CMPR (Phase 30.0%)
Perpendicular Plane
Compass: 50.0 mm
Distance: 0.0 mm
LAO: 9°
Caudal: 19°
14.8 mm
Basal plane
Compass: 50.0 mm
Distance: 8.1 mm


Im: 1/55
Se: 7
Queen Mary Hospital
0627-2017
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 12 CAU: 27
5/5/2017 10:41:27 AM


Im: 1/266
Se: 26
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0627-2017
XA
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WL: 129 WW: 190 [D]
LAO: 12 CAU: 27
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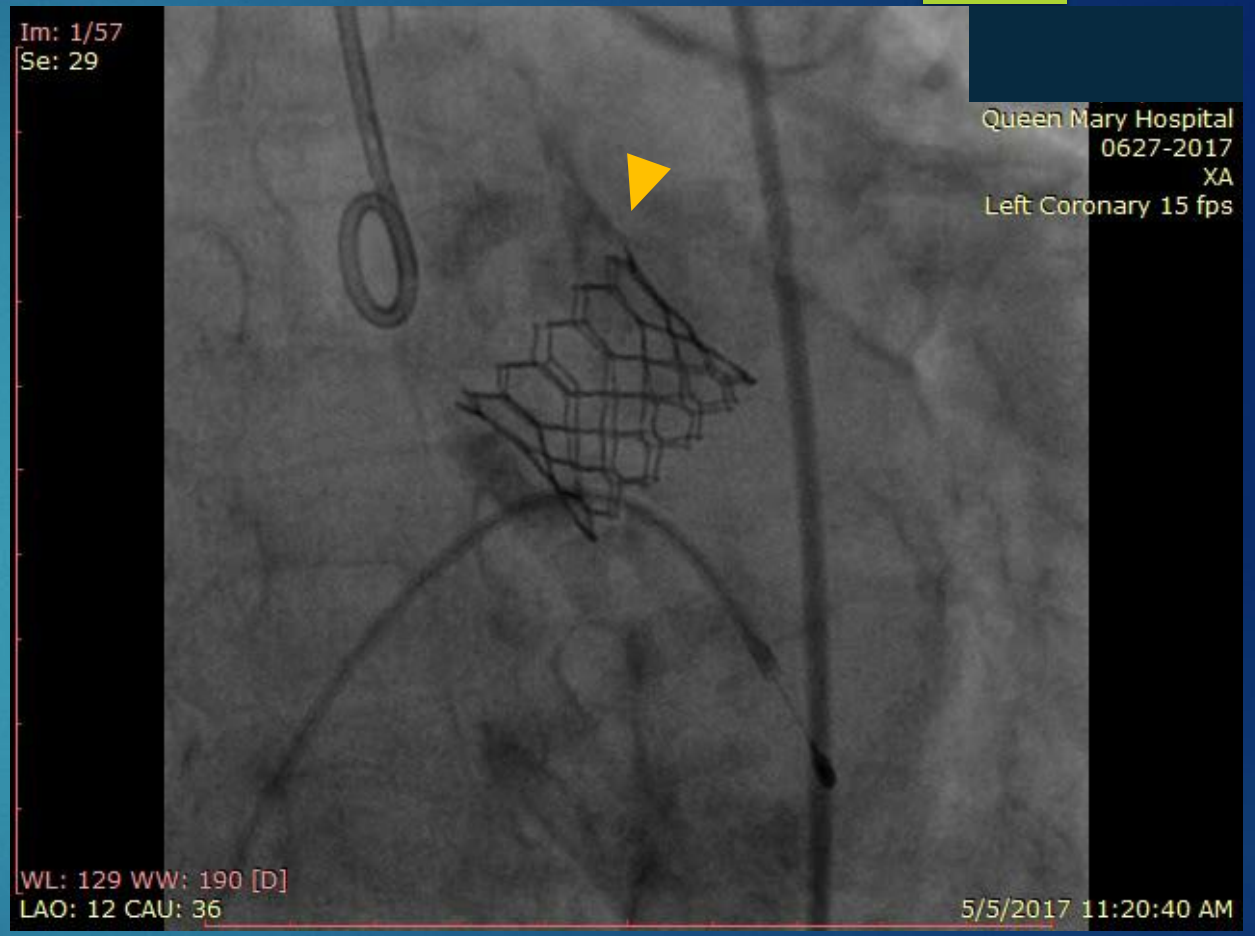
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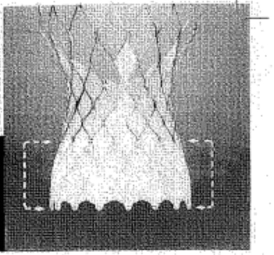
Queen Mary Hospital
0627-2017
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 12 CAU: 36
5/5/2017 11:20:40 AM

TAVI in SAA - EVOLUT PRO/+

HKU Med



Evolut™ TAVR

PATIENT EVALUATION CRITERIA

Small anatomy relatively
Evolut PRO 23mm

Aortic annulus (35% phase)
Min 16.4mm
Max 21.3mm
Average 18.9mm
Area = 280.6mm²
Perimeter 60.6mm
Perimeter derived = 19.3mm

Valve Size Selection	Evolut™ PRO Bioprosthesis			Evolut™ R Bioprosthesis
Size	23 mm	26 mm	29 mm	34 mm
Annulus Diameter (A)	17*/18-20 mm	20-23 mm	23-26 mm	26-30 mm
Annulus Perimeter†	53.4*/56.5-62.8 mm	62.8-72.3 mm	72.3-81.7 mm	81.7-94.2 mm
Sinus of Valsalva Diameter (Mean) (B)	≥25 mm	≥27 mm	≥29 mm	≥31 mm
Sinus of Valsalva Height (Mean) (C)	≥15 mm	≥15 mm	≥15 mm	≥16 mm

*Measurement for TAV-in-SAV only. | †Annulus Perimeter = Annulus Diameter x π
NOTE: Evolut PRO valve size selection is identical to Evolut™ R valve size selection criteria

Selection Criteria

Good bilateral femoral access =

Access Consideration by MSCT	IFU Guidance by MSCT
Minimum Transarterial Access Vessel Diameter	Evolut PRO 23/26/29 TAVs and Evolut R 34 TAV ≥ 5.5 mm Evolut R 23/26/29 TAVs ≥ 5.0 mm
Aortic Root Angulation, Femoral Access	Not recommended if >70 degrees.
Aortic Root Angulation, Left Subclavian	Not recommended if >70 degrees.*
Aortic Root Angulation, Right Subclavian	Not recommended if >30 degrees.*
Vascular Access Location, Direct Aortic Access	Ascending aorta access site ≥60 mm from basal plane.**

*Use caution in patients with a preexisting patent left internal mammary artery/right internal artery mammary (LIMA/RIMA) graft.
**For direct aortic access, ensure access site and trajectory are free of patent RIMA or preexisting patent RIMA graft.

Coronary height =
R 10.1mm
L 9.3mm

Note the position of any SVGs
(A) Annulus Diameter
(B) Sinus of Valsalva Diameter
(C) Sinus of Valsalva Height
D Frame Height (≈ 45 mm, not including paddles)

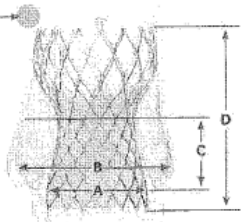
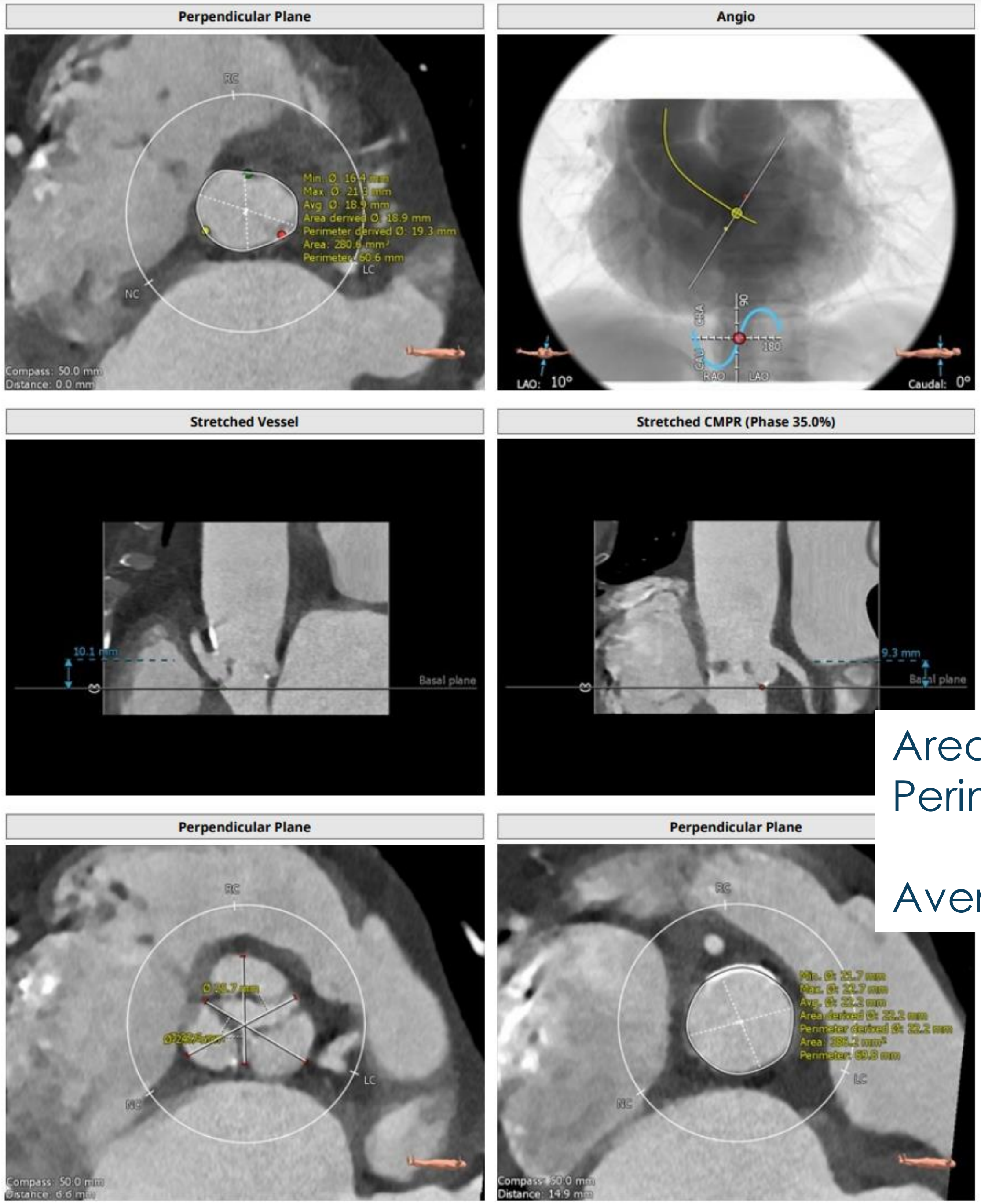


Illustration not to scale

Best alignment angle (3-cusp)
LAO 10°
CAU 0°

Sinus ✓
25.7mm x 24.7mm x 22.6mm

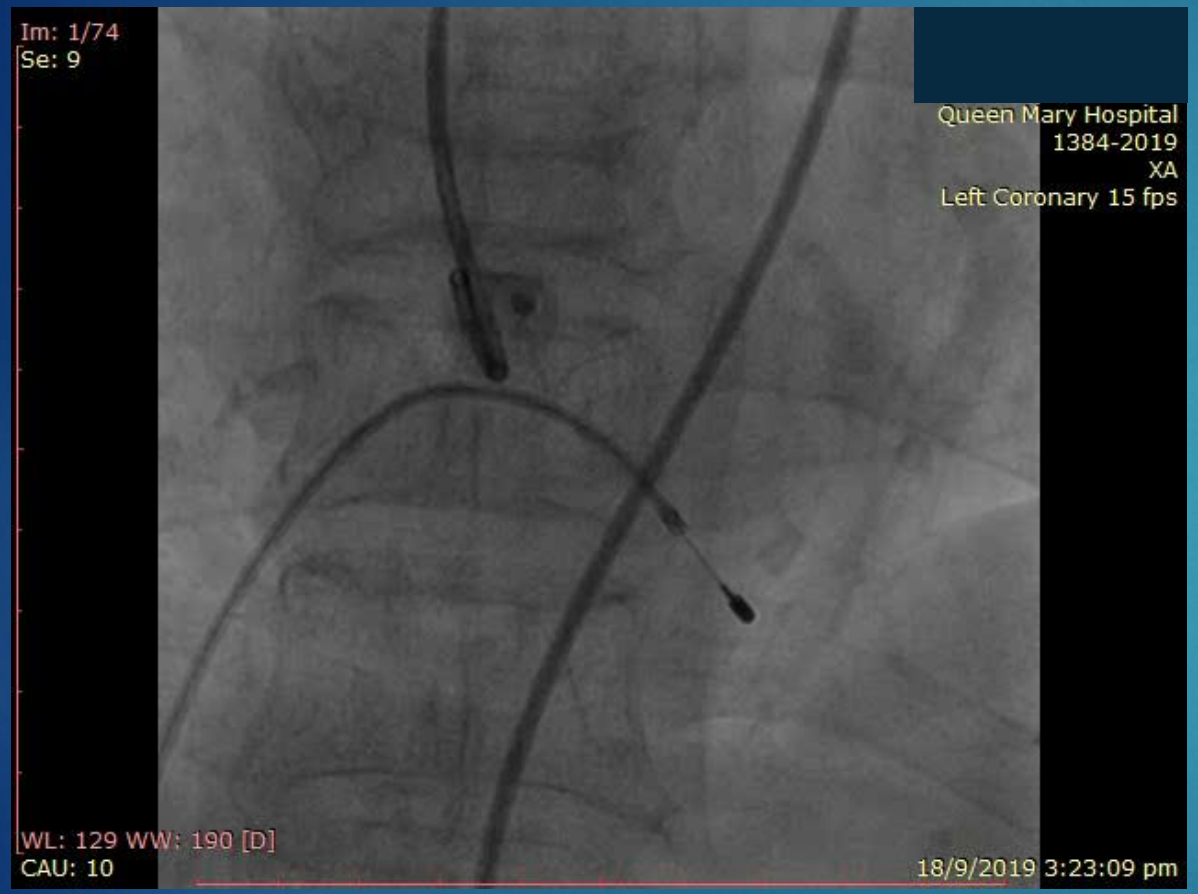
Calcium at STJ + base of LCC

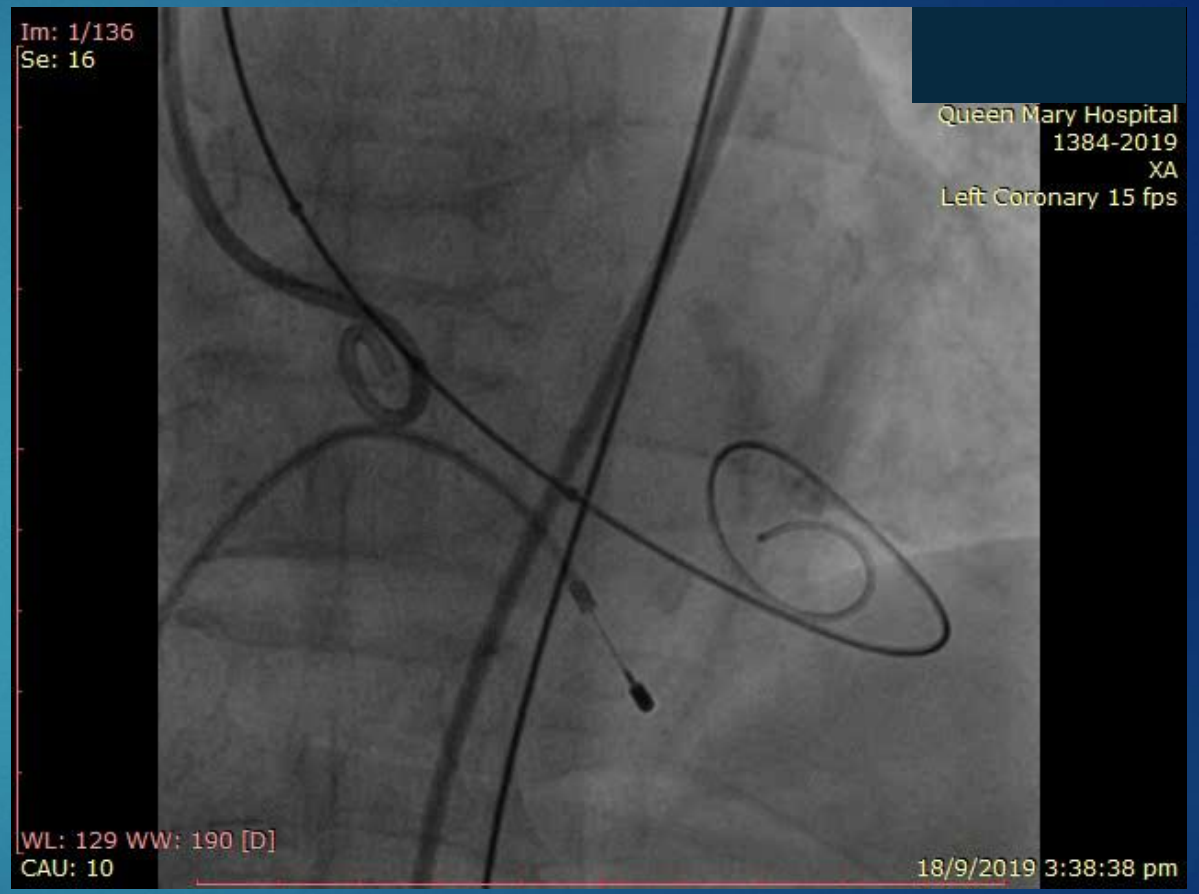


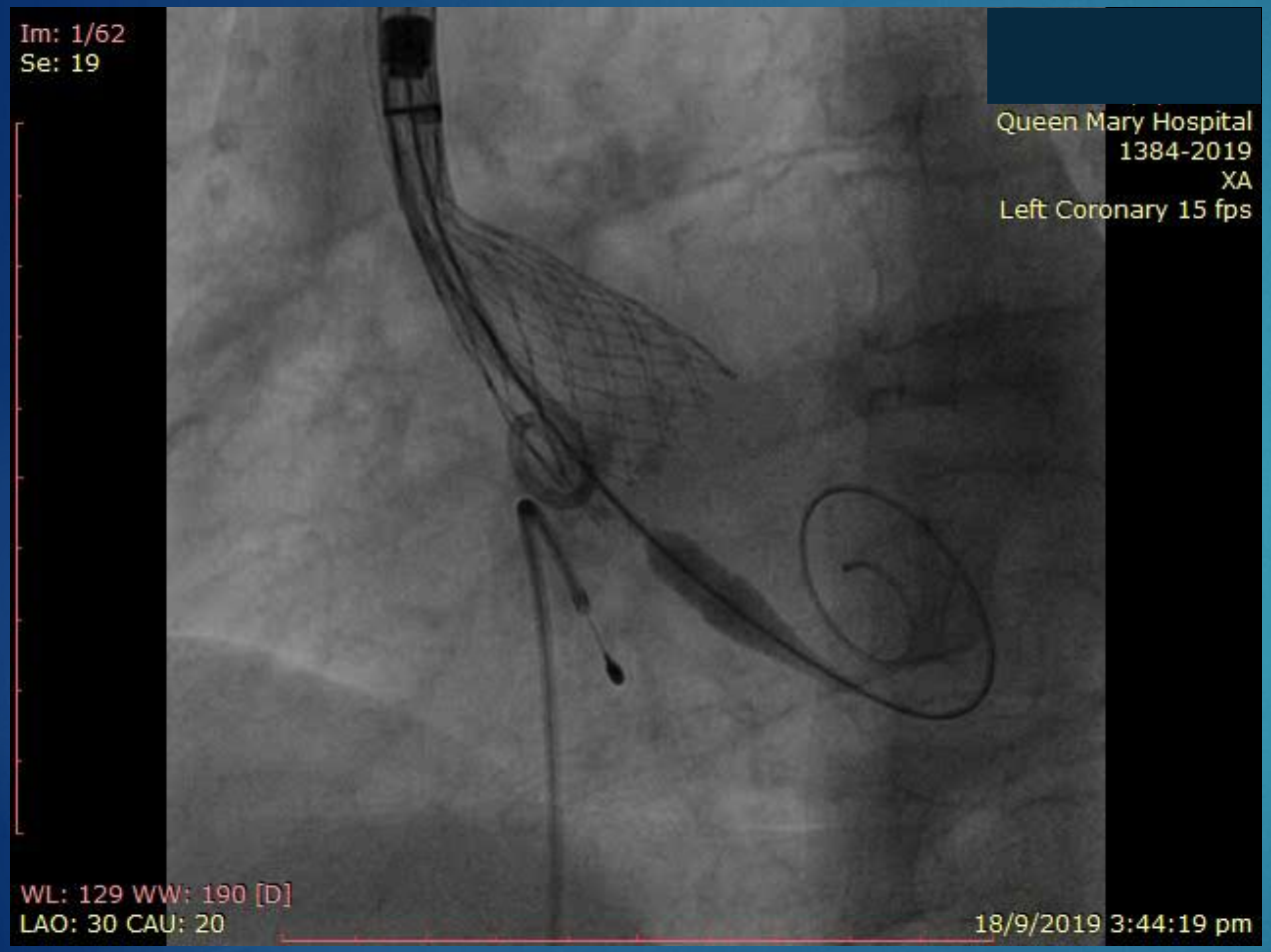
Area 280.6mm2
Perimeter 60.6mm

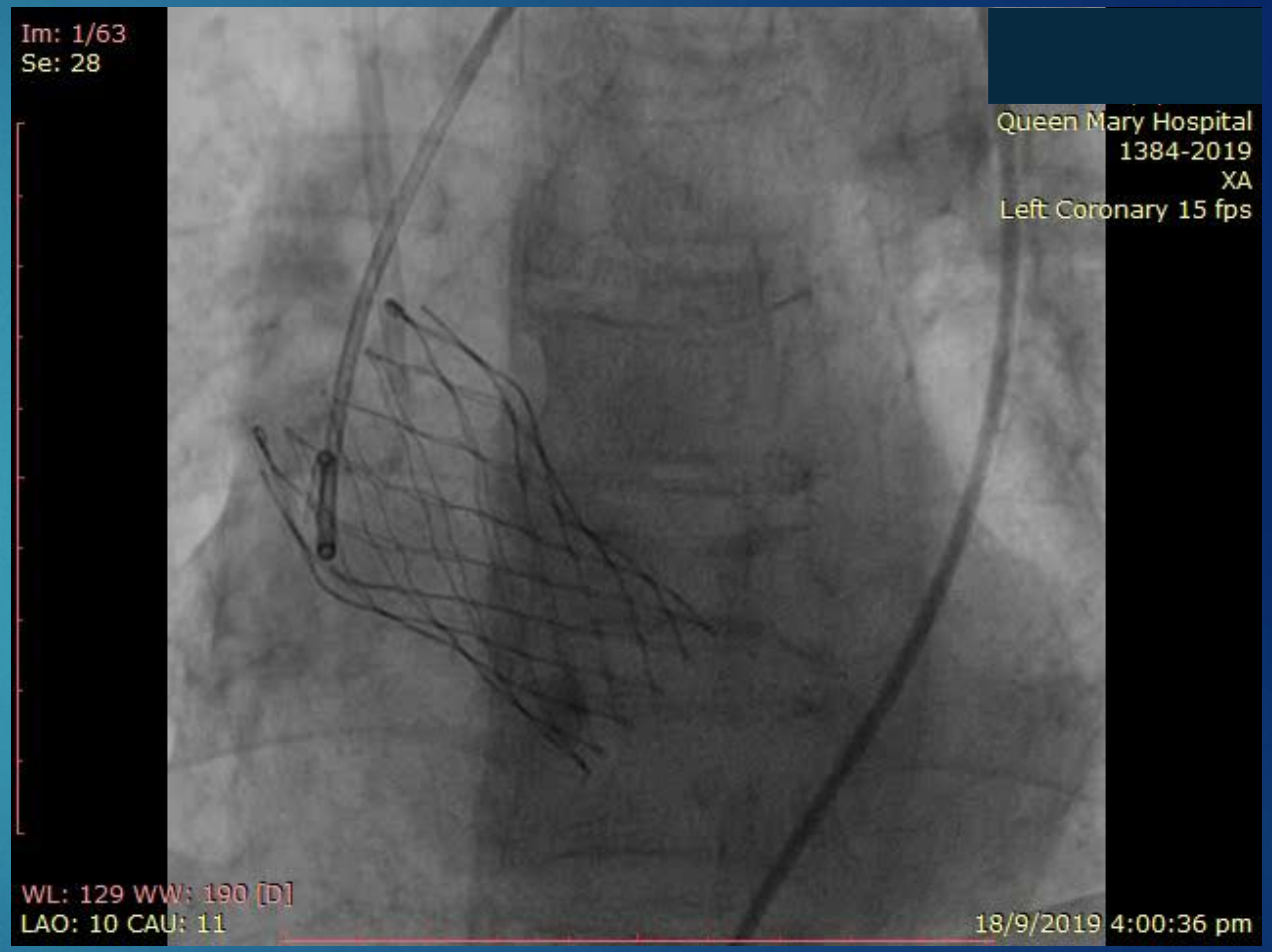
Average 18.9mm

6


Im: 1/74
Se: 9
Queen Mary Hospital
1384-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
CAU: 10
18/9/2019 3:23:09 pm


Im: 1/136
Se: 16
Queen Mary Hospital
1384-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
CAU: 10
18/9/2019 3:38:38 pm


Im: 1/62
Se: 19
Queen Mary Hospital
1384-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 30 CAU: 20
18/9/2019 3:44:19 pm


Im: 1/63
Se: 28
Queen Mary Hospital
1384-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 10 CAU: 11
18/9/2019 4:00:36 pm

TAVI in SAA - ACURATE NEO

HKU Med

Wong KK / AcurateNEO S-23mm

Boston Scientific

Relatively smaller than IFU annulus size
Not too much calcium
(Slim big - ✓)

Aortic annulus (30% phase)
min 18.7mm
max 22.7mm
average 20.7mm
area derived 20.4mm
perimeter derived 20.7mm

perimeter
65.0mm

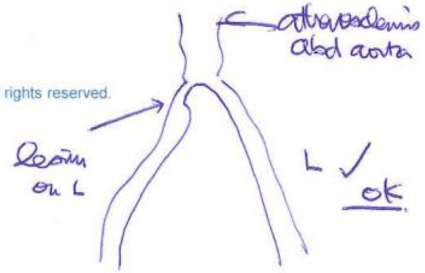
ACURATE *neo*™

Aortic Valve

Valve Size	S – 23 mm	M – 25 mm	L – 27 mm
Order Number	SYM-SV23-002	SYM-SV25-002	SYM-SV27-002
Aortic annulus diameter* (mm)	21mm ≤ annulus Ø ≤ 23 mm	23mm < annulus Ø ≤ 25 mm	25mm < annulus Ø ≤ 27 mm
Aortic annulus perimeter (mm)	66 mm ≤ annulus ○ ≤ 72 mm	72 mm < annulus ○ ≤ 79 mm	79 mm < annulus ○ ≤ 85 mm

Right coro - 16.0mm ✓
Left coro - 14.2mm ✓

Femoral —



Best alignment angle = (3-Mensio)
LAO 17°
CAU 4°

* CT based measurement: Perimeter derived annulus.

EDUCARE

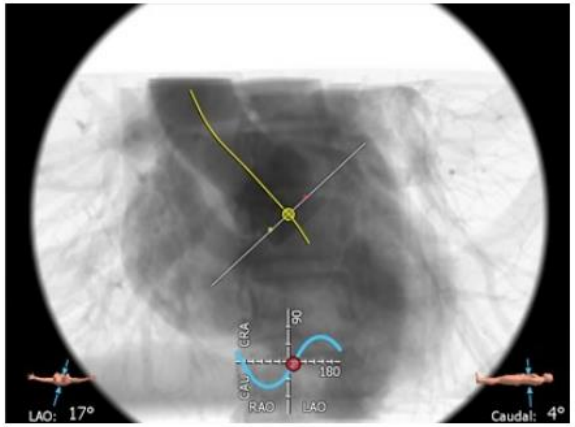
7

Perimeter 65.0mm

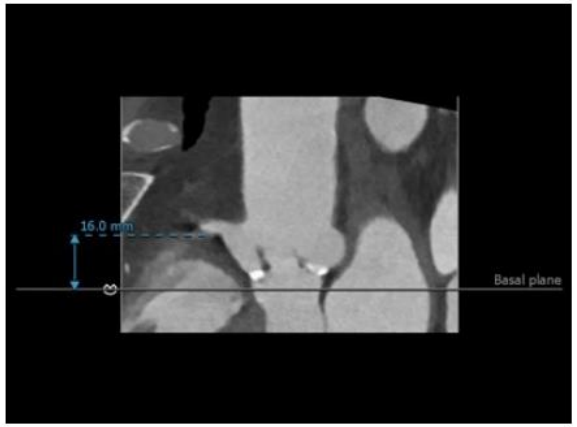
Average 20.7mm

Perpendicular Plane

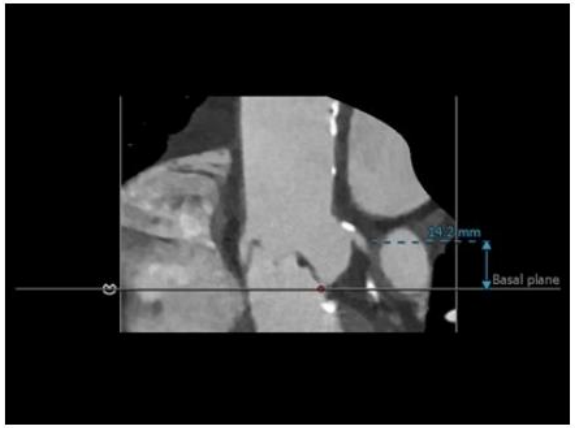
Angio



Stretched Vessel

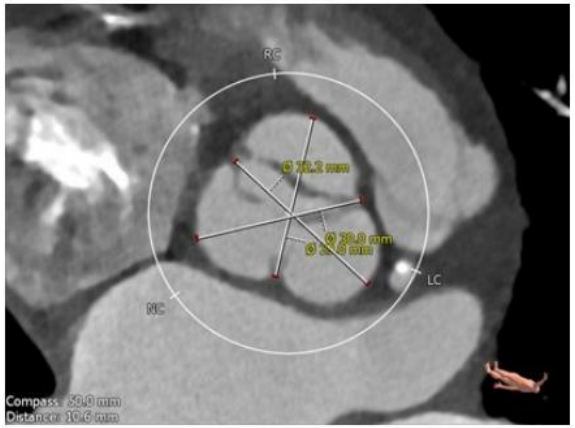


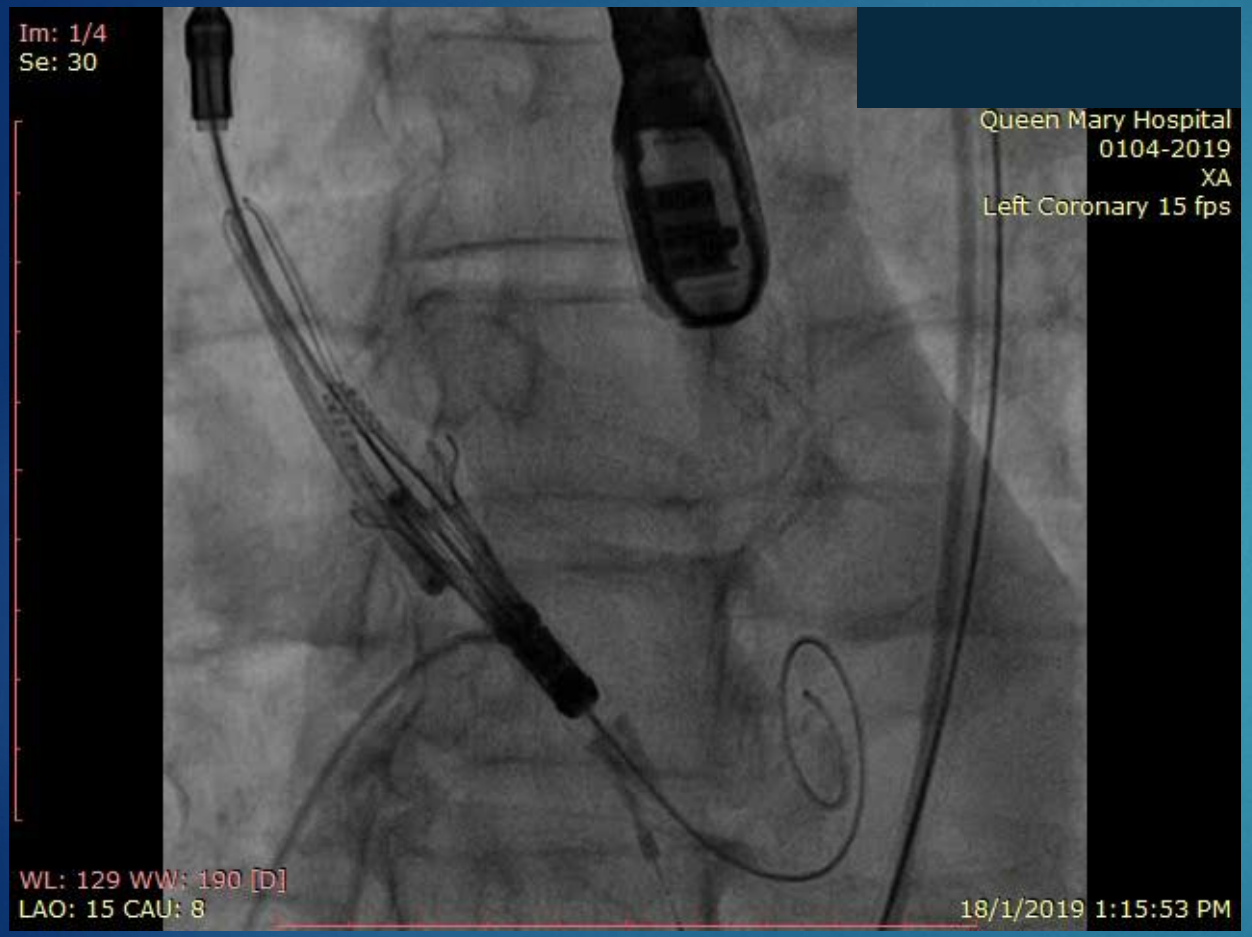
Stretched CMPR (Phase 30.0%)

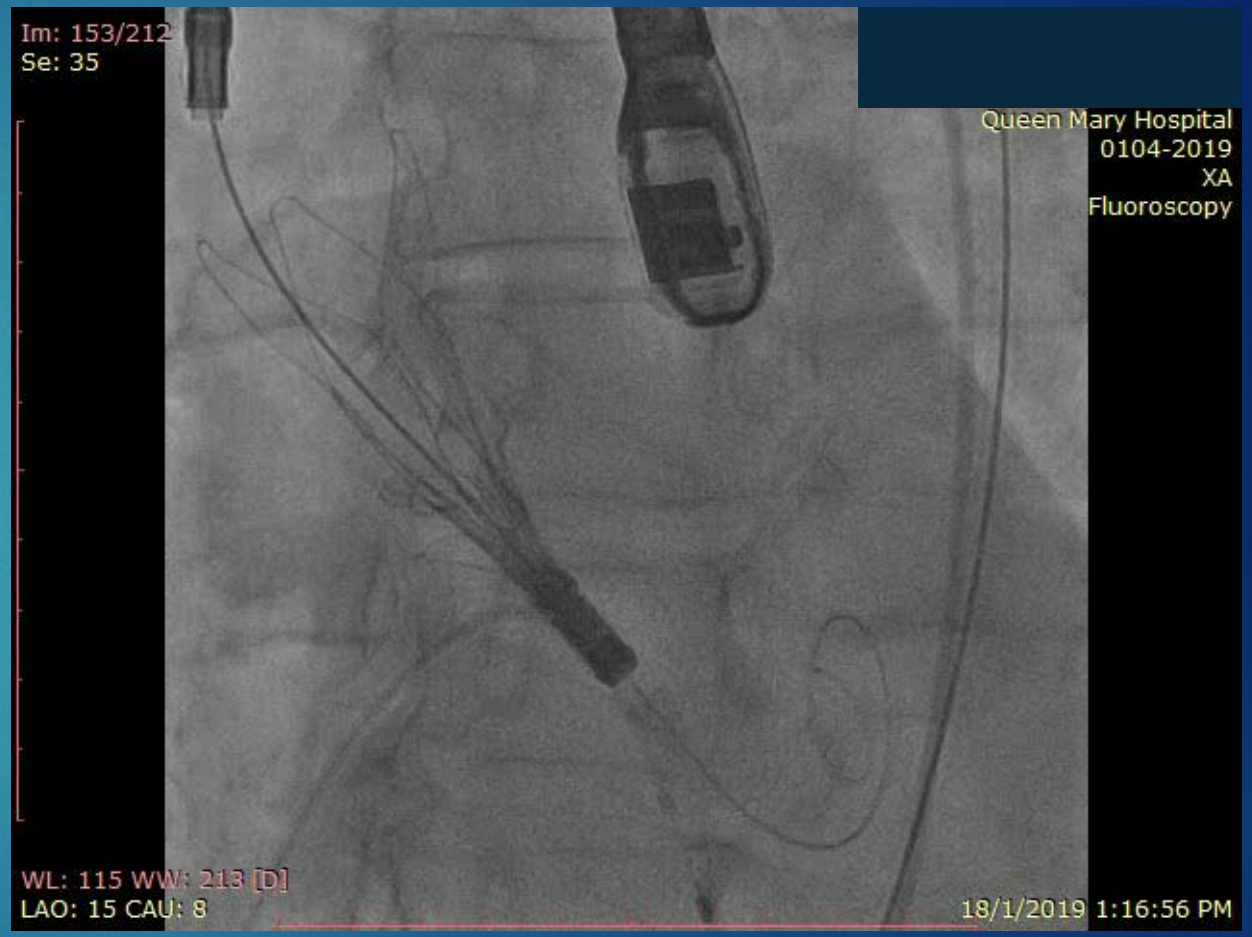


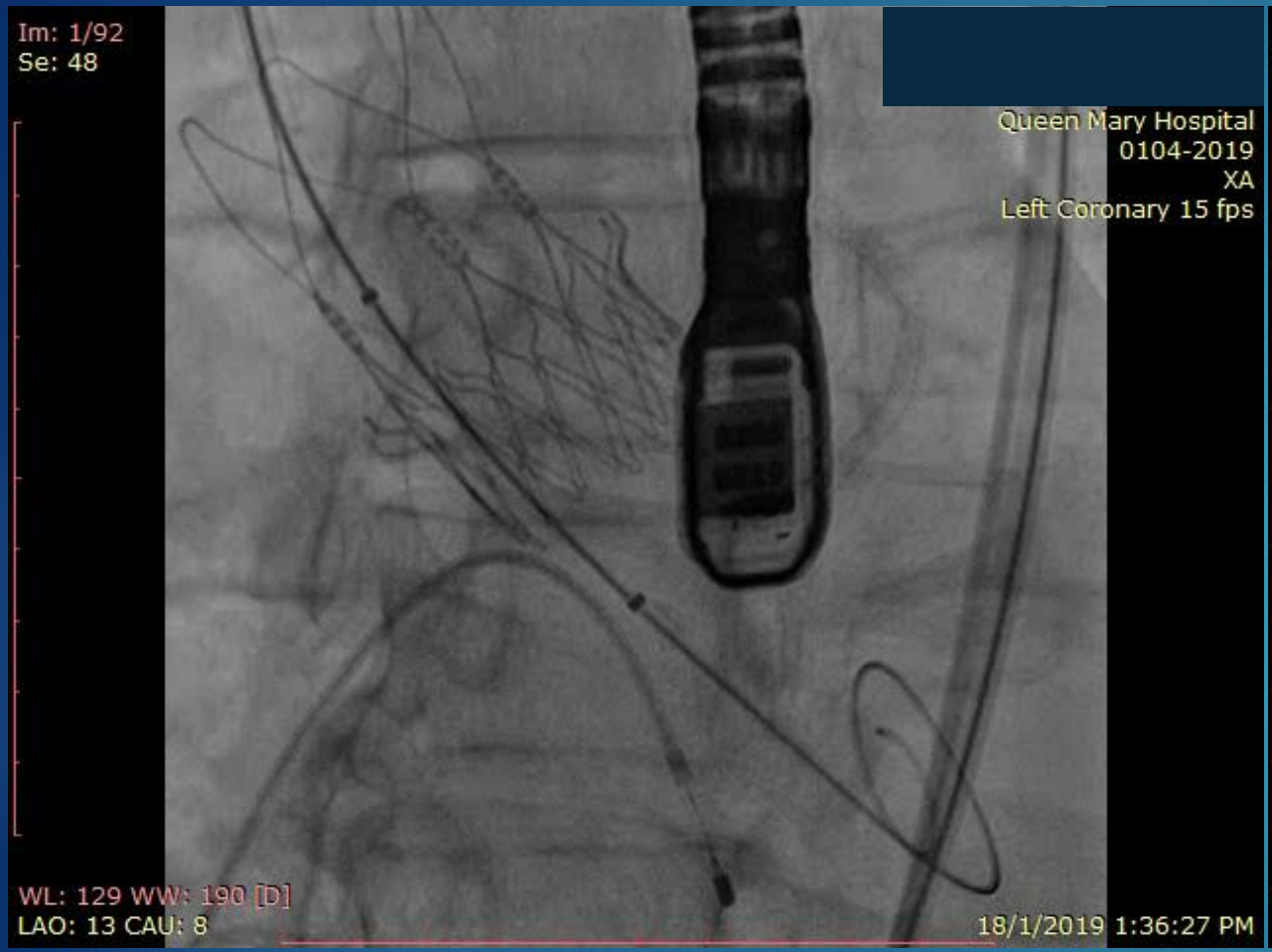
Perpendicular Plane

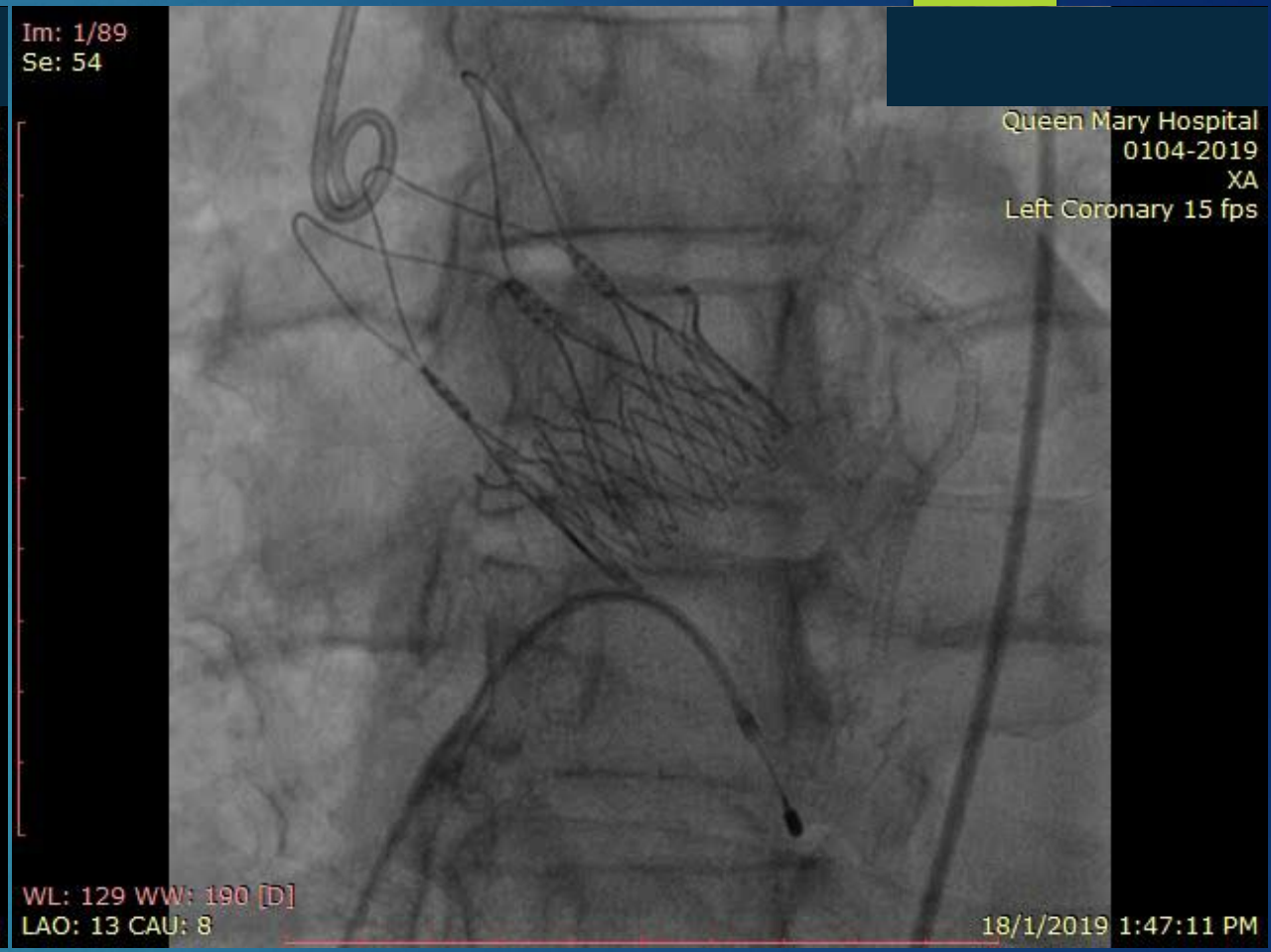
Perpendicular Plane



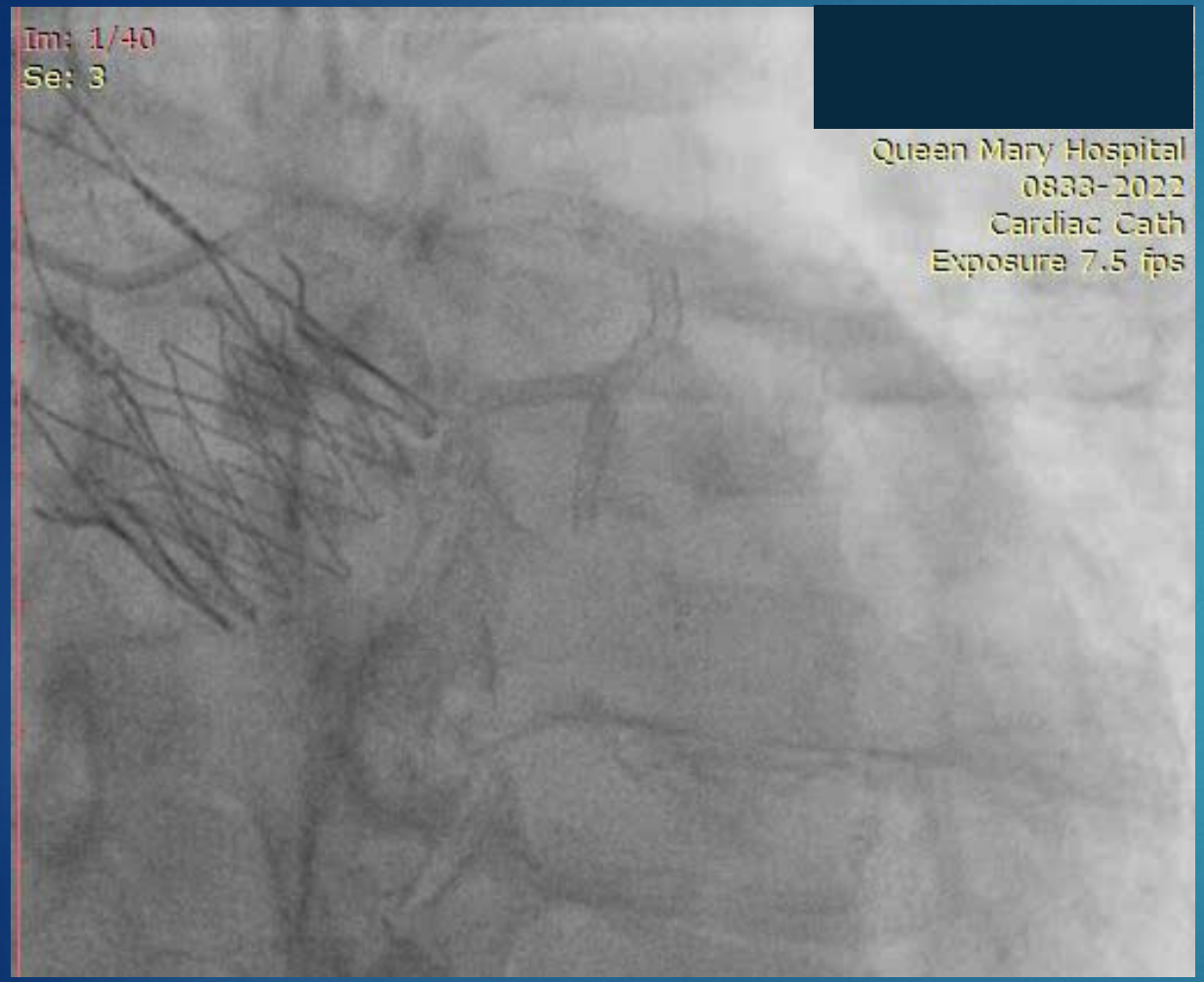

Im: 1/4
Se: 30
Queen Mary Hospital
0104-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 15 CAU: 8
18/1/2019 1:15:53 PM

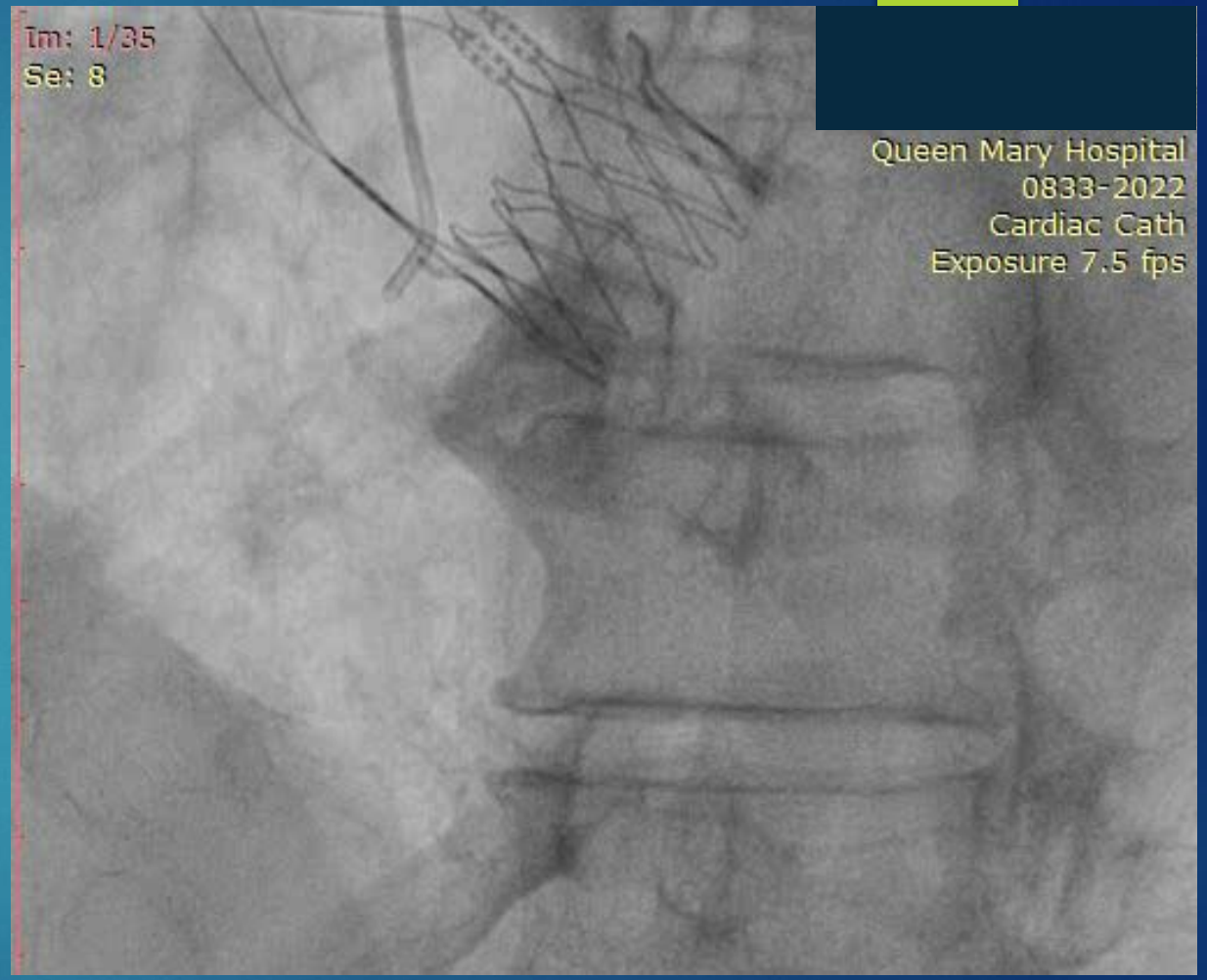

Im: 153/212
Se: 35
Queen Mary Hospital
0104-2019
XA
Fluoroscopy
WL: 115 WW: 213 [D]
LAO: 15 CAU: 8
18/1/2019 1:16:56 PM

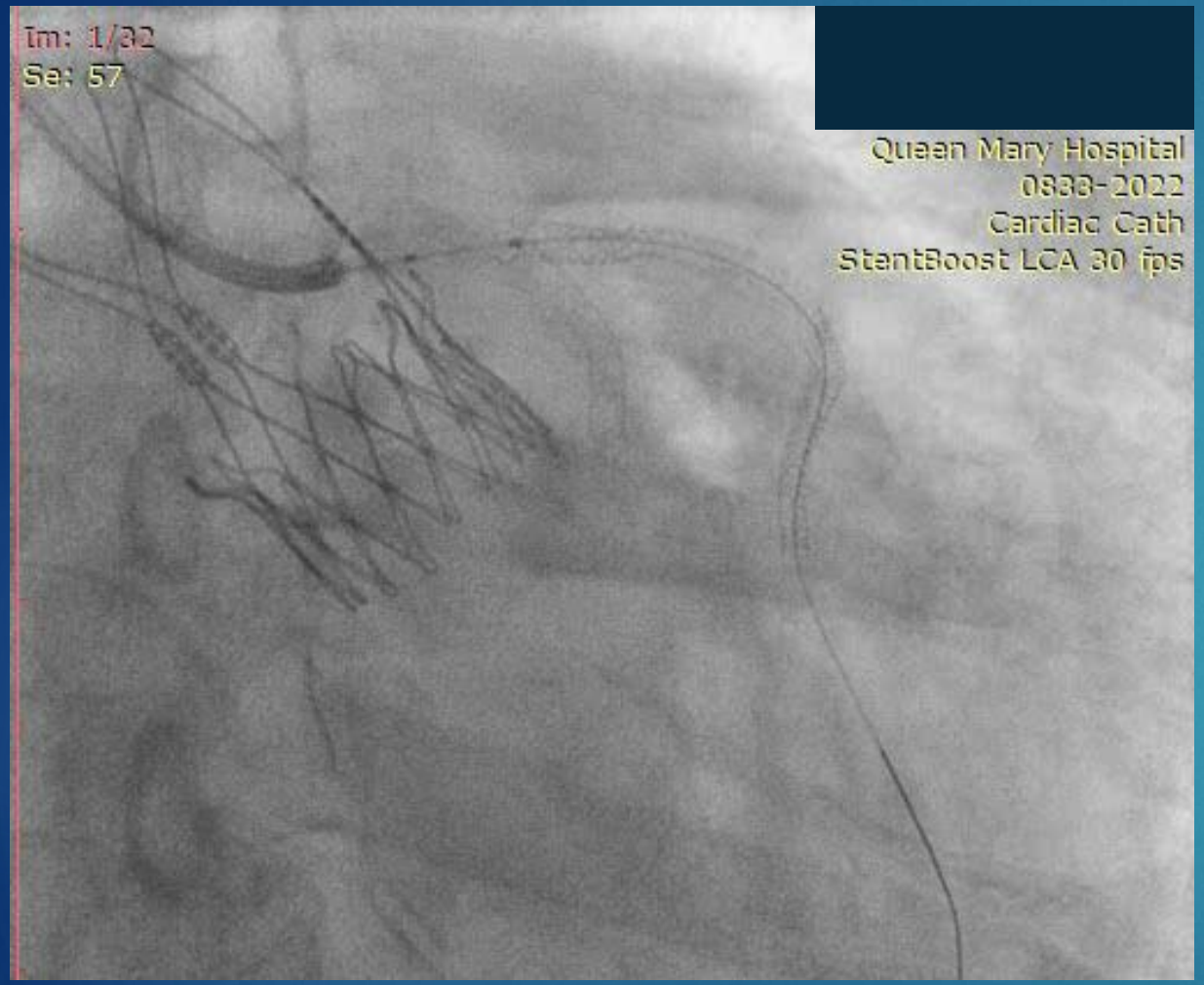

Im: 1/92
Se: 48
Queen Mary Hospital
0104-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 13 CAU: 8
18/1/2019 1:36:27 PM

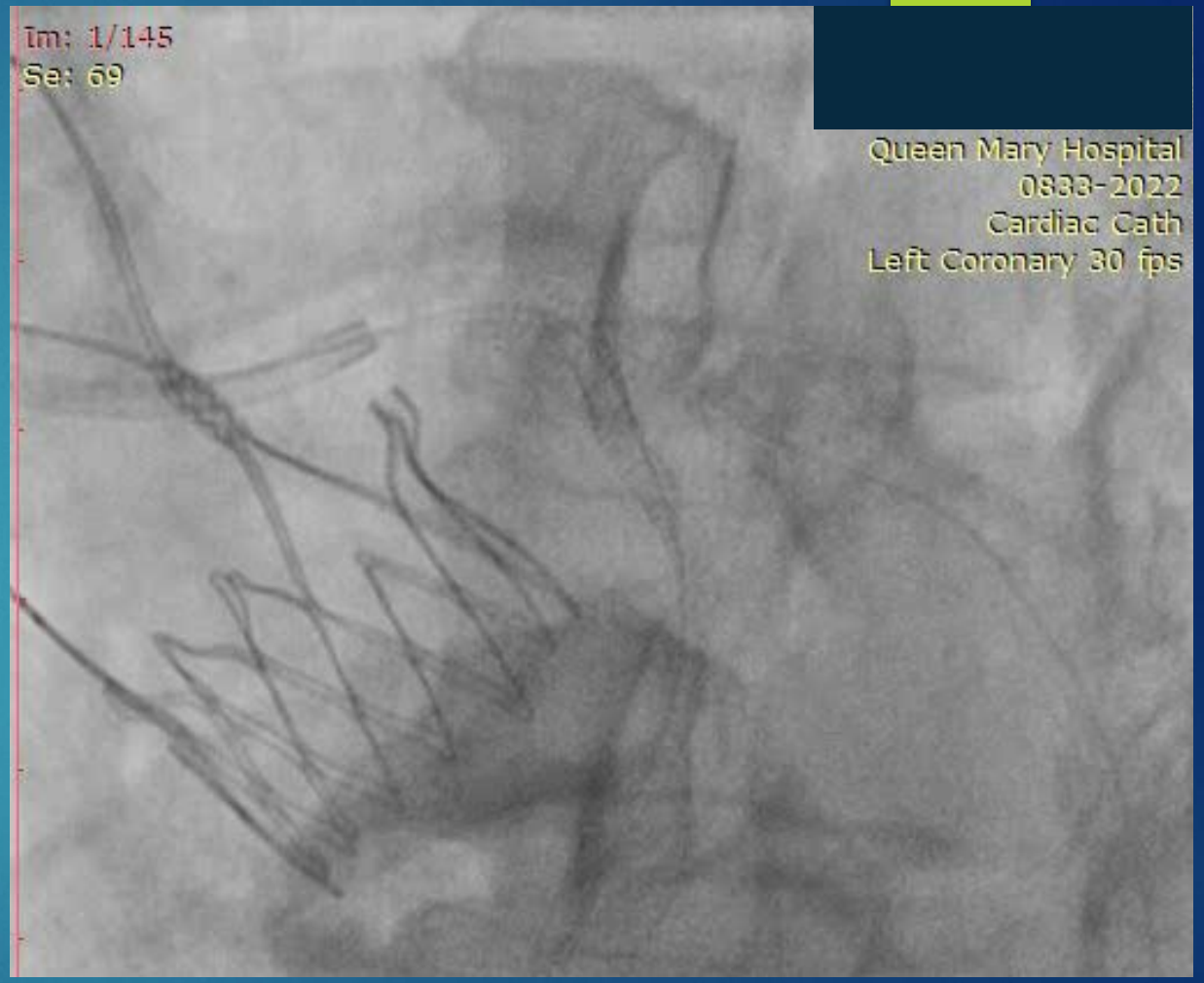

Im: 1/89
Se: 54
Queen Mary Hospital
0104-2019
XA
Left Coronary 15 fps
WL: 129 WW: 190 [D]
LAO: 13 CAU: 8
18/1/2019 1:47:11 PM

- Gradient remained PG/MG 11/6mmHg at 3 years
- CT coro – progression of underying IHD plan coro+/-PCI


Im: 1/40
Se: 3
Queen Mary Hospital
0833-2022
Cardiac Cath
Exposure 7.5 fps


Im: 1/35
Se: 8
Queen Mary Hospital
0833-2022
Cardiac Cath
Exposure 7.5 fps


Im: 1/32
Se: 57
Queen Mary Hospital
0833-2022
Cardiac Cath
StentBoost LCA 30 fps


Im: 1/145
Se: 69
Queen Mary Hospital
0833-2022
Cardiac Cath
Left Coronary 30 fps

TAVI in SAA - Conclusion

HKU Med

Conclusion

- Small/(extremely small) Aortic Annulus commonly seen in Asian Population
- Verify the measurements
- Taking whole AV Complex into considerations
- Procedural Optimization
  - Techniques
  - Avoid complications
  - Device selection
- Heart Team Evaluation
- Patient Factors and Expectations
- Systematic and careful long term FU

HKU Med

https://onemediachannel.com/event/register/HKValve2022

Thank you!

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