Navigating TAVR Failure Using App-Guided Decision Making

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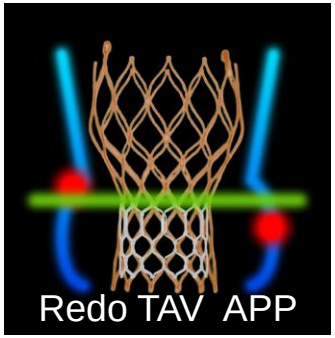
Disclosure of Relevant Financial Relationships

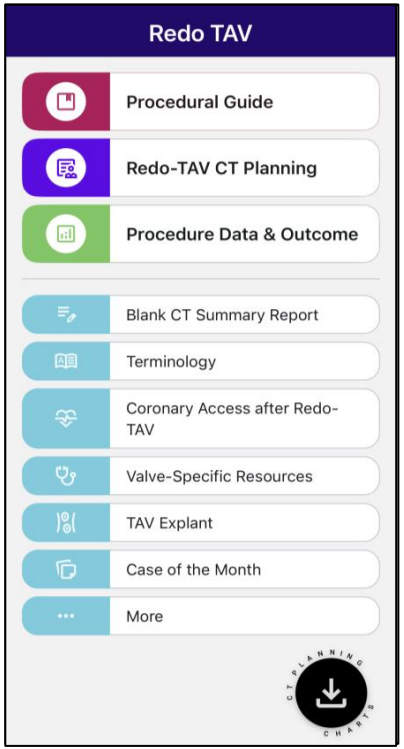
Within the prior 24 months, I have had a financial relationship with a company producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:

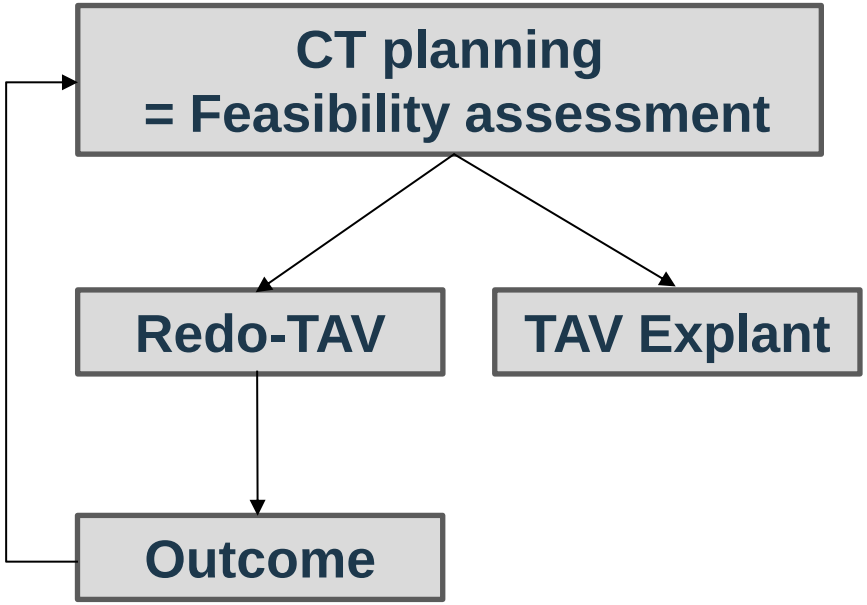
Nature of Financial Relationship	Ineligible Company
Grant/Research Support	ANTERIS
Consultant Fees/Honoraria	Medtronic, Edwards,

All relevant financial relationships have been mitigated.
Faculty disclosure information can be found on the app

App is practical tool for navigating TAVR failure
From feasibility assessment to procedure







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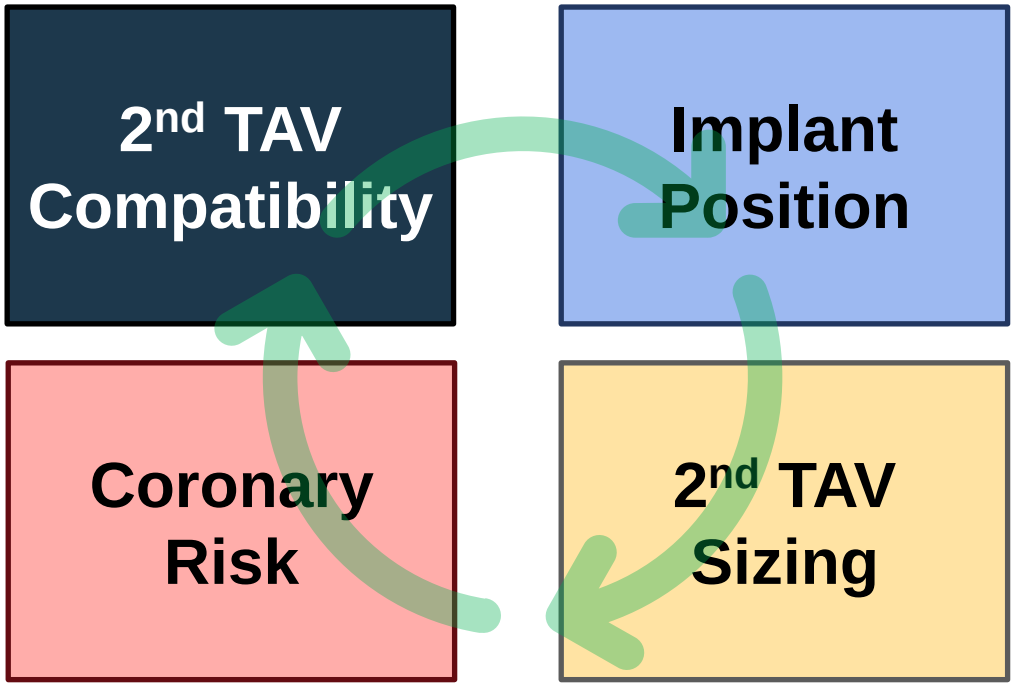
A Guide to Transcatheter Aortic Valve Design and Systematic Planning for a Redo-TAV (TAV-in-TAV) Procedure

Vinayak N. Bapat, MBBS, MCh,[a,b] Miho Fukui, MD, PhD,[a] Syed Zaid, MD,[c] Atsushi Okada, MD, PhD,[a]

CRF TCT

CT planning

4 Key Elements for Feasibility and Optimal Procedure



CT planning

The App offers one standardized pathway

Index TAV
TAV: Evolut R
Size: 29

Second TAV
TAV: Evolut FX
Size: 29

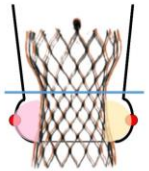
Area & Perimeter According to In-Vivo Sizing Algorithm
Area: 405.3 mm² Perim: N/A

Index TAV Failure Mechanism: AS

CRP: Node 4

NSP: Node 6

Summary - Not to Scale



Narrowest VTA Values
RCA: 1.1 mm
LCA: 2.2 mm

Caution
Consider coronary protection if in doubt

High risk to coronaries

Index TAV
TAV: Evolut R
Size: 29

Second TAV
TAV: SAPIEN 3 Ultra
Size: 23

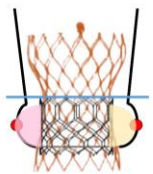
Area & Perimeter According to In-Vivo Sizing Algorithm
Area: 405.3 mm² Perim: N/A

Index TAV Failure Mechanism: AS

CRP: Node 4

NSP: Node 6

Summary - Not to Scale



Narrowest VTA Values
RCA: 1.1 mm
LCA: 2.2 mm

Caution
Consider coronary protection if in doubt

High risk to coronaries

Index TAV
TAV: Evolut R
Size: 29

Second TAV
TAV: SAPIEN 3 Ultra
Size: 23

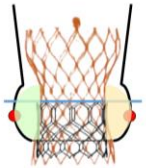
Area & Perimeter According to In-Vivo Sizing Algorithm
Area: 413 mm² Perim: N/A

Index TAV Failure Mechanism: AS

CRP: Node 4

NSP: Node 5

Summary - Not to Scale



Narrowest VTA Values
RCA: 4.1 mm
LCA: 2.8 mm

Caution
Consider coronary protection if in doubt

Intermediate risk to coronaries

Index TAV
TAV: Evolut R
Size: 29

Second TAV
TAV: SAPIEN 3 Ultra
Size: 26

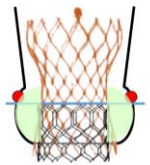
Area & Perimeter According to In-Vivo Sizing Algorithm
Area: 433 mm² Perim: N/A

Index TAV Failure Mechanism: AS

CRP: Node 4

NSP: Node 4

Summary - Not to Scale



Narrowest VTA Values
RCA: N/A
LCA: N/A

Caution
Consider coronary protection if in doubt

Low risk to coronaries

Consider coronary protection when

TCT

CT planning

Generate Animated Summary

Redo TAV

- Procedural Guide
- Redo-TAV CT Planning
- Procedure Data & Outcome
- Blank CT Summary Report
- Terminology
- Coronary Access after Redo-TAV
- Valve-Specific Resources
- TAV Explant
- Case of the Month
- More

CT PLANNING CHARTS

Index TAV

TAV: Select...
Size: Select...

Second TAV

TAV: Select...
Size: Select...

Index TAV Failure Mechanism: Select...

Index TAV Avg. Area & Perim. for In-Vivo Sizing

Area: Enter... mm² Perim: Enter... mm

CRP: Select...
NSP: Select...

RCA	LCA
NSP Above/Below RCA?	NSP Above/Below LCA?
Above / Below	Above / Below
NSP Above/Below STJ?	NSP Above/Below STJ?
Above / Below	Above / Below
Enter VTA Measurements	Enter VTA Measurements
VTSTJ: Enter mm	VTSTJ: Enter mm
VTAoS: Enter mm	VTAoS: Enter mm
VTC: Enter mm	VTC: Enter mm

Index TAV

TAV: Evolut R
Size: 29

Second TAV

TAV: SAPIEN 3 Ultra
Size: 23

Index TAV Failure Mechanism: AS

Index TAV Avg. Area & Perim. for In-Vivo Sizing

Area: 413 mm² Perim: 67 mm

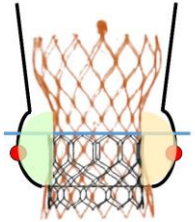
CRP: Node 4
NSP: Node 5

RCA	LCA
NSP Above/Below RCA?	NSP Above/Below LCA?
Above / Below	Above / Below
NSP Above/Below STJ?	NSP Above/Below STJ?
Above / Below	Above / Below
Enter VTA Measurements	Enter VTA Measurements
VTSTJ: N/A	VTSTJ: N/A
VTAoS: Enter mm	VTAoS: 3.3 mm
VTC: 4.2 mm	VTC: 5.2 mm

Notes...

Intermediate risk to coronaries

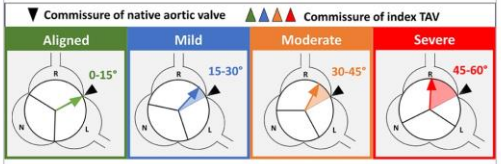
Summary - Not to Scale



Narrowest VTA Values

RCA: 4.2 mm
LCA: 3.3 mm

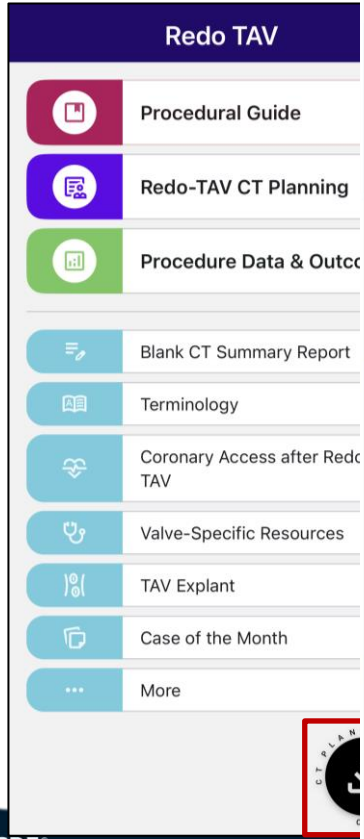
Commissure Alignment of Index TAV

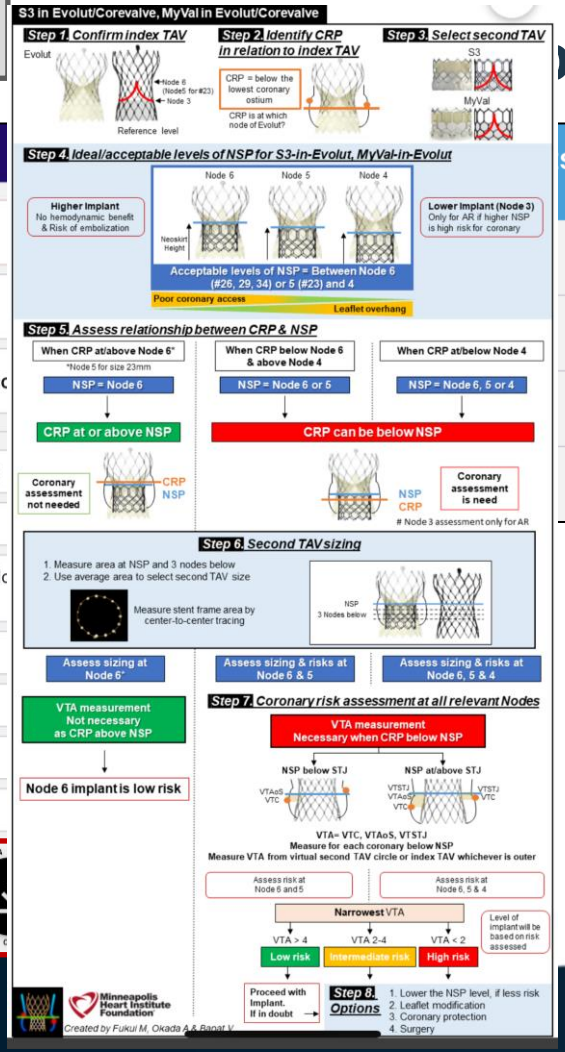


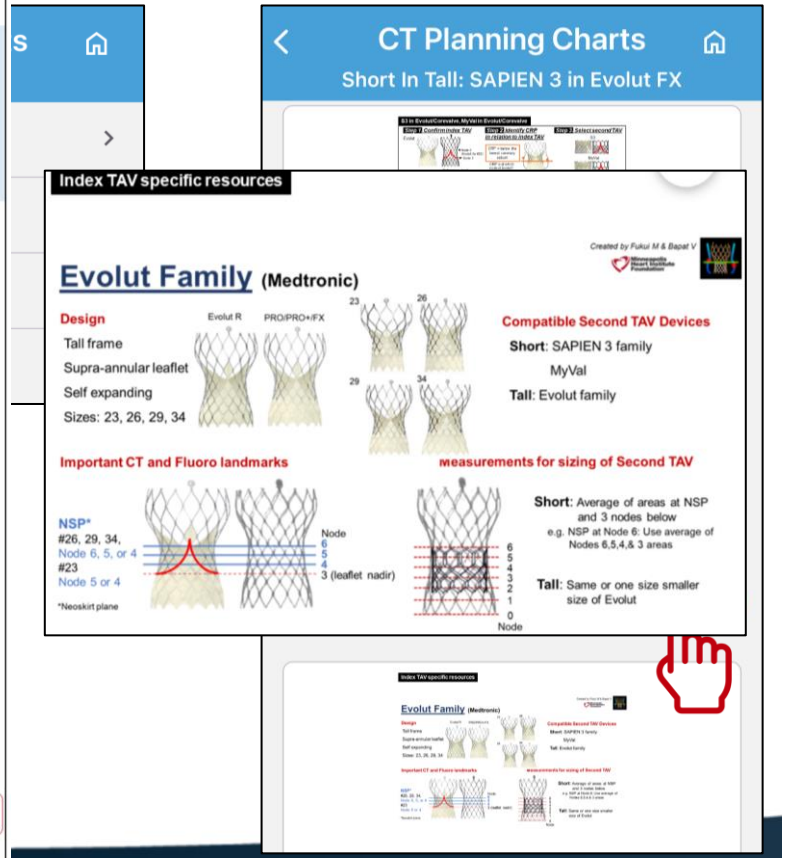
Commissure: Mildly Misaligned

CT planning

ow chart is available

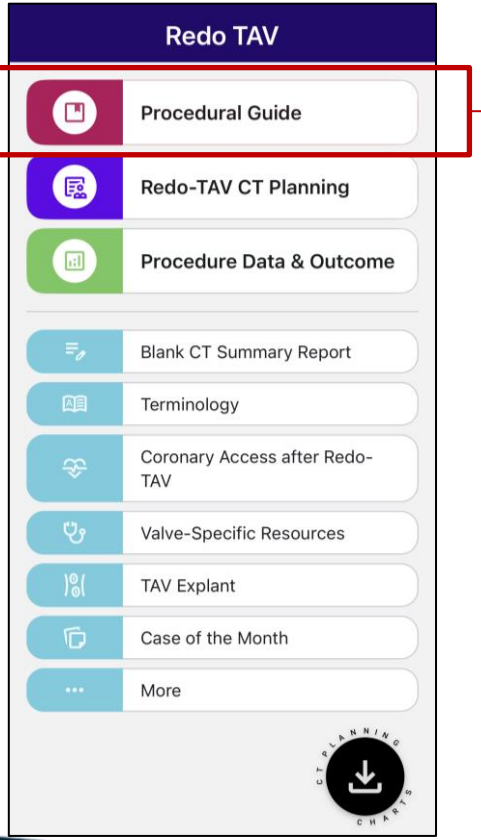


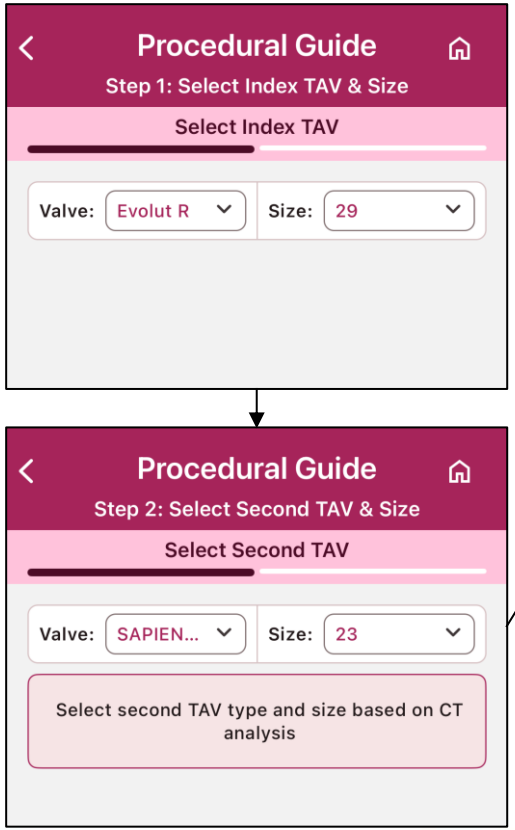


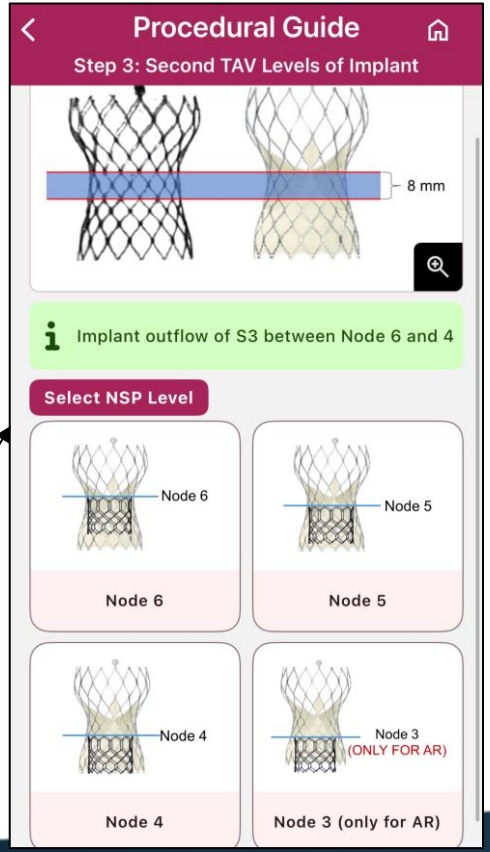


Procedure

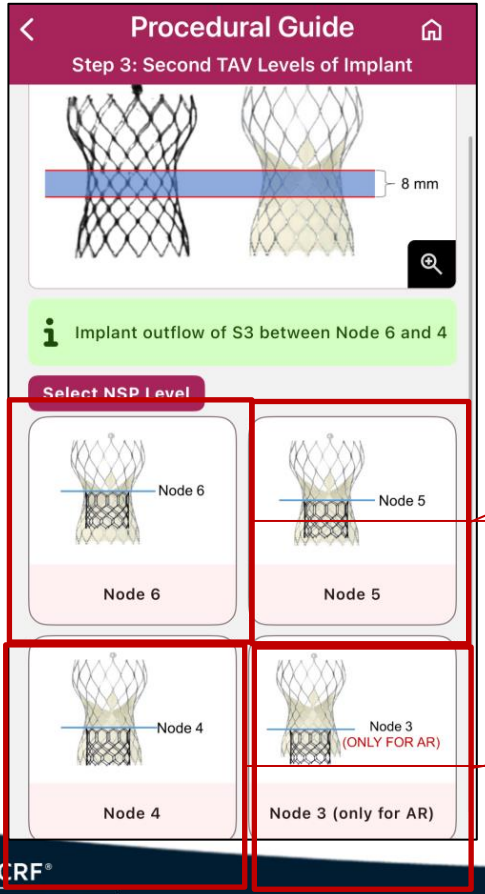
From CT Analysis to Procedure

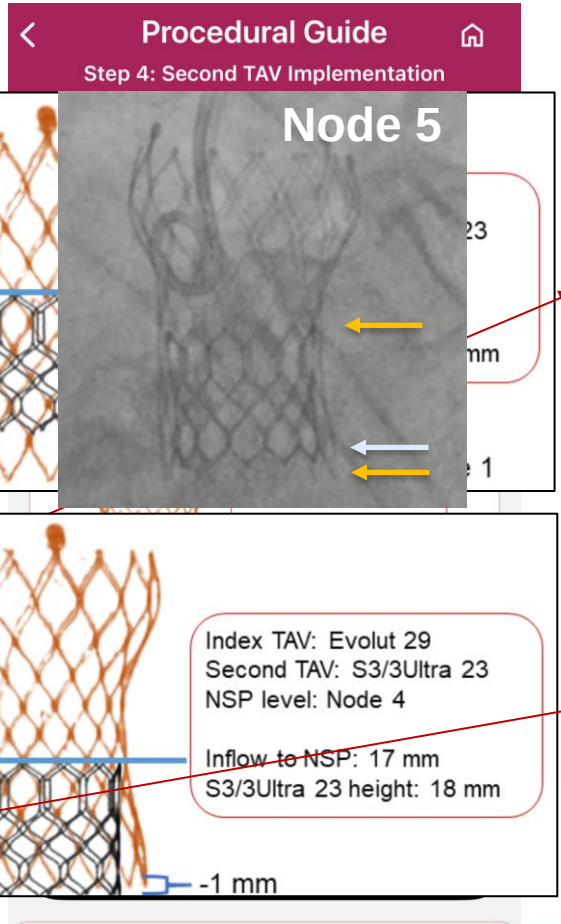




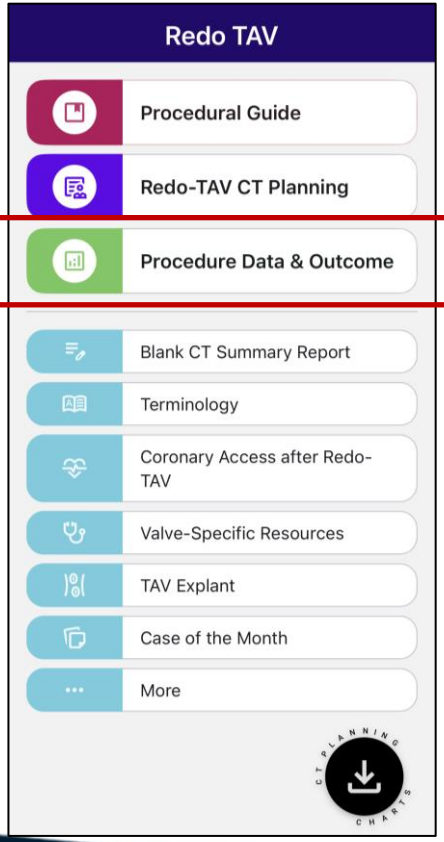


Procedure

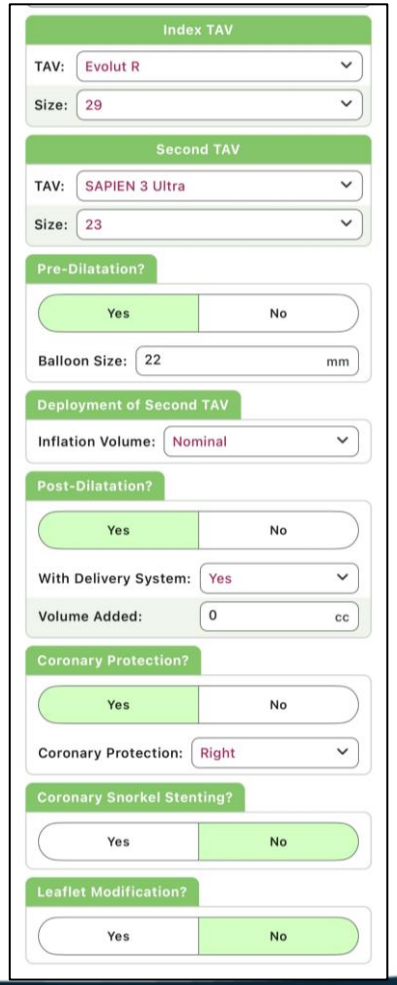

Procedural Guide
Step 3: Second TAV Levels of Implant
8 mm
Implant outflow of S3 between Node 6 and 4
Select NSP Level
Node 6
Node 5
Node 6
Node 5
Node 4
Node 3 (ONLY FOR AR)
Node 4
Node 3 (only for AR)


Procedural Guide
Step 4: Second TAV Implementation
Node 5
Index TAV: Evolut 29
Second TAV: S3/3Ultra 23
NSP level: Node 5
Inflow to NSP: 21 mm
S3/3Ultra 23 height: 18 mm
3 mm
S3 inflow between Node 1&0
Index TAV: Evolut 29
Second TAV: S3/3Ultra 23
NSP level: Node 4
Inflow to NSP: 17 mm
S3/3Ultra 23 height: 18 mm
-1 mm
Index TAV: Evolut 29
Second TAV: S3/3Ultra 23
NSP level: Node 3 (only for AR)
Inflow to NSP: 14 mm
S3/3Ultra 23 height: 18 mm
- 4mm

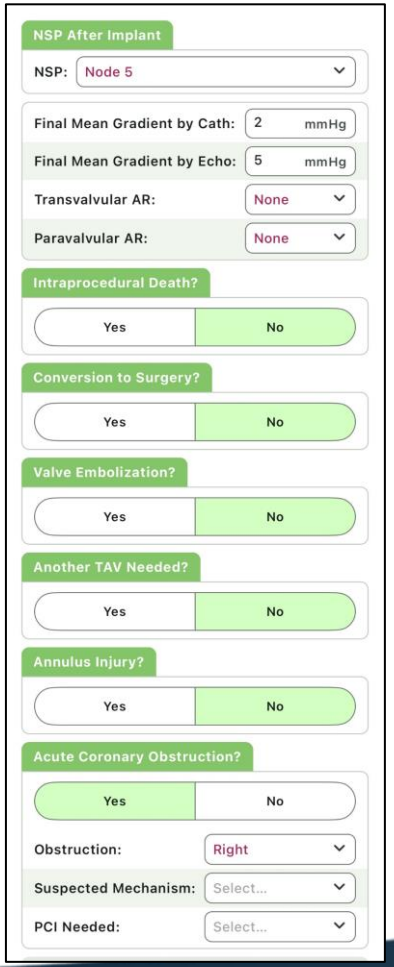
Outcomes



Page 1
Procedure Data

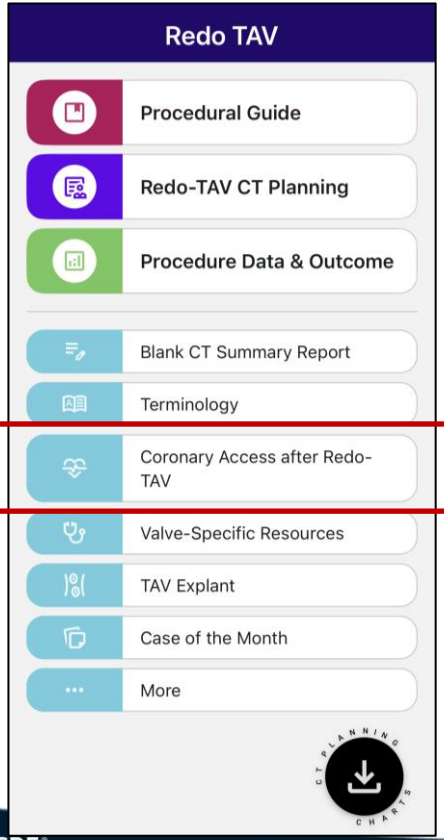


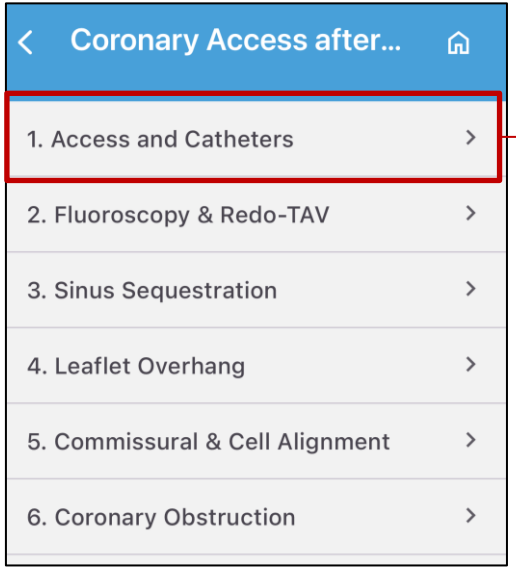
Page 2
Outcome

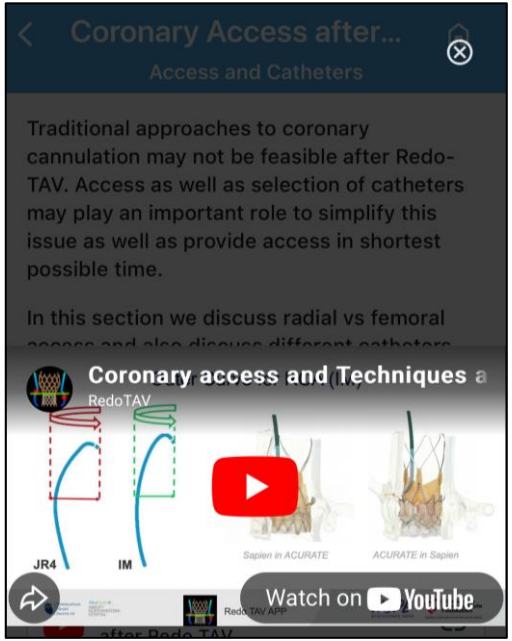


Post Redo-TAV

Educational contents



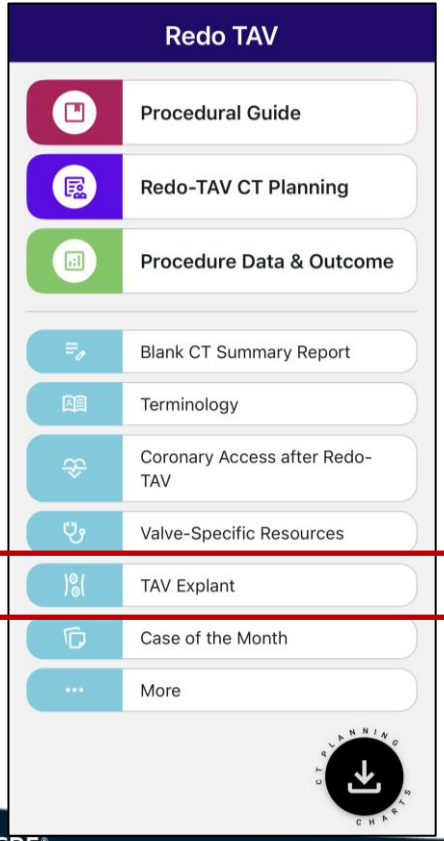


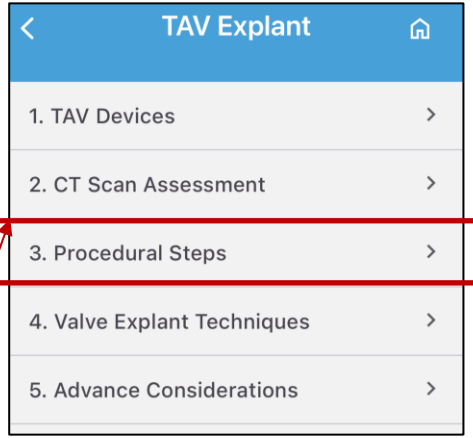


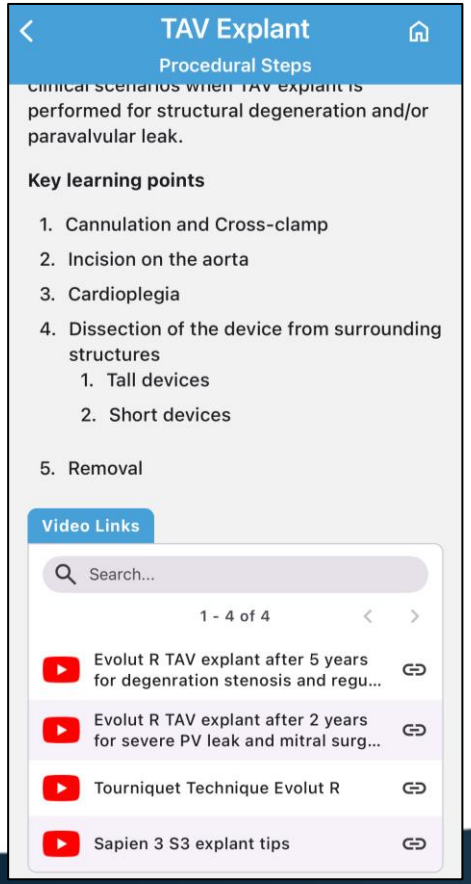
CRF TCT

TAV Explant

Educational contents

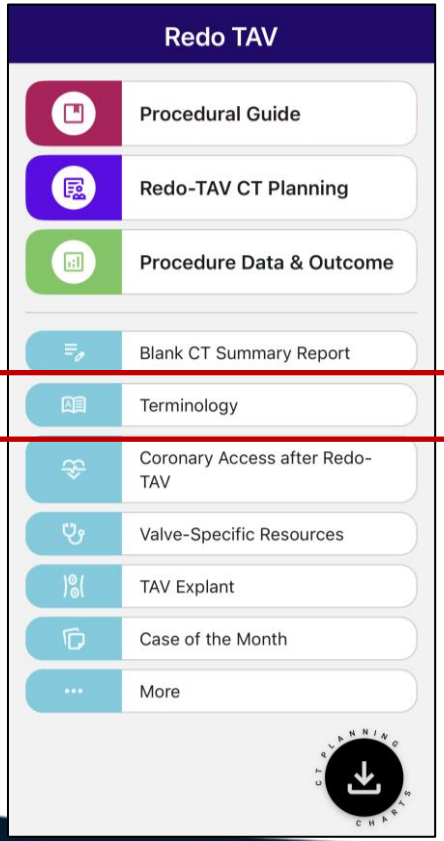


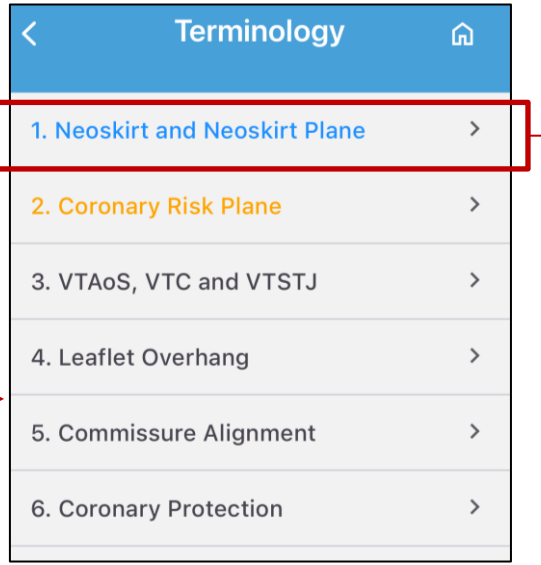


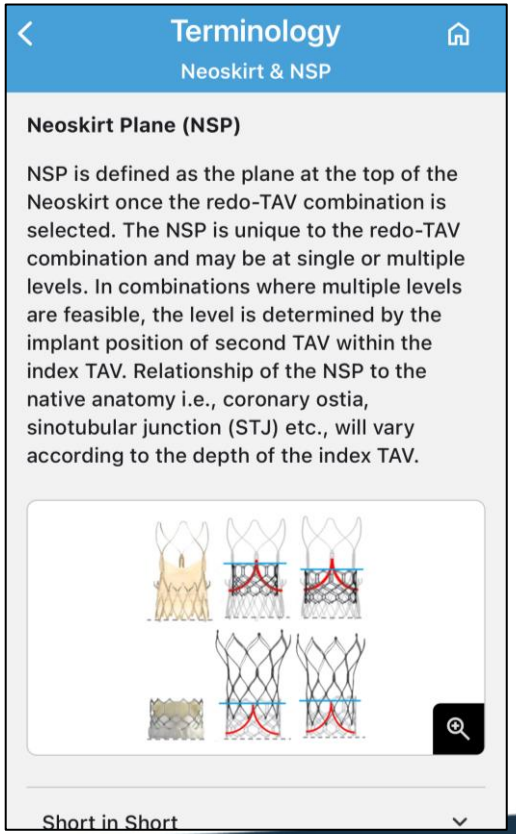


General Resource

Terminology

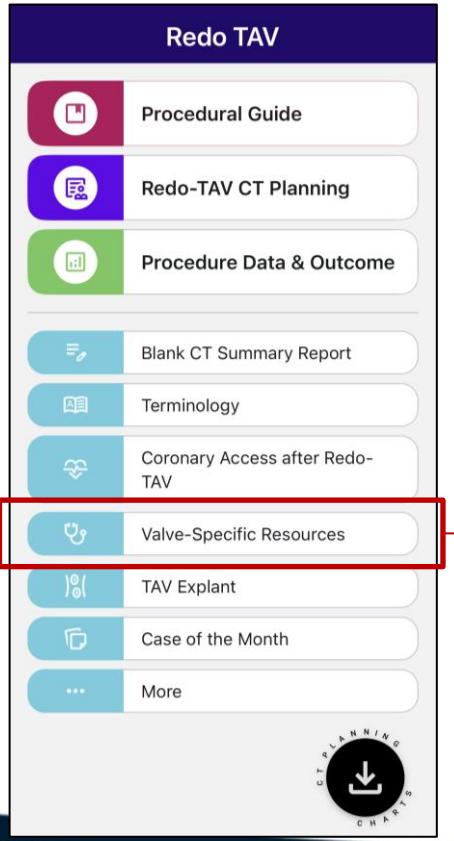


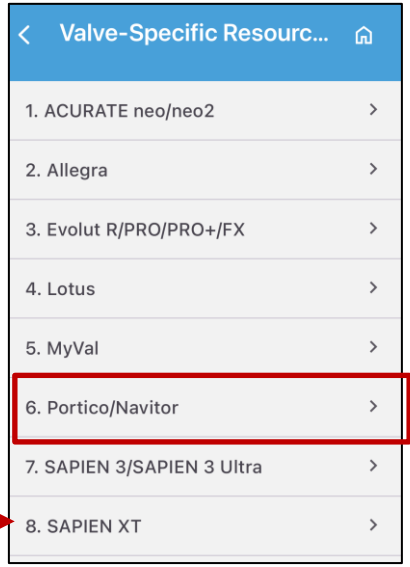


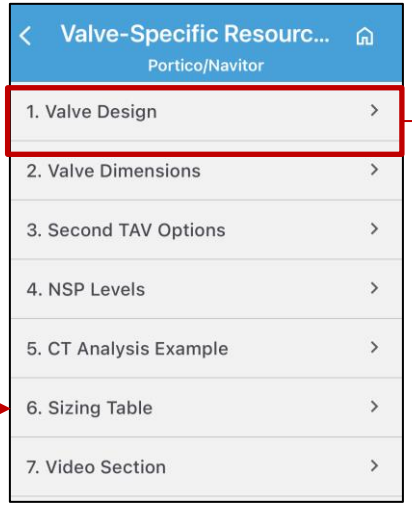


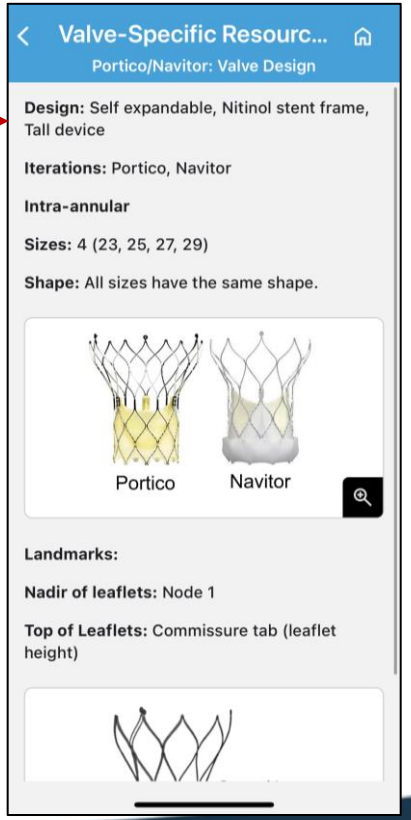
General Resource

Valve Specific Resources









This App Reflects Everyone's Contribution

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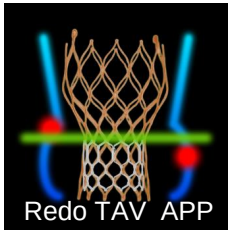
Take-home Message

- This App has been created through global collaboration
- It’s not the final: it’s a starting point for continued learning
- Our goal: to make Redo-TAV simpler, standardized, and optimal
- Need to continue to refine it - just as we did for TAVR in native AS



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