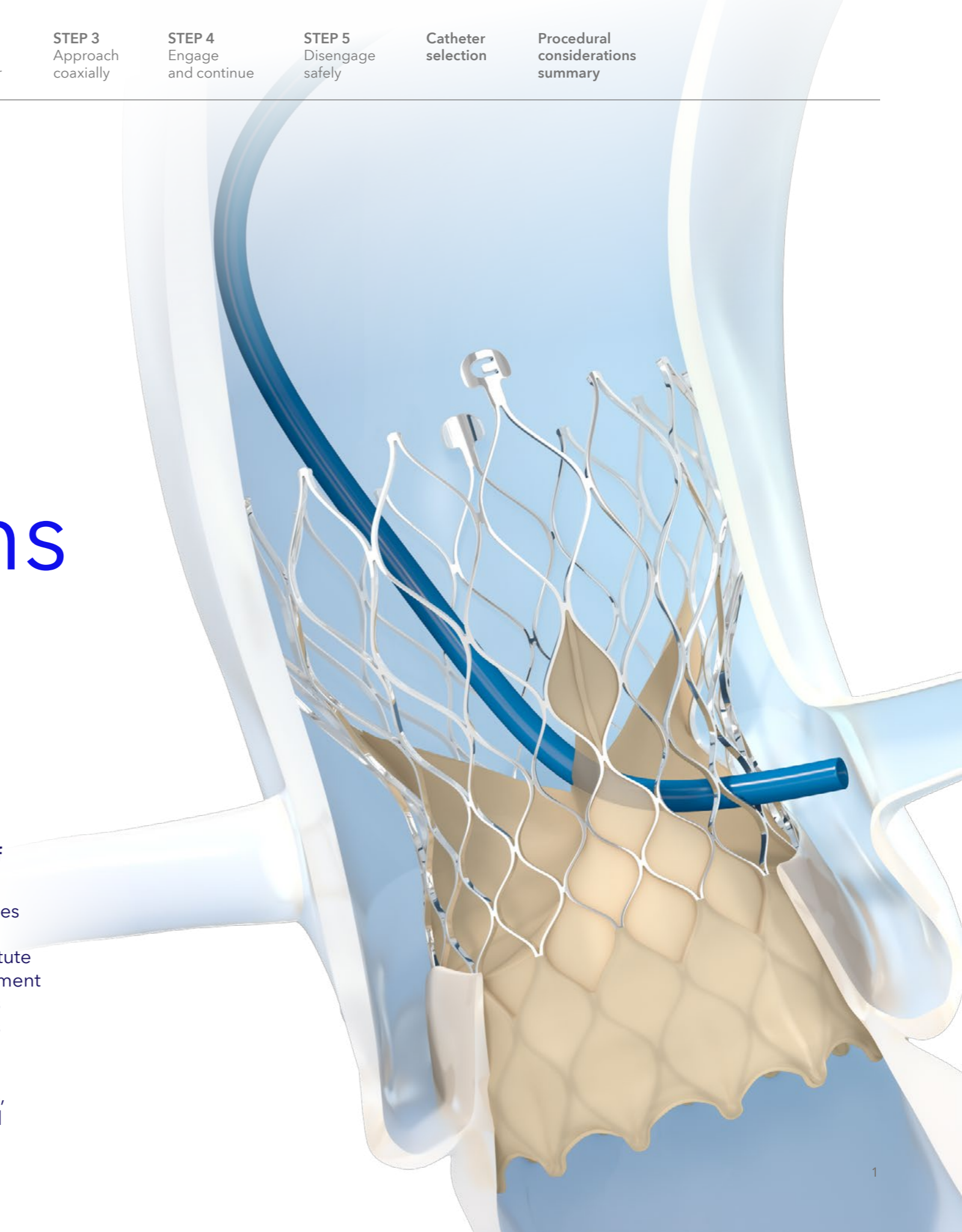


Post-TAVI coronary access

Updated procedural considerations

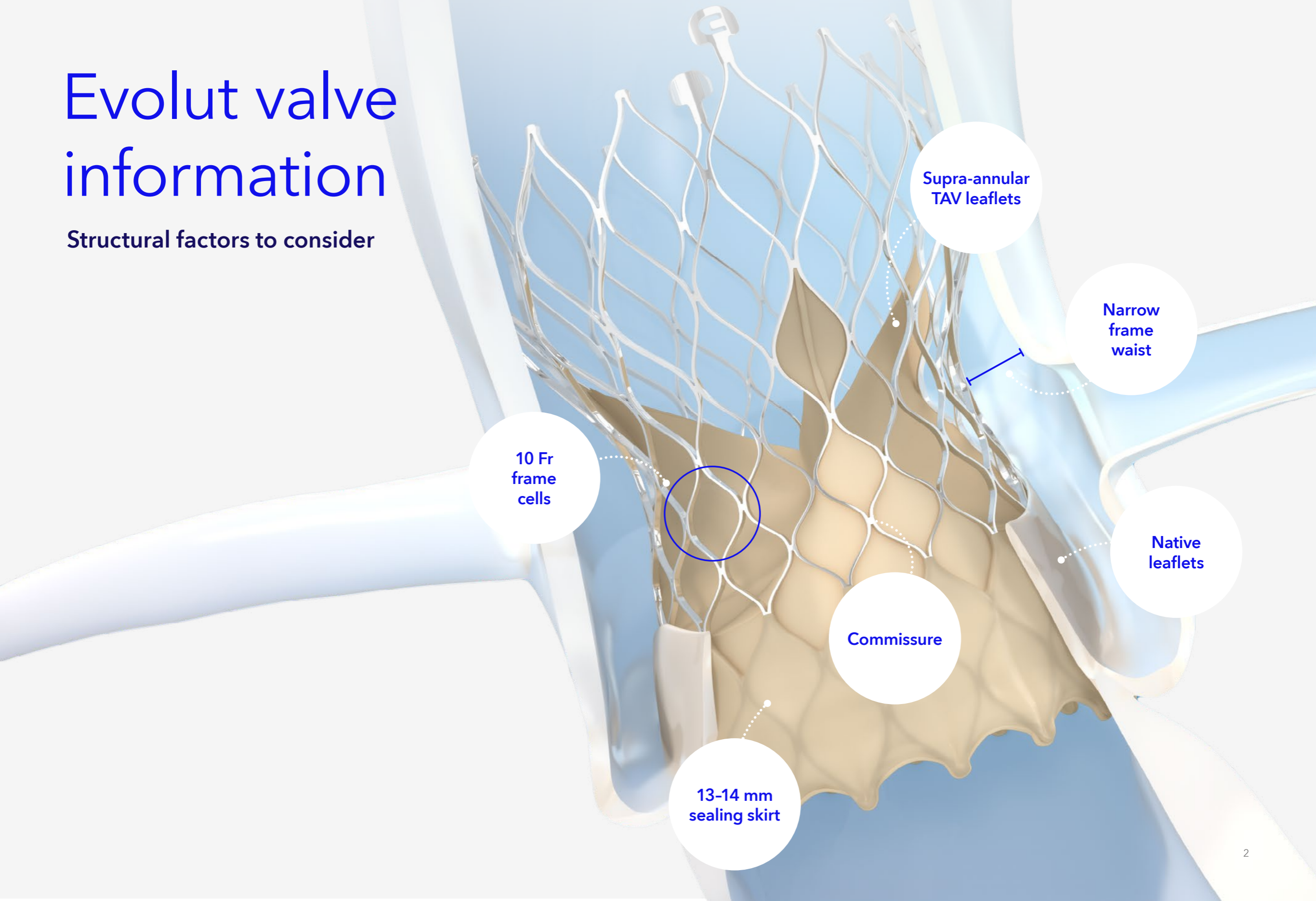
The following considerations for post-TAVI coronary access were created through a detailed review of available data, including publications and proctor input. These methods (including the use of accessory devices) have not been verified through bench testing.

The information in this document is intended for educational purposes based on an identified need, is not meant as a substitute for the instructions for use or product training, and is not intended to constitute medical advice or in any way replace the independent medical judgment of a trained and licensed physician with respect to any patient needs or circumstances. The physician is solely responsible for all decisions and medical judgments relating to the treatment of their patients. Please see the complete Instructions for Use for products discussed or demonstrated, including all product indications, contraindications, precautions, warnings, and adverse events. Practice, ease of use, and outcomes may vary based on clinical practice and judgment.



Evolut valve information

Structural factors to consider



Evolut valve information

Preprocedure: commissural position considerations

Confirm "C"-tab position

- Before beginning the procedure, image valve frame in 20-25° LAO projection.
- Note the position of the "C" tab of the valve frame.
- Typical position is on the anterior portion of the lesser curve.

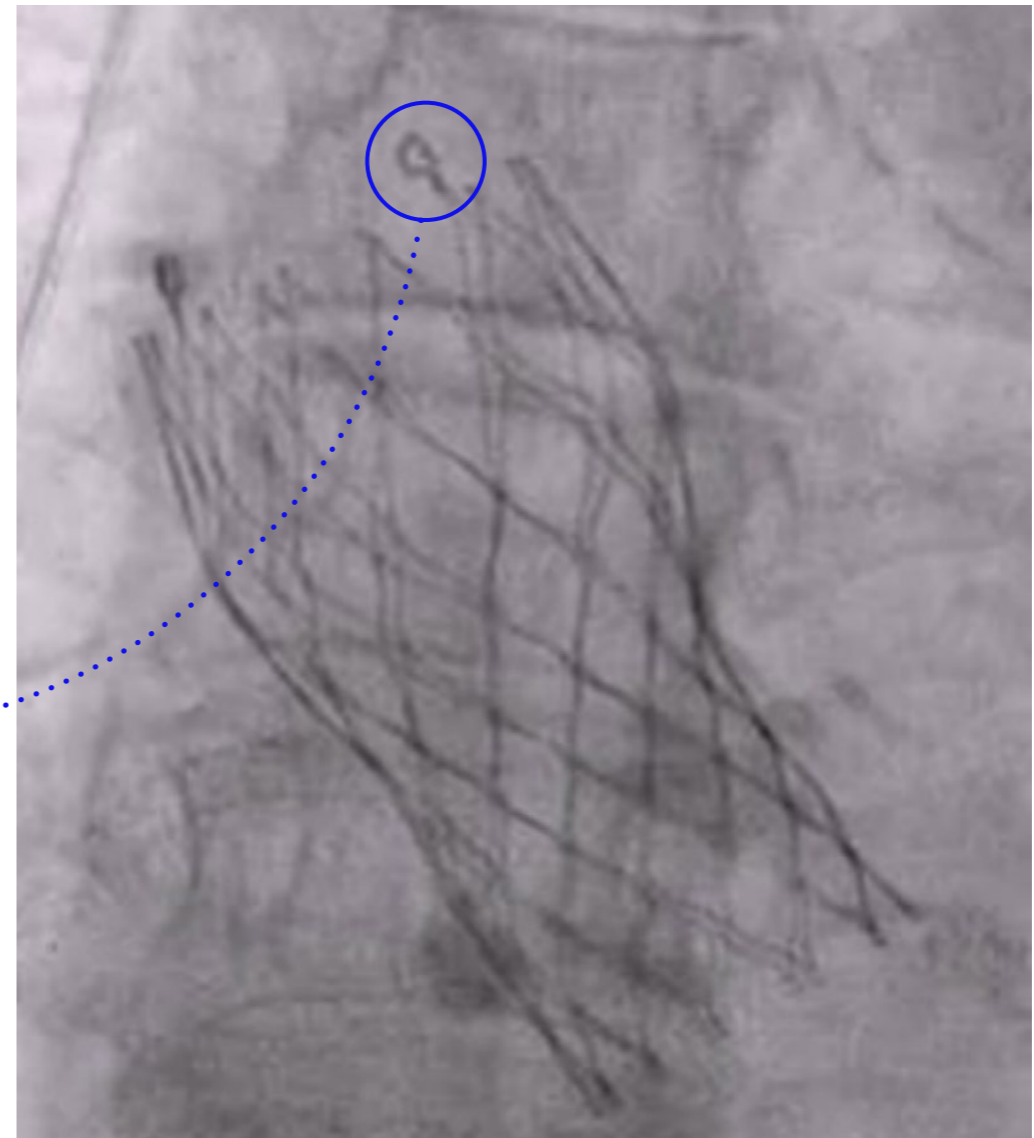


Image courtesy of Gilbert Tang, M.D.

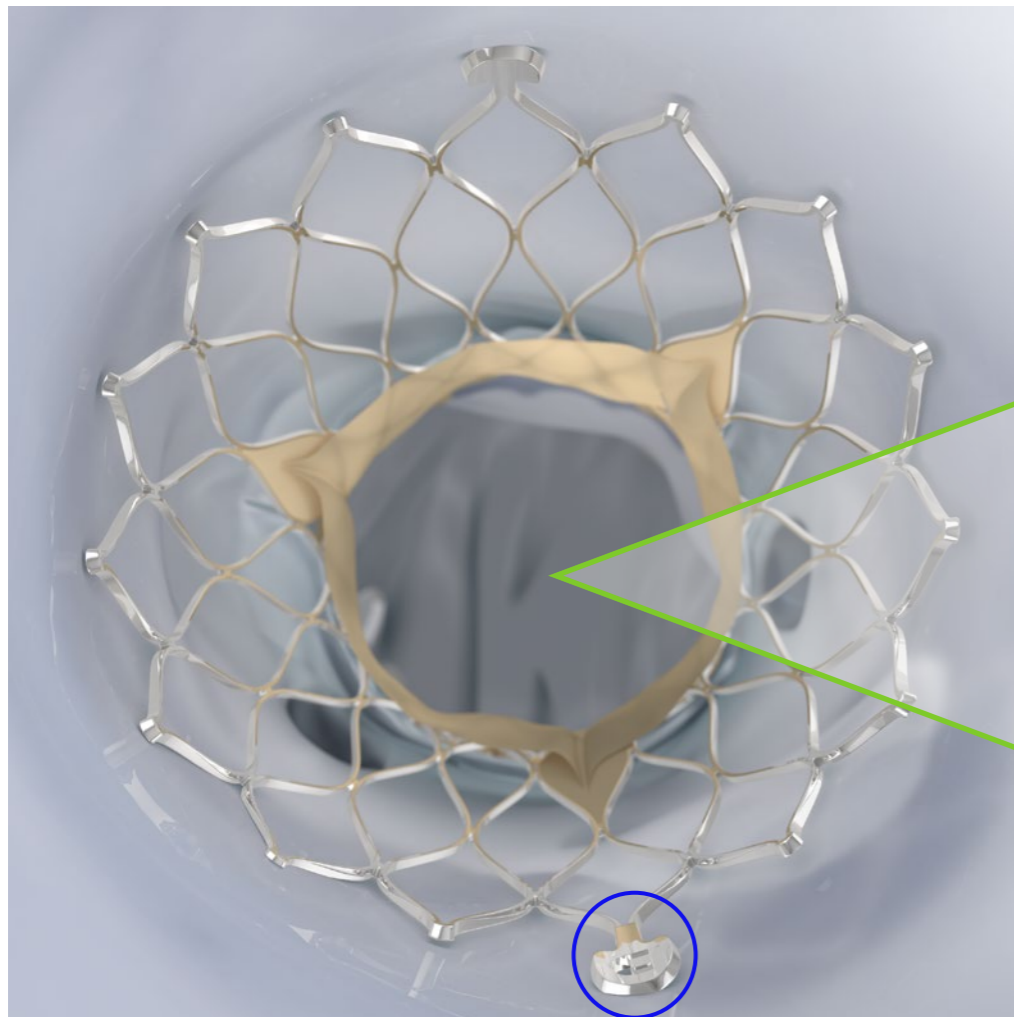
Considerations

- Compared to image at right, if the valve frame cells are not aligned at 20-25° LAO, consider adding a small amount of cranial or caudal angulation.
- If the "C"-tab is not located near the lesser curve, there is a higher likelihood that a tall commissure may be near a coronary ostium (see following page).

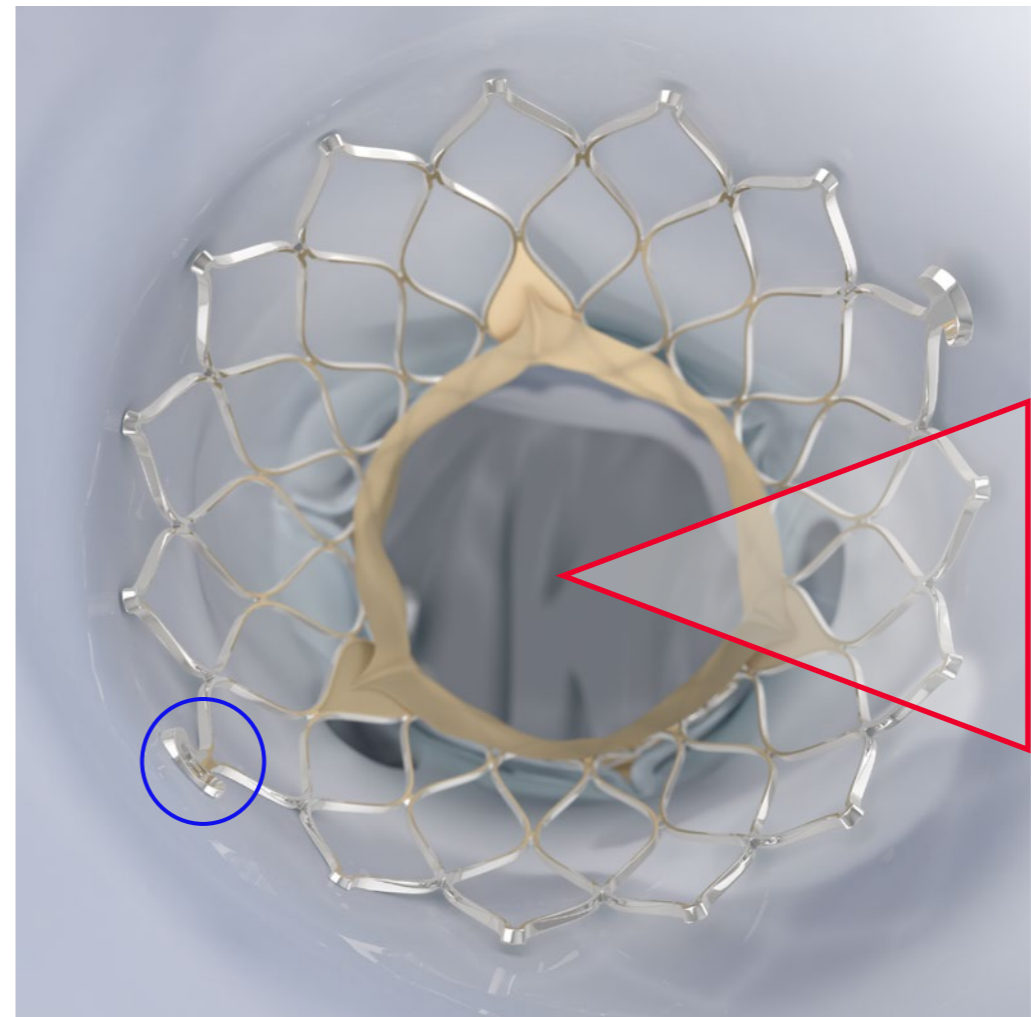
Evolut valve information

Preprocedure: commissural position considerations

C-tab located near lesser curve



C-tab NOT located near lesser curve



STEP 1

Perform aortogram

- Consider femoral access as it may provide easier access to the Evolut frame.
- Choose a C-arm angle with an orthogonal view of the coronary ostium of interest.
- Insert pigtail catheter to within the upper 1/3 of the Evolut frame.
- Perform an aortogram to delineate anatomy and frame cell adjacent to coronary.



Considerations

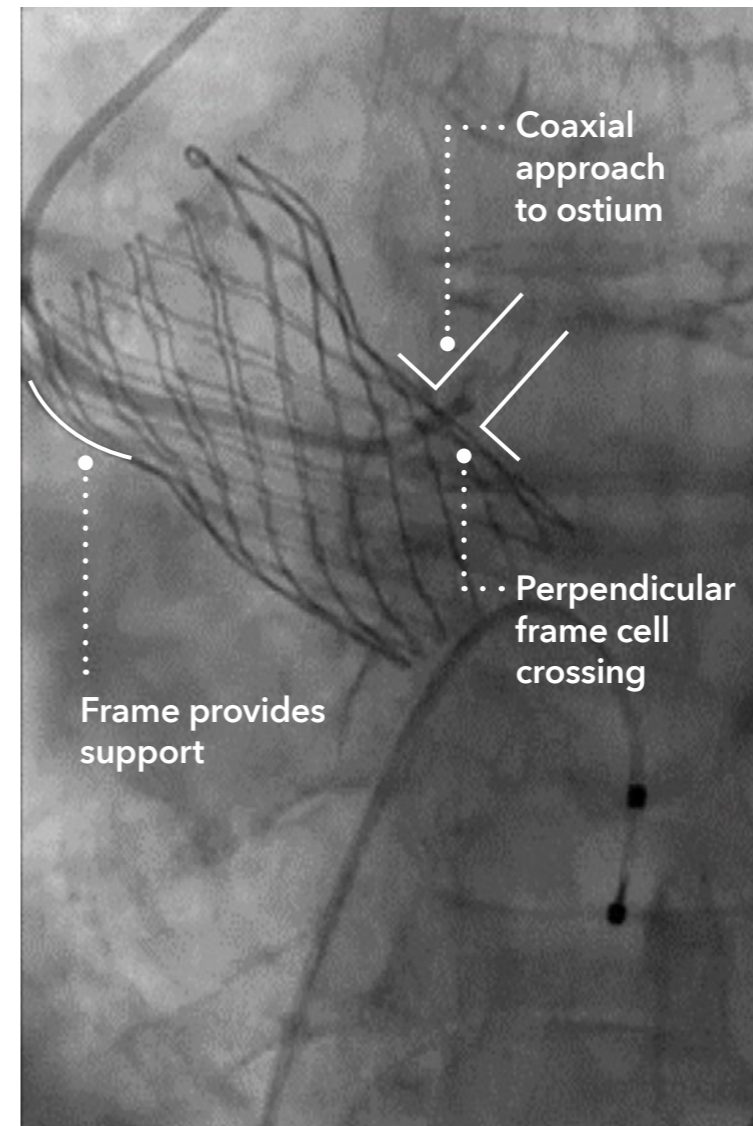
Note the following:

- Coronary height and angle of takeoff
- Sinus shape and width (e.g., effaced versus capacious, highly angulated aorta)
- Potential obstructions between frame and ostium
- Evolut frame cell adjacent to coronary ostium of interest
- Depth of Evolut implant – consider position of 13-14 mm sealing skirt at inflow

STEP 2

Select catheter

- **Choose a catheter shape that allows:**
 - Perpendicular crossing of the frame
 - and**
 - Coaxial approach to ostium.
- **Downsize catheter choice by 0.5 cm.**



Considerations

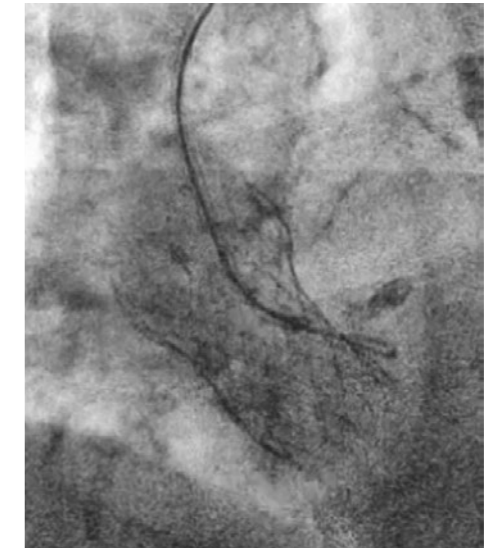
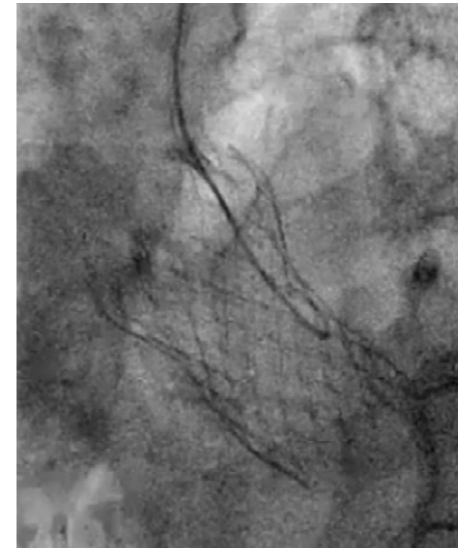
- The frame should provide significant catheter support. Consider a less aggressive shape (e.g., JL, JR, or Ikari). **Use caution with EBU/XB guide catheters to avoid entanglement with the Evolut frame.**¹
- For large/highly angulated aortic roots, consider longer tip lengths (e.g., AR [1/2] or MP).
- For smaller, more effaced roots, consider the following:
 - LCA: JR4, LCB, JL3 (guide)
 - RCA: AR1, 3DRC
- If "C"-tab is not near the typical location, commissure misalignment may be present – consider longer tip catheter.

¹ Harhash A, et al. *JACC Cardiovasc Interv.* 2016;9:1412-1413.
Yudi B, et al. *J Am Coll Cardiol.* March 2018;71:1360-1378.

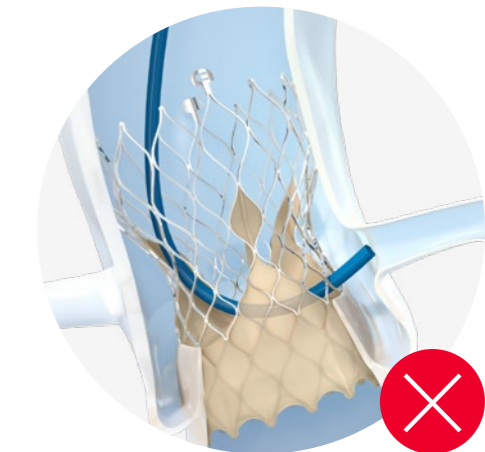
STEP 3

Approach coaxially

- Use exchange-length J-wire to select cusp of interest and exchange for selected catheter.
- Advance catheter to frame waist – target the frame cell adjacent to ostium.
- Use J-wire and periodic contrast injections (if possible) to direct catheter through frame cell perpendicular to frame, engaging ostium coaxially.



Images courtesy of James Harvey, M.D.



Considerations

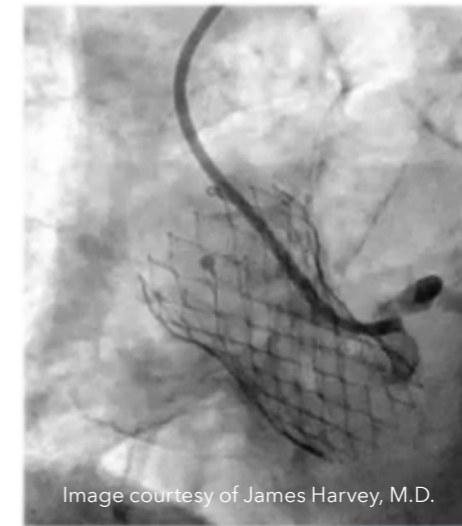
- Do not attempt to engage the ostium from below. Approach coaxially from the adjacent frame cell in order to avoid entanglement with the Evolut frame.¹
- Move one cell laterally or up if a commissure is obstructing a coaxial approach.

¹ Harhash A, et al. *JACC Cardiovasc Interv.* 2016;9:1412-1413.
Yudi B, et al. *J Am Coll Cardiol.* March 2018;71:1360-1378.

STEP 4

Engage and continue

- Once engaged coaxially, perform PCI or coronary angiography as desired.
- Do not struggle to achieve 100% selective engagement.



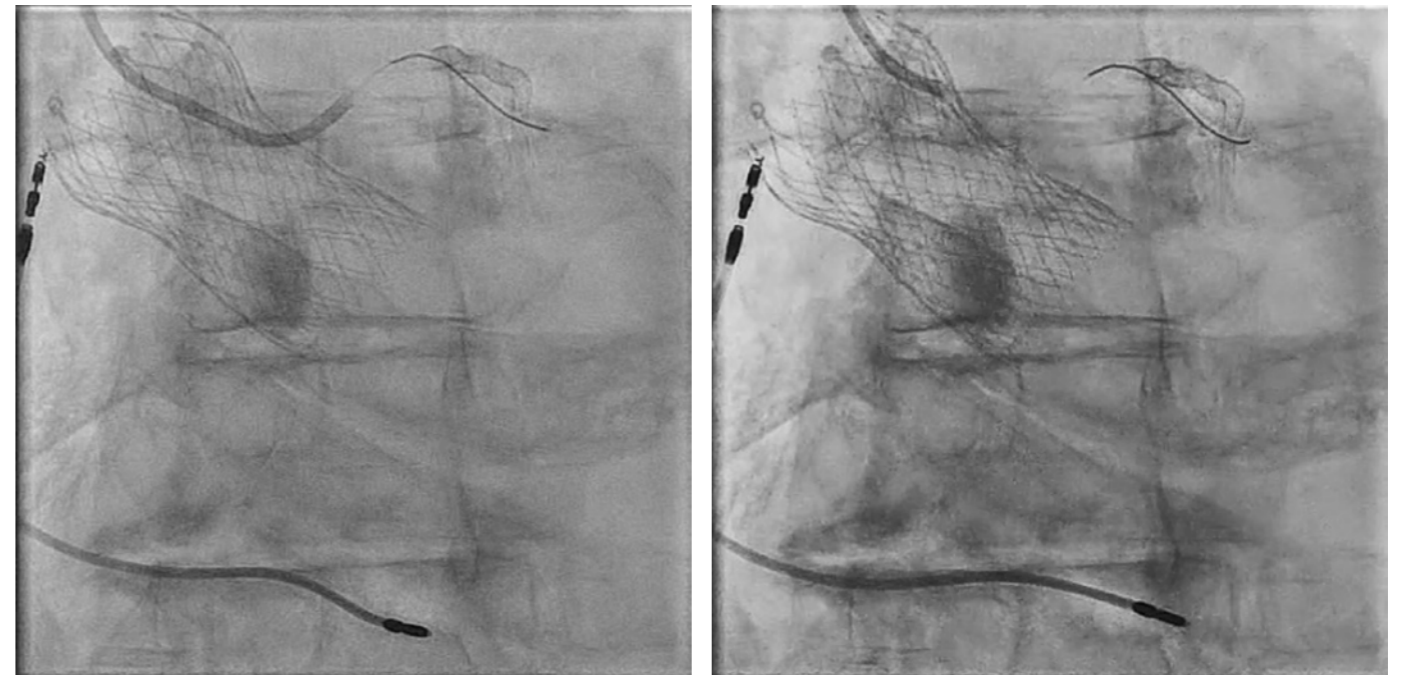
Considerations

- If close to selective engagement, consider:
 - Nonselective angiography,**or**
 - (For PCI) free-wire coronary with workhorse wire of choice, and bridge the gap with guide extension device.
- If unable to approach the ostium at all with current catheter, consider switching catheter as indicated by sinus shape, size, or presence of commissure interference (see catheter selection).

STEP 5

Disengage safely

- After PCI, remove the guide catheter over the guidewire to avoid becoming entangled with the Evolut frame.¹
 - Do not remove the 0.014" guidewire until the catheter is clear of the Evolut frame.
- For diagnostic only, remove the catheter over the J-wire.



Images courtesy of Harold Dauerman, M.D.

Considerations

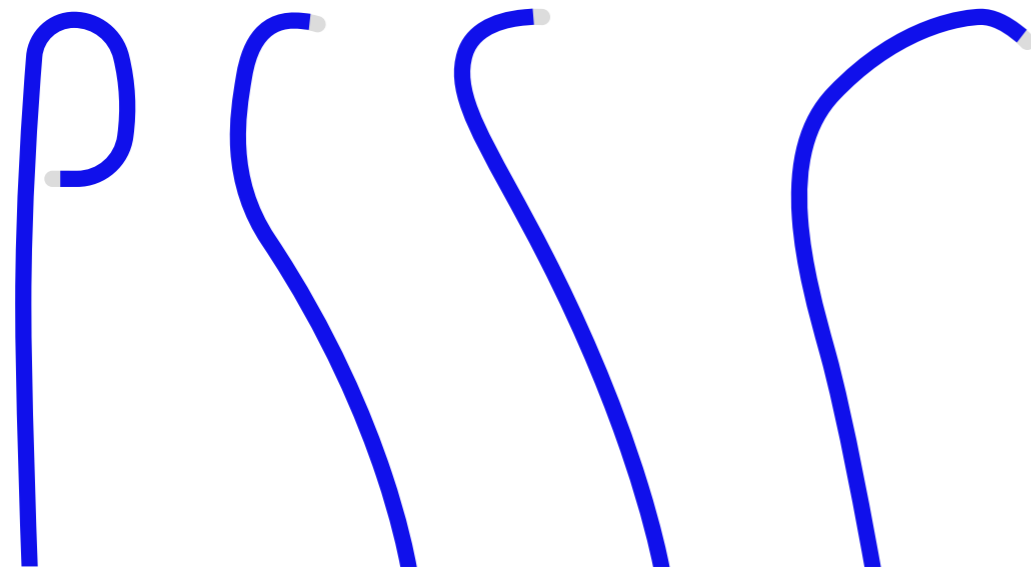
If resistance from the Evolut frame is encountered when removing catheter:

- Utilize the stent or post-dilatation balloon to assist in disengaging the guide.
- Insert the J-wire through the guide catheter alongside the PCI guidewire for extra support. **(Do not insert the J-wire into the coronary artery.)**

¹ Harhash A, et al. *JACC Cardiovasc Interv.* 2016;9:1412-1413.
Yudi B, et al. *J Am Coll Cardiol.* March 2018;71:1360-1378.

Post-TAVI coronary access considerations

Catheter considerations for small, effaced root

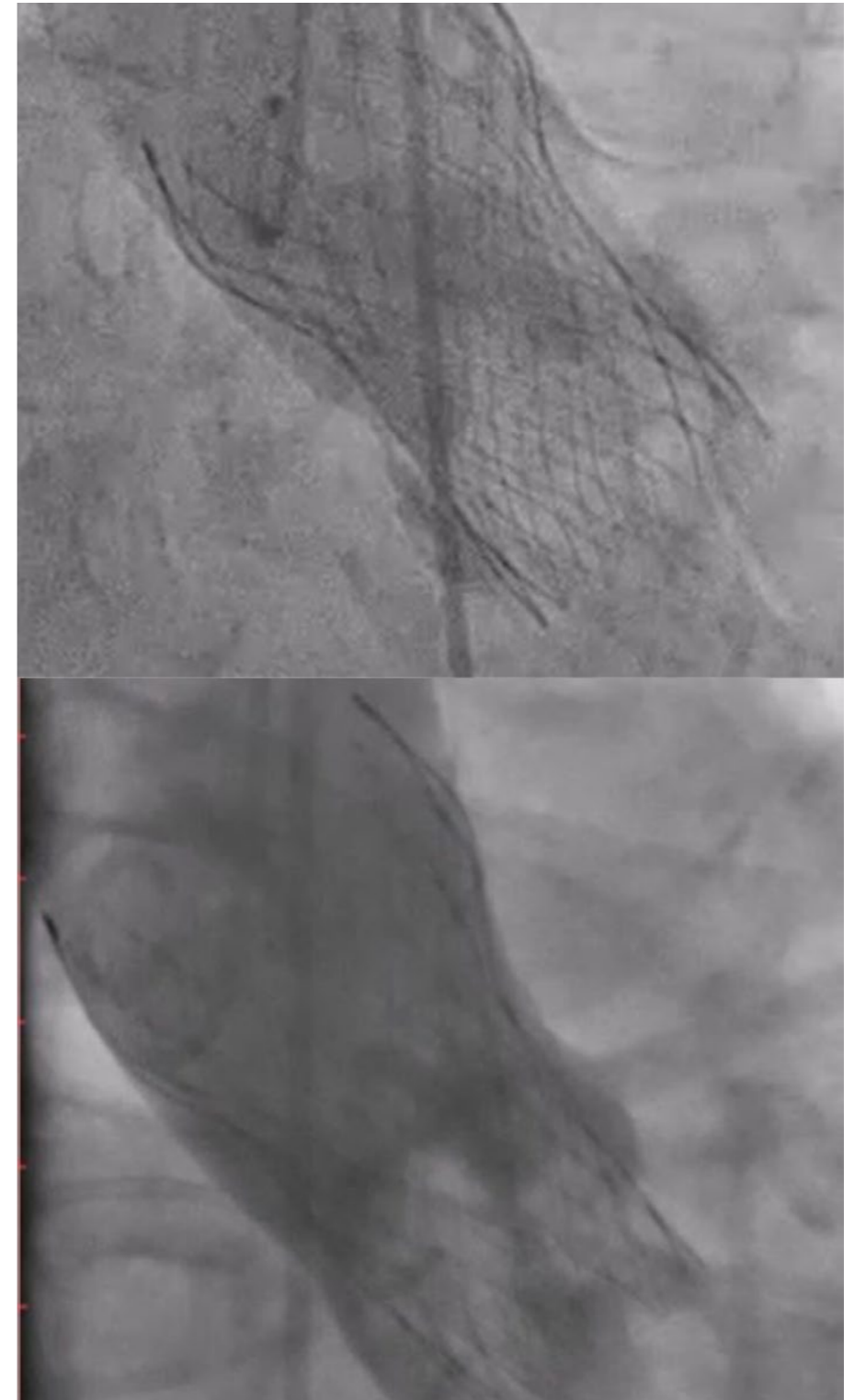


Judkins
left
(LCA)

Judkins
right
(LCA/RCA)

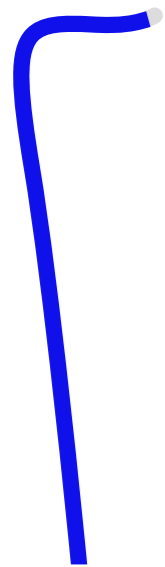
Williams
right/
3DRC
(RCA)

LCB
(LCA)

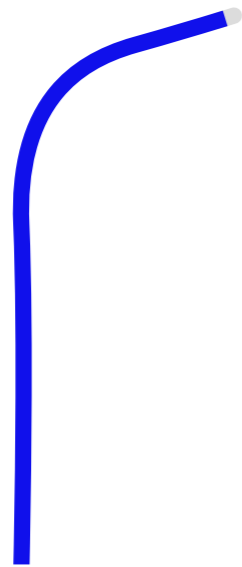


Post-TAVI coronary access considerations

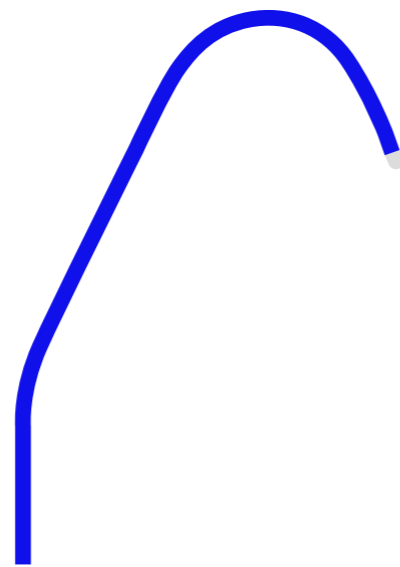
Catheter considerations for capacious root



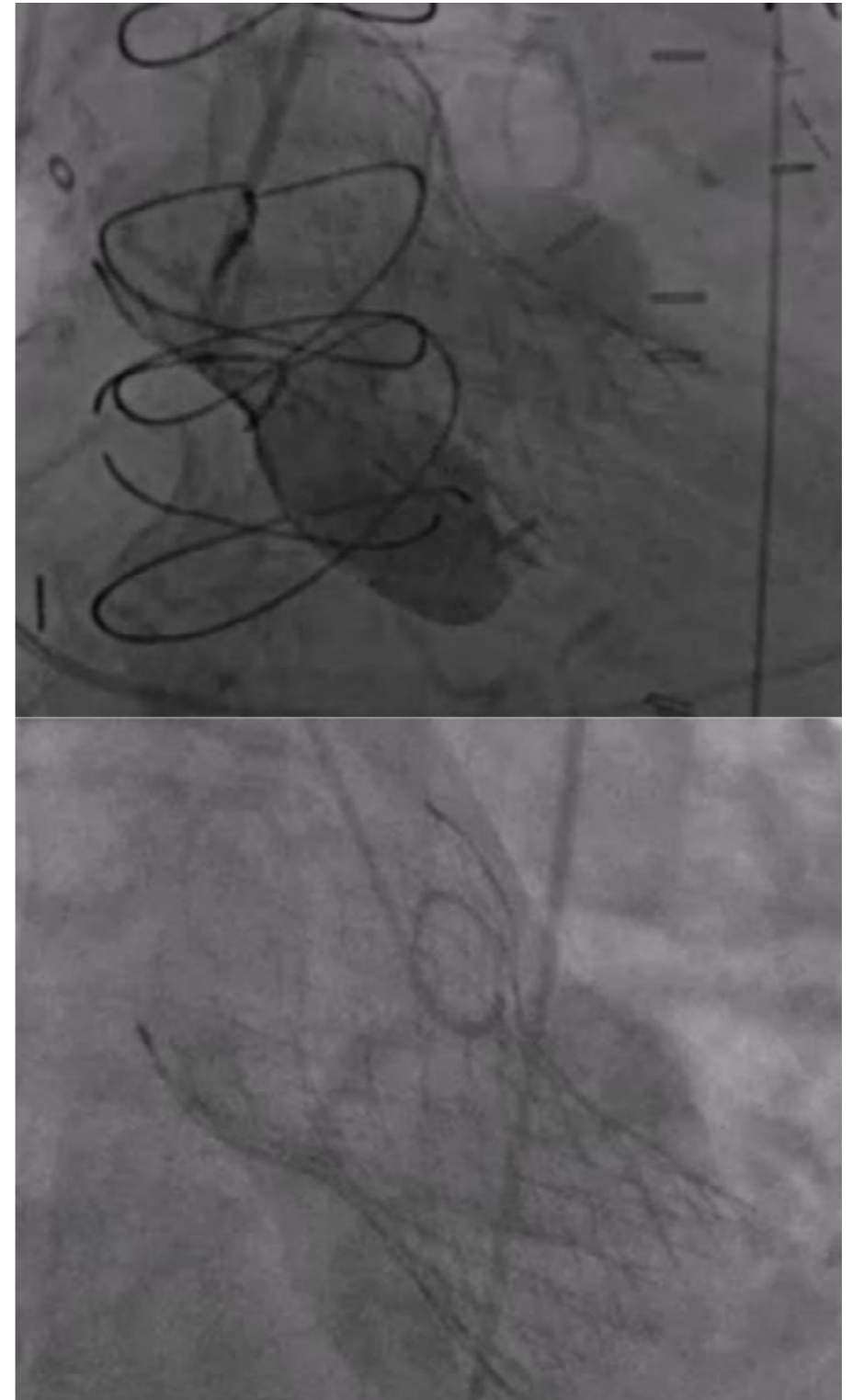
**Amplatz
right**
(LCA/RCA)



Multipurpose
(LCA/RCA)

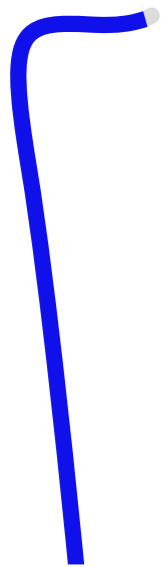


**Ikari
right**
(LCA/RCA)

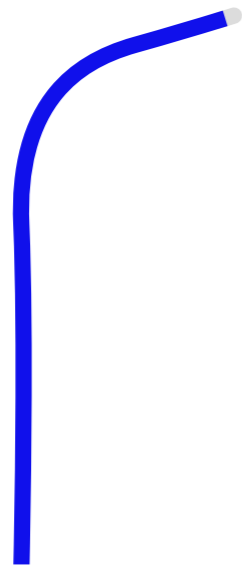


Post-TAVI coronary access considerations

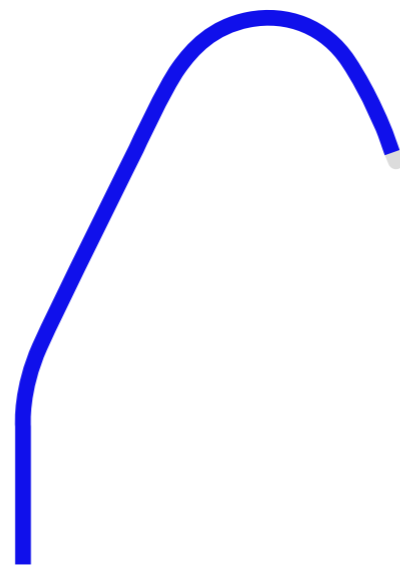
Catheter considerations for angulated root



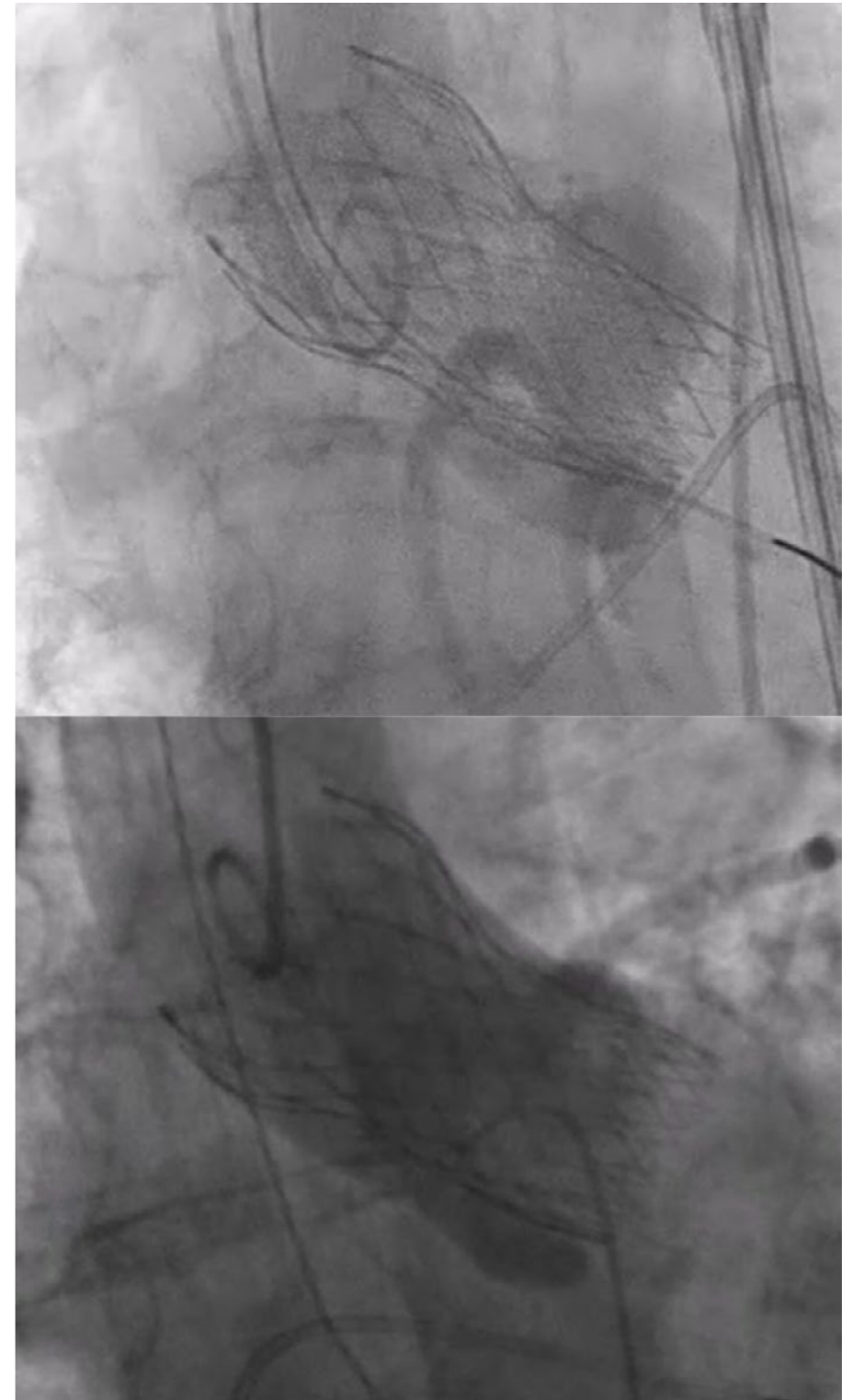
**Amplatz
right**
(LCA/RCA)



Multipurpose
(LCA/RCA)

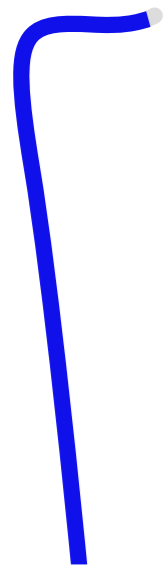


**Ikari
right**
(LCA/RCA)

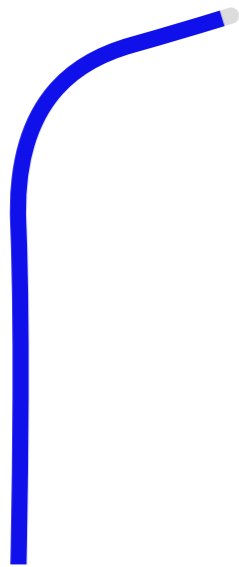


Post-TAVI coronary access considerations

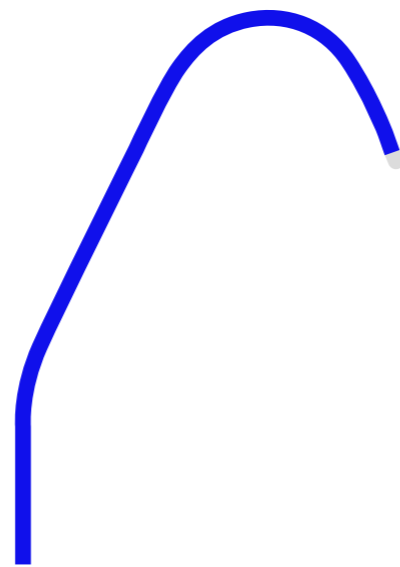
Catheter considerations to maneuver around commissures



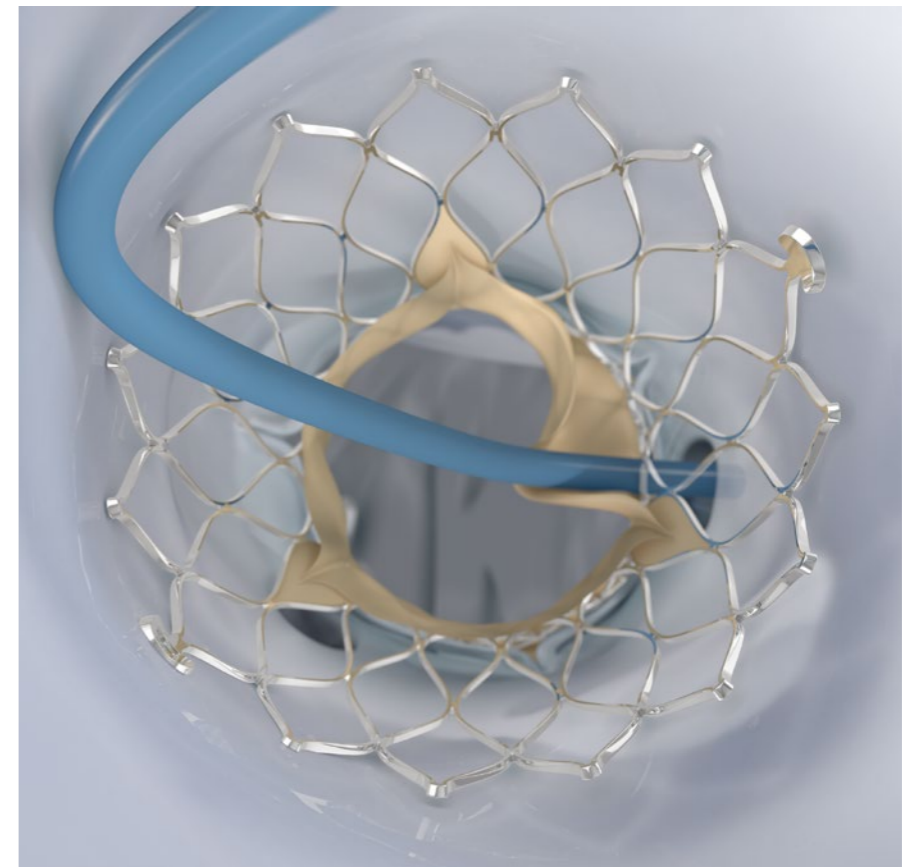
**Amplatz
right**
(LCA/RCA)



Multipurpose
(LCA/RCA)



**Ikari
right**
(LCA/RCA)



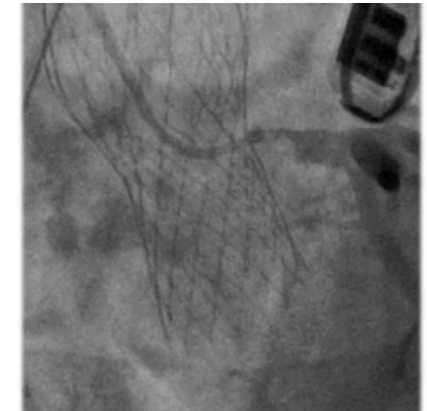
Procedural considerations

Summary

Step 3

Approach coaxially

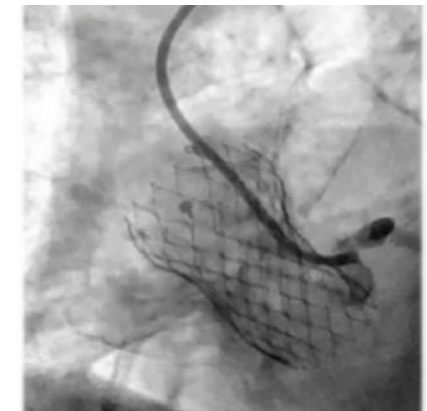
Approach coronary coaxially, remain perpendicular to frame. Do not approach from below. Use J-wire for aid.



Step 4

Engage and continue

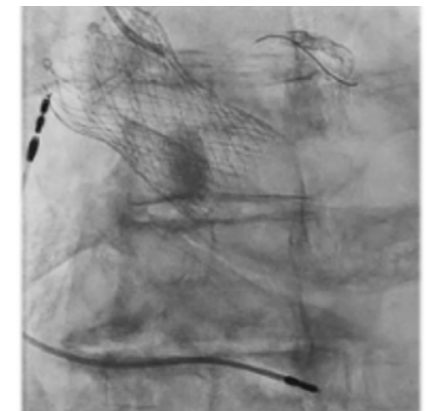
Perform nonselective angio/use guidewire and guide extension devices to reach ostium and perform diagnostic/PCI.



Step 5

Disengage safely

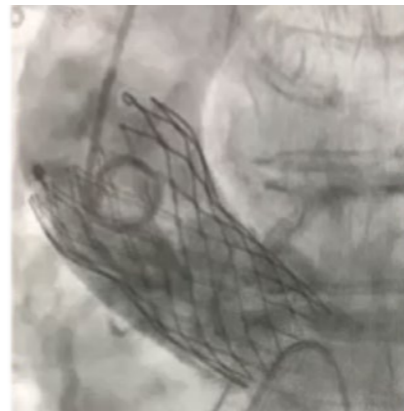
Always disengage catheter/guide over a guidewire.



Step 1

Perform aortogram

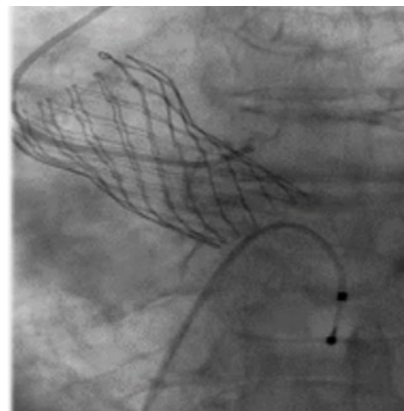
Insert pigtail within Evolut frame, choose an orthogonal view of desired coronary, and perform an aortogram.



Step 2

Select catheter

Exchange to catheter shape based on root size/shape and location of commissure; downsize by 0.5 cm.



**Evolut™
Valve
information**

STEP 1
Perform
aortogram

STEP 2
Select
catheter

STEP 3
Approach
coaxially

STEP 4
Engage
and continue

STEP 5
Disengage
safely

**Catheter
selection**

**Procedural
considerations
summary**

General Indication statements:

For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use. Consult instructions for use on this website <http://manuals.medtronic.com/manuals/main/region>. Manuals can be viewed using a current version of any major Internet browser. For best results, use Adobe Acrobat Reader® with the browser.

Medtronic

99 Hereford Street
Brampton, Ontario, L6Y 0R3
Toll-free: 800.268.5346
Tel: 905.460.3800

medtronic.ca

Patient Services

Patient toll-free line: 1-888-660-4616
canada.patientservices@medtronic.com
9:00 am to 8:00 pm EST Mon.-Fri.

©2023 Medtronic. All rights reserved. Medtronic, Medtronic logo and Engineering the extraordinary are trademarks of Medtronic. ™*Third party brands are trademarks of their respective owners. All other brands are trademarks of a Medtronic company.
UC202120114a EC 05/2022
CA-CRD-0200-E Rev. 04/2023