

TCTAP 2022

The Major Difference Between Diamondback
and Rotablator
~Aspect From Bench Test~

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Disclosure

- *The authors have no financial conflicts of interest to disclose concerning the presentation.*



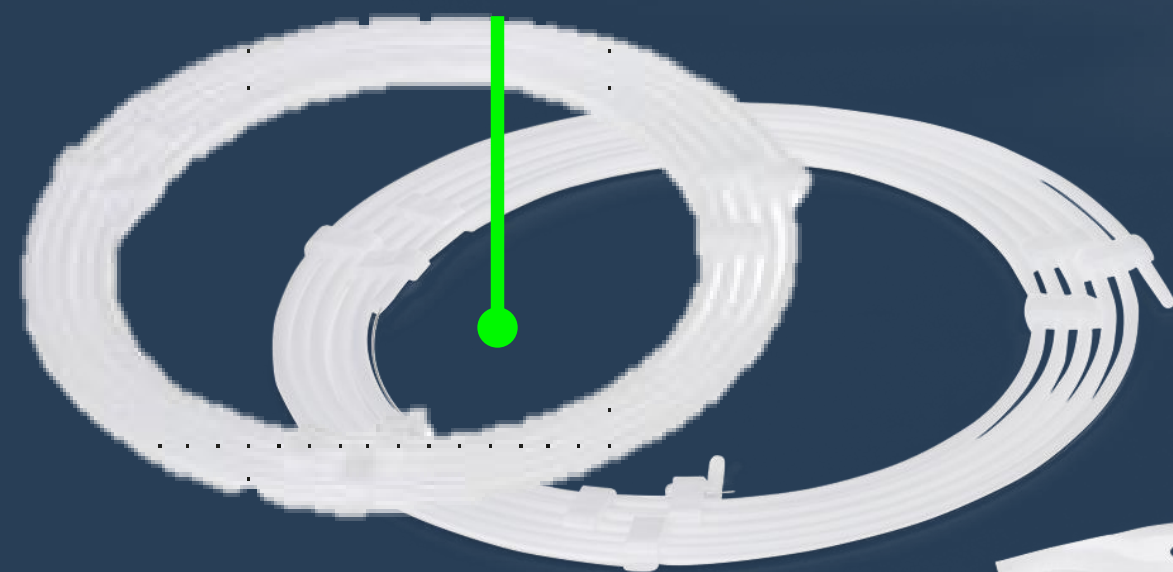
History of OAS



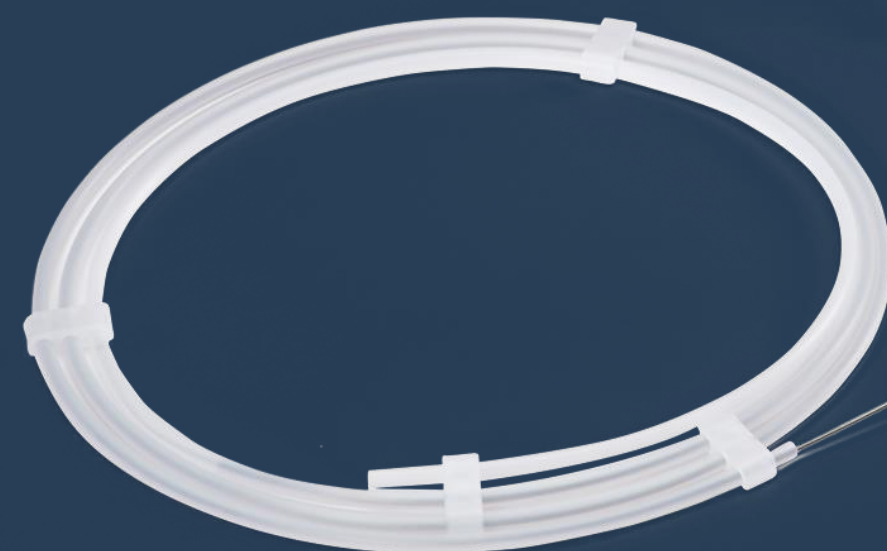
Diamondback 360[®] OAS Classic Crown is the most recent advancement in coronary artery disease treatment for patients with severe calcium in Japan.

OAS SYSTEM Components

ViperWire Advance[®] and Advance[®]
with FlexTip[®] Coronary Guide Wires



ViperSlide[®]
Lubricant



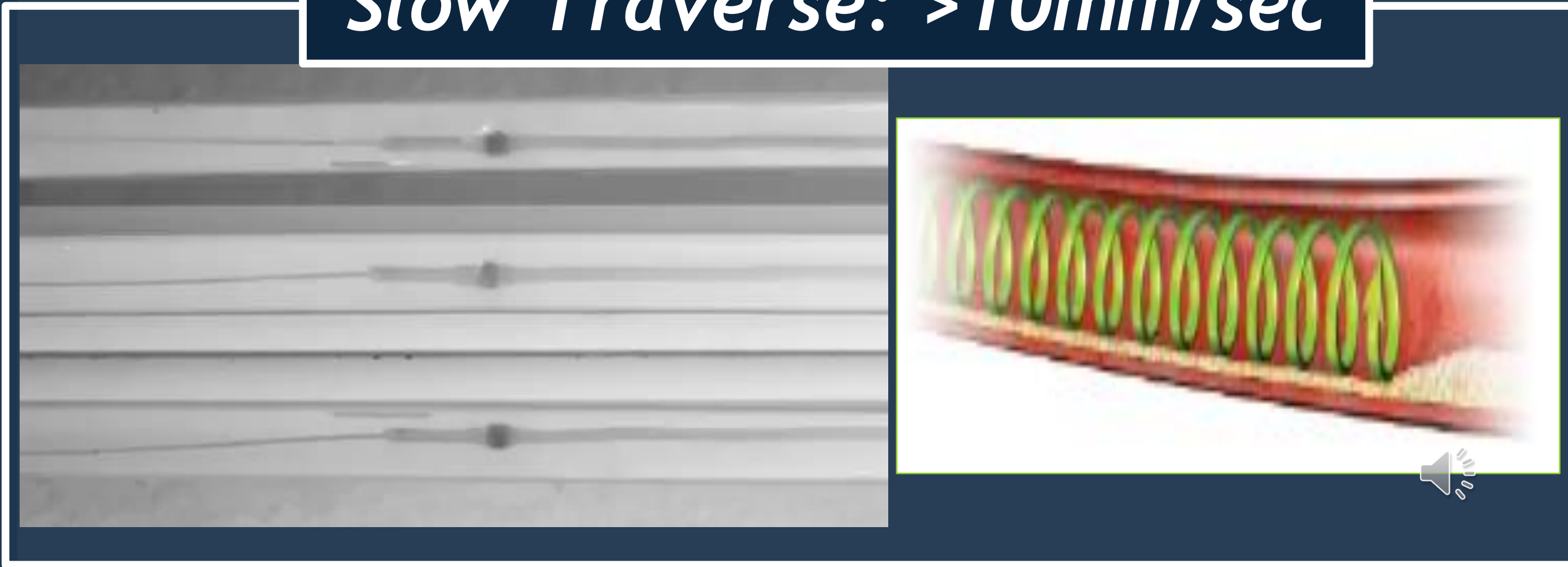
OAS Pump

Orbital Atherectomy
OAD with Saline Line

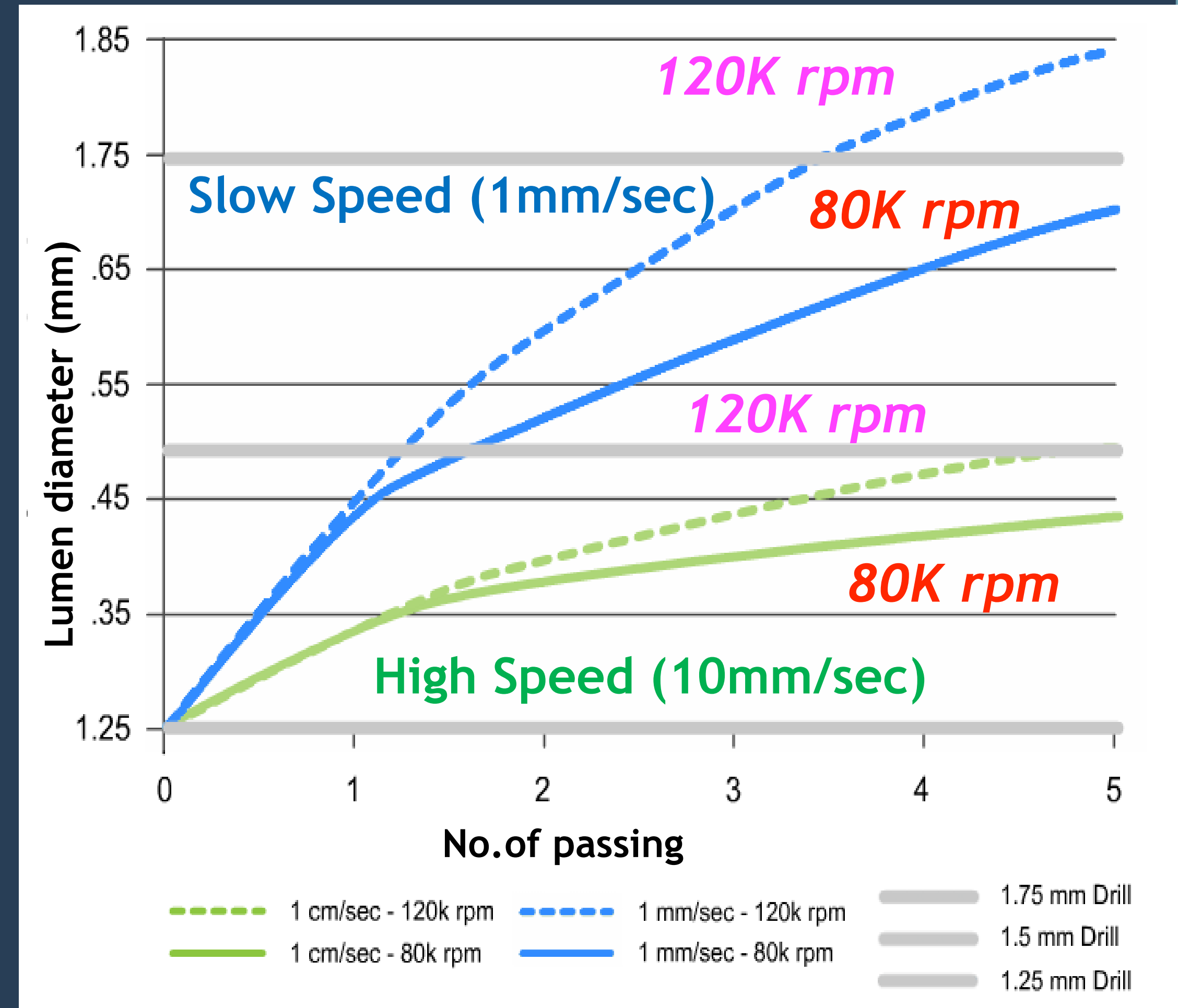
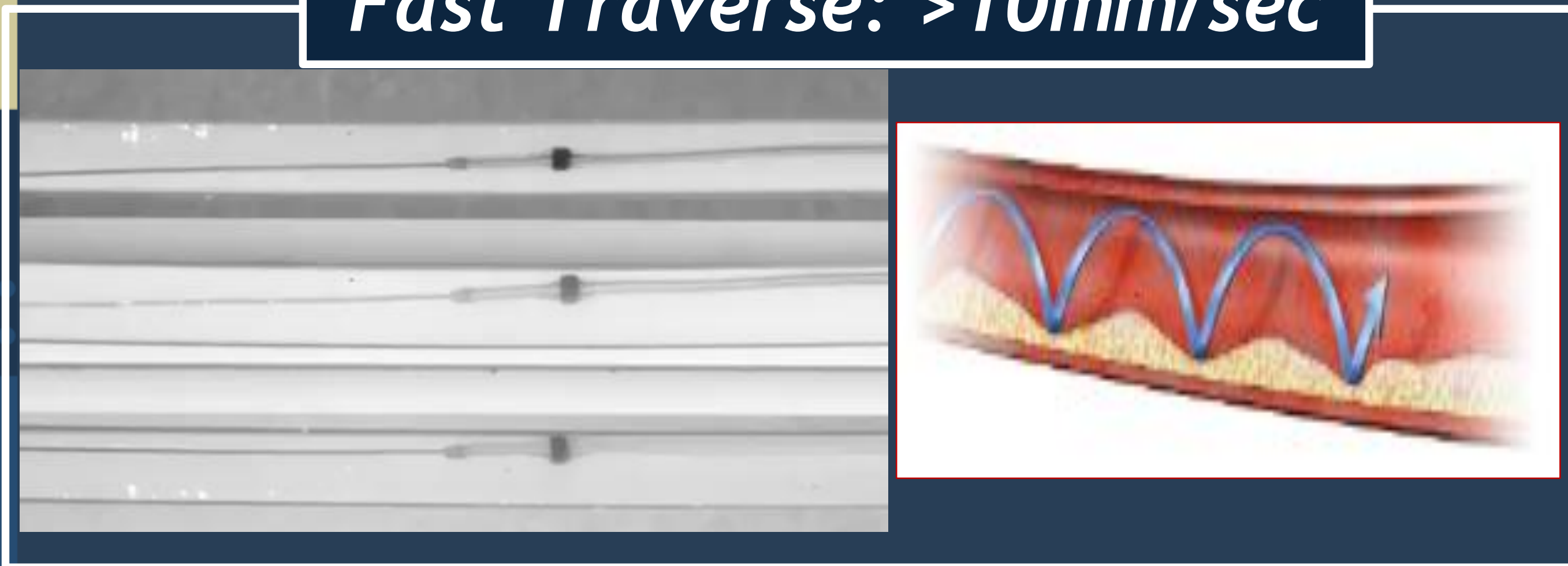


Speed of Traverse & Rotation

Slow Traverse: >10mm/sec



Fast Traverse: >10mm/sec

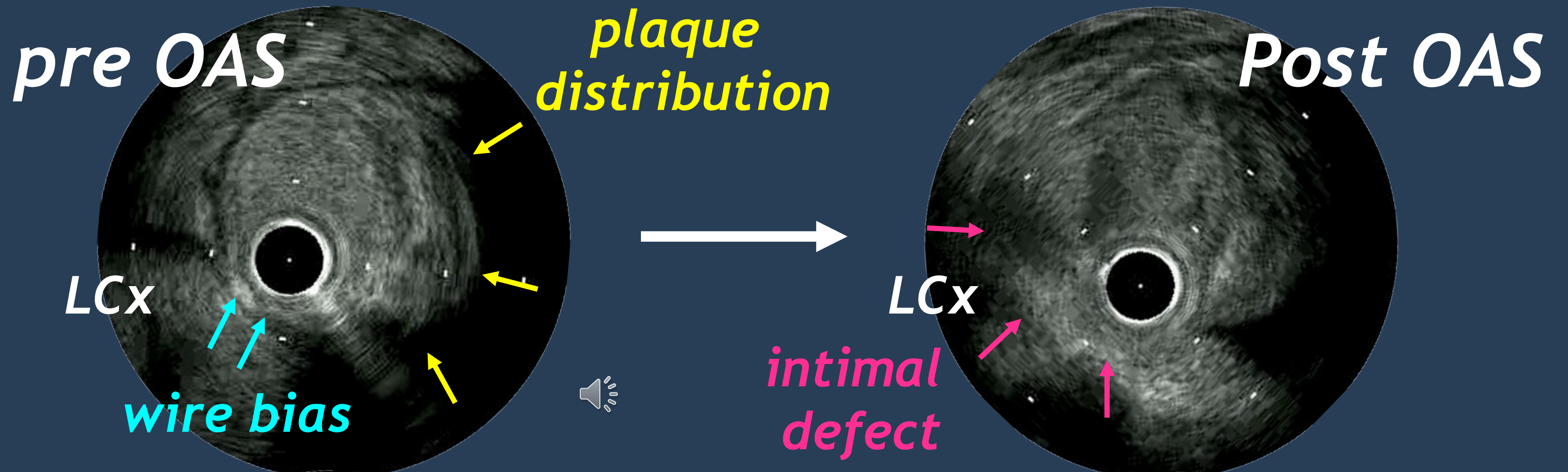


some physician say

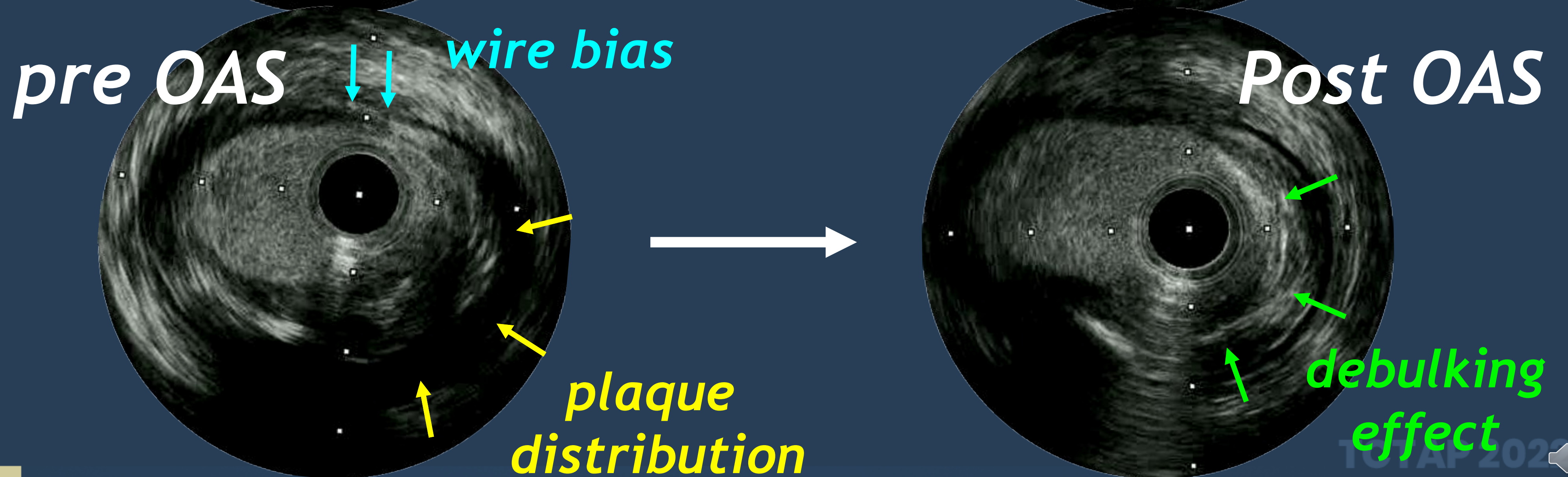
*“ OAS is very dangerous 🗣️
because debulking site is unpredictable !! “*

Which OAS caused complication ??

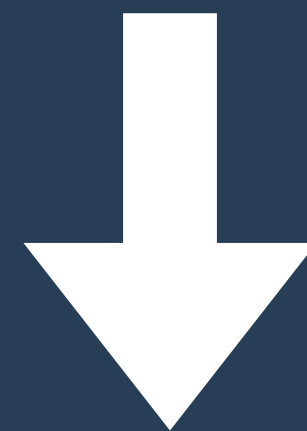
Case:1



Case:2



In some case,
debuking effect of OAS correspond to wire bias,
however,
in the other cases,
debulking effect is difficult to be guessed.



We examined OAS bench test

Bench test

<bending model>



Bench test



<bending model>



<pull-OAS>



<push-OAS>



<Rota>

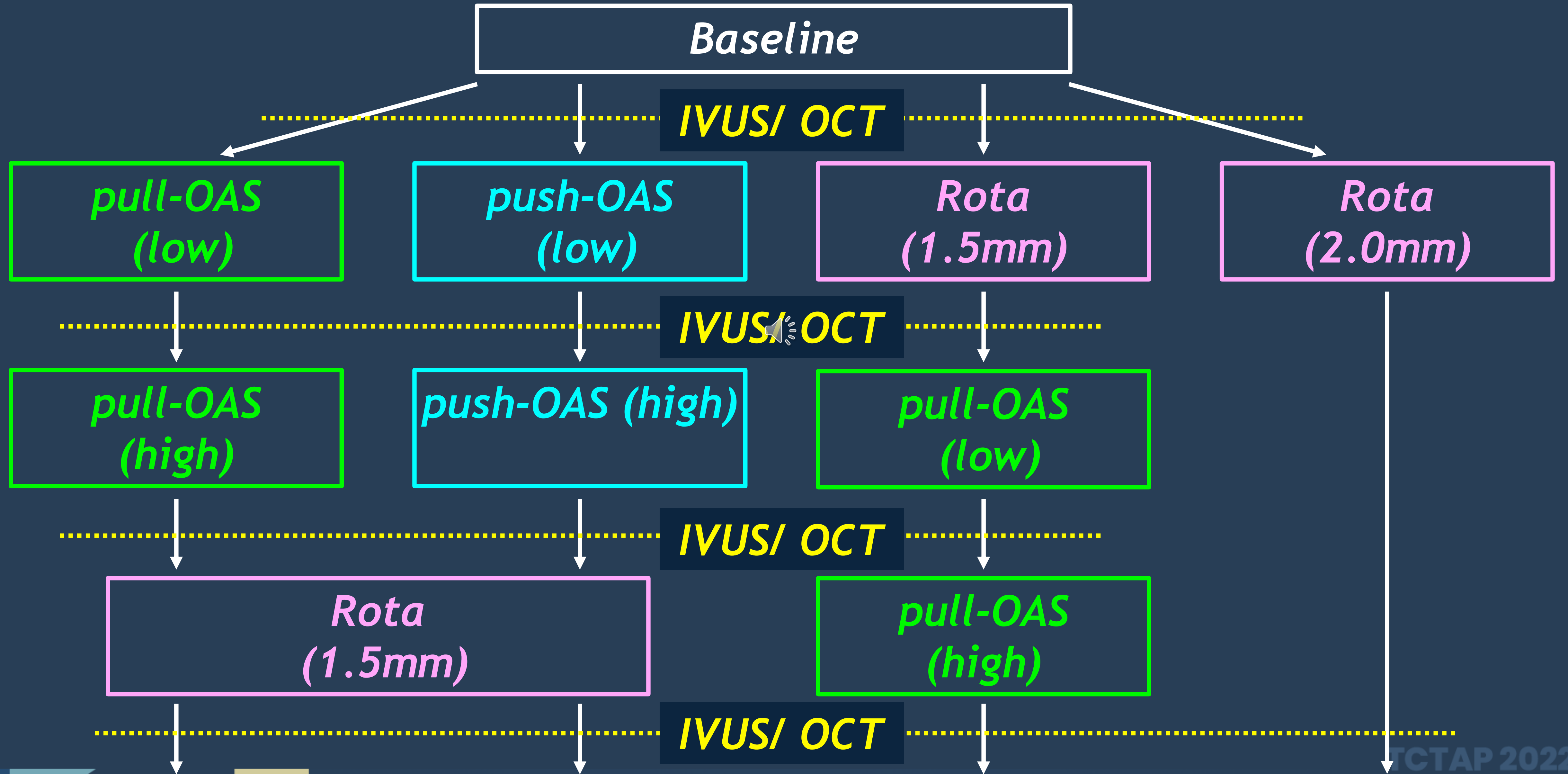
Rotational speed: row/high: 80K/120K rpm

GW: ViperWire with Flex Tip

200K rpm

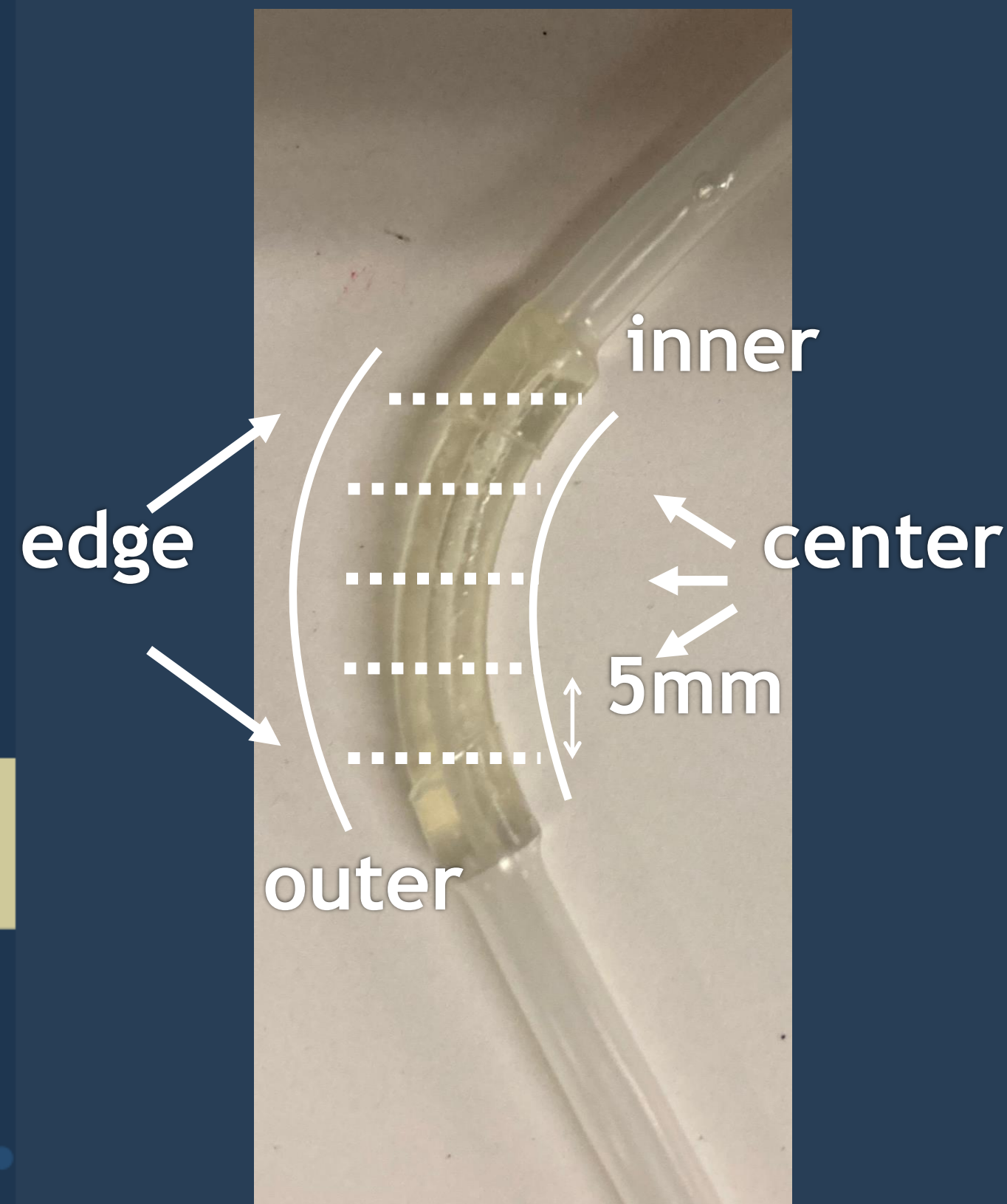
Rotawire floppy

Study Design



IVUS & OCT

<Plaster model>

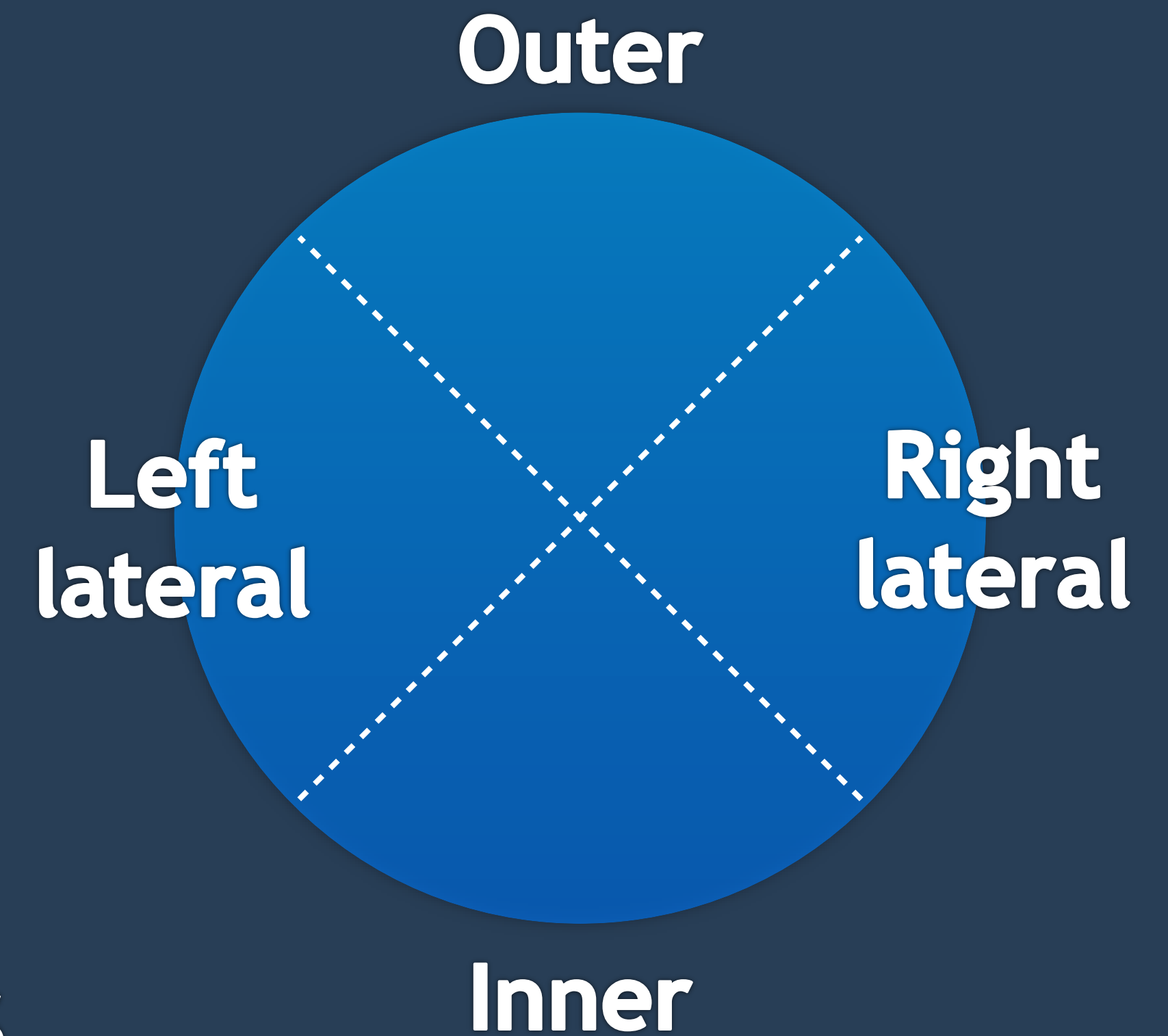


<Imaging device>



OptiCross Dragonfly OPTIS

<IVUS & OCT images>



Assessing: Lumen area, r/R (short axis/long axis), wire bias, the site of debulking effect in 5 cross-sectional images with 5mm distance

Typical images of OAS/Rota

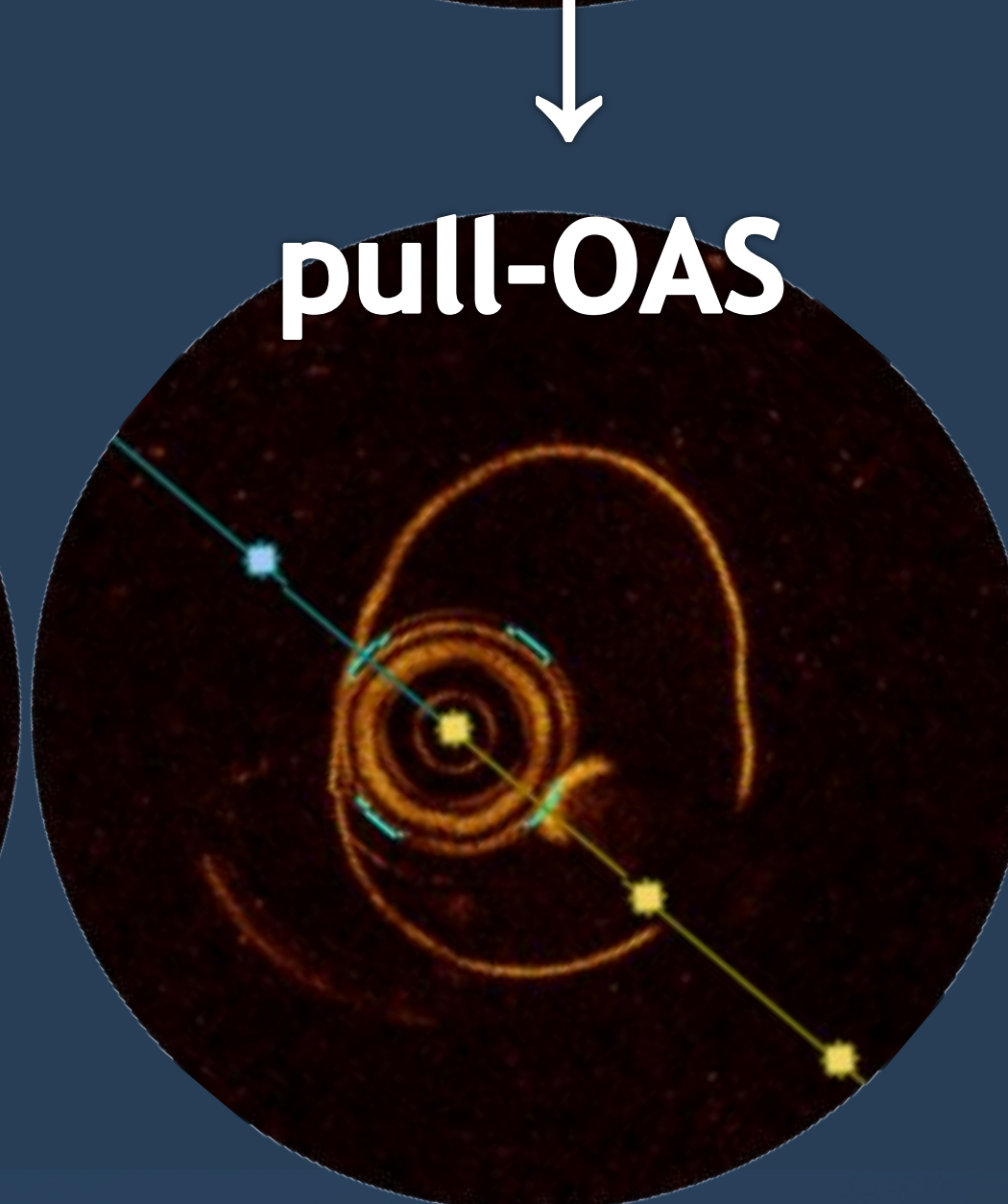
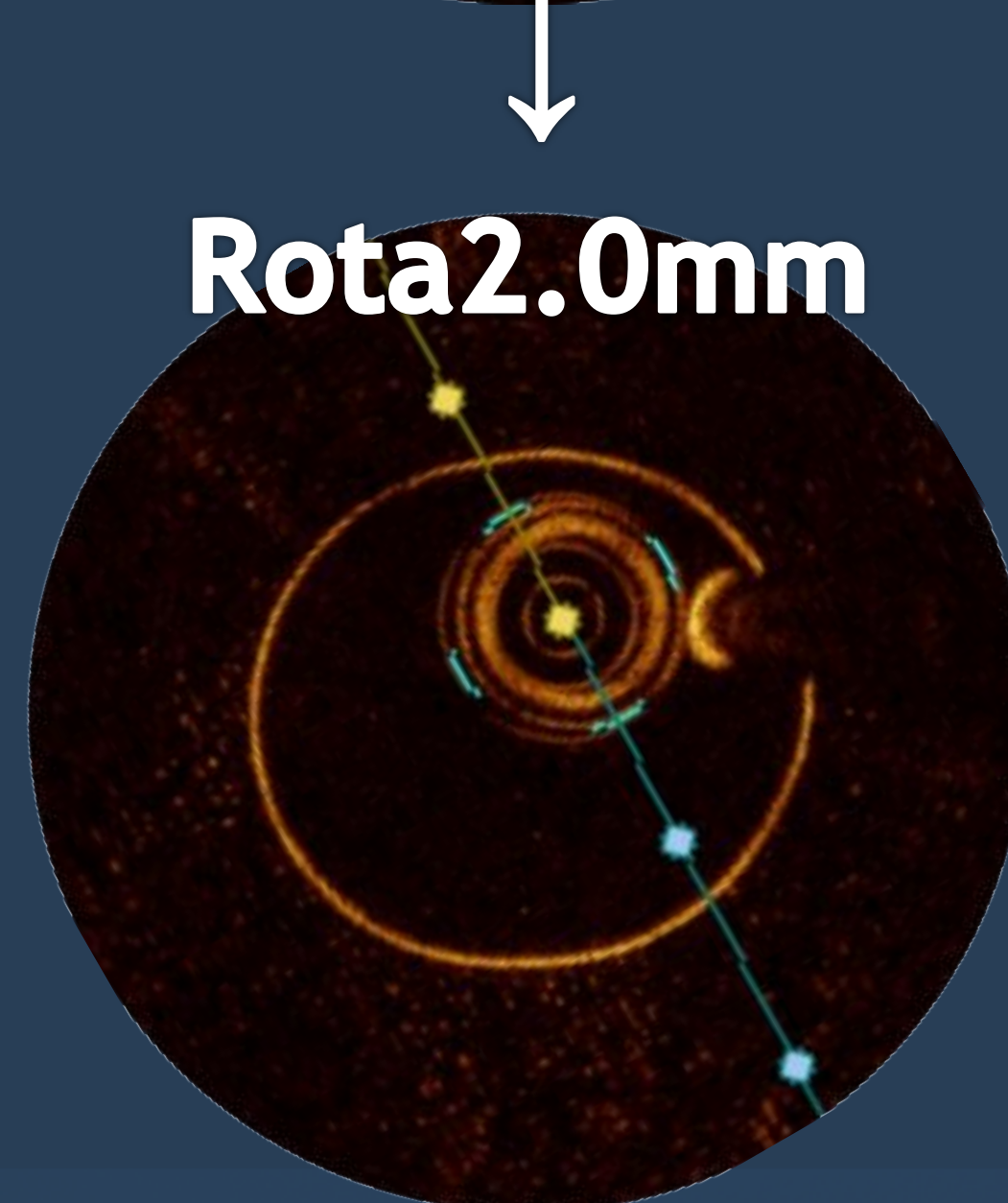
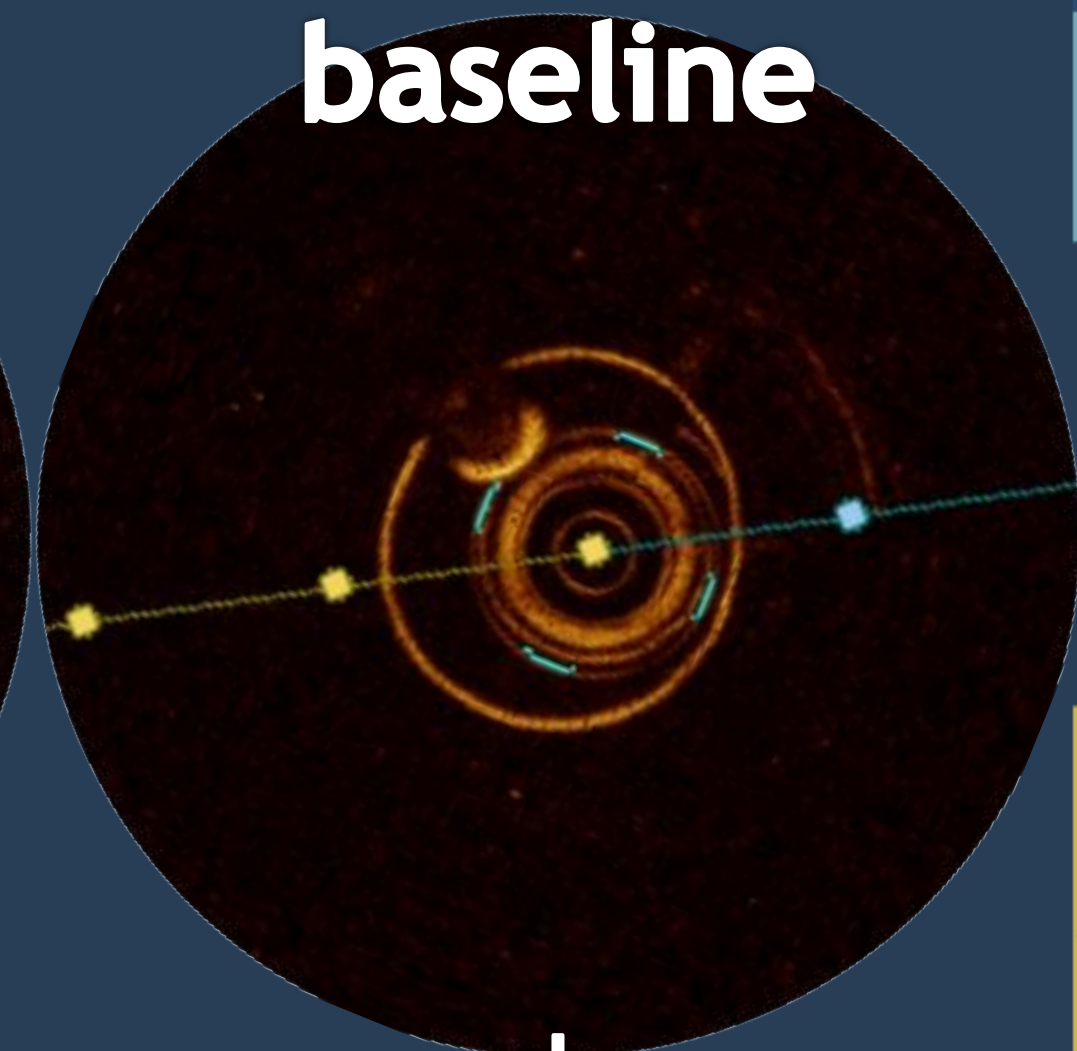
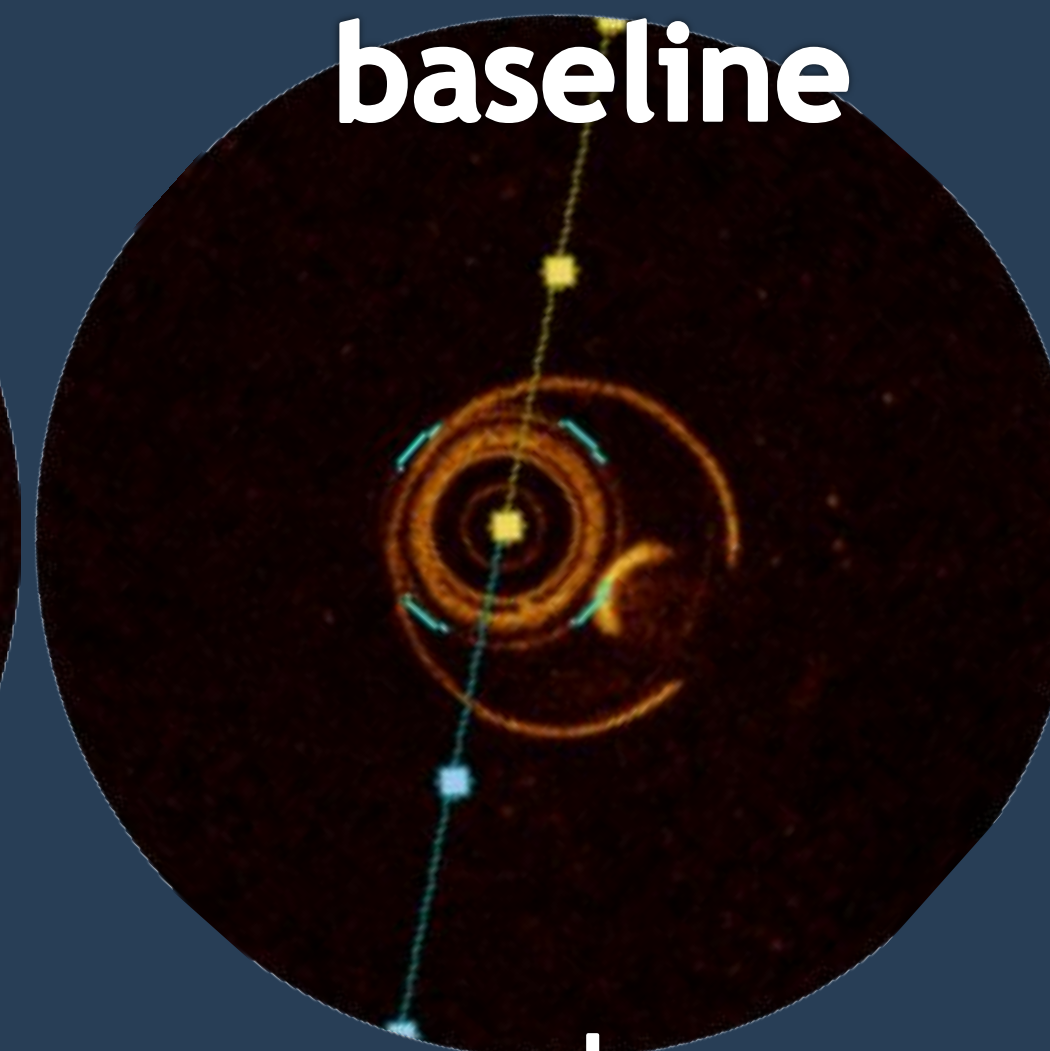
<IVUS & OCT images>

Outer

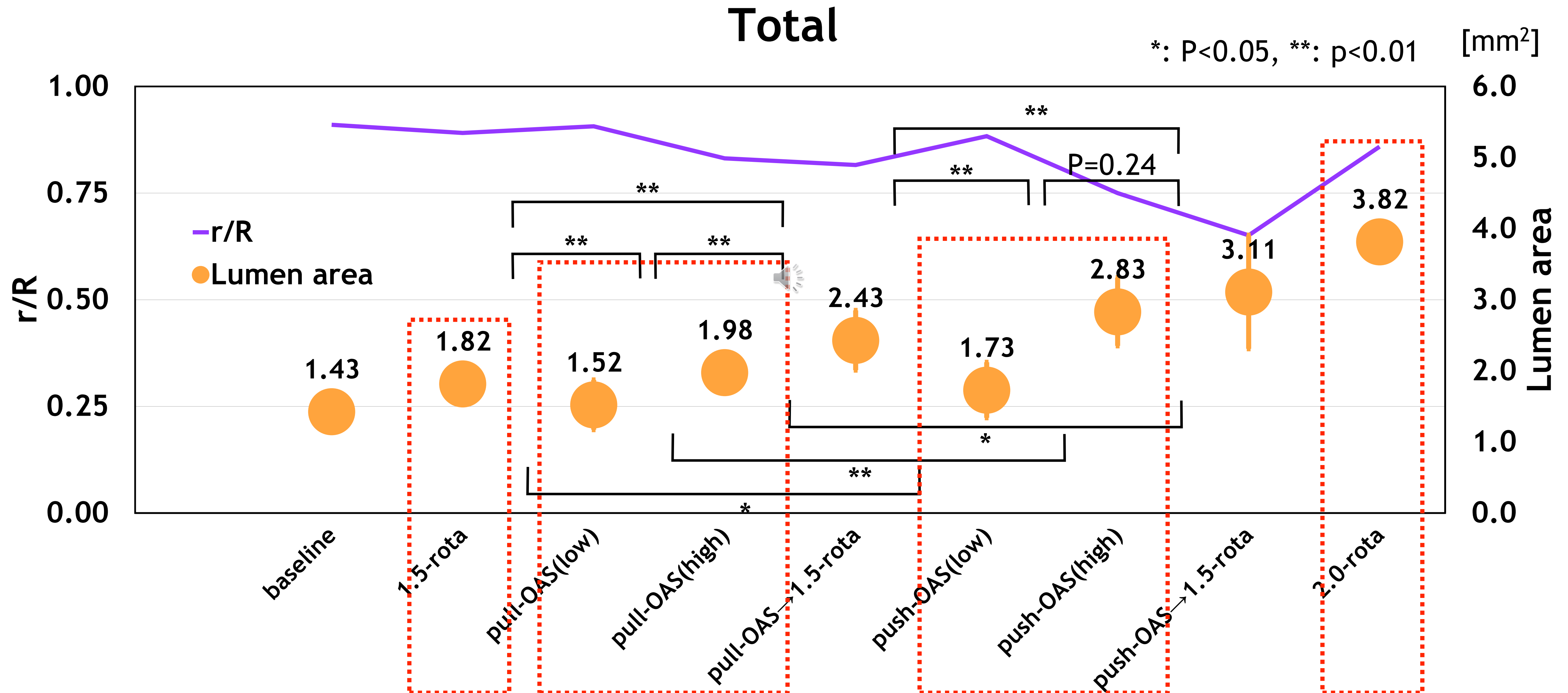
Left lateral

Right lateral

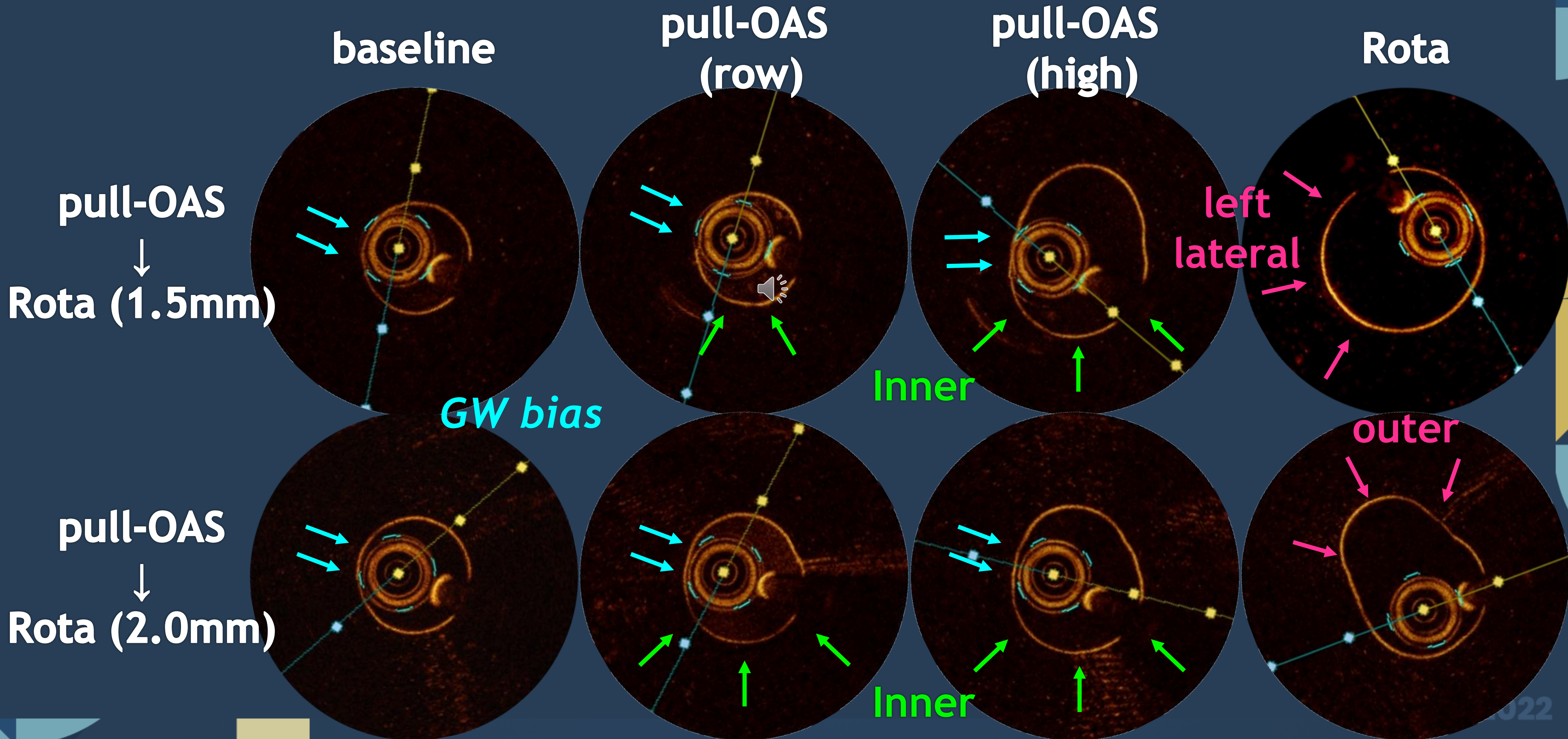
Inner



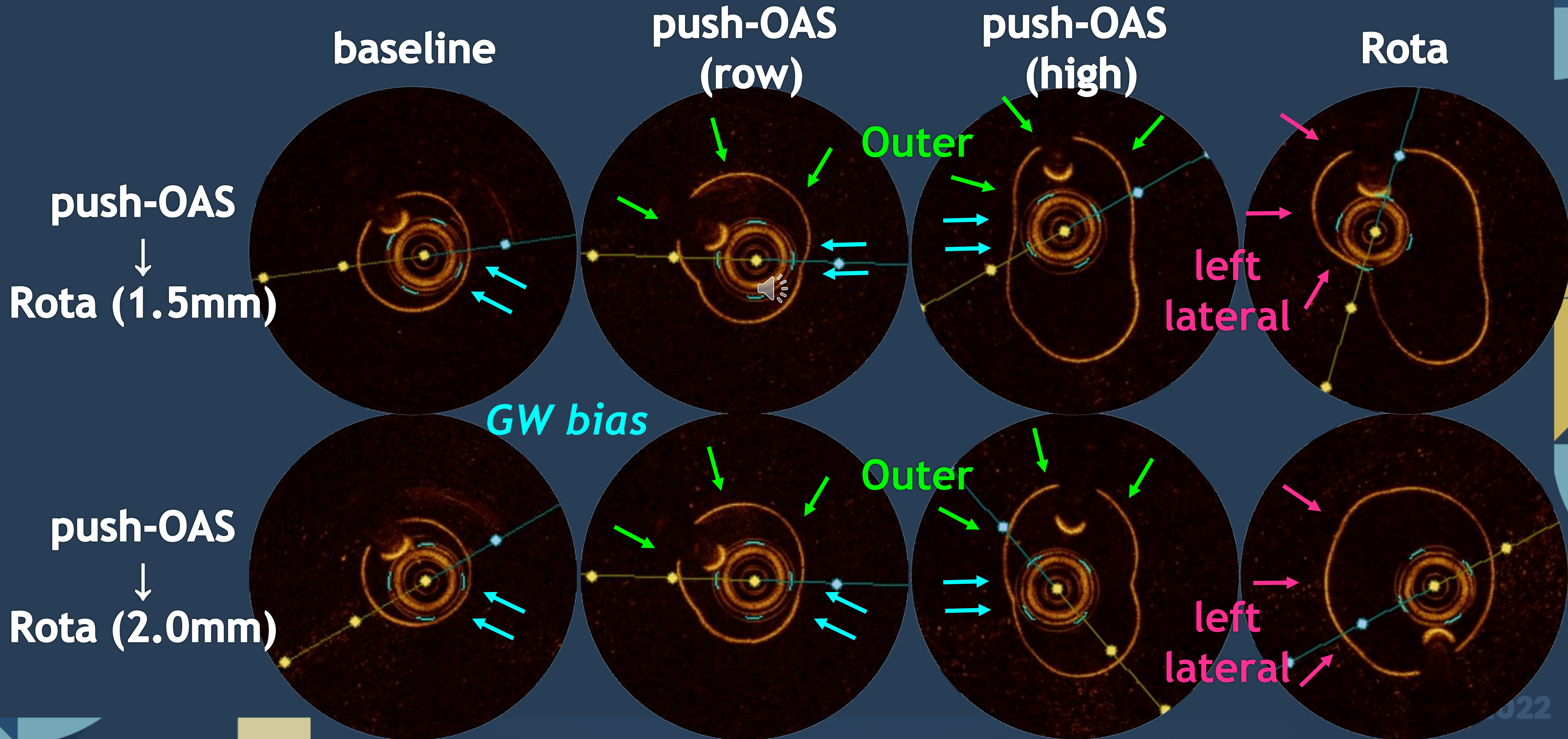
Roundness & Lumen area



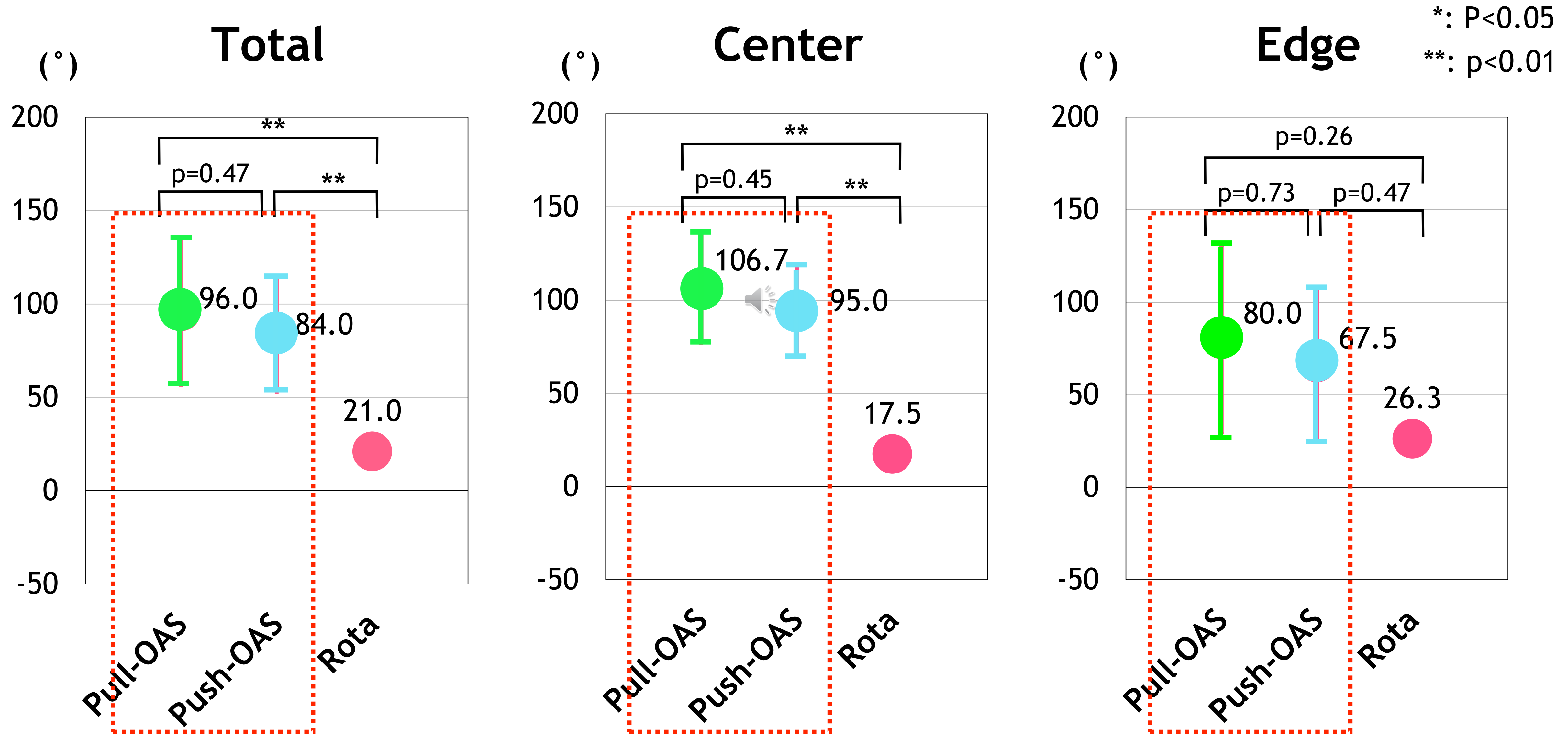
Typical images of pull-OAS → Rota



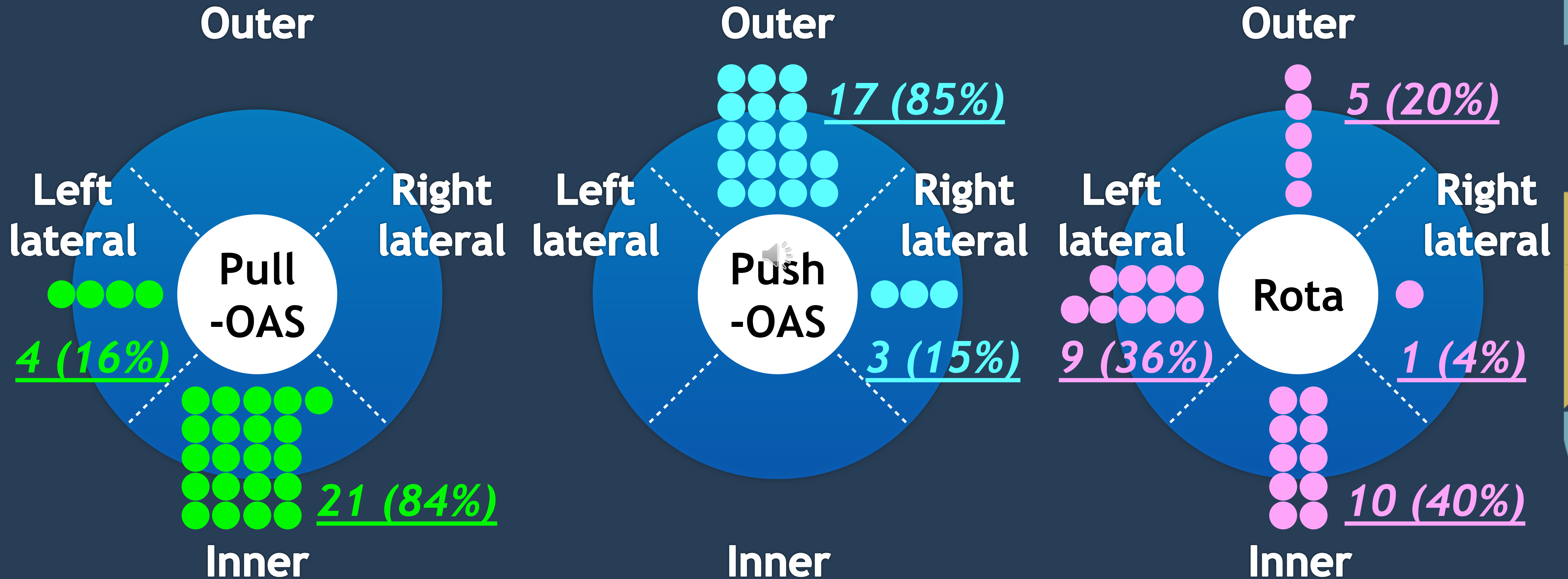
Typical images of push-OAS → Rota




Angulation (wire bias & debulk site)



Site of debulking effect



Conclusion / Take-home Message

- ✓ Debulking effect of *rota* is *corresponding* to pre wire-bias.
- ✓ Debulking effect of *OAS* is *irrelevant* to pre wire-bias.
- ✓ *Pull-OAS* do work for *inner* side  of curve.
- ✓ *Push-OAS* do work for *outer* side of curve.
- ✓ *Push-OAS* had *larger & orval* lumen compared to *pull-OAS*.



Thank you for your kind attention!



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