

LAAO: The Fastest Growing Structural Procedure Updates, Indications and Controversies

Vivian Ng, MD

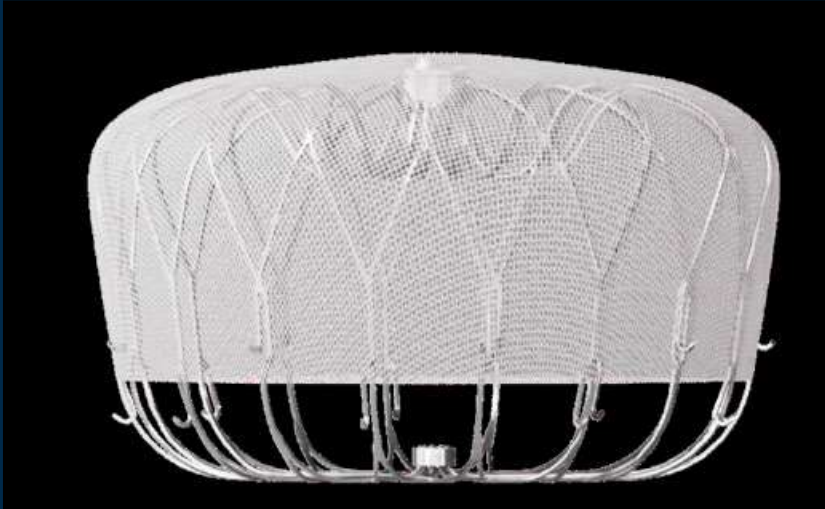
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Disclosure

- Honoraria: Edwards Life Sciences, Medtronic

Current Devices



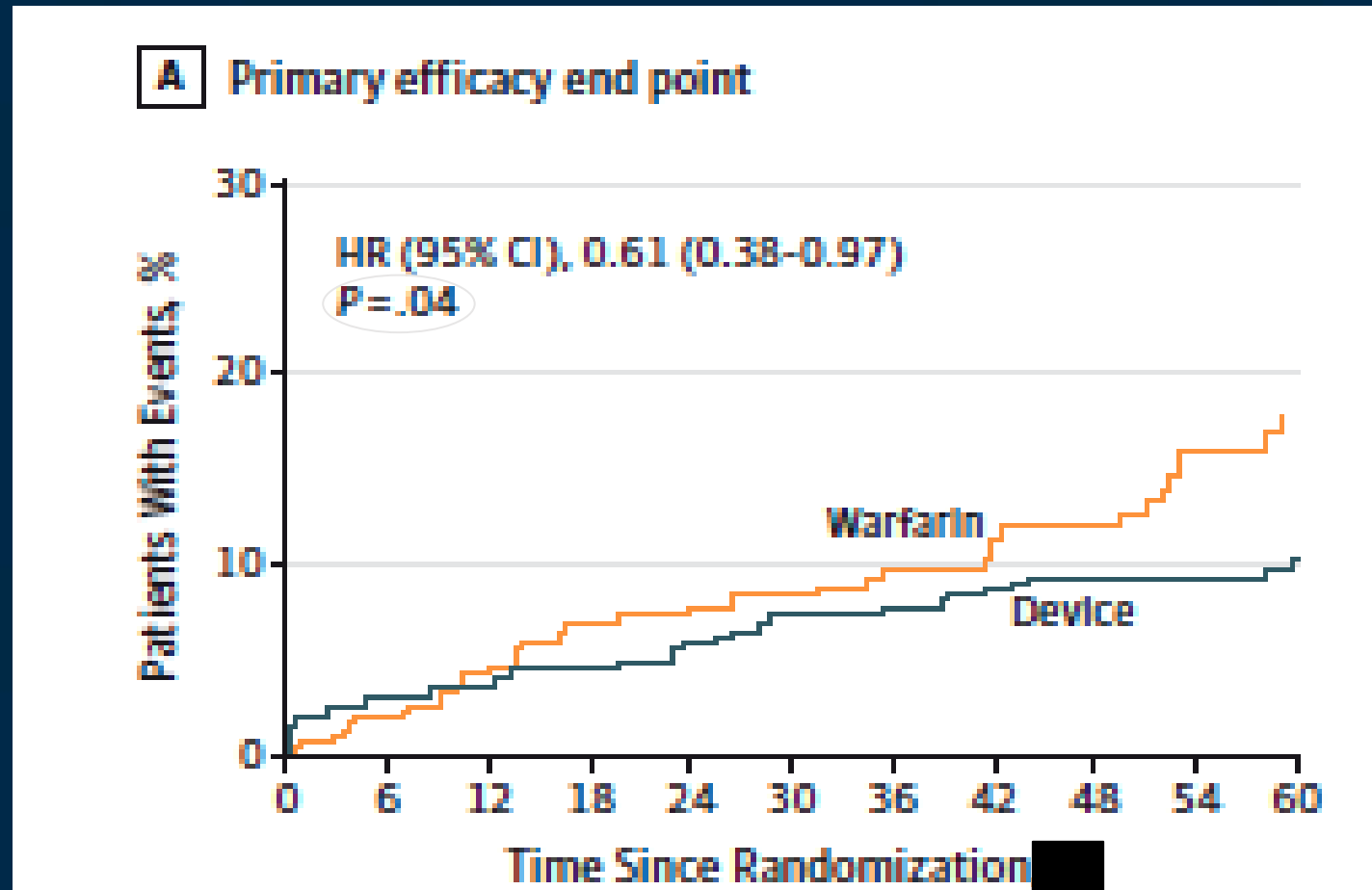
Current Indications

4.4.1. Percutaneous Approaches to Occlude the LAA

Recommendation for Percutaneous Approaches to Occlude the LAA		
Referenced studies that support the new recommendation are summarized in Online Data Supplement 4.		
COR	LOE	Recommendation
IIb	B-NR	<p>1. Percutaneous LAA occlusion may be considered in patients with AF at increased risk of stroke who have contraindications to long-term anticoagulation (S4.4.1-1–S4.4.1-5).</p> <p>NEW: Clinical trial data and FDA approval of the Watchman device necessitated this recommendation.</p>

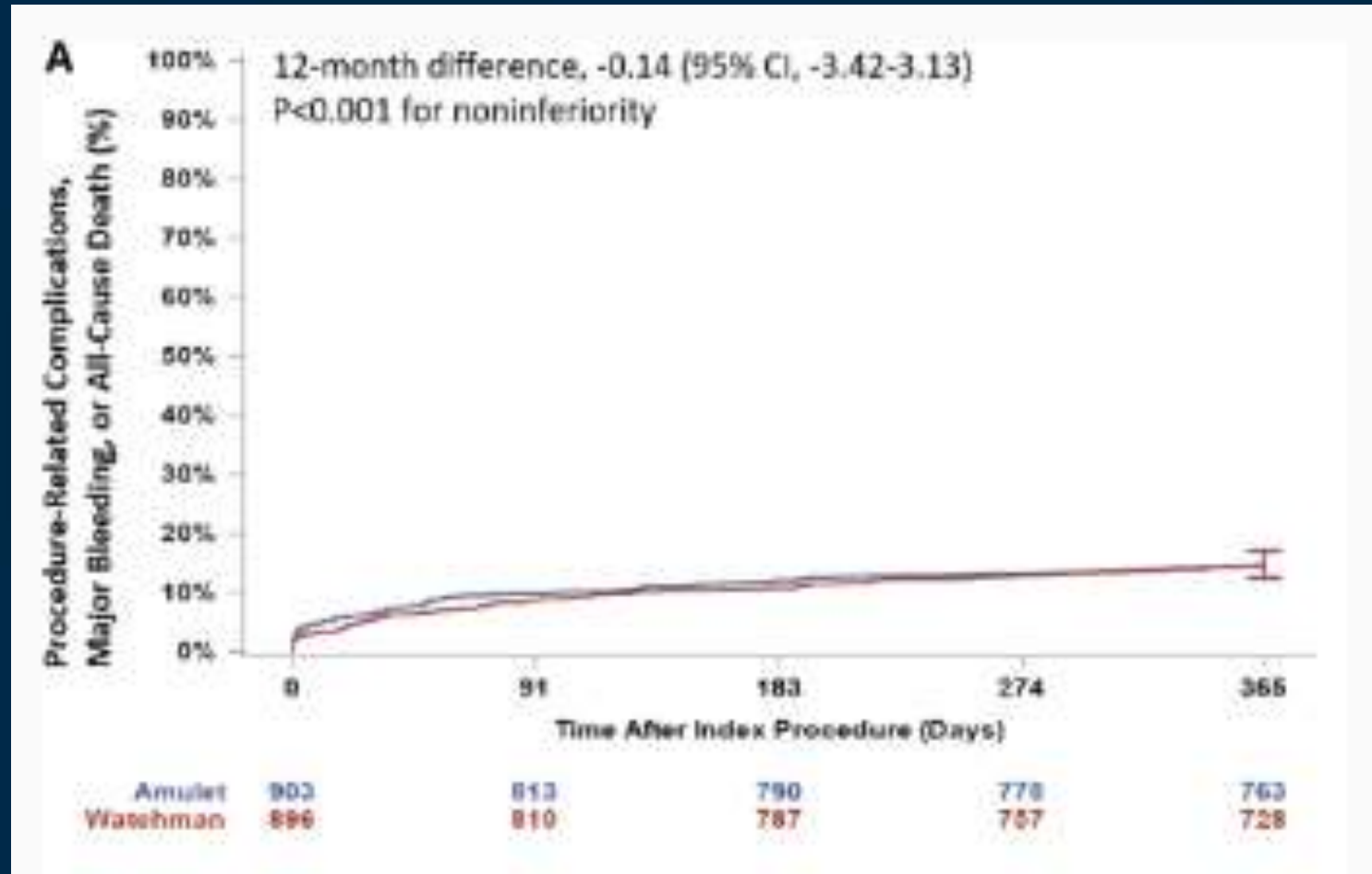
Recommendations for occlusion or exclusion of the LAA	Class of recommendation	Level of evidence
LAA occlusion may be considered for stroke prevention in patients with AF and contraindications for long-term anticoagulant treatment (eg, intracranial bleeding without a reversible cause)	IIb	B
Surgical occlusion or exclusion of the LAA may be considered for stroke prevention in patients with AF undergoing cardiac surgery	IIb	C

Watchman: PROTECT AF Study



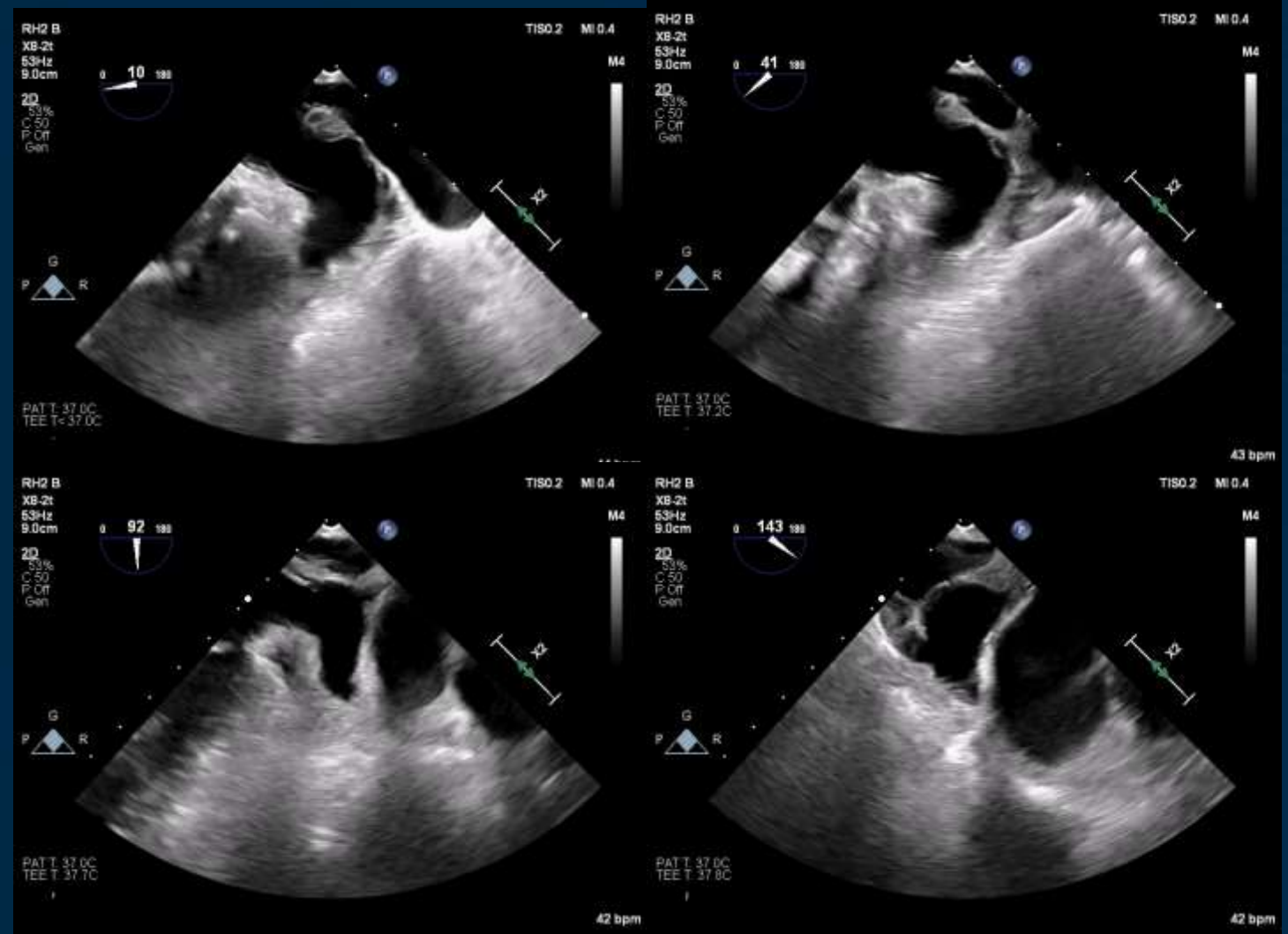
- Primary efficacy endpoint: all stroke, systemic embolism, CV death

Amulet IDE

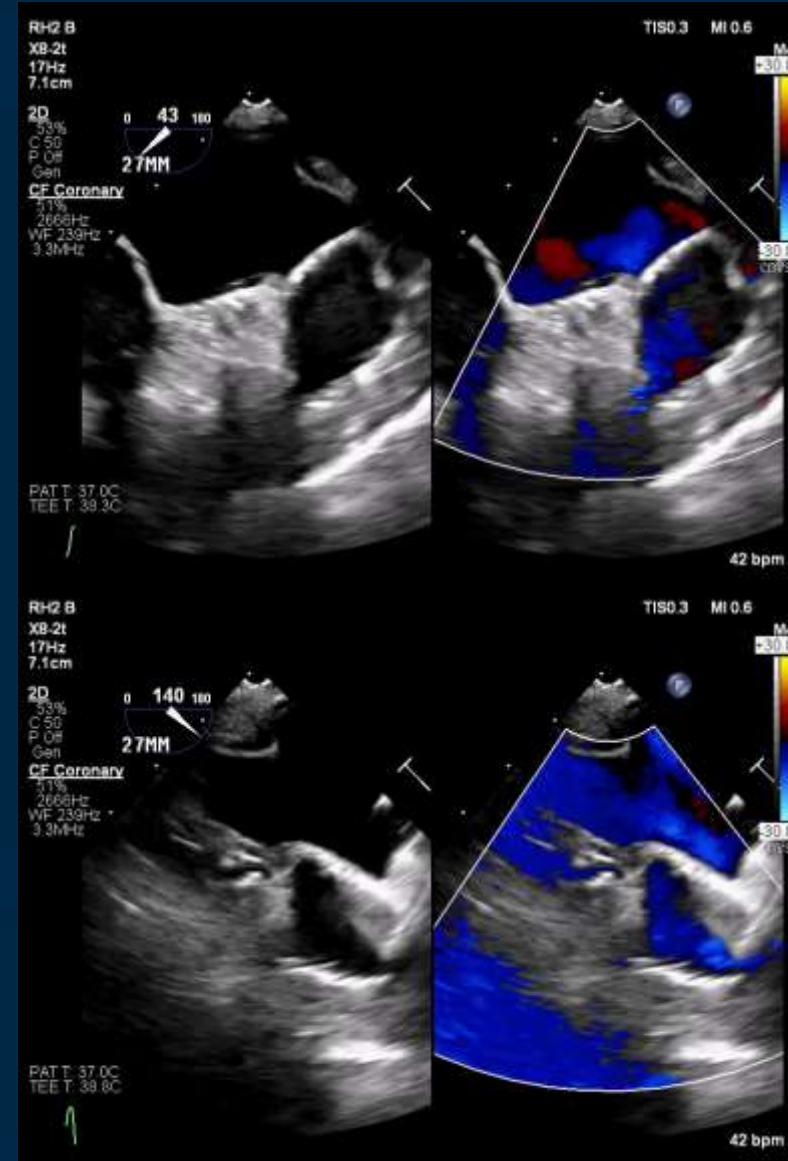
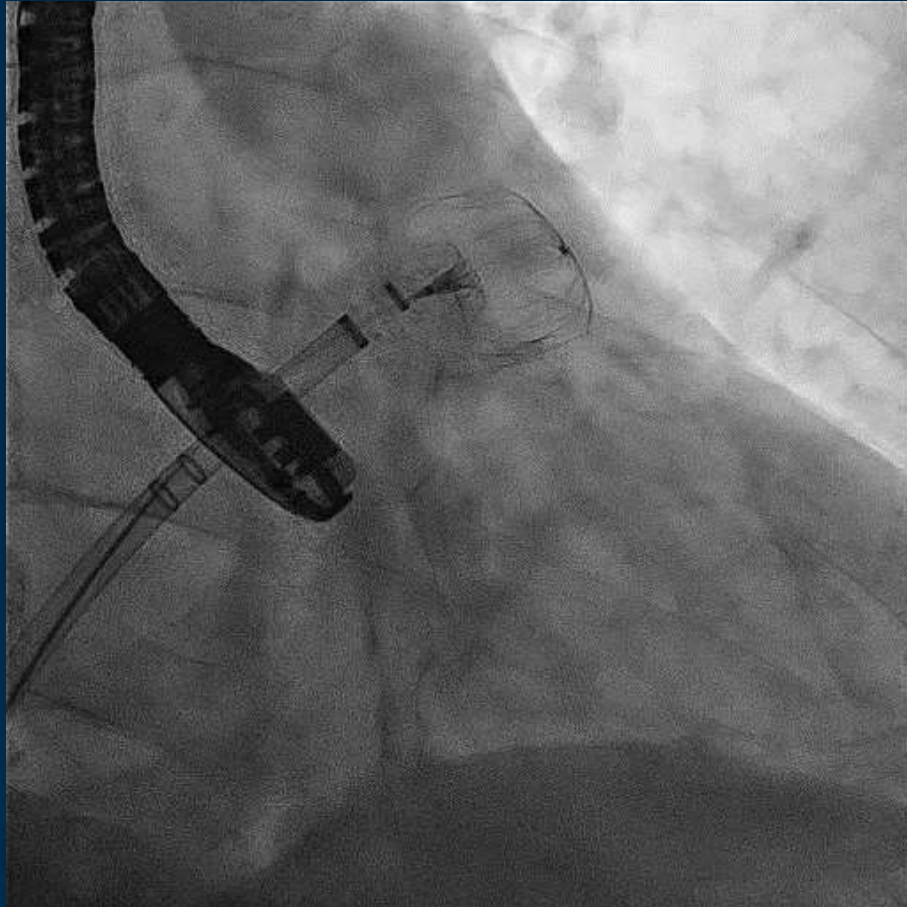


- Primary efficacy endpoint: 18m ischemic stroke or systemic embolism

LAAO Currently



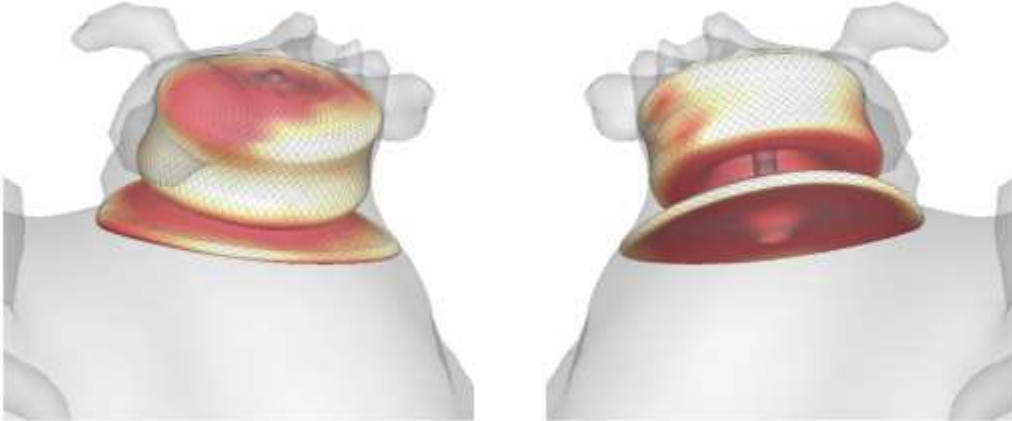
LAAO Currently



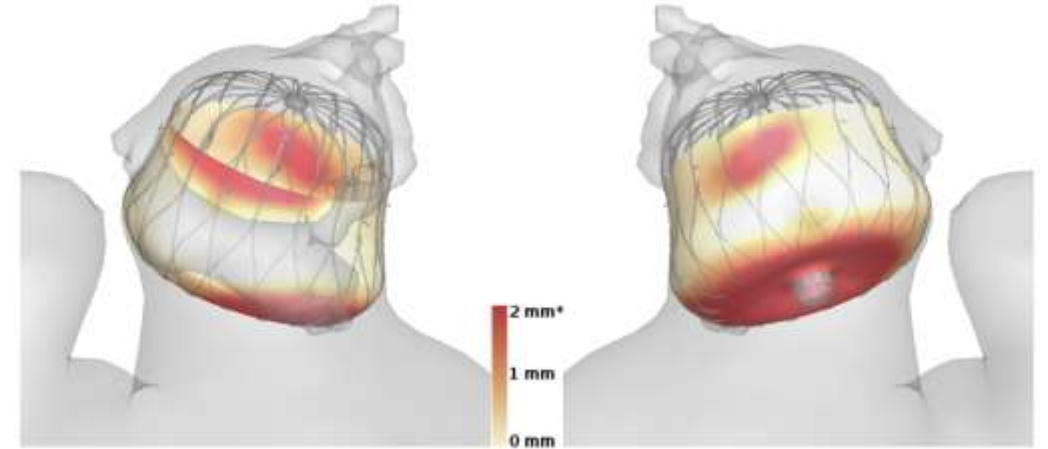
Updates in Procedural Planning

- FeOps HEARTguide simulation

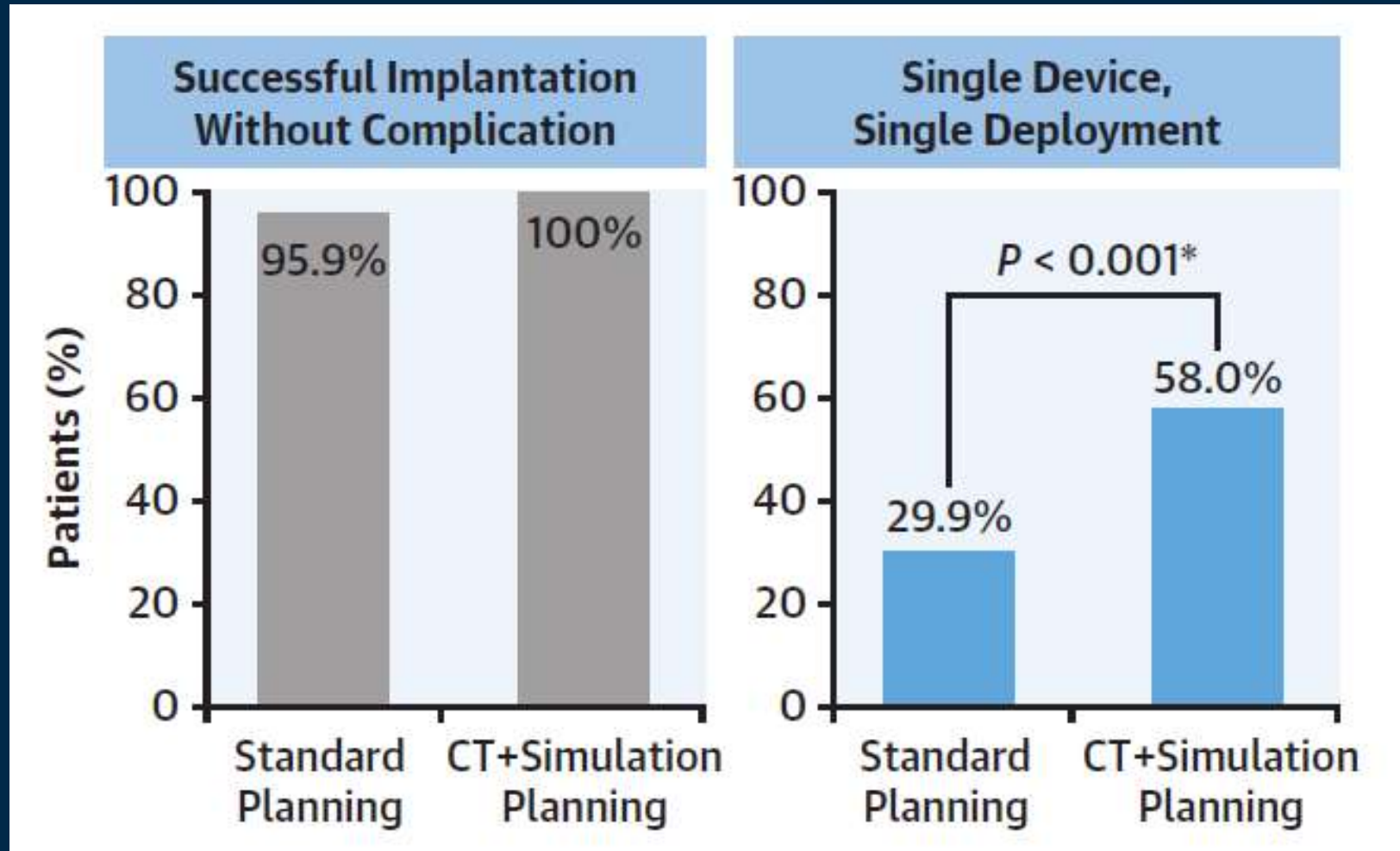
AMPLATZER™ Amulet™ 22 mm - distal



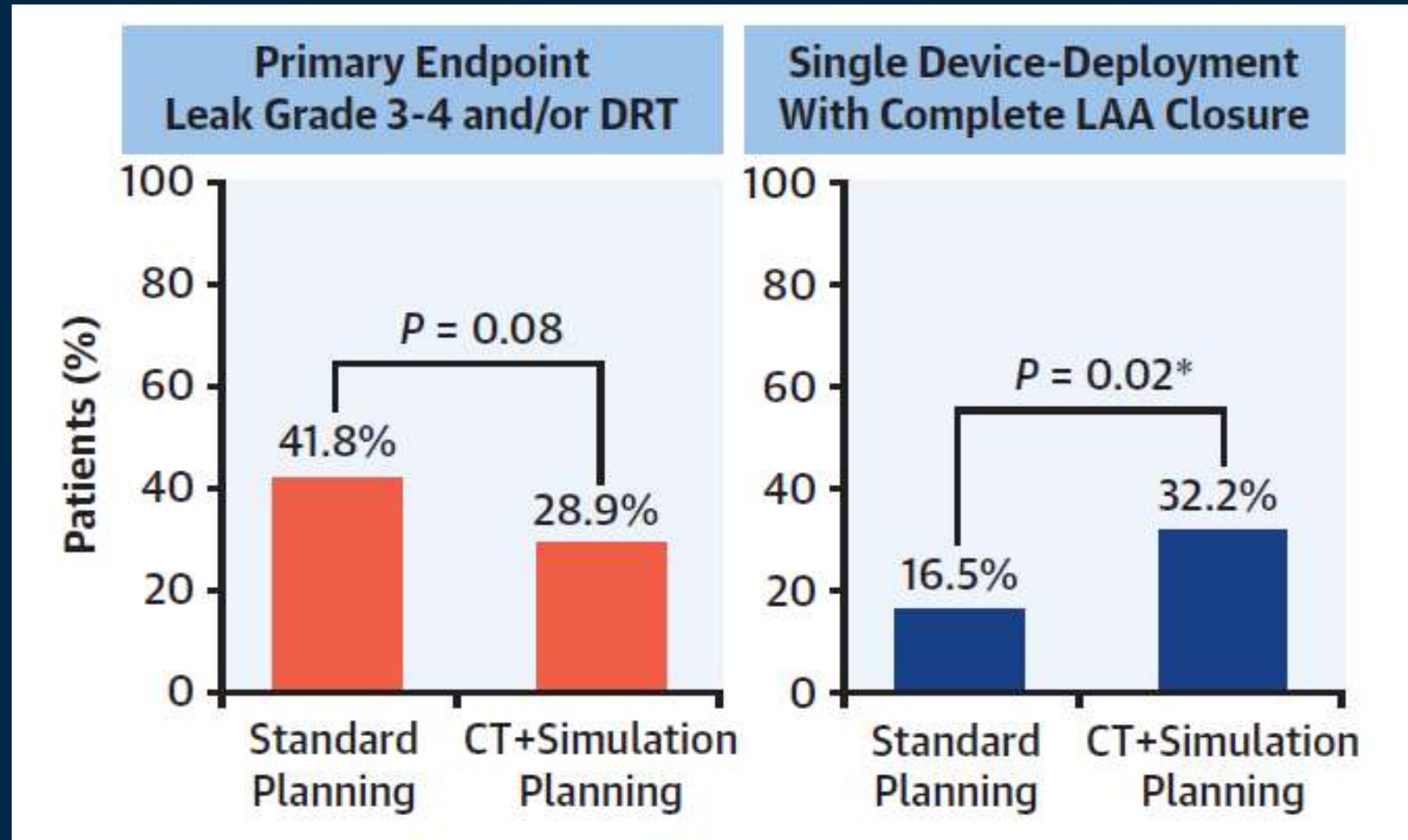
WATCHMAN FLX™ 24 mm - distal



PREDICT LAA Trial



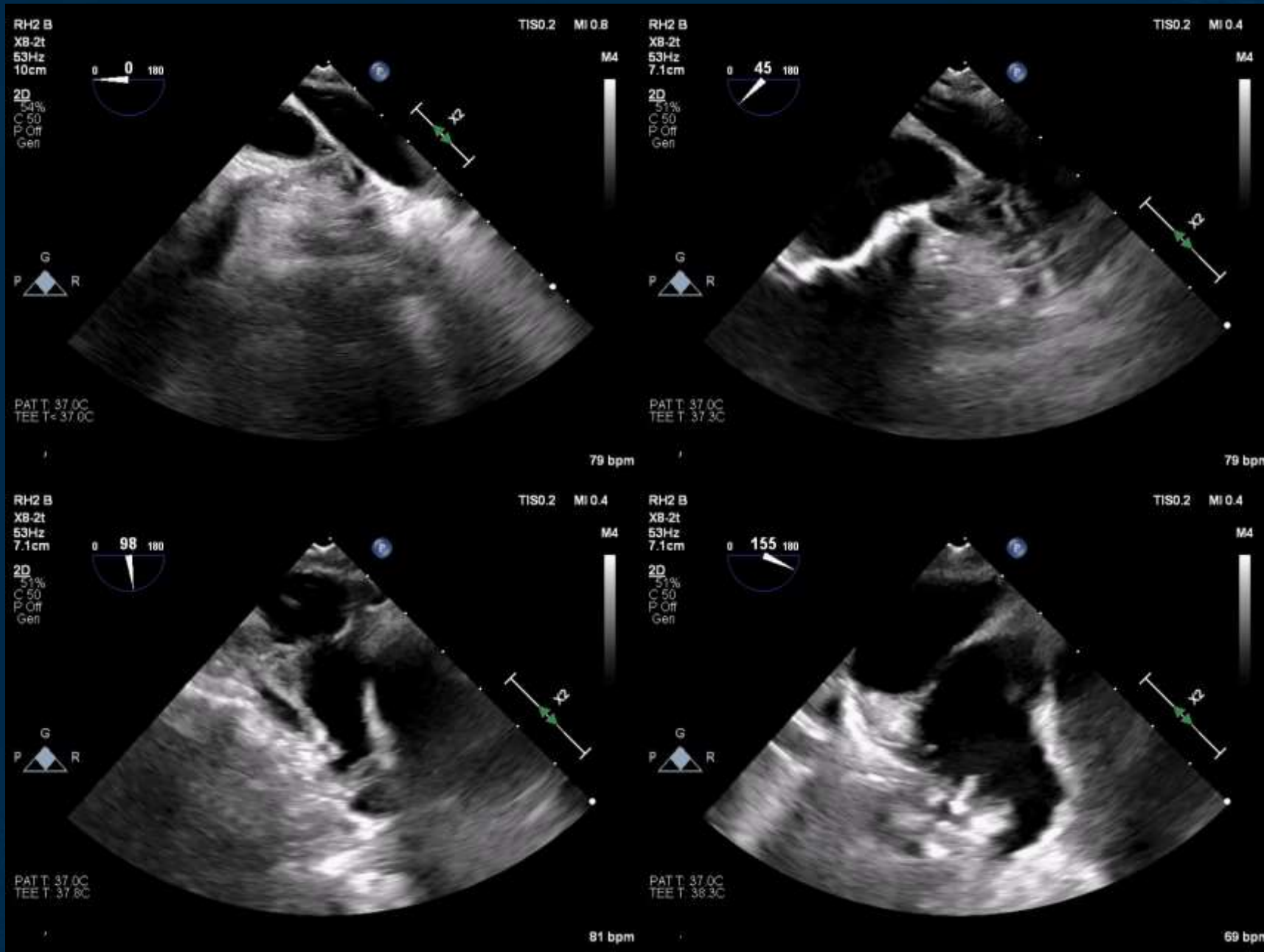
PREDICT LAA Results



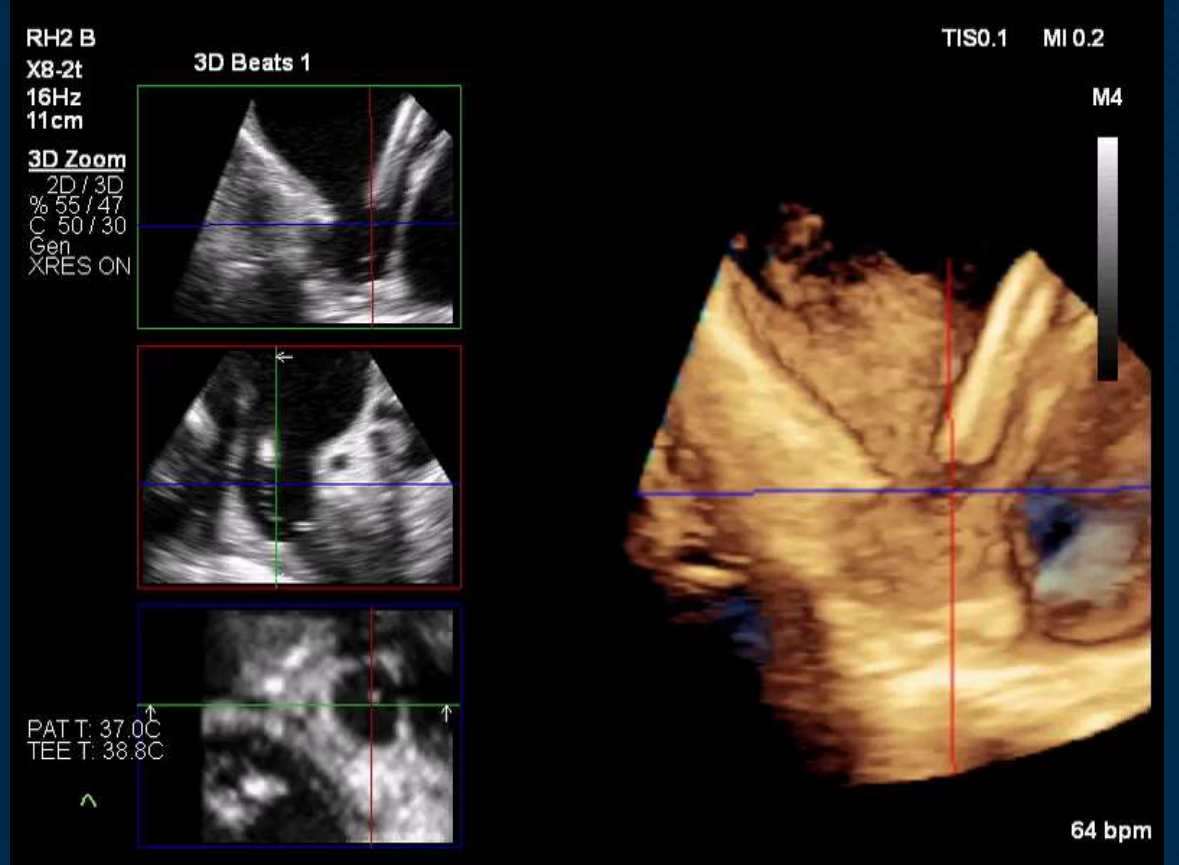
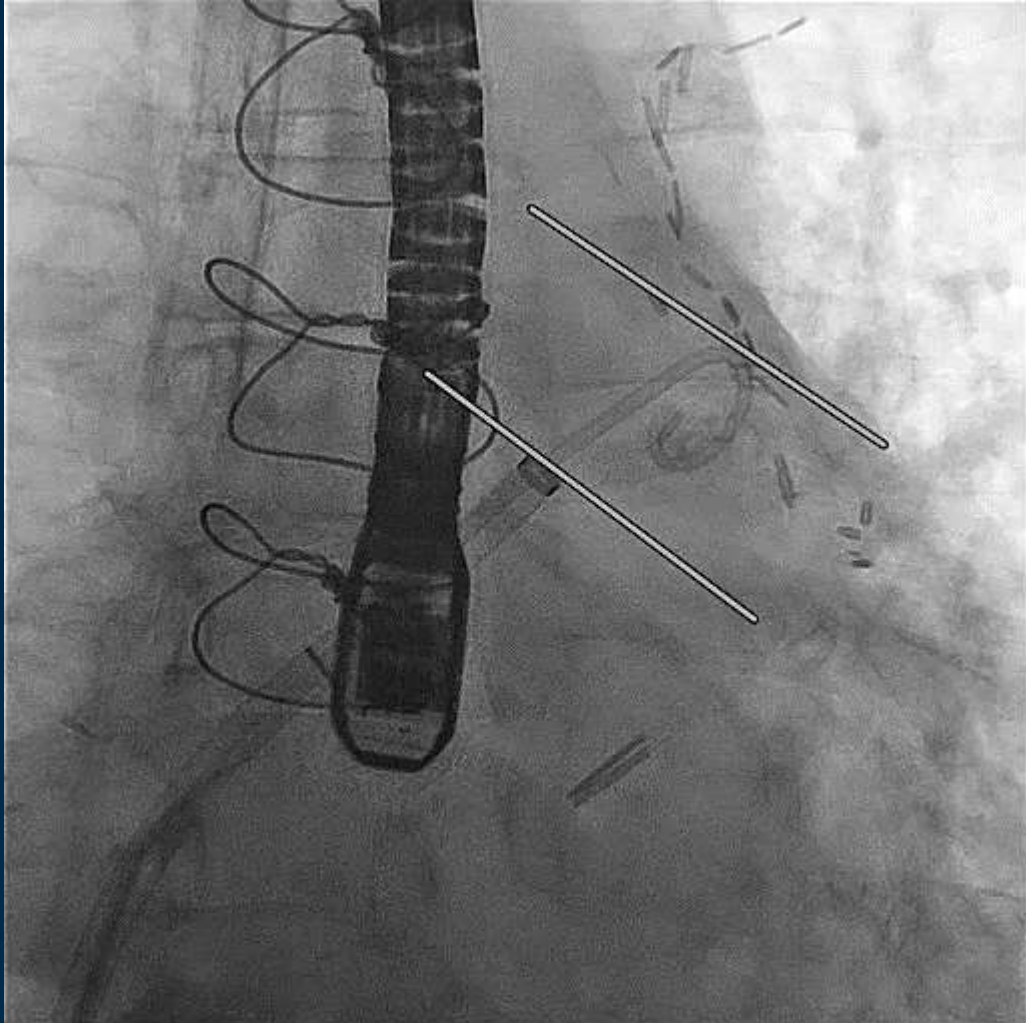
- Primary endpoint: Incomplete LAA closure with residual contrast leakage into the LAA distal of the Amulet Lobe and/or presence of DRT

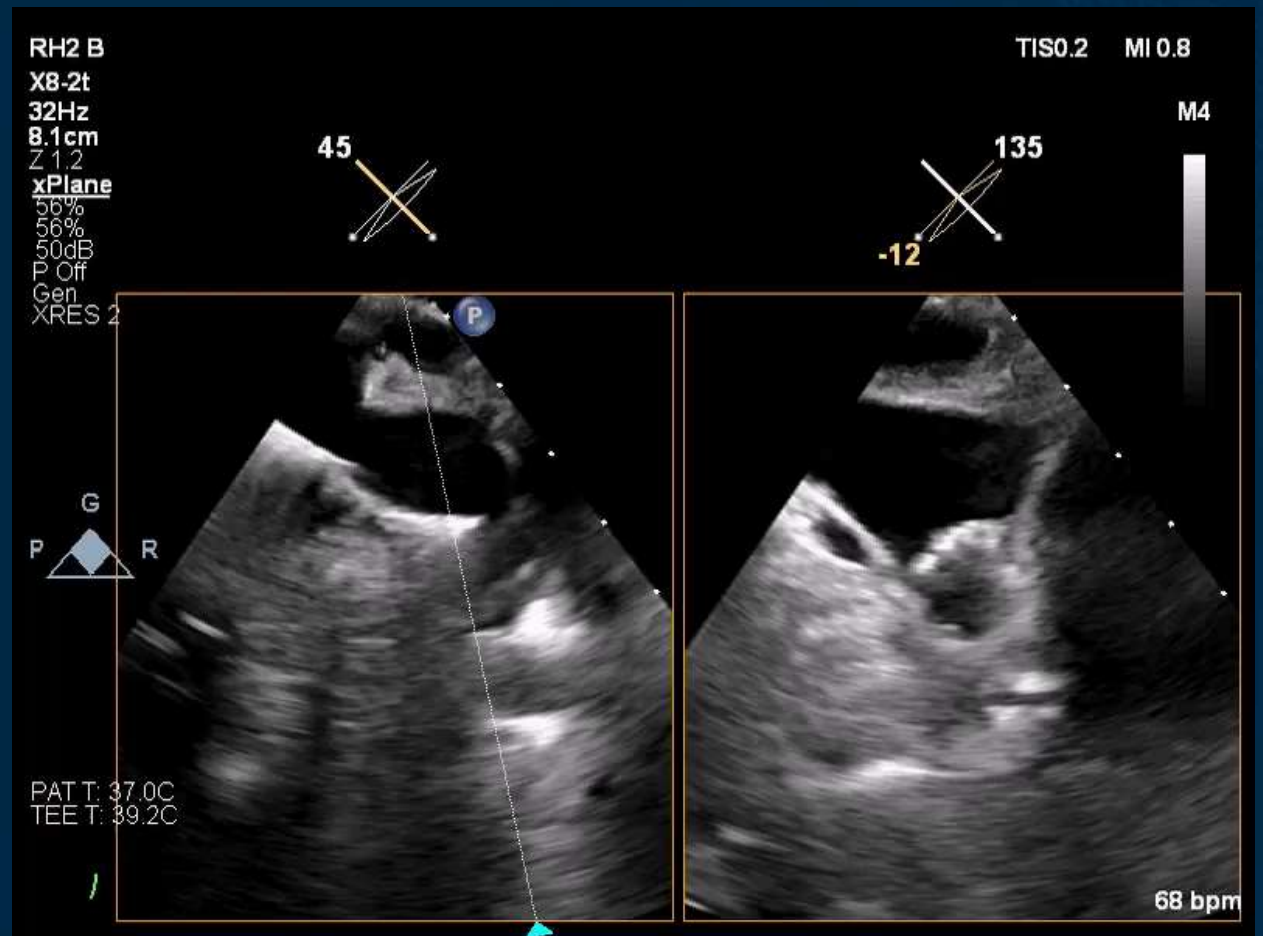
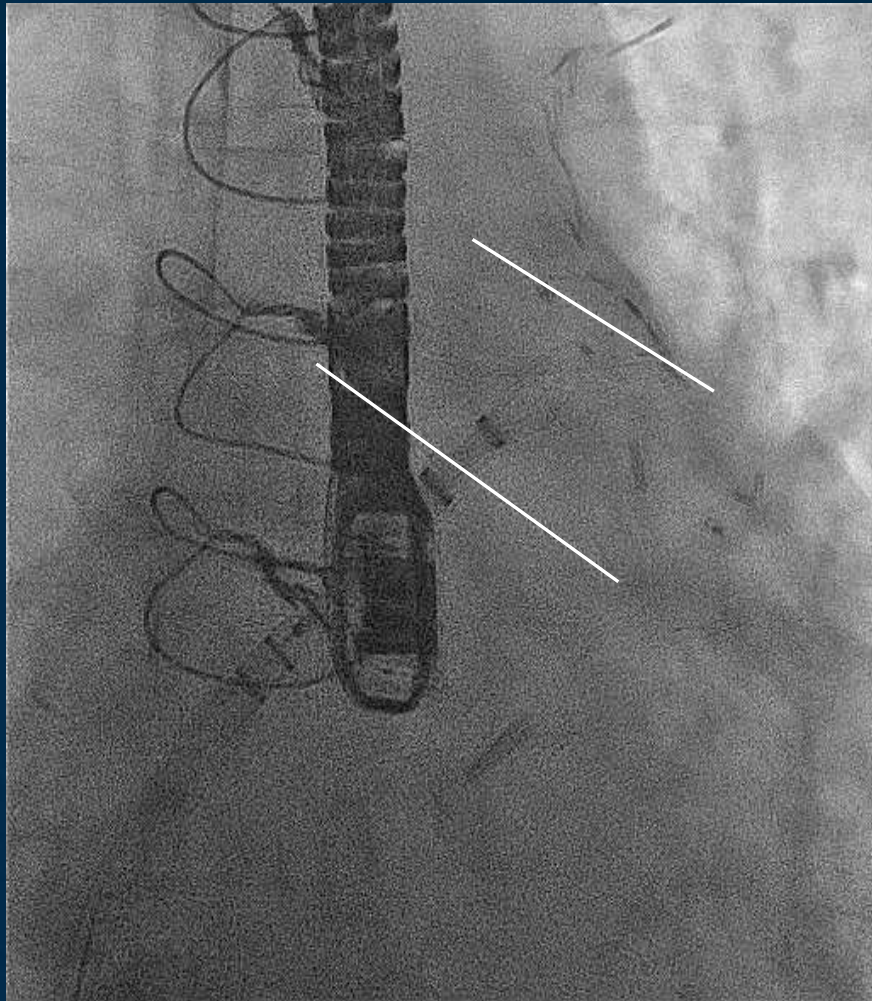
Updates in Procedural Technique

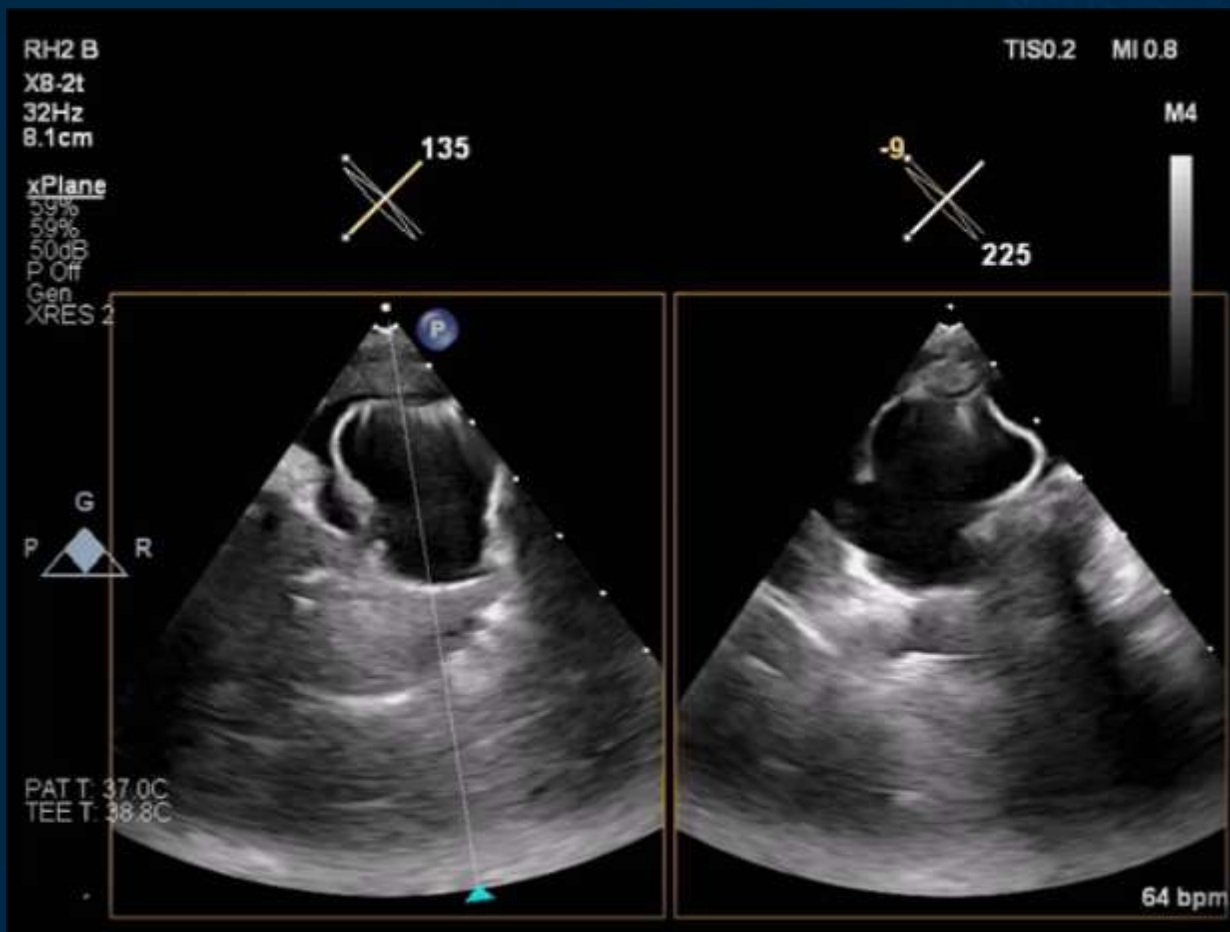
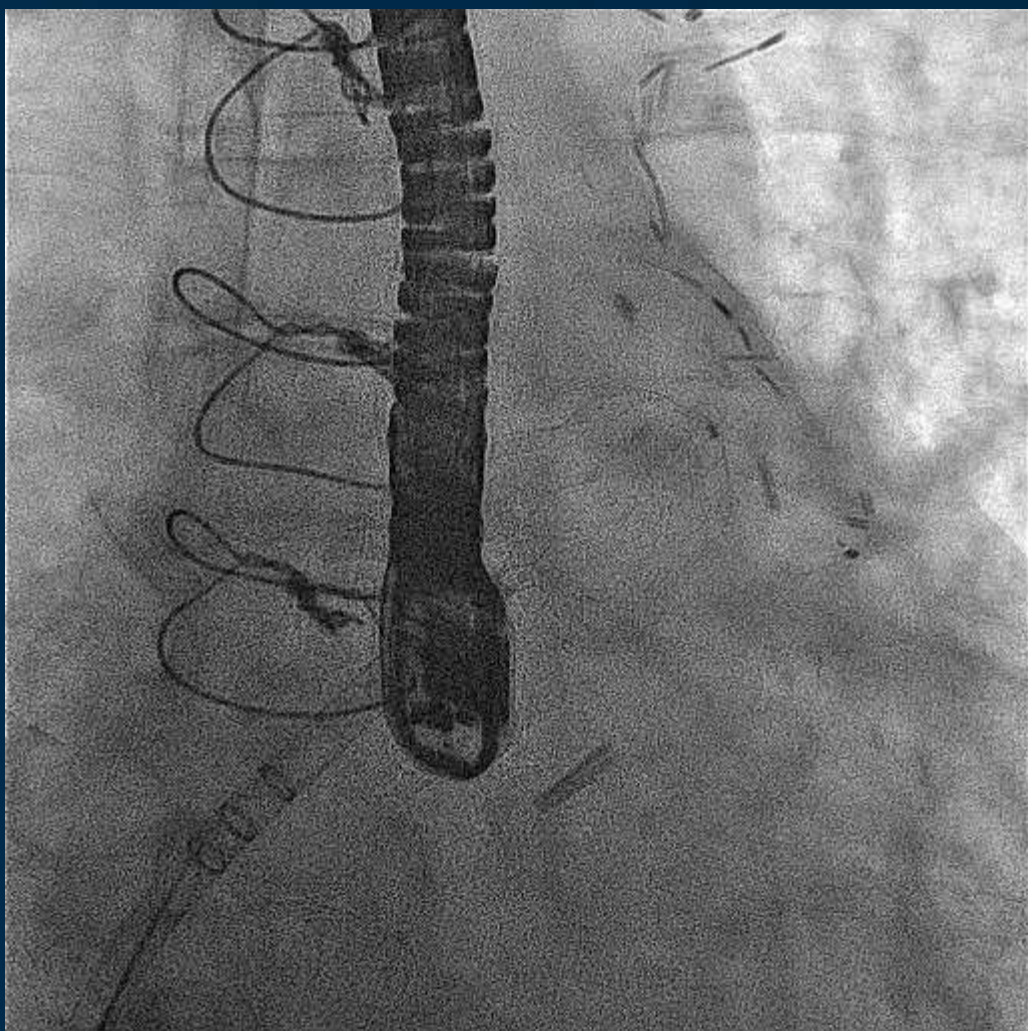
- Minimal to Zero Contrast LAAO
 - Improves procedural safety by decreasing AKI risk
 - Especially useful in CKD patients



Plan 31
Watchman







Minimalist LAAO

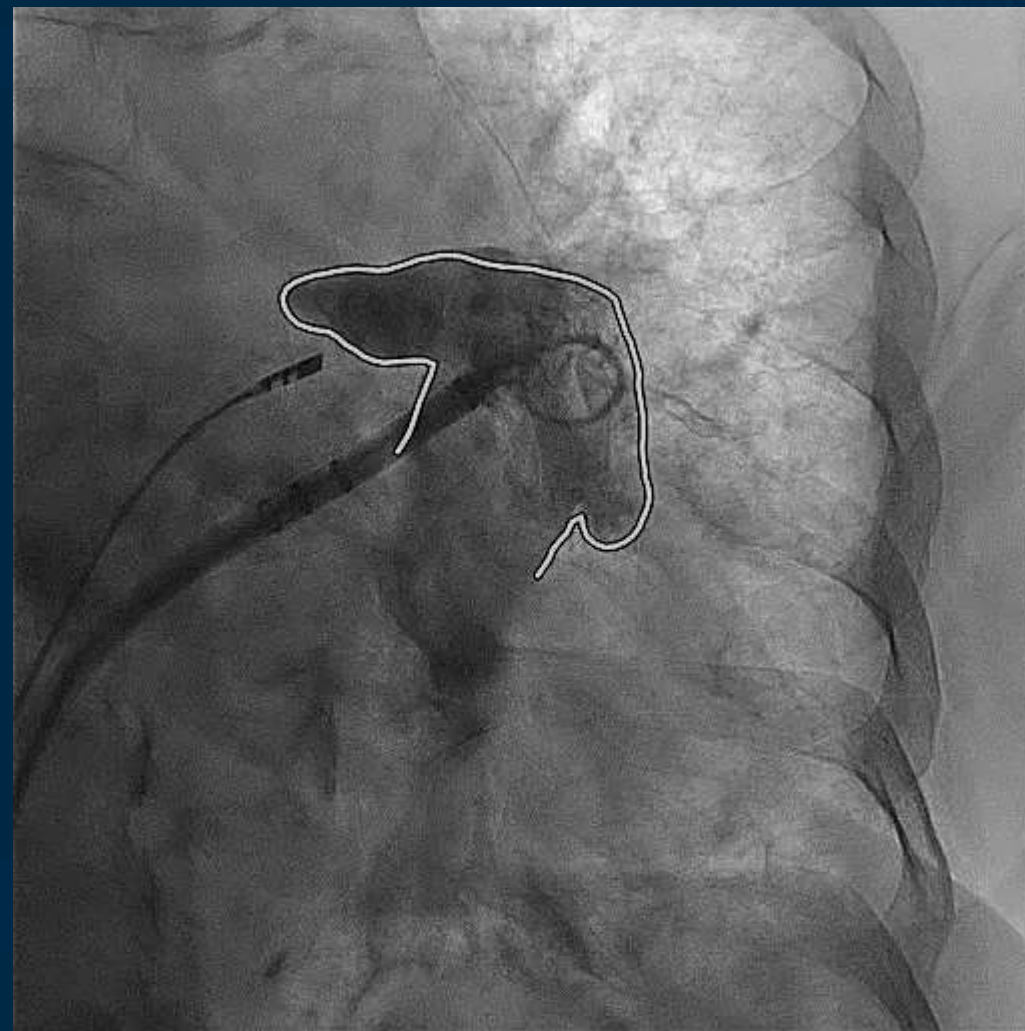
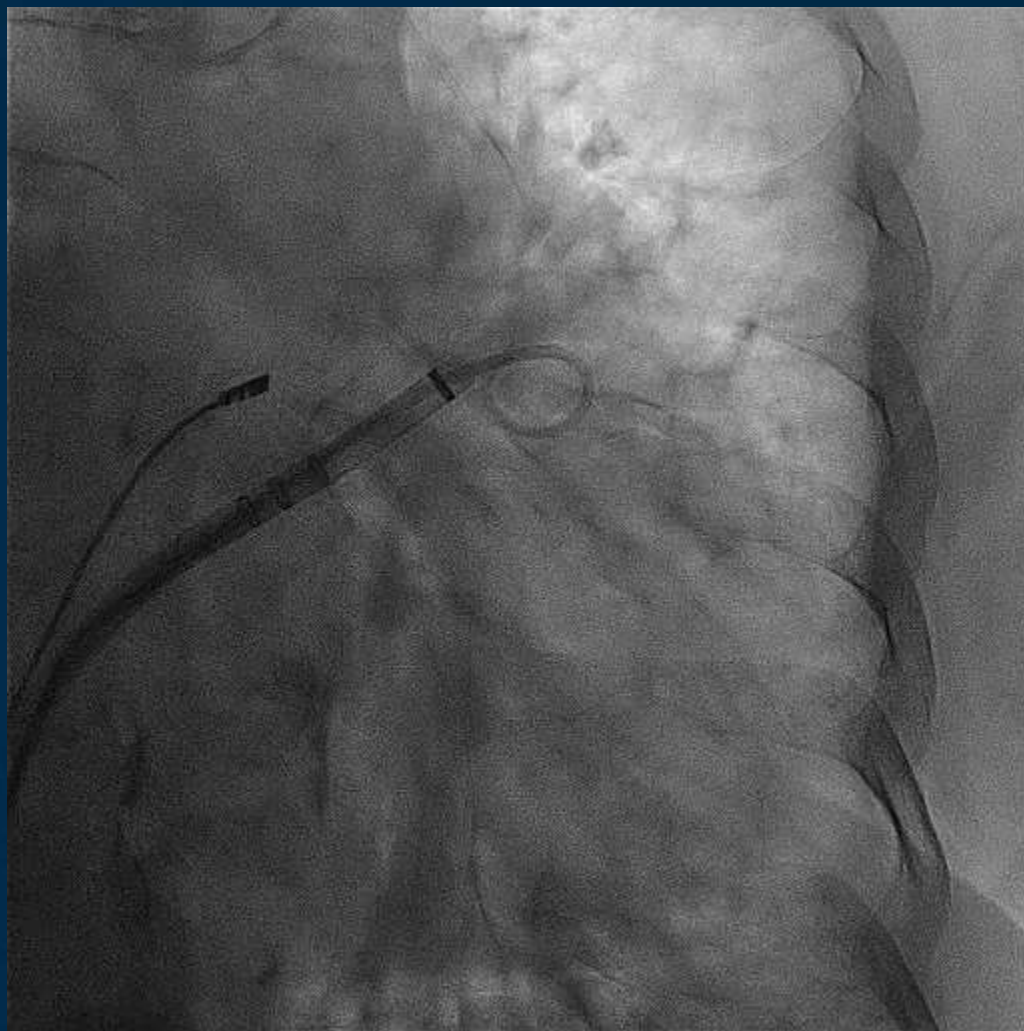
Traditional

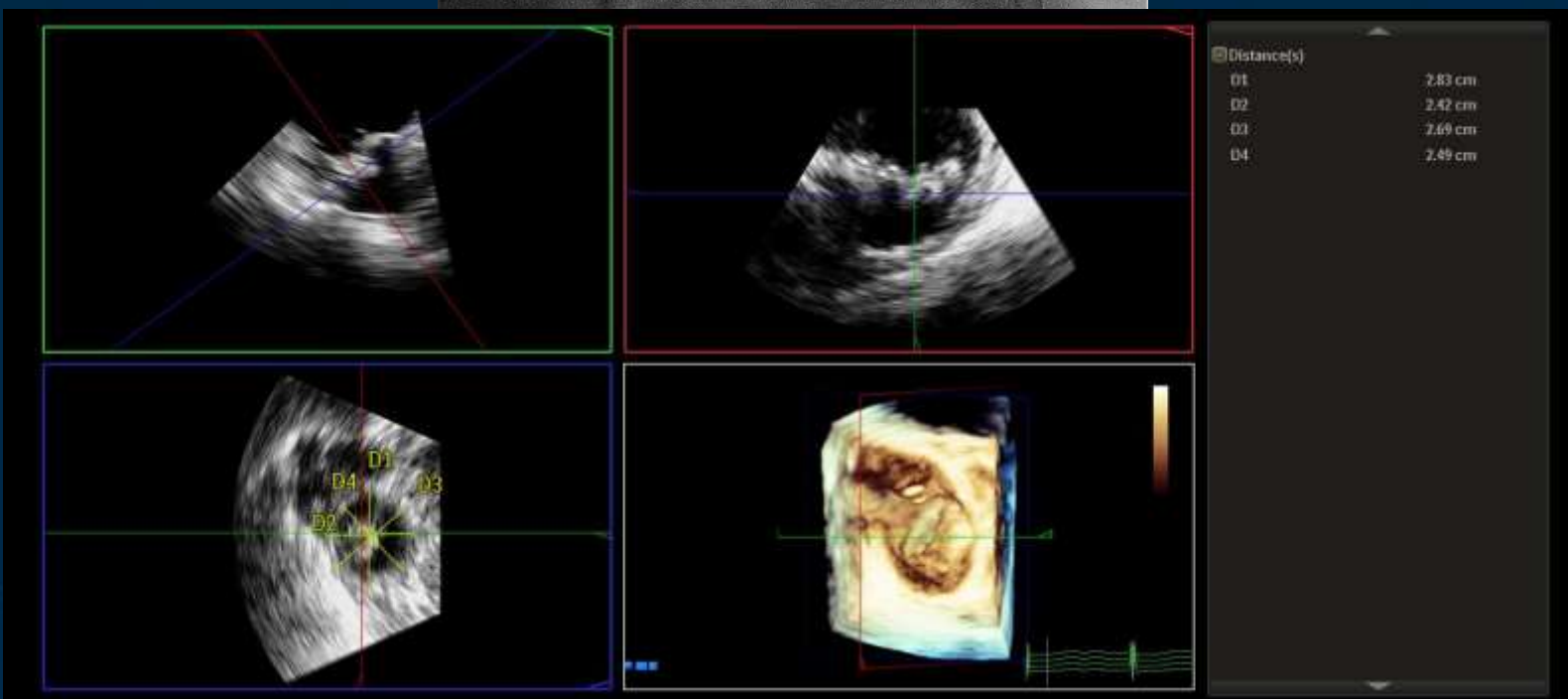
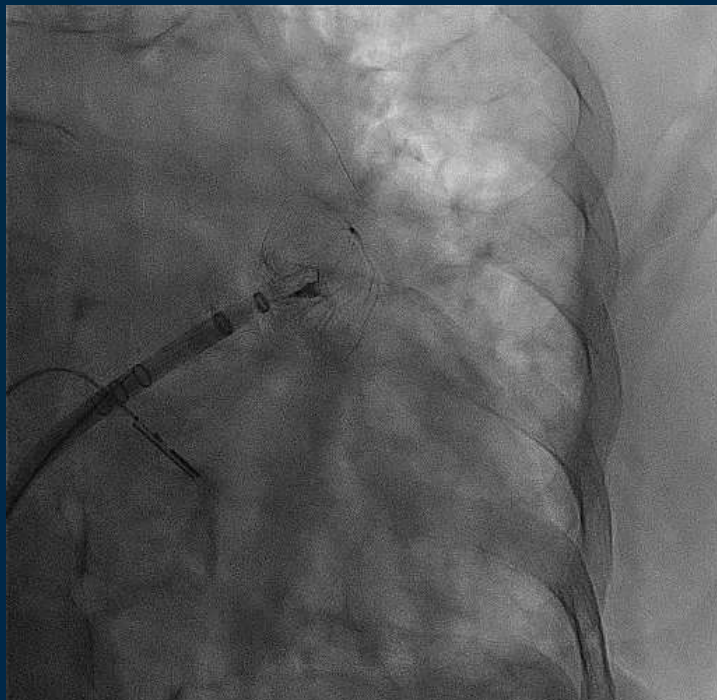
- TEE Imaging
- General Anesthesia
- Overnight monitoring



Minimalist

- ICE Imaging





Minimalist LAAO

Traditional

- TEE Imaging
- General Anesthesia
- Overnight monitoring



Minimalist

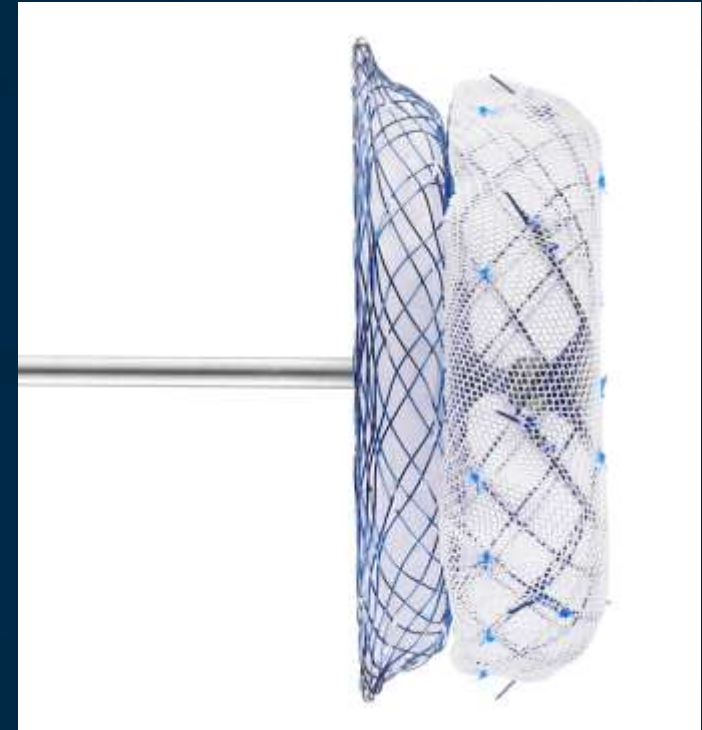
- ICE Imaging
- Conscious sedation
- Same day discharge

Ongoing Concerns

- Device Related Thrombus
- Difficult Anatomies
 - Short Depth
 - Wide Ostium
- Peri-Device Leaks

SeaLA LAA Occluder

- Combines the disk and the ball design
 - Disc has a plate and waist which potentially allows for better sealing
- Plate covers the LAA orifice
- Hooks on anchoring disc



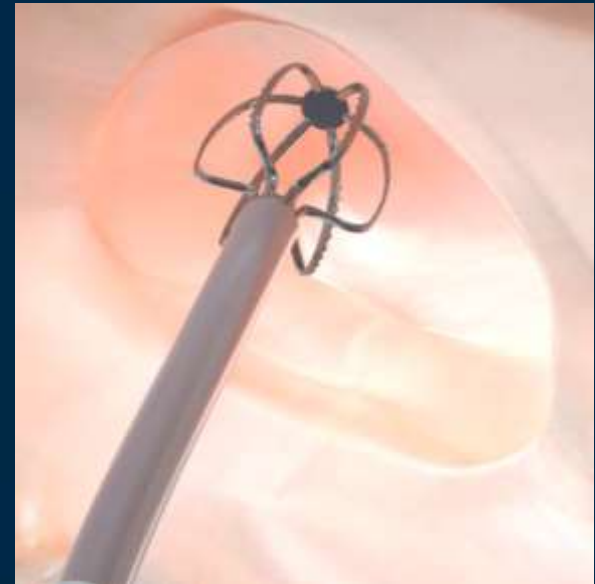
Conformal

- 2 sizes
- Compliant nitinol endoskeleton
- Allows short LAA depths
- Smooth ePTFE surface
- No thrombus attachment site



Laminar

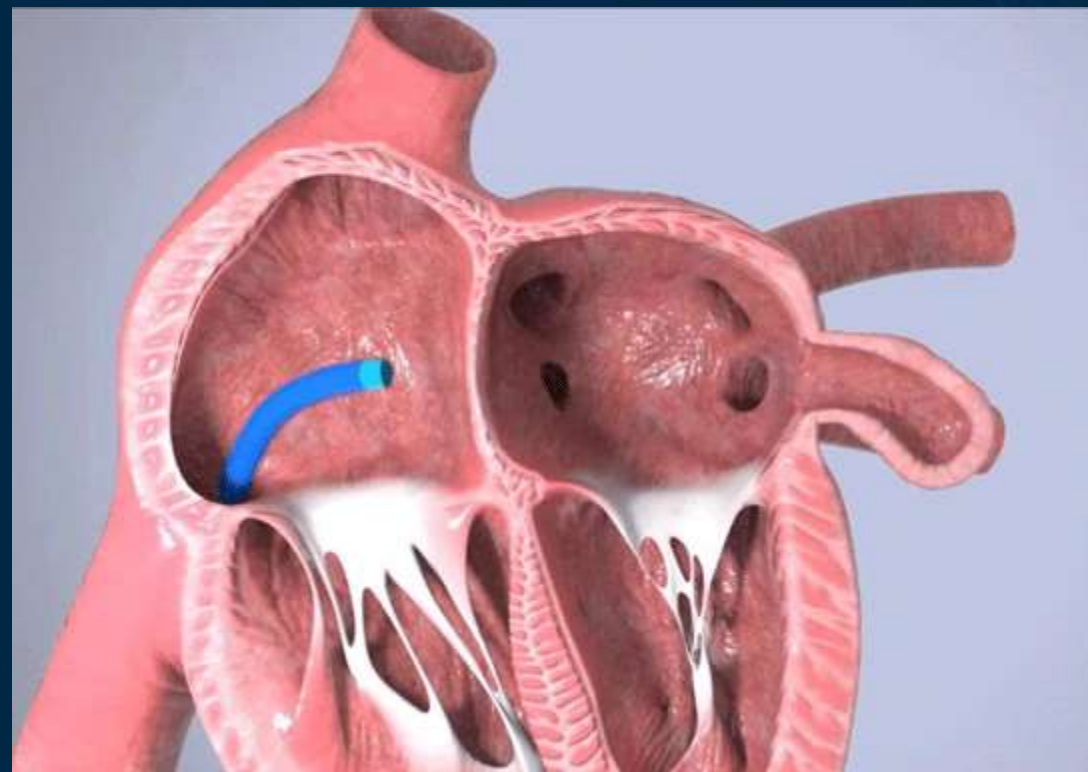
- Largely independent from size and shape of LAA
- Rotation of device closes the appendage
- Only a small part of the device is left exposed to the bloodstream



Adapted from Sievert. TVT 2022

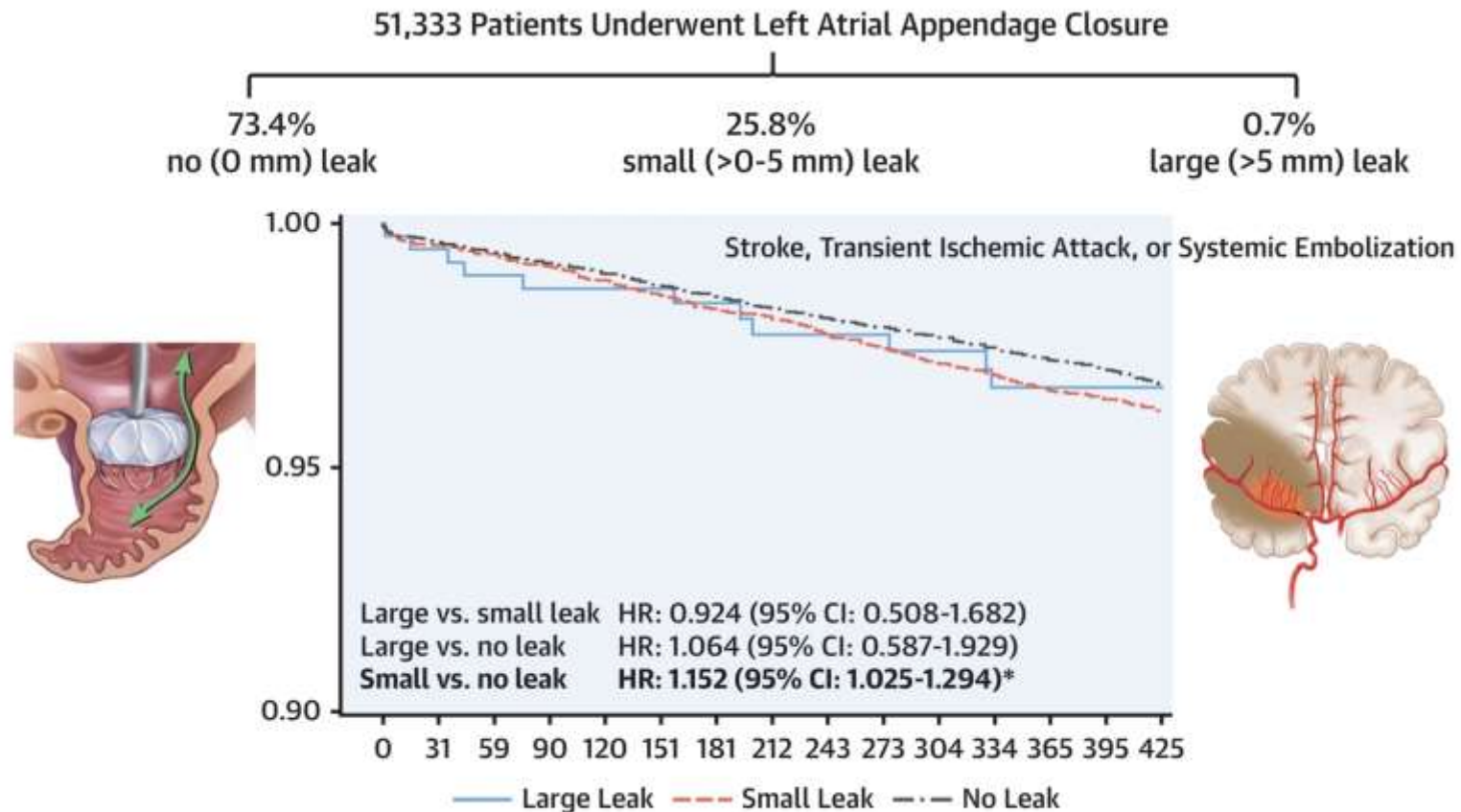
Appligator

- Invaginates and ligates the LAA
- Technique is independent of size and shape of LAA
- Does not leave device behind



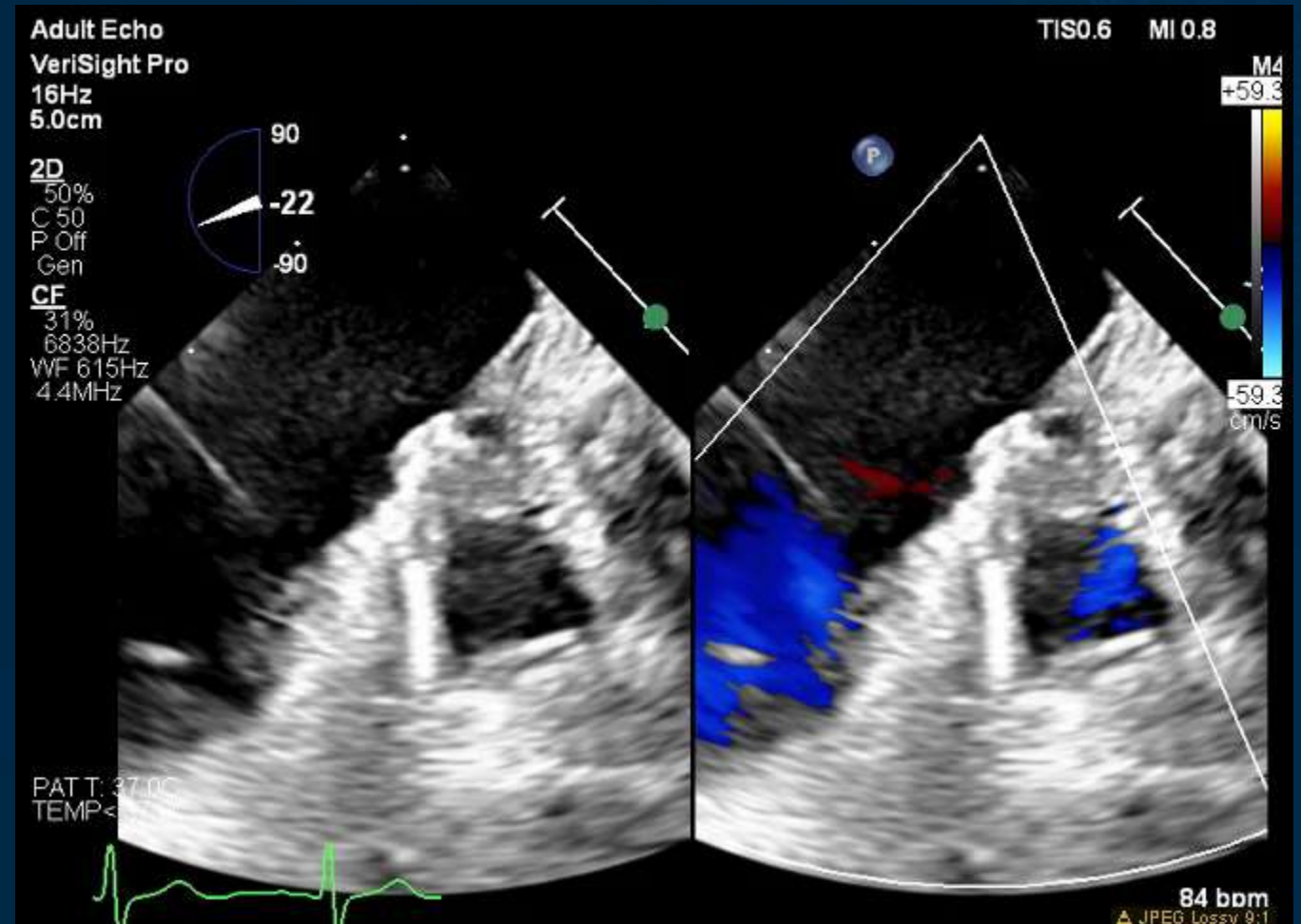
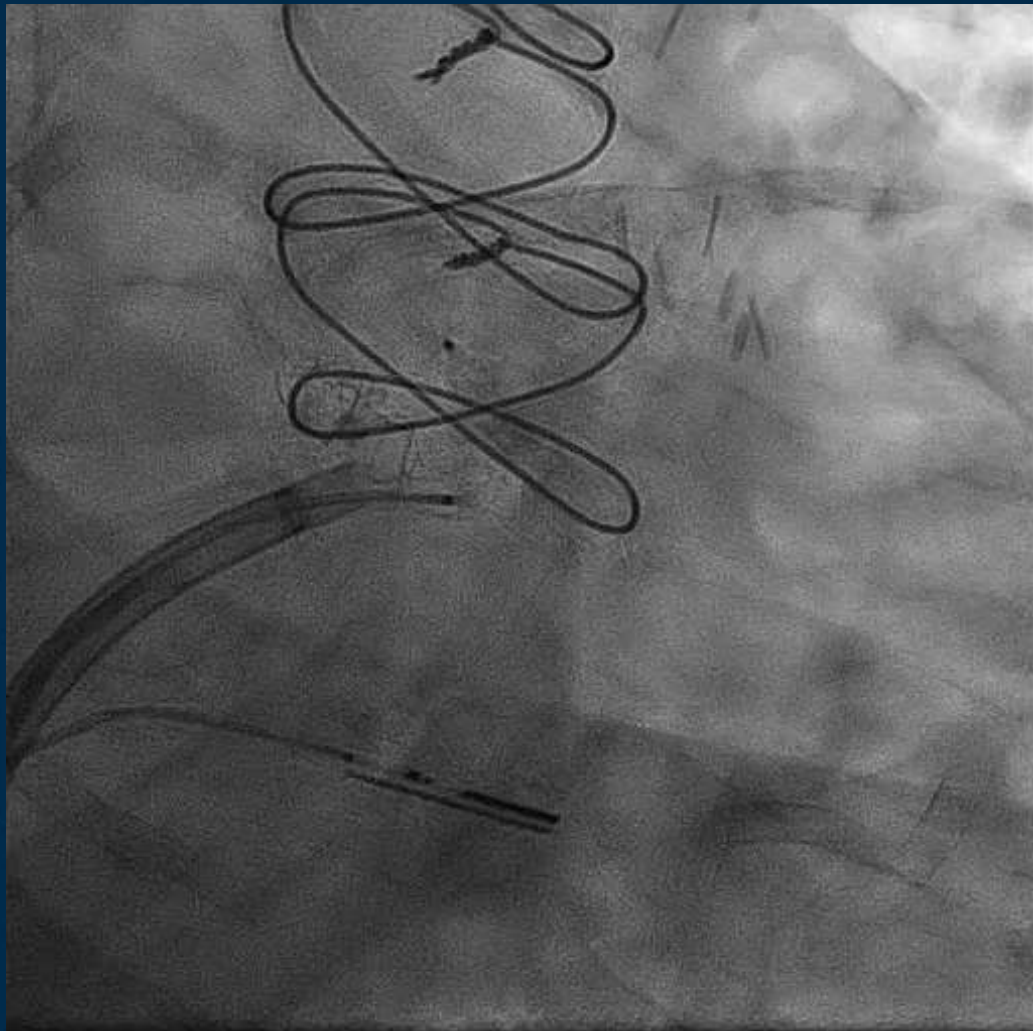
Controversies and New Indications

Peri-Device Leaks – When to Fix?

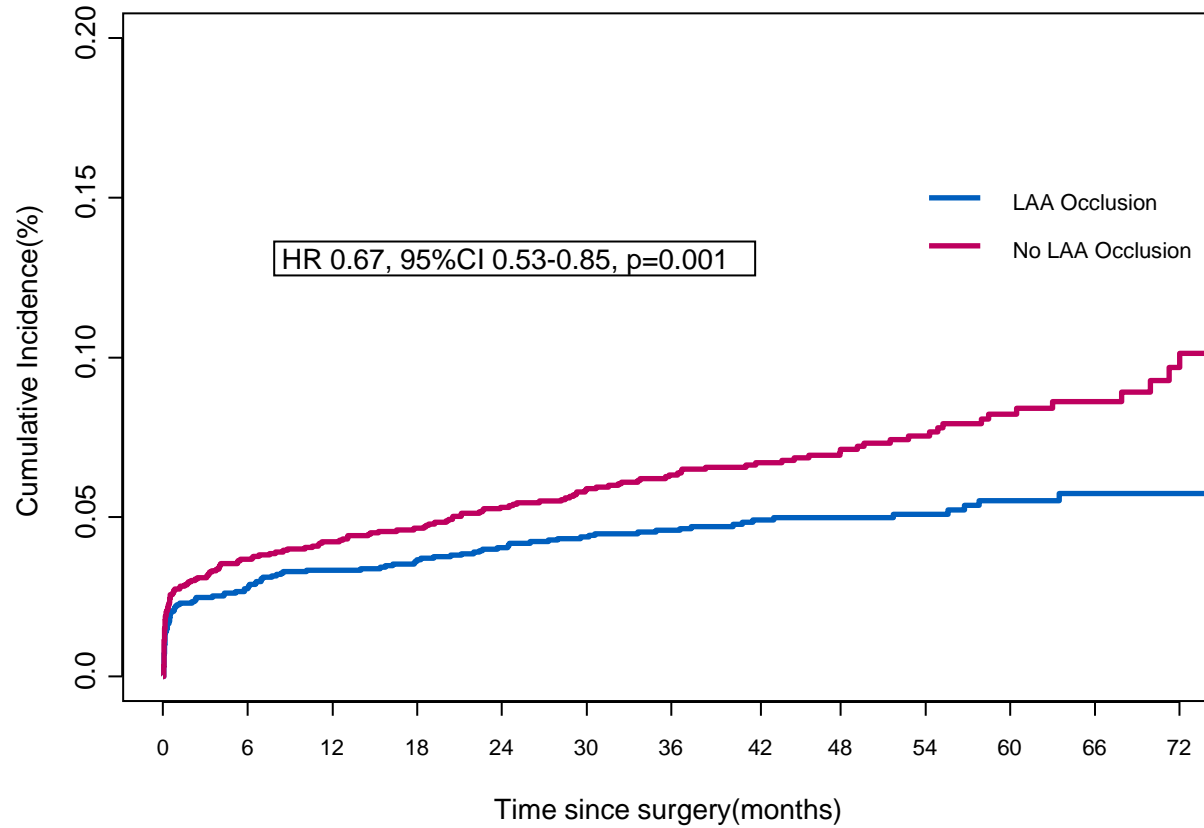


Alkhouli M, et al. J Am Coll Cardiol EP. 2022;8(6):766-778.

Peri-Device Leaks – When to Fix?



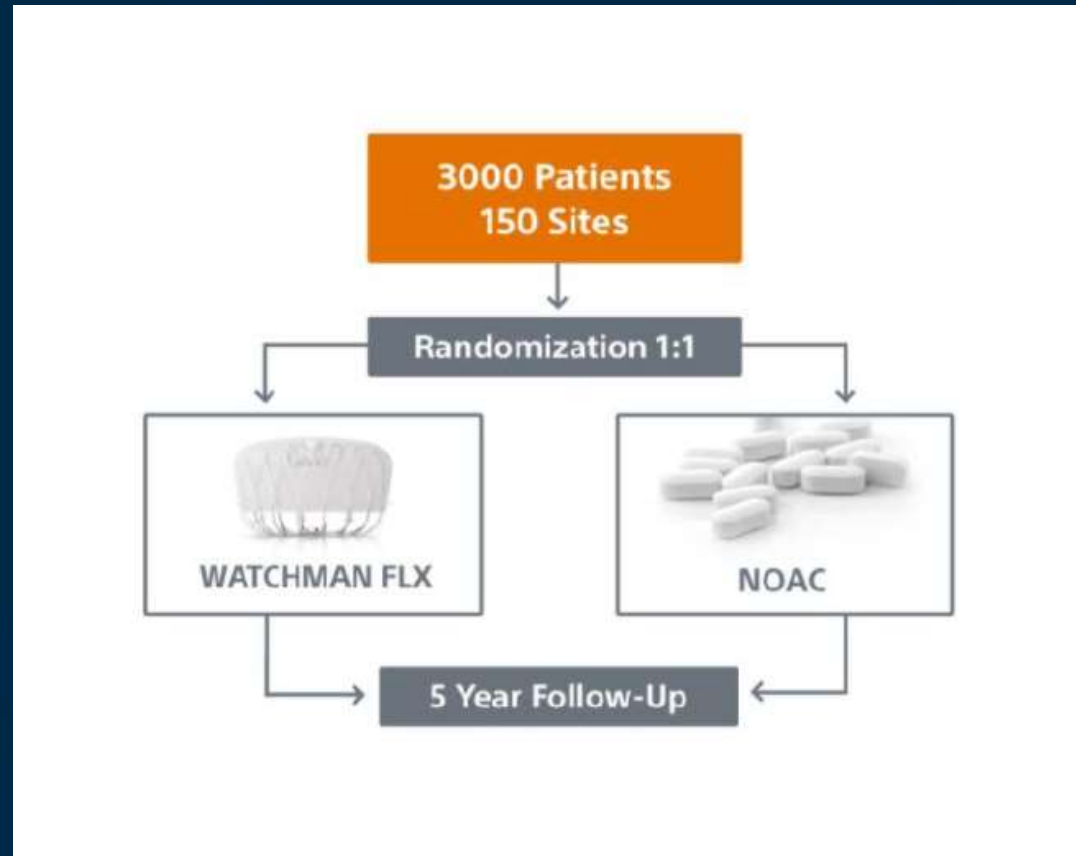
LAAOS III – More AC Post Procedure?



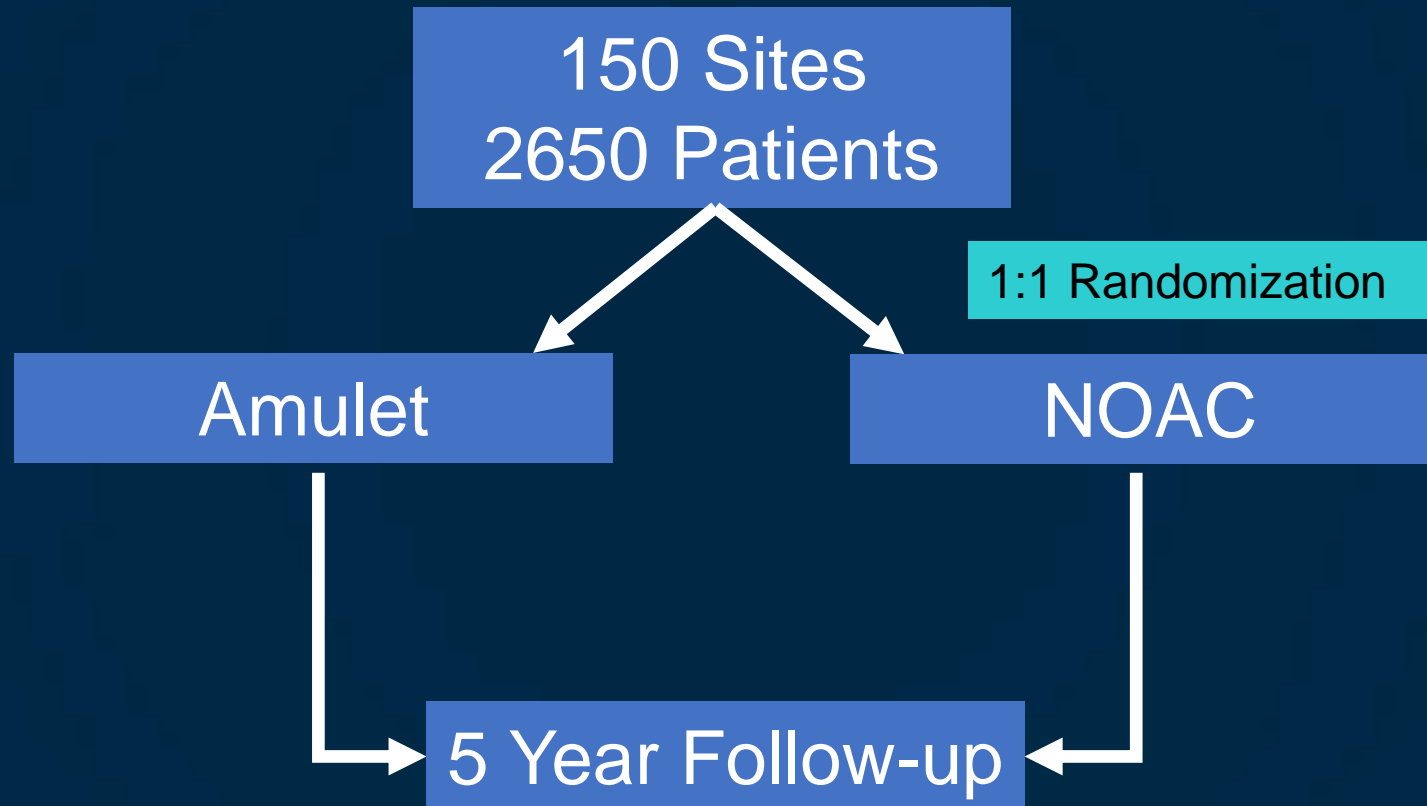
# at Risk	0	6	12	18	24	30	36	42	48	54	60	66	72
LAA Occlusion	2379	2163	2105	2059	2020	1948	1642	1322	1046	781	550	349	199
No LAA Occlusion	2391	2134	2081	2030	1981	1897	1607	1291	1016	751	540	348	205

CHAMPION AF – Can More Pts Benefit?

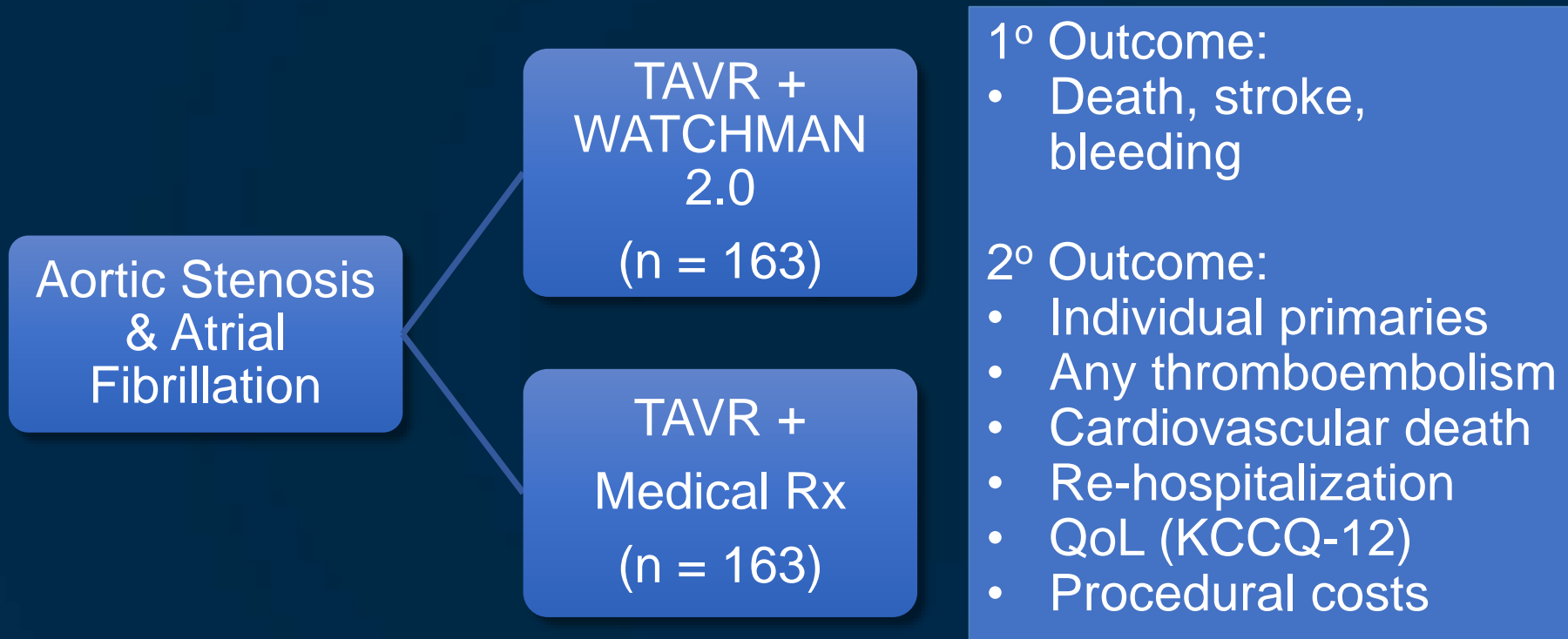
- Objective: Determine if LAA-O with Watchman FLX is an alternative first line therapy compared to NOACs in non valvular AF



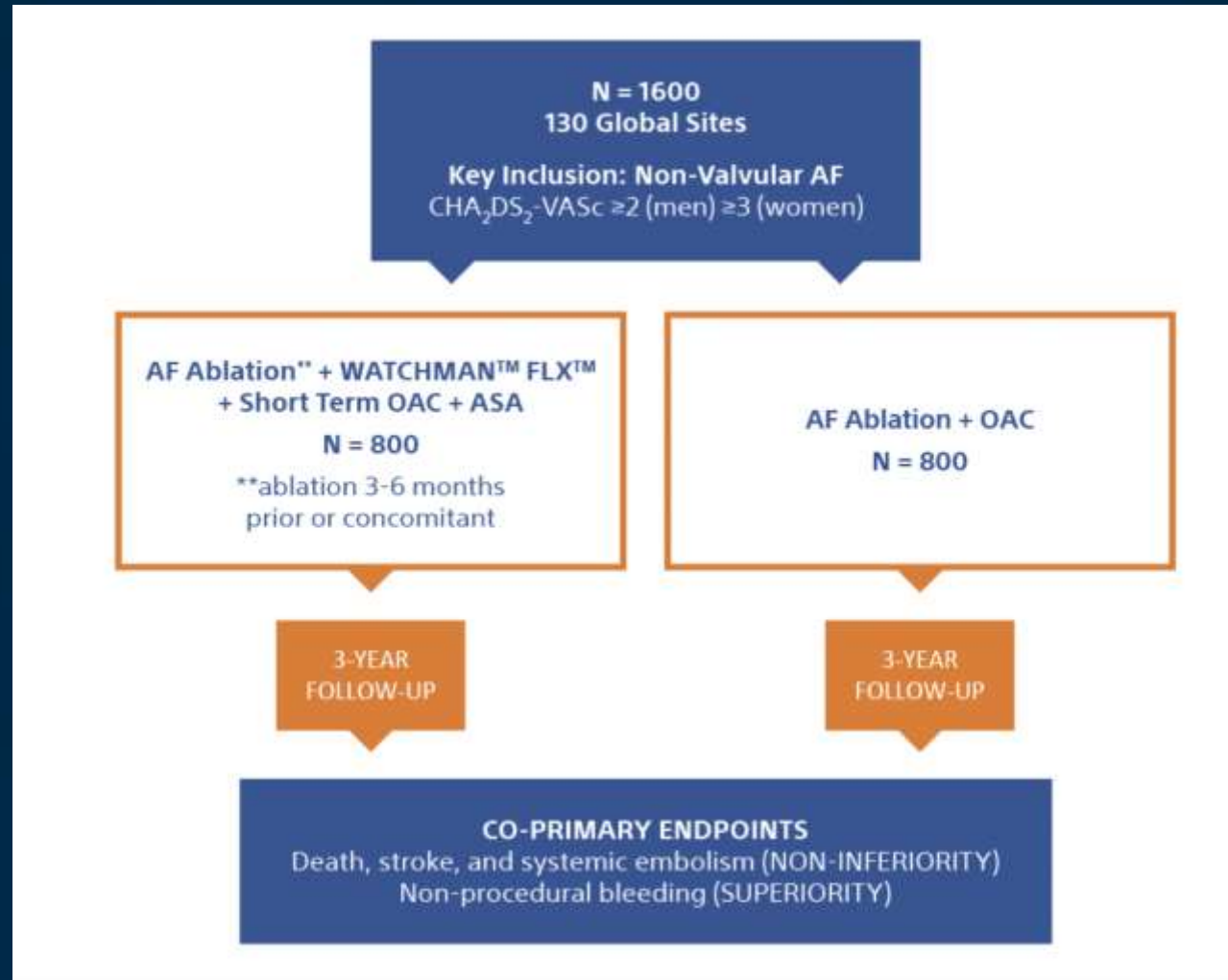
CATALYST – Can More Pts Benefit?



WATCH TAVR – Concomitant Therapies?



OPTION – Concomitant Therapies?



Conclusion

- LAAO occlusion is a well established alternative to oral anticoagulation in patients who are unable to tolerate anticoagulation
- New procedural techniques are being developed to simplify the procedure and to safely offer this technology to more patients
- New devices are being evaluated to potentially address difficult LAA anatomies
- Clinical trials are underway to determine if a larger patient population can benefit from LAAO