

Learning clinical case. Left Atrial Appendage Closure. Step by Step

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Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below

Affiliation/Financial Relationship

Consulting Fees/Honoraria
Preceptor

Company

Boston Scientific Brasil
Boston Scientific Brasil

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Clinical Case

I.G., 86 yo, male.

- HTN, bladder cancer/cystostomy/recurrent urinary tract infection
- Permanent AFIB using apixaban 5,0 mg QID
- Acute chronic subdural hematoma + extradural hematoma, having been submitted to neurosurgery for drainage.
- **CHA₂DS₂-VASc = 4 / HAS-BLED = 3**

Screening – CTA



ID Type	Label	Value
1	Polygon Min. Ø	22,0 mm
	Max. Ø	27,0 mm
	Avg. Ø	24,5 mm
	Area derived Ø	24,7 mm
	Perimeter derived Ø	25,2 mm
	Area	477,9 mm ²
	Perimeter	79,1 mm



**Perimeter Derived
Area / Diameter =
24-25 mm**



SetUp



General anesthesia



**Transesophageal
Echography (TEE)**



**Single Access:
Right femoral vein**



**Heparin –
full dose before
TSP (100 UI/Kg)**



**Transeptal
puncture guided
by TEE**



**Fluoroscopy,
angiography and
echocardiography**



ICE SetUp



**Local anesthesia +
Conscious sedation**



**Intracardiac
Echography (ICE)**



**Double Access:
Right femoral vein
(2 introducer 8F)**



**Heparin –
full dose before
TSP (100 UI/Kg)**



**Transeptal
puncture guided
by ICE**



**Fluoroscopy,
angiography and
echocardiography**



ICE imaging

Double Access RFV



Double Sheat 8F



8 Fr AcuNav catheter
(Biosense Webster)



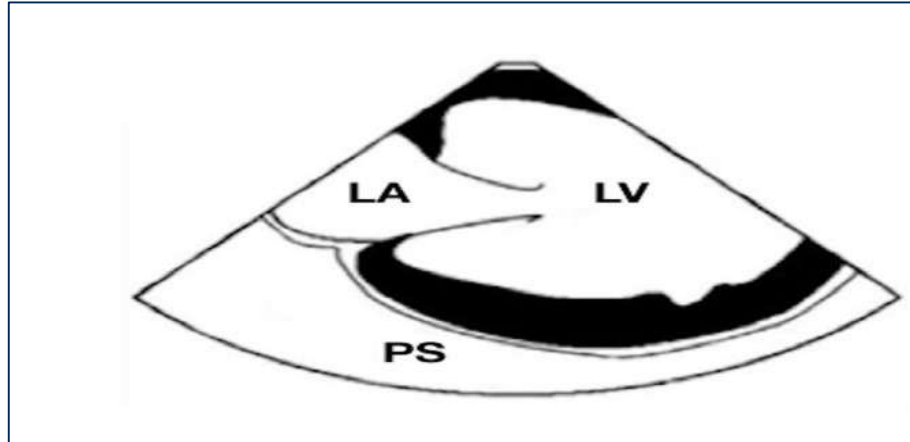
Long Sheat (≥ 23 cm)



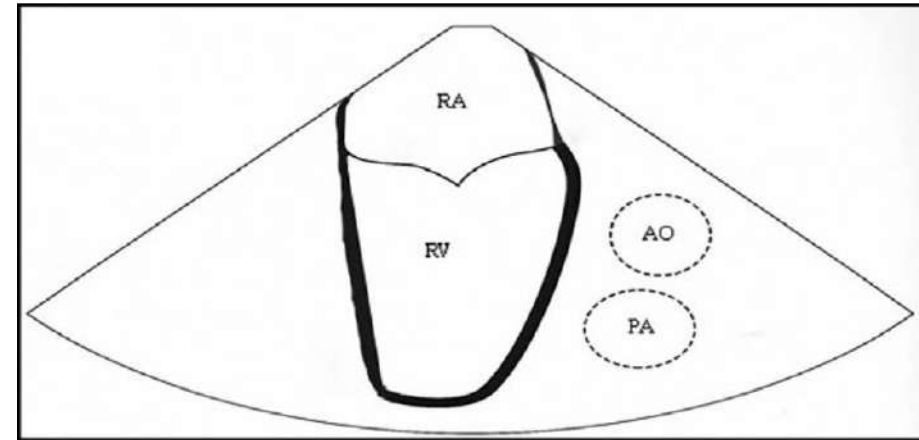


ICE Views RA

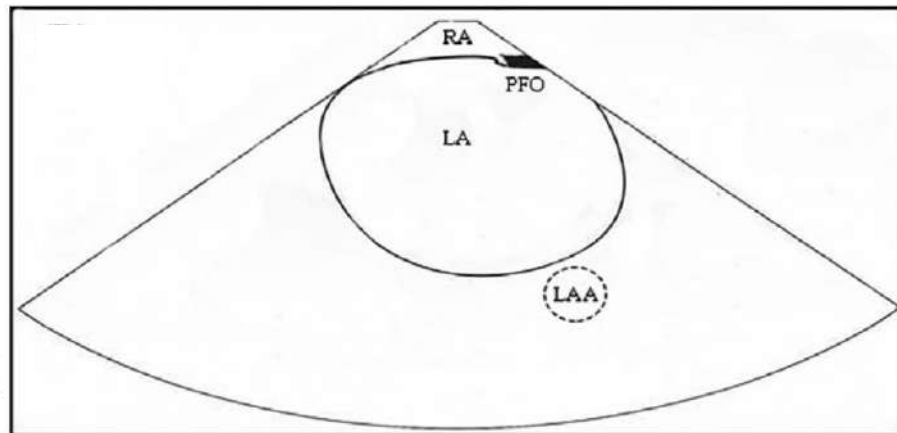
Left ventricular long-axis view



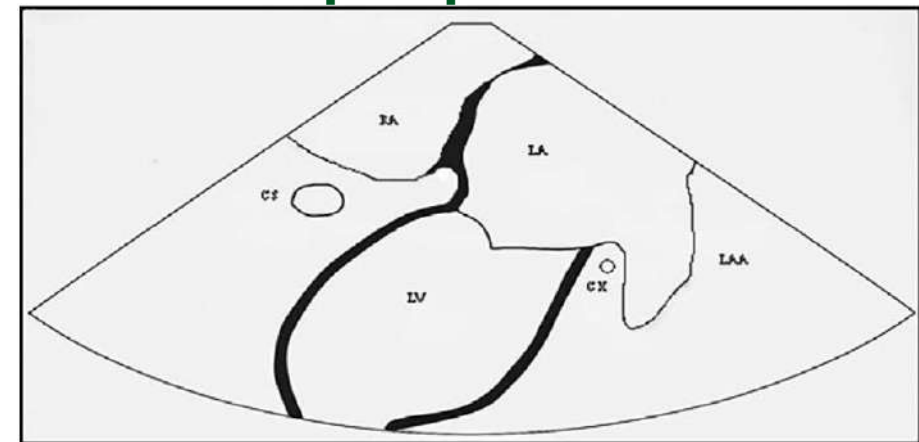
Home view



Fossa ovalis view

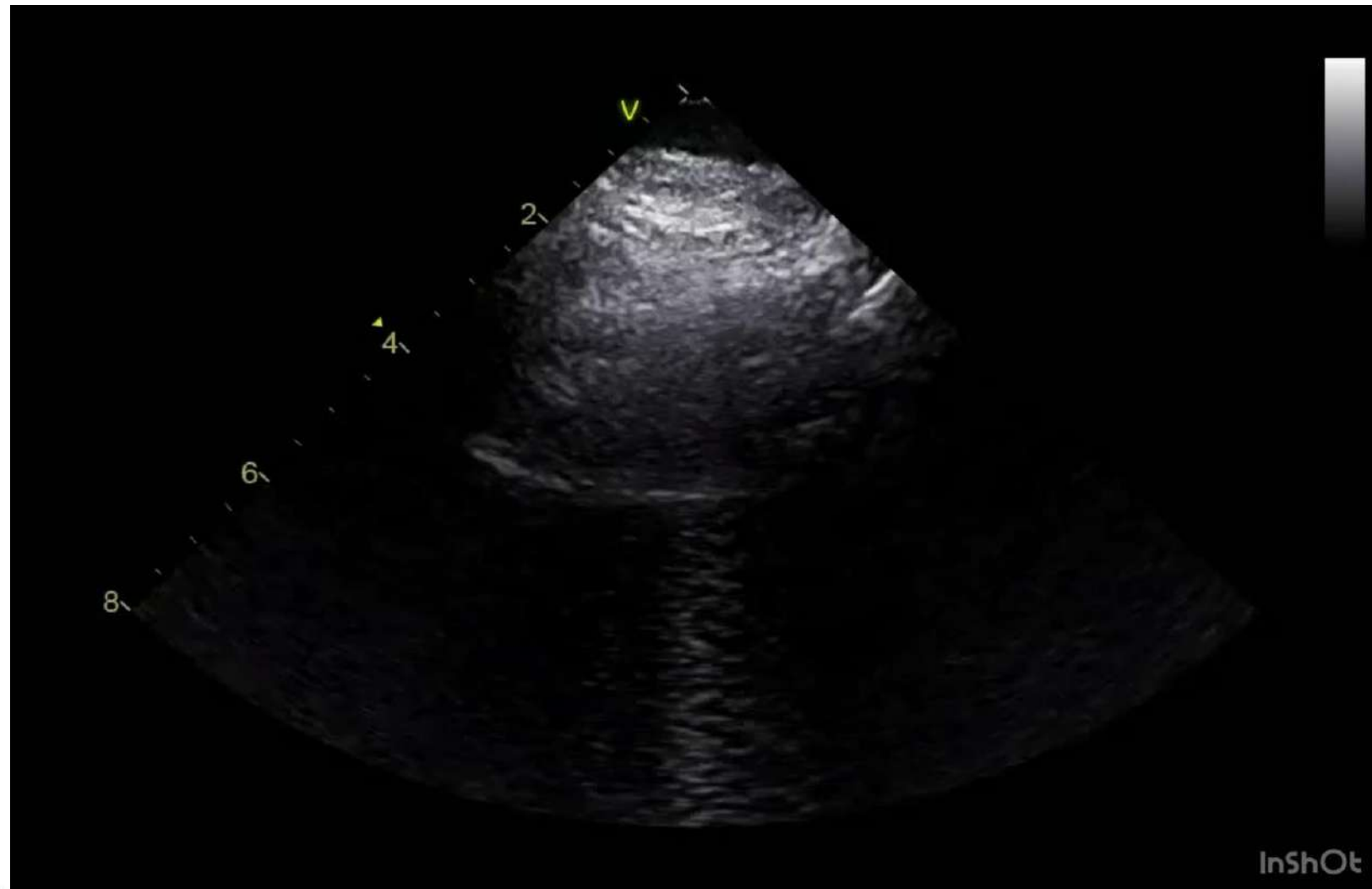
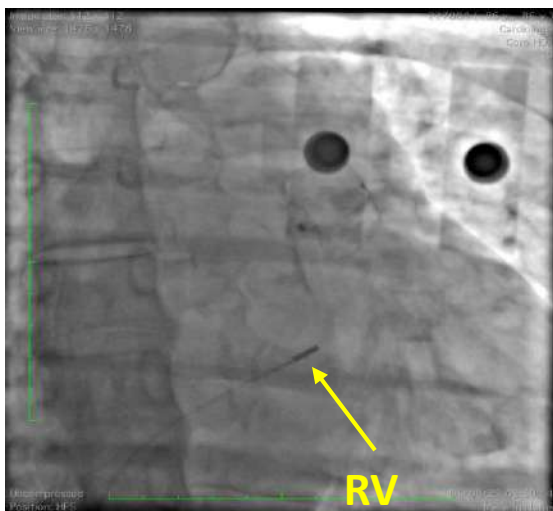


Transseptal puncture view





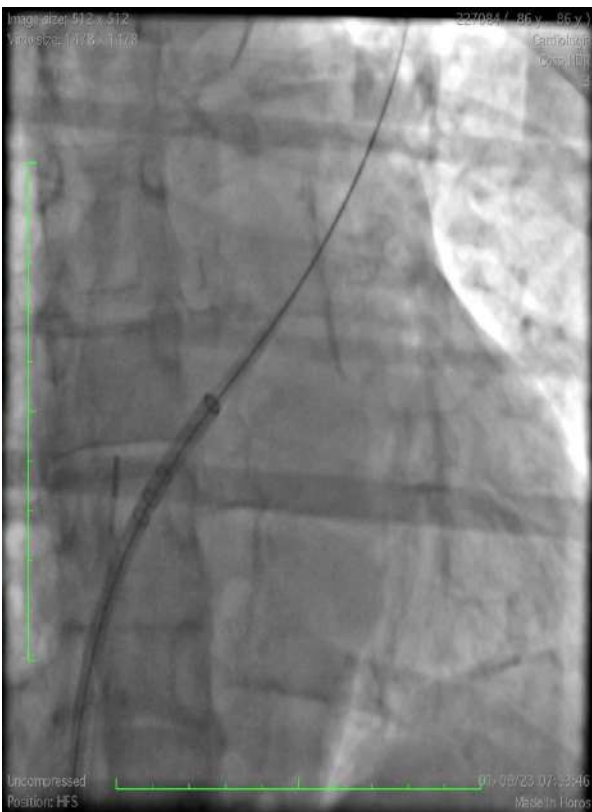
ICE Views RA / TSP





Manipulation/navigation in LA/LAA

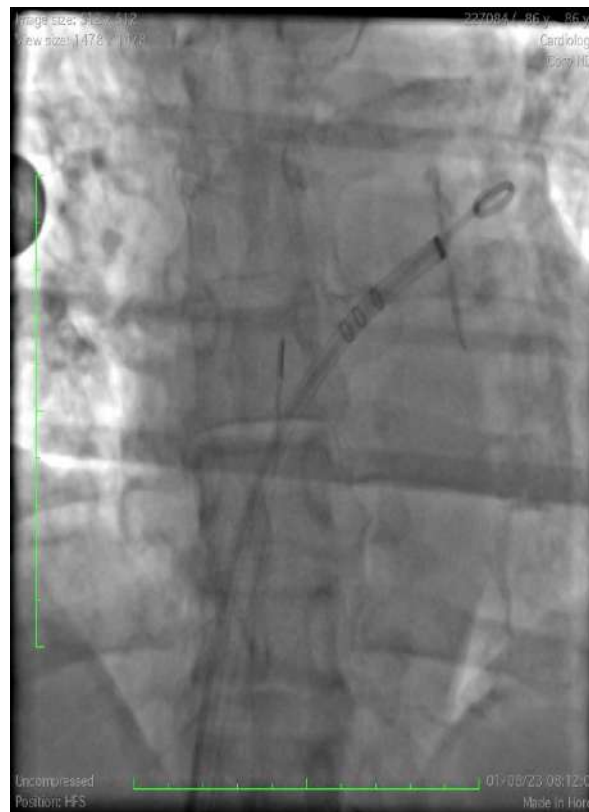
Dilate the septum



ICE catheter in LA



Delivery Sheat/Pigtail



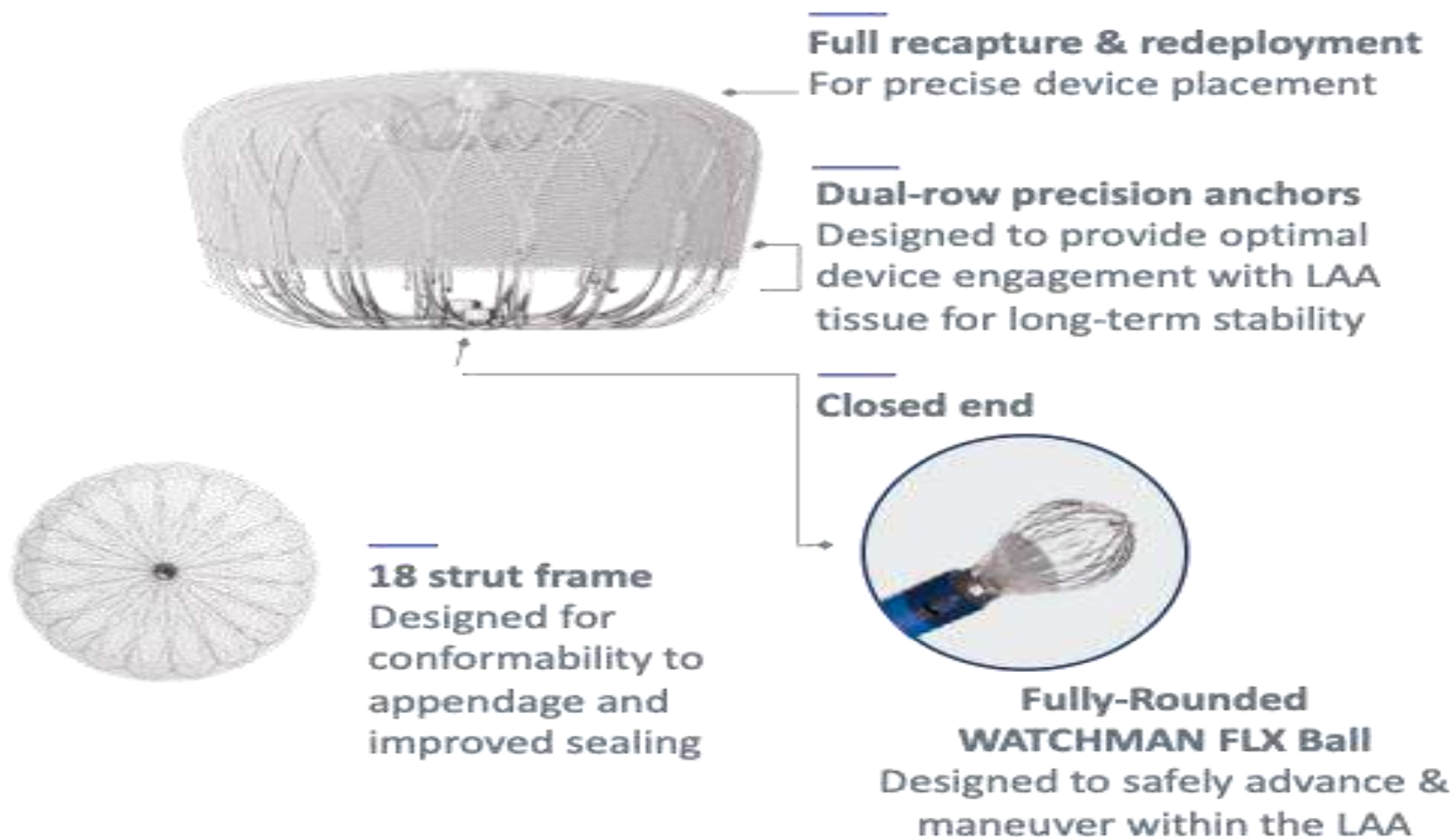
Angiography





Device Choice - LZ: 24-25 mm

WATCHMAN FLX





Device Choice - LZ: 24-25 mm

ICE measure = 24 mm



FLX Sizing Table

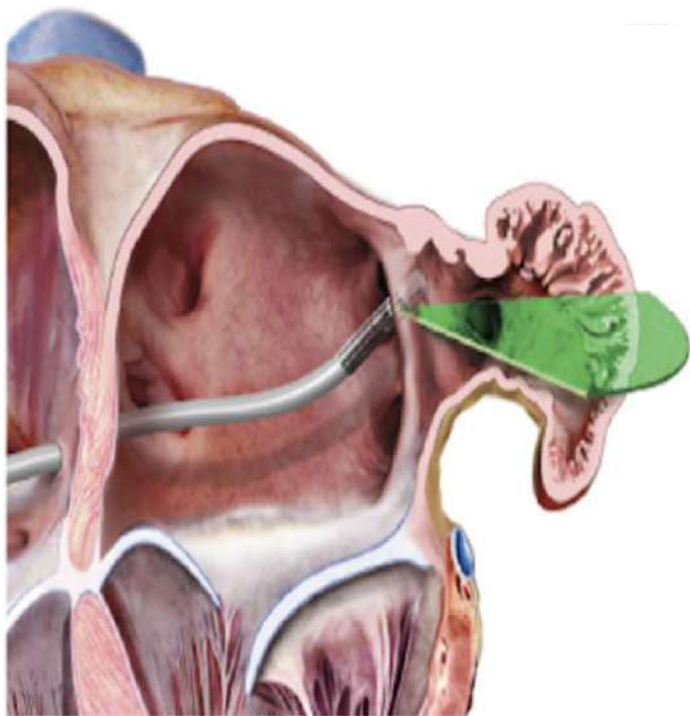
Max Diameter Range (LAA Os & Device)	Device Size
14.0 - 18.0	20
16.8 - 21.6	24
18.9 - 24.3	27
21.7 - 27.9	31
24.5 - 31.5	35

	FLX DEVICE SIZES				
	20	24	27	31	35
10%	18.0	21.6	24.3	27.9	31.5
11%	17.8	21.4	24.0	27.6	31.2
12%	17.6	21.1	23.8	27.3	30.8
13%	17.4	20.9	23.5	27.0	30.5
14%	17.2	20.6	23.2	26.7	30.1
15%	17.0	20.4	23.0	26.4	29.8
16%	16.8	20.2	22.7	26.0	29.4
17%	16.6	19.9	22.4	25.7	29.1
18%	16.4	19.7	22.1	25.4	28.7
19%	16.2	19.4	21.9	25.1	28.4
20%	16.0	19.2	21.6	24.8	28.0
21%	15.8	19.0	21.3	24.5	27.7
22%	15.6	18.7	21.1	24.2	27.3
23%	15.4	18.5	20.8	23.9	27.0
24%	15.2	18.2	20.5	23.6	26.6
25%	15.0	18.0	20.3	23.3	26.3
26%	14.8	17.8	20.0	22.9	25.9
27%	14.6	17.5	19.7	22.6	25.6
28%	14.4	17.3	19.4	22.3	25.2
29%	14.2	17.0	19.2	22.0	24.9
30%	14.0	16.8	18.9	21.7	24.5
31%	13.8	16.6	18.6	21.4	24.2
32%	13.6	16.3	18.4	21.1	23.8
33%	13.4	16.1	18.1	20.8	23.5
34%	13.2	15.8	17.8	20.5	23.1
35%	13.0	15.6	17.6	20.2	22.8
36%	12.8	15.4	17.3	19.8	22.4
37%	12.6	15.1	17.0	19.5	22.1
38%	12.4	14.9	16.7	19.2	21.7
39%	12.2	14.6	16.5	18.9	21.4
40%	12.0	14.4	16.2	18.6	21.0

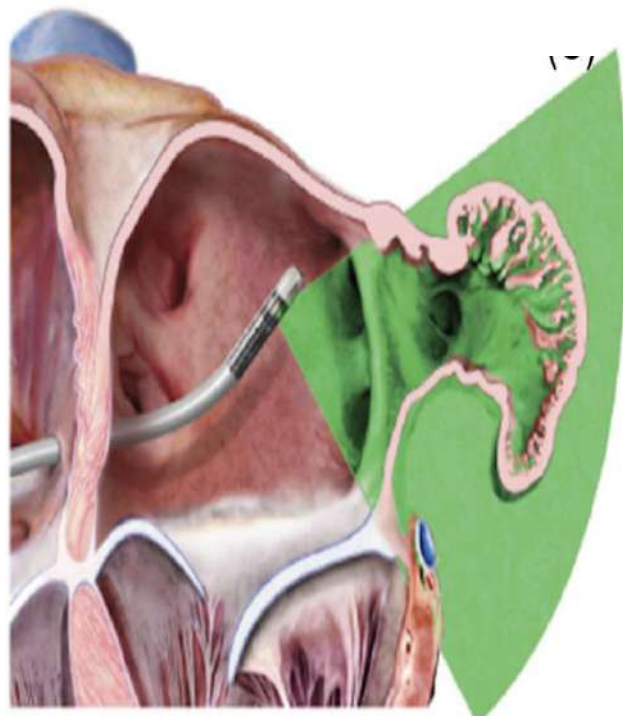


ICE Views LA

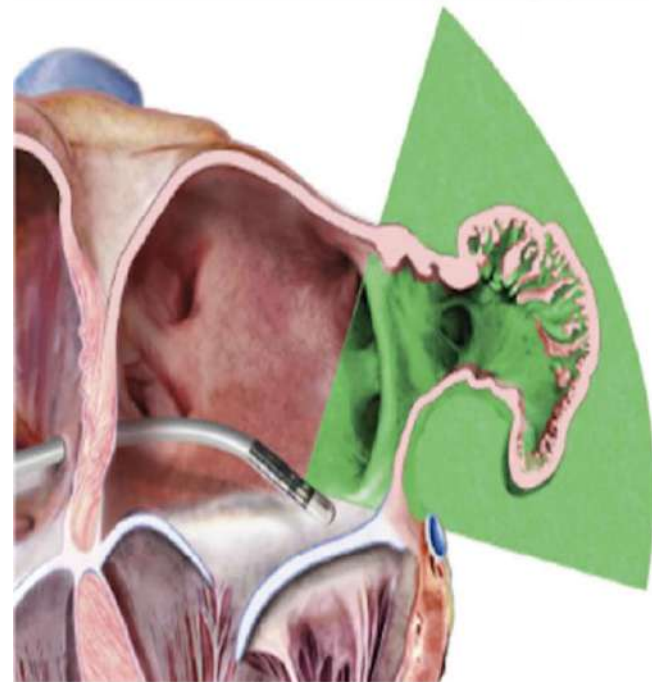
LPSV View



Mid LA
("Home View LA")

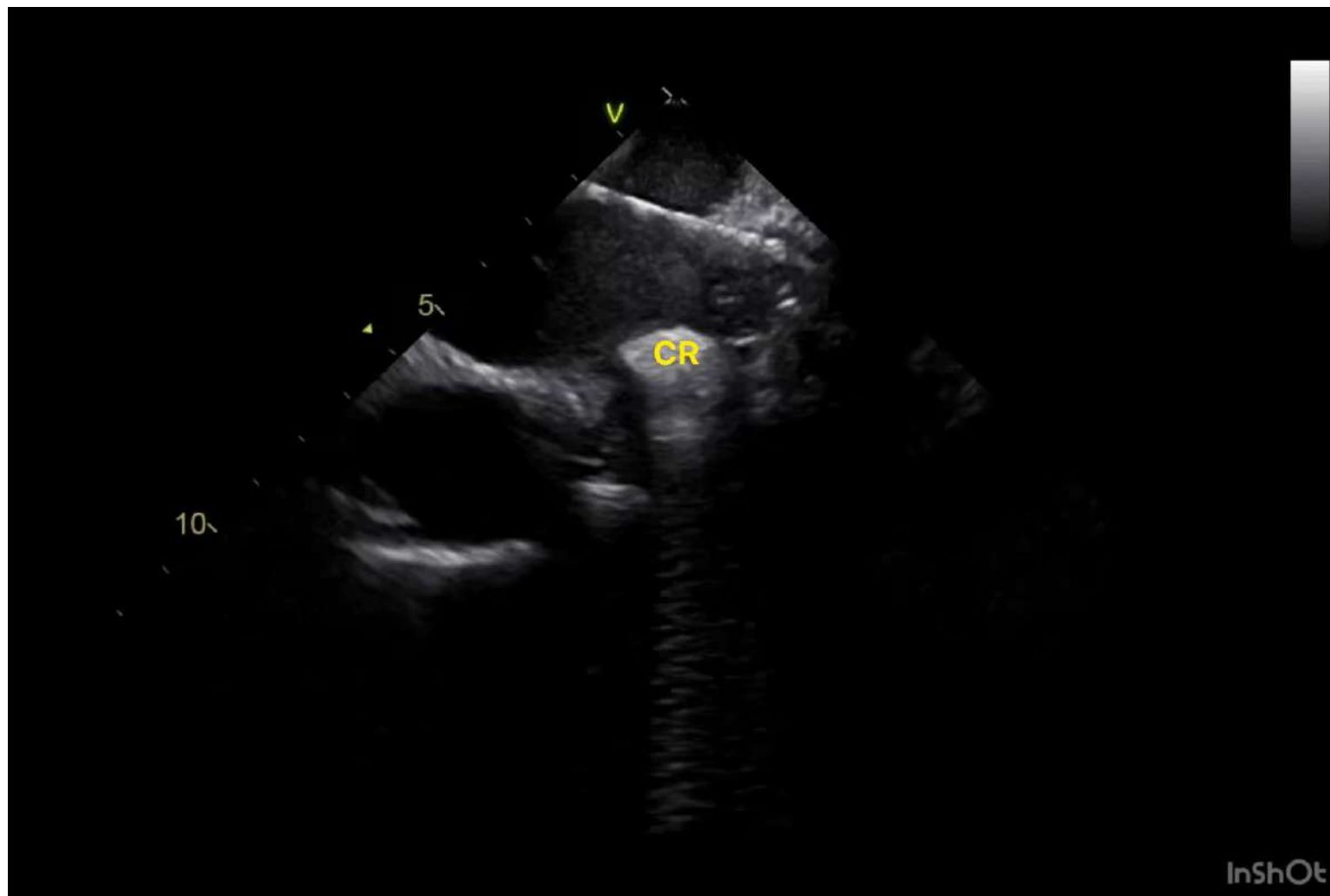


Supramitral View





ICE Manipulation/navigation in LA/LAA





Watchman FLX 31 mm - LA/LAA

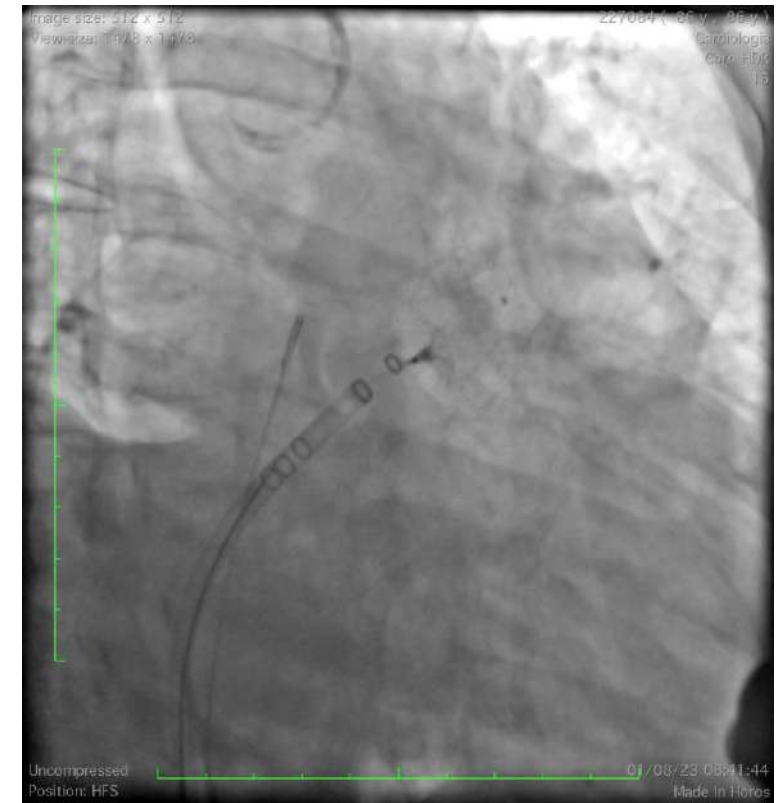
FLX Ball



Deployment



Angiography





Device Release: PASS Criteria

Position



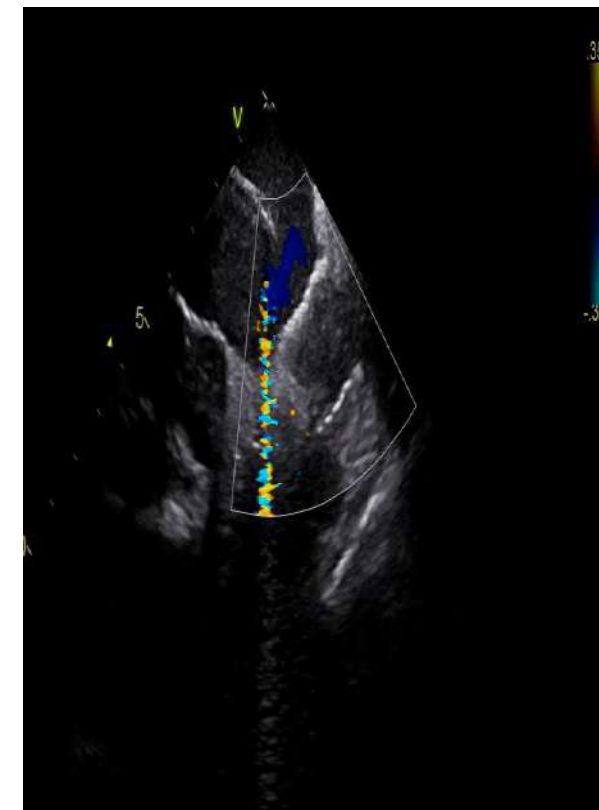
Anchor



Size (25%)



Seal





Device Release



REDE D'OR

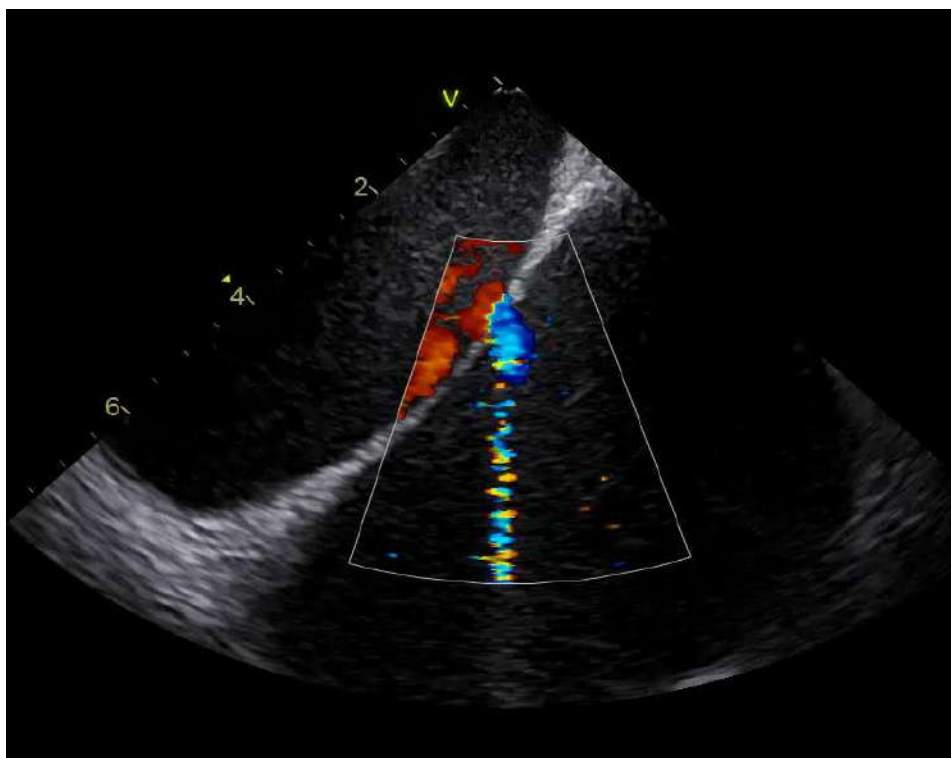
CARDIOLOGIA D'OR

REDE D'OR
SÃO LUIZ

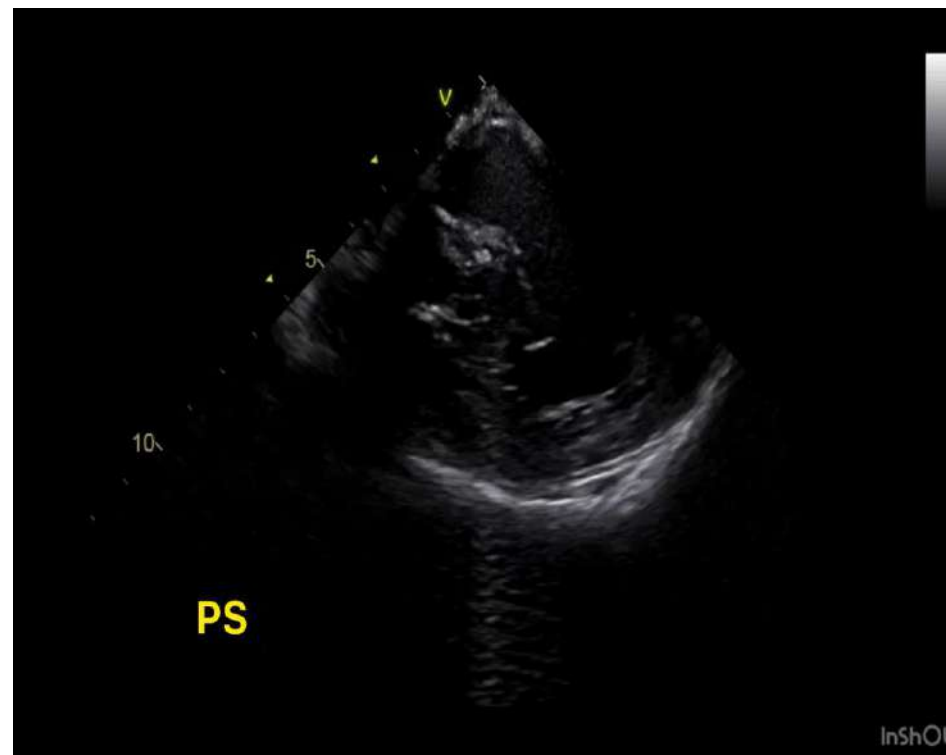


Manage Complications

Atrial Septal Defect

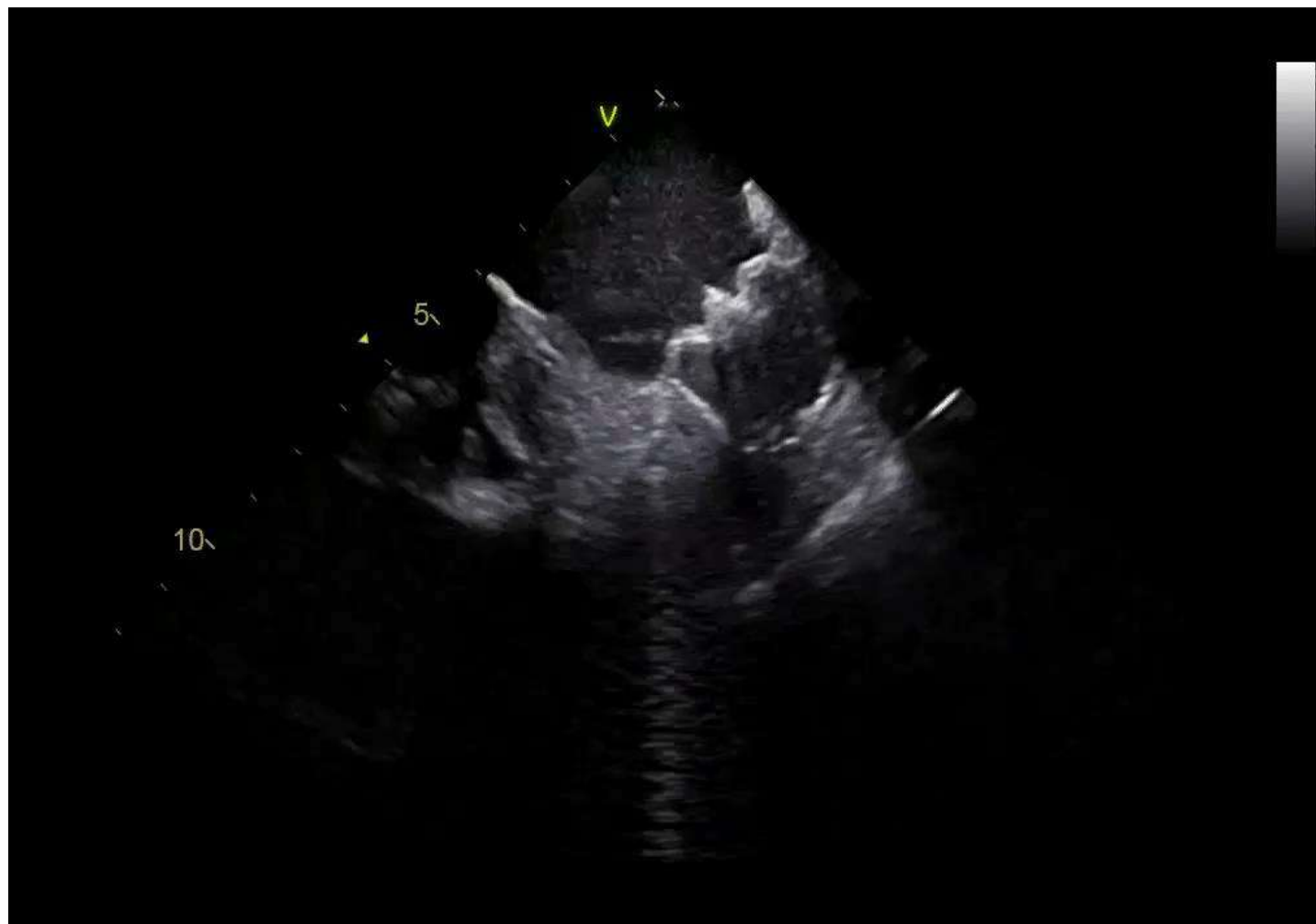


Pericardial Effusion





Beautiful Images





Take Home Message

The use of ICE in the left atrium allows a feasible guidance of all steps of the percutaneous closure of LAA, with several potential advantages over the TEE in selected patients.

Avoids general anesthesia or deep sedation, improves patient experience, room turnover time and logistics, namely by reducing the need for anesthesiologists, sonographers, and nursing support for postanesthetic recovery.

Combined preprocedural imaging and procedural fluoroscopy should be routinely used in ICE-guided LAA closure.

Device sizing and exclusion of LAA thrombus remain essential, and the reliability of ICE for this purpose is questionable, especially due to the high eccentricity of the LAA.



OBRIGADO / THANK YOU / GRACIAS

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VALVE
IN RIO



MARCH 13-15 2024
SAVE THE DATE