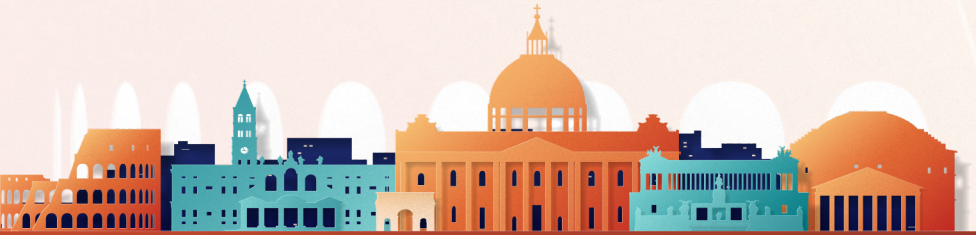
PLACE 2026
PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

CONGRESSO
ROMA, 25 - 27 Giugno 2026

ICTUS, PFO, FIBRILLAZIONE ATRIALE E DINTORNI

Nuove indicazioni alla chiusura dell'auricola sinistra



Prof. Gavino Casu, FESC
Director of the Complex Unit of Clinical and Interventional Cardiology
Sassari University Hospital, Italy
Head of the School of Cardiovascular Diseases
University of Sassari Italy

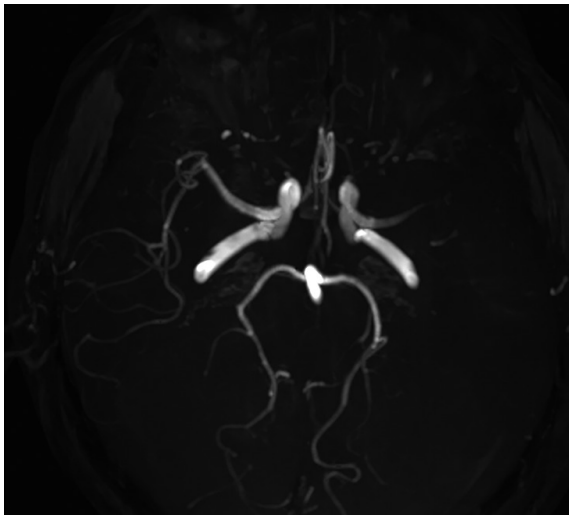
Disclosure:

Grant/Research Support	• Boston Scientific, Abbott, Kardia
Consulting Fees/Honoraria	• Boston Scientific, Abbott, Kardia

A long and winding road

Background to close the left atrial appendage

- Atrial fibrillation causes stroke
- Strokes are associated with thrombus formation in the LAA
- Thrombi causes strokes by embolization to the cerebral circulation



THE LANCET *Regional Health*
Europe

This journal | Journals | Publish | Clinical | Global health | Multimedia | Events | About

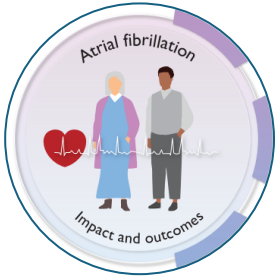
SERIES | CLINICAL

Atrial Fibrillation 2024

Published: February 1, 2024

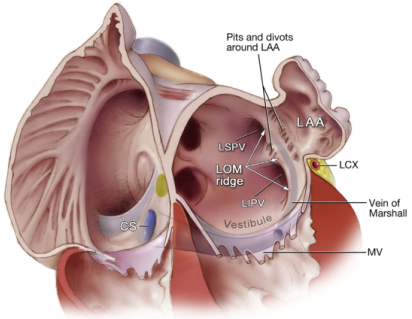
Executive summary

Atrial fibrillation (AF) is the most common cardiac arrhythmia, affecting 1.5-2% of European adults, with an anticipated surge to 9.5% in individuals aged over 65 by 2060. As a primary contributor to stroke, dementia, heart failure, and premature mortality, AF constitutes a significant threat to the expanding elderly demographic and healthcare systems.



More than 90% of thrombi originate in **LAA**

Recommendation	Class[a]	Level[b]
Percutaneous LAA occlusion may be considered in patients with AF and contraindications for long-term anticoagulant treatment to prevent ischaemic stroke and thromboembolism.[372,376,386,387]	IIb	C



European Heart Journal, Volume 45, Issue 36, 21 September 2024, Pages 3314–3414

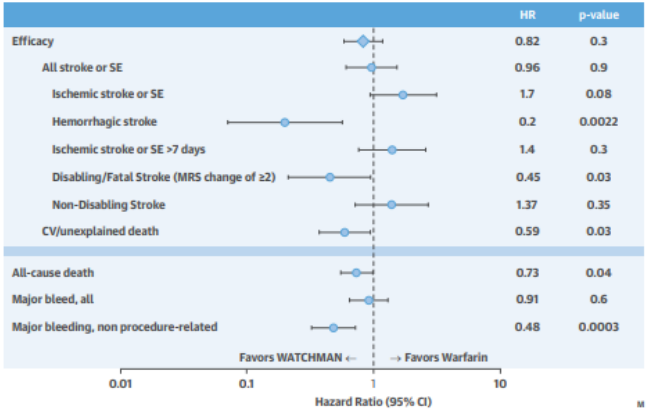
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY VOL. 70, NO. 24, 2017

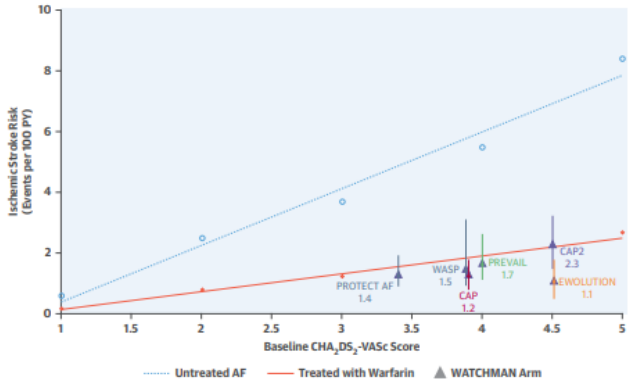
ISSN 0735-1097
https://doi.org/10.1016/j.jacc.2017.10.021

5-Year Outcomes After Left Atrial Appendage Closure

From the PREVAIL and PROTECT AF Trials

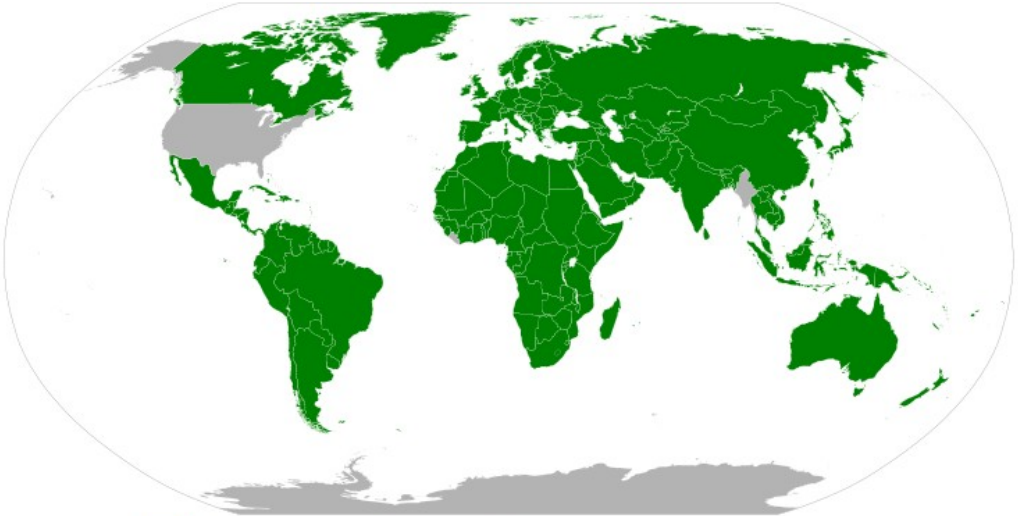
Vivek Y. Reddy, MD,[a,b] Shephal K. Doshi, MD,[c] Saibal Kar, MD,[d] Douglas N. Gibson, MD,[e] Matthew J. Price, MD,[e] Kenneth Huber, MD,[f] Rodney P. Horton, MD,[g] Maurice Buchbinder, MD,[h] Petr Neuzil, MD, PhD,[b] Nicole T. Gordon, BSEE,[i] David R. Holmes, Jr, MD,[i] on behalf of the PREVAIL and PROTECT AF Investigators





Reddy, V.Y. et al. J Am Coll Cardiol. 2017;70(24):2964-75.

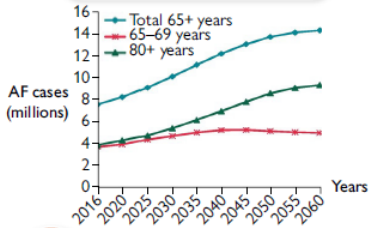
LAAC is approved by the Food and Drug Administration in patients with nonvalvular AF and $CHADS_2$ score ≥2 or CHA_2DS_2-VASc score ≥3, suitable for short-term OAC.



LAAC is mostly proposed to patients at high thrombotic risk with a relative or absolute contraindication to OAC because of a recent bleeding event or at high risk of uncontrollable bleeding.

LAAC for stroke prevention in AF

AF = most common cardiac arrhytmia, and growing



~8 M People 65+ with AF in Europe, expected to double by 2060

Lifetime Risk for AF

1/3 Individuals: Index age of 55 years

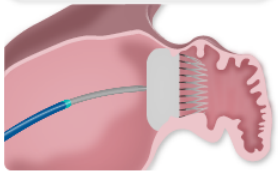
AF increases risk of stroke

5X Greater risk of stroke with AF

High risk for stroke

High risk for bleeding

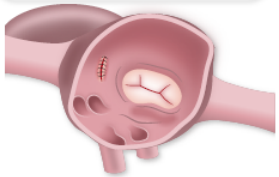
Consider percutaneous LAAC

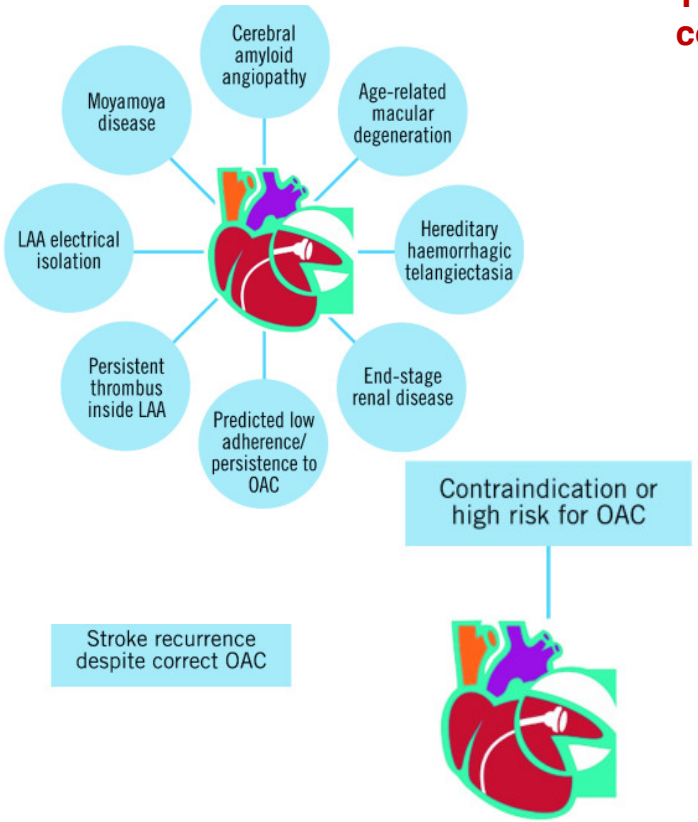


Anticoagulation (D)OAC

Planned surgical procedure CABG/valve surgery

Surgical LAAC





There is no consensus on the definitions of absolute or relative contraindications to OAC

•some clinical scenarios where the majority of specialists agree that the use of OAC is associated with an excessively high risk of potentially fatal or disabling bleeding:

- a history of previous significant bleeding or bleeding in noble organs (such as the spinal cord or intraocular);
- potentially non-correctable sources of significant bleeding in gastrointestinal (GI), pulmonary or urogenital tracts;
- coagulation disorders;
- chronic renal failure with a glomerular filtration rate (GFR) <15 ml/min;
- end-stage liver failure;
- presence of certain tumours;
- risk of frequent falls

CLOSURE-AF

Left Atrial Appendage Closure in Patients with Atrial Fibrillation at High Risk of Stroke and Bleeding Compared to Medical Therapy

	Events/patient-years (Incidence per 100 patient-years)		Adjusted HR (95% CI)	P value Non-inferiority
	LAA closure	Best Medical Care		
Primary outcome				
Composite of stroke, systemic embolism, cardiovascular/ unexplained death or major bleeding (BARC≥3)	16.83%	13.27%	1.28 (1.01, 1.62)	0.44
RESULTS: Over a median follow-up of 3 years, LAA closure was associated with a higher risk of the combined primary outcome compared to physician-directed best medical care.				

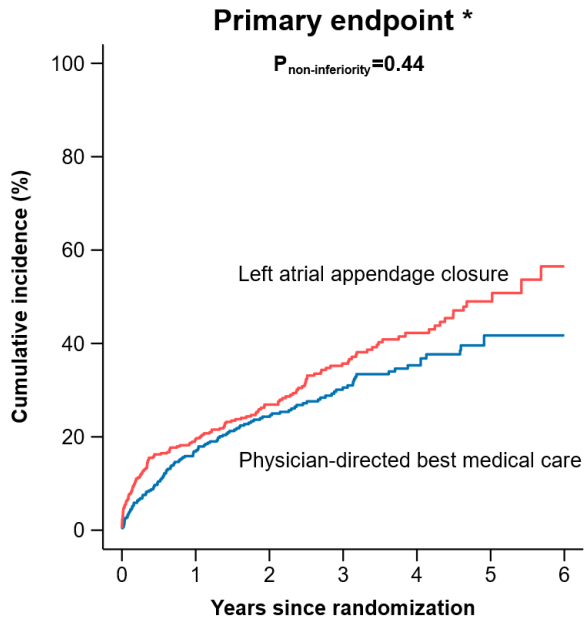
Primary outcome (ITT): CLOSURE-AF

Stroke, Systemic Embolism, cardiovascular/unexplained Death, Or Major bleeding (barc≥3)

PURPOSE: To compare catheter-based left atrial appendage (LAA) closure and physician-directed best medical care in patients with atrial fibrillation (AF) at high risk of stroke and bleeding.

STUDY DESIGN: Prospective, multicenter, event-driven, randomized (1:1) controlled trial, N = 888

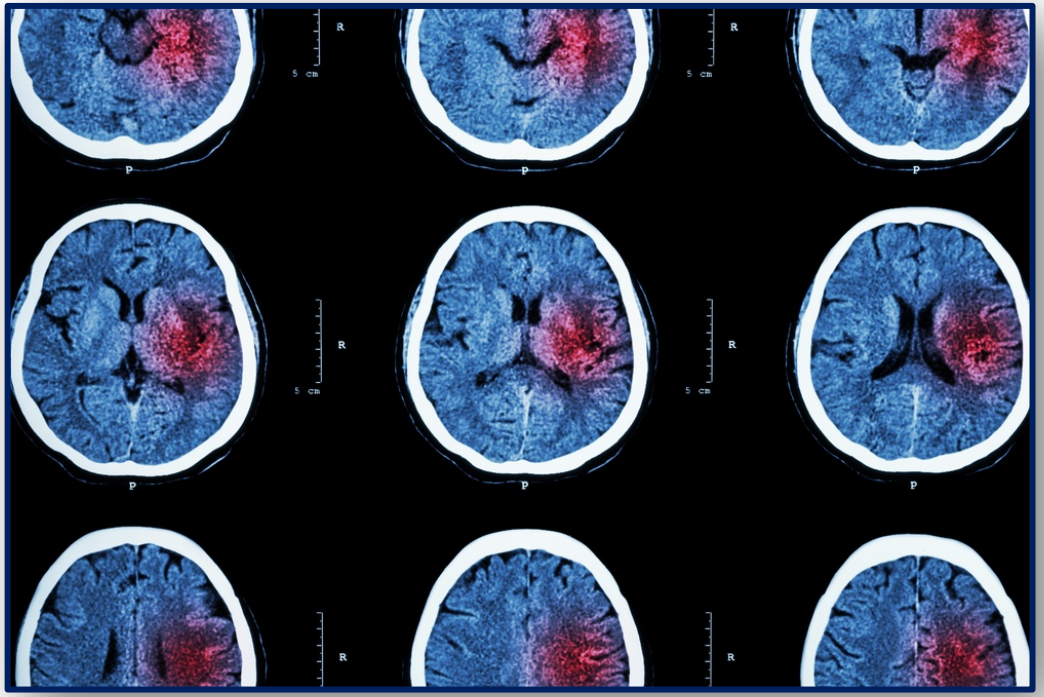
KEY TAKEAWAYS: In patients with AF at high bleeding risk, catheter-based LAA closure when compared to physician-directed best medical care did not achieve non-inferiority.



Patients at risk

Physician-directed best medical care	442	306	203	136	77	40	7
Left atrial appendage closure	446	304	202	117	71	33	9

The Achilles' Heel: Ischemic Stroke in Patients on Oral Anticoagulation



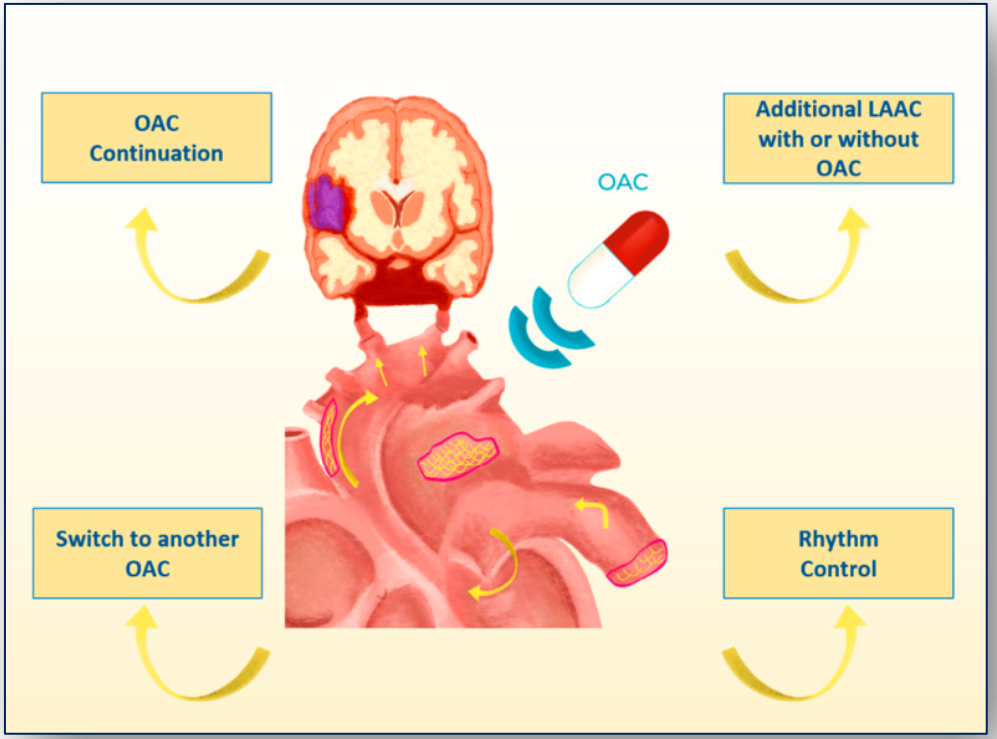
Brain Sci. 2025, 15, 454

→ Stroke can occur despite oral anticoagulation.

→ Reported rates across trials: 2–30%

→ Represents a significant clinical challenge in patient management.

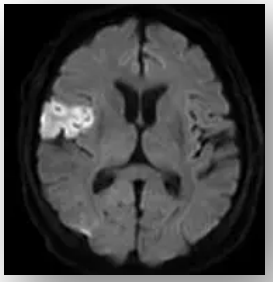
Secondary Prevention of Ischemic Stroke despite Oral Anticoagulation

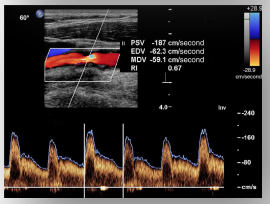


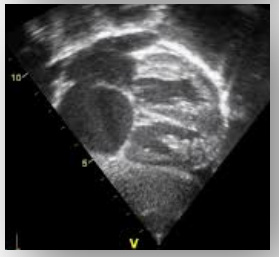
Recommendation Table 9 — Recommendations for thromboembolism despite anticoagulation (see also Evidence Table 9)

Recommendation	Class[a]	Level[b]
A thorough diagnostic work-up should be considered in patients taking an oral anticoagulant and presenting with ischaemic stroke or thromboembolism to prevent recurrent events, including assessment of non-cardioembolic causes, vascular risk factors, dosage, and adherence.[356,357]	IIa	B
Adding antiplatelet treatment to anticoagulation is not recommended in patients with AF to prevent recurrent embolic stroke.[356,359]	III	B
Switching from one DOAC to another, or from a DOAC to a VKA, without a clear indication is not recommended in patients with AF to prevent recurrent embolic stroke.[252,356,359]	III	B

J. Clin. Med. 2023, 12, 5784







Diagnostic Workflow

Ischemic Stroke under Anticoagulation

Identify Mechanism of Stroke

Competing Mechanisms

- Assess brain imaging to identify type of ischemic stroke (embolic, atherosclerotic)
- If stroke is embolic, order advanced testing based on H&E for hypercoagulability disorders, PFO, endocarditis, cardiac tumors, carotid stenoses

Negative

Poor Adherence/Inertia

- Obtain detailed history (identify low or off-label dosing, drug-drug or drug-food interactions)
- If patient on VKA, evaluate INR
- If patient of DOAC, evaluate typical coagulation panels or DOAC-specific clotting assays (if available)

Negative

True OAC Failure

	All patients (*N* = 95)
Days between index stroke and LAAC; median (IQR)	120.0 (57.0; 190.0)
Oral anticoagulant during index stroke	
DOAC, *n* (%)	74 (78%)
Apixaban, *n* (%)	24 (25%)
Rivaroxaban, *n* (%)	22 (23%)
Dabigatran, *n* (%)	21 (22%)
Edoxaban, *n* (%)	7 (7%)
VKA, *n* (%)	21 (22%)
Age (years), mean ± SD	74.1 ± 11.4
Female, *n* (%)	36 (38%)
BMI (kg/m^2), mean ± SD	*N* = 91; 26.9 ± 3.9
Arterial hypertension, *n* (%)	73 (77%)
Diabetes mellitus, *n* (%)	27 (28%)
CHA_2DS_2-VASc score, mean ± SD	5.4 ± 1.3
HAS-BLED score, mean ± SD	3.0 ± 1.0
Paroxysmal AF, *n* (%)	44 (46%)
History of bleeding, *n* (%)	11 (12%)
Intracranial bleeding, *n* (%)	1 (1%)
Gastrointestinal bleeding, *n* (%)	7 (7%)
Others, *n* (%)	6 (6%)
History of chronic kidney disease[a], *n* (%)	4 (4%)
History of hematological disease, *n* (%)	6 (6%)

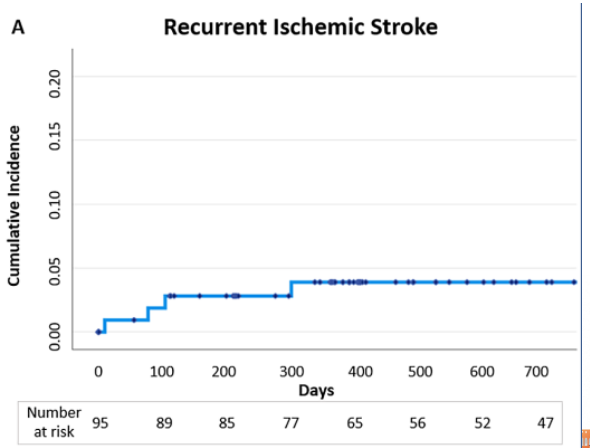
	All patients (*N* = 95)
2-year clinical follow-up	
Clinical follow-up duration (days), median (IQR)	713.0 (373.0; 730.0)
Ischemic stroke, *n* (%)	4 (4%)
Death, *n* (%)	5 (5%)
Cardiovascular death, *n* (%)	3 (3%)
Cerebrovascular events, *n* (%)	7 (7%)
Haemorrhagic stroke, *n* (%)	0 (0%)
Transient ischemic attack, *n* (%)	3 (3%)
BARC 3 or 5, *n* (%)	2 (2%)
BARC 3 or 5 non-procedural, *n* (%)	2 (2%)
Procedural related complication (within 7 days after LAAC), *n* (%)	1 (1%)
TEE follow-up	
TEE follow-up performed, *n* (%)	91 (96%)
TEE follow-up duration (days), median (IQR)	66.5 (51.3; 133.0)
Device related thrombus, *n* (%)	2 (2%)
Any peri-device leak, *n* (%)	7 (9%)
Peri-device leak (≥ 3 mm), *n* (%)	2 (2%)
Antithrombotic therapy at follow-up	
OAC	67 (74%)
SAPT + OAC	5 (6%)
DAPT + OAC	3 (3%)
SAPT	9 (10%)
DAPT	5 (6%)
No antithrombotic therapy	1 (1%)

LAAC

ORIGINAL ARTICLE OPEN ACCESS

Percutaneous Left Atrial Appendage Closure in Patients With Cardioembolic Breakthrough Stroke: An International Observational Study

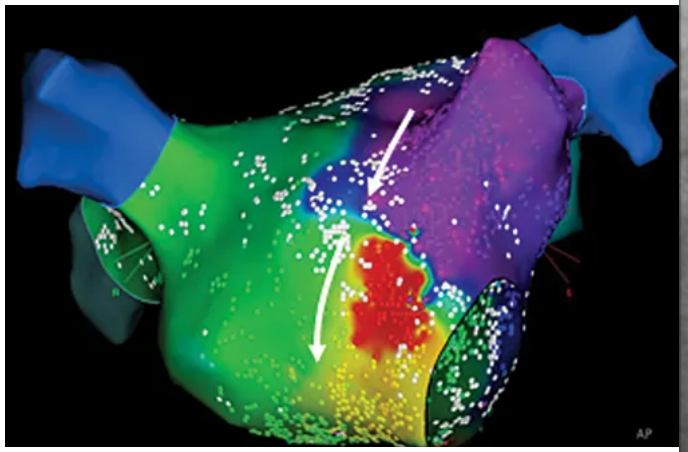
Roberto Galea[1,2] | Gavino Casu[3] | Tommaso Bini[1,4] | Angelo Laconi[3] | Pier Luigi Merella[3] | Konstantina Chalkou[5] | Alberto Preda[6] | Marco Cerciello[7] | Giuseppe D'Angelo[7] | Paolo della Bella[7] | Patrizio Mazzone[6] | Elias Auer[4,8] | Antanas Gasys[1] | David Julian Seiffge[8] | Urs Fischer[8] | Lorenz Räber[1]

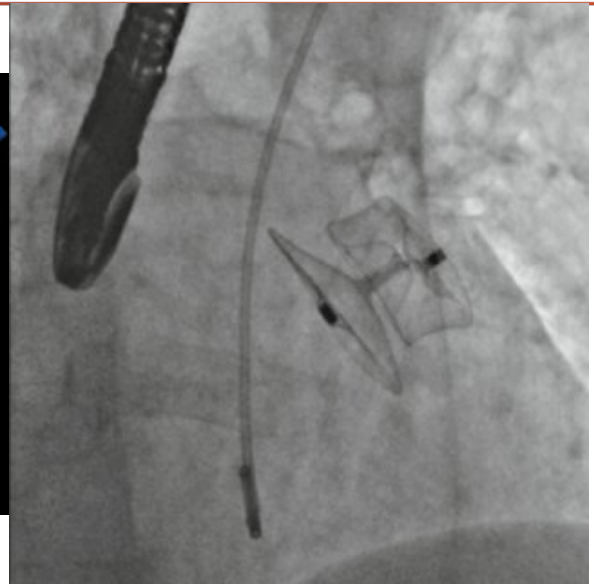


Patients with non-valvular AF who are eligible for chronic long-term OAC

Patients who have no significantly increased risk for bleeding should primarily receive oral anticoagulation.

LAAO should not be offered in those patients as a simple and equal alternative.





The NEW ENGLAND JOURNAL of MEDICINE

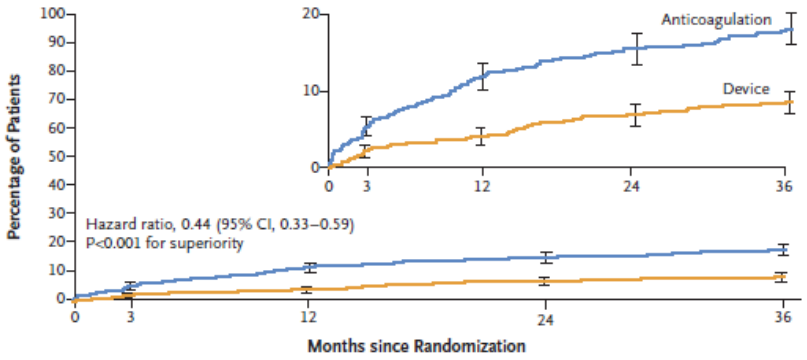
ORIGINAL ARTICLE

Left Atrial Appendage Closure after Ablation for Atrial Fibrillation

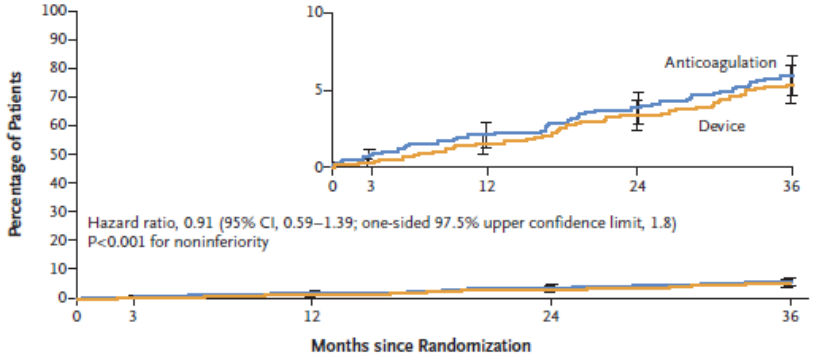
O.M. Wazni, W.I. Saliba, D.G. Nair, E. Marijon, B. Schmidt, T. Hounshell, H. Ebelt, C. Skurk, S. Oza, C. Patel, A. Kanagasundram, A. Sadhu, S. Sundaram, J. Osorio, G. Mark, M. Gupta, D.B. DeLurgio, J. Olson, J.E. Nielsen-Kudsk, L.V.A. Boersma, J.S. Healey, K.P. Phillips, F.M. Asch, K. Wolski, K. Roy, T. Christen, B.S. Sutton, K.M. Stein, and V.Y. Reddy, for the OPTION Trial Investigators*

Primary and Secondary End Points at 36 Months (Kaplan–Meier Estimates)

End Point	Analysis	Device Group (N=803)	Anticoagulation Group (N=797)	Difference (one-sided 97.5% upper confidence limit)	P Value
		no. of patients (%)		*percentage points*	
Primary end points					
Safety: non–procedure-related bleeding†	Superiority	65 (8.5)	137 (18.1)	—	<0.001
Efficacy: death from any cause, stroke, or systemic embolism‡	Noninferiority, with 5.0-percentage-point margin	41 (5.3)	44 (5.8)	−0.5 (1.8)	<0.001
Secondary end point					
Major bleeding event§	Noninferiority, with 5.25-percentage-point margin	30 (3.9)	38 (5.0)	−1.1 (1.0)	<0.001



Non–Procedure-Related Major Bleeding orClinically Relevant Nonmajor Bleeding (prima endpoint)



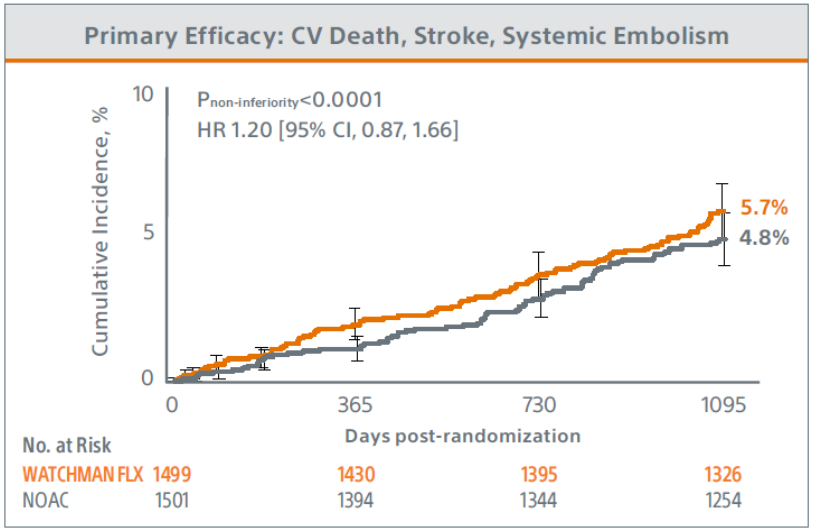
Composite of Death from Any Cause, Stroke, or Systemic Embolism (primary efficacy endpoint)

CHAMPION-AF Trial Results

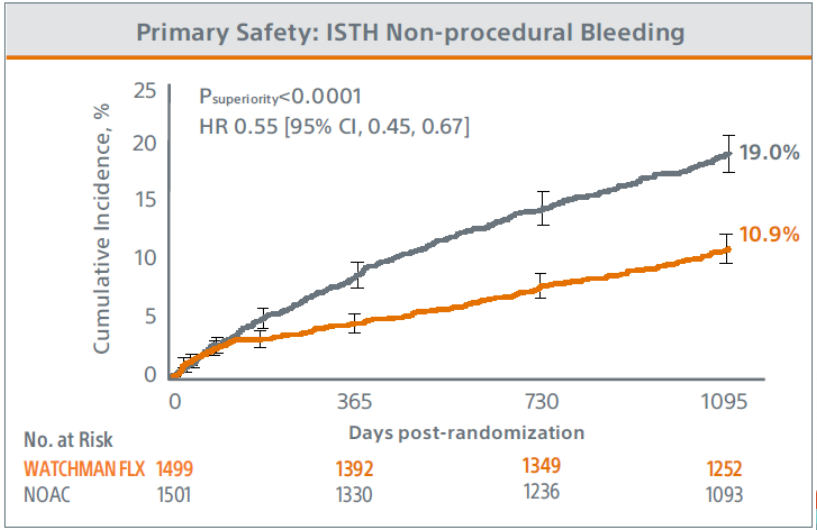
WATCHMAN FLX™ met all trial endpoints as a first-line option vs. NOACs in a broad AFib patient population, including **a superior net clinical benefit, 1.1% annualized ischemic stroke rate and a superior reduction in bleeding risk.**

These findings reinforce Boston Scientific's LAAC leadership and strengthen WATCHMAN's unmatched clinical evidence supporting LAAC as an option for lifelong stroke risk reduction without the bleeding risk of long-term anticoagulation.

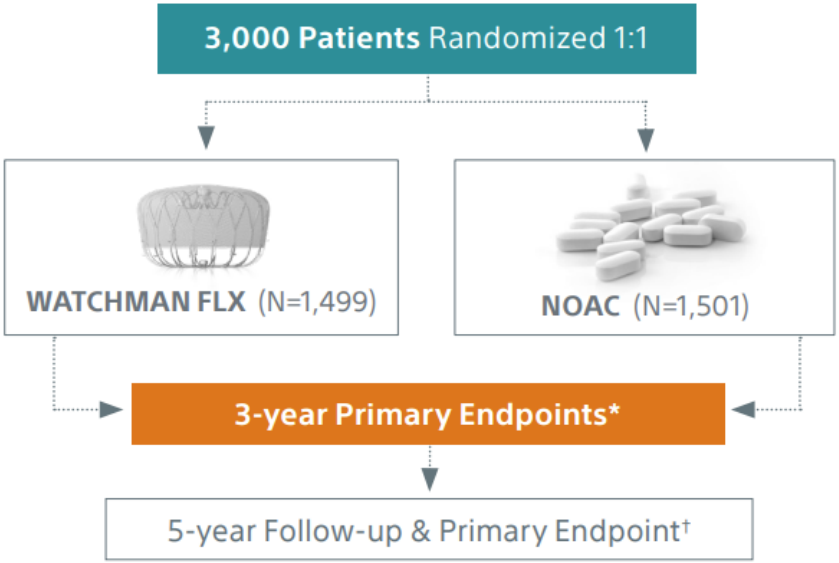
Primary Efficacy Endpoint: Non-inferiority Met



Primary Safety Endpoint: Superiority Met



CHAMPION-AF Overview



Patients did not need to have an appropriate rationale to seek a non-pharmacologic alternative to OAC to participate in this study nor was there a requirement for documented shared decision making.

3-year Endpoints

Primary Efficacy (Non-inferiority)

Composite of cardiovascular (CV) death (including hemorrhagic or unexplained death), all stroke (ischemic and/or hemorrhagic), or systemic embolism.

Primary Safety (Superiority)

Non-procedural bleeding (ISTH major bleeding and modified* clinically relevant non-major bleeding).

Secondary Safety (Non-inferiority)

Procedural and non-procedural ISTH major bleeding.

Secondary Net Clinical Benefit (Non-inferiority & Superiority)

Composite of cardiovascular (CV) death, all stroke, systemic embolism, and non-procedural bleeding (ISTH major bleeding and modified* clinically relevant non-major bleeding).

Trial Comparison

Trial	Population	N	Comparator	Result	Key Message
PRAGUE-17	High risk AF	402	LAAO vs NOAC	Non-inferior	Alternative to DOAC
OPTION	Post-ablation AF	1600	LAAO vs OAC	↓ Bleeding	Post-ablation option
CHAMPION-AF	Broad AF	~3000	LAAO vs DOAC	Non-inferior	Expanded use
CLOSURE-AF	Frail elderly	912	LAAO vs BMT	Negative	Use caution

CHAMPION-AF & CLOSURE-AF Key Differences

01

A HIGHER RISK POPULATION IN CLOSURE-AF[1]

- Mean age: 78 years; Mean CHA_2DS_2-VASc: 5.2; Mean HAS-BLED: 3.0
- Stage IV chronic kidney disease: 24% (previously associated with more procedural complications)[2]

02

80% DAPT POST-IMPLANT DRUG REGIMEN USED IN CLOSURE-AF

- The ANDES randomized trial demonstrated DOAC alone significantly reduced adverse events, including bleeding, compared to DAPT across all major LAAC devices[3]

03

MULTI-DEVICE DESIGN & HIGH SCREEN FAILURE IN CLOSURE-AF

- 56% of implanted devices have an outdated safety profile (WATCHMAN 2.5, Amulet, LAmbre)
- These devices may have contributed to major bleeding (25% occurred within 7 days of the procedure)
- 10,872 patients were screened to enroll 912 patients

04

CLOSURE-AF IS A SINGLE COUNTRY EXPERIENCE

- 58% of patients were randomized by just 5 operators

Thank you!