

Left Atrial Appendage Occlusion (LAAO) Devices for Prevention of Stroke and Systemic Embolism in Atrial Fibrillation

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Background

45% of patients with atrial fibrillation (AFib) who are admitted to the hospital for a major bleed are discharged without a **stroke and systemic embolism (SSE)** prevention plan.¹

- Patients with AFib are at high risk for SSE from thrombus¹
- ≥90% of AFib-related thrombi form in the **Left Atrial Appendage (LAA)**²
- AFib-related strokes are more likely to involve large brain territories, lead to death or permanent disability, and recur³

Oral anticoagulation (OAC) is first-line in most AFib patients for SSE prevention.

In patients unable/unwilling to tolerate long-term OAC, left atrial appendage occlusion (LAAO) should be considered.⁵

LAAO involves a minimally invasive procedure to place a small device that occludes the LAA opening, preventing thrombus from leaving the appendage and embolizing systemically. Over time, the endocardial tissue grows over the device, but short-term antithrombotic therapy is required until this occurs, and imaging is performed to ensure the LAA has been occluded without significant peri-device leak.⁶

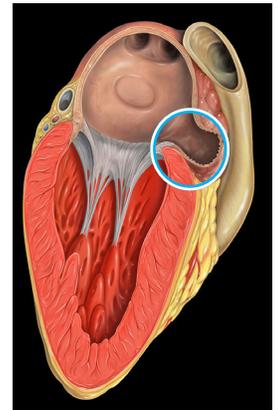


Figure 1: Heart left atrial appendage TEE view⁷

BOTTOM LINE

DO	DON'T	CONSIDER	CAUTION
<ul style="list-style-type: none"> • Consider LAAO in non-valvular AFib (NVAf) patients with stroke risk factors when risks of long-term anticoagulation outweigh the benefits • Utilize and document shared decision-making process • Assure LAAO device has an adequate fit prior to antithrombotic therapy discontinuation 	<ul style="list-style-type: none"> • Do not forget stroke prevention in patients with AFib that cannot be on chronic oral anticoagulation • Do not forget that most patients require anticoagulation or anti-platelet therapy for a short period of time after LAAO implantation 	<ul style="list-style-type: none"> • Consider different devices and approaches to LAAO via shared decision making with NVAf patients • Consider using a direct oral anticoagulant (DOAC) for patients intolerant of warfarin • Consider LAAO for patients unable/unwilling to tolerate any long-term oral anticoagulation 	<ul style="list-style-type: none"> • LAAO devices may have different short-term post implant antithrombotic approaches such as anticoagulation or dual anti-platelet therapy • The bleeding risk associated with dual antiplatelet therapy may be no different than that of warfarin in AFib patients⁴

LAAO Patient Selection and Referral

Patients should have:

- A suitability for short-term oral anticoagulation but inability to take long-term OAC
- A CHADS₂ score ≥ 2 (Congestive heart failure, Hypertension, Age >75, Diabetes, Stroke/transient ischemia attack/thromboembolism) **OR** a CHA₂DS₂-VASc score ≥ 3 (Congestive heart failure, Hypertension, Age ≥ 65, Diabetes, Stroke/transient ischemia attack/thromboembolism, Vascular disease, Sex category)¹
- A documented shared decision-making interaction using an evidence-based decision tool on OACs in patients with NVAf prior to LAAO. Shared decision-making note must be done by provider outside the implantation team

Refer patients to Structural Heart and/or Electrophysiology program for consideration of LAAO implantation

FDA-Approved LAAO Devices

Watchman FLX®

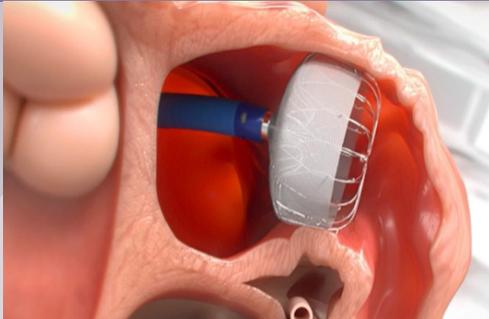


Figure 2: WATCHMAN FLX™ LAA Closure Device

AMPLATZER Amulet®

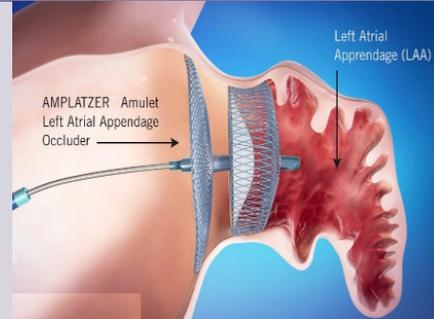


Figure 3: The AMPLATZER™ Amulet™ LAA Closure Device

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