Comparison of Left Atrial Appendage Occlusion (LAAO) vs. Oral Anticoagulation (OAC)

LAAO	OAC
Purpose • A procedure that physically blocks the left atrial appendage (a small pouch in the heart) to prevent blood clots from forming there and causing a stroke. This area is where most stroke-causing clots form in patients with AFib.	• Medications (e.g., warfarin, apixaban, rivaroxaban) that thin the blood to reduce the risk of clots forming anywhere in the bloodstream.
How It Works • Involves a one-time, minimally invasive procedure in which a device is implanted into the heart through a catheter inserted from a vein in the upper leg. The device closes left atrial appendage, and tissue grows over the device in approximately 6 weeks, permanently excluding the left atrial appendage from the heart. Without an open left atrial appendage, no stroke-causing blood clot can form there.	• Requires taking pills daily for the long term to maintain consistent blood thinning, which prevents blood from clotting in the left atrial appendage.
Effectiveness Both options significantly reduce the risk of stroke in people with AFib with comparable success. • Works by closing the left atrial appendage, where most AFib-related clots form.	• Protects against clots forming in the left atrial appendage. Also prevents blood clots from forming elsewhere in the bloodstream, so OAC may be recommended for people with other clotting problems.
Risks and Side Effects • Risk of complications during the procedure include: ◦ Bleeding or infection at the leg site ◦ Bleeding around the heart ◦ Blood clotting on the device ◦ Rare complications may lengthen hospital stay • For most patients, short-term medication is needed after implantation to prevent blood from clotting on the device. A small number of patients may need longer-term blood thinners due to incomplete left atrial appendage closure and tissue growth over the device.	• Increased risk of bleeding (including major bleeding, such as gastrointestinal or brain bleeding). • Other side effects may include: ◦ Easy bruising ◦ Dizziness ◦ Upset stomach
Maintenance • After the procedure and initial healing, minimal ongoing maintenance. Long-term aspirin use is common if tolerated. • Requires short-term follow-up to image the device that may require anesthesia.	• Requires consistent daily or twice daily medication use, and some types (e.g., warfarin) may require frequent blood tests to monitor clotting levels.

Comparison of Left Atrial Appendage Occlusion (LAAO) vs. Oral Anticoagulation (OAC), CONTINUED

LAAO	OAC
Lifestyle Impact • May be a good option for those who cannot tolerate long-term blood thinners. • Does not set off metal detectors. • Can have an MRI for another medical purpose with up to 3 T magnetic field. Need to tell medical providers if MRI is being performed.	• Daily pills may require consistent timing. • Higher risk of bleeding may restrict some activities (e.g., contact sports).
Who Might Prefer Each Option? • People at high risk of bleeding on blood thinners. • Those who struggle to take medications consistently or have had issues with OAC side effects.	• People who want to avoid minimally-invasive procedures. • Those who need broader protection against clots from sources other than the left atrial appendage.
Cost • Potentially higher upfront cost due to the procedure but potentially lower long-term costs from being able to avoid daily medication. • Consistently covered by Medicare and most private insurance.	• Potentially lower initial cost but ongoing expenses for medication and possible blood tests. • Warfarin is inexpensive, but newer agents may be more expensive, and insurance coverage is highly variable.

Decision-Making

Your choice depends on factors like your overall health, risk of stroke and bleeding, ability to take medications, and personal preferences. Talk with your doctor to weigh the risks and benefits of each option for your situation.

Key takeaways:

- If you want a one-time procedure and have a reason not to take blood thinners, LAAO might be right for you.
- If you prefer non-invasive management and can handle daily medication, OAC may be a better fit.

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Follow Up After LAAO

1. Imaging Tests

Doctors use imaging tests to check the heart and the LAAO device. These tests can help ensure the device is in the right place and there's no leaking around it.

- **Transesophageal Echocardiography (TEE):** A special ultrasound probe is passed down the throat to take detailed pictures of the heart. It provides very clear images but might require anesthesia.
- **Cardiac CT Scan:** This is a powerful X-ray that gives a clear picture of the heart and device. It's non-invasive, but it does expose patients to a small amount of radiation, equivalent to about 2 years' worth of exposure to natural background radiation.
- **Intracardiac Echocardiography (ICE)**: This test uses a catheter to check the heart from the inside, but it's less common during follow-ups. It would require a small incision to insert it, generally in the leg as with the original LAAO procedure.

2. Monitoring for Symptoms

Watch for any unusual symptoms, like chest pain, shortness of breath, or irregular heartbeats. If these happen, it's important to let the doctor know right away.

3. Medication Adjustments

After LAAO, you might still take blood thinners for a while, especially if imaging after the procedure shows clotting around the device. Stopping blood thinners safely is a careful process, and your doctor will guide you every step of the way. The goal is to protect you from stroke risk while minimizing any potential side effects from medications.

Regular follow-ups ensure you're on the right medication at the right dose. Imaging tests during your follow-ups help determine when it's safe to reduce or stop medications. Over time, you might stop taking some medications based on how well the device is working.

If you have any concerns about your medications or experience side effects, let your care team know—they're here to support you and adjust your treatment as needed.

Why Follow-Ups Matter

Follow-ups help your doctor make sure the LAAO device is doing its job—lowering your stroke risk without causing new problems. Regular care also gives you peace of mind, knowing your heart is healthy. By sticking to your follow-up plan, you're taking a big step toward staying safe and feeling better.

If you're ever unsure about your symptoms or medications, don't hesitate to contact your healthcare provider.

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