



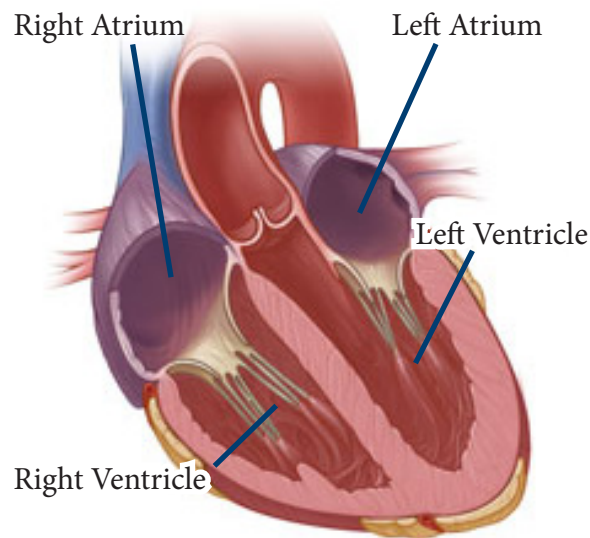
Cardiac Electrophysiology and Center for Structural Heart Disease

Left Atrial Appendage (LAA) Occlusion



Atrial fibrillation and risk of stroke

The heart is a muscle with 4 chambers that has valves between each chamber. The heart has its own electrical system that controls how fast and regular the heart beats. The electrical system sends signals to the heart chambers to contract (pump blood out) and relax in rhythm. The electrical signal begins in the upper chambers (atria) and travels to the lower chambers (ventricles).



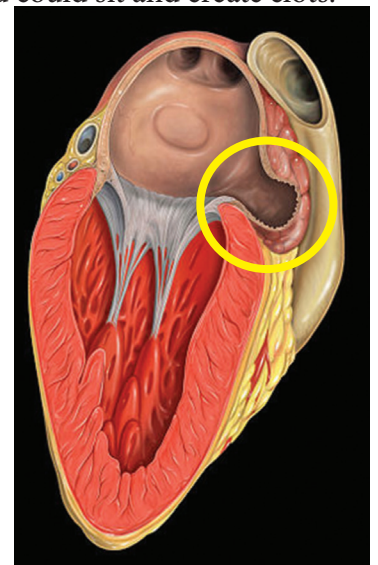
Inside of the human heart

What is atrial fibrillation (a-fib)?

- A problem with the heart's electrical system that causes the two upper chambers of the heart to quiver, or fibrillate.
- This can be dangerous because if the heartbeat isn't strong and steady, blood can collect or pool in the atria.
- The lower chambers still contract but the rhythm is irregular, and the heart rate may be fast or slow.

A-fib and the risk of stroke

- The left atrial appendage (LAA) is a 'dead-end' pocket that hangs off the left upper chamber of the heart.
- Normally, the LAA empties with each heartbeat. With a-fib, the blood moves slowly and could sit and create clots. 9 out of 10 strokes are caused by clots from the LAA in people with a-fib.
- If blood clots form, they may break loose and travel through the blood stream to the brain, lungs or other parts of the body. Blood clots traveling to the brain can cause a stroke.
- Anyone can have a stroke. People with a-fib have a 5 times greater chance of having a stroke compared to those without a-fib. Chances of having a stroke with a-fib are higher with certain risk factors, such as:
 - Congestive heart failure
 - Hypertension (high blood pressure)
 - Age 65 years old or older
 - Diabetes
 - Previous stroke or blood clot
 - Vascular disease
 - Being a female

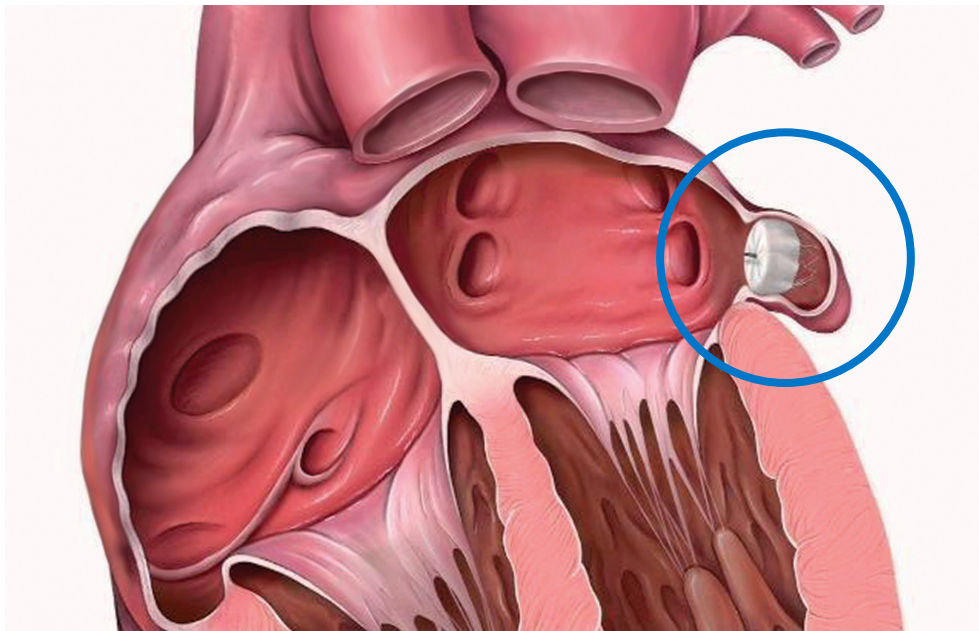


Picture of the LAA (circled) in the heart

Left atrial appendage (LAA) occlusion

Based on your risk of stroke, your doctor will discuss ways to reduce your risk.

- For some people, a doctor may suggest taking a medicine that helps prevent clots from forming. These are called anti-coagulants, or 'blood thinners.' This is the best way to prevent stroke in those with a-fib. However, some people may not be able to take medicines to prevent strokes. This could be because of:
 - A history of bleeding
 - Trouble taking blood thinners previously
 - Increased risk for falling or injury
 - Increased risk for bleeding
- For people with a-fib that cannot take medicine, a procedure can be performed to reduce the risk. It is called LAA occlusion, or LAA closure.
 - The procedure uses a device to close off the LAA pocket. This prevents clots from breaking loose and entering the blood vessels and causing a stroke.



Picture of closure device for LAA in the heart

Evaluation process for LAA occlusion procedure

- Discuss your risks and benefits for using blood thinners with your primary care doctor or cardiologist.
- Evaluation by the doctor that will do the procedure to discuss the LAA procedure.
- Imaging procedure such as CT (computed tomography) scan or TEE (transesophageal echocardiography) to:
 - See the size of the LAA and if there is a blood clot
 - Determine the device needed for the procedure
 - The scan analysis can take up to 2-4 weeks as every LAA is unique in size and shape
- Once the evaluation is complete, you will be contacted by the scheduling department to schedule the procedure.

LAA closure procedure

- Your doctor will insert a small plastic tube into a vein near your groin.
- The LAA closure device is guided through the catheter to the heart. It is placed at the opening of the LAA.
- The device expands and permanently seals off the LAA.
- This takes about 1 hour, and you will receive general anesthesia. The total procedure time is about 2 hours.

After your procedure

- Expect to stay in the hospital for one night after the procedure.
- You will have an echocardiogram (echo) done the morning after the procedure to check placement of the LAA device.
 - An echo will confirm that the device is in the right place and there are no complications with the heart from the procedure.
 - The results will take several hours. You will get your results before you are able to go home.
- You will need to take a strong blood thinner medicine to prevent blood clots from forming on the device during healing. This will be for about 6 weeks.
- Over a period of time a thin layer of tissue forms over the device to create a seal.

Your recovery

Follow Up

Follow-up is required at 45 days, 6 months, 1 and 2 years after the procedure.

- The 45 day follow up appointment will include:
 - A visit with the procedure team.
 - Either a CT or TEE to check for blood clots and make sure that the device is completely closed. If the device seal is complete, your cardiologist may stop the strong blood thinner and continue with a mild one.
- At 6 months, 1 and 2 years you will be contacted by phone to check:
 - Your activity level
 - Any repeat hospital stays
 - Medicine changes
 - Signs of stroke
- For 6 months after the procedure, you will need an antibiotic for dental or GI (gastrointestinal) procedures to help prevent infection.
- Contact our office in the future if you need an MRI. Each LAA device has different requirements for an MRI test and our office will help guide you.

Activity

- No lifting, pushing or pulling anything greater than 10 pounds for 1 week after the procedure. This is to avoid any straining that might change the pressure in your chest.
- Do not drive for 3 days after the procedure. This is to allow the catheter sites to heal.
- Gradually continue other normal activities like walking. Pace yourself based on how you feel.



Incision site care

- Check your incision site every day.
 - Keep the site clean and dry.
 - Do not use lotions, oils, powders, cologne, perfume or aftershave.
 - You may put a light bandage on to protect the site from your clothing.
 - Do not take a bath or use a hot tub for at least 5 days after the procedure or until your incision is healed.
 - You can shower after the first 24 hours but do not let the water spray directly hit your incision.
- Call the office if you notice any of the following:
 - Redness and warmth that does not go away.
 - Yellow or green drainage from the wound.
 - Fever over 100° and chills.
 - Increasing numbness in your legs.
 - Worsening pain at the incision site.
- It is normal to have bruising or a soft lump at the incision site. It is not normal if the lump suddenly becomes larger, more firm or starts bleeding. If any of this happens:
 1. Lie down.
 2. Have someone press down hard, just above the hole in your skin where the procedure was done. Do this for 15 minutes. If after pushing down, the lump does not become larger or harder when released, they are doing it right.
 3. After 15 minutes if the bleeding has stopped, rest and stay lying down for at least 2 hours.
 4. If the bleeding continues or the lump continues to get larger, call 911. Do not drive yourself and do not let someone drive you.





**Cardiac Electrophysiology
Center for Structural Heart Disease
Contact Information:**

Henry Ford Hospital Detroit Campus: (313) 916-2737

Henry Ford Allegiance Jackson: (517) 205-3345

Henry Ford Macomb: (586) 263-2222

www.henryford.com/services/heart-and-vascular-institute

