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Contents

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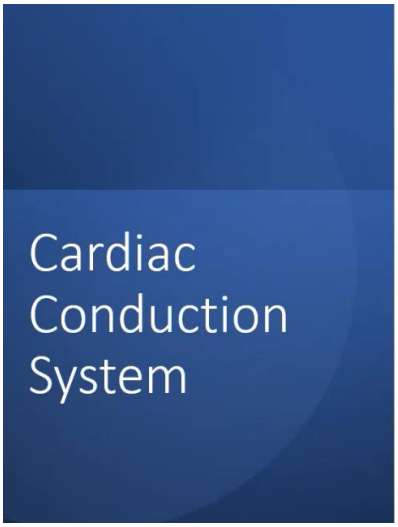
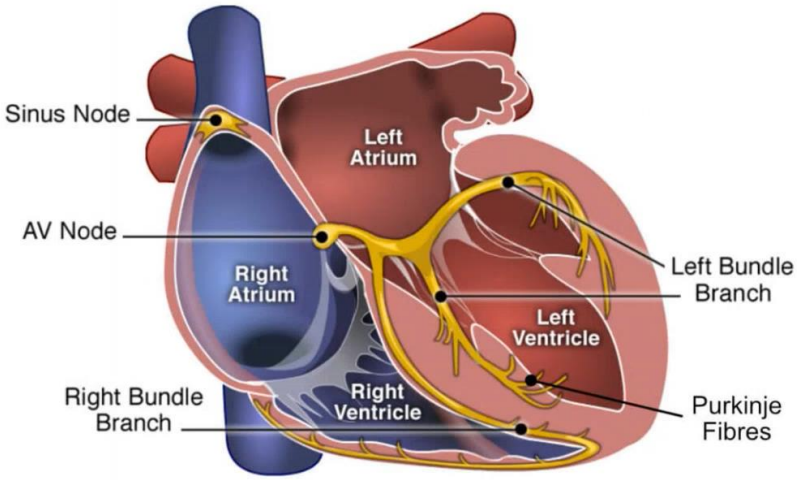
Left Atrial Appendage Occlusion (LAAO) Registry

Atrial Fibrillation Statistics

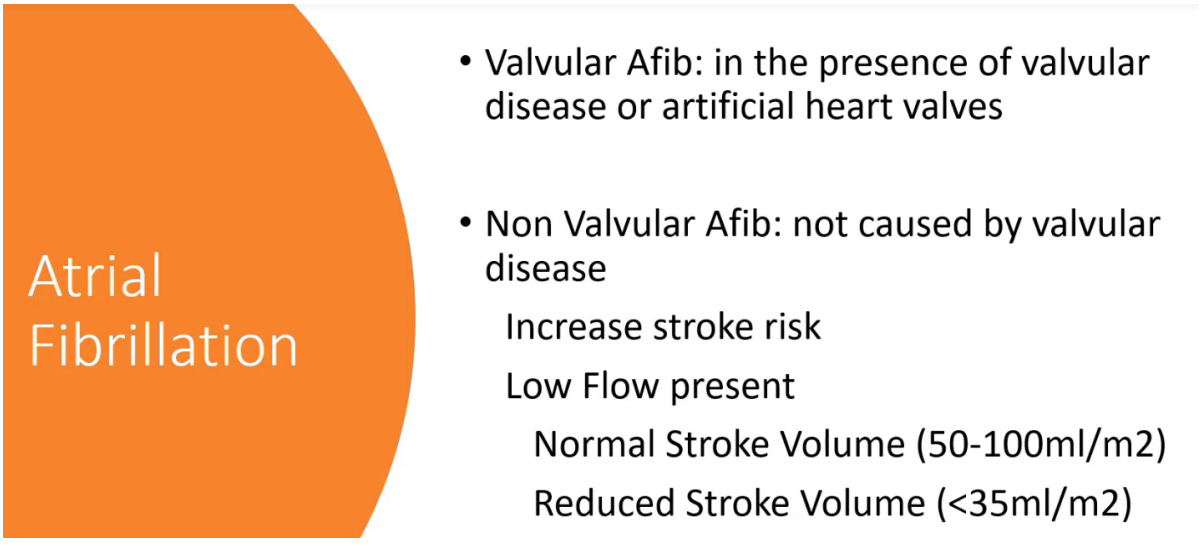
- Afib is the most common irregular heartbeat
- Over 9 million Americans have Afib
- It increases the risk of having a stroke by 5 times

Although the heart is a muscle, it requires electrical stimulation to work.





Two Types of Atrial Fibrillation



- The treatment for Valvular Afib is to treat the offending valve.
- Left Atrial Appendage are for patients that have non- valvular Afib

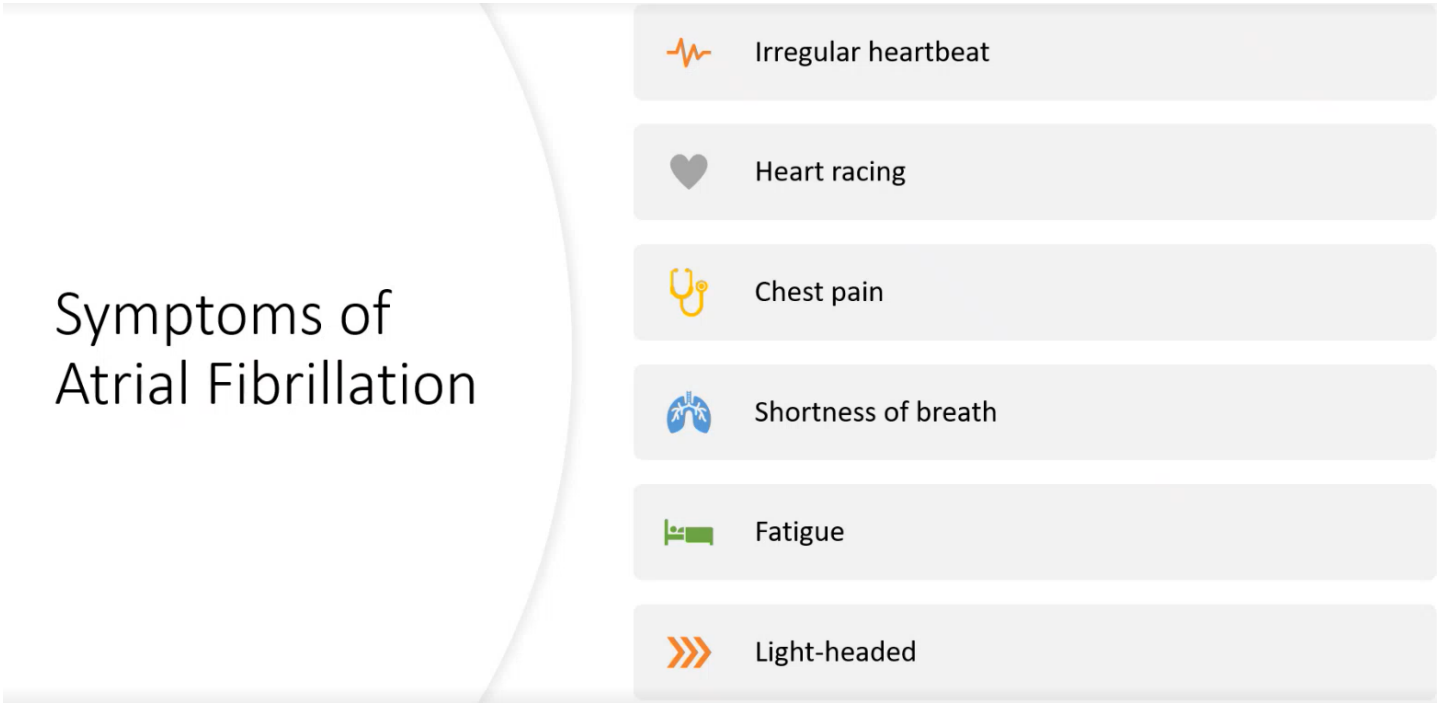
- These patients also have low flow phenomenon, which is the inadequacy of blood flow out of the heart with a reduced stroke volume. Stroke volume is the amount of blood that's pumped out of the heart with each contraction.

ACC Atrial Fibrillation Classifications

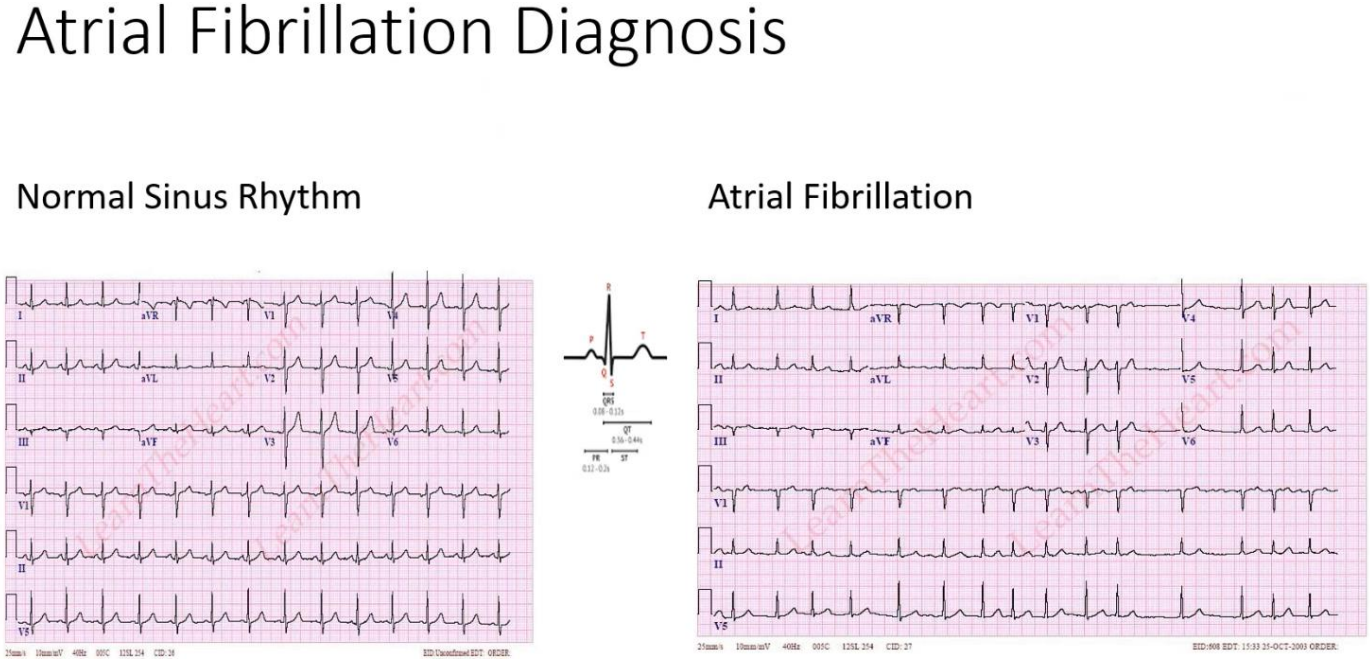
Causes of Atrial Fibrillation

*Stimulants like smoking, coffee, soda, and energy drinks can help promote Atrial Fibrillation.

Symptoms of Atrial Fibrillation



Some patients are asymptomatic and won't know they have Afib until further testing. The image below shows an ECG of a Normal Sinus Rhythm vs an Atrial Fibrillation.



The rate is very variable with Afib.

Another way to diagnose Atrial Fibrillation is by using a Holter Monitor. The image on the left shows how a Holter Monitor was used back in the day, vs. the image on the right, which we use today. The monitor is placed over the heart with waterproof tape so the patient can shower and resume daily activities.

Atrial Fibrillation Diagnosis
Holter Monitor

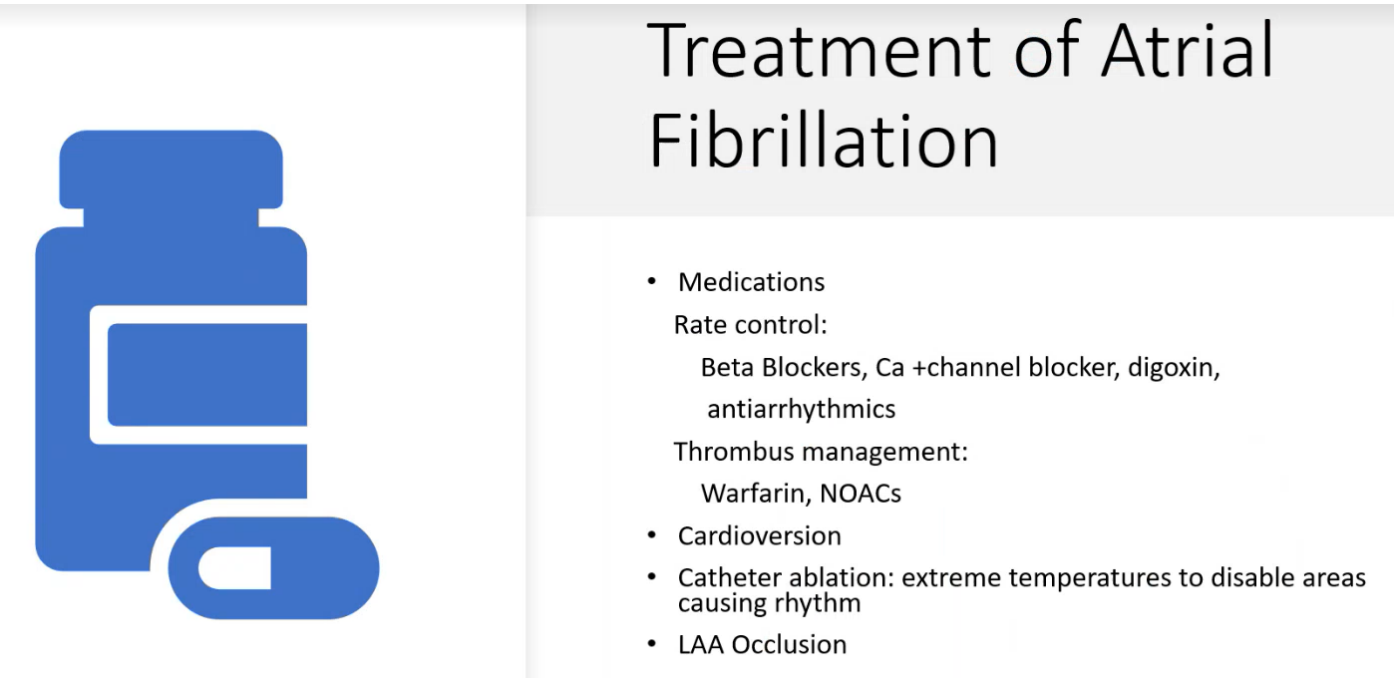
There is also the ability to use a home monitor for Atrial Fibrillation diagnosis as well.

The person testing would place two fingers on each pad, using a tablet or phone, the rhythm will be displayed on that device. The image below shows a patient in a normal sinus rhythm.

Atrial Fibrillation Diagnosis

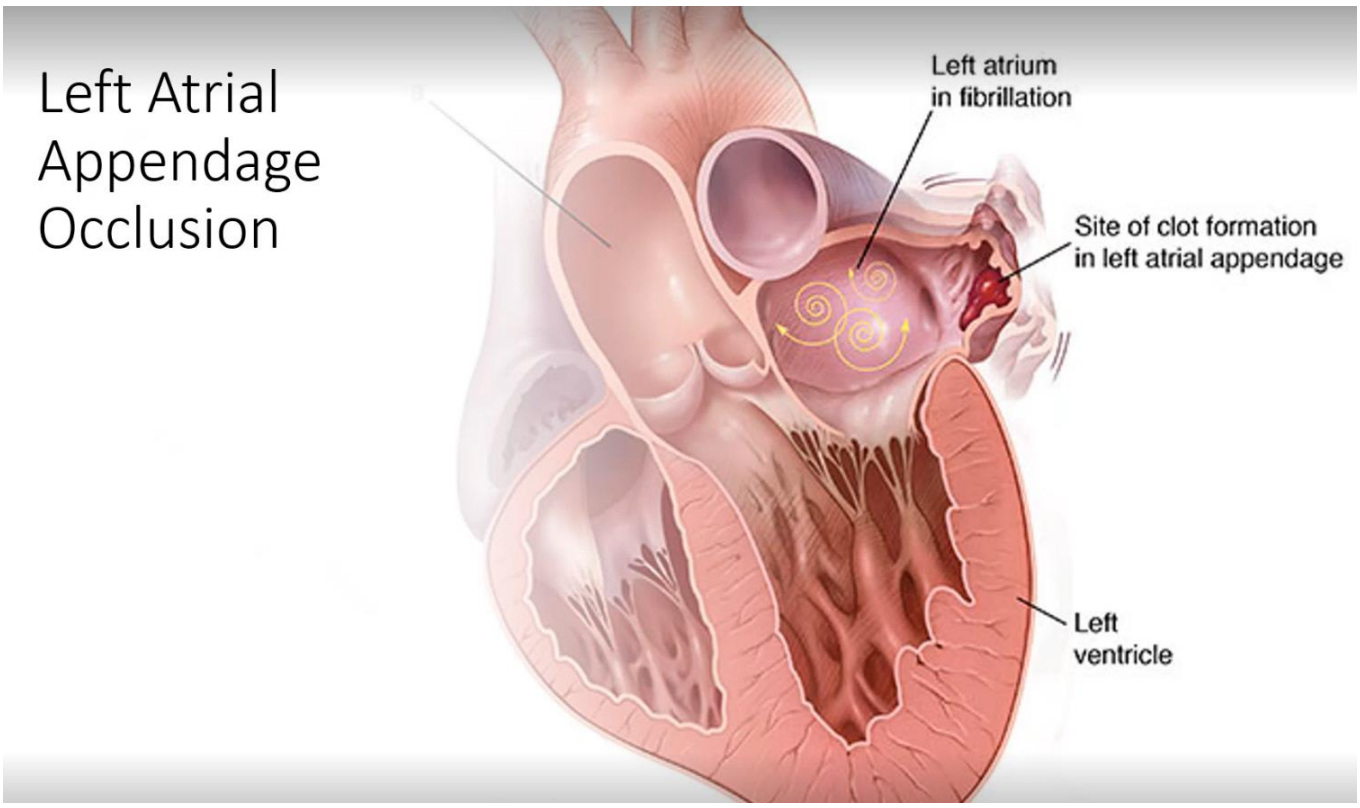
- Home monitor

The Treatment of Atrial Fibrillation



Left Atrial Appendage Occlusion

The image below shows an example of how close the Atrial is to the appendage. When you have static blood, clots form very easily.



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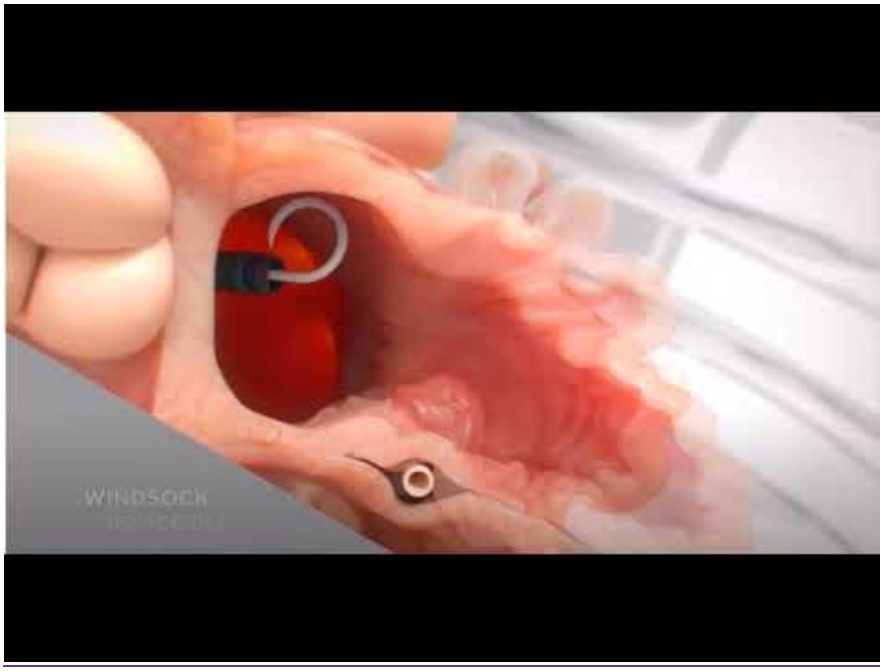
Left Atrial Appendage

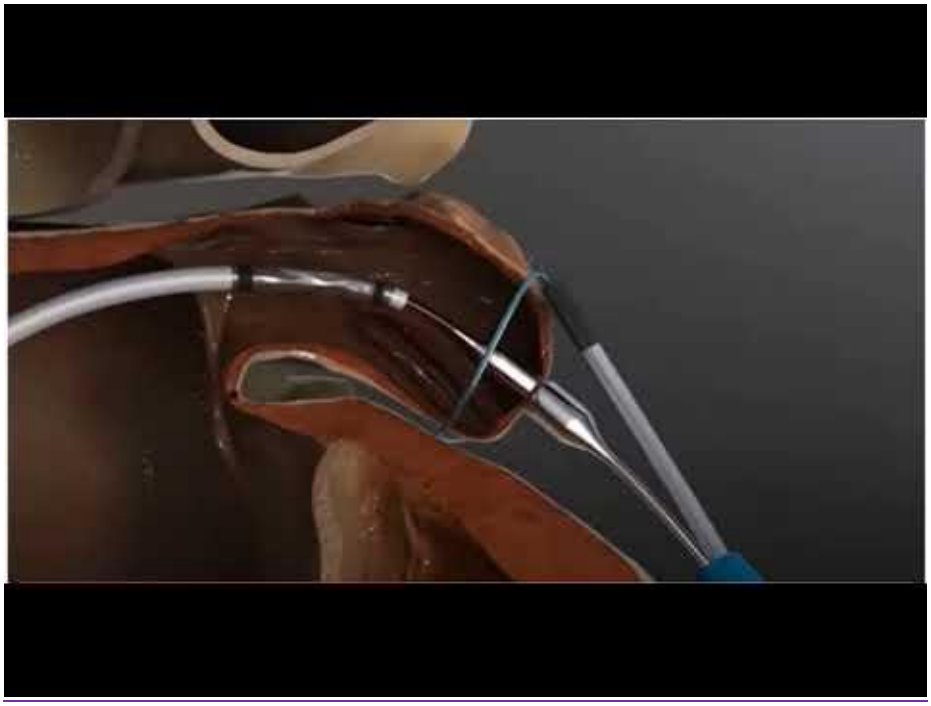
If a patient is undergoing an open chest procedure and they have a history of Afib, it's easy for the surgeon to snip the appendage off. This is not as common because percutaneous approaches are easily accessed.

There are two types of procedures performed by an Electrophysiologist and an Interventional Cardiologists. The types of procedures are the Occlusion procedure, and the Lariat procedure. Please see the video snippets below for an example of how an Occlusion and Lariat procedure are performed.

Occlusion Procedure



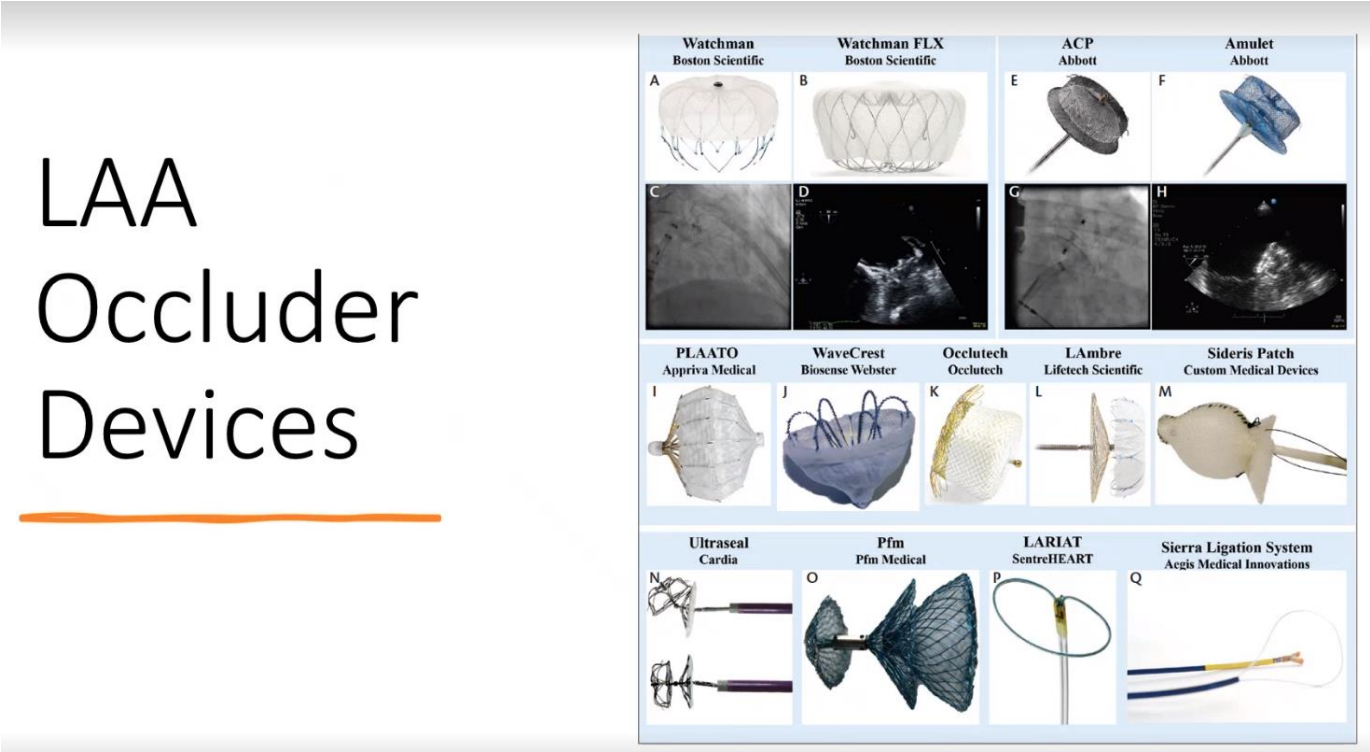
Lariat Procedure



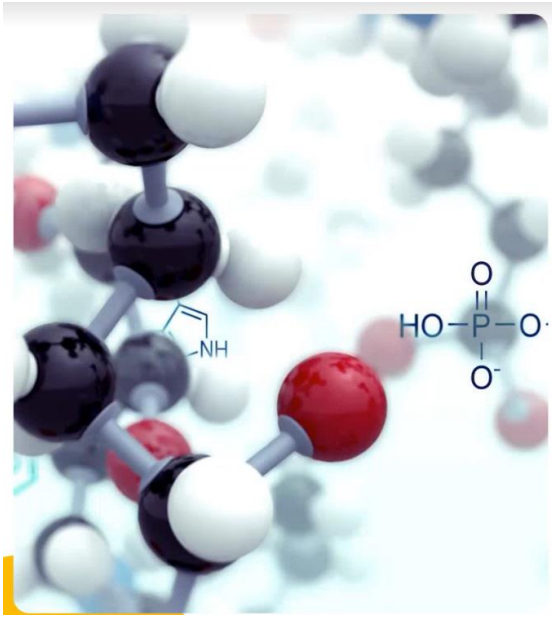
- Lariat Procedures aren't done as often because although there is percutaneous access, you also must come in through the pericardium. The pericardium is the sac that the heart lies in.

LAA Occluder Devices

The image below shows a handful of different devices used throughout the years to address the Left Atrial Appendage.



Post Procedure Care



Post Procedure Care

- Discharge same day or following day
- Medications: Warfarin, NOACs, P2Y12 Inhibitors, ASA

  Warfarin: Inhibits Vitamin K production

  NOACs: Non Vitamin K Oral Antagonist:

  Dual mechanism---

  Inhibits thrombin and fibrin

  Eliquis, Pradaxa, Xarelta

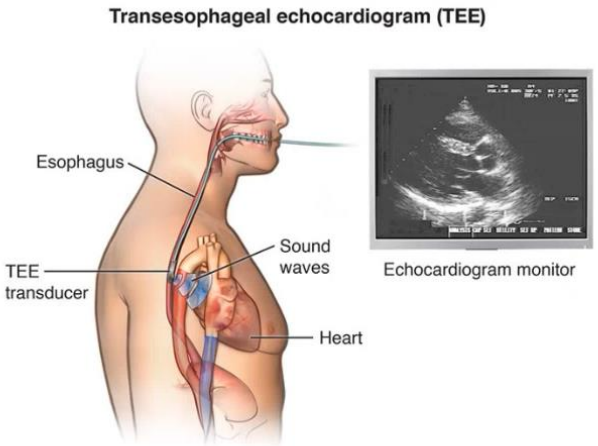
- The Medication *Warfarin* has been around for a long time, but it requires blood monitoring. Every 4-6 weeks the patient must go to an outpatient lab and run tests to see progress. Warfarin inhibits vitamin K production.
- The medication NOACs is a non-vitamin K oral Antagonist. It has two mechanisms; it will inhibit thrombin and fibrin.

The ACC requires four follow-ups for these patients.

Post Procedure Care

- 45 Day Follow Up
- 6 Month Follow Up
- 1 Year Follow Up
- 2 Year Follow Up

The same thing is done for each follow-up, except on the 45-day follow-up. The image below shows what is done on this follow up.



Post Procedure Care

- TEE at 45 days
- If seal complete discontinue AC
- May continue ASA
- Complications
  Stroke, TIA, Bleeds
- Hemoglobin and creatinine
- Modified Rankin Score
- Barthel Index

Transient Ischemic Attack

*The ACC defines a complete seal as less than 5 millimeters of residual flow and if there is any thrombus left on the appendage. If these two boxes are checked, the patient can then come off therapy. Patients may be discharged on baby aspirin for 6 months up to life.

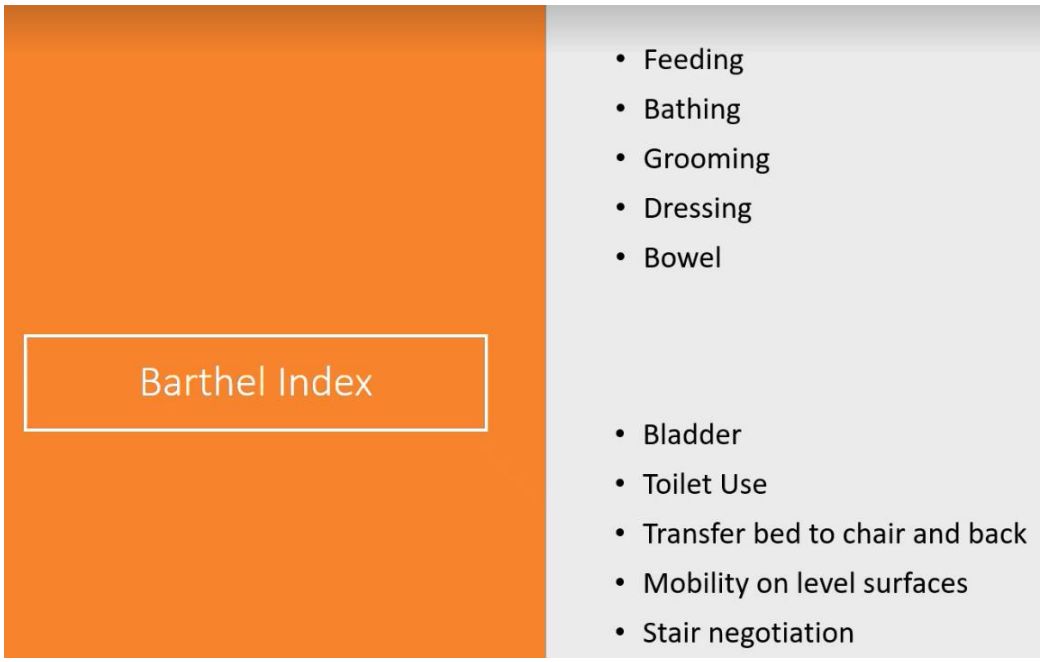
Modified Rankin Score

The Modified Rankin Score tells the disability of the patient. It's a 0-5 scale ranging from no symptoms at all to severe disability. This assessment is performed by the clinician at the follow-up visit.

Barthel Index

The Barthel Index assesses the patient's activities of daily living. This is a survey the patient fills out. The four questions asked are:

1) Is the patient independent in this activity?
2) Do they require minimal assistance?
3) Do they require maximum assistance?
4) Are they unable to perform that task at all?



This survey can be given to a patient through a link, or at the follow up visits. The Rankin Score and Barthel assessment are both reported to the registry.

* For the Index procedure, the Modified Rankin Score is required, but for the follow-up visits, both the Modified Rankin Score and Barthel Index are required.