

**You have a condition called atrial fibrillation.
I would like you to learn more about this condition.
You should read about it below, and can also watch an Internet program about it.
After reading about it, if you want, you can attend a FREE class.
See below for all instructions.**

A. To watch the online program, please type the letters and numbers below into a browser window, and press enter.

goo.gl/jZ2QC

(just type above letters/numbers into a browser window and press the 'enter' button.
The 'l' is a lower case L; it is not numeral 1. Z, Q and C must be capitals).

B. To attend a class taught by a cardiologist re Atrial Fibrillation, please call (707) 393-4008 (Monday to Friday, 8:30 to 4:30 pm)

Ask to be scheduled for the " ATRIAL FIBRILLATION GROUP CLASS " .

This is an excellent class lasting for 2 hours, and you can ask all the questions you want.
We would love it if you bring spouse, friend or significant other to this class.

And, it is totally free.

We prefer you read the material below prior to attending the class, and even watch the Internet program, so you can learn more and ask good questions.

Please arrive 15 minutes prior to the class and REGISTER IN Suite 190 in the East building (MOBE SUITE 190, 401 Bicentennial Way, Santa Rosa).

C. To read about atrial fibrillation, see below.

How does the heart work?

The heart is muscle whose main function is a pump; to push blood the rest of your body.

To make the muscle squeeze, a wave of electric current has to pass through the heart muscle.

The heart is composed of 4 chambers.

The two upper chambers are small and not very important, and are called the atrium (think of them as the small towns of Santa Rosa and Windsor).

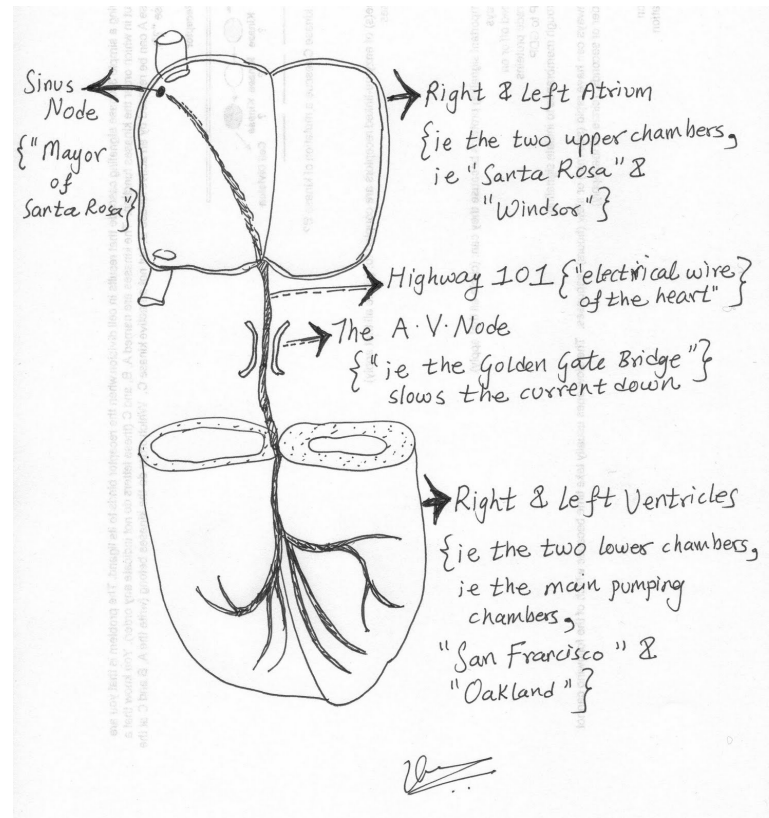
The two lower chambers are large and important (think of them as San Francisco and Oakland).
The lower chambers (ventricles) are the most important organs.

1. The electric current originates in your right upper chamber, in a small area called the SA node (think of it as the 'Mayor of Santa Rosa').
2. The current passes in a electrical "wave" through both atria. This electric current makes the atria muscle squeeze, and this pushes the blood forward into the ventricles
3. The electrical current from the atria goes through a narrow electrical wire into the lower chambers (i.e. the ventricles). This narrow bridge is called the AV node. The electric current gets slowed down here. This is normal.
4. As the electric current passes through the ventricles, it makes the ventricle muscle squeeze. This

squeeze pushes the blood forward to the rest of your body.

This normal sequence of heart activity is called 'SINUS RHYTHM'.

The heart rate i.e. how fast the heart is beating, is regulated in your right upper chamber (ie by the 'Mayor of Santa Rosa').



What is atrial fibrillation?

Atrial fibrillation is the most common heart rhythm disorder (arrhythmia).

During atrial fibrillation, the heart rate is irregular and fast in the upper chambers (i.e. irregular in Santa Rosa and Windsor). At this point,, SINUS RHYTHM stops and ATRIAL FIBRILLATION starts.

A normal SINUS RHYTHM heart rate is 60-100 beats. However, during atrial fibrillation, the heart rate in the upper chambers is as high as 300 to 400 beats per minute.

(The 'Mayor' does not work, and everyone in Santa Rosa is beating on their own fast rhythm).

Fortunately, most of these fast heartbeats get held up at the Golden Gate Bridge. Due to this, the heart rate in the important lower chambers does not get too fast.

Since the lower chambers still pump blood well, the body gets its supply of oxygen.

Detailed explanation:-

Atrial fibrillation, also called AF or Afib, is a fast, chaotic, disorganized arrhythmia originating in the upper chambers (atria) of the heart. During sinus rhythm, as noted above, there are coordinated contractions of the atria resulting in emptying much of the atrial blood volume into the ventricles.

However, during atrial fibrillation, disorganized chaotic electrical activity in the atria causes the atria to quiver and wiggle like a “bag of worms”. During atrial fibrillation there is no coordinated simultaneous contraction of the atrial chambers. Because of this loss of the synchronous atrial contraction, the heart pumps less blood during each cardiac cycle. This reduced cardiac output MAY lead to bothersome symptoms.

Classification of Atrial Fibrillation

Most commonly, atrial fibrillation is classified based upon how often it occurs.

1. Paroxysmal atrial fibrillation is defined as episodes of atrial fibrillation that start and stop unpredictably without any medical intervention or treatment.
2. Persistent atrial fibrillation is defined as atrial fibrillation that continues until it is terminated by a medical intervention, such as chemical cardioversion or electrical cardioversion.
3. If all attempts at terminating atrial fibrillation and maintaining sinus rhythm have been abandoned due to the ineffectiveness of these treatments, the patient is said to have permanent atrial fibrillation.

There is a tendency for atrial fibrillation to evolve over time from a paroxysmal, to a persistent, and then to a permanent form.

Basic Cause of Atrial Fibrillation

The likelihood of developing of atrial fibrillation increases with age - it is seen in 0.5% of people in the age group 50-59 years, but is found in up to 10 to 20% of individuals over 80 years of age.

Symptoms Caused by Atrial Fibrillation

Different people have different symptoms with atrial fibrillation.

Some people have no symptoms at all, and some people feel miserable during atrial fibrillation.

Some symptoms include palpitations, especially the perception of rapid irregular heartbeats, shortness of breath, reduced exercise capacity, dizziness, weakness, fatigue, chest discomfort/pain, fainting (rarely), fluid retention and edema.

Many (or all) of these symptoms may subside after slowing of the heart rate caused by the atrial fibrillation. Once the heart rate is controlled by medications, most these symptoms become much less, and some people don't even notice them any more.

However, in some patients, complete symptom relief is only attained after conversion of the atrial fibrillation to sinus rhythm.

Risk of stroke with atrial fibrillation

One of the most worrisome potential complications of atrial fibrillation is a stroke.

During atrial fibrillation, blood within the atria may ‘pool’ within the small crevices of the atrium, potentially causing the formation of small clots. If a blood clot dislodges from the left atrium, it could travel to any organ in the body blocking blood flow to that organ. If the blood clot travels to the brain, it can cause a severe complication, called a stroke.

To prevent a stroke, treatment with a “blood thinner” using an anticoagulation medication (aspirin,

warfarin, dabigatran) is recommended.

Heart failure

Prolonged atrial fibrillation associated with continuously rapid ventricular rates (generally greater than 100 beats per min) may cause a tachycardia-induced cardiomyopathy (weakening of ventricular muscle) and symptoms of congestive heart failure (severe shortness of breath associated with fluid accumulation in the lungs).

While cardiomyopathy and congestive heart failure may be reversible if the arrhythmia is treated early.

If the heart rate is controlled this complication is prevented.

Atrial fibrillation is not considered a life-threatening arrhythmia, as long as stroke is prevented by treating with a “blood thinner” and cardiomyopathy is prevented by keeping the heart rate controlled with medication.

Treatment of Atrial Fibrillation

There are three main issues in treatment of atrial fibrillation:-

1. Prevention of stroke
2. Controlling the ventricular rate (ie the rate in the lower chambers)
3. Make a decision whether to restore normal rhythm or stay in atrial fibrillation.

1. Prevention of stroke:

This is a decision that you must speak with your physician and decide. The options include aspirin or warfarin.

There are fairly good calculators that can predict the risk of a stroke (Called the CHADS2 score calculator).

2. Controlling the heart rate (ie ventricular rate).

This will be done with medications like atenolol, metoprolol and diltiazem, among others.

This is very important to avoid weakening of the ‘ventricles.’

3. Deciding whether to restoring normal rhythm or to stay in atrial fibrillation.

The most important question here is “how severe symptoms are during atrial fibrillation”. If a person does NOT FEEL the atrial fibrillation, then there is no real advantage to using medications or ablation to RETURN to a normal rhythm.

While this seems counter-intuitive, several well designed trials have shown that patients do well even if they are in Atrial Fibrillation (see the AFFIRM trial results).

The MAIN reason to stay in sinus rhythm is for patients who feel very lightheaded or are clearly having symptoms of Atrial Fibrillation.

Your doctor will help you decide this.

(a) staying in atrial fibrillation:

Patients who are to remain in atrial fibrillation should be treated to maintain:-

- good heart rate control and
- avoid risk of a stroke by considering blood thinner medications.

The preferred drug treatment for chronic ventricular rate control includes beta-adrenergic blocking agents (eg Metoprolol or Atenolol), calcium channel blocking drugs (eg Diltiazem) and Digoxin.

(b) trying to stay out of atrial fibrillation:

Permanent, life-long maintenance of sinus rhythm in patients with atrial fibrillation may be difficult, or even impossible.

This route is used for people who really feel bad when in atrial fibrillation.

These methods do NOT reduce the risk of a stroke.

Treatment for suppression of atrial fibrillation is divided into: drug therapy, radiofrequency catheter ablation, and minimally-invasive surgical ablation.

Drug Therapy: Pharmacological therapies includes powerful medications called anti-arrhythmic drugs (e.g, flecainide, propafenone, sotalol, dofetilide, dronedarone, amiodarone). The effectiveness of drug treatment is very variable and individualized. Some patients responding very well to these medications, while other patients may find these medications completely ineffective.

These medications can potentially also cause side-effects.

Radiofrequency catheter ablation and minimally- invasive surgical ablation: Radiofrequency catheter ablation (and surgical ablation) are not appropriate as initial therapies for atrial fibrillation.

According to guidelines from the American College of Cardiology and the Heart Rhythm Society, these complex, invasive procedures should NOT be considered unless medical therapy with antiarrhythmic drug therapy has been tried and has proven ineffective.

The reason is because the success rates of these invasive ablation procedures are still very modest and the risks of complications from the procedures are significant.

Should you have more questions, please speak with your physician.

Specific situations- the holiday heart.

Some people with atrial fibrillation have specific triggers, such as alcohol, emotional or severe physical stress, staying up at night, dehydration, or caffeine products.

In fact, in some young people, atrial fibrillation is called the 'holiday heart', since it is triggered by partying over the weekend, with alcohol, lack of sleep and dehydration involved.

If you can find your trigger, the avoid it.