

# Breaking My

# Father's Heart

*My father's heartbeat  
Normal sinus rhythm (Top)  
AFib (Bottom)*

## Understanding Atrial Fibrillation

## Catheter Ablation

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*Atrial Fibrillation affects over 6 million Americans, including my father, and that number continues to grow. While there is no cure, catheter ablation can reduce symptoms in many patients. Unfortunately, it doesn't always work.*

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March 3, 2019 was shaping up to be a busy Sunday. I was scheduled to teach Big Kids' Church at Church For Life in Santa Maria, a large church in a small city on the central coast of California, 2,400 miles from the northeast Tennessee town where I grew up, and where my parents still reside. I went through my usual routine: showing up early, doing any last-minute planning that needed to be done, and preparing myself mentally and spiritually to handle a room full of 8-10 year olds. It was 9:24 AM when I got a group text from my mom that simply said, "Back at ER. Do not plan on us for dinner." The second part was meant for my little brother who still lives at home.

My father has a heart condition called paroxysmal (intermittent) atrial fibrillation. According to [the Mayo Clinic](#), one of the premier cardiology hospitals in the country, atrial fibrillation is a type of arrhythmia--a problem with the rate or rhythm of the heartbeat--that typically presents as a rapid and irregular pulse. It is not life threatening, but it can increase the risk of strokes, heart failure, and other heart-related health issues. But I didn't know any of that this past March. If you can remember back to grade school when you learned about the heart's four chambers, you probably have about as much knowledge of the human heart as I did when I got my mom's message that day. All I knew for sure was that my father's heart

condition had taken him to the emergency room two days in a row.

Paroxysmal atrial fibrillation episodes typically resolve themselves within a few hours. On this particular occasion, my dad had been out of rhythm for 57 hours. He went to the ER the first day and they observed him and sent him home. The next day, when his heart rate had still not returned to normal, he went back. His cardiologist, Dr. Keith Kyker, was on duty, and under his direction they brought out a defibrillator similar to what you've seen in movies and TV shows and quickly knocked my dad out and then shocked him, restoring normal rhythm.

I have to admit that when I got my mom's text message, I broke down a little. No, that's not accurate. I was wrecked. I sat helpless, a world away, comforted by friends but uncertain about what the day might hold. Without knowing the details, I had created a worst-case scenario in my head that made me consider for the first time that I might lose a parent. Though I had probably overreacted to some extent, my worry was justified a little when my mother, who has been informed from the start, confided in me that she had been worried for him as well.

My father recovered from this incident and continues to live with his condition, but the imprint it left on me has remained. I became determined to inform myself about what was going on. At the time of the ER incident I was vaguely aware that my father had undergone a procedure called atrial fibrillation ablation back in May of 2017, and that it had ultimately been ineffective to cure his condition, but my father had downplayed the whole situation in order not to worry anyone, and his tactics had worked on me.

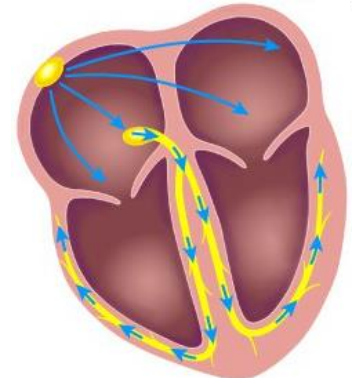
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*“My father had downplayed the whole situation in order not to worry anyone, and his tactics had worked on me.”*

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Since he has decided to have the procedure done a second time, I have made it a point to learn all I can.

You probably don't consider your heartbeat very often. Perhaps you have a watch that measures your pulse rate (the time between heartbeats) or you manually measure your pulse during exercise, but what happens during the beats themselves? In a healthy heart, without



*The Electricity of a Healthy Heart  
Tom Lück, CC BY 3.0, cropped*

getting too technical, an electrical signal originates in the right atrium (upper chamber) of your heart and spreads to the left atrium, causing the muscles to flex and squeeze blood into the lower chambers of your heart (the ventricles). This signal may be fast or slow based on your current level of activity or stimulation. From there, the electrical signal travels down to the ventricles, causing them to flex and send blood throughout your body. This happens every time your heart beats, and it is called sinus rhythm. In atrial fibrillation, damage to the heart causes these pathways to become confused, and the atria do not pump in rhythm with the ventricles.

According to the [Centers for Disease Control and Prevention](#), Atrial Fibrillation, or AFib, affects up to 6.1 million Americans, and this number is expected to rise as life expectancy in the country continues to grow. AFib can be congenital or it can be caused by damage to the heart from risk factors such as a heart attack, obesity, excessive alcohol use, age, or a combination of these and other factors. The condition affects 2% of people

under age 65 and 9% of people age 65 or older and, since risk increases with age and women live longer on average than men, it affects more women than men. My father, at 61 years of age, is not a prime candidate for the condition, but his case is not atypical. The normal treatment for AFib is management. Healthy living and a series of medications to control heart rate and prevent blood clots will help patients to live with the condition and minimize the risk of complications. However, there are also surgical treatments.

The Mayo Clinic's website lists three distinct types of surgical treatments under the category of "atrial fibrillation ablation": AV node ablation, a scarring which may require a pacemaker even if successful; maze procedure, in which a surgeon actually cuts the heart with a scalpel during open heart surgery; and catheter ablation, the most common procedure of the three as well as the one that carries the least risk to the patient.

My father, always clever with a turn of phrase, has referred to his catheter ablation as targeted "heart burn," because the procedure involves threading a tiny tube (catheter) into his heart and strategically burning the area of the heart which is sending faulty electrical signals, scarring the tissue in order to prevent the signals from connecting and causing the arrhythmia. With the pathways blocked, the signals are unable to get through, and the heart functions normally. When successful, ablation patients can expect a reduction in symptoms, but it is not a cure. Doctors monitor patients for at least three months after the procedure and often continue to prescribe medication indefinitely.

**T**he human body is remarkably adaptable. This is often cited as one of our species' best survival traits. But in the case of catheter ablation, where the heart is scarred in order to prevent errant electrical signals from reaching their

intended destination, this adaptability turns out to work against us. [A 2016 paper](#) published in the *Journal of Atrial Fibrillation* by Andrew Darby, MD, FHRS (a specialty focusing on the heart's electrical system), claims that the heart defect recurs in 20-40% of ablation patients. What happens according to Dr. Darby is a "resumption of conduction to (and from) previously targeted pulmonary veins." To put it another way, the heart attempts to heal itself from the ablation procedure, reconnecting problematic electrical pathways that were scarred in the first ablation. The paper goes on to outline strategies for repeat ablation procedures. It states that the most effective strategy is to re-isolate the errant signals and suggests several tactics that surgeons can use to increase the long-term efficacy of the procedure; things like the type of anesthesia, the type of ventilation, the specific catheter sheathing, and many other seemingly tiny details. As a patient or a concerned family member, it is easy to get caught up in this type of information, but such things are often outside of our control.

Since my father's last ER visit, I have moved back to Tennessee in order to pursue my studies and to be closer to my family. With my improved knowledge on the topic, my father and I have had a much better opportunity to discuss what will happen at his upcoming repeat ablation procedure. [The Mayo Clinic website](#) filled in some details my father didn't give me.

On November 19<sup>th</sup>, my father will check into Holston Valley Medical Center. The procedure itself will take 3-6 hours. Once a sedative or general anesthesia is given, Dr. Kyker will insert a needle into my father's vein and put a tube through the needle. This is how the catheters are inserted. Once the catheters have been guided through the veins to my dad's beating heart, a special electrode on the tip of the catheters will send signals to the heart, allowing the doctor to in

effect map a circuit diagram of the heart which is used to determine what is causing the arrhythmia. This is called an “electrophysiology study.” Once the cause has been determined, Dr. Kyker will use extreme heat from the catheters to cause scarring to specific electrical pathways in order to cut off the bad electrical signals. Since this is a repeat procedure, it’s possible that additional scarring will be done to make it harder for the pathways to reconnect over time. Recovery involves several hours of observation, so my father will stay at the hospital overnight. During this time, doctors will monitor his vitals and watch for complications.

Full recovery is expected within a week of the procedure.

Knowing the risks and details of the procedure has helped to ease my own mind about my father’s decision to have a procedure done which was not a success the first time. As life expectancy in the US continues to grow, more and more people will be in my position, watching a loved one face this slow breakdown of the body. I don’t envy those people the uncertainty of the process, or that even the best solutions are not cures. All we can do is continue to educate ourselves. The more we know, the better prepared we are to face the unknown.

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