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This brief is one in a series of non-technical articles that discuss bystander delivery of oxygen during breathing emergencies

Afib and Breathlessness

You've likely seen the commercials about treatment for a condition that is commonly called Afib (short for atrial fibrillation). In general, these commercials show older individuals talking about how they suddenly experienced symptoms of Afib. But you may be one of the many people who have Afib and don't feel anything odd until you unexpectedly become lightheaded and short of breath.

What is Afib?

According to the Centers for Disease Control and Preventionⁱ (CDC), Afib "is when the heart beats too slowly, too fast, or in an irregular way... blood doesn't flow as well as it should."ⁱⁱ Afib can lead to serious complications including heart failure, blood clots, and strokes. It is also important to note that, "Atrial fibrillation is the most common cardiac arrhythmia managed by emergency and acute general physicians."ⁱⁱⁱ

Afib afflicts an estimated 2.7 to 6.1 million Americans - the wide range is due in part to the fact that many people may not even be aware that they have Afib. Afib tends to affect older individuals and about 9% of people 65 and older have Afib, however, about 2% of people under 65 also have Afib.

The impact of Afib is significant leading to over 750,000 hospitalizations per year, contributing to an estimated 130,000 deaths annually and each year, and costing the United States about \$6 billion each year.

What are Symptoms of Afib?

People who experience symptoms due to Afib may report one or more warning signs as outlined by CDC, including:

- Irregular heartbeat
- Heart palpitations (rapid, fluttering, or pounding)
- **Lightheadedness**
- Extreme fatigue
- **Shortness of breath**
- Chest pain

As the population continues to age, more cases of Afib are expected, especially among women who tend to live longer than men, and those of European descent. Once diagnosed, Afib treatment may include medications to control the heart's rhythm and rate or to prevent blood clots from forming and reduce stroke risk, and surgery.

Oxygen Therapy During Afib

Afib is just one of the many conditions that can create a breathing emergency for which emergency oxygen should be used.

According to emergency medicine physicians^{iv}, when shortness of breath occurs outside of the hospital, especially when the diagnosis is unclear, **“The major risk is giving too little oxygen. Insufficient oxygen therapy can lead to cardiac arrhythmias, tissue damage, renal damage and, ultimately, cerebral damage.”**

“It is crucial to provide optimal oxygen therapy while the acutely breathless patient is being transferred to hospital... For most such patients, the main concern is to give sufficient oxygen to support their needs.”

*Emergency oxygen therapy for the breathless patient,
Emerg Med J 2001;18:421–423*

The Role of Portable Emergency Oxygen

Professional emergency services (EMS) personnel are trained to properly diagnose and treat individuals who are experiencing medical problems including cardiac and breathing emergencies. Equipped with proper medications and tools like portable compressed emergency oxygen cylinders, EMS personnel can provide the necessary care while the individual is transported to an emergency room for advanced treatment. On average, however, it will take EMS about 8 minutes to arrive on scene during which time the victim of a breathing emergency may be heading to serious injury.

With the introduction of the R15 portable emergency oxygen device, any bystander is now able to safely provide oxygen support to victims of any breathing emergency until EMS arrives on scene. The R15 device is cleared by the Food and Drug Administration for use without a prescription or special training, delivers 6 liters per minute of oxygen for 15 minutes, and does not present an explosion hazard as can compressed oxygen cylinders. Mounted in public spaces such as airports, shopping malls or corporate facilities, the R15 device enables anyone to offer life-saving support when needed.

To read more articles like this one please visit
<https://rapidoxygen.com/white-papers>

ⁱ Atrial Fibrillation Fact Sheet, CDC [online 8Apr19>
https://www.cdc.gov/dhbsp/data_statistics/fact_sheets/fs_atrial_fibrillation.htm

ⁱⁱ Afib animation, American Heart Association, [online 8Apr19>
https://watchlearnlive.heart.org/CVML_Player.php?moduleSelect=atrfib

ⁱⁱⁱ Emergency management of atrial fibrillation, A Wakai, J O O’Neill, Postgrad Med J 2003;79:313–319

^{iv} Emergency oxygen therapy for the breathless patient, Emerg Med J 2001;18:421–423