

How Does A CPAP Machine Help AFib?

What Is A CPAP Machine?

Continuous positive airway pressure (CPAP) is the most common treatment for [obstructive sleep apnea](#). A CPAP machine delivers pressurized air through a hose that attaches to the nose. CPAP treatment for sleep apnea can help restore the natural breath cycle so you can sleep well and wake up feeling refreshed.

If you have sleep apnea your doctor may give you a CPAP prescription. Insurance will usually help cover the CPAP machine cost if the CPAP prescription is sent to a home health company like Apria, Lincare, or Aerocare. When you work with a home health company like Apria, CPAP machines, CPAP masks, and other CPAP supplies are delivered to your home and a respiratory therapist supports you through the CPAP treatment process. CPAP doesn't need to be a tether and should work with your lifestyle. For example, Resmed CPAP makes an excellent, compact portable CPAP for people who travel frequently.

In addition to giving you a good night's sleep, a sleep apnea machine-like CPAP can help prevent complications of untreated sleep apnea. For example, sleep apnea is a known risk factor for atrial fibrillation (AFib), which is the most common cardiac arrhythmia (abnormal heart rhythm). Research has shown that people who have untreated sleep apnea have a 4 times greater risk of developing atrial fibrillation compared to people without sleep apnea. Therefore, if you have AFib and sleep apnea, adequate treatment of sleep apnea is an important part of your [AFib treatment plan](#).

What Does A CPAP Machine Do?

You may have heard of people using CPAP for snoring. Snoring is a common sign of obstructive sleep apnea. During sleep, the structures of the upper airway relax down and back which can partially or completely block airflow. This creates increased resistance to the air as it is drawn in on the inhale and is what causes the typical snoring sound. In addition to being loud and potentially disruptive to you and your bedmate, snoring is a sign that your body is struggling to breathe.

CPAP therapy delivers pressurized air that acts as a splint to hold the airway open so air can pass freely. This allows normal breathing to happen during sleep so you can stop the nightly struggle to breathe and sleep can once again become restorative.

It can take some time to get used to the CPAP mask and pressurized air. Here are some tips to help you avoid bothersome CPAP side effects and get the most from CPAP treatment:

Tips To Avoid CPAP Side Effects

- **Daytime wear.** Start by wearing your CPAP mask for short intervals while awake to get accustomed to the feeling of the mask and continuous positive airway pressure. For example, you could wear your CPAP while working on the computer or watching TV. Once you are used to what it feels like to use CPAP, wear it every time you sleep, including during naps.
- **Mask fit matters.** There are many different mask styles and sizes. If the first mask you get isn't comfortable or is leaking air, try a different one. People who want the smallest mask possible often do well with a nasal pillow mask. Other people find that when they use the nasal mask, they wake up because the air is blowing out of the mouth. In this case, a full face mask that covers the mouth and nose or a chin strap to keep the mouth closed might be good options. You can work with the respiratory

therapist at your home health CPAP supplier to find the mask that will work best for you.

- **Expect it to take some time to adjust to CPAP.** Adjusting to CPAP takes time and patience.
 - **Time.** It is normal for it to take a few weeks to get used to CPAP. Using your CPAP device consistently, every time you sleep helps get you through the adjustment period. Ultimately the goal is to use CPAP for at least 6 hours per night to get the most out of your CPAP treatment.
 - **Patience.** You may need to troubleshoot problems as they arise. For example, let's say you are waking up every day with a dry, stuffy nose. This may mean you need to add a humidifier to your CPAP. Or perhaps, trying a nasal saline spray before bed will be helpful. Other times, cleaning CPAP masks and hoses will fix the problem.
- **Use your resources.** Let your doctor know if you are struggling with your CPAP. There may be adjustments that can be made to improve your CPAP experience. For example, a common issue people run into is removing the CPAP mask during sleep. Your healthcare provider can work with you to determine the cause of this problem. Data can be downloaded from your CPAP device which will show how well your sleep apnea is being treated. This data will show if you are having a lot of mask leak and need a better fitting mask or need the pressure settings adjusted. If a better mask fit and pressure setting changes do not fix the problem, there are BiPap machines that deliver positive pressure only when you inhale. This can help people feel less claustrophobic and therefore more likely to leave their CPAP masks on.

Regardless of what you experience after starting CPAP, know that there are solutions to many of the common CPAP complaints, and collaborating with your healthcare team can help you ensure CPAP treatment success. After getting used to CPAP many people, especially those with severe sleep apnea, report that they won't sleep without using their CPAP machine because it has made such a positive difference in their energy levels and how they feel overall.



Effect Of CPAP On Arrhythmia In Patients With Atrial Fibrillation And Sleep Apnea?

It is estimated that 50% of people with atrial fibrillation have sleep apnea. Sleep apnea causes intermittent periods of low oxygen (hypoxemia), fluctuations in carbon dioxide levels, and increased levels of stress hormones and inflammation. Researchers think that these alterations may cause structural changes in the heart and inflammation of the heart's electrical system which ultimately contributes to the development and maintenance of [atrial fibrillation](#).

People with obstructive sleep apnea often report loud snoring and waking up choking or gasping for air. Many experience nonrestorative sleep and excessive daytime tiredness. They may suffer from insomnia, depression, and decreased mental alertness which can all negatively impact their quality of life. Sleep apnea can lead to heart problems like high blood pressure, congestive heart failure, and arrhythmias like atrial fibrillation. It can also contribute to memory loss, obesity and diabetes.

The experts at the American College of Cardiology recommend that assessment and treatment of underlying sleep apnea should be a part of the care plan for any person with atrial fibrillation. Studies have consistently shown that people with obstructive sleep apnea treated with CPAP can experience nearly a 50% reduction in the recurrence of their atrial fibrillation. This improvement is observed regardless of the type of atrial fibrillation treatment (i.e. medications, ablation, or cardioversion) a person is receiving.

Effective CPAP treatment maintains an open airway and normalizes breathing during sleep. This helps take the

body out of fight-or-flight and as a result stress hormones and inflammation decrease. The nightly oxygen, carbon dioxide, and pressure fluctuations also improve. It can take 3 to 6 months of regular CPAP use to see the positive effect of CPAP on arrhythmias like atrial fibrillation.

Can CPAP Cure AFib?

CPAP cannot cure AFib but it can help decrease the frequency of AFib episodes and help make Afib treatments more effective. However, despite increasing awareness of the importance of treating sleep apnea in order to improve AFib treatment outcomes, sleep apnea is still underdiagnosed.

A recent study investigated the prevalence of undiagnosed sleep apnea in patients with AFib who were referred for catheter ablation. It found that 82% of the patients with AFib and no prior diagnosis of sleep apnea, did indeed have sleep apnea on sleep testing. This is important because research has shown that people with atrial fibrillation and untreated sleep apnea have a significantly higher risk of AFib recurrence after catheter ablation. The opposite has also been observed with there being a 42% reduction in recurrence of AFib after ablation amongst patients with sleep apnea who are on CPAP therapy.

Can CPAP Make AFib Worse?

If you have Afib and sleep apnea it is important that your sleep apnea is treated in an effort to minimize your atrial fibrillation and make your AFib treatments more effective. But is it possible that CPAP can make Afib worse?

To answer this question it is important to understand the different kinds of sleep apnea. There are two primary classifications of sleep apnea: obstructive sleep apnea and central sleep apnea. Some people have evidence of both obstructive and central sleep apnea and are considered to have mixed sleep apnea.

Sleep apnea severity is measured by the apnea-hypopnea index (AHI). The AHI is the number of times per hour that you either stop breathing or breathe ineffectively. An AHI of less than 5 is considered normal. Mild sleep apnea is an AHI of 5-15. A person with moderate sleep apnea will have an AHI of 15-30. Severe sleep apnea is when the AHI is greater than 30.

CPAP is typically the initial treatment for moderate or severe central or obstructive sleep apnea. CPAP is generally very effective but it can sometimes make sleep apnea worse. This is one reason why it is important for CPAP treatment to be monitored, especially in the first few months of treatment. Monitoring occurs when the CPAP device wirelessly transmits information to your home health company or healthcare provider. Your providers then use this information to see how well the machine is treating your sleep apnea and make any necessary adjustments.

Appropriate CPAP treatment is expected to improve or normalize the AHI. If the AHI does not get better or gets worse despite adequate CPAP use, your provider will assess if CPAP settings can be changed or if you need to stop CPAP and return to the sleep lab for a titration study.

During a titration study, different kinds of positive airway pressure devices will be tried to find the one that works best for you. Again, adequate monitoring of CPAP is an important part of CPAP treatment. If you were to continue using CPAP despite having a worsening AHI, your AFib may worsen and you can do other harm.

Long-term Impact Of CPAP Therapy On Arrhythmia And Heart

Rate Variability In Patients With Sleep Apnea?

Research on the impact of CPAP therapy on AFib generally shows a favorable association between effective sleep apnea treatment and decreased atrial fibrillation burden. Scientists are still learning about the link between sleep apnea and atrial fibrillation and have not definitively determined if the relationship is causative or merely a correlation.

A 2018 study investigated the effects of CPAP therapy on arrhythmias and heart rate variability. Having a normal heart rhythm and variability in the heart rate throughout the day and night are signs of a healthy heart. Therefore, researchers postulated that if CPAP had a direct effect on the heart they would see improvement in heart rate variability and arrhythmias with CPAP therapy. The study results showed a decrease in atrial tachycardia (abnormally fast rhythm that originates in the upper heart chambers) but no specific change in the frequency of atrial fibrillation. In terms of heart rate variability, they expected to see an improvement in heart rate variability at night since that is when sleep apnea occurs but only saw a significant improvement during the day.

This was a very small study that only included 26 people so it is possible that there just weren't enough people studied over a long enough period of time to see the true treatment effect. Findings like these make interpreting the data on CPAP and atrial fibrillation challenging. However, the majority of studies on CPAP therapy in people with AFib and sleep apnea have found a significant association between adequate CPAP treatment and positive effects on atrial fibrillation.

How Much Does A CPAP Machine Cost?

If you have AFib and sleep apnea, your doctor may recommend lifestyle changes like weight loss and improved sleep hygiene. You will probably also get a CPAP prescription. CPAP is covered as durable medical equipment by many insurance companies. One benefit of using insurance is that you will work with a home health company that will provide CPAP supplies and any necessary CPAP machine parts, like a humidifier and replacement filters. Home health care companies also monitor your CPAP therapy and work with your provider to make sure you are getting the most benefit from using a CPAP machine.

Some people choose to buy their own CPAP machine. A common reason for this is increased freedom to choose the CPAP device make, model, and features. Insurance companies will usually only supply one home-based CPAP unit. If you travel frequently, you may want to purchase a CPAP travel machine which tends to be smaller and more portable. When going through insurance, you will not get to specify what type of CPAP machine you want and you are not guaranteed to get the newest or best CPAP machine available.

The average cost for a CPAP machine is \$850. However, CPAP machine cost varies widely depending on the CPAP machine make, model, and features and can be as high as \$3000. If you choose to buy your own machine, you will also need to get CPAP cleaner and additional CPAP machine parts like replacement filters, hoses, and mask. Also, remember to let your doctor know if you are buying your own machine so you can coordinate home monitoring. This will allow you to ensure you are getting adequate CPAP therapy and maximizing the benefits of effective sleep apnea treatment.