

Sleep Apnea and the Epinephrine Connection to Heart Attacks



October 31, 2023

When you stop breathing at night, your body releases epinephrine, more commonly known as [Adrenaline® in the commercial form](#), to speed up your heart rate and get you ready to fight or flee - but really just to inhale and save your life.

Given its critical role in an individual's overall health, it is not surprising that sleep has been - and continues to be - the subject of extensive research. Despite the wealth of knowledge, we have accumulated, there remain several aspects of sleep that we still don't completely understand. What are the reasons behind phenomena like sleepwalking and snoring? What causes insomnia, night terrors, and the peculiar occurrence of breathing pauses during sleep? While much continues to challenge our understanding, one fact is clear: a restorative night's sleep is critical for optimal health. And a restful night's sleep requires regular uninterrupted breathing for adequate periods of restorative uninterrupted sleep, which underscores the critical connection between these two elements in a person's overall well-being.

We know that sleep-disordered breathing such as loud snoring and [sleep apnea](#) deprives sufferers and their bed partners of a restful night's sleep and has many unhealthy consequences for both. It also results in many other social and economic impacts. [Harvard Medical School and McKinsey & Company](#) literally estimated that untreated sleep apnea costs the U. S. economy up to \$165B each year in fatigue-related accidents, lost workplace productivity, and the treatment of chronic diseases. [Drowsy drivers are estimated](#) to cause 100,000 police-reported crashes each year, resulting in an estimated 1,550 deaths, 71,000 injuries, and \$12.5 billion in monetary losses. Other studies show much higher numbers.

Current Treatment Options are Lacking

So, how can we help those who experience sleep apnea? Looking at current treatment options, the Harvard and McKinsey study estimated that 40% of those diagnosed with sleep apnea cannot tolerate a continuous positive airway pressure ("CPAP") device, which is most often prescribed by doctors to treat the condition. Although considered the medical "gold-standard" of care, CPAP only achieves an average of 4 hours per night of use, 70% of nights, in 75% of users. Many patients quit, and another 20% never even try. Given those statistics, many people don't even want to know if they suffer from sleep apnea, so it's no wonder that 84% with moderate to severe sleep apnea are *not diagnosed yet*.

Adverse Effects of Untreated Sleep Apnea Build Over Time and Damage Every Organ in the Body, Especially the Heart

The nightly [epinephrine](#) release that results from [repeated sleep apnea episodes](#) actually prevents death during sleep by causing the patient to wake up just enough to start breathing again.

However, this powerful naturally occurring hormone restricts blood vessels while causing the heart to speed up enough to restart breathing in the case of apneas, or to restart the heart when administered as Adrenaline® in higher doses.

Untreated sleep apnea is suspected to damage the [left atrial wall of the heart](#). This observed heart damage in sleep apnea patients is believed to be caused by repeated constriction of blood vessels and spikes in blood pressure in response to the sense of suffocation. This can happen as many as 200 times per night in moderate-severe cases, night after night. The results can be devastating, with studies linking sleep apnea to multiple negative health issues including

The problem, as noted, appears to be that this abrupt re-start of respiration, over and over every night, insidiously leads to progressive and debilitating cardiovascular disease in untreated patients. And they even don't realize it until they begin to suffer AFib because they can't remember these episodes when they wake up in the morning.

So, if you're in the estimated 92% with undiagnosed mild, moderate, or severe sleep apnea, this could be you. And even more disturbing, if you are among the 52% of those diagnosed with sleep apnea, but who quit CPAP or an oral appliance, or never even tried, this likely is you.

If you snore loudly or have excessive daytime sleepiness, these are warning signs you may be getting hundreds of small Adrenaline®-like shots each night while you are trying to rest. Take the time now to get diagnosed and treated so that eventually, you will be able to breathe a sigh of relief knowing that you truly are getting a restful night's sleep.

About the Author

[Michael G. Nathans](#) is the CEO and Co-Founder of WhisperSom Corporation, a medical device and informatics company. He holds a degree in Biology and Pre-healing Arts from Franklin & Marshall College and has a 35-year business background that includes 5 years at PwC, two U.S. patents, and two grants from the Ford Foundation. Visit WhisperSom on [LinkedIn](#) and [Facebook](#) to follow more discussions about sleep apnea and raising the 10% diagnosis and 5% treatment rates through education and technology.