



# The Real Importance of a Good Night's Sleep

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What is Obstructive Sleep Apnea (OSA)? It is a disruptive and surprisingly common condition that can have serious health consequences for the sufferer. It is accompanied by snoring, and during sleep the airway becomes restricted and the patient experiences a pause in breathing (Apnea) and shallow breathing (Hypopnea) that results in an increase in blood pressure, and over time can result in conditions such as diabetes, stroke and cancer. With OSA, the body struggles to bring in enough oxygen required for all the rejuvenative processes to occur during sleep. It is interesting that obesity is not only one of the causes of OSA, but OSA can also contribute to obesity – a reciprocal effect.

Sleep deprivation damages the body's ability to regulate eating by lowering the level of leptin, the hormone that tells the body when it has had enough to eat, resulting in overeating, altered insulin resistance, and a higher risk of developing Diabetes Type 2 - all of which results in weight gain. Also, if one would want to get on an exercise program to lose weight, the fatigue experienced from sleep deprivation makes it difficult – and even counterproductive. New studies show that compared to people who do not have the disorder, those who suffer from sleep apnea may not be capable of burning sufficiently high levels of oxygen during strenuous aerobic exercise. The greater danger is that undiagnosed, untreated **sleep apnea** places a great burden on your heart, your blood pressure, your brain and the rest of your nervous system. The danger of dying from the diseases of these bodily organs and systems is more likely in that case.

So, Snoring and Obstructive Sleep Apnea are more than just night time inconveniences – they can affect the quality of life and shorten it as well!

A Nobel Prize was awarded for research showing that low levels of oxygen (hypoxia) causes acidosis (lowered pH) that sets the stage for conditions such as increased susceptibility to inflammation and infections, viruses, and is characteristic in cancer cells. Additional research\* showed that abundant oxygen levels lead to increased pH and a reduction of disease susceptibility as the body becomes more alkaline.

*<https://michael2108.wordpress.com/2010/04/03/nobel-peace-prize-winner-dr-otto-heinrich-warburg-the-cause-of-cancer/>*

The gold standard in treating OSA is Continuous Positive Airway Pressure (CPAP) that involves the introduction of a steady stream of forced air either through a mouth mask or nasal pillows that keeps the airway open. It is quite effective, however it has a high rate of intolerance due to several factors, including drying out of the airway, noise of machine, cumbersomeness, stomach gas, to name a few.

If a patient has CPAP intolerance, the providing doctor will usually recommend that the patient sees a dentist who is trained in fabricating Mandibular Advancement Devices (MADs), two piece devices that bring the lower jaw forward, and in doing so opens the airway. These may be helpful for some, but are not as effective as CPAP as shown in Sleep Study records. They also can have drawbacks, such as bulkiness from being two piece (upper and lower components), TMJ discomfort and changes in one's bite.

At the Dental Wellness Center, we offer an innovative alternative to these traditional treatments. Dr. Bryan Keropian has developed a one-piece oral device, the Full Breath Solution with Oxygen (FBSO2) that is designed to lower the patient's tongue during sleep. Embedded in this oral appliance are small tubes that deliver non-forced 93% oxygen from an oxygen concentrator. Our sleep apnea team has found that this oral appliance is truly transformative to many sleep apnea sufferers, in that it is more tolerated than the two-piece MADs, and more effective based upon Sleep Study records; in fact, the records show that it is at least on a par with CPAP.

The two main indexes used in determining the efficacy of sleep are blood oxygen (SPO2, or Saturation Percent of Oxygen) and AHI (Apnea-Hypopnea Index). Normal, healthy sleep pattern indexes are SPO2 at 95% or above, with an AHI of 5 or below. Following are data from 40 successive patients that used the FBSO2:

- 38 of the 40 had oxygen levels above 95%. Mean O2 over 95%!
- 20 of the 40 had final AHI's of less than 5. 50% of the 40 normal with avg. AHI 1.23!
- 14 of the 40 had final AHI's of less than 2. 35% of the 40 with avg. AHI 0.77!
- 8 of the 40 had final AHI's of less than 1. 20% of the 40 with avg. AHI 0.33!

With results such as shown above, it is no wonder that all on The Dental Wellness Team are excited about the opportunity that the FBSO2 offers our OSA patients in not only obtaining a good night's sleep, but all the health benefits that go along with it!