**Continuous Positive Airway Pressure (CPAP)**

Caitlyn King, Biomedical Engineering, University of Rhode Island  
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**Abstract**—CPAP is a machine that is used for treatment of breathing disorders such as sleep apnea. The treatment is seen as the most effective noninvasive treatment for sleep apnea. Yet patients are not always compliant with treatment.

I. INTRODUCTION

Mild air pressure to keep a patient’s airway way is the Continuous Positive Airway Pressure treatment or simply known as CPAP. This device is used on patients that have breathing issues like sleep apnea and on premature infants with lungs that are not completely developed. Sleep apnea is a sleep disorder where there are abnormal pauses in breathing or periods of abnormal low breathing (causing low levels of Oxygen in the lungs) during sleep. CPAP is the most effective treatment for patients that have obstructive sleep apnea.

II. METHODS

Continuous Positive Airway Pressure therapy has a mask and a machine component. The machine is a flow generator that pushes positive pressure air into the tubing that is connected to the mask. The mask is placed over the patient’s nose where the positive pressure air enters the body and then continuous to the throat. This positive pressure keeps the upper airway open while the patient is sleeping.

Most patients do not know that they have sleep apnea because it occurs when they are asleep. The patients are referred to a sleep study where they are observed through durations of sleep. From there they are given a conclusive idea if they have sleep apnea or not.

CPAP when used on premature infants prevents the infant from receiving a breathing tube through the mouth. The CPAP gently blows positive pressure air through the infant’s nose that helps keep the infant’s lungs inflated.

III. RESULTS

There are positive results for patients that are compliant with treatment when using a CPAP machine. With untreated sleep apnea, patients increase the risk of heart failure, arrhythmias, high blood pressure, heart attack, and stroke. By being compliant with the CPAP treatment patient can reduce these risks and improve their sleep cycles. Also in a small study by Toukh, M, and Pereira, E., CPAP has reduced hypercoagulability in patients that have severe obstructive sleep apnea. Hypercoagulability is an abnormality of blood coagulation that causes an increase in blood clots in the blood vessels.

IV. DISCUSSION

After a sleep study is completed and a patient is diagnosed with sleep apnea, most insurance companies will cover the cost of the sleep study and the CPAP equipment. Patients are usually compliant for a few couple of days. Many patients have reported that they feel better once they begin the CPAP treatment. CPAP also improves the rate of survival for premature infants with not fully developed lungs.

Even know that patient have had results from the CPAP, some patients become incompliant. Reasons that patients become incompliant with the treatment can be artificial and/or superficial. Patients do not like how the mask looks on their face or feel uncomfortable about the how it lays on their face. Patient issues of compliancy are overriding the factual evidence that the CPAP treatment is effective and long-term use can prevent/decrease other risks from occurring.

**REFERENCES**


<http://www.nhlbi.nih.gov/health/health-topics/topics/cpap>.

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