

MORE ABOUT CPAP

Remember that a Doctor's Prescription is required for Sleep Testing and most CPAP Equipment or Supplies. If you do not have a regular or family physician, consider asking your employer's company doctor, a DOT examiner, or contact us and we will try to assist you in finding a qualified physician near your location.

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Definition of CPAP

CPAP is an abbreviation for Continuous Positive Pressure Breathing and is administered by a mask over the nose and/or mouth connected by a hose to a blower machine that provides a back pressure to keep the throat and airways open and allow normal breathing during sleep. The pressure generated by a CPAP machine is measured in units of centimeters of water or cm H₂O much like tire pressure is expressed as PSI only CPAP pressures are much lower. CPAP is used by millions of patients and commercial drivers to successfully treat their sleep apnea.

Types of CPAP machines

- Fixed Pressure CPAP usually referred to as Fixed CPAP or just CPAP
- Auto-Adjusting CPAP also referred to as Auto-CPAP or APAP
- BiLevel CPAP also referred to as BiLevel PAP or BiPAP

Fixed Pressure CPAP can provide a constant pressure in the range of 5 - 20 cm H₂O, typically in the range of 6 -16 cm H₂O depending on the severity of the sleep apnea. The optimum pressure is usually determined by an attended overnight CPAP titration study in a sleep lab. Since the CPAP titration is a single night study the optimum pressure may be adjusted by a physician or by the provider of the CPAP equipment and fine-tuned based on data downloads from the CPAP machine.

Auto CPAP (APAP) machines are set at a minimum and maximum pressure (e.g. 5 – 20 cm H₂O). The APAP machine senses the obstructive breathing events and automatically and continuously varies the pressure in order to keep the airway open during sleep. APAP machines like Fixed CPAP can also be fine tuned, based on data downloads, to narrow the minimum – maximum pressure range (for example to 6 – 16 cm H₂O). Although APAP machines cost a little more than Fixed CPAP, the prices are coming down and the advantages include: comfort due to your breathing at the lowest required pressure for much of the night, “backup” with higher pressures available on those nights that you may, for various reasons, require higher pressures and, in most cases, a person with sleep apnea can save time and money by starting APAP directly after the home/cab sleep test (HST) without going through a attended in-lab titration study.

BiPAP or BiLevel PAP machines can be set so that the pressure generated by the machine is higher when you are breathing in and lower when you exhale (for example 16 cm H₂O while breathing in and 12 cm H₂O when you exhale). BiLevel PAP is usually used for more severe obstructive sleep apnea as it allows better tolerance of the higher pressures that are required but BiLevel PAP may also provide additional comfort for mild to moderate sleep apnea if CPAP or APAP are not well tolerated. Usually BiLevel PAP machines are more expensive than Fixed CPAP and APAP. Auto-Adjusting BiLevel or Auto-BiPAP machines are also available.

CPAP Bells and Whistles In addition to the basic features discussed above many CPAP machines are available with advanced features to enhance comfort and ease of use. Some of these include BiFlex or Expiratory Pressure Release (EPR), adjustable ramping of pressure changes, and the ability to transmit compliance data by cellular carriers or via the Internet.

Humidifiers In many situations, particularly in the trucking environment, it will be more comfortable to use a heated or cool humidifier in conjunction with your CPAP machine. Although prices are usually quoted with the humidifier included, both the CPAP machine and the humidifier may be purchased separately.

The cost of CPAP machines and supplies varies with the type of machine make, model, and additional features. When checking prices, be sure which supplies and/or accessories that best fits your needs are included.

CPAP Masks and Supplies CPAP masks come in different sizes and types and there are many different makes and models to choose from. The 3 main types of mask are: Nasal (which fits over rather than on the nose), Full Face (which fits over the mouth and nose) and the Nasal Pillows mask where 2 small rubber or silicone projections fit gently against each nostril. While the choice is personal, it is important that there is a good seal between the mask and face. We have found that most people do well with a nasal pillows mask but with variability in face shape and beards there may be some trial and error until you get a proper fit. Our trained technicians monitor the information downloaded from your machine and stand ready to assist you in getting the best mask fit for comfort and effectiveness. Other supplies such as tubing, filters and other third party aids products for enhancing comfort may be device specific or generic. It is important to keep your equipment and supplies clean, well maintained and replaced if necessary.

Power Options and Electrical Requirements (mainly a commercial transportation issue) At the present time there is little industry standardization. Some employers require that specific CPAP machines are used in their trucks and many times powering the machine is left to the individual owner operator. Available options depend on the particular CPAP machine and some include cigarette lighter, inverters, deep cycle batteries, APUs, and truck stop based power solutions. Some newer models are available with lightweight foldable solar panels. Before purchasing a CPAP machine it's best to consider your power options. MDS can assist you with these issues.

Compliance Monitoring Many insurance companies including Medicare as a condition of payment as well as employers, particularly in the commercial transportation require Compliance (CPAP usage) monitoring. In the trucking industry once a driver has been diagnosed with sleep apnea they are usually given a specific period of time to begin CPAP treatment and in order get cleared by a DOT examiner and return to work the driver must show they are regularly using the CPAP. The usual minimum requirement is that the CPAP is used at least 4 hours per night for 70% of the nights. The data downloaded from modern CPAP machines includes information about usage and most store the information for at least one year. As an option some machines also provide additional data such as the number of obstructive breathing events (sometimes called AHI) and the degree of leakage around the CPAP mask. Although these features cost a bit more, they can be useful in helping to determine proper mask fit, effectiveness of the CPAP and also can be used to fine tune the optimum CPAP pressure.

While most employers and DOT examiners require the minimal usage documentation some may want additional information such as “AHI” and it may be advisable to ask about this before purchase of your machine. Compliance monitoring (sometimes called adherence) can be done in several ways.

Most modern CPAP machines have a slot for a data card that will download information. This data card can be mailed to whatever company is doing the monitoring. Some CPAP machines transmit data over the Internet by connecting the CPAP machine with a USB cable to a computer. Others can transmit compliance data by a wireless cellular network. It may be important to check with your employer to find out if they have specific requirements in this regard.

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