

CPAP / BiPAP

Definition of Terms

Airway – The passage through which air passes to the lungs and carbon dioxide (CO₂) passes out of the lungs. It consists of the nose, mouth, throat, trachea, and lungs.

Apnea – Pauses in breathing. Usually happens while sleeping.

CPAP / BiPAP – Devices for preventing sleep apnea by delivering pressurized air to the lungs.

(Continuous Positive Airway Pressure)
(Bi-level Positive Airway Pressure)

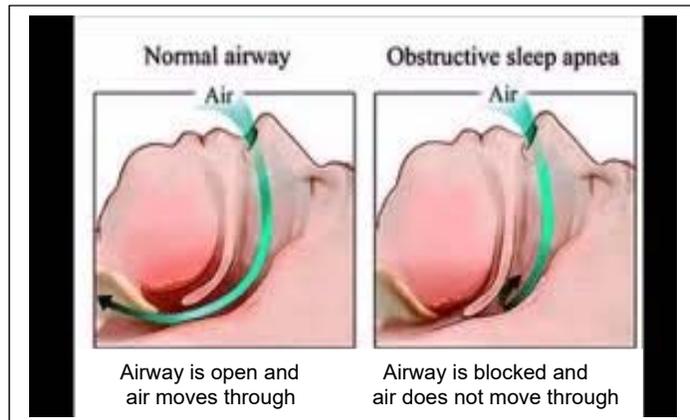
Blood oxygen levels – The amount of oxygen in the blood at any given time.



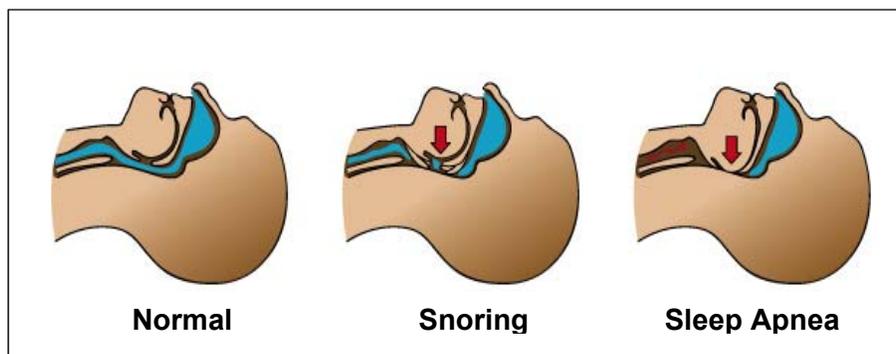
Obstruction – A blockage.

Obstructive sleep apnea – Pauses in breathing during sleep caused by changes in the position of the upper airway when laying down.

Sleep Apnea – Pauses in breathing during sleep.



Snoring – Snorting or grunting noises caused by an obstruction in the airway.



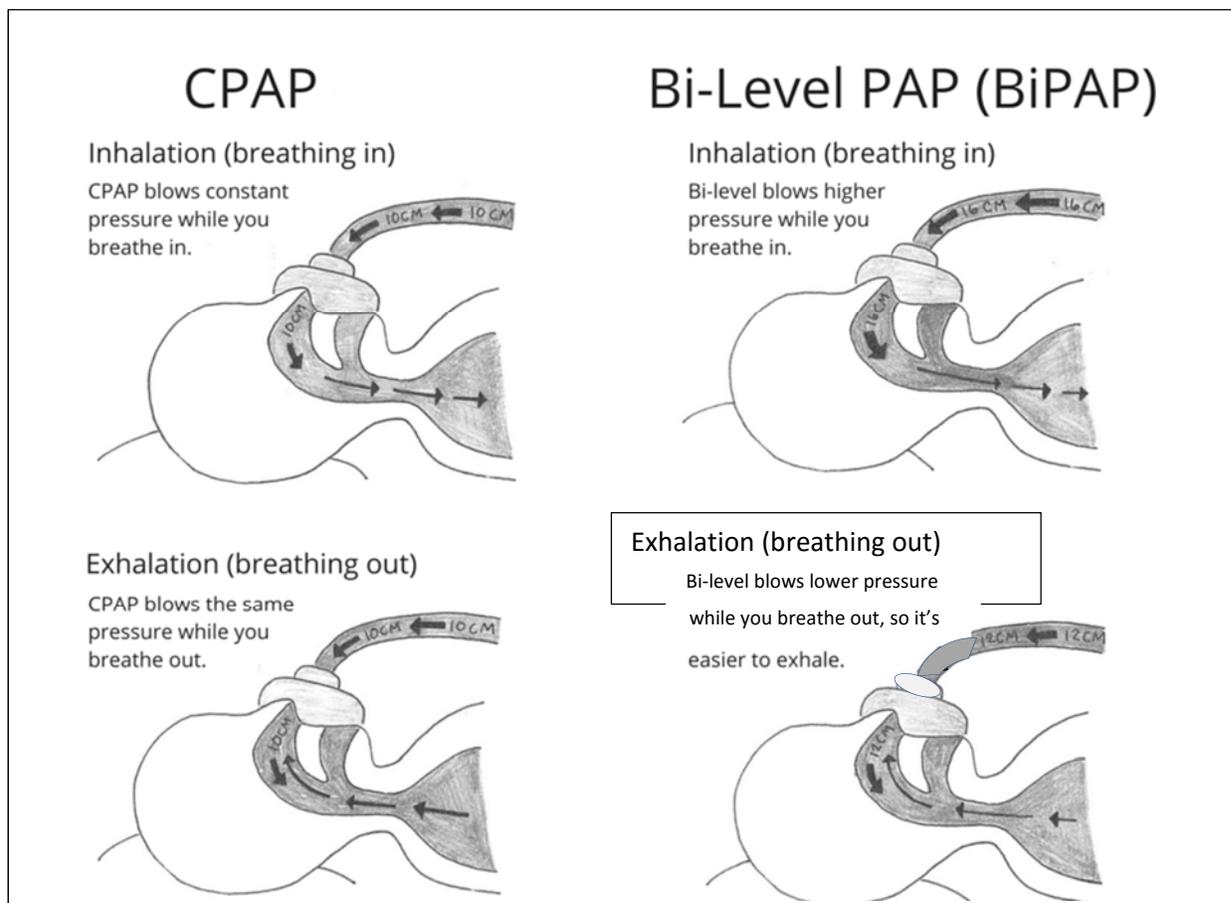
CPAP / BiPAP - COMMON TREATMENTS FOR SLEEP APNEA

Obstructive sleep apnea affects thousands of people every night. The most common symptom people have is daytime sleepiness. At night, the person stops breathing for periods of time, resulting in poor quality sleep. Because the person is asleep, they have no awareness that they are not breathing for periods of time. If untreated, sleep apnea can lead to irregular heart beats, and increase the risk of heart attack, stroke, high blood pressure, diabetes, and accidents.

The most common treatment for sleep apnea is use of either a BiPAP or CPAP machine that delivers positive air pressure through a face mask or other device during sleep. Room air is usually used, but some persons may require oxygen.

Be sure to follow the specific instructions for the individual and their equipment. If the person has difficulty adjusting to their sleep apnea device, contact the equipment supplier for assistance. Be sure that hoses and masks or other face equipment is replaced when in disrepair.

The figure below shows the subtle difference in how the CPAP and BiPAP delivery systems work.



What are the risk factors for sleep apnea?

- ◀ Being male
- ◀ Being overweight
- ◀ Having a thick neck
- ◀ Aging
- ◀ Having high blood pressure
- ◀ Family history of sleep apnea
- ◀ Having diabetes



How do these devices work?

- ◀ These devices are programmed by a respiratory therapist to deliver air under the right amount of pressure to keep the person's airway open during sleep.
- ◀ The pressurized air is delivered through a face mask or other device such as nose pillows or nose mask to prevent episodes of sleep apnea and allows the person to get a restful sleep. The face device must fit snugly to allow pressurized air to enter the airway.
- ◀ The machine pushes the air through a water well to deliver moist air that prevents drying of the airway.
- ◀ All machine settings are preprogrammed by the equipment supplier. Direct service personnel will not be making any adjustment to the machine settings.
- ◀ Some people may require oxygen delivered through the machine instead of normal room air. Oxygen is an inhaled medication. All procedures for the administration of oxygen must be followed.



Nose pillow with head gear

Who should use these devices?

A sleep study may be done on anyone with a history of snoring, waking up gasping for air, excessive day time sleepiness or who stops breathing for periods of time during the night. If they are diagnosed with sleep apnea, the doctor may prescribe one of the PAP (positive air pressure) devices to treat the problem. The pressured air is delivered through a face mask or other devices such as nose pillows or nose mask.

What are the benefits of using CPAP / BiPAP?

- ◀ Elimination of snoring
- ◀ Elimination of day time sleepiness
- ◀ Improved quality of sleep
- ◀ Decrease in or prevention of high blood pressure

Are there any adverse side effects from using CPAP or BiPAP?

Some peoples may experience:

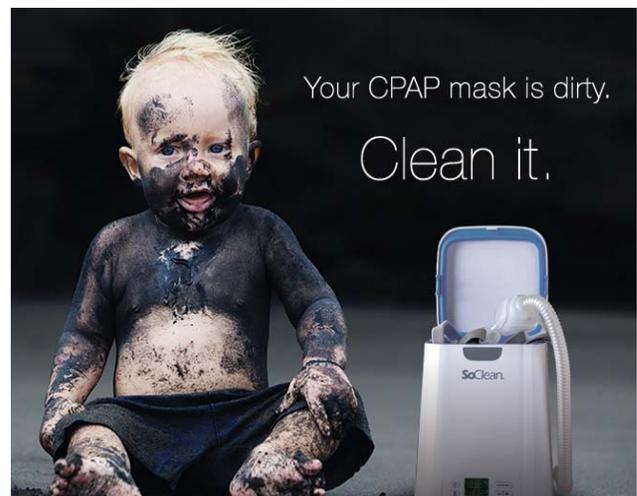
- ◀ Sneezing
- ◀ Runny nose
- ◀ Nasal congestion
- ◀ Excessive dreaming when first using the device
- ◀ Interrupted sleep from improperly fitting mask or other face devices
- ◀ TMJ disorders (Temporomandibular joint pain; pain in the jaw joint)
- ◀ Abdominal bloating
- ◀ Dry nose and sore throat
- ◀ Irritation of the eyes and the skin on the face

What are the potential problems?

- ◀ Interruption in air flow from a clogged air filter
- ◀ Fire hazard or electrical shock from frayed electrical cords
- ◀ Mineral deposits in the system from failure to use distilled water in the humidifier well
- ◀ Growth of bacteria from improper cleaning of the component parts that could lead to respiratory infections
- ◀ Odor and growth of bacteria or mold in hoses that are improperly stored
- ◀ Irritated skin from an improperly fitting mask or other face devices
- ◀ If the machine malfunctions, seek professional assistance

How to clean and maintain the CPAP / BiPAP

- ◀ Follow the manufacturer's instructions
- ◀ Hang the hose over a hook to allow air to freely flow through it – do not coil it when not in use
- ◀ Wipe the outside of the machine daily with a damp cloth to keep it dust free
- ◀ Clean the mask or other face equipment daily as directed by the manufacturer
- ◀ Replace any worn or non-working parts as directed by the manufacturer
- ◀ **ONLY** use distilled water NOT tap water in the water well
- ◀ Empty the water well daily, wash it and let it air dry
- ◀ Change the filter per manufacturer's instructions



Check list for use of CPAP / BiPAP machine

- _____ 1. Place the machine on a level surface near the bed.
- _____ 2. Place the machine at least 12 inches away from anything that could block the vents (curtains, bedspread, etc.).
- _____ 3. Place the machine lower than the level of the bed so any accumulation of water will drain back toward the machine, not the mask.
- _____ 4. Plug the machine into an outlet. Do NOT use an extension cord.
- _____ 5. Fill the water well with distilled water only. No tap water.
- _____ 6. Place the water well into the machine per manufacturer's instructions.
- _____ 7. Wash your hands and put on gloves.
- _____ 8. Put the hose of the face device into the hose port on machine.
- _____ 9. Position face piece (mask, nose pillow, etc.) on face.
- _____ 10. Fasten / adjust headgear on the person's head so that the face device fits snugly.
- _____ 11. Turn the unit on. If using oxygen, turn on CPAP / BiPAP unit first, before turning on oxygen flow.
- _____ 12. Have the person breathe deeply until pressured air begins to flow.
- _____ 13. Have person breathe normally once pressured air is flowing. Make sure no air is leaking out of the mask or nasal pillows. If it is, readjust the mask or nasal pillows and headgear.
- _____ 14. When the person awakens in the morning, turn off the machine. If using oxygen, turn off oxygen first before turning off the machine.
- _____ 15. Remove the face gear and clean per provider's instructions.
- _____ 16. Clean the machine, and hose per supplier's instructions and hang hose to dry.

Trainee name: _____ Date: _____

_____ Instructor initials Instructor Name _____

Comments: