



# Education Bulletin

*The ASAA is a non-profit organization dedicated to reducing injury, disability and death from sleep apnea and to enhancing the well-being of those affected by this common disease.*

## CHOOSING A MASK AND HEADGEAR

Once you have been prescribed Continuous Positive Airway Pressure (CPAP) therapy, you will need to be fitted for a connection to your nose and/or mouth, tubing and headgear – “an interface”. The mask is attached to tubing that, connected to the CPAP machine, delivers the pressurized air that prevents apneas from occurring. It is very important that the mask is comfortable and provides a proper seal for the airflow; the proper air pressure level cannot be established unless the fit is correct. Moreover, a comfortable mask that fits well will make using CPAP easier. In seeking a comfortable mask, keep in mind the fit (does the mask seal over your nose and/or mouth and/or are the straps too tight or too loose?), the size (do you have a small when you need a medium?), and the style, which is a personal preference that only you can determine.

Most masks are triangular in shape and are worn over your nose (or the nose and mouth, with a full-face mask for mouth breathers) while the adjustable straps of the headgear hold the mask in place. Straps that are too loose permit air to leak. Straps that are too tight can break the seal and create leaks; any strap pulled too tightly can cause discomfort. Headgear straps must be snug enough for a good fit in all sleeping positions (back, side, and front) but not tight. “Quick-release” clips attach to the straps at the front of the mask or the strap hooks to one part of the mask; both allow for quick, easy removal of the mask. They also keep the straps in place so you do not have to adjust them each time you use the mask. Headgear comes in a variety of colors, sizes, and materials, but some masks can be used only with specific headgear (many masks are sold prepackaged with headgear). If you breathe through your mouth, you may also want to consider using a chin strap to help keep your mouth closed or a mask designed for mouth breathers. (If you regularly breathe through your mouth during the day because of nasal obstruction, a consultation with an ear-nose-and-throat physician may be in order.) A chin strap is not recommended in that case.

CPAP machines compensate for a “built-in leak” in the system usually near the exhalation port of the mask that is necessary to keep the air supply fresh. One mask includes over its exhalation port a small plastic piece filled with sound-absorbing material that muffles the sound and dissipates or spreads the exhalation flow that may bother a bed-partner. Too much leaking, though, may occur if the mask does not fit properly; excessive leaking reduces the set pressure and must be corrected (not to mention that leaks can irritate your eyes). Masks that are too large tend to leak more easily than snug ones, so as a rule of thumb, if in doubt, select the smaller. If you extend your tubing, keep in mind that hoses longer than twelve feet generally will not maintain the proper pressure and may require increased pressure. (Discuss using longer hoses with a health care professional.) If the tubing gets in your way during sleep, try draping it over your headboard or an object designed specifically for this purpose.

Many masks have a hard plastic body and softer silicone seal that touches the face and may have varying features. For example, a mask may include an adjustable pad that rests on the forehead. The seal may inflate once the machine is turned on so the straps do not need to be as tight. If the mask has a lower profile and does not sit too high at the nose’s bridge, it can typically accommodate eyeglasses better. Some masks, particularly accommodates glasses. Another new mask that works only with a specific headgear has inside the silicone seal a soft, foam-like type material with memory for facial contours. This mask also includes a thin plastic piece that glides from side to side across the mask as the person moves in sleep: this is to allow the headgear, but not the mask, to move with the user and alleviates mask leaks. Some triangular masks have two openings or connection ports so, when necessary, oxygen can be used with the CPAP machine. If allergic to silicone, try a mask made from materials like synthetic rubber or vinyl. Several masks on the market now are made out of gel-like material. They are intended to mold to each person’s face in order to alleviate pressure points and to be more comfortable. However, because some of these masks are larger and heavier than traditional types, some people find them less comfortable. Another mask now has an inflatable cushion that lets the wearer adjust the fit and prevent leaks

A more recent variation of the gel-type masks, marketed as one-size-fits-all, has a soft, flexible shell and gel cushion with a pliable wire molded into the shell that allows the mask to be shaped to adjust for individual differences.

In addition to the masks described above—the standard mode of CPAP delivery— an oral mask, designed for mouth breathers, is now available. This delivers the pressurized air through the mouth, and while it uses no headgear, it requires heated humidification. Because the mask touches only the skin around the mouth, it can also accommodate eyeglasses. Not all patients can use this mask, for example, people who grind their teeth and some people who have had surgery for sleep apnea.

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Nasal pillows are another option. Instead of wearing a triangular mask, the user inserts into the nostrils two small flexible pieces (shaped somewhat like mushroom caps) that are attached to a plastic adapter that is in turn attached to the tubing. However, people with higher pressures sometimes experience discomfort with the pillows. The pillows can also be inserted into headgear made of pliable metal and plastic which curves over your head and can be adjusted at four points. The pillows do not rest on the nose, upper lip, or cheeks, may solve the problem of allergies to mask material as well as complaints of claustrophobia. Some people, especially people with a beard or moustache, simply prefer nasal pillows to a mask. (While some masks are made with moustaches and beards in mind, facial hair can compromise the effectiveness of CPAP masks.) This headgear can now be used with a triangular-shaped mask.

In addition, there is a new interface that is not a mask but has two tubes that fit snugly inside the nostrils. It looks like a large nasal cannula. While a nasal cannula has two smaller tubes that are used to deliver oxygen, the tubes with this interface must be big enough to prevent the pressurized air from escaping. No headgear is necessary—and hence this interface can also accommodate eyeglasses—as the tubing loops from the nose around the ears. The two tubes join together near the chest and then, as one tube, attach to the CPAP. There is also a strap that goes behind the head to keep the tubing around the ears in place.

There is also another device that combines two therapies: oral appliances and pressurized air. Oral appliances, which in these cases are to open the airway by moving the lower jaw forward, are connected to CPAP tubing so that the pressurized air is delivered either through the nose (via nasal pillows) or the mouth (through the appliance). The oral appliance attachment requires fitting and adjustment by an appropriate dental practitioner. The oral appliance may also be used alone.

Dry skin can also reduce a mask seal. Skin moisturizers can help with this problem. Although they slightly reduce the mask's life, an improved facial seal may very well be worth it. Some moisturizers are manufactured specifically for CPAP users and can be used inside the nose as well, but avoid petroleum-based products. Conversely, excess skin oil may also reduce the ability to maintain a seal between the mask and face. This may be addressed with improved skin care. Some of these and other products to help the CPAP users are available via the Internet.

Just as there are several CPAP manufacturers that offer different types of machines with different features, there are different masks and headgear styles within manufacturers' lines. Your mask may be manufactured by one company and the CPAP machine by another. Virtually any mask will fit the standard air hose (or can be adapted easily), but, as mentioned, some masks work only with specific headgear, and auto-titrating machines are typically designed to work only with specific masks. It is also possible to have masks custom-made, so ask your doctor, home care company's representative, or dentist about all options. Varying the style or type of mask can reduce chronic nose, lip, or facial discomfort caused by repeated nightly use of the same mask. However, some insurance carriers resist paying for more than one CPAP mask in a specific time period (such as six months or a year), so additional masks may be an out-of-pocket expense for you. Before selecting a mask, try using it with the CPAP on and under realistic conditions (for example, lying down moving from side to side). You, the wearer, should be happy with it. If you have discomfort with any mask, try other ones; though keep in mind any restrictions on cost and/or provider your insurance company may impose. (For problems other than mask fit, such as nasal congestion, see other relevant ASAA publications.)

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