

CPAP

SDA Fact Sheet AT10

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CPAP: If you suffer from sleep apnea then CPAP or **C**ontinuous **P**ositive **A**irway **P**ressure is the most successful treatment. Almost all sleep doctors will suggest you try CPAP before resorting to other treatments.

How does CPAP work? CPAP is a very simple mechanical aid to help keep the airway open. In sleep apnea it is the repeated collapse of the airway in the throat that stops you breathing and leads to all the problems such as lack of oxygen, disrupted sleep and the increased risk of stroke and heart attack. CPAP prevents the airway closing by keeping a positive pressure inside the airway, a bit like blowing up a bicycle inner-tube that has become deflated. This pressure is created by blowing air through the nose and into the upper airways. This pressure is applied continuously throughout the night to prevent the airways closing. Hence the name Continuous Positive Airway Pressure.

What generates the air that blows into the airway? The air flow is generated by a CPAP pump or CPAP blower. This is a machine able to generate a high air flow but only at a low pressure. The first CPAP pumps were actually vacuum cleaners operated in reverse but since that time huge advances have been made in the design of the pumps so that now they are small, quiet and extremely reliable. Most are also able to operate from a car battery.

How is the pressure applied to the airway? The most commonly used method for applying the pressure is by the use of a soft mask that is shaped to fit over the nose and to seal against the face. Getting a satisfactory fit of the mask to the face is the most difficult part of CPAP treatment. Although masks have improved dramatically over the years, a number of people still have difficulty adapting to them and it is really important that you find the mask that suits you best.

Why doesn't the air just blow into the nose and out of the mouth? The shape of the airways is such that when a pressure is applied to the nose, the uvula and soft palate partially block off the mouth. Some air may escape through the mouth, but if it is kept closed a satisfactory seal can be obtained. Air leaking through the mouth is called a "mouth leak" and is uncomfortable for the CPAP user. Various devices such as chin straps to hold the mouth closed may be used. Humidification and slight warming of the air from the pump may help to minimise discomfort from mouth leaks.

What are the main side effects of CPAP treatment? CPAP is a very safe treatment with few serious side effects. The most common is nasal irritation due to the air blowing into the nose. A mouth leak makes this nasal irritation much worse. CPAP users sometimes complain of cold, painful or stuffy noses. Other side effects are associated with the mask rubbing on the nose or with air blowing into the eyes from a poorly fitting mask.

How long does CPAP take to work? CPAP works immediately in stopping your sleep apnea. Some people notice immediate improvement in their daytime symptoms, such as tiredness, but others find it takes some time to get used to CPAP and gain maximum benefit. If you feel that your CPAP is not working effectively you should return to your sleep specialist and get help.

Is CPAP dangerous? CPAP is an extremely safe treatment. If you are having surgery, particularly on the nose or airways, consult your surgeon about when it is safe to use CPAP.

How long will I need to use CPAP? Unfortunately CPAP does not cure sleep apnea, it simply controls the symptoms by keeping the airway open. If you stop using CPAP your airway will once again close and you will experience apnea. So unless your circumstances change, such as a significant loss of weight, you will need to continue to use CPAP for the rest of your life.

Do I need to use CPAP all night? Almost as soon as you stop using CPAP you will start to have apnea and so whenever you are asleep you should use your CPAP. This means eight hours each night, seven days a week. Some people find this too tough but you should try and use it all the time. If it's not being used, it's not being effective. Recent studies show the more you use it the more benefit you gain.

What happens if I can't use CPAP for one or two nights? Chances are that when you were diagnosed with sleep apnea you had suffered from it for several years. One or two nights without CPAP is not likely to be a major problem to you but you should realise that all the symptoms, including daytime tiredness will return and you should adjust your lifestyle accordingly. For example, you should not drive if you are sleepy the next day. If you have a cold or flu you may be advised not to use your CPAP while nasal symptoms are severe. As soon as you are comfortable with it you should start using it again.

How do I know what pressure I need? Before your doctor prescribes CPAP you may have a “titration” sleep study in a Sleep Disorders Laboratory. During this overnight study, staff of the laboratory will adjust the pressure until it is just sufficient to stop your apnea.

What is an “auto-machine”? Some of the more expensive CPAP machines are able to sense when you are having an apnea and adjust the pressure accordingly. If your sleep apnea is worse at certain times throughout the night, for example when you are lying on your back, this may allow an overall lower pressure to be used. This may make CPAP more comfortable but as long as the pressure is correct, all CPAP machines are equally effective.

What is a ramp? Most CPAP machines have a feature that allows you to start with a lower pressure which increases over a set period until your required pressure is reached. This is a feature to make CPAP more comfortable for you.

What is humidification? Most CPAP machines are able to be used with a humidifier which is a device that warms and adds moisture to the air you breathe. If CPAP gives you a cold nose or a stuffy nose, this may make it more comfortable for you. However, most people with a well fitting mask get used to these side effects and can cope without a humidifier.

Can I take my CPAP on holidays? You should certainly try to use CPAP when you go on holidays. Using CPAP will avoid the daytime tiredness that comes with sleep apnea. Most CPAP machines now operate on both 110 and 240 VAC and also on 12 VDC. This means they can be used overseas and while camping. A Fact Sheet “Traveling with CPAP” contains more details.

Sources of help and information - If you are concerned about sleep apnea, you should consult your family doctor. Referral from your family doctor will be necessary before you can consult a sleep physician. Patient support groups such as Sleep Disorders Australia have branches throughout Australia and hold information sessions from time to time.

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