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A. Introduction

Positive Airway Pressure (PAP) therapy is used to treat sleep apnea, the most common type of sleep apnea is obstructive sleep apnea. Obstructive sleep apnea (OSA) is a problem caused by the throat narrowing or closing during your sleep. PAP therapy treats OSA by using pressurized air to hold open your throat during sleep. A mask covering the nose and/or mouth is used to keep the air pressure from the PAP machine in the throat during sleep.

When you are starting PAP therapy, you will need help learning to use the equipment. Help is available from the medical supply company that provided your equipment or from the doctor, nurse practitioner, or physician assistant that prescribed the treatment.

This handbook can also help you learn more about PAP therapy. In this handbook, you will find information for two commonly used PAP machines, the ResMed AirSense and Philips Respironics DreamStation. This information is provided for educational only and is not intended to be a substitute for professional medical advice. Please contact your health care provider for questions about your medical condition, including questions about your treatment.

A copy of this handbook is available at: <https://tinyurl.com/SleepApneaEducation>

More Information:

Mayo Clinic provides a helpful OSA video. You can find this video by searching 'Mayo Clinic sleep apnea video' or by using [this link](#).

Video: What happens during obstructive sleep apnea?



B. YouTube Videos



YouTube App: search 'SleepApneaEducation' (one word without spaces)

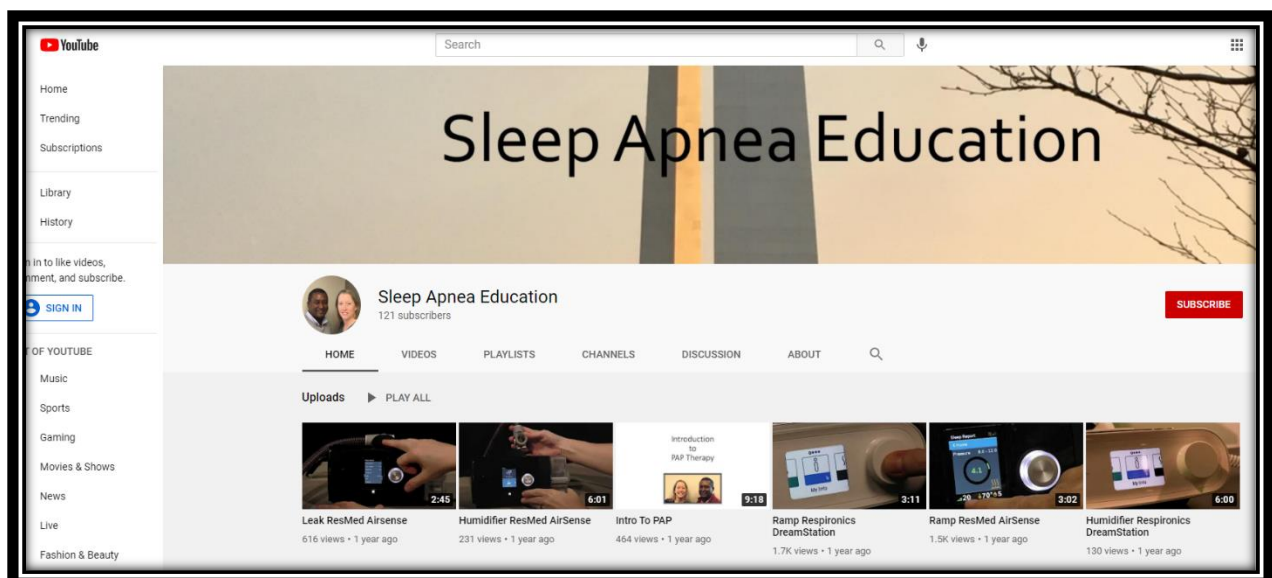
Web browser: <https://www.youtube.com/c/SleepApneaEducation>

QR Code



Tip

Choose **Playlists** from the top banner to watch all the videos.



C. Humidifier Overview

PAP machines have a humidifier which helps patient comfort when using PAP therapy. Using the humidifier at higher humidity levels is very helpful to patients who are new to using PAP therapy and always recommended when you first get your machine.

Clues that your humidity is too low:

- Removing the mask during sleep
- Opening the mouth during sleep
- Dry mouth
- Dry nose
- Nose congestion
- Runny nose
- Sneezing

Humidifier Settings

You can change your humidifier settings. Most newer machines have a 2-part humidity system that allows you to adjust the amount of moisture coming out of the machine separately from the tubing heat.

Humidity Amount

The amount of moisture coming from the machine can be increased by raising the temperature of the heat plate that sits under the water holder, or water chamber. A higher number provides more moisture.

Heated Tubing

Heated tubing allows more options for increasing humidity by reducing the condensation of water in the tube or mask. A higher number increases the temperature of the tube and reduces water condensation. You can also purchase a CPAP tubing cozy online to insulate your tube so it does not collect moisture.

Tip

If you see **water in your tube**, raise the tube temperature first.

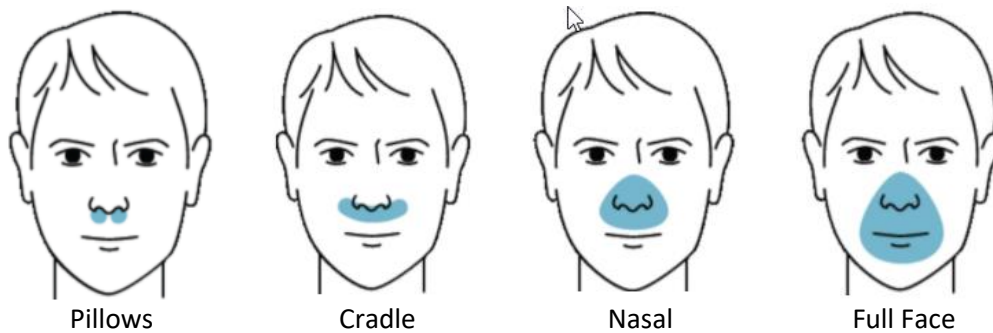
More Help:

1. See the Troubleshooting section of this handbook for more help.
2. Handouts for humidifier adjustment are at <https://tinyurl.com/SleepApneaEducationHandouts>
3. YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>



D. Mask Overview

A mask that seals against the face or nostrils is needed to maintain airway pressure.



Clues you are having a mask problem:

- Hearing a leak from where the mask seals against the face or nose.
- The mask slips and will not stay in place.
- The mask is uncomfortable, and this does not improve after a week.
- The mask is leaving marks on your skin.
- The mask makes your nostrils or the bridge of your nose sore.
- You are feeling air blowing into your eyes.

Mask Options

You can change the size of the seal that touches the skin to try to improve the fit and seal of the mask. If this does not help, you can change to a different mask that looks similar or is different than your current mask to improve the fit.

Most patients can use a mask that only covers the nose or sits under the nose without covering the mouth. Sometimes an extra strap is needed to help keep the mouth closed, this is called a chin strap.

Mask size

If you need a different size mask, call your medical supply company.

Mask style

If you want to try another mask that is similar or different from your current mask, call your supply company.

Tips

- Start with a smaller mask that does not cover the mouth.
- If nasal pillow irritate your nostrils, use nasal saline gel (OTC at Pharmacy)
- Add a chin strap for mouth-opening.
- Avoid masks covering the mouth, they often leak more due to their size.
- Ask your supply company about their mask exchange policy, this may be an option in your first month after starting PAP.

More Help:

1. See the Troubleshooting section of this handbook for more help.
2. YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>



E. Air Pressure Overview

PAP machines use air pressure to hold open the airway. It may take some time to adjust to the pressure and this pressure can cause side effects.

Clues you are having problems with the pressure:

- Bloating, belching, or farting that is new or worse after starting PAP treatment.
- The pressure feels too high at the start or in the middle of your sleeping period.
- The pressure does not feel high enough as you start treatment.

Pressure Adjustment Options

You can make some changes to your starting pressure by adjusting your ramp settings. Other pressure adjustments can only be made by your medical provider who ordered PAP therapy for you.

Patients need practice to get used to PAP therapy. If a pressure of less than 10 cm water is bothering you, practice using the machine each a day for at least 10 to 15 minutes to adjust to the pressure.

Ramp

Ramp allows your pressure to initially increase more slowly over a set amount of time. You can change the length of time your ramp raises your pressure from a low starting pressure to the target pressure prescribed by your medical provider.

Pressure adjustment

If the pressure is causing you discomfort, call your medical supply company to discuss your options. A pressure change may require an order from the medical provider who ordered PAP treatment for you.

Tip

Adjust the ramp time as a first step to see if this helps your comfort.

More Help:

1. See the Troubleshooting section of this handbook for more help.
2. YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>



F. Data Tracking

The ResMed and Resironics machines have a smartphone app and web-based program that you can use to track the data from your machine and learn more about the machine features.

ResMed AirSense - MyAir

[MyAir.ResMed.com](https://myair.resmed.com) or search MyAir in your smartphone App or Google Play store

Treatment goals (check the History screen)

- Mask seal leak below 25 L/minute
- Events per hour below 5/hour
- Usage 7 to 8 hours nightly



Resironics DreamStation – DreamMapper

[MyDreamMapper.com](https://mydreammapper.com) or search DreamMapper in your smartphone App or Google Play store

Treatment goals

- Mask fit 100%
- Events per hour below 5/hour
- Usage 7 to 8 hours nightly



G. Cleaning and Care

Reminder

- Save an old set of disposable supplies in case the equipment breaks or gets lost.

Daily Care

1. Wipe the inside and outside of your mask / nasal pillows with a damp cloth.
2. Empty the water out of your humidifier in the morning.
3. Open your water reservoir and allow it to dry between uses.
4. Use distilled water, avoid tap water and never use well-water

Weekly Care

1. Wash your supplies with mild soap and water. Use plain dish soap or baby shampoo.
2. Disconnect your tubing from the machine, remove the water reservoir and take your mask apart for cleaning. Clean any washable filters. Rinse well.
3. Do not use any soaps that have additives that make them 'anti-bacterial' or add a fragrance.
4. Wipe dry with a clean cloth and let supplies air dry for the day, it is recommended that you do this early in the day if you use your machine at night. You can hang your tubing up to dry on the shower rod. If the tubing is still wet in the evening, you can attach it to your PAP machine and run air through it for a few minutes to help remove more of the water.
5. You can also soak your water chamber in vinegar solution monthly (1 part white vinegar to 3 parts water for 20 minutes). Rinse well after soaking.
6. When you reassemble the equipment, check for air leaks.

Seasonal Care (every 3 months)

- Inspect your mask seal or nasal pillow inserts. If they are leaking and not providing a good seal, call your home care/DME company for replacement. You should replace the seal/cushion at least every month.
- Wipe your machine off with a damp cloth if it is dusty. Avoid use of oils or polishes.
- If your machine comes with a white disposable filter, this should be changed at the beginning of each season at a minimum. Call your home care/DME company to order a replacement.

When you have a cold or nasal infection

1. After a respiratory illness, clean your equipment with soap and water as instructed above. Then soak your equipment in 1 part white vinegar mixed with 3 parts water for 20 minutes (ex: 1 cup vinegar with 3 cups water). Rinse well after soaking.
2. DO NOT USE BLEACH to clean your equipment, it can irritate your respiratory tract.

If you are hospitalized

- If you are hospitalized, take your old back-up set of supplies with you to the hospital, leaving your newer supplies at home.
- Ask the hospital if you can use your home PAP machine while you are staying in the hospital. You will be more comfortable using the machine and equipment you are used to, if this is possible.
- When you are discharged, throw away the old disposable equipment and return to using the newer equipment at home. Wipe your machine off with soap and water when you bring it home.

Troubleshooting Tips

a. Dryness – Troubleshooting

Dryness of the mouth or nose can occur if the humidity amount is too low or if there is a leak from the mask or mouth. Some medications can cause dry mouth that may be more noticeable when using PAP treatment.

Tips

- Raise the humidity amount, see tips below.
- Correct mask or mouth leak using the instructions below.
- Try a mouthwash designed for dry mouth (ex: Biotene)

Humidifier Setting Recommendations

1. ResMed AirSense recommendations:
 - Humidity adjustments can be made in the “MyOptions” screen
 - Climate control should be in manual mode
 - Tube temp 82° F
 - Humidity level 5 or higher – higher numbers give more moisture.
 - Tip: keep the machine blower off when making humidifier adjustments
2. Resironics DreamStation recommendations:
 - Vapor icon 3 or higher – higher numbers give more moisture.
 - Tube icon 3 or higher
 - Tip: humidity adjustments are made while the blower is running

More Help:

- a. Handouts with humidifier instructions are at <https://tinyurl.com/SleepApneaEducationHandouts>
- b. YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>



b. Nasal Side Effects – Troubleshooting

Congestion, Drainage or Sneezing:

Your nose may get irritated from the extra air the PAP machine pushes through your nose, causing congestion, sneezing or a runny nose. This can occur if your humidity is low or your leak from the mask or mouth is high.

Tips

- For congestion that has worsen with PAP therapy, increase your humidification. See tips below.
- For congestion related to allergies, be more aggressive in allergy treatment of allergies. Contact your medical provider to discuss your options further.
- Review the leak troubleshooting tips, a leak can irritate the nose and cause congestion or other nasal symptoms.

Humidifier Setting Recommendations

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c. Leak - Troubleshooting

Noise from a Mask Leak:

If your mask is not sealing well against the face or the nostrils, it will leak and cause a noise that you hear before you fall asleep or it can wake you up.

Tips

- Tighten your straps. If the straps are uncomfortable, call your medical supply company for help.
- Change the size of your mask seal or pillow inserts.

Leak Reported by the Machine:

If your machine is detecting a leak that you are not hearing, this is most likely caused by you opening your mouth during sleep without it waking you up.

Tips

- Make sure you are using higher humidity on the machine using the tips below.
- If your mask does not cover your mouth, request a chin strap from your medical supply company to help remind you to keep your mouth closed while sleeping.
- If the above tips do not take care of the leak, call your medical supply company for help.
- If the leak continues after working with the supply company, call the doctor's office.

Humidifier Setting Recommendations

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More Help:

YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>

Leak Tracking

1. ResMed AirSense:
 - a. **Your leak should be below 25 L/min**
 - b. Go into the Sleep Report (AirSense 10) or My Sleep View (AirSense 11) screen, change the period to 1 day (AirSense 10), scroll to the bottom to see the **Leak**
 - c. Use MyAir, the patient tracker app, to monitor leak using the mask seal tab in reports.
2. Resironics DreamStation
 - a. Your mask fit should be close to 100%
 - b. Go into the MyInfo, turn the round knob clockwise until you see the Mask Fit screen

d. Pressure Discomfort - Troubleshooting

Too LITTLE Pressure

As you adjust to PAP, you may notice it feels like you need more pressure to feel comfortable.

- Tips**
- Turn your ramp time down or off.
 - If adjusting ramp does not help, call your medical supply company for further discussion.

More Help:

YouTube videos can be found at <https://www.youtube.com/c/SleepApneaEducation>

Too MUCH Pressure

When you are new to using PAP, the pressure can feel like it is too much at first. This can happen if your pressure is high or if your brain is still adjusting to the pressurized air.

- Tips**
- If your pressure is 12 or below and the pressure feels like it is too much, practice using the machine during the daytime to help your brain better adjust to the pressure.
 - As you practice, you may need to turn the ramp off or leave the ramp off to practice at higher pressure.
 - If your pressure is above 12 cm, call the provider that prescribed the machine for you to discuss your pressure problem further.

e. Mask Discomfort - Troubleshooting

Nostril Irritation or Soreness:

Nasal pillows that insert in the nostrils or the nasal cradle that sits under the nose can irritate the skin. Poor fit of the inserts or seal can also put pressure against the nose that becomes uncomfortable.

Tips

- For nostril skin irritation, try nasal saline gel, which is available OTC at your Pharmacy.
- For pressure against the nostrils or nose, change the size of the seal. Look to see if you already have other sizes of seals available to try at home or call your medical supply company to request a different size.

Face or Nose Irritation or Soreness:

Nasal masks that cup the nose or full-face masks that cover the mouth and nose can irritate the skin where the seal touches the skin on the face or can irritate the bridge of the nose.

Tips

- If the bridge of your nose is sore, red or has skin damage, call your medical supply company to discuss options to change your equipment. There are **gel pads** that can help protect your nose or you may need to change to a mask that fits you differently.
- If the face is getting irritated, begin with cleaning your mask seal daily by wiping it with a clean damp cloth and washing your face with mild soap before putting your mask on. If the problem continues, you can try using a **cloth mask liner** that goes between the mask seal and the skin, protecting the skin from irritation. Call your medical supply company to order cloth liners.

f. Gas or Bloating - Troubleshooting

Bloating or Gas

Starting PAP therapy can cause new or increased bloating, belching, or farting.

Tips

- Sometimes, changing the mask style can help. Call your medical supply company to discuss further.
- Call the medical provider that ordered your PAP therapy to report your symptoms, your pressure may need adjustment.

Want to Learn More About Your PAP?

Handbook



YouTube Videos



YouTube

