



# Positive Airway Pressure (PAP) Buyer's Guide

This information has been compiled by British Columbia's Ministry of Health to assist patients who have been diagnosed with **Obstructive Sleep Apnea (OSA)** and have a prescription for a positive airway pressure therapy device. Testing for OSA should be done only in a facility accredited by the College of Physicians and Surgeons of British Columbia's Diagnostic Accreditation Program.

<b>Content</b>	<b>Page</b>
Background	2
Types of PAP Devices/Masks	2-4
Purchase Considerations, Machine Options and Comfort Features.	4-6
Key Considerations	6-9
Funding Options	9
Provider Information	10
Conclusion	10

No endorsement of any particular device or purchase location is intended or implied.

## Background

Positive airway pressure (PAP) therapy is a generic term applied to therapy devices that treat obstructive sleep apnea (OSA) by using a stream of compressed air to support the upper airway during sleep. PAP therapy should only be prescribed by a referring practitioner (physician or nurse practitioner) or specialist after a patient has undergone a physical evaluation and appropriate diagnostic testing.

With PAP therapy, normal breathing during sleep is supported by a machine that blows pressurized room air through a tube into a mask. The positive airflow helps keep the upper airway open, preventing airway collapse and pauses in breathing that can occur in people with OSA, thus allowing normal breathing and improved sleep quality.

This guide is intended to help those diagnosed with OSA to understand how machine use and proper selection can help improve sleep quality. It is important to choose the correct machine and accessories as most PAP devices need to be used every night to get the maximum benefit.

Central sleep apnea is different from OSA and is common in people with heart failure, atrial fibrillation, other heart conditions, with opioid treatment and certain neurological conditions. Commonly used PAP devices are not meant to be the only treatment for central sleep apnea and use of these devices alone have the potential to make central sleep apnea worse. People with suspected central sleep apnea should be evaluated with a detailed overnight sleep test in an accredited sleep laboratory to determine the correct treatment for their breathing abnormality.

## Types of PAP Devices

There are three types of PAP devices. In most cases the specific design will be prescribed by a primary care physician or family practitioner based on physical evaluation and diagnostic testing. Some patients may receive a PAP prescription from a sleep disorder physician after referral from a primary care provider. The three different types of PAP therapy are described below:

**Continuous Positive Airway Pressure (CPAP):** This is the most common type of PAP therapy used to treat OSA. A CPAP device delivers a fixed (or constant), level of air pressure to the lungs through a nasal or oral/nasal mask.

**Automatic (Auto-Titrating) Positive Airway Pressure (APAP):** An auto-titrating PAP device adjusts air pressure throughout the night in response to changes in a person's breathing pattern. Using sophisticated algorithms, APAP devices can increase air pressure when breathing is compromised and lower air pressure during periods of normal respiration. For some patients, a practitioner may indicate a preference for APAP therapy depending on clinical presentation. Ask your physician for more details. Some people might require an overnight test in a sleep laboratory for titration (the process of calibrating a CPAP device to determine the optimal pressure setting to resolve apnea episodes).

**Bi-Level Positive Airway Pressure (BiPAP):** A BiPAP device alternates high air pressure when inhaling and lower pressure when exhaling. The main reason to use BiPAP for obstructive sleep apnea is that some people find it more comfortable to breathe out against lower pressure. There are more sophisticated BiPAP devices available for complex breathing disorders. Those are not necessary for obstructive sleep apnea. Similar to APAP, some people might require an overnight test in a sleep laboratory for titration.

Both APAP and BiPAP devices are significantly more complex than CPAP machines and should only be prescribed by a Sleep Specialist.

Be advised that commonly used PAP devices are not meant to treat central sleep apnea and that these devices have the potential to make certain conditions such as central sleep apnea worse. People with suspected central sleep apnea should be diagnosed and evaluated with a detailed overnight attended sleep test in a polysomnography laboratory to determine the correct treatment for their breathing abnormality.

### Types of Masks

Finding the right and most comfortable mask can make a big difference in how well PAP therapy works for a person and how likely they are to continue using the device. When it comes to making a final decision, both patients and device providers should prioritize therapeutic outcomes.

The three most common mask-types are described below:



Nasal Pillows Mask



Nasal Mask



Full-Face Mask

**Nasal Pillows Mask:** Cushions seal the base of the nostrils and are held in place with a strap that goes around the head. It is the least invasive mask available and may be preferred by people who tend to move around in their sleep, those that primarily breathe through their nose and/or those with facial hair. Patients with a high, narrow nasal bridge may find this type of mask leaks less than nasal or full-face masks. It is not recommended for higher pressures such as those used in BiPAP because the stronger stream of air may cause irritation.

**Nasal Device/Mask:** A triangular shaped mask that surrounds the nose. The nasal mask is the most common and may be preferred by people that primarily breathe through their nose. It tends to be the most secure mask and least likely to leak.

**Full-Face Mask:** Covers the entire mouth and nose. This is the largest type of mask and may be preferred by people prone to nasal congestion (requiring high pressure settings), and those that primarily breathe through their mouth. Some people may experience claustrophobia with a full-face mask. A drawback of the full-face mask is that it covers a larger geography of the face and may be difficult to fit given variations in facial shape.

**Cushions Mask (not illustrated):** This design has a cushion that fits under the nose. It comes in three variations: nasal pillows, nasal cushion and full-face cushion.

## Purchase Considerations

**Altitude:** Unless a device has pressure-compensating features, altitude can significantly impact its performance. Altitude should be considered for patients who live in, or frequently travel to, places located at significantly higher or lower elevations than where their optimal pressure setting was determined.

**Dryness and Humidification:** Dry conditions can impact the air forced into nasal cavities or throat, causing dry mouth, headaches, bad breath, sneezing, swelling, infections, and general discomfort. To address dryness, a humidifier consisting of a small, attached tank for distilled water, which releases moisture, is standard for most modern PAP devices.

### Environmental Factors:

Each PAP device can be modified or equipped with different attachments based on the user's environment. Environmental considerations should be discussed with your referring practitioner and equipment supplier, some examples include:

- **Portability:** There are pros and cons to device portability that PAP users may want to consider. These include:
  - Pros: mobility, battery operated, quiet.
  - Cons: pressure may not be consistent, additional cost for batteries if A/C power is not available, may not provide enough humidification.

- **Temperature:** Patients who reside in colder climates may benefit from a heated humidifier or hose that warms up breathed air. Conventional or pass-over humidifiers (those that do not alter air temperature) may not be of significant benefit.

## **Machine Options/Comfort Features**

**Many PAP machines can be adjusted or fitted with different attachments based on environmental factors and user preference. It is important to consider therapeutic outcomes when selecting different machine options as some features may compromise prescribed therapy.**

**Auto-Start/Stop:** The auto-start/stop feature enables the PAP device to automatically begin delivering pressurized air when the mask is donned. This function can eliminate some frustration in situations where a patient adjusts in bed and forgets to turn the machine on. Some mask-types will not allow this option.

**Connectivity (Bluetooth, Wi-Fi and Cellular):** Some PAP machines have connective capabilities which allow users to integrate their device with a smart phone through a downloadable app. This feature allows a person to track sleep apnea-related data and send digital reports to the PAP provider.

**USB/SD Cards:** Some machines can monitor sleep apnea related data and produce reports that are stored on USB/SD cards. This may appeal to patients who do not to use Wi-Fi, Cellular Data or Bluetooth to handle data.

**Exhalation Pressure Relief:** A feature available on some PAP machines which allows the user to adjust air pressure settings to alleviate feelings of breathlessness. This may be useful for patients prescribed on higher pressures but the drop in exhalation pressure may compromise therapeutic pressure.

**Leak Compensation:** PAP devices can be equipped with leak compensation which provides additional air pressure if the machine senses a difference between the dosed inspiratory flow and the flow measured during exhalation.

**Heated Hose:** Heating the hose helps prevent water condensation in the hose which can lead to popping noises and moisture droplets. It also may aid in air humidification.

**Humidification (Inbuilt or Affixed):** Some PAP users experience nasal congestion and throat dryness from the delivery of pressurized air. A humidifier releases moisture from a small basin of distilled water into breathed air. The humidifying effect can reduce nasal congestion, dry mouth/throat, cracked lips, nosebleeds, chest pain and nasal infections. Users should be advised that the need for humidification may be seasonal (e.g., not required in the summer but necessary in the winter).

**Mask On/Off Alert:** Some PAP machines come with a leak alert notification which can signal users when the mask has become dislodged.

**Power Options:** Most PAP devices are powered through a conventional A/C outlet. However, if A/C power is not reliably available (e.g., during power outages, when travelling or outdoors), there are alternative power options available for most machines. These include battery packs, D/C power (e.g., an adapter that fits into a vehicle's power source), marine battery adapters and other travel-specific solutions.

**Ramp:** A ramp feature allows for a gradual scaling up of air pressure during the beginning stages of sleep, which can make it easier to fall asleep. Use of a ramp may help people who find it uncomfortable to exhale against the stream of pressurized air. A possible drawback of the ramp is that the machine may not reach the prescribed therapeutic pressure until the ramp process is completed.

## Key Considerations and Questions

Regardless of where a PAP device is purchased, it is important that somebody familiar with the equipment is on hand to guide the sales process. A vendor provider should have a Certified Registered Respiratory Therapist or a Registered Polysomnographic Technologist (a credentialed sleep technician) to support patients through their purchase and address questions. **Prospective buyers should be aware of key considerations and questions to ask that can help determine the best provider for your situation.**

If you are new to PAP therapy, you may wish to seek a provider that not only sells equipment and instructs patients on the proper use, but also provides education on the details of PAP therapy. For this reason, online PAP providers are not recommended.

A PAP provider should be able to address all of your questions and concerns, including how to get the best results from the therapy device.

There may be significant consequences to not complying with PAP therapy, and a dedicated provider will ensure that you are aware of the potential impacts of non-compliance with a prescribed therapy.

Newly diagnosed patients often seek a provider with experience addressing the needs of a wide range of individuals and therapy devices. Above all else, the best providers are those that genuinely care about your health and compliance with therapy.

PAP equipment providers should offer monitoring and support to make sure you are comfortable and are able to use the prescribed therapy device on a nightly basis.

A PAP provider should check in on a regular basis, particularly with new patients, to see how they are adjusting to therapy and to address questions or concerns that come up once the therapy equipment is being used at home.

Below is the type of follow-up a new PAP user may expect:

- 7-day follow-up to address questions such as:
  - Is the mask comfortable?
  - Is the airflow comfortable?
  - Is the machine used regularly?
  - Are you experiencing any problems?
  - Have you had any leaks?
  - Are you experiencing claustrophobia?
  
- An overnight pulse oximetry test while on PAP at two to four weeks to ensure that the oxygen level has normalised with treatment.
  
- 30-day and 60-day follow-up to address questions above as well as:
  - How is your quality of sleep? Any improvements noticed?
  - Has daytime drowsiness been reduced (if applicable)?
  - Do you notice any positive impact on mood or attitude?
  - Has quality of life improved?
  - Download the PAP machine to review if the treatment is effective.
  - Did you experience any additional sleep issues (e.g., central sleep apnea) due to PAP treatment? If you have central apnea, talk to your doctor about continuing PAP treatment.

Additional considerations include:

**Equipment Replacement:** Over time, PAP equipment will require replacement. Different devices and accessories may need to be replaced at different times, based on manufacturer's recommendations and/or users' habits and preferences. If the device was reimbursed through an extended health plan, check to see if the plan has standard replacement time frames. Most PAP devices (machines) will need to be replaced every 3-5 years and accessories every 3-12 months. The list below notes the various items that will need to be replaced from time to time.

- PAP device/machine
- Humidifier chamber
- Mask
- Tubing
- Mask chin strap
- Disposable filter
- Non-disposable filter

**Equipment Service/Maintenance and Warranties:** PAP suppliers should clearly indicate all standard and extended warranty options for machines, masks, and other accessories. In addition, some suppliers may be able to service machines locally while others may need to send equipment to the manufacturer for any service requirements. Be aware of price options, average service times and interim loan policies.

**Licensure of PAP Devices:** All PAP equipment sold in Canada must have a valid Medical Device License. In Canada, medical devices are grouped into four classes based on the expected level of risk to a person's health and safety. Low risk items, such as thermometers, do not require a license and fall into Class I. In general, PAP equipment is categorized as a Class II Medical Device, and items in this class cannot be sold or imported in Canada without a valid Medical Device License.

Unlicensed devices that haven't been assessed for their safety, effectiveness and quality may pose a health risk to Canadians. Although very rare, there have been instances of unlicensed PAP devices being sold by companies in British Columbia.

To ensure your health and safety when purchasing a device, you may verify that the device has received a license from Health Canada by searching the Medical Devices Active License Listing. This reference tool contains information for licensed medical devices in Canada and can be freely accessed online at:  
<https://health-products.canada.ca/mdall-limh/index-eng.jsp>.

**Privacy/Security/Confidentiality:** Providers should have policies and procedures in place to safeguard personal and confidential information. Patients should be aware that some PAP suppliers are also accredited Home Sleep Apnea Testing facilities and as such are required to meet data storage standards as outlined in accreditation standards published by the College of Physicians and Surgeons of British Columbia (accessible [here](#)).

**Reporting Practices and Continued Care:** Many PAP machines can record and track different datasets relating to:

- Patient compliance (e.g., hours of machine use, total days of operation)
- Apnea/Hypopnea events (e.g., irregular, or suspended breathing)
- Flow and pressure delivered (e.g., identification of leaks)
- External sensor data (e.g., heart rate, blood oxygen levels)

Inform yourself of any PAP data reporting practices conducted or facilitated by the provider. This includes data relating to the efficacy of treatment which may be required by referring practitioners, insurers and/or governing bodies (e.g., Insurance Corporation of British Columbia) to inform ongoing appropriate care. Patients should also be aware that many PAP devices store data on servers in countries outside of Canada that may have different privacy laws.

**Selection:** There are different manufacturers of PAP equipment and consumers may prefer providers with a variety of options.



**Training and Education:** Some people may find PAP devices to be complex and somewhat difficult to use and may benefit from a sound understanding of the machine as well as an ability to properly troubleshoot and maintain the device. Patients are recommended to ask PAP suppliers about device training/education practices and ongoing machine maintenance as well as general technical support. Using the device appropriately, on a nightly basis, is critical to effective OSA treatment with PAP.

Note: PAP machine settings should only be adjusted by trained professionals.

**Trial Policy:** Adjusting to PAP therapy can be challenging, especially when it comes to finding a comfortable and well-fitting mask. To make the adjustment easier some PAP suppliers offer equipment trials. The ability to trial PAP equipment may be important as some providers may not offer returns or refunds once equipment has been used. This is especially important if the PAP user ends up requiring a different machine to treat their sleep apnea and the third-party extended health insurer may refuse to pay for a second machine.

**Warranty:** Most PAP equipment comes with a standard warranty from the manufacturer. However, enhanced warranties or equipment guarantees may be offered by individual providers.

## Funding Options

At present, PAP machines and accessories are not paid or reimbursed through British Columbia's Medical Services Plan. However, some funding options are available and outlined below:

**Private/Extended Health Insurance:** In many cases, private or extended health insurance will cover some or all of the cost of a prescribed PAP machine and required accessories. Patients should contact their extended health insurance provider to find out coverage details. In addition, some providers of therapy devices may be able to assist with claims processing by ensuring the appropriate documents are submitted on behalf of the patient.

Please note that some extended health providers may request a recent diagnostic test to confirm the ongoing presence of Obstructive Sleep Apnea. Please consult your physician for further direction.

**Government Funding:** Funding may be available for qualifying individuals through the Ministry of Social Development and Poverty Reduction and/or the First Nations Health Authority. For more information, including eligibility requirements, please visit:

- [Ministry of Social Development and Poverty Reduction](#)
- [First Nations Health Authority](#)
- [Non-insured health benefits for First Nations and Inuit](#)

## PAP Therapy Device Providers

There are many different places where PAP therapy devices can be purchased in British Columbia. Buying off the internet is not recommended due to lack of patient follow-up and post-purchase support.

Linked [here](#) is a list of accredited home sleep apnea testing facilities, organized by geographic region, which also provide PAP therapy devices.

Please note: this list is not inclusive of all suppliers of PAP therapy equipment and related accessories as there may be PAP providers who do not conduct diagnostic testing and therefore are not included on this list.

In addition, certain privately-owned polysomnography facilities (overnight, in-lab, attended sleep study facilities) also provide PAP therapy devices. These include:

- Kelowna Sleep Clinic - [www.kelownasleepclinic.ca](http://www.kelownasleepclinic.ca)
- Vernon Sleep Clinic - [www.vernonsleepclinic.ca](http://www.vernonsleepclinic.ca)
- Surrey Sleep Clinic - [www.surreysleepclinic.com](http://www.surreysleepclinic.com)

## Conclusion/Summary

Many questions may arise when prescribed PAP therapy. Hopefully this guide offers knowledge and guidance to ease the purchasing process. It is important to consult with the referring physician before and after your purchase to maintain desired therapeutic outcomes.

A PAP provider can be much more than just the facility where a device is purchased. A good provider will supply device education, instruction, answer questions and provide significant follow-up throughout the entire period of therapy.