

# How to use non-invasive ventilation (NIV) at home

Respiratory Physiology Unit

Information for Patients

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## What is non-invasive ventilation?

Your doctor has asked us to treat you with non-invasive ventilation. This is a medical treatment that provides support for your breathing via a mask and a machine known as a ventilator. The ventilator works by pushing air into your lungs with a prescribed amount of pressure, helping to inflate your lungs and reduce the amount of effort needed to breathe.

## Why do I need it?

Some medical conditions can cause 'under-breathing' which may lead to respiratory failure where you do not always breathe quickly or deeply enough, especially when you are asleep.

**Health information and support is available at [www.nhs.uk](http://www.nhs.uk)  
or call 111 for non-emergency medical advice**

Visit [www.leicestershospitals.nhs.uk](http://www.leicestershospitals.nhs.uk) for maps and information about visiting Leicester's Hospitals  
To give feedback about this information sheet, contact [InformationForPatients@uhl-tr.nhs.uk](mailto:InformationForPatients@uhl-tr.nhs.uk)

This causes your oxygen level to fall and your waste gas (carbon dioxide) to rise, which can make you sleepy and lacking in energy in the daytime and may also cause morning headaches.

## **What is expected of me?**

Your ventilator has been given to you on a long-term loan basis, and it remains the property of Leicester's Hospitals. It is your responsibility to use it as advised.

You must make sure:

- the machine is kept clean and in good working order.
- the machine is not damaged.
- the machine is returned when it is no longer needed.
- you maintain contact with the Home Ventilation Team.
- you attend all clinic appointments, bringing your machine with you.
- you bring in your machine if you are ever admitted to hospital.

## **Fitting the mask**

In order for you to get the full benefit of the treatment, the face mask must be fitted correctly with no leaks. Large leakage of air around the mask will cause the machine to alarm. It can also cause discomfort and even damage to your eyes if high pressured air is blown into them.

The mask has holes in it (known as the expiration port) to allow you to breathe out – these should **not** be covered or taped as you will be unable to breathe out your exhaled waste gas (carbon dioxide).

The mask is originally fitted to size by the ventilation team and can be put on using the clips or magnets at the side of the mask, usually without the need to adjust the Velcro straps. The Velcro straps may need to be adjusted however if you have lost weight or if, over time, the straps have lost their elasticity.

## Setting up the ventilator

The machine you have been loaned is simple to use (you will be given an additional instruction leaflet depending on the make/model of your ventilator):

1. **Put the mask on.**
2. **Attach the tubing.** A standard length of flexible tubing is attached to the ventilator at one end, and to your mask at the other.
3. **Switch on the ventilator.** The settings are prescribed from sleep tests and for your comfort when we set it up. Air will travel down the tubing to the mask on your face. The ventilator will follow your breathing and give you extra air when you breathe in, or start a breathe in for you if there is a pause in your breathing.

## Common problems

**Pressure sores** - pressure sores can occur around the straps, at the ears or top of the head as well as at the bridge of the nose. Applying Siltape to these areas can help relieve the pressure, however if pressure sores worsen you must let the Ventilation Team know as we may need to change your mask.

Your GP or district nurse should be made aware if the pressure sores need a review and dressing.

**Air leaking from the mask** - remember to put on the mask when the ventilator is switched off. Rest the mask on your face and make sure the cushion is not folded. Tighten the straps a little more and switch on the ventilator. A small leak from the mask is fine but leaks into the eyes can cause them to become sore. If you cannot solve the leak you should contact the department.

**Cold/ dry throat and nose** - if this happens it might help to keep your bedroom a little warmer and increase the humidity by placing a tray of water over the radiator. It may also help to put a couple of drops of olive oil at the entrance to each nostril. If this is an ongoing issue please contact the Ventilation Team.

**Runny nose/ sneezing** - using a ventilator can sometimes cause irritation to the lining of the nose. You might find this settles down over time, but if not there are nasal sprays that can help.

**Blocked nose** - if your nose becomes blocked overnight it may be hard to use the ventilator. A short course of a nasal spray may help.

**Warm air from the ventilator** - this may mean that the filter is blocked by something, so make sure that the unit is away from bedclothes and curtains so the air can enter the machine.

## What do I do if I am unwell?

If you start to develop symptoms such as green phlegm (sputum) or increased breathlessness and think you may have a chest infection:

1. Continue to use your ventilator as this will help you.
2. Make an appointment to see your GP.
3. If you feel you need urgent medical help dial 999.
4. Remember to bring in your ventilator if you are admitted to hospital.

If you are having;

- morning headaches,
- increased daytime sleepiness,

- increased shortness of breathe when walking,
- or you just feel that the ventilator isn't having an effect, please let us know as we may need to make an appointment to see you.

## How do I care for my ventilator?

- **Once a day** - wipe around the inside and outside of the mask with a damp cloth or baby wipe.
- **Once a week** - wash the mask, straps and tubing in warm soapy water, rinse well and hang up to dry.  
The straps can be removed and washed separately as needed.
- The ventilator should be cleaned on the outside only. Disconnect from the mains supply and wipe over with a lightly damp cloth.
- The ventilator needs to be checked at every ventilation clinic appointment. It will be serviced at regular intervals by the department.

## Can I travel abroad with the machine?

If you are travelling abroad, the department can provide a letter to show to customs officials should they ask about your machine.

If you are travelling by air, please remember the ventilator should always be carried as hand luggage and never stored in the hold.

Remember, if needed, to take any adapters for the ventilator plug with you.

Some patients may need an oxygen assessment before flying, (i.e. all patients with neuromuscular conditions).

If you are uncertain, please contact us for advice or ask the doctor at your next clinic appointment.

The equipment you have been loaned is valued at about £3000 and should be listed in your home and travel insurance.

## **Follow-up appointments**

After a trial period on the ventilator we may need to change the settings.

A follow-up appointment will be made for you a few weeks after being given the ventilator.

You can use this appointment to discuss any problems you may be having.

If you are worried about anything to do with the ventilator, tubing or mask you should call the department and ask to be seen sooner.

You should also get an appointment to see a consultant who specialises in ventilation. Always bring the ventilator, mains cable, mask and tubing with you, so they can be checked at these appointments.

## **What do I do if my machine is not working?**

1. Check the power lead is connected properly.
2. Check the power supply to the rest of the house; you may need to try a different plug socket.
3. If there is an alert on the screen make a note of this and contact the department. You may need to bring in your machine for checking.

**Please note** - it is your responsibility to notify your energy provider that you are using a non-invasive ventilator so that they can put you on their priority list in case of power cuts.

## **Contact details**

If you have any problems or concerns please contact the Respiratory Physiology Unit.

For Respiratory Physiology appointment enquiries - Tel: 0116 258 3420

For equipment or mask enquiries - Tel: 0116 258 3419



For any non-urgent ventilation queries - email:  
[RPU.Support@uhl-tr.nhs.uk](mailto:RPU.Support@uhl-tr.nhs.uk)

**Please note** - we do not work at weekends or overnight, however, in the case of equipment failure, the Respiratory Support Team may be contacted at the weekend and bank holidays from 8am to 6pm on 07977 582194.

Overnight, a message can be left on the answer machine on 0116 258 3419 and we will get back to you as soon as possible.

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