Patient Information

University Hospitals Coventry and Warwickshire NHS Trust

Department of Respiratory Physiology and Sleep

The use of non-invasive ventilation at home (ResMed Lumis 100/150)

What is non-invasive ventilation (NIV)?

Non-invasive ventilation (NIV) is a common treatment for people who have breathing problems. It uses a small machine to help move air in and out of the lungs. Some people find breathing hard because of long-term problems like COPD, muscle or chest problems or being overweight. These problems can make it harder for the body to get enough oxygen and remove waste gas (carbon dioxide).

Why do you need non-invasive ventilation (NIV)

Normally, your lungs have two purposes:

- Bring air (oxygen) into your body. Oxygen gives your body the energy it needs to work properly.

- Get rid of carbon dioxide. Carbon dioxide is a waste gas made by your body.

If you have one of the conditions mentioned before, your lungs may not work properly. This can mean you:

- Struggle to get rid of carbon dioxide. Too much can be very dangerous.
- Struggle to get enough oxygen. Too little oxygen can also be dangerous.

These problems can get worse when you are asleep because we breathe more slowly and less deeply at night. This can cause symptoms like:

- Headaches in the morning
- Feeling very tired during the day
- Not feeling refreshed after sleep

Other people may not notice these problems.

What NIV does

NIV is a machine that blows air into your lungs when you breathe in. This helps you take bigger breaths and makes breathing easier for your muscles.

NIV helps your body get more oxygen in and get rid of carbon dioxide more easily. This can help with symptoms like tiredness or headaches. It can also help reduce trips to hospital and make your day-to-day life better.

The machine also blows air at a lower pressure when you breathe out. This helps keep your airways open, which is very important for people with conditions like obstructive sleep apnoea.

Using the machine

NIV works best when it is used every night. Your healthcare professional will tell you how long you should use it each night. It is important to follow this plan as closely as possible. If the machine is turned on and off too much, it will not work properly.

It you cannot use the machine for one night, it usually will not cause a problem. But if you do not use it enough over time, it will not help your breathing as well.

The equipment you will be given

1. The NIV machine, which blows air at the right pressure to help you breathe.
2. Tubing to carry the air from the machine to the mask.
3. A mask or nasal pillows (these come in different sizes and shape) that attach to the tubing.

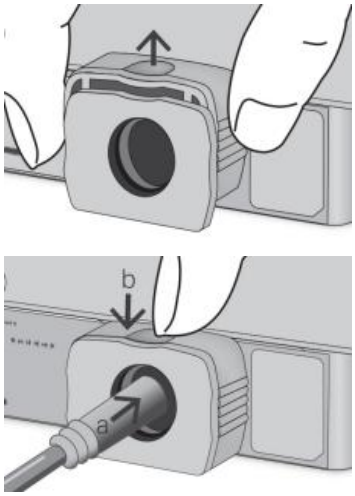
You may also have:

- A port and tubing for oxygen
- A humidifier to make the air from the machine less dry

Setting up the machine

The NIV team will have already set up the machine for you. Do not change the settings at home. Try to stop children from playing with the machine.

1. Place the NIV machine on a flat surface near the head of your bed, such as on a bedside cabinet.
2. Make sure the air inlet (on the side of the machine) is not blocked and is free from dust or bedding.
3. Hold the clip at the back of the machine and lift it to open.



4. Plug in the power cable and push the clip back down to lock it in place.
5. Connect the tubing to the back of the machine.
6. Carefully attach your mask to the other end of the tubing.
7. If you have oxygen, connect the green oxygen tubing to the oxygen connector on the tubing at the back of the machine.

Turning the machine on and off

- Press the power button on the top of the machine to start or stop the airflow. This does not turn the whole machine off.
- Make sure the machine is plugged in because it does not have a battery.

Putting the mask on

If you use oxygen with your NIV machine, make sure it is connected and switched on before putting on the mask.

It is best to put the mask on first, then start the machine straight away.

Full face mask

Hold the mask to your face. The bottom should sit just below your bottom lip, and the top should sit on the bridge of your nose.

For a hybrid full face mask, the top sits around the tip of your nose near your nostrils, not on the bridge of your nose.

Nasal mask

Hold the mask over your nose. The bottom of the mask should be above your top lip, and the top should sit on the bridge of your nose. For nasal pillows, both nostrils are covered at the tip of your nose.

Make sure you can open and close your eyes and that the mask is not pressing on them. Fasten the headgear by clipping it into the sides of the mask. You may need some help at first or use a mirror to guide you.

If the mask feels too loose, use the straps at the front to adjust the fit. It is easier to do this when the machine is turned on.

Checking the mask fit

The mask should feel comfortable on your face. The straps should have a little bit of stretch so you can pull the mask away slightly.

Make sure the mask fits without air leaking around the edges, especially into your eyes, and that the machine does not make an alarm sound.

If you wear dentures, make sure they are securely fitted. Wearing them while using the mask can help it fit better.

Checking for a leak

The mask has small holes that let carbon dioxide escape. **Do not cover these holes,** because the gas needs to get out.

Some air coming out of these holes is normal. But you should try to stop air leaking from other parts of the mask. Leaks can make your face sore and stop the machine from working properly.

To check for a leak

- Turn on the NIV machine and feel around the mask while you are wearing it.
- If you feel air escaping anywhere except the holes, adjust the straps at the front of the mask.
- Make the adjustments the same on both sides so the mask stays in the middle of your face.
- Do not make the mask too tight, it should not hurt our face.

If your skin becomes sore or you notice any pressure marks, **do not use** the mask in that area. Contact the NIV team or community nursing team. They may give you a different mask to stop the skin getting worse or a special dressing to use.

Looking after your equipment

Daily:

- Wash around the mask with warm soapy water and a damp cloth to remove oils from your skin overnight. Rinse and let it air dry.
- If you have a humidifier, empty any extra water and refill it up to the fill line with distilled water or cooled boiled water. **Do not tilt the machine while there is water in the humidifier,** as this can stop it from working.

Weekly:

- Carefully disconnect the tubing from the mask and machine.

- Wash the mask and headgear in warm soapy water. Rinse in clean water and let them dry. **Do not use a machine wash or tumble dryer. Avoid sunlight or putting them on a radiator.**
- To put the headgear back on the mask, lay the straps flat with the soft (fleece) side down, place the mask on top, and feed the straps through the gaps on the mask.
- If you have a humidifier, soak the water chamber in warm soapy water or a weak vinegar solution (1 part vinegar to 9 parts water). Rinse and let it dry.

Monthly:

Check the air filter for holes or dirt. Replace it if it is damaged or at least every six months.

Other important tasks:

- The NIV machine should be serviced at least every 5 years. A sticker on the machine shows the next service date.
- Your machine will also be checked by the NIV team when you go to your clinic appointments.

Common problems and questions

Getting used to the NIV machine

Everyone is different. Using the machine at home might feel a bit worrying at first, but most people feel comfortable with it after about four weeks.

When will you start to feel better?

This depends on your symptoms. Many people notice an improvement once they use the NIV regularly.

Will you need to use the NIV for life?

You will probably need to keep using the NIV. Most people who need it have a long-term condition that does not get better, so the NIV helps keep breathing safe and steady.

Will the settings need to change?

Sometimes the setting may need to be changed, especially if your condition changes. Any changes will be made by your healthcare team at the hospital. **Do not try to change the setting yourself.**

Your face is red or sore

It is quite common for the mask to make your skin sore, especially over the bridge of your nose.

Most of the time, this can be helped by adjusting the mask, so it is not too tight and by cleaning your face and mask every day. If it still hurts, your healthcare professional may give you a different mask to use.

Air is leaking from the mask

If your mask fits properly, air should not leak.

Some small leaks are normal. On most machines, you can see the leak on the display. A small leak (up to about 24 litres per minute) usually does not stop the machine from working.

If the air leaks uncomfortable, gently adjust the mask until it feels better.

The machine will not turn on

- Check that the power cable is firmly plugged in.
- Make sure the machine is switched on at the wall and at the back of the machine. If there is no green light on the power pack, the power supply may need replacing.
- Press the black button on the front of the machine once. A green bar should appear on the left-hand side of the display.

If it still does not work, contact the **Respiratory Physiology and Sleep Department Home NIV Team** on **024 7696 6734** (Monday to Friday, 8am to 5pm).

Outside of these hours, contact the **NIV nurses on Ward 30** at UHCW on 024 7696 6678.

How do you know if your machine is working?

The screen on the front should light up, and you should feel air coming through the mask.

The mask is broken or hard to put together

Contact the **Respiratory Physiology and Sleep Department home NIV team** on **024 7696 6734.**

What happens if the machine breaks at the weekend or there is a power cut?

If you cannot use the machine for one night, it is usually okay. NIV is not a life support machine, so you do not need to worry too much.

If you start to feel unwell, contact your GP, an out-of-hours GP or walk-in centre or go to the Emergency Department.

For equipment problems:

- Call the Respiratory Physiology and Sleep Department on **024 7696 6734**.
- At weekends and bank holidays, urgent help is available from the NIV nurses on ward 30 on **024 769 66678**.

What to do if you become unwell

If you feel unwell, follow the usual steps you would take to get medical advice.

Pressing other buttons by mistake

Pressing other buttons will not change your settings. If you are worried that the machine is not working properly, contact the Home NIV team during normal working hours.

Going into hospital

If you need to go into hospital, take your NIV machine with you. This helps the doctors and nurses know what treatment you are using.

The Trust has access to interpreting and translation services. If you need this Information in another language or format, please contact **024 7696 6734** and we will do our best to meet your needs.

The Trust operates a smoke free policy.

Did we get it right?

We would like you to tell us what you think about our services. This helps us make further improvements and recognise members of staff who provide a good service.

Have your say. Scan the QR code or visit: www.uhcw.nhs.uk/feedback

Document History	
Department:	Respiratory Physiology
Contact:	26734
Updated:	October 2025
Review:	October 2028
Version:	2
Reference:	HIC/LFT/2393/19