

# Non Invasive Ventilation (NIV)

## Information for patients and relatives

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# Non Invasive Ventilation (NIV)

## What is NIV and what does it do?

Non-Invasive Ventilation (or NIV) is a system or machine that assists your breathing by blowing extra air into your lungs via a mask when you breathe in.

NIV helps to:

- Support your breathing
- Rest your breathing muscles
- Give you time to recover
- Supply you with the oxygen you need
- Get rid of the waste carbon dioxide

An example of an NIV machine and face mask:



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## References

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Royal College of Physicians (2008) Non-invasive ventilation in chronic obstructive pulmonary disease: management of acute type 2 respiratory failure, London: RCP.

Nicola Credland (2013) 'Non-invasive ventilation in COPD exacerbations', Nursing Times, 109(36), pp. 16-21.

## Further information

British Lung Foundation:

<https://www.blf.org.uk/>

NHS Choices

<http://www.nhs.uk/>

## Chronic Obstructive Pulmonary Disease (COPD)

From time to time this condition can get worse and can cause patients to struggle with their breathing. Oxygen levels in the blood become low and waste gas levels become too high. This is called **Type 2 Respiratory Failure**. This may make you feel very unwell. If not treated correctly patients may become more unwell quite quickly and in some cases can be fatal.

### Some other reasons for needing NIV are:

- Sleep apnoea
- Deformities of the upper body
- Obesity
- Chest wall disorders
- Neuromuscular disorders
- Other pulmonary diseases

National Guidelines show that NIV (Non Invasive Ventilation) is the correct treatment for someone suffering Type 2 Respiratory Failure.

### How do you know that I need NIV?

A nurse or doctor will take a blood sample from the inside of your wrist. This can be uncomfortable but does not take long. This blood test will show doctors the exact level of oxygen in your blood at that moment. The test will also show the level of carbon dioxide that may be increasing.

This test will tell us if you will need NIV treatment to get the results back to normal. These blood tests will be taken at different times before, during, and after NIV treatment. We can then monitor if the NIV treatment is working.

## What happens when I use the NIV machine?

- A breathing mask is connected to a small machine beside your bed
- A nurse will ensure you wear the correct size mask
- The mask is applied firmly to the face to try to stop air leaking out
- It supports your breathing to help you to relax and get some sleep
- NIV can feel strange at first, but most patients adjust quickly
- Sometimes the machine may beep or make an alarm sound -these tell the nurse if the machine and mask are working properly
- A small probe will be placed on a finger to test your oxygen levels

The machine will recognise your normal breathing pattern so it is important to try to relax. Once the machine and your breathing pattern work together it will become more comfortable and easier to tolerate.

## How long will I have to be on the machine?

At the start, you will be encouraged to wear the mask as much as possible. The first few hours are very important. The longer you stay on the machine in the beginning can help to improve your recovery later on.

It is very important to stay on the NIV machine continuously over the first 24 hours as this is the most critical stage. However, short breaks can be given for meals, drinks, medications and to use the toilet. A hand held nurse call button will be given to you so that you can ask for assistance.

If NIV is working well then the mask will be used less and less over the next few days and nights, until it is only used overnight. You can recover more effectively if you are weaned off the NIV over a few days. If NIV is stopped early you may relapse and become unwell again, meaning the treatment will last longer.

## Where will I receive the NIV treatment?

You may receive treatment in Accident and Emergency, on Ward 9 (respiratory ward) or in the Critical Care Department. Nurses are highly trained in the use of NIV and we have portable machines that can be used across the hospital.

## How successful is NIV?

NIV treatment has a good success rate. However success can also depend on other things:

- Whether you tolerate the machine well over a good period of time
- The severity of lung disease prior to the treatment
- If you already have an infection, illness or another disease

When starting NIV, a discussion will be held with doctors and a plan will be made in the event of a poor prognosis or if your condition gets worse.

Overall if tolerated well positive outcomes are common for patients who have had treatment of an NIV machine.

## Do I have a choice?

You have a choice to have NIV treatment or not. If you don't want this treatment you will still be provided with excellent care and will receive any other treatment you may need while in hospital.

Any questions you have can be answered by your NIV nurse who will introduce themselves before your treatment starts.