

# **My baby needs help breathing from a ventilator**

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## **What is a ventilator?**

A ventilator is a machine that helps your baby breathe. It can do all or some of your baby's breathing. A ventilator may also be called a respirator.

The ventilator is used to:

- keep your baby's lungs inflated or open
- give your baby oxygen and remove carbon dioxide
- keep your baby breathing regularly

## **Why does my baby need a ventilator?**

Your baby may need a ventilator if he or she:

- has lungs that are not fully developed or grown, or
- has an infection, or
- is getting medications that slow or stop your baby's breathing, or
- has other problems that make it hard for your baby to breathe, such as after surgery

Without the ventilator, your baby may have trouble breathing. Your baby will need a ventilator until your baby can breathe well on his or her own.

## **How do you know how much help my baby needs to breathe?**

Your baby will have tests that help the doctors, respiratory therapists and nurses decide how much help your baby needs from the ventilator.

These tests include:

- listening to your baby's lungs with a stethoscope
- chest x-rays
- blood tests called blood gases

These tests also help decide when your baby does not need the ventilator.

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## How does the ventilator work?

The ventilator breathes for your baby by pushing air and/or oxygen into the lungs through a tube called an endotracheal tube. This is also called an E.T.T. or E.T. tube. When the ventilator is not pushing air in, your baby breathes out naturally through the tube. Between breaths, the ventilator keeps the alveoli (tiny air sacs in the lungs) slightly open, so that they do not collapse.

## Why is there water in the ventilator tubings?

A humidifier moistens the air and oxygen from the ventilator to help keep your baby's lungs from becoming dry. The water in the tubing is from this warm, moist air.

## What does it mean when the ventilator alarm rings?

The ventilator has alarms to protect your baby. The ventilator alarm will ring if it is not working properly. It may also ring for very simple reasons, such as:

- water is blocking the tubing and needs to be drained out
- the nurse has unhooked the ventilator on purpose (for example – to move your baby or to suction your baby's endotracheal tube)
- when your baby has hiccups or is crying

## How do you know how much oxygen my baby needs?

Your baby is connected to a special monitor called an oxygen saturation monitor. This monitor shows how much oxygen is getting from your baby's lungs into your baby's blood. This helps the doctors, respiratory therapists and nurses decide how much oxygen your baby needs. Your baby may need between 21% and 100% oxygen (room air has 21% oxygen).

The saturation monitor will alarm when your baby needs more or less oxygen. However, the monitor is very sensitive to movement and light. There are many times that the alarm rings, but the oxygen level does not need to be changed.

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## Will the ventilator hurt my baby's lungs?

To some extent, yes. The ventilator and oxygen may cause some damage to your baby's lungs. The ventilator **pushes** oxygen and air into the lungs. Healthy lungs **pull** air in. When the air is pushed into the lungs, some damage may be done.

If your baby needs a little help on the ventilator, for a short time, small amounts of damage may occur. If your baby needs a lot of help on the ventilator, for a long time, more damage may occur to your baby's lungs.

Because your baby's lungs are small now, the area damaged is small. As your baby's lungs grow, the new areas will be healthy. As your baby grows older, colds or chest infections may be more severe, until your baby's lungs fully recover.

## Is the ventilator painful?

It may hurt a little when the endotracheal tube is first put in or replaced. Medications may be used to make it less painful. Once the tube is taped in place, it should not hurt, but it may be uncomfortable.

Your baby may breathe or "fight" against the ventilator. If this happens, your baby may need some medication to relax.

When the endotracheal tube comes out, your baby may have a sore throat for a few days and your baby's cry may sound hoarse or weak.

## Why can't I hear my baby cry?

Your baby can still cry, but you will not be able to hear your baby.

The endotracheal tube that goes to your baby's lungs passes between the vocal cords and keeps them open. To make a noise or cry, the vocal cords need to be able to open and close.

## What happens when my baby no longer needs the ventilator?

When your baby no longer needs the ventilator, the endotracheal tube will be taken out of your baby's mouth or nose. This does not hurt your baby.

It is normal for your baby to need more oxygen at this time.

- Your baby may need Continuous Positive Airway Pressure (CPAP) for a short time. CPAP gives your baby a gentle, continuous flow of air and/or oxygen through prongs that fit his/her nostrils (so no air can leak out). CPAP provides a slight, constant pressure to keep the air sacs in the lungs open.
- Your baby may need just a little extra oxygen. This can be given by “low-flow” oxygen. Air and oxygen flow through tiny prongs placed into your baby’s nostrils. More information is available in the teaching sheet “Breathing with oxygen”.

It is possible that your baby may need the ventilator again. Your baby may not yet be ready to breathe well without the help of the ventilator.

Signs that a baby needs help breathing are:

- breathing too fast
- breathing hard, by sucking in the ribs and sternum, called retractions
- forgetting to breathe, called apnea
- slowing of the heart rate below 80 to 100, called bradycardia
- needing more oxygen

## What can I do to help my baby?

It is very important that you take care of yourself. You cannot help your baby if you are not well. Try to sleep, eat well and take some time for yourself.

**If you have any questions about the ventilator or your baby’s breathing, please talk to your baby’s doctor or nurse.**