

Mechanical Ventilation

What is mechanical ventilation?

Mechanical ventilation helps you breathe when you can't breathe on your own. It doesn't fix the problem that causes you to have trouble breathing. Being able to breathe on your own again depends on whether the problem that causes your breathing trouble improves.

There are two types of mechanical ventilation.



Non-invasive mechanical ventilation helps you breathe by pushing air through a mask that is placed over your nose and mouth. Straps keep the mask in place. A machine pushes air and oxygen through the mask, and the pressure of the air helps you breathe. One type of non-invasive mechanical ventilation is called **CPAP** (continuous positive airway pressure) and another is called **BiPAP** (bi-level positive airway pressure).

Invasive mechanical ventilation uses a machine to push air and oxygen into your lungs through a tube in your windpipe. The machine is often called a **ventilator**. The tube goes through your mouth or nose, or through an opening that has been made in your throat, through your windpipe to your lungs. The tube is about as big around as a dime.

When Might Mechanical Ventilation Be Considered?



CPAP or BiPAP might be considered if you need help breathing.

A **ventilator** might be considered if your breathing problems are more severe. A ventilator is used to breathe for you when you can't breathe on your own.

Mechanical ventilation might be considered if you have:

- New or long-term severe lung problems
- Brain damage
- An injury to your spinal cord
- Severe weakness of the muscles in your chest

You might need mechanical ventilation for a few hours, a few days, or the rest of your life. At first, it might be difficult to predict how long you would need it.



Benefits and Risks



What are some possible benefits of CPAP, BiPAP, and a ventilator?

They might make it easier for you to breathe.

They might help you breathe while you recover from a serious illness.

They might prolong your life, depending on your condition. People with some conditions live for years using mechanical ventilation.



What are some possible risks of CPAP and BiPAP?

You may have a dry nose and sore throat. You may have a runny nose, congestion, and sneezing. You may get nosebleeds.

It may irritate your eyes and the skin on your face.

You may have abdominal bloating that causes discomfort or nausea.

What are some possible risks of a ventilator?

A ventilator places a person at high risk for infections.

You might find a ventilator to be uncomfortable. You might try to pull the tube. To prevent this from happening, you might be given medicine to make you sleepy or your hands might be restrained.

Some people who need a ventilator do not recover to their previous level of function.

You would need a lot of help. Most people on a ventilator need to be monitored in an intensive care unit or similar setting. Some people can be cared for in a nursing home or in their own home if they have care from professionals for monitoring and maintenance.

What to Expect



What if my breathing problems get worse and I use CPAP or BiPap?

You would wear a mask over your nose, or over both your nose and mouth. Straps would keep the mask in place. The mask would be connected to a tube and a small machine that would push air into the mask.

You could remove the mask if needed.

You would be able to eat and talk.

What if my breathing problems get worse and I do not use CPAP or BiPAP?

If you choose not to use CPAP or BiPAP, you would receive care to keep you as comfortable as possible. You would be offered medications to help you relax so that you do not feel like you have to struggle for breath or feel any discomfort.



What to Expect

What if my breathing problems become severe and I use a ventilator?

A tube would be placed in your windpipe through your nose or mouth and connected to the ventilator. The ventilator would push air through the tube into your lungs. You would receive care to keep you as comfortable as possible.

You might find a ventilator to be uncomfortable. You might need to take medication to make you sleepy or have your hands restrained if you try to pull on the tube.

If you need the ventilator for more than about two weeks, you would need a short surgery to place a hole in your neck where the breathing tube would be placed in your windpipe. This hole in your neck is called a tracheostomy.

You generally cannot talk, eat or drink while on a ventilator, and nutrition will be provided through a feeding tube. In some cases, people who are on a ventilator for a long time can be fitted with tubes to allow them to eat and speak.

Some people who are on a ventilator for a long time can get around in a special wheelchair.

If you need a ventilator for a long time, you might be able to go to a nursing home or your own home. You would need professional care for monitoring and maintenance.

What to Expect

What if my breathing problems become severe and I do not use a ventilator?

You would receive care to keep you as comfortable as possible. You would be given medicines to help you relax or sleep. This would help you feel comfortable and not feel like you have to struggle for breath.

If your lungs fail completely and you have decided not to use a ventilator, you would probably die within minutes or hours.

If you are on a ventilator and decide to stop, you might die within minutes, although you might live for several hours. Sometimes a person unexpectedly survives for several days or even longer.

Your health care team can tell you if you are at risk for serious breathing problems. Talk with them about treatment options that support your goals and preferences.