

Ventilator, Adult

A ventilator is a machine that helps you breathe by moving air in and out of your lungs. The ventilator connects to a tube that is placed in your mouth, nose, or neck (*tracheostomy*). The tube goes into the windpipe (*trachea*). The tube delivers warm, moist, oxygen-rich air to the lungs and carries away waste gases, such as carbon dioxide. A ventilator may be needed during or after surgery if you have medicine to put you to sleep (*general anesthesia*). It may also be needed if you have:



- A chest injury.
- Lung or other infections.
- A brain or spinal cord injury.
- Low oxygen levels (*hypoxemia*) in your blood.
- Slow breathing (*apnea*) or fast breathing (*tachypnea*).

A ventilator can be used in the operating room, intensive care unit, rehabilitation unit, ambulance, and at home. It is sometimes called life support.

What can I expect while on a ventilator?

- The ventilator is set to control the size of each breath and how often breaths occur. The settings are based on how a person normally breathes.
- The ventilator pushes air into the lungs.
- Ventilators are powered by electricity and have a back-up power source in case a power outage occurs.
- Ventilators have alarms that may go off. The alarms help the health care team make sure that all connections are secure and that the ventilator is working properly.
- You will not be able to talk while you are on the ventilator. Writing or picture boards can help you communicate with others.
- To make you more comfortable, you may be given medicine to help you rest (*sedatives*) and pain medicines while on the ventilator.
 - The medicines may cause you to forget about the time period that you were on the ventilator.
- Blood work, certain devices, and other tests may be used to monitor your condition and the ventilator settings.

What are the risks of being on a ventilator?

If you need a ventilator, you may be at risk for certain complications, such as:

- Pneumonia. If this infection develops while you are on a ventilator, it is called ventilator-associated pneumonia (VAP).
- Sinus infection.
- Air leakage into the space between the lungs and the chest wall (*pneumothorax*).
- Blood clots and skin infections.
- Damage to vocal cords.
- Damage to the lungs.
- Depression and trouble thinking clearly (*post-intensive care syndrome*).

After being on a ventilator, you may have:

- Coughing.
- A sore throat.
- A hoarse voice.

What can be done to prevent problems while on a ventilator?

What hospitals are doing

To prevent VAP, the health care team may:

- Keep the head of your bed raised between a 30- and 45-degree angle.
- Check every day to see if you can breathe on your own (*breathing trial*). If you can successfully breathe on your own, the breathing tube can soon be removed. This is called weaning.
 - The decision to wean from the ventilator is made carefully to ensure that the breathing tube is not removed too soon.
- Wash their hands regularly with soap and water. If soap and water are not available, alcohol-based hand sanitizer may be used.
- Clean the inside of your mouth. Good oral care is important to prevent infection.
- Make sure equipment is cleaned or replaced from one patient to another.

People who end up developing an infection are usually treated with antibiotic medicines.

What you can do

- If you smoke, quit. People who smoke are more likely to develop an infection. If you are going to have surgery and will need to be on a ventilator, talk with your health care team about quitting.
- Family members of a person on a ventilator can ask the health care team about:
 - Raising the head of the person's hospital bed.
 - When the person will be allowed to try breathing on his or her own.
 - How often the health care team will clean the person's mouth.
 - Other steps the health care team will take to help prevent infections.

Summary

- A ventilator is a machine that helps move air in and out of a person's lungs.
- The ventilator is set to control the size of each breath and how often breaths occur. The settings are based on how a person normally breathes.
- Once the health care team determines that you can breathe on your own again, the breathing tube can soon be removed.
- When the breathing tube is removed, coughing and throat irritation may occur. The throat may be sore, and a hoarse voice may remain for a few days afterward.
- If you need a ventilator, you may be at risk for certain complications, such as ventilator-associated pneumonia (VAP), blood clots, and damage to the lungs or vocal cords.

This information is not intended to replace advice given to you by your health care provider. Make sure you discuss any questions you have with your health care provider.