

Tracheostomy in Adults

Part 1 of 2

A tracheostomy (also known as a tracheostomy) is a surgery that creates an opening through the front of your neck into the trachea (windpipe). A tracheostomy tube is usually put through this hole into the windpipe. However, the word tracheostomy is commonly used to describe both the surgery and/or the tube. Tracheostomy tubes allow people who cannot breathe on their own to be connected to a ventilator (breathing machine) or receive additional oxygen. It also allows air to bypass an injury or blockage in the face, throat or in the upper part of the windpipe to reach the lungs.



This fact sheet discusses use of a tracheostomy in an adult. For information on use in a child, see ATS Patient Information Series—*Use of a Tracheostomy with a Child*.

Why would you or your loved one need a tracheostomy?

- Your healthcare provider may recommend a tracheostomy when you cannot breathe on your own. This can happen in conditions like severe pneumonia, a massive heart attack, or stroke. In such cases, you may need help from a breathing machine for more than a couple of weeks. At first, the breathing machine delivers air to the lungs through a temporary tube that goes into the windpipe through your mouth [endotracheal (ET) tube] (See ATS Patient Education Series on *Mechanical Ventilation*). However, if it is expected that you will need long-term help from a breathing machine, your healthcare provide may recommend switching the tube in the mouth to a tracheostomy tube.
- Those with injuries (such as trauma or radiation) or a blockage in the windpipe (such as from cancer) may also need a tracheostomy. Usually air enters through the mouth and nose, goes through the windpipe and into the lungs. In cases with an injury or a blockage to the windpipe, a tracheostomy tube can bypass the damaged part of the windpipe and allow a person to continue to breathe on their own. These patients may never need the help of a breathing machine.

What are the benefits of a tracheostomy?

- Breathing tubes through the mouth (endotracheal tube) can cause mouth ulcers and damage to the vocal cords (voice box). These complications increase the longer the tube is in place. Tracheostomy tubes reduce these risks.
- Breathing tubes in the mouth are uncomfortable. People on ventilators usually require medications for pain and discomfort that can make them sleepy. It is also harder to interact with family members because of the side effects of these medications and inability to talk with the tube in your mouth. Tracheostomies are usually more comfortable than tubes in the mouth and you may require less medication. You may also be able to be more awake and interactive. In some cases, a

special speaking valve can be placed on the tracheostomy tube to improve speech even while on the ventilator.

- Tracheostomy tubes can safely remain in place longer than endotracheal tubes.
- Tracheostomy tubes are more secure than tubes in the mouth. It is much easier to take part in physical therapy and rehabilitation exercises including sitting up in bed and walking with a tracheostomy tube rather than an endotracheal tube.
- In some cases, a tracheostomy tube can help facilitate getting off the breathing machine (a process called weaning).

What are the risks of tracheostomy?

- **Short-term:** Most of the short-term risks are related to the surgery. All surgeries have risks of bleeding and infection. There is also risk of damaging other areas of the neck. These risks are typically small and tracheostomy is overall a safe procedure. Complications are more common if patients are very sick, weak or malnourished. In the first week after the surgery, there is a higher risk of the tube coming out. This can have severe consequences if you cannot breathe on your own by then. Many surgical risks are case-specific and you should discuss your own risk with your medical team.
- **Long-term:** Over time, the tracheostomy tube also can cause some damage to the windpipe, which can cause problems if the tube is removed. The tracheostomy tube can sometimes cause breakdown of the area around the hole in the neck (this area is called the stoma). This can lead to infection and rarely serious bleeding. Both tracheostomy tubes and endotracheal tubes increase the chance of pneumonia. A person who has a tracheostomy may be at higher risk for getting frequent pneumonias, especially if he or she has to stay in a hospital or a long-term facility for a while. Tracheostomy tubes can also irritate the windpipe and increase the amount of mucus production. This can lead to chronic issues with mucus blocking parts of the lung. Suctioning the tracheostomy tube can relieve this blockage. Getting good training for the person and caregivers who help caring for a tracheostomy can help reduce or prevent some of these risks.

What can I expect after a surgery for a tracheostomy?

You will typically return to the ICU after the surgery if you still need support from a breathing machine, regardless of whether it was performed at the bedside or in the operating room. If the tracheostomy is placed because of an injured or blocked windpipe, you may be watched on a regular hospital floor. The surgical site will heal over the first week after the procedure. Minor bleeding or scab formation for a few days is normal. About one week after the procedure, the tract between the skin and the windpipe heals. At this time, the tracheostomy tube may be switched out for a new one. This new tracheostomy tube should be removed, cleaned and replaced every so often to prevent the tube from being blocked by mucus or debris.

If the tracheostomy is done due to an injured or blocked windpipe, what happens after the tracheostomy depends on why it was placed. Some injuries can be repaired quickly with fast removal of the tube. If you need radiation therapy to the neck for cancer, the tracheostomy will often stay in place until the area heals from the radiation. However, if the tracheostomy was placed because of a blockage related to too much soft tissue in the neck (for example, obstructive sleep apnea), the tracheostomy tube will likely remain in place long-term.

Those who have a tracheostomy placed because they still need a breathing machine often have a different course. Even after most medical problems have been treated (for example, the patient recovers from a severe pneumonia), you may still require some support from the breathing machine and intensive physical therapy. These patients may need to be discharged to a long-term care facility to slowly learn to breathe without help from a breathing machine, to continue any medical treatment, and to have physical therapy. It is not unusual for people who require support from a tracheostomy and a breathing machine to be readmitted to the hospital at some point in the future.

Do I have to have a tracheostomy if my medical team believes I will need prolonged support from a breathing machine?

No, but the issue can be very complicated. Decisions about life support and breathing machines are very personal for each of us. Some people would not want to be attached to machines for a long period of time and a tracheostomy may not be the right decision for them. In such cases, a transition towards care directed at comfort only, as opposed to prolonging life with artificial means, may be appropriate. For others, the tracheostomy is the tool that allows them to fulfill their personal beliefs of doing everything necessary to prolong life. Whether you forgo a tracheostomy and pursue comfort measures, or choose to have a tracheostomy is a highly personal decision based on your own values and beliefs. These decisions often fall to family members and “health care proxies” as patients are not able to communicate when on a breathing machine. It is important that your family and health care proxy know your wishes about long-term breathing support from a breathing machine so they can make decisions based on your values and beliefs. (See ATS Patient Education Series on *Palliative Care*).

How long will it take to breathe on my own after a tracheostomy and be disconnected from the ventilator?

If you require a tracheostomy for an injury or blockage to the windpipe, you are quite likely to be able to breathe on your own (through the tracheostomy tube) soon after surgery.

If you cannot breathe on your own, it is difficult to predict how long you will need the breathing machine. As you recover from the underlying illness, the amount of support from the breathing machine is gradually reduced (a process called ‘weaning’). You will likely go through a period where you are off the machine for parts of the day and back on at other times before you can permanently come off the breathing machine. Ideally, the goal is to wean patients off the breathing machine entirely. However, it is possible that you may not come off the breathing machine at all and may require long-term breathing support and ongoing hospital care. You should discuss specific issues about coming off the breathing machine with your medical team.

Is a tracheostomy permanent?

Not for most people. Whether your tracheostomy tube can be removed depends on why it was placed. Once you are able to breathe on your own or if your injury/blockage to the windpipe is treated, you can start discussing with your healthcare provider about removing the tube. After removal of the tracheostomy tube, the hole in the neck where the tube was often closes on its own. If the airway obstruction is permanent or you still need help from a breathing machine, the tracheostomy may be permanent.

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Rx Action Steps

- ✓ If your health care provider is recommending a tracheostomy, you or your loved ones will want to review the risks and benefits for you.
- ✓ Expect to learn how to care for a tracheostomy tube to help reduce or prevent risks.

Healthcare Provider’s Contact Number:

Recommended Reading:**ATS Patient Education Series**

www.thoracic.org/patients

- Mechanical Ventilation
- Palliative Care
- Tracheostomy in Child

MedLine Plus—Tracheostomy Care

<https://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000076.htm>

Breath of Life

<http://www.bolhme.com/education/tracheostomycare&suctioning.pdf>

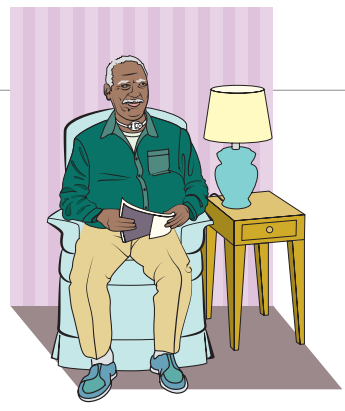
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Living with a Tracheostomy

Part 2 of 2

If you or a loved one has recently had a tracheostomy while in the hospital, you may have a lot of questions about the future. Many people live for a long time with a tracheostomy (often simply called a “trach”). Everyone’s experience as to why they needed a trach and what will be needed in the future will differ (see [ATS Patient Information Series on Tracheostomy, Part 1](#) to review reasons for trach placement). However, having one most often requires some adjustments to your lifestyle and careful planning to ensure adequate care.



Can I go home with a tracheostomy?

Some patients with a tracheostomy are able to go home. One major factor in moving back home is whether you still need a breathing machine (ventilator) to help you breathe. Other factors include whether you or your caregiver(s) are able to take care of your needs and how healthy you are.

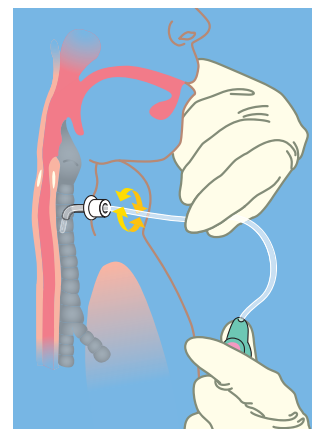
- If you required a trach for an injury or blockage of your windpipe and your health is otherwise good enough, you may be able to go home directly from the hospital.
- If your trach was placed because you could not breathe well enough on your own without a ventilator, you may need to go to a long-term acute care facility for some period of time. Staff at a long-term acute care facility can work on weaning you off the breathing machine as you are able to breathe on your own. If you cannot wean, a plan will be made with you for your care needs. If you are able to wean, you may be able to go home even if you still have a tracheostomy tube.
- In some cases, people who still require a breathing machine can go home with careful planning and education.

How do I care for my tracheostomy at home?

You and your caregivers will need to be trained and have your skills checked so you can safely take care of your trach at home. Some of the activities discussed are:

- **Cleaning:** A major part of tracheostomy care is cleaning every day. In the hospital, the staff will clean your tracheostomy site and tube. At home, you will be responsible for most of the day-to-day cleaning. A visiting nurse may be available to answer questions. How you need to clean your trach tube and the stoma (the hole in your neck) depends on the type of tube you have and if you are still connected to a breathing machine. In general, the trach tubes with an inner cannula must be cleaned regularly to prevent the buildup of dried mucus. The skin around your stoma and your neck must also be cleaned 2-3 times a day to remove dried mucus and to avoid excess moisture on your neck that can cause a rash.

- **Suctioning:** You and your caregivers will be taught to suction to remove mucus plugs that you cannot cough up. Suctioning may bring on a coughing spell and give you a temporary feeling of shortness of breath. Over time, you will become more familiar with this feeling and be able to manage it. If the color of your mucus changes, you should inform your healthcare provider.
- **Showering:** You will need to be very careful when you shower with a trach. You will need to cover the opening in your neck and the trach tube with a waterproof covering to prevent water from getting into your lungs. You will need to get these supplies before you go home.
- **Tube Changes:** Depending on the type of trach tube and the advice of your medical team, your tube will need to be exchanged for a new one every 1-3 months. A healthcare provider (such as the ear nose and throat doctor, lung doctor, or respiratory therapist) usually does the first exchange in the hospital. Depending on the support you have, later changes can be done at home. In many cases, caregivers can be trained to safely change tracheostomy tubes. They should always be trained to do an emergency replacement if the tube gets plugged or comes out.
- **Equipment:** Going home with a trach will require you to have several pieces of equipment. You may need oxygen and/or a ventilator. You may have a special mask that can push air into your lungs (called a bag-valve mask or ambu-bag). Most people need a portable suction machine to help suck out mucus. This also requires disposable suction catheters (such as the “whistle tip” catheter), and saline solution. You and your caregivers will be trained on how to use all your special equipment before you go home.



What happens to the tracheostomy once I can breathe on my own?

- If your airway is good and you no longer need a ventilator to breathe, your trach tube may be removed. This process (called 'decannulation') involves switching the tracheostomy tube to smaller and smaller tubes over time to allow the opening in your neck to slowly close.
- Before the tube is removed, your medical team will have you cover the trach tube with a 'red cap' to ensure that you are able to breathe on your own without any problems.
- Once your medical team is confident that you can breathe without the tube, it will be taken out. The opening in your neck will usually close on its own, leaving a small scar.

Can I talk with a tracheostomy?

- If the voice box (vocal cords) is not injured, many people can learn to talk with a tracheostomy. To do this, most people must be able to spend some time breathing without the support of a ventilator.
- If your trach has a balloon (cuff), the air must be let out of the balloon before trying to talk. A 'speaking valve' is then attached to the trach tube. This allows you to breathe in through the tube but also forces you to breathe up and out through your vocal cords so that you are able to speak.
- Speech therapists often help people learn how to talk with a trach. Not everyone can talk with a trach and you should discuss this with your medical team.

Can I eat with a tracheostomy?

- Some people with a tracheostomy who are fully awake and alert are able to eat. There can be a fine balance between getting enough nutrition and having good strength to swallow, and reducing the risk of food or fluid unintentionally going down into your lungs (known as "aspiration"). The specific food you are able to eat depends on the strength and coordination of your swallowing muscles. Some people may enjoy tastes but still get most of their needed nutrition from a feeding tube.
- Right after having a tracheostomy surgery, you likely will have a feeding tube in your nose or through the belly directly into the stomach (a gastrostomy tube) for nutrition until you are able to eat by mouth.
- You will need careful re-training of chewing, swallowing, and coordination of breathing to eat with a trach in place. This can take weeks to months to learn. Speech therapists and nutritionists can often help this process.

What are long-term risks associated with a tracheostomy?

- With a trach, you will be at higher risk for lung infections like pneumonia. Careful cleaning of the trach and stoma can help reduce the risk of infection.
- There is always a risk of bleeding with a trach. There is a very small risk of bleeding during tracheostomy surgery itself. A person can also bleed if the trach tube breaks through the wall of the windpipe and into a blood vessel in the neck. This is extremely rare but dangerous.
- Many people who have a trach have some trouble coughing out mucus from their lungs. This may be due to reduced

muscle strength and/or airway or lung problems. The trach tube may also get blocked by a large piece of mucus (called a mucus plug), so it is important to know how to suction it out.

- There is a chance the trach tube could fall out of the opening in the neck by accident. In the first few days after surgery, only a trained healthcare provider should put the tube back in. The longer the tube has been in place, the easier it is to simply put one back in (and the one that comes out should be cleaned). However, for people who have trouble breathing, this can be difficult and your medical team will teach you and your caregivers what to do in such a situation. You should always have a back-up trach tube with you. Sometimes a size smaller is used in case of emergency.

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Rx Action Steps

Action steps before going home with a tracheostomy:

- ✓ Talk with your medical team about why you need a tracheostomy and your personal goals.
- ✓ Discuss how likely it is that you may need to stay attached to the breathing machine (ventilator) if you still need one.
- ✓ Discuss all the equipment that you will need at home and make sure you and your caregivers are trained on how to use them.
- ✓ Make sure you have a team of caregivers that can help you transition home and continue to provide you emotional and physical support.
- ✓ Always have emergency contact information for your health-care providers as well as a back-up tracheostomy tube.
- ✓ Make sure you know how to keep your tracheostomy site and tube clean and dry.

Healthcare Provider's Contact Number:

Recommended Reading:

ATS Patient Education Series

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- Palliative Care
- Tracheostomy in Child

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