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## Tracheostomy

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### Summary

- A tracheostomy is a surgical procedure that involves making a cut in the trachea (windpipe) and inserting a tube into the opening.
  - A tracheostomy may be temporary or permanent, depending on the reason for its use.
  - Certain groups, including babies, smokers and the elderly, are more vulnerable to complications.
  - Generally, a surgeon won't consider performing a tracheostomy unless there is no other option.
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A tracheostomy is a surgical procedure to cut an opening into the trachea (windpipe) so that a tube can be inserted into the opening to assist breathing. A tracheostomy may be temporary or permanent, depending on the reason for its use. For example, if the tracheostomy tube is inserted to bypass a trachea that is blocked by blood or swelling, it will be removed once regular breathing is once again possible. A person with permanent damage or loss of function around the larynx or swallowing area may need a permanent tracheostomy tube to help them breathe at night. Your speech will be affected and eating and drinking.

### Medical reasons for tracheostomy

Tracheostomy may be performed as an emergency procedure to provide relief of blockage of airways above the trachea. This is called an emergency tracheostomy. It involves making a cut in the thin part of the trachea just below the larynx (voice box) and inserting a tube that is connected to a supply of oxygen or air, often using a ventilator (breathing machine). A non-emergency tracheostomy may be performed for a variety of reasons: for example, before surgery to the throat or mouth so the patient can breathe after the surgery or to make the prolonged use of ventilators more comfortable and safe.

### Medical issues to consider

The surgeon has no time to consult with you on medical issues in an emergency. In the case of a non-emergency tracheostomy, some of the medical issues to consider include:

- Medical history
- The reasons for the tracheostomy
- Surgical procedures
- Risks and complications of the surgery and tracheostomy
- After care
- Long term outlook.

### Operation procedure

The surgical technique depends on whether or not the tracheostomy is being performed as a medical emergency. When possible and safe, the procedure is done under general anaesthesia.

- **Emergency tracheostomy** - you are positioned on your back, and a rolled-up towel (or equivalent) is placed under your shoulders to help stretch out your neck. Local anaesthetic is injected into the target area, and a skin incision (cut) is made. The surgeon will then open either the trachea (this is called a 'tracheostomy') or the cricothyroid membrane - the thinnest part of the airway below the larynx (this is called a 'cricothyroidotomy'). The airway tube is inserted into the trachea and you are connected to the oxygen supply. The entire procedure is done as quickly as possible.
- **Non-emergency tracheostomy** - the operation is usually performed under general anaesthetic in an operating room. You are positioned on your back, and your neck and chest are swabbed with antiseptic. The cut is made in the lower half of the neck, between the larynx and the sternum (breastbone). First, the skin on your throat is cut horizontally. The underlying muscles are parted, then the thyroid gland may need to be cut

or pulled back to expose the trachea. A cut is made through the wall of the trachea. The tracheostomy tube is then placed into the opening. Stitches are needed to hold the tube in place.

### **Immediately after the operation**

After the operation, you can expect the following:

- A chest x-ray may be taken to check that the tube is correctly in place and there are no complications.
- Antibiotics may be prescribed to reduce the risk of infection.
- Later, you and your carers are shown how to care for the tracheostomy tube (for example, how to clean around and in the tube).
- It takes a few days to get used to breathing through the tracheostomy tube and it will be difficult to make sounds at first. If the tube allows some air to escape and pass over the vocal cords, it may be possible to speak by holding a finger over the tube.
- Unless there are complications, you will stay in hospital for between three and five days.

### **Possible complications**

Certain groups, including babies, smokers and the elderly, are more vulnerable to complications. Some of the possible risks and complications of tracheostomy include:

- Severe bleeding
- Damage to the larynx
- Damage to the oesophagus (rare)
- Trapped air in the surrounding tissues
- Lung collapse
- Blockage of the tracheostomy tube by blood clots, mucus or the pressure of the airway walls
- Failure of the opening to close once the tracheostomy tube is removed
- The tube may come out of the trachea.

### **Taking care of yourself at home**

Be guided by your doctor, but general suggestions include:

- Use warm compresses to relieve pain at the incision site.
- Tracheostomy tubes may have an inner tube (inner cannula) that requires cleaning whenever it gets blocked with secretions - this can vary from once to several times every day.
- A humidifier attachment is needed for about one month after the surgery, as the trachea is exposed to dry air.
- It is important to keep the area dry and clean - wear a scarf over the opening and when going outside. Avoid contact with water, food particles and powdery substances.
- Avoid vigorous activity in the six weeks following the surgery.

### **Long term outlook**

The long term outlook depends on whether the tracheostomy tube is temporary or permanent. If it is temporary, it will be removed when no longer needed and the incision allowed to heal. There may be a small scar. If the tracheostomy is permanent, the hole will stay open. However, the opening tends to narrow with time, and further surgery may be needed to widen the opening. The outer tube of the tracheostomy tube needs to be changed every few months, and the site should be inspected at each change. You may be referred to a speech therapist for voice training.

### **Other forms of treatment**

Generally, a surgeon won't consider performing a tracheostomy unless there is no other option. In the case of emergency tracheostomy, the procedure can be life saving.

### **Where to get help**

- Your doctor
- Ear, nose and throat surgeon or general surgeon

- The emergency department of your nearest hospital
- Always call an ambulance in an emergency Tel. 000

### Things to remember

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