

Percutaneous Tracheostomy

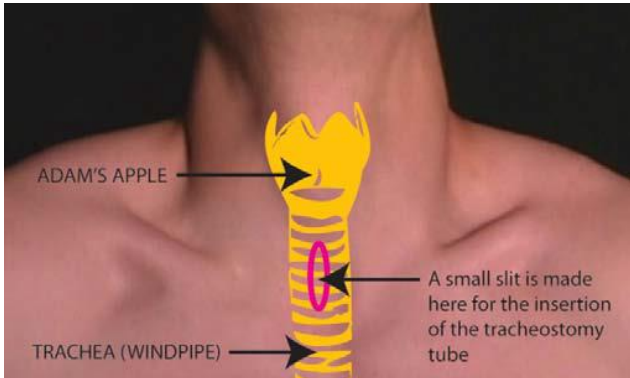


Figure 1. Tracheostomy

What is this procedure?

It is a procedure to create an opening through the skin of neck into the trachea (windpipe). After the opening is created, a tracheostomy tube (Figure 1) will be inserted. This is a temporary tracheostomy. The tracheostomy tube will be removed when patient's condition improves.



Figure 2. Tracheostomy tube

Why is there a need to do it?

Major reasons for a tracheostomy are:

1. To keep airway clear for breathing;
2. To bypass the upper airway (Adam's Apple and above) which has become obstructed;
3. To make cleaning and removal of secretions and phlegm from the airway easier;
4. To permit long-term ventilatory support by a breathing machine, with or without the consideration of coming off the machine eventually when fit.
5. Compared to the long breathing tube through the mouth, tracheostomy is more comfortable and promotes better oral hygiene

How is it done?

The procedure is usually performed in the intensive care unit or in the operating theatre under special circumstance. Anaesthetic medication is given both directly onto the wound and through the blood circulation so that the patient is unaware of pain. A small opening is made at the lower neck region in between the cartilages of the windpipe. A tracheostomy tube of suitable size is then inserted and secured by stitches. After the procedure, we will connect a device for both humidification and administration of oxygen.

While the tracheostomy is there, speaking/talking and eating via the mouth is usually not possible temporarily. However, speaking is possible among some patients under supervision of doctors, nurses and speech therapists. Eating may be possible when the patient's condition is stable, but it should only be started after careful assessment and close supervision.

When can the tracheostomy tube be removed?

The tube can usually be removed when the patient can breathe without ventilator support and is able to clear secretions from the airway by adequate coughing effort. The wound opening will close and heal by itself, leaving scarring.

Risks and complications

The procedure is generally safe for most patients. However, the risk of developing complication always exists, alike all medical procedures. Medical staff will make every effort to reduce their likelihood.

General risks:

1. Minor or major bleeding:
During or immediately after the procedure, the blood may go into the airway and can cause aspiration pneumonia and airway constriction (bronchospasm). Rarely, massive bleeding may occur a few days to several weeks after tracheostomy. One or more operation(s) to stop bleeding may be necessary.
2. Wound Infection. Infection may spread into the lung (chest infection) and inside the chest cavity (mediastinitis), which is treated with antibiotic with/ without drainage.
3. General risk of anaesthetics include risk of breathing, disturbance of blood pressure and allergic reaction.
4. Injury of local structures such as thyroid gland, trachea, cartilage, blood vessel and nerve at the neck.

Specific risks:

During or immediately after the procedure:

1. Tracking of air underneath skin causing swollen neck and face (subcutaneous emphysema), around internal organs inside the chest (mediastinal emphysema), in the pleural cavity between lungs and chest wall (pneumothorax). If necessary, a drain will be inserted on the side of chest to drain out the air.
2. Air embolism is very rare but fatal.
3. False passage of tracheostomy tube around the windpipe or tube dislodgement leads to loss of airway and lack of oxygen supply.
4. Major blood vessels injury on the neck is rare but can be life- threatening
5. Sudden and severe tube blockage by secretion can result in sudden death
6. Cardiac arrest secondary to lack of oxygen supply if the procedure is difficult.

Days to weeks after the procedure:

1. Sudden and severe blockage by secretion can result in sudden death.
2. Rarely, massive bleeding may occur a few days to several weeks after tracheostomy. If necessary operation(s) to stop bleeding may be necessary.
3. Swelling inside the trachea around the tracheostomy tube (subglottic edema); narrowing of windpipe (tracheal stenosis) or windpipe becoming weak and collapse on breathing (tracheomalacia).
4. Communication between trachea and the esophagus (tracheoesophageal fistula).
5. Communication between trachea and artery (tracheoarterial fistula) is rare but of fatal consequence due to massive bleeding, and necessitate surgical intervention.
6. Speech problem and voice change.
7. Difficulty in swallowing due to compression of oesophagus.
8. Scar, a sac or blind-end tract (sinus) at tracheostomy site after removal of the tube.

Possibility that the procedure cannot be carried out

There is a possibility that the procedure cannot be carried out, for example, due to unexpected anatomy, breathing or bleeding complications which require termination of the procedure.

Other treatment options

If the patient chooses not to perform this procedure, it may affect the overall condition. The change of the condition is affected by a variety of clinical factors, including the individual patient's physical condition before the onset of illness, the type of disease, the response to treatment and the progress, etc.



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Your doctor will explain other suitable options to you.

Disclaimer

The information provided in this booklet is for general reference only. The risks and complications listed above are not exhaustive. Please consult your attending doctor for details.