Tracheostomy in Critically Ill Adults

This leaflet provides information for patients and relatives about tracheostomies in critically ill adults.

After reading the leaflet the ICU team would be very happy to answer any questions you have.

What is a tracheostomy?

A tracheostomy is an opening made in the upper part of the windpipe (trachea) just below the voice-box (larynx). It is frequently performed in patients in the intensive care unit (ICU).

Tracheostomies may be formed using two techniques. The first is done by intensive care doctors on the intensive care unit using a specially designed kit to create the hole in the windpipe, this is called a percutaneous tracheostomy.

In certain situations, it is not possible to carry out this procedure on the intensive care unit and those patients require the second technique, a surgical tracheostomy which is done in theatre. The reasons for the choice between the techniques are varied and include previous neck surgery, body shape and the presence of bleeding disorders.

Why is a tracheostomy performed?

Tracheostomies are frequently performed in patients on ICU who are connected to a ventilator to replace a breathing tube going into their mouth. A tracheostomy has a number of advantages including less need for sedation, easier mouth care, the possibility of being able to talk and eat, and easier weaning from the ventilator.

A tracheostomy is usually performed for a patient who is expected to require a prolonged period of time on the ventilator or if they are not strong enough or awake enough to cough up their secretions. We will talk to you about the precise reasons in each case.

How is it performed?

A percutaneous tracheostomy is performed on the intensive care unit by the ICU doctors.

The patient is deeply sedated and a small incision is made in the front of the neck. The doctor will then use specialised kit to form a hole in the windpipe and will insert a tracheostomy tube into this hole and connect it to the ventilator.

A surgical tracheostomy is performed under a short general anaesthetic in an operating theatre, usually by an Ear, Nose and Throat (ENT) surgeon. A small horizontal skin incision is made in the lower part of the neck. The thyroid gland sits over this part of the windpipe and it usually has to be cut in half to enable access to the windpipe, however it is cut through the connective tissue which does not affect the function of the gland.
A small hole is created in the windpipe, and the tracheostomy tube is inserted. The skin incision is partially closed with stitches and the tube itself is secured in place with stitches to the skin and tapes wrapped around the neck.

In both techniques, once the tracheostomy tube is finally removed, the skin edges will come together and the wound will close.

**What problems can occur as a result of a tracheostomy?**

Both percutaneous and surgical tracheostomies are safe.

It is very rare for a problem to arise as a result of a tracheostomy. However, as with any operation, there are potential complications.

Life threatening complications are highly unlikely, occurring in less than 1 in 1000 patients. These life threatening complications include obstruction of the airway, blockage of the tracheostomy, damage to the windpipe or lungs, life threatening bleeding and, following insertion, the tracheostomy tube itself can be dislodged accidentally and moves out of the windpipe. It is usually possible to reinsert it through the hole in the neck or through the mouth. However, very rarely, the tube cannot be reinserted which can be very dangerous for the patient.

One of the most common problems however, is minor bleeding. this can either occur at the time of the operation or a few days afterwards. The most common site of bleeding is either from the skin edges or from the thyroid gland after it was divided.

If the bleeding does not stop with pressure dressings and other simple manoeuvres, it is sometimes necessary for the patient to go to theatre.

Infection of the wound sometimes occurs - this is usually treated with antibiotics.

In the longer term, all patients will be left with a scar regardless of the technique used. However, in certain patients the tracheostomy wound does not heal properly and this may require a short procedure to help close the edges.

If the tracheostomy tube is in place for an extended time period, it is possible for the upper windpipe to become slightly narrowed as a result of prolonged pressure from the tube, which may lead to breathing problems in the future.
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Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team:  
patient.info@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

Document history
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