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Information for the public

Tracheostomy using a breathing tube passed from within the windpipe to the outside of the neck

NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This document is about when and how this type of tracheostomy can be used in the NHS. It explains guidance (advice) from NICE (the National Institute for Health and Care Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies after considering how well the procedure works and whether it represents value for money for the NHS.

NICE has produced this guidance because the procedure is quite new. This means that there is not a lot of information yet about how well it works, how safe it is and which patients will benefit most from it.

This document is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe tracheostomies in detail – a member of your healthcare team should give you full information and advice about these. The document includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on page 8.

In an emergency, healthcare professionals may give treatment immediately, without obtaining your informed consent, when it is in your best interests.

What has NICE said?

This procedure can be offered routinely as a treatment option for people who need a tracheostomy provided that doctors are sure that:

- whenever possible the patient understands what is involved and agrees to the treatment, and
- the results of the procedure are monitored.

It should only be carried out by healthcare professionals who have specific training and experience in using the procedure because doing it safely needs different skills from other types of percutaneous tracheostomy (percutaneous means through the skin).

Other comments from NICE

NICE was told that the tubes used for the procedure could become blocked because of their shape and position. It was also told that the procedure was not suitable for people who need a tracheostomy in the long term.

Tracheostomy using a breathing tube passed from within the windpipe to the outside of the neck

The medical name for this procedure is 'translaryngeal tracheostomy'.

'Translaryngeal' means across the larynx, or voice box.

The procedure is not described in detail here – please talk to your specialist for a full description.

A tracheostomy is a surgical procedure in which the surgeon creates an opening in the neck into the windpipe (trachea). A tube is inserted into the opening and connected to a mechanical ventilator.

It's commonly carried out on patients in intensive care to keep their airway open, to remove fluid from the airway, and to help them come off mechanical ventilation gradually.

Nowadays, tracheostomies are usually not done by an operation, but by inserting a needle through the skin of the neck into the windpipe. These methods are called percutaneous tracheostomies. A guidewire is passed through the needle, then instruments called 'dilators' widen the hole just enough so that the tracheostomy tube can be inserted into the windpipe.

In translaryngeal tracheostomy the tube is inserted the other way round. A needle and guidewire are still inserted through the skin into the windpipe but in this procedure the guidewire is pulled upwards to the mouth and the tracheostomy tube is pulled from the patient's mouth, down the throat and out through the neck. This is usually carried out with the patient under a general anaesthetic.

By pulling the tube from inside the trachea outwards, this technique may lead to less bleeding, infection and damage to the tissues around the neck opening than surgical tracheostomy and other types of tracheostomy done through the skin. It may also avoid damage to the windpipe.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS. If your doctor thinks this procedure is a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

You may want to ask the questions below

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

Summary of possible benefits and risks

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 8 studies on this procedure.

How well does the procedure work?

A study of 245 patients said that the tube was successfully inserted in all but 2 patients having translaryngeal tracheostomy.

A year after the procedure, quality of life was similar between patients who had translaryngeal tracheostomy and surgical tracheostomy in a study of 139 patients (roughly half had one procedure and half the other).

As well as looking at these studies, NICE also asked expert advisers for their views. They said that the main things that showed that the procedure worked were less injury, bleeding and infection than other types of percutaneous tracheostomy; the wound looking acceptable; and suitability in patients for whom other techniques might not be suitable (for example people with neck growths).

Risks and possible problems

One patient lost a large amount of blood 6 days after having translaryngeal tracheostomy because of a damaged artery. Once the bleeding had been controlled the patient had a surgical tracheostomy.

Two studies reported damage to patients' windpipes – 1 in one of the studies of 100 patients and 3 in a study of 470 patients. One patient needed an emergency surgical tracheostomy, 1 needed surgery to have the hole stitched and 2 had laser treatment.

One study reported a low level of blood oxygen in 3 patients out of 47 who had translaryngeal tracheostomy in the study of 100. This was because of difficulties re-inserting the tube.

The neck opening became infected in 2 patients out of 67 who had a translaryngeal tracheostomy in the study of 139 patients.

The tube was accidentally pulled completely out of the neck during the procedure in 9 patients in a study of 145. In another study there were problems inserting the tube in 11 out of 47 patients, such as the guidewire breaking or being difficult to pull through.

One study of 100 patients reported that after translaryngeal tracheostomy, oxygen levels decreased significantly – but not after conventional tracheostomy.

As well as looking at these studies, NICE also asked expert advisers for their views. They said that possible problems include the tube being inserted and rotated upside down or coming apart, difficulty inserting the tube through the windpipe, a collapsed lung or a blocked airway. They also said that in theory other things that could go wrong included damaging nerves in the neck or damaging the thyroid gland, which is also in the neck.

More information about tracheostomies

NHS Choices (www.nhs.uk) may be a good place to find out more.

About NICE

NICE provides national guidance and advice to improve health and social care. Interventional procedures guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. HealthTech guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see www.nice.org.uk/aboutguidance

This document is about ‘translaryngeal tracheostomy’. This document and the full guidance aimed at healthcare professionals are available at guidance.nice.org.uk/HTG317

The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on [Accessibility](#) at the bottom of the NICE homepage to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this document in their own information about this procedure.

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