

Nerve monitoring during thyroid surgery

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

This leaflet is about when and how nerve monitoring can be used in the NHS for people having thyroid surgery. It explains guidance (advice) from NICE (the National Institute for Health and Clinical 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 (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet 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 thyroid surgery or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet 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 5.



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What has NICE said?

Some surgeons may find the procedure helpful when performing complex operations on the thyroid gland. This procedure can be offered routinely for people having thyroid surgery provided that surgeons are sure that:

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

Nerve monitoring

This procedure may not be the only possible method for preventing nerve damage during thyroid surgery. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

The medical name for this procedure is 'intraoperative nerve monitoring during thyroid surgery'.

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

The thyroid gland is situated close to the two major nerves that work the vocal cords. The nerves are called the laryngeal nerves. If one of these nerves is damaged, for example during surgery on the thyroid gland, the patient may experience temporary or permanent hoarseness. If both nerves are damaged, the patient may lose the ability to speak and could develop difficulties with breathing.

During conventional thyroid surgery under a general anaesthetic, the thyroid gland is exposed and the nerves are identified by sight alone, but this is not always straightforward. Nerve monitoring involves placing electrodes near the vocal cords. When a surgical instrument comes close to either of the laryngeal nerves, the surgeon should be alerted by

sound or by graphics displayed on a monitor screen connected to the electrodes by wires.

The surgeon may also use a handheld probe at any time during the operation to check the location of the laryngeal nerves.

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 nerve monitoring is a suitable option for you during thyroid surgery, they 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?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What happens if something goes wrong?

Summary of possible benefits and risks

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

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

How well does the procedure work?

Four studies included a total of 17,907 patients (32,231 nerves), and looked at permanent damage to the laryngeal nerves. This occurred in up to approximately 2% of patients who had nerve monitoring during

surgery and approximately 1% of patients who had conventional surgery. The difference between the two methods was not significant. Another three studies involving a total of 787 patients showed that the vocal cord nerves were permanently damaged in up to 3% of patients where monitoring was used.

Four studies including a total of 1624 patients (2469 nerves) looked at temporary damage to the laryngeal nerves. Temporary damage occurred in approximately 3–5% of patients who had nerve monitoring during surgery and approximately 3–4% in patients who had conventional surgery. Again, the differences were not significant.

In one study of 639 patients (1000 nerves), nerve monitoring failed to detect nerve damage in 10 out of 21 cases where damage occurred during surgery. In the same study, nerve monitoring incorrectly indicated that there was nerve damage in 27 out of 480 patients whose vocal cords were found to be working normally after the operation.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that there are different opinions about how helpful the procedure is. Some of the advisers said that the procedure is useful for training purposes.

Risks and possible problems

None of the studies reported any complications as a result of the nerve monitoring procedure.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that false readings from the nerve monitoring device were the main safety issue for this procedure.

More information about thyroid surgery

Your local Patient Advice and Liaison Service (PALS) may be able to give you further advice and support.

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The 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. This 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 leaflet is about 'Intraoperative nerve monitoring during thyroid surgery'. This leaflet and the full guidance aimed at healthcare professionals are also available at

www.nice.org.uk/guidance/HTG164

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N1498).

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

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