

# Endoscopic thoracic sympathectomy for severe sweating from the palms and underarms

Information for the public

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## What has NICE said?

This procedure is safe enough and works well enough for use in the NHS.

But doctors must make sure patients understand that:

- the risk of serious complications
- a very common side effect is to start sweating a lot elsewhere on the body, which can be distressing
- some people regret having the procedure, especially because of the sweating elsewhere on the body
- sometimes the procedure doesn't work.

Because of the risk of side effects, only patients with very severe sweating that is seriously affecting their everyday life, and which hasn't responded to other treatments, should consider having this procedure.

Only doctors trained and experienced in operating in the chest cavity using an [endoscope](#) should carry out treatment. There should also be the right staff and equipment to deal with any complications.

More research on this procedure is needed, to try to predict who is most likely to benefit and how side effects might be avoided.

## What does this mean for me?

Your doctor should fully explain what is involved in having this procedure and discuss the possible benefits and risks with you. In particular, they should explain the risks listed above. You should also be told how to find more information about the procedure.

Your doctor may ask you if details of your procedure can be collected.

## Other comments from NICE

NICE said that there are different ways to do this procedure and this may affect how well it works and how safe it is. It said that the procedure is mainly used to treat severe sweating from the palms. It is not as clear whether it helps with severe sweating from the underarms. NICE heard from some people who said they were very distressed because of the side effects of this procedure.

## The condition

Severe sweating from the palms and the underarms usually starts in childhood and is usually for life. It can severely interfere with everyday life, and causes anxiety and embarrassment.

People with severe sweating can try to avoid anything that might make them sweat, and they can use strong antiperspirants such as aluminium chloride. Other treatments include [iontophoresis](#), botulinum toxin (Botox), or medication. If these don't work, surgery on the nerves that cause the sweating is an option. The surgery may be done as [open surgery](#) or

using an [endoscope](#). Endoscopic surgery is now usually preferred because there is less scarring and recovery is quicker than with open surgery.

NICE has looked at using [endoscopic thoracic sympathectomy](#) as a treatment option.

[NHS Choices](#) may be a good place to find out more.

## The procedure

The aim of the procedure is to permanently stop the palms and underarms sweating by cutting off the nerve signals to the sweat glands in the arm.

The patient is usually given a general anaesthetic. Small cuts are made in the armpit to open a space between the ribs into the chest then the lung is partly deflated. An [endoscope](#) and surgical instruments are inserted into the chest cavity and parts of the nerves responsible for sweating, which lie alongside the spinal column in the chest, are either cut or clamped. The instruments are removed, the lung reinflated and the cuts closed. The procedure is then repeated on the other side of the body.

## Benefits and risks

The evidence that NICE looked at showed that the procedure benefited many people. So although there was evidence of risks, NICE decided that the procedure was safe enough and worked well enough to be used on the NHS. The 14 studies that NICE looked at involved a total of 14,171 patients who had excessive sweating, blushing or both.

Generally, they showed the following benefits:

- significantly less sweating from the palms than after treatment with botulinum toxin (Botox)
- a 'satisfactory and lasting effect' around 15 years later
- dry underarms and palms around 17 years later
- significantly better patient satisfaction than with botulinum toxin
- better quality of life.

Between 1% and 17% of patients' symptoms came back within 5 years.

The studies showed that the risks of the procedure included:

- bleeding
- severe sweating elsewhere on the body – this happened in over three-quarters of patients in 3 studies; a third of patients in 2 studies described it as 'severe' or 'incapacitating' and up to 20% of patients were dissatisfied or regretted having the procedure 15 or more years later
- air, or blood or other bodily fluids leaking into the chest cavity, which had to be drained
- a type of nerve damage called Horner's syndrome – this happened in a very small number of patients

Two patients' hearts stopped during the procedure – both recovered after they were resuscitated.

In one study 9 patients died after having the procedure – although the study didn't report what they were being treated for or the total number of patients being treated. Five died because of internal bleeding, 3 because of problems with the anaesthetic, and 1 had a stroke.

Some other problems reported in the studies were: air or gas in the tissues, fluid build up around the lungs, the airways narrowing, collapsed lung, wound infection, severe postoperative pain, nerve damage, paralysis, blood flow to the arm being blocked, a runny nose, persistent slow heart rate, heatstroke, and sweating brought on by eating.

NICE was also told about some other possible risks: fluid build up in the brain or lung, and pulmonary embolism (a blockage in the pulmonary artery, which is the blood vessel that carries blood from the heart to the lungs).

If you want to know more about the studies see the [guidance](#). Ask your health professional to explain anything you don't understand.

# Questions to ask your health professional

- 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?

## Medical terms explained

### Endoscope

A thin flexible tube with a camera on the end.

### Horner's syndrome

A rare condition that affects the nerves on one side of the face. Among other symptoms, the upper eyelid droops, the eye appears sunken and its pupil becomes small, and the affected side of the face doesn't sweat as much.

### Iontophoresis

Iontophoresis involves putting your hands or feet in a bowl of water while a weak electric current is passed through the water. If the armpits need treating, a wet contact pad is placed against each armpit and a current is then passed through the pad. The current is

thought to help block the sweat glands.

## Open surgery

Open surgery is the traditional type of surgery in which a long cut is made for the surgeon to insert instruments and look at what they are doing. This is unlike keyhole (laparoscopic) or endoscopic surgery, in which very small cuts are made.

## About this information

NICE [interventional procedures guidance](#) advises the NHS on the safety of a procedure and how well it works.

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## Accreditation

