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Cryotherapy for malignant endobronchial obstruction

Understanding NICE guidance –
information for people considering
the procedure, and for the public



Ordering information

You can download the following documents from www.nice.org.uk/IPG142

- this booklet
- the full guidance on this procedure.

For printed copies of the full guidance or information for the public, phone the NHS Response Line on 0870 1555 455 and quote:

- N0931 (full guidance)
- N0932 (information for the public).

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About this information

The National Institute for Health and Clinical Excellence (NICE) is the independent organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. One of NICE's roles is to produce guidance (recommendations) on whether interventional procedures are safe enough and work well enough to be used routinely in the NHS in England, Wales and Scotland.

This information describes the guidance that NICE has issued on a procedure called cryotherapy when it's used for malignant endobronchial obstruction. It is not a complete description of what is involved in the procedure – the patient's healthcare team should describe it in detail.

NICE has looked at whether cryotherapy is safe enough and works well enough for it to be used routinely to help relieve some of the problems that happen with malignant endobronchial obstruction (see page 5).

To produce this guidance, NICE has:

- looked at the results of studies on the safety of cryotherapy and how well it works for malignant endobronchial obstruction
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About the procedure

When a person has advanced lung cancer, the cancer can grow in such a way that it starts to block the airways. This is called malignant endobronchial obstruction. This can cause symptoms such as breathing problems, cough, coughing up blood and pneumonia in the blocked part of the lung.

The aim of treatment is to try to open up the airways to help with the symptoms. Ways of doing this include surgery to remove part of the blockage, radiotherapy (from inside or outside the body), laser destruction of the blockage, photodynamic therapy to help shrink the blockage, and stenting, which involves inserting a tube to act like a scaffold and help keep the airway open.

The new procedure NICE has looked for this condition is called cryotherapy and involves using cold temperatures to destroy the cancer tissue that's causing a blockage. The patient usually has a general anaesthetic. A special probe that makes the cold temperatures, called a cryoprobe, is then inserted down into the cancer that's causing the blockage. A cold temperature is generated and the area is frozen. It's then allowed to thaw just enough for the cryoprobe to come away from the tissue. This may be repeated two or three times in the same area. The cryoprobe is then moved along to freeze the next area. The whole process is repeated until the whole area of cancer has been treated. Any tissue that needs to be removed is taken out using forceps or the cryoprobe. The patient may cough up more tissue in the following 24–48 hours. The whole process can be done again if necessary.

Cryotherapy doesn't give immediate relief of symptoms so it's not suitable for people who need emergency help with their breathing.

How well the procedure works

What the studies said

In studies, cryotherapy was used mainly to help with people's symptoms such as cough, breathing problems, and coughing up blood. In one study that followed what happened in 521 patients who had cryotherapy, 448 people (86%) had an improvement in one or more of their symptoms and in their general quality of life after having the procedure (86% means 86 people out of 100). Breathing problems improved in 300 out of 507 patients (59%).

Cryotherapy also helped with breathing problems in 12 out of 17 people in a second study (71%), and 87 out of 107 people in a third study (81%).

What the experts said

The experts did not have any major concerns about how well cryotherapy works.

Risks and possible problems with the procedure

What the studies said

In the study that followed what happened in 521 patients, seven people (1%) died from breathing failure while they were in hospital. Sixteen people (3%) developed a serious problem called respiratory distress after having the cryotherapy.

In another study that involved 27 people who had cryotherapy, one person died from a lack of oxygen getting to the heart. In a third study, one person's heart and lungs stopped working during the procedure. Some people had changes in their heartbeat during the procedure – this happened in 12 out of 521 people (2%) in one study and 3 out of 27 people (11%) in another study.

What the experts said

The experts said that the possible problems that might affect someone who was having or had had cryotherapy were heavy bleeding (known as haemorrhage), changes in the heartbeat, respiratory distress and infection. Another possible problem was that a fistula could form. A fistula is an abnormal connection between two parts of the body that wouldn't normally be connected, such as the oesophagus (which is the tube that takes food down to the stomach) and an airway.

What has NICE decided?

NICE has considered the evidence on cryotherapy. It has recommended that when doctors use this procedure for people with malignant endobronchial obstruction (blocked airways), they should be sure that:

- the patient understands that there are other treatments available that aim for the same result
- the patient understands what is involved and agrees (consents) to the treatment, and
- the results of the procedure are monitored.

What the decision means for you

Your doctor may have offered you cryotherapy. NICE has considered this procedure because it is relatively new. NICE has decided that the procedure is safe enough and works well enough for use in the NHS. Nonetheless, you should understand the benefits and risks of cryotherapy before you agree to it. Your doctor should discuss the benefits and risks with you. He or she should also make it clear that there are other ways of trying to help your symptoms, and should talk you through the advantages and disadvantages of all your options.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

The NICE website (www.nice.org.uk) has further information about NICE, the Interventional Procedures Programme and the full guidance on cryotherapy for malignant endobronchial obstruction that has been issued to the NHS. The evidence that NICE considered in developing this guidance is also available from the NICE website.

NICE has also issued guidance on the diagnosis and treatment of lung cancer (www.nice.org.uk/CG024publicinfo), and interventional procedures guidance on the use of photodynamic therapy for advanced bronchial cancer (www.nice.org.uk/IPG087publicinfo) and photodynamic therapy for localised inoperable endobronchial cancer (www.nice.org.uk/IPG137publicinfo).

If you have access to the internet, you can find more information on lung cancer on the NHS Direct website (www.nhsdirect.nhs.uk).

You can also phone NHS Direct on 0845 46 47.

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