

## Understanding NICE guidance

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Information for people who use NHS services

# Treatment of lung cancer with percutaneous radiofrequency ablation

*NICE 'interventional procedure guidance' advises the NHS on when and how new surgical procedures or procedures that use electromagnetic radiation (such as X-rays, lasers and gamma rays) can be used.*

This leaflet is about when and how **percutaneous radiofrequency ablation** can be used in people with primary or secondary lung cancers in the NHS in England, Wales, Scotland and Northern Ireland. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

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 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 percutaneous radiofrequency ablation or lung cancer in detail – a member of your healthcare team should 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.

Interventional procedure guidance makes recommendations on the safety of a procedure and how well it works. 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.



## What has NICE said?

There are still uncertainties over how well this procedure works. If a doctor wants to use percutaneous radiofrequency ablation, he or she should make sure that extra steps are taken to explain the uncertainty and the likely benefits and potential risks of the procedure. This should happen before the patient agrees (or doesn't agree) to the procedure. The patient should be given this leaflet and other written information as part of the discussion. There should also be special arrangements for monitoring what happens after the procedure.

The decision to use the procedure for a patient should be made by a team of surgeons and doctors specialising in different types of medicine.

The procedure should only be used for patients for whom surgery is not suitable or who do not want to undergo surgery.

*This procedure may not be the only treatment option for lung cancer. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.*

## Percutaneous radiofrequency ablation

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

Cancer is caused by the rapid growth of cells in the body. The cells grow and divide so quickly that they form clusters of cells which grow into lumps called tumours.

Lung cancer is one of the most common types of cancer in the UK. Symptoms include coughing, shortness of breath, coughing up blood (haemoptysis), pneumonia and chest pain.

Primary lung cancer means that the lungs are the first site of cancer in the body. Secondary lung cancer means that the original site of cancer is not the lungs, but another part of the body.

Treatments for lung cancer include surgery to remove the tumour, medicines (chemotherapy) or radiation to kill the cancer cells, or a combination of these.

In percutaneous radiofrequency ablation a small needle electrode is inserted through the skin directly into the tumour. Radiofrequency energy is passed through the needle electrode, producing heat that destroys the tumour. The procedure can be used alone or in combination with surgery, radiotherapy or chemotherapy.

## 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 eight studies and one international survey on this procedure.

### How well does the procedure work?

The effectiveness of the procedure varied between studies but was generally better with smaller tumours. In six studies, tumours were successfully destroyed in between 38% (12 out of 32) and 98% (44 out of 45) of cases.

In one study, 89% of patients with primary cancer and 84% of patients with secondary cancer survived for at least 1 year. Survival was better for patients with smaller tumours (94% for tumours 3 cm or less; 74% for tumours bigger than 3 cm).

One study looked at the quality of life of 20 patients with secondary lung cancer. Questionnaire scores for mental and physical aspects of life were worse 1 month after the procedure. After 12 months, only the physical aspects of life were worse. The reason for this was not clear.

The expert advisers stated that the long-term effects of the procedure are not known.

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

### What does this mean for me?

If your doctor has offered you percutaneous radiofrequency ablation, he or she should tell you that NICE has decided that the benefits and risks are uncertain. This does not mean that the procedure should not be done, but that your doctor should fully explain what is involved in having the procedure and discuss the possible benefits and risks with you. You should only be asked if you want to agree to this procedure after this discussion has taken place. You should be given written information, including this leaflet, and have the opportunity to discuss it with your doctor before making your decision.

### 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 operation?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

## Risks and possible problems

The most common problem with the procedure was accumulation of air around the lungs (pneumothorax). Pneumothorax that did not need treatment occurred in 9% to 65% of all patients. Between 3% and 16% of patients needed a chest drain to treat a pneumothorax. In one study, 3 out of 30 patients (10%) had subcutaneous emphysema (air below the skin). Nobody died as a result of the procedure.

Other complications include blood in the chest (haemothorax), accumulation of fluid around the lungs (pleural effusion), cough, coughing up blood or dead tumour tissue, fever, chest pain, pneumonia, lung abscess, burning of the skin where the probe is inserted, hoarse voice, muscle pain, and shortness of breath after the procedure.

In an international survey of 493 procedures, minor complications that did not need treatment occurred in 30% of procedures. Large pneumothorax that needed a chest drain occurred in 30% of procedures. Pleural effusions that needed the fluid to be removed occurred in less than 10% of procedures. Two patients died but the cause of death was not stated.

The expert advisers stated that the procedure is relatively safe. There is, however, a risk of an opening forming between the lung and the airways (a bronchopulmonary fistula) or between an artery and vein (an arteriovenous fistula), and of secondary tumours forming.

## More information about lung cancer

NHS Direct online ([www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)) may be a good starting point for finding out more. Your local Patient Advice and Liaison Service (PALS) may also 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. 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/about](http://www.nice.org.uk/about) guidance*

*This leaflet and the full guidance aimed at healthcare professionals are available at [www.nice.org.uk/IPG185](http://www.nice.org.uk/IPG185)*

*You can order printed copies of this leaflet from the NHS Response Line (phone 0870 1555 455 and quote reference N1085).*