

# Photodynamic therapy for advanced bronchial carcinoma

Interventional procedures guidance

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[nice.org.uk/guidance/ipg87](https://www.nice.org.uk/guidance/ipg87)

## Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

## 1 Guidance

- 1.1 Current evidence on the safety and efficacy of photodynamic therapy for advanced bronchial carcinoma appears adequate to support the use of this procedure provided that the normal arrangements are in place for consent, audit and clinical governance.

- 1.2 These recommendations apply only to the use of this technique to treat advanced bronchial carcinoma. The Institute will consider photodynamic therapy for early bronchial carcinoma separately.

## 2 The procedure

### 2.1 *Indications and current treatments*

- 2.1.1 This procedure is used to treat patients with inoperable non-small cell lung cancer, which has a poor prognosis.
- 2.1.2 Alternative treatments include debulking with biopsy forceps, radiotherapy and laser resection.

### 2.2 *Outline of the procedure*

- 2.2.1 Photodynamic therapy (PDT) for advanced bronchial carcinoma is a minimally invasive treatment, usually involving intravenous injection of a photosensitising agent, followed a few days later by photoradiation of the affected area through a bronchoscope. This is intended to reduce the bulk of the tumour, therefore reducing symptoms caused, for example, by bronchial obstruction.

### 2.3 *Efficacy*

- 2.3.1 Three small randomised controlled trials (RCTs) were identified, in addition to nonrandomised comparative studies and case series. The two largest randomised studies compared PDT with laser treatment; both studies reported that symptomatic improvement was similar for both treatments. One of these studies reported a mean increase in forced vital capacity of 0.47 litres in the PDT group, compared with a mean decrease of 0.06 litres in the laser group ( $p < 0.05$ ); and a mean increase in forced expiratory volume in 1 second of 0.35 litres for the PDT group, compared with 0.01 litres for the laser group ( $p < 0.05$ ). The other study reported median time to treatment failure to be 50 days for the PDT group and 38 days for the laser group, and average survival to be 265 days for the PDT group compared with 95 days for the laser group. For more details, refer to the Sources of evidence section.

2.3.2 The Specialist Advisors noted that it was not clear whether tumour bulk reduction in a palliative setting was associated with gains in quality of life or survival. They also noted that careful patient selection is needed.

## 2.4 *Safety*

2.4.1 The largest RCT reported at least one adverse effect in 100% (14/14) of patients in the PDT group and 71% (12/17) of patients in the laser group. In this study, the most common adverse effects in the PDT group were bronchitis (29%, 4/14); photosensitisation (29%, 4/14); dyspnoea (21%, 3/14); and death (probably related to treatment; 7%, 1/14). For more details, refer to the Sources of evidence section.

2.4.2 The Specialist Advisors generally considered this procedure to be safe. They listed the main potential adverse events as skin photosensitivity, bleeding, necrosis/obstruction, late strictures, oesophago-bronchial fistula formation, and airway occlusion by exudates.

## 2.5 *Other comments*

2.5.1 The evidence for this procedure is based on small but good-quality RCTs. Further research or audits would be useful, including clinical and quality of life data.

2.5.2 It was noted that the role of this procedure in conjunction with other techniques is uncertain.

## 3 **Further information**

3.1 The Institute has issued guidance on [chemotherapy drugs for lung cancer](#), and is currently developing a guideline for the diagnosis and treatment of lung cancer [Now published as '[The diagnosis and treatment of lung cancer](#)']. For further information, visit our [website](#).

Andrew Dillon  
Chief Executive  
August 2004

## *Information for patients*

The Institute has produced [information describing its guidance on this procedure for patients, carers and those with a wider interest in healthcare](#). It explains the nature of the procedure and the decision made, and has been written with patient consent in mind.

## *Sources of evidence*

The evidence considered by the Interventional Procedures Advisory Committee is described in the following document.

['Interventional procedure overview of photodynamic therapy for advanced bronchial carcinoma'](#), March 2003.

## **4 About this guidance**

NICE interventional procedure guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS. It is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by Healthcare Improvement Scotland for implementation by NHSScotland.

This guidance was developed using the NICE [interventional procedure guidance](#) process.

We have produced a [summary of this guidance for patients and carers](#). Information about the evidence it is based on is also [available](#).

### **Changes since publication**

26 January 2012: minor maintenance.

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responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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## *Endorsing organisation*

This guidance has been endorsed by [Healthcare Improvement Scotland](#).