

# Photodynamic therapy for advanced bronchial carcinoma

Interventional procedures guidance

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[www.nice.org.uk/guidance/ipg87](http://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, and specifically any special arrangements relating to the introduction of new interventional procedures. 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.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

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. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

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 non-randomised 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, see the [overview](#).
- 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 out of 14) of patients in the PDT group and 71% (12 out of 17) of patients in the laser group. In this study, the most common adverse effects in the PDT group were bronchitis (29%, 4 out of 14); photosensitisation (29%, 4 out of 14); dyspnoea (21%, 3 out of 14); and death (probably related to treatment; 7%, 1 out of 14). For more details, see the [overview](#).
- 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 NICE has issued [guidance on chemotherapy drugs for lung cancer](#) and a [guideline on lung cancer: diagnosis and management](#).

## Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the [overview](#).

## Information for patients

The Institute has produced [information for the public on this procedure](#). It explains the nature of the procedure and the decision made, and has been written with patient consent in mind.

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## Endorsing organisation

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