

Bronchial thermoplasty for severe asthma

Interventional procedures guidance

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www.nice.org.uk/guidance/ipg635

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.

This guidance replaces IPG419.

1 Recommendations

- 1.1 Current evidence on the safety and efficacy of bronchial thermoplasty for severe asthma is adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent and audit. Find out what standard arrangements mean on the NICE interventional procedures guidance page.
- 1.2 The procedure should only be done by a multidisciplinary team in specialist centres with on-site access to intensive care. It should only be done by clinicians with training in the procedure and experience in managing severe asthma.
- 1.3 Clinicians should enter details of all patients who have the procedure onto the UK Severe Asthma Registry.
- 1.4 Further research should report details of patient selection and long-term safety and efficacy outcomes.

2 The condition, current treatments and procedure

The condition

- 2.1 Asthma is a long-term condition of the airways in the lungs that affects

children, young people and adults. It consists of inflammation and constriction of the smooth muscle in the airway walls (bronchoconstriction). This is triggered by increased responsiveness of the airways to various allergic stimuli, leading to airflow obstruction. Symptoms include recurring episodes of wheezing, breathlessness, chest-tightness and coughing.

- 2.2 Asthma is diagnosed and its severity assessed on the basis of symptoms and objective tests of lung function.

Current treatments

- 2.3 Treatment, including advice about lifestyle changes, aims to reduce the frequency and severity of attacks, allowing the person to lead a normal and active life. In the UK, treatment for asthma follows [NICE's guideline on asthma](#) and [guidelines from the Global Initiative for Asthma](#).

The procedure

- 2.4 The aim of bronchial thermoplasty for severe asthma is to reduce the smooth muscle mass lining the airways, decreasing their ability to constrict.
- 2.5 The procedure is usually done using sedation or general anaesthesia. A catheter is introduced into the bronchial tree. Short pulses of radiofrequency energy are applied circumferentially to sequential portions of the airway wall, moving from the distal to the proximal bronchi. Treatment is usually delivered in 3 sessions with an interval of at least 3 weeks between each session. After the first session, treated airways are evaluated by bronchoscopy before proceeding with further treatment.

3 Committee considerations

The evidence

- 3.1 To inform the committee, NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 14 sources, which was discussed by the committee. The evidence included 2 systematic reviews with meta-analysis, 1 randomised controlled trial, 3 case series (2 of which were extensions of randomised trials; evidence from 1 was extracted from 2 published sources), 1 non-randomised comparative study, 1 registry and 5 case reports, and is presented in [table 2 of the interventional procedures overview](#). Other relevant literature is in the appendix of the overview.
- 3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: quality of life, reduced exacerbations and hospital admissions, and improved respiratory function.
- 3.3 The specialist advisers and the committee considered the key safety outcomes to be: pneumothorax, bleeding, admissions to intensive care and, in the longer term, airway stenosis and lung fibrosis.
- 3.4 Two commentaries from patients who had experience of this procedure were received, which were discussed by the committee.

Committee comments

- 3.5 There is uncertainty about which patients may benefit from the procedure.
- 3.6 The committee noted that the device used in this procedure does not have a CE mark for use in people younger than 18 years.
- 3.7 The committee noted that there is some evidence to suggest this procedure may not be suitable for people with bronchiectasis.

- 3.8 The procedure should only be used for severe asthma that is not controlled despite optimal drug treatment.
- 3.9 The committee was informed that bronchial thermoplasty could complement the use of biological treatment in the future.

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Endorsing organisation

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