

# Balloon cryoablation for squamous dysplasia of the oesophagus

Interventional procedures guidance

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[www.nice.org.uk/guidance/ipg683](https://www.nice.org.uk/guidance/ipg683)

## 1 Recommendations

- 1.1 Evidence on the safety and efficacy of balloon cryoablation for squamous dysplasia of the oesophagus is inadequate in quantity and quality. Therefore, this procedure should only be used in the context of research. This could be in the form of randomised controlled trials or published registry data. Find out [what only in research means on the NICE interventional procedures guidance page](#).
- 1.2 Patient selection should be done by clinicians experienced in managing squamous dysplasia of the oesophagus.
- 1.3 Further research should report patient selection, longer-term follow up and complications, including oesophageal stricture.

## 2 The condition, current treatments and procedure

### The condition

- 2.1 Squamous cells in the oesophagus may become dysplastic (squamous dysplasia). In some people, this condition may become malignant.

### Current treatments

- 2.2 Current management includes lifestyle change, acid-suppressing medicines, endoscopic mucosal resection, endoscopic submucosal dissection, ablative therapies and surgery. Ablative therapies include radiofrequency ablation, photodynamic therapy, argon plasma coagulation, laser ablation, multipolar electrocoagulation and cryotherapy.

### The procedure

- 2.3 This procedure is usually done using sedation. A balloon catheter is inserted through an endoscope, aligned with the dysplastic tissue in the oesophagus, and inflated. Nitrous oxide is then sprayed through a radial diffuser head within the balloon aimed at the target tissue. The tissue is destroyed by the extreme cold. The nitrous oxide gas remains fully contained within the balloon and exits through the proximal end of the catheter.
- 2.4 The ablation sequence is repeated until all the abnormal cells have been destroyed. Multiple ablations can be done without removing the balloon. The procedure typically takes 15 to 20 minutes to complete.

## 3 Committee considerations

### The evidence

- 3.1 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 2 sources, which was discussed by the committee. The evidence included 2 case series. It is presented in [table 2b of the interventional procedures overview](#). Other relevant literature is in the appendix of the overview.
- 3.2 The professional experts and the committee considered the key efficacy outcomes to be ablation of squamous dysplasia and quality of life.
- 3.3 The professional experts and the committee considered the key safety outcomes to be pain, oesophageal perforation and subsequent oesophageal stricture formation.
- 3.4 Patient commentary was sought but none was received.

### Committee comments

- 3.5 The committee encourages the establishment of a registry for this procedure.
- 3.6 The committee noted an incidence of device failure but was informed that the technology is evolving.
- 3.7 The committee was informed that this procedure may lead to less pain than radiofrequency ablation for squamous dysplasia of the oesophagus.

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## Endorsing organisation

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

## Accreditation

