NICE National Institute for Health and Care Excellence

NICE guidance

Laparoscopic helium plasma coagulation for the treatment of endometriosis

HealthTech guidance
Published: 24 May 2006

www.nice.org.uk/guidance/htg112

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.

Contents

This guidance replaces IPG54 and IPG171.

1 Recommendations

1.1 Current evidence suggests there are no major safety concerns associated with laparoscopic helium plasma coagulation for the treatment of endometriosis. However, evidence on efficacy does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research.

1.2 Clinicians wishing to undertake laparoscopic helium plasma coagulation for the treatment of endometriosis should take the following actions.

- Inform the clinical governance leads in their Trusts.
- Ensure that patients understand the uncertainty about the efficacy of the procedure and provide them with clear written information. In addition, use of NICE's information for the public is recommended.
- Audit and review clinical outcomes of all women undergoing laparoscopic helium plasma coagulation for the treatment of endometriosis.

1.3 Clinicians undertaking this procedure should have adequate training before performing the technique. The British Society for Gynaecological Endoscopy has produced standards for training.

1.4 Publication of randomised controlled trials on the efficacy of this procedure will be useful. The Institute may review the procedure upon publication of further evidence.

2 The procedure

2.1 Indications

2.1.1 Women with endometriosis have deposits of endometrial tissue (which is normally confined to the lining of the uterus) outside the uterus. Many women are asymptomatic, but others may experience pelvic pain, dyspareunia, dysmenorrhoea or infertility.

2.1.2 In most women, endometriosis can be treated with analgesics and hormones. Women whose endometriosis does not respond may be offered minimally invasive surgery to excise or destroy the endometrial deposits, most commonly by electrocautery or laser through a laparoscope. Women with very severe symptoms may be offered more radical treatment involving hysterectomy and removal of the ovaries.

2.2 Outline of the procedure

2.2.1 Laparoscopic helium plasma coagulation of endometriosis is a minimally invasive procedure used to vaporise endometrial deposits. A laparoscope is used to direct an ionised beam of helium gas at endometrial deposits to destroy them.

2.3 Efficacy

2.3.1 The method of evaluating symptoms following the procedure varied between studies, making comparison difficult. Across three series, symptomatic relief was achieved in 49% (39/79), 72% (179/250) and 81% (17/21) of women at 3 months' follow-up. In another case series, continuing symptoms were reported in 38% (5/13) of women at 14 months' follow-up.

2.3.2 Only 1 case series of 50 women, which included 9 women who presented with infertility and 15 who were both symptomatic and infertile, reported fertility

outcomes: 44% (4/9) of the solely infertile group and 20% (3/15) of the women who were also symptomatic had conceived within 6 months of the procedure.

2.3.3 In 1 case series, none of the 250 procedures had to be converted to open surgery, and there were no re-admissions after 3 months, whereas a repeat procedure was required in 16% (5/31) of women in another case series, in which the mean period to return to normal daily activities was 12 days. There was no long-term follow-up of women beyond 6 months in published case series. For more details, see the overview.

2.3.4 The Specialist Advisors noted that the procedure may cause less lateral burning than the diathermy technique, and may allow women to be treated on a day-case basis.

2.4 Safety

2.4.1 Three series recorded no side effects or complications related to the procedure in a total of 130 women. After 3 months' follow-up of 250 cases, 1 case series reported no major postoperative complications and no surgical complications. For more details, see the overview.

2.4.2 The Specialist Advisors noted that theoretical adverse events include damage to normal tissue (as seen when other energy sources are used), bowel injury, haemorrhage, infection and, potentially, helium embolisation.

3 Further information

Sources of evidence

The evidence considered by the committee is in the overview.

Information for patients

NICE has produced information for patients and carers on this procedure. It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 171 has been migrated to HealthTech guidance 112. The recommendations and accompanying content remain unchanged.

ISBN: 978-1-4731-9136-5

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.