NICE National Institute for Health and Care Excellence

NICE guidance

YAG laser vitreolysis for symptomatic vitreous floaters

HealthTech guidance
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www.nice.org.uk/guidance/htg644

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 IPG741.

1 Recommendations

1.1 Evidence on the safety and efficacy of YAG laser vitreolysis for symptomatic vitreous floaters is inadequate in quality and quantity. Therefore, this procedure should only be used in the context of research. Find out what only in research means on the NICE guidance page.

1.2 Further research should include suitably powered randomised controlled trials. Research should report details of patient selection (including type, size and location of floaters), degree of visual disturbance and details of the procedure.

1.3 This procedure should only be done by retinal specialists experienced in laser surgery and with expertise in managing vitreoretinal disease.

2 The condition, current treatments and procedure

The condition

2.1 Vitreous floaters are microscopic clumps of collagen fibres in the vitreous that cast shadows on the retina, appearing as floaters. The most common cause of vitreous floaters is posterior vitreous detachment, when the posterior hyaloid face separates from the retina.

2.2 Vitreous floaters can be primary or secondary. Primary vitreous floaters originate from the vitreous body. Secondary vitreous floaters originate from outside the vitreous body, generally from proteins, amyloid or cells.

Current treatments

2.3 Vitreous floaters do not usually threaten vision and can be managed conservatively. When they do affect vision, treatment options include vitrectomy and vitreolysis with YAG laser.

The procedure

2.4 This procedure aims to improve vision and reduce symptoms by removing or reducing the size of floaters.

2.5 The pupil is dilated and anaesthetic eye drops are administered. A specialised contact lens is placed on the cornea. Coaxial illumination is used. A laser microscope focuses on the front surface of the floater and creates short bursts of energy (nanosecond pulses). The laser energy usually starts at a low level, and is increased until it is high enough to break up the floater. The laser is stopped once all visually significant floaters are treated.

2.6 YAG laser vitreolysis is done as an outpatient procedure. Depending on the characteristics and numbers of floaters, more than 1 session may be needed.

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 8 sources, which was discussed by the committee. The evidence included 2 randomised controlled trials, 5 case series and a review of complications. It is presented in the summary of key evidence section in the 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: improvement in quality of life, reduction in visual disturbance and reduction in anxiety.

3.3 The professional experts and the committee considered the key safety outcomes to be: blurred vision, a rise in intraocular pressure (short and long term) and damage to adjacent structures including the retina.

3.4 Patient commentary was sought but none was received.

Committee comments

3.5 The committee was informed that this procedure may provide a less invasive alternative to vitrectomy for symptomatic vitreous floaters.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 741 has been migrated to HealthTech guidance 644. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.