

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Interventional procedures consultation document

YAG laser vitreolysis for symptomatic vitreous floaters

Floaters are small dark shapes that float across your vision. They can look like spots, rings, squiggly lines or cobwebs, and can sometimes affect sight. They are usually caused by changes in the jelly-like substance (vitreous) inside the eye. In this procedure, a special type of laser (YAG) fires short pulses of energy into the floaters to break up or destroy them (vitreolysis). It is done as an outpatient procedure. The aim is to reduce disturbance to sight caused by vitreous floaters.

NICE is looking at YAG laser vitreolysis for symptomatic vitreous floaters.

NICE's interventional procedures advisory committee met to consider the evidence and the opinions of professional experts with knowledge of the procedure.

This document contains the [draft guidance for consultation](#). Your views are welcome, particularly:

- comments on the draft recommendations
- information about factual inaccuracies
- additional relevant evidence, with references if possible.

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others.

This is not NICE's final guidance on this procedure. The draft guidance may change after this consultation.

After consultation ends, the committee will:

- meet again to consider the consultation comments, review the evidence and make appropriate changes to the draft guidance
- prepare a second draft, which will go through a [resolution process](#) before the final guidance is agreed.

Please note that we reserve the right to summarise and edit comments received during consultation or not to publish them at all if, in the reasonable opinion of NICE, there are a lot of comments or if publishing the comments would be unlawful or otherwise inappropriate.

Closing date for comments: 30 June 2022

Target date for publication of guidance: October 2022

1 Draft 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 interventional procedures 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 heats the collagen and hyaluronic acid molecules in the floater, converting them into a gas, which then dissolves into the vitreous. It usually starts with a low level of energy, which is increased until it is high enough to destroy the floaters. The laser is stopped once all visually significant floaters are evaporated.
- 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 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: 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.

Tom Clutton-Brock

Chair, interventional procedures advisory committee

June 2022

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