

Capsulotomy, Laser

ACG: A-0191 (AC)

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Ambulatory Care
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Clinical Indications

- Laser capsulotomy may be indicated when **ALL** of the following are present(1)(2):
 - Posterior capsule opacification(17)[N](#)
 - Need for additional treatment, as indicated by **1 or more** of the following:
 - Eye symptoms that interfere with activities of daily living, work, or eye function, as indicated by **1 or more** of the following:
 - Clinically significant glare disability
 - Clinically significant stereoacuity disability (ie, functional limitations arising from problems with distance or depth perception)(24)
 - Clinically significant vision impairment(19)(20)(21)
 - Inability to visualize fundus behind cataract for diagnostic or therapeutic purposes in eye at risk

Alternatives

- Alternatives are not usually used.(4)

Evidence Summary

Background

Laser capsulotomy by YAG laser creates an optically clear opening in the posterior capsule by photodisruption of posterior capsule opacification.(3)(4)(5) **(EG 2)** Complications may include an increase in intraocular pressure, damage to the intraocular lens, macular edema, and retinal detachment.(4)(6)(7)(8) **(EG 2)** Posterior capsule opacification results from the migration and proliferation of residual lens epithelial cells that were not removed with the cataract and that invade the visual axis and cause a decrease in visual function.(2)(4)(9) **(EG 2)** Posterior capsule opacification is the most common complication after cataract surgery(10)(11) and is considered part of the normal wound healing process; sharp-edged intraocular implants have been associated with a decreased incidence of posterior capsule opacification.(4)(12)(13) **(EG 2)** The design and material of the implanted lens appear to influence the incidence of Nd:YAG capsulotomy and posterior capsule opacification.(4)(14)(15)(16) **(EG 2)**

Criteria

The evidence for the clinical indications found in this guideline includes 22 published peer reviewed articles, 1 specialty society or other evidence-based guideline, and 1 Cochrane systematic review.

For posterior capsule opacification, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** Laser capsulotomy with a YAG laser is the treatment of choice for posterior capsule opacification.(1)(18) **(EG 2)** Posterior capsule opacification may compromise the visualization of the fundus for diagnostic or therapeutic purposes and is an indication for intervention with laser capsulotomy.(1)(2) **(EG 2)** Posterior capsule opacification may also compromise visual acuity, contrast sensitivity,(12)(18) and stereoacuity and may produce excessive glare, all of which constitute indications for intervention with laser capsulotomy.(1)(2)(19)(20) **(EG 2)** A retrospective study of 75 pseudophakic eyes (50 patients) with posterior capsule opacification showed that laser capsulotomy was associated with a statistically and clinically significant improvement in visual acuity.(21) **(EG 2)** A prospective cohort study of 41 eyes with posterior capsule opacification that underwent YAG laser capsulotomy of smaller than pupillary size, followed by enlargement to greater than pupillary size 2 weeks later, showed that a large capsulotomy was associated with improved restoration of contrast sensitivity and glare disability.(22) **(EG 2)** A study of 150 patients who underwent laser capsulotomy for treatment of posterior capsule opacification showed significant self-reported improvements in visual function and quality of life when assessed 3 weeks after surgery.(23) **(EG 2)** A retrospective review of 25 pediatric patients (31 eyes) who underwent Nd:YAG laser posterior capsulotomy after cataract surgery found that best-corrected visual acuity (using logMAR chart) was significantly improved at 1 month post treatment; the improvement was maintained through 5-year follow-up. Clinically significant posterior capsular opacity recurred in 7 eyes and was successfully treated with a repeat laser procedure or surgical capsulectomy.(17) **(EG 2)**

Rationale

Use of this MCG care guideline helps the clinician determine if a particular treatment, medication, or service might be appropriate for a specific patient, taking into account their unique health complexities.

Use of these evidence-based clinical criteria to support decision making benefits the patient by identifying patient-specific complex clinical factors and conditions, promoting personalized treatment. Utilizing evidence-based clinical criteria promotes patient safety by helping ensure that potential patient benefits outweigh the risks. In addition, the use of evidence-based guidelines can increase consistency in treatment thresholds, leading to less variation in care and promoting equitable treatment among patients.

Related CMS Coverage Guidance

This guideline supplements but does not replace, modify, or supersede existing Medicare regulations or applicable National Coverage Determinations (NCDs) or Local Coverage Determinations (LCDs).

Code of Federal Regulations (CFR): 42 CFR 419.22(25); 42 CFR 422.101(26)

Internet-Only Manual (IOM) Citations: CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 14 - Medical Devices(27); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15 - Covered Medical and Other Health Services(28); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 16 - General Exclusions from Coverage(29)

Medicare Coverage Determinations: Medicare Coverage Database(30)

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