Anthem

Clinical UM Guideline

Subject: Ophthalmic use of Nd:YAG Laser for Posterior Capsulotomy
Guideline #: CG-SURG-114
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Description

This document addresses YAG laser posterior capsulotomy for the treatment of posterior capsule opacification.

Note: This document does not address YAG laser *anterior* capsulotomy.

Note: Please see the following related topics for additional information:

- CG-SURG-40 Cataract Removal Surgery for Adults

Clinical Indications

Medically Necessary:

YAG laser posterior capsulotomy is considered **medically necessary** for **any** of the following:

A. For individuals with posterior capsular opacification when *all* of the following criteria are met:
   1. The opacification is causing symptomatic impairment of visual function not correctable with a tolerable change in glasses or contact lenses; **and**
   2. Vision loss interferes with one or more of the following: reading, viewing television, driving, meeting vocational or recreational needs, or other daily activities; **and**
   3. Other eye disease(s), have been ruled out as the primary cause of decreased visual function including, but not limited to macular degeneration or diabetic retinopathy; **and**
   4. Surgery is expected to result in improved visual function;
   or

B. For individuals with posterior capsular opacification when capsulotomy is needed to allow better visualization of the posterior segment or as a component of another surgical procedure, including, but not limited to the following:
   1. Diabetes with diabetic retinopathy requiring photocoagulation management through clear media;**or**
   2. To monitor progression of glaucoma where opaque media limits visualization of the optic nerve or visual field assessment; **or**
   3. Preparation for surgical repair of retinal detachment;
   or

C. Capsular block syndrome, also known as capsular bag distension syndrome, viscoelastic entrapment syndrome, capsular bag hyperdistension, distended capsular bag in early postoperative period, and capsulorhexis block syndrome.

Not Medically Necessary:

YAG laser posterior capsulotomy is considered **not medically necessary** when the criteria specified above are not met.

Coding

The following codes for treatments and procedures applicable to this guideline are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary when criteria are met:

CPT	
66821	Discission of secondary membranous cataract (opacified posterior lens capsule and/or anterior hyaloid); laser surgery (eg, YAG laser) (1 or more stages)
ICD-10 Procedure	
085J3ZZ	Destruction of right lens, percutaneous approach [when specified as YAG laser posterior capsulotomy]
085K3ZZ	Destruction of left lens, percutaneous approach [when specified as YAG laser posterior capsulotomy]
ICD-10 Diagnosis	
H26.40-H26.499	Secondary cataract
H26.9	Unspecified cataract
T85.21XA	Breakdown (mechanical) of intraocular lens, initial encounter
T85.29XA	Other mechanical complication of intraocular lens, initial encounter

When services are Not Medically Necessary:
For the procedure codes listed above when criteria are not met, or when the code describes a procedure or situation designated in the Clinical Indications section as not medically necessary.

Discussion/General Information

Neodymium-doped Yttrium Aluminum Garnet (YAG) laser capsulotomy is a laser-based surgical procedure intended to treat a common complication after cataract surgery where the individual experiences cloudiness on part of the eye lens called posterior

capsule opacification. Posterior capsule opacification is considered a part of the normal wound healing process where a scar tissue forms behind the lens implant. The opacification generally increases over time and the time of onset varies. A YAG laser beam is directed to the back of the lens capsule to create a small opening that allows light to pass through for clearer vision.

The American Academy of Ophthalmology (AAO) issued guidelines for the use of cataract surgery in the adult eye in 2021, which states:

> Posterior Capsular Opacification
>
> Posterior laser capsulotomy is an effective surgical procedure to clear the visual pathway to restore visual function and improve contrast sensitivity. The indication for performing laser capsulotomy is posterior capsular opacification consistent with an impairment of vision to a level that does not meet the patient's functional needs or critically interferes with visualization of the fundus. The decision to perform capsulotomy should take into consideration the benefits and risks of the laser surgery. Posterior capsulotomy may be indicated earlier in patients with multifocal intraocular lens because of a greater functional impact of early posterior capsular opacification in low-contrast and glare conditions. Laser poster capsulotomy should not be performed prophylactically (i.e., when the capsule remains clear).
>
> An uncommon condition that is treated with laser posterior capsulotomy is capsular bag distension syndrome, or capsular block syndrome. This complication is characterized by an accumulation of a milky or clear fluid behind the lens optic associated with anterior displacement of the lens, which may induce decreased vision and produce a myopic refractive shift.

A retrospective study by Das and colleagues (2021) found that YAG laser posterior capsulotomy provided excellent results in terms of visual acuity. A total of 50 individuals (20 males and 30 females) were selected. Of the 50 individuals, 22 right eyes and 28 left eyes were selected for YAG laser capsulotomy. Pre laser visual acuity in both eyes ranged from 1/60 to 6/36. Post YAG laser capsulotomy in the right eye achieved 6/12 visual acuity in 9 (18.0%) individuals, 6/18 visual acuity in 4 (8.0%) individuals, and 6/24 visual acuity in 2(4.0%) individuals. Post YAG laser capsulotomy on the left eye achieved 6/12 visual acuity in 10 (20%) individuals, 6/9 visual acuity in 6 (12%) individuals, and 6/24 visual acuity in 6 (12%) individuals. The authors concluded that YAG laser capsulotomy is a non-invasive method to treat posterior capsular opacification and achieve better visual acuity.

Van Bree and colleagues (2008) completed a prospective study which included 35 individuals scheduled to have YAG laser capsulotomy. Prior to the YAG laser capsulotomy, the mean best corrected visual acuity (logMAR) was 0.52 in all individuals. Post YAG laser capsulotomy, the mean best corrected visual acuity (logMAR) was 0.10. The authors concluded that YAG laser capsulotomy improved the individuals' best corrected visual acuity significantly.

Capsular Block Syndrome

Capsular block syndrome is a rare complication of cataract surgery. It is characterized by the capsulorhexis border adhering to the in-the-bag intraocular lens. Fluid builds up between the intraocular lens and posterior capsule causing a decline in visual acuity. Other names of for capsular block syndrome include capsular bag distension syndrome, viscoelastic entrapment syndrome, capsular bag hyperdistension, distended capsular bag in early postoperative period, and capsulorhexis block syndrome.

Kanclerz and colleague (2019) completed a review of prospective or retrospective studies and case reports on capsular bag distension syndrome. The authors concluded that YAG laser posterior capsulotomy is accepted as a standard and effective treatment for capsular bag distension syndrome, with or without posterior capsular opacification.

A retrospective review was conducted by Ho and colleagues (2003) to analyze the clinical characteristics and results of early postoperative capsular block syndrome. The medical records of 8 individuals with postoperative capsular block syndrome were reviewed and analyzed. YAG laser capsulotomy was performed at least 1 month after the operation, except in one case with secondary glaucoma. The authors noted YAG laser capsulotomy was successful in resolving the capsular block syndrome.

Summary

YAG laser capsulotomy has become widely accepted as the treatment standard of care in instances where posterior capsular opacification interferes with vision-based instrumental activities of daily living and the management of other eye conditions where visualization of internal structures of the eye are required. It is also the established treatment for capsular block syndrome. Other uses of YAG laser capsulotomy, such as prophylactic treatment following routine uncomplicated cataract surgery, are not widely accepted by the practicing ophthalmological community.

Definitions

Capsular block syndrome: A rare complication following cataract surgery. Fluid builds up between the intraocular lens and posterior capsule causing a decline in visual acuity. Other names of for capsular block syndrome include capsular bag distension syndrome, viscoelastic entrapment syndrome, capsular bag hyperdistension, distended capsular bag in early postoperative period, and capsulorhexis block syndrome.

Cataract: Cloudiness of the natural lens inside the eye which can blur vision.

Glaucoma: A disease characterized by destruction of the nerve fiber layer of the optic disc.

Optic nerve: The nerve that carries images of what is seen from the eye to the brain.

Posterior capsule opacification: Cloudiness within the thin membrane around the eye's natural lens after cataract surgery.

Retina: The light-sensitive layer of tissue that lines the inside of the eye and sends visual messages through the optic nerve to the brain.

Neodymium-doped Yttrium Aluminum Garnet (YAG) laser posterior capsulotomy: Laser used to create a small opening in the cloudy capsule.

References

Peer Reviewed Publications:

1. Das N, Shams A, Khan B, et al. Effects of Neodymium-doped Yttrium Aluminium Garnet (Nd:YAG) laser capsulotomy on visual outcomes from a lower-middle income country. Cureus. 2021 Sep 11;13(9):e17895.
2. Ho JD, Lee JS, Chen HC, et al. Early postoperative capsular block syndrome. Chang Gung Med J. 2003 Oct;26(10):745-53.
3. Kanclerz P, Wang X. Postoperative capsular bag distension syndrome - risk factors and treatment. Semin Ophthalmol. 2019;34(6):409-419.

4. van Bree MC, Zijlmans BL, van den Berg TJ. Effect of Neodymium:YAG laser capsulotomy on retinal straylight values in patients with posterior capsule opacification. J Cataract Refract Surg. 2008 Oct;34(10):1681-6.

Government Agency, Medical Society, and Other Authoritative Publications:

1. American Academy of Ophthalmology (AAO). Cataract in the Adult Eye. Preferred Practice Pattern. Revised October 13, 2021. For additional information visit the AAO website: https://www.aao.org/ppp. Accessed on November 9, 2023.
2. Palmetto GBA. Jurisdiction J-M. Local Coverage Determination for YAG capsulotomy (L37644) Revised 03/10/2022. Available at: https://www.cms.gov/medicare-coverage-database/new-search/. Accessed on September 27, 2023.

Websites for Additional Information

1. American Academy of Ophthalmology. Capsular Bag Distension Syndrome. Updated April 1, 2023. Available at: https://eyewiki.org/Capsular_Bag_Distension_Syndrome#cite_note-Vlasenko-4. Accessed on September 27, 2023.
2. American Academy of Ophthalmology. What is a Posterior Capsulotomy? Updated September 8, 2022. Available at: https://www.aao.org/eye-health/treatments/what-is-posterior-capsulotomy. Accessed on September 27, 2023.
3. National Eye Institute (NEI). Cataract Surgery. Updated January 4, 2023. Available at:https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/cataracts/cataract-surgery. Accessed on September 27, 2023.

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The use of specific product names is illustrative only. It is not intended to be a recommendation of one product over another, and is not intended to represent a complete listing of all products available.

History

Status	Date	Action
Reviewed	11/09/2023	Medical Policy & Technology Assessment Committee (MPTAC) review. Updated References and Websites sections.
Revised	11/10/2022	MPTAC review. Updated Clinical Indications section, changed “retina” to “posterior segment”. Updated Discussion, Definitions, References and Websites sections.
New	08/11/2022	MPTAC review. Initial document development.
