

Subject:	Laser Trabeculoplasty and Laser Peripheral Iridotomy	Publish Date:	07/10/2019
Guideline #:	CG-SURG-100	Last Review Date:	06/06/2019
Status:	New		

Description

This document addresses the use of laser trabeculoplasty and laser peripheral iridotomy.

Clinical Indications

Medically Necessary:

Laser trabeculoplasty is considered medically necessary for glaucoma in the following situations:

- As initial treatment of newly diagnosed glaucoma; or
- As treatment for medically refractory glaucoma; or
- As treatment for individuals who are at high risk for nonadherence to medical therapy (for example, those who cannot tolerate medications or who are noncompliant with medications due to memory problems or have difficulty with instillation).

Laser peripheral iridotomy is considered medically necessary in the following situations:

- Individuals with primary angle-closure or primary angle-closure glaucoma.

Not Medically Necessary:

Laser trabeculoplasty is considered not medically necessary when the above criteria are not met and for all other indications.

Laser peripheral iridotomy is considered not medically necessary when the above criteria are not met and for all other indications.

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.

Laser Trabeculoplasty

CPT

65855

Trabeculoplasty by laser surgery

ICD-10 Procedure

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08523ZZ Destruction of right anterior chamber, percutaneous approach
08533ZZ Destruction of left anterior chamber, percutaneous approach

ICD-10 Diagnosis
H40.061-H40.069 Primary angle closure without glaucoma damage
H40.10X0-H40.159 Open-angle glaucoma
H40.20X0-H40.249 Primary angle-closure glaucoma
H40.30X0-H40.33X4 Glaucoma secondary to eye trauma
H40.40X0-H40.43X4 Glaucoma secondary to eye inflammation
H40.50X0-H40.53X4 Glaucoma secondary to other eye disorders
H40.60X0-H40.63X4 Glaucoma secondary to drugs
H40.811-H40.89 Other glaucoma
H40.9 Unspecified glaucoma
H42 Glaucoma in diseases classified elsewhere

Laser peripheral iridotomy

CPT
66761 Iridotomy/iridectomy by laser surgery (eg, for glaucoma)(per session) [when specified as laser peripheral iridotomy]

ICD-10 Procedure
085C3ZZ Destruction of right iris, percutaneous approach
085D3ZZ Destruction of left iris, percutaneous approach

ICD-10 Diagnosis
H40.061-H40.069 Primary angle closure without glaucoma damage
H40.20X0-H40.249 Chronic angle-closure glaucoma

Discussion/General Information

Glaucoma is a group of diseases which can damage the eye's optic nerve and result in vision loss or blindness. According to the American Academy of Ophthalmology (AAO) (2015), glaucoma is the second leading cause of blindness worldwide, with approximately 8.4 million affected. In the United States, it is estimated that 2% of people over 40 have primary open-angle glaucoma (POAG), the most common type of glaucoma. The angle is a space between the cornea and iris. This space contains the trabecular mesh network which is the main structure directing fluid out of the eye. POAG occurs when there is a buildup of aqueous fluid pressure within the eye. This can lead to visual field loss and optic nerve damage, usually without any associated pain or discomfort. There is no visible abnormality in the anterior chamber angle; however, the aqueous fluid is unable to flow correctly. Treatment for POAG can be done with medications or surgery.

Laser Trabeculoplasty

In the management of POAG, the goal is to reduce the intraocular pressure (IOP) to slow the development of optic nerve damage. The IOP can be reduced by medical treatment or surgery (alone or in combination). Surgical procedures may be indicated in individuals with glaucoma when the target IOP cannot be reached

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pharmacologically. One option is laser trabeculoplasty, a procedure that can lead to tissue remodeling and improved aqueous humor outflow to reduce IOP.

In a 2019 randomized controlled trial by Gazzard and colleagues, the authors reported on individuals with newly diagnosed untreated open-angle glaucoma or ocular hypertension. Participants were randomized in a 1:1 fashion to receive either eye drops or laser trabeculoplasty. The included participants had visual acuity of 6/36 or better with no previous history of intraocular surgery. Individuals were monitored for 36 months. Primary outcome was health-related quality of life using the EuroQol EQ-5D 5 Levels (EQ-5D-5L). Secondary outcomes were disease-specific health-related quality of life (assessed by the Glaucoma Utility Index, Glaucoma Symptom Scale, Glaucoma Quality of Life-15 questionnaire), clinical effectiveness (proportion of visits at target intraocular pressure and the number of treatment escalations), visual function (visual acuity and fields), and safety. There were 718 participants enrolled with 356 in the selective laser trabeculoplasty group and 362 in the eye drops group. At 36 months, 652 participants returned the primary outcome questionnaire. The average EQ-5D score was 0.89 in the surgery group versus 0.90 in the eye drops group. At 36 months, 74.2% of participants in the surgery group did not require eye drops to maintain target intraocular pressure. The participants in the surgery group were within target intraocular pressure at more visits (93%) versus the eye drops group (91.3%). The groups had similar Glaucoma Utility Index scores, Glaucoma Symptom Scale scores, endpoint visual acuity, intraocular pressure, and visual field loss mean deviation. Serious adverse events were also similar between the two groups. While the scores were similar after 36 months, the questionnaires suggested better health-related quality-of-life outcomes for the surgery group.

In a 2006 prospective, nonrandomized trial by McIlraith and colleagues, 61 participants (100 eyes) with newly diagnosed open-angle glaucoma or ocular hypertension were assigned to the laser trabeculoplasty treatment group (74 eyes) or the control group (26 eyes) which received latanoprost. Follow-up visits were done at 1, 3, 6, and 12 months. In the surgery treatment group, the average post-treatment IOP was 17.8, the average absolute reduction in IOP was 8.3mm Hg, and the average percent reduction in IOP was 31.0%. In the control group, the average post-treatment IOP was 16.9, the average absolute reduction in IOP was 7.7mm Hg, and the average percent reduction in IOP was 30.6%. There were no significant complications from those receiving surgery. With similar outcomes between the two groups, surgery appears to be as efficacious as latanoprost for individuals with newly diagnosed glaucoma.

In a 2012 randomized prospective trial by Katz and colleagues, the authors sought to compare the outcomes of laser trabeculoplasty with medical treatment as initial therapy in participants with glaucoma. There were 67 eyes (38 participants) in the laser trabeculoplasty group and 60 eyes (31 participants) in the medication group. Follow-up continued for 12 months with 54 eyes in the surgery group (30 participants) and 48 eyes (24 participants) in the medication group available for evaluation at the 9 to 12 months follow-up window. At the last visit in the surgery group, mean IOP was 18.2mm Hg (a 6.3mm Hg reduction) and 17.7mm Hg (7.0mm Hg reduction) in the medication group. Compared to baseline, the surgery group had an IOP reduction of 26.4% while the medication group had a 27.8% IOP reduction. With no statistically significant differences between the surgery group and the medication group, the study shows laser trabeculoplasty to be as efficacious as medical therapy for treatment of glaucoma.

The AAO in their 2015 Preferred Practice Pattern® for POAG state that laser trabeculoplasty can be considered as initial treatment for individuals or as an alternative for individuals who cannot tolerate

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medications or who are noncompliant with taking medications due to memory problems or difficulty with instillation of eye drops.

Current literature shows laser trabeculoplasty to be safe and efficacious for individuals with newly diagnosed glaucoma and as an alternative for those who are refractory to medication or those who cannot tolerate medications or are noncompliant with medications.

Laser Peripheral Iridotomy

As implied in the condition's name, the angle is narrowed or closed in closed angle glaucoma. Angle closure can lead to increased IOP, optic nerve damage, or possible vision loss. Treatment is directed at widening the angle and preventing further angle closure. If the angle is suddenly obstructed, IOP can increase rapidly. This condition is referred to as acute angle-closure crisis. This is an urgent situation that can lead to permanent vision loss or blindness without prompt treatment. Laser peripheral iridotomy uses a laser to cut into the iris thereby creating a hole through which aqueous humor can reach the angle and drain from the eye.

Individuals for whom half the outflow channels appear obstructed are considered to be at high risk for primary angle-closure glaucoma and are referred to as primary angle closure suspects. Many primary angle closure suspects do not ever develop glaucoma. Laser peripheral iridotomy has been offered prophylactically for primary angle closure suspects, however the evidence for this practice is poor due to a paucity of long-term observational data. In a study by He and colleagues (2019) the authors reported on the efficacy of laser peripheral iridotomy in preventing the development of primary angle-closure or acute angle closure in a Chinese cohort with primary angle closure suspects. The natural history of primary angle closure suspects was possible by observation of the untreated eye. In this single-centre, randomised interventional controlled trial of primary angle-closure suspects, 889 participants received laser peripheral iridotomy in one randomly selected eye with the contralateral eye left untreated. Follow-up visits were completed after 2 weeks, 6 months, 18 months, 36 months, 54 months, and 72 months with the mean follow-up of 61.1 months. The primary outcome was the incidence of primary angle closure by eyes by 72 months. In this study primary angle closure was defined as intraocular pressure measurement above 24mm Hg on two separate occasions, the development of at least one clock hour of peripheral anterior synechia in any quadrant, and an episode of acute angle closure. During the follow-up, there were 19 eyes treated with laser peripheral iridotomy which reached the primary study endpoint with a corresponding cumulative incidence of 4.19 per 1000 eye-years (95% CI 2.67–6.57) and 36 control eyes that reached the primary study endpoint with a corresponding cumulative incidence of 7.97 per 1000 eye-years (95% CI 5.75–11.0). There were no serious adverse events observed during the follow-up period. While this study may not be generalizable with cohorts from other ethnicities, with the low rate of progression from primary angle closure suspects to primary angle-closure the authors would not recommend laser peripheral iridotomy in primary angle closure suspects.

According to the AAO 2015 Preferred Practice Pattern® for Primary Angle Closure, laser peripheral iridotomy is indicated for eyes with primary angle closure or primary angle closure glaucoma.

Current literature indicates laser peripheral iridotomy to be safe and effective in the treatment of primary angle closure.

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Definitions

Aqueous humor (vitreous humor/fluid): The clear aqueous gel that fills the space between the lens and the retina in the anterior chamber of the eye where it flows continuously in and out of the chamber and nourishes nearby tissues; this aqueous fluid leaves the chamber at the open angle where the cornea and the iris meet and flows through a spongy meshwork drain.

Glaucoma: A grouping of diseases that can damage the optic nerve and result in vision loss and blindness.

Intraocular pressure (IOP): The tissue pressure within the eye; a measurement of the balance between the production and drainage of aqueous humor.

Iridotomy: A surgical procedure in which a laser is used to cut into the iris.

Laser trabeculoplasty: A surgical procedure in which a sharply focused beam of light is used to treat the drainage angle of the eye, enabling fluid to flow out of the front part, decreasing pressure.

Trabeculectomy: A surgical filtration procedure in which a portion of the trabecular meshwork is surgically removed through a superficial flap of sclera to lower the IOP by creating an alternate pathway for the aqueous fluid to flow from the anterior chamber to a bleb created in the subconjunctival space; this is currently considered the gold standard treatment for glaucoma that is refractory to medical management.

References**Peer Reviewed Publications:**

1. **Gazzard G, Konstantakopoulou E, Garway-Heath D, et al. Selective laser trabeculoplasty versus eye drops for first-line treatment of ocular hypertension and glaucoma (LiGHT): a multicentre randomised controlled trial. Lancet. 2019; 393(10180):1505-1516.**
2. **He M, Jiang Y, Huang S, et al. Laser peripheral iridotomy for the prevention of angle closure: a single-centre, randomised controlled trial. Lancet. 2019 Mar 13.**
3. **Katz LJ, Steinmann WC, Kabir A, et al. Selective laser trabeculoplasty versus medical therapy as initial treatment of glaucoma: a prospective, randomized trial. J Glaucoma. 2012; 21(7):460-468.**
4. **McIlraith I, Strasfeld M, Colev G, Hutnik CM. Selective laser trabeculoplasty as initial and adjunctive treatment for open-angle glaucoma. J Glaucoma. 2006; 15(2):124-130.**

Government Agency, Medical Society, and Other Authoritative Publications:

1. **American Academy of Ophthalmology (AAO). Preferred Practice Pattern®. Primary open angle glaucoma. 2015. For additional information visit the AAO website: www.aao.org. Accessed on April 17, 2019.**
2. **American Academy of Ophthalmology (AAO). Preferred Practice Pattern®. Primary angle closure. 2015. For additional information visit the AAO website: www.aao.org. Accessed on April 17, 2019.**

Websites for Additional Information

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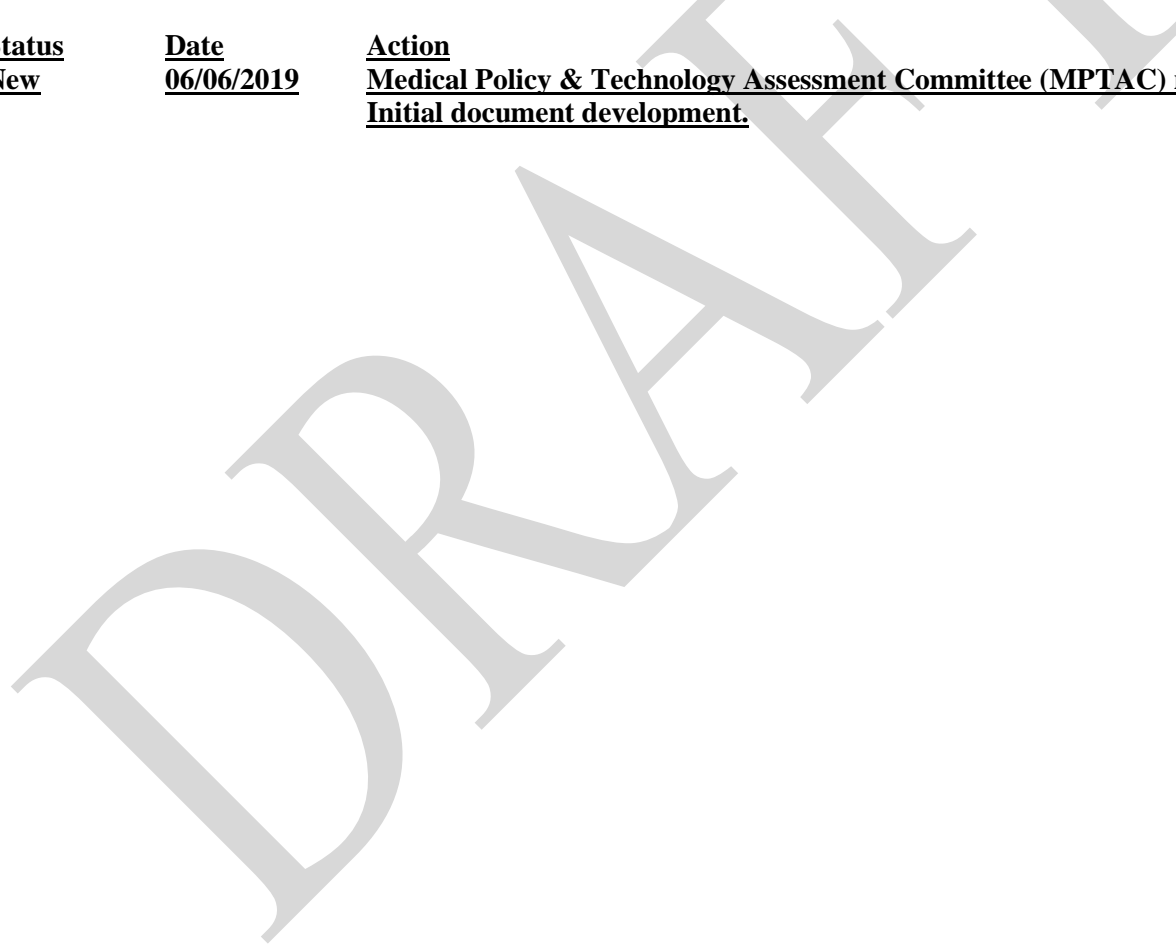
1. **American Academy of Ophthalmology. Glaucoma treatment. For additional information visit the AAO website: <https://www.aaopt.org/eye-health/diseases/glaucoma-treatment>. Accessed on April 17, 2019.**
2. **National Eye Institute. Facts about glaucoma. Last reviewed September 2015. Available at: https://www.nei.nih.gov/health/glaucoma/glaucoma_facts. Accessed on April 17, 2019.**

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History

<u>Status</u>	<u>Date</u>	<u>Action</u>
<u>New</u>	<u>06/06/2019</u>	<u>Medical Policy & Technology Assessment Committee (MPTAC) review. Initial document development.</u>



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