MEDICAL POLICY

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MEDICAL POLICY DETAILS	
Medical Policy Title	**Ophthalmologic Techniques for the Diagnosis of Glaucoma (Scanning Laser Polarimetry and Ophthalmoscopy)**
Policy Number	**9.01.06**
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Product Disclaimer	• *If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.* • *If a commercial product (including an Essential Plan or Child Health Plus product), medical policy criteria apply to the benefit.* • *If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.* • *If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.* • *If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.*

POLICY STATEMENT

I. Based upon our criteria and assessment of the peer-reviewed literature, scanning laser polarimetry (SLP) and scanning laser ophthalmoscopy (SLO) have been medically proven to be effective and, therefore, are considered **medically appropriate** methods for detecting glaucoma damage to the retinal nerve fiber layer (RNFL):
   A. in glaucoma suspects; or
   B. for routine monitoring for progression of the disease in known glaucoma patients.

II. Based upon our criteria and assessment of the peer-reviewed literature, use of scanning laser ophthalmoscopy to evaluate the optic nerve head in patients with glaucoma that has not been investigated in scientific peer-reviewed literature (e.g., Optomap retinal exam) is considered **not medically necessary** as a method of evaluating patients with glaucoma or for evaluating other ocular conditions.

Refer to Corporate Medical Policy #9.01.10 Optical Coherence Tomography for Ophthalmologic Applications

DESCRIPTION

Glaucoma is a group of eye diseases that lead to damage of the optic nerve and retinal nerve fiber layer (RNFL) in the eye and result in blindness without treatment. The RNFL is the innermost layer of the retina and consists of ganglion cell axons, which are the target cells in glaucoma. Axonal loss in glaucoma causes visual field loss but is only detected when a considerable amount of the RNFL has been lost. It has been proposed that RNFL defects can precede optic disc and visual field damage by several years and may be the earliest sign of glaucomatous damage.

Scanning laser polarimetry (SLP) is a nerve fiber analyzer that has been developed with the aim of providing quantitative information on the thickness of the RNFL in specific regions of the peripapillary fundus. SLP depends upon the

birefringent qualities of the RNFL, whereby the polarization of light is altered or retarded by its passage through the nerve fibers. The degree to which polarization is altered is in proportion to the depth of the RNFL and is detected by a built-in polarimeter. Change in polarization or retardation is then converted into a topographical map of the RNFL thickness by computer software. The GDx imager is an SLP developed by Laser Diagnostic Technologies.

Scanning laser ophthalmoscopy (SLO), alternatively referred to as confocal laser scanning tomography, laser scanning topography, and electro-optic fundus imaging, utilizes a scanning laser ophthalmoscope device to scan the layers of the retina, to make quantitative measurements of the surface features of the optic nerve head and fundus. The SLO essentially consists of a low-powered laser beam, which is scanned into two dimensions over the retina. Light reflected from the retina is detected and transformed into a digital computer image. Scanning laser ophthalmoscopy has been proposed as an alternative to standard ophthalmologic methods of evaluating the optic nerve head and fundus in patients with glaucoma, papilledema, diabetic retinopathy, or other conditions that affect the retina or optic nerve. Note that the Optomap retinal exam, which, like fundus photography, provides a digital image of the retina, is not considered an SLO as it does not adequately evaluate the optic nerve head.

Scanning laser ophthalmoscopy differs from scanning laser polarimetry in that the SLO measures the topography, or estimates the height of, the retina, while scanning laser polarimetry directly measures the thickness of the RNFL by use of polarization. A potential advantage of scanning laser technology is that it does not require maximal mydriasis or pupil dilation, which may be a problem in patients with glaucoma or children.

RATIONALE

Several devices for measuring the RNFL have received U.S. Food and Drug Administration (FDA) approval. Numerous articles describe findings from patients with known and suspected glaucoma using scanning laser ophthalmoscopy and SLP. Studies note that abnormalities may be detected through these examinations before functional changes are noted. The techniques have been incorporated into glaucoma care and are viewed as a means to obtain additional information that may be useful in the clinical management of glaucoma patients. There is data demonstrating that this testing is equivalent to expert assessment of optic disc photography for both detecting glaucoma and showing disease progression. There are also favorable aspects of this testing. For example, in contrast to other glaucoma testing, these tests can be performed more easily, as pupil dilation is not always necessary, and ambient light level may be less critical. In addition, while serial stereo-photographs of the optic nerves are considered by many to be the “gold standard,” these are not always practical, especially for general ophthalmologists. Scanning laser ophthalmoscopy and SLP also require less cooperation from the patient, which can be helpful in some patients. In summary, the use of scanning laser ophthalmoscopy and scanning laser polarimetry has become one additional test than may be utilized in the diagnosis and management of patients with glaucoma. These results are often considered along with other findings, to make diagnostic and therapeutic decisions about glaucoma care.

In 2012, the Agency for Healthcare Research and Quality (AHRQ) published a comparative effectiveness review of methods of screening for glaucoma. Included in the review were randomized, controlled trials (RCTs); quasi-randomized, controlled trials; observational study designs, including cohort and case control studies; and case series with more than 100 participants. The interventions evaluated included ophthalmoscopy, fundus photography/computerized imaging (optical coherence tomography, retinal tomography, SLP), pachymetry (corneal thickness measurement), perimetry, and tonometry. No evidence was identified that addressed whether an open angle glaucoma screening program led to a reduction in intraocular pressure, visual impairment, visual field loss or optic nerve damage, or to an improvement in patient-reported outcomes. No evidence was identified regarding harms of a screening program. Over 100 studies were evaluated based on the diagnostic accuracy of screening tests; however, due to the lack of a definitive diagnostic reference standard and heterogeneity, synthesis of results could not be completed.

A Cochrane review (2015) assessed the diagnostic accuracy of optic nerve head and RNFL imaging for glaucoma. Included were 103 case-control studies and three cohort studies (total N=16,260 eyes) that evaluated the accuracy of recent commercial versions of optical coherence tomography (spectral domain), Heidelberg Retinal Tomograph III, or SLP (with the variable corneal compensator or enhanced corneal compensation) for diagnosing glaucoma. The population was patients referred for suspected glaucoma, typically due to elevated intraocular pressure, abnormal optic

disc appearance, and/or an abnormal visual field identified in primary eye care. Population-based screening studies were excluded. Most comparisons examined different parameters within the three tests, and the parameters with the highest diagnostic odds ratio were compared. The three tests (optical coherence tomography, Heidelberg Retinal Tomograph III, SLP) had similar diagnostic accuracy. Specificity was close to 95%, while sensitivity was 70%. The use of a case-control design with healthy participants and glaucoma patients in nearly all of the studies raised concerns about the potential for bias, overestimation of accuracy, and applicability of the findings to clinical practice.

There is a lack of scientific evidence from clinical studies to determine the accuracy and clinical utility of the Optomap retinal exam in screening, diagnosing, or monitoring patients with glaucoma, retinopathy, papilledema, or other condition affecting the retina and/or optic nerve.

CODES

- *Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*
- *CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.*
- *Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.*
- *Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).*

CPT Codes

Code	Description
92133	Scanning computerized ophthalmic diagnostic imaging, posterior segment, with interpretation and report, unilateral or bilateral; optic nerve
92134	Scanning computerized ophthalmic diagnostic imaging, posterior segment, with interpretation and report, unilateral or bilateral; retina

HCPCS Codes

Code	Description
No specific codes	

ICD10 Codes

Code	Description
H40.001-H40.009	Preglaucoma, unspecified (code range)
H40.011-H40.029	Open angle with borderline findings (code range)
H40.031-H40.039	Anatomical narrow angle (code range)
H40.041-H40.049	Steroid responder (code range)
H40.051-H40.059	Ocular hypertension (code range)
H40.061-H40.069	Primary angle closure without glaucoma damage (code range)
H40.10x0-H40.10x4	Unspecified open-angle glaucoma (code range)
H40.1210-H40.1294	Low tension glaucoma (code range)
H40.1310-H40.1394	Pigmentary glaucoma (code range)
H40.1410-H40.1494	Capsular glaucoma with pseudoexfoliation of lens (code range)
H40.151-H40.159	Residual stage of open-angle glaucoma (code range)
H40.20x0-H40.20x4	Unspecified primary angle-closure glaucoma (code range)
H40.211-H40.219	Acute angle-closure glaucoma (code range)
H40.2210-H40.2294	Chronic angle-closure glaucoma (code range)

Code	Description
H40.231-H40.239	Intermittent angle-closure glaucoma (code range)
H40.241-H40.249	Residual stage of angle-closure glaucoma (code range)
H40.30x0-H40.33x4	Glaucoma secondary to eye trauma (code range)
H40.40x0-H40.43x4	Glaucoma secondary to eye inflammation (code range)
H40.50x0-H40.53x4	Glaucoma secondary to eye disorders (code range)
H40.60x0-H40.63x4	Glaucoma secondary to drugs (code range)
H40.811-H40.819	Glaucoma with increased episcleral venous pressure (code range)
H40.821-H40.829	Hypersecretion glaucoma (code range)
H40.831-H40.839	Aqueous misdirection (code range)
H40.89	Other unspecified glaucoma
H40.9	Unspecified glaucoma
H42	Glaucoma in disease classified elsewhere
Q15.0	Congenital glaucoma

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*Key Article

KEY WORDS

Nerve fiber analyzer, GDx imaging, HRT, Optomap.

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a Local Coverage Article (LCA) Billing and Coding: Scanning Computerized Ophthalmic Diagnostic Imaging (SCODI) (A56537). Please refer to the following LCA website for Medicare Members:

https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=56537&ver=26&keyword=&keywordType=starts&areaId=s41&docType=6,3,5,1,F,P&contractOption=all&hcpcsOption=code&hcpcsStartCode=92133&hcpcsEndCode=92133&sortBy=title&bc=1 accessed 09/19/23.