MEDICAL POLICY

MEDICAL POLICY DETAILS

<table>
<thead>
<tr>
<th>Medical Policy Title</th>
<th>OPHTHALMOLOGIC TECHNIQUES FOR THE DIAGNOSIS OF GLAUCOMA (SCANNING LASER POLARIMETRY &amp; OPHTHALMOSCOPY)</th>
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<tr>
<td>Policy Number</td>
<td>9.01.06</td>
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<tr>
<td>Category</td>
<td>Technology Assessment</td>
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<tr>
<td>Effective Date</td>
<td>08/21/03</td>
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<tr>
<td>Revised Date</td>
<td>08/19/04, 06/16/05, 01/19/06, 01/18/07, 01/17/08, 12/18/08, 02/18/10, 11/18/10, 11/17/11, 11/15/12, 11/21/13</td>
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<td>11/19/15, 11/17/16, 11/16/17, 11/15/18</td>
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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 product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.  
                         • If a Medicare 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. |

POLICY STATEMENT

I. Based upon our criteria and assessment of peer-reviewed literature, scanning laser polarimetry and scanning laser ophthalmoscopy 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 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 regarding Optical Coherence Tomography for Retinal Disorders.

POLICY GUIDELINES

Glaucoma is actually a group of eye diseases that lead to damage of the optic nerve and retinal nerve fiber layer in the eye and results in blindness without treatment. The retinal nerve fiber layer (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, which, however, is only detected when a considerable amount of the nerve fiber layer 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 analyser that has been developed with the aim of providing quantitative information on the thickness of the RNFL in specific regions of the peripapillary fundus. Scanning laser polarimetry 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 of change that 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. GDx imager is a scanning laser polarimeter developed by Laser Diagnostic Technologies.
The scanning laser ophthalmoscope (SLO) is a device that scans the layers of the retina to make quantitative measurements of the surface features of the optic nerve head and fundus. The basic principle of SLO operation consists of a low-powered laser beam, which is scanned into 2 dimensions over the retina. Light reflected from the retina is detected and transformed into a digital computer image. SLO 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. Other terms for scanning laser ophthalmoscopy include confocal laser scanning tomography, laser scanning topography, and electro-optic fundus imaging. The Optomap retinal exam provides a digital image of the retina, similar to fundus photography and is not considered in the category of a SLO as it does not adequately evaluate the optic nerve head.

**DESCRIPTION**

The scanning laser ophthalmoscope 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 retinal nerve fiber layer 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 retinal nerve fiber layer have received FDA approval. Numerous articles continue to describe findings from patients with known and suspected glaucoma using scanning laser ophthalmoscopy and scanning laser polarimetry. Studies note that abnormalities may be detected on these examinations before functional changes are noted. These techniques have become incorporated into glaucoma care and are viewed as an additional piece of information that may be useful in the clinical management of these patients. There is data to demonstrate 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 done more easily, e.g. this testing does not always need to done with dilated pupils and ambient light level may be (is) less critical. In addition, while serial stereo-photographs of the optic nerves are considered by many as the gold standard, these are not always practical, especially for general ophthalmologists. This testing also requires less cooperation from the patient, which can be helpful in some older 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 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 (OCT, retinal tomography, scanning laser polarimetry), 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 IOP, less visual impairment, reduction in visual field loss or optic nerve damage, or improvement in patient-reported outcomes. No evidence was identified regarding harms of a screening program. Over 100 studies were identified 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.

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

**CODES**

- Eligibility for reimbursement is based upon the benefits set forth in the member’s subscriber contract.
### CPT Codes

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<tr>
<th>Code</th>
<th>Description</th>
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<td>92133</td>
<td>Scanning computerized ophthalmic diagnostic imaging, posterior segment, with interpretation and report, unilateral or bilateral, optic nerve</td>
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<tr>
<td>92134</td>
<td>Scanning computerized ophthalmic diagnostic imaging, posterior segment, with interpretation and report, unilateral or bilateral, retina</td>
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**ICD9 Codes**

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<th>Code</th>
<th>Description</th>
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<td>365.00-365.9</td>
<td>Glaucoma (code range)</td>
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**ICD10 Codes**

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<td>Anatomical narrow angle (code range)</td>
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<td>Capsular glaucoma with pseudofoliation of lens (code range)</td>
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<td>H40.811-H40.819</td>
<td>Glaucoma with increased episcleral venous pressure (code range)</td>
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### REFERENCES


Medical Policy: OPHTHALMOLOGIC TECHNIQUES FOR THE DIAGNOSIS OF GLAUCOMA (SCANNING LASER POLARIMETRY & OPHTHALMOSCOPY)

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*Key Article

KEY WORDS

Nerve fiber analyser, GDx imaging, HRT, Optomap.

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a Local Coverage Determination (LCD) for Scanning Computerized Ophthalmic Diagnostic Imaging (SCODI). Please refer to the following LCD website for Medicare Members:

https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDid=34380&ContrId=298&ver=32&ContrVer=1&CntrctrSelected=298*1&Cntrctr=298&name=National+Government+Services%2cInc.+%(13201%2c+A+and+B+and+HHH+MAC%2c%J+-%;++K)&s=All&DocType=Active&bc=AggAAAQAAAAAA%3d%3d&