Medical Policy

Intraocular Radiotherapy for Age-Related Macular Degeneration

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Policy Number: 610
BCBSA Reference Number: 9.03.20
NCD/LCD: Local Coverage Determination (LCD): Category III CPT® Codes (L33392)

Related Policies
- Charged-Particle (Proton or Helium Ion) Radiotherapy, #437
- Intravitreal Angiogenesis Inhibitors for Choroidal Vascular Conditions, #343
- Photodynamic Therapy for Choroidal Neovascularization, #599
- Stereotactic Radiosurgery and Stereotactic Body Radiotherapy, #277
- Transpupillary Thermotherapy for Treatment of Choroidal Neovascularization, #600

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

Intraocular placement of a radiation source (brachytherapy) for the treatment of choroidal neovascularization is INVESTIGATIONAL.

Proton beam therapy for the treatment of choroidal neovascularization is INVESTIGATIONAL.

Stereotactic radiotherapy for the treatment of choroidal neovascularization is INVESTIGATIONAL.

Medicare HMO BlueSM and Medicare PPO BlueSM Members

This is not a covered service.

Local Coverage Determination (LCD): Category III CPT® Codes (L33392)

For medical necessity criteria and coding guidance for Medicare Advantage members living outside of Massachusetts, please see the Centers for Medicare and Medicaid Services website for information regarding your specific jurisdiction at https://www.cms.gov.
Prior Authorization Information

Inpatient
- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient
- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

<table>
<thead>
<tr>
<th>Outpatient</th>
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<tr>
<td>Commercial Managed Care (HMO and POS)</td>
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<tr>
<td>Commercial PPO and Indemnity</td>
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<td>Medicare HMO BlueSM</td>
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<td>Medicare PPO BlueSM</td>
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CPT Codes / HCPCS Codes / ICD Codes

*Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.*

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

CPT Codes
- There are not any specific codes for this procedure

Description
- Age-related macular degeneration (AMD) is the leading cause of legal blindness in individuals older than age 60 in developed nations. AMD is characterized in its earliest stages by minimal visual impairment and the presence of large drusen and other pigmentary abnormalities on ophthalmoscopic examination. Two distinctive forms of degeneration may be observed. The first, called the atrophic or areolar or dry form, evolves slowly. Atrophic AMD is the most common form of degeneration and may be a precursor of the more visually impairing exudative neovascular form, also referred to as disciform or wet AMD. The wet form is distinguished from the atrophic form by the development of choroidal neovascularization (CNV) and serous or hemorrhagic detachment of the retinal pigment epithelium. Risk of developing severe irreversible loss of vision is greatly increased by the presence of CNV.

Usual care for neovascular AMD may include photodynamic therapy or intravitreal injections of agents that target vascular endothelial growth factor, which may necessitate repeated intravitreal injections. Therefore, alternative treatments, such as intraocular radiation, including brachytherapy, proton beam therapy (PBT), and stereotactic radiotherapy, are being investigated.

The NeoVista Epi-Rad90 Ophthalmic System, a brachytherapy device, treats CNV by delivery of focal radiation to a subfoveal choroidal neovascular lesion. Using a standard vitrectomy procedure, the cannula tip of a handheld (pipette-like) surgical device is inserted into the vitreous cavity and positioned under visual guidance over the target lesion. The radiation source (strontium-90) is advanced down the cannula until it reaches the tip, which is then held in place over the lesion for a “prescribed” time to deliver focused radiation. The system is designed to deliver a 1-time peak dose of beta particle energy (24 gray) for a target area 3 mm in depth and up to 5.4 mm in diameter. This dose is believed to be below that toxic to the retina and optic nerve. Radiation exposure outside of the target area is expected to be minimal.

PBT is a type of external radiation that uses charged atomic particles (protons or helium ions) to target a given area. PBT differs from conventional electromagnetic (photon) radiotherapy in that, with PBT, there is less scatter as the particle beams pass through tissue to deposit ionizing energy at precise depths (Bragg peak). The theoretical advantage of PBT over photon therapy is the ability to deliver higher radiation doses to the target without harm to adjacent normal tissue.
Stereotactic radiotherapy is a nonsurgical procedure performed in an office setting. It uses a robotically controlled device to deliver radiation beams through the inferior sclera to overlap at the macula.

**Other Treatments for AMD**

Other available therapeutic options for AMD not addressed in this evidence review include photodynamic therapy (policy #599) and vascular endothelial growth factor antagonists or angiostatics (policy #343).

For those whose visual loss impairs their ability to perform daily tasks, low-vision rehabilitative services offer resources to compensate for deficits.

**Summary**

Intraocular radiation, including brachytherapy, proton beam therapy, and stereotactic radiotherapy, are being evaluated to treat choroidal neovascularization (CNV) associated with age-related macular degeneration (AMD).

The evidence for brachytherapy in individuals who have CNV due to AMD includes a randomized controlled trial (RCT) of brachytherapy plus vascular endothelial growth factor (VEGF) versus VEGF monotherapy, as well as phase 1/2 trials and case series on the use of brachytherapy. Relevant outcomes are change in disease status, morbid events, functional outcomes, quality of life, medication use, and treatment-related morbidity. The RCT showed that brachytherapy did not attain noninferiority for visual outcomes and was associated with a higher proportion of adverse events. The evidence is insufficient to determine the effects of the technology on health outcomes.

The evidence for proton beam therapy in individuals who have CNV due to AMD includes a randomized, prospective, sham-controlled trial and a pilot study. Relevant outcomes are change in disease status, morbid events, functional outcomes, quality of life, medication use, and treatment-related morbidity. Recruitment into the RCT was halted for ethical concerns and available results did not show statistically significant stabilization of visual acuity. The evidence is insufficient to determine the effects of the technology on health outcomes.

The evidence for stereotactic radiotherapy in individuals who have CNV due to AMD includes an RCT with sham control. Relevant outcomes are change in disease status, morbid events, functional outcomes, quality of life, medication use, and treatment-related morbidity. The RCT showed a reduction in the number of VEGF treatments at 12- and 24-month intervals, but no significant differences versus controls in changes in visual acuity. The evidence is insufficient to determine the effects of the technology on health outcomes.

**Policy History**

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<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>1/2019</td>
<td>Clarified coding information.</td>
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<tr>
<td>4/2017</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>5/2016</td>
<td>BCBSA National medical policy review. Policy statements clarified as to type of radiation therapy used, but intent unchanged. 5/1/2016</td>
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<tr>
<td>3/2015</td>
<td>New references added from BCBSA National medical policy.</td>
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References


