



# MASSACHUSETTS

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## Medical Policy Intraocular Radiotherapy for Age-Related Macular Degeneration

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### Policy Number: 610

BCBSA Reference Number: 9.03.20 (For Plan internal use only)  
NCD/LCD: N/A

### Related Policies

- Photodynamic Therapy for Choroidal Neovascularization, #[599](#)
- Transpupillary Thermotherapy for Treatment of Choroidal Neovascularization, #[600](#)

### Policy

#### Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue<sup>SM</sup> and Medicare PPO Blue<sup>SM</sup> Members

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](#).

### 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**.

	Outpatient
Commercial Managed Care (HMO and POS)	This is <b>not</b> a covered service.
Commercial PPO and Indemnity	This is <b>not</b> a covered service.
Medicare HMO Blue <sup>SM</sup>	This is <b>not</b> a covered service.
Medicare PPO Blue <sup>SM</sup>	This is <b>not</b> a covered service.

## 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

Age-related macular degeneration is the leading cause of legal blindness in individuals older than age 60 in developed nations. Age-related macular degeneration 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 age-related macular degeneration 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 age-related macular degeneration. The wet form is distinguished from the atrophic form by the development of choroidal neovascularization 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 choroidal neovascularization.

### Standard Clinical Management

Usual care for neovascular age-related macular degeneration includes intravitreal agents that target vascular endothelial growth factor, including pegaptanib, ranibizumab, bevacizumab, and aflibercept. Photodynamic therapy is an older method that has been largely replaced by anti-vascular endothelial growth factor therapies. The intravitreal therapies may necessitate repeated intravitreal injections. Hence, alternative treatments, such as intraocular radiation, including brachytherapy, proton beam therapy, and stereotactic radiotherapy, are being investigated.

### Intraocular Radiotherapy

The NeoVista Epi-Rad90 Ophthalmic System, a brachytherapy device, treats choroidal neovascularization by delivering 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.

Proton beam therapy is a type of external radiotherapy that uses charged atomic particles (protons or helium ions) to target a given area. Proton beam therapy differs from conventional electromagnetic (photon) radiotherapy in that, with proton beam therapy, there is less scatter as the particle beams pass through tissue to deposit ionizing energy at precise depths (Bragg peak). The theoretical advantage of proton beam therapy 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.

## Summary

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

For individuals who have choroidal neovascularization due to age-related macular degeneration who receive brachytherapy, the evidence includes data from a Cochrane review, 2 randomized controlled trials (RCTs) comparing brachytherapy plus vascular endothelial growth factor with vascular endothelial growth factor 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. Both RCTs showed that brachytherapy did not attain noninferiority for visual acuity outcomes and was associated with a higher proportion of adverse events. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have choroidal neovascularization due to age-related macular degeneration who receive proton beam therapy, the evidence 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 that the technology results in an improvement in the net health outcome.

For individuals who have choroidal neovascularization due to age-related macular degeneration who receive stereotactic radiotherapy, the evidence 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 vascular endothelial growth factor treatments at 12- and 24-month intervals, but no significant differences versus controls for changes in visual acuity. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

## Policy History

Date	Action
5/2024	Annual policy review. References updated. Policy statements unchanged.
5/2023	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
1/2023	Annual policy review. PA information section clarified to include Medicare.
4/2022	Annual policy review. Policy statements unchanged.
4/2021	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
1/2021	Medicare information removed. See MP #132 Medicare Advantage Management for local coverage determination and national coverage determination reference.
5/2020	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
4/2019	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
1/2019	Clarified coding information.
4/2017	Annual policy review. New references added.
5/2016	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
3/2015	Annual policy review. New references added.
7/2014	Annual policy review. New investigational indications described; title changed. Effective 7/1/2014.
8/2013	Annual policy review. New investigational indications described; title changed. Effective 8/1/2013.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.

## Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

## References

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